MERCI Evaluation Appendix

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המרכז האקדמי רופין

Ruppin Academic Center



מכוז ויצמו למדע

WEIZMANN INSTITUTE OF SCIENCE









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List of MERCI Leading Researchers

Name	Rank	Institution	Field of Experties	web site
Dani Weihs	Distinguis hed Professor Emeritus	Technion	biofluid mechanics, hydrodynamics, autonomous robotics	
Dan Liberzon	Assis. Professor	Technion	wind waves	http://www3.nd.edu/~dli berzo/
Yoav Schechn er	Prof.	Technion	marine imaging	http://webee.technion.ac .il/people/yoav/index.ht ml
Debbie Lindell	Assoc. Professor	Technion	marine biology	http://lindelltechnion.wixsite
Herut Barak	Prof.	Israel Oceanographic and Limnological Research	Marine biogeochemistry	
Kress Nurit	Dr.	Israel Oceanographic and Limnological Research	Marine chemistry	
Rahav Eyal	Dr.	Israel Oceanographic and Limnological Research	Marine biology	<u>http://www.rahavlab.co</u> <u>m/</u>
Rilov Gil	Dr.	Israel Oceanographic and Limnological Research	Marine biology	<u>https://www.rilovlab.com</u>
Silverma n Jacob (Jack)	Dr.	Israel Oceanographic and Limnological Research	Marine biogeochemistry	
Tibor Gideon	Dr.	Israel Oceanographic and Limnological Research	Marine geplogy/geophisics and remote sensing	
Sigal Abramov ich	Prof.	Ben-Gurion University of the Negev	Molecular Phylogeny, Ecology and physiology of foraminifera, Marine Biomonitoring.	<u>http://shaioron.wixsite.co</u> <u>m/bgu-forams-lab</u>
Roi Granot	Dr.	Ben-Gurion University of the Negev	Plate tectonics and geodynamic processes	<u>https://geomaglab.org/ro</u> i-granot/
Orit Sivan	Prof	Ben-Gurion University of the Negev	biogeochemical processes	http://oritsivansgroup.we ebly.com/
Yaron Toledo	Dr.	Tel-Aviv University	Mechanical Engineering	http://www.eng.tau.ac.il/ <u>~toledo/</u>
Micha Ilan	Prof.	Tel-Aviv University	Zoology	http://milan35.wixsite.co m/tau-porifera



Name	Rank	Institution	Field of Experties	web site
Shmuel Marco	Prof.	Tel-Aviv University	Geophysics	http://www.tau.ac.il/~sh mulikm/
Moshe Reshef	Prof.	Tel-Aviv University	Geophysics	
Steve (Shlomo) Brenner	prof	Bar-Ilan University		http://geoenv.biu.ac.il/en /Steve_Brenner
Yishai Weinstei n	Dr.	Bar-Ilan University		http://research.biu.ac.il/c ontent/prof-weinsteins- lab
llana Berman- Frank	Prof	Bar-Ilan University		http://www.ilanaberman. com/
Zvy Dubinsky	Prof.	Bar-Ilan University		http://research.biu.ac.il/c ontent/prof-dubinskys- lab
David Iluz	Dr.	Bar-Ilan University		
Zohar Gvirtzma n	Dr	Geological Survey of Israel	Tectononics, Stratigraphy, Basin analysis, Seismic hazard, Middle East and Mediterranean geology	http://www.gsi.gov.il/eng /?CategoryID=28&ArticleI D=505
Oded Katz	Dr.	Geological Survey of Israel	Earthquake hazard, Lanslides mechanics, Landslides hazard, Mass wasting processes in continental slopes	http://www.gsi.gov.il/eng /?CategoryID=28&ArticleI D=513
Orit Hyams	Dr.	Geological Survey of Israel	Micropaleontology, benthic & planktic foraminifera, taxonomy, larger symbiont bearing foraminifera, lessepsian migration, shallow and deep marine environments, ecology, marine pollution	http://www.gsi.gov.il/?Ca tegoryID=296&ArticleID= 956
Onn Cruvi	Dr.	Geological Survey of Israel	Sedimentology, Soil, eolian and coastal geomorphology, Quaternary Geology, Geo-archaeology	http://www.gsi.gov.il/?Ca tegoryID=296&ArticleID= 958
Hezi Gildor	Prof.	The Hebrew University of Jerusalem	physical oceanography	<u>http://hezigildor.es.huji.a</u> <u>c.il/</u>



Name	Rank	Institution	Field of Experties	web site
Yeala Shaked	Dr.	The Hebrew University of Jerusalem	Marine biogeochemistry	https://scholar.google.co. il/citations?hl=en&user=5 37ZhsoAAAAJ&view_op=l ist_works&sortby=pubdat e
Nir Keren	Dr.	The Hebrew University of Jerusalem	biological oceanography	<u>http://nirkerenslab.weebl</u> <u>y.com/</u>
<u>Amotz</u> Agnon	<u>Prof.</u>	<u>The Hebrew</u> <u>University of</u> <u>Jerusalem</u>	<u>Geological</u> oceanography	-
Zvi Ben- Avraham	Prof.	University of Haifa	Marine Geophysics, Tectonics, Marine Geosciences	https://www.tau.ac.il/~zv iba/zvi.htm
Morel Groper	Prof.	University of Haifa	Underwater Marine Engineering, Autonomous Underwater Vehicles and Underwater Remote-Controlled Vehicles with emphasis on their propulsion systems and efficient arrangement, water lubricated bearings and effective design of mechanical components for underwater applications.	
Michael Lazar	Dr.	University of Haifa	Seafloor morphology, submarine gas systems (seepages) and their effect on past climate change, the Dead Sea: the connection between active tectonics, geology and life	http://marsci.haifa.ac.il/e n/about/faculty-and- staff/academic- faculty/department-of- marine-geosciences/19
Dan Tchernov	Dr.	University of Haifa	Marine Biology	https://deepmed2.wixsite .com/deepmed
Gil Gambas h	Dr.	University of Haifa	Maritime Civilizations	http://marsci.haifa.ac.il/e n/about/faculty-and- staff/academic- faculty/department-of- maritime-civilizations/ 22



Name	Rank	Institution	Field of Experties	web site
Yizhaq Makovsk	Dr.	University of Haifa	Geophysics, Marine Geosciences	http://marsci.haifa.ac.il/a bout/faculty-and-
У				staff/academic- faculty/department-of-
Aldo Shemesh	Prof.	Weizmann Institute of Science	Geology, isotope geochemistry Oceanography, stable isotopes Geology and Chemistry	http://www.weizmann.ac .il/EPS/People/Aldo

CV and List of publications

Technion

Dani Weihs - Short Bio



Distinguished Professor Daniel Weihs (PhD Technion, 1971) is Head of Technion's Autonomous Systems and Robotics Program. At Technion, he was Provost, Dean of Aerospace Engineering, Dean of the Graduate School and Head of the Neaman Institute. He was Chairman of the Israel National Committee for Space Research, and has been a member of the Steering Committee of the Israel Space Agency. Most recently, he has been Chief Scientist of the Israel Ministry of Science & Technology.

He is a Member of the Israel Academy of Sciences and Humanities, Foreign Member of the US National Academy of Engineering, Fellow of the American Physical Society, Honorary Doctorate from Ben Gurion University,

2015 Awardee of Israel MOD Creative Thinking Prize, and the 2016 International Society of Bionic Engineering-Outstanding Contribution Award

He is Chairman of the Interuniversity Marine Science Institute, Eilat Israel, and Member of the Israel National Committee for research & Development, Board member of TEUZA-Fairchild VC, and an Advisory Board member of the Global Drucker Management Forum.

His fields of research include Robotics, Aerodynamics, Bioengineering, Space Research and Policy Research. He has published over 160 papers, given over 130 invited lectures, and has several patents, and one Postage stamp.

Dani Weihs - List of Publication

- A. Lidor, E. Sher and D. Weihs, "Phase-Change-Materials as Energy Source for Micro Aerial Vehicles (MAV)" Applied Thermal Engineering. 65, 185-193, 2014 DOI.org/10.1016/j.applthermaleng.2013.12.071
- S. Stocker-Segre and D. Weihs, "Impact of Environmental Changes on Migratory Bird Survival", International Journal of Ecology, **2014** Article ID 245849, 15 pp, 2014. DOI:10.1155/2014/245849.
- U.Kadri and D. Weihs "Higher Order Hydrodynamic Interaction Between Two Slender Bodies In Potential Flow" Journal of Marine Science and Technology, **19**, 8 pp , 2014. DOI: 10.1007/s00773-014-0275-0
- Y. Meresman, G. Ribak, D.Weihs, and M.Inbar "The Stimuli Evoking the Aerial-Righting-Posture of Falling Pea Aphids", Journal of Experimental Biology 217, 3504-3511, 2014 DOI:10.1242/jeb.107490
- 5. G. Amouyal and D. Weihs "Energy-Saving Periodic Flight At Transonic Speeds" Journal of Aviation Technology **2**,(1), 7-15,2015.
- P.W.Webb and D.Weihs "Stability versus Maneuvering : Challenges For Stability During Swimming By Fishes" Integrative and Comparative Biology 2015;1-12 DOI: 10.1093/icb/icv053
- S. Rahimi and D. Weihs "Surface Tension of Magneto-Rheological Fluids" Journal of Magnetism 21(2), 261-265 2016 DOI/10.4283/JMAG.2016.21.2.261
- 8. S. Stocker-Segre and D. Weihs "Preparations of young White Storks Ciconia ciconia for migration flight" Vogelwelt 137, 206–214, 2017

Accepted for publication

- 9. Lidor, D. Weihs and E. Sher, "On the Three Explosion Limits of an H2-O2 System and their Relationships to Ignition Delay" International Journal of Hydrogen Energy
- 10. U. Kadri, D. Weih. "Higher order hydrodynamic interaction between two slender bodies in potential flow" Received: 2 September 2013/Accepted: 11 May 2014

Liberzon Dan – Resume



Identity No. 304523137 Date and place of birth: April 11, 1976, Baku, Azerbaijan Marital status: Married Email and cell phone: liberzon@technion.ac.il; +972-(0)52-6344714 Web page: <u>http://t-sail.net.technion.ac.il</u>

Google scholar: https://scholar.google.co.il/citations?user=sxWmO3oAAAAJ&hl=en

ACADEMIC DEGREES

- Ph.D. 2010, Mechanical Engineering, Tel-Aviv University, Israel.
- M.Sc. 2005, Mechanical Engineering, Tel-Aviv University, Israel.
- B.Sc. 2003, Mechanical Engineering, Tel-Aviv University, Israel.

ACADEMIC APPOINTMENTS

Mar. 2013 - present Assistant Professor, Civil and Environmental Engineering, Technion, Haifa, Israel.

Jul. 2012 – Jan. 2013 Post Doctoral Fellow, School of Mechanical Engineering, Faculty of Engineering, Tel-Aviv University, Israel.

Jul. 2010 – Jul. 2012 Post Doctoral Fellow, Civil Engineering and Geological Sciences,

University of Notre Dame, Notre Dame, Indiana, USA.

Oct. 2003 – Jun. 2010 Research Assistant (Ph.D., M.Sc.), School of Mechanical Engineering, Tel Aviv University, Israel.

TEACHING EXPERIENCE

Technion: Hydraulics (undergraduate), Hydraulics and Hydrology (undergraduate), Water Waves (mutual graduate and undergraduate), Ocean Engineering Laboratory (mutual graduate and undergraduate). Developing of a new course – Advanced Topics in Nonlinear Water Waves: From Theory

to Experiment (to be taught from Spring 2016 at IUI).

University of Notre Dame: LabView Workshop (graduate)

Tel-Aviv University: Thermodynamics (undergraduate).

Aferka Tel-Aviv Academic College of Engineering: Thermodynamics (undergraduate), Matlab/Computer

Applications for Engineers (undergraduate).

Ort Hermelin Academic College: Introduction to Mechanical Engineering (undergraduate).

PROFESSIONAL MEMBERSHIPS:

American Physical Society (APS)

HONORS

Jul. 2013 Technion Excellent Lecturer Teaching Award, Spring Semester 2012-2013.

Jul. 2013 Aronson Excellent Lecturer Teaching Award, Civil and Environmental Engineering, Fall Semester 2013-2014.

Feb. 2015 Technion Excellent Lecturer Teaching Award, Fall Semester 2014-2015.

Jun. 2015 Technion Excellent Lecturer Teaching Award, Spring Semester 2014-2015.

Jul. 2015 Aronson Excellent Lecturer Teaching Award, Civil and Environmental Engineering, Fall Semester 2014-2015.

Feb. 2016 Technion Excellent Lecturer Teaching Award, Fall Semester 2016-2016.

RESEARCH GRANTS

- 2013 MANLAM grant from Shustak Fund for Energy Research, "Development of a rectifier type ocean waves energy converter". Starting Jun. 2013 for the period of 2.5 years. Total of 15,000 USD
- 2013 Mediterranean Sea Research Center of Israel (MERCI), "TSAIL Technion Sea Air Interaction Research Laboratory ". Equipment purchase support, 50% matching. Starting Sep. 2014. 410,000 USD.
- 2014 German-Israel Fund (GIF) Young Scientists. "Kinematic criterion for the inception of breakers in wave fields under weak and moderate wind forcing". Starting Jan. 2015 for the period of 1 year. 28,000 EUR.
- 2015 Israel Science Foundation (ISF). "Laboratory and open sea experimental investigation of the wind input and ocean waves' evolution in view of the critical layer height". Starting Oct. 2015 for the period of 4 years. 290,700 USD
- 2015 Israel Science Foundation (ISF). "TSAIL Technion Sea Air Interaction Research Laboratory".
 Startup equipment purchase grant, 50% matching. 240,700 USD

- 2015 Mediterranean Sea Research Center of Israel (MERCI), "Directional distribution of wind waves energy: open sea experiment". Equipment purchase support, 50% matching. Starting Sep. 2015. 86,000 USD.
- 2015 Binational Science Foundation (BSF), "Experimental investigation of thermally driven anabatic flow separation". Starting Oct. 2015 for the period of 3 years. 126,900 USD

EDITORIAL REVIEW:

- 2011 Journal of Geophysical Research
- 2012 IEEE Sensors
- 2013 Physics of Fluids, Chinese Journal of Oceanography and Limnology
- 2014 Journal of Fluid Mechanics, Chinese Journal of Oceanography and Limnology
- 2015 Journal of Fluid Mechanics, Applied Physics Letters
- 2016 Urban Water Journal

INVITED LECTURES/SEMINARS

 Breaking water waves – Lagrangian criterion, (2016), Institute of Earth Sciences, Hebrew University,

Jerusalem, Israel.

2. Kinematics of breaking waves, (2016), Helmholtz-Zentrum Geesthacht, Hambourg, Germany.

CONFERENCES

[Speakers underlined; graduate students/research assistants – in italics]

- Liberzon D, L. Shemer and D. Barnea, (2005) Capillary Waves on the Surface of Taylor Bubbles, 43rd ETPFGM.
- Liberzon D, L. Shemer and D. Barnea, (2005) Capillary Waves on the Surface of Taylor Bubbles,

School of engineering Ph.D. students conference, Tel-Aviv University.

- 5. Liberzon D. and L. Shemer, (2008) Measurements of growth rates of wind-generated water waves, ICTAM 08, Adelaide, Australia.
- Shemer L, A. Sergeeva and D. Liberzon, (2010) Effect of the initial spectral shape on the evolution of random unidirectional wave field along the tank Hydralab III Joint User Meeting, Hannover, Germany.
- 7. Shemer L. and Liberzon D., (2010) Experiments on the momentum exchange between wind and waves, Frontiers of Nonlinear Physics, IV Int. Conf., Nizhny Novgorod, Russia.
- 8. Liberzon D. and Shemer L., (2010) An inexpensive method to measure static pressure fluctuations, ICME 2010, Tel Aviv, Israel.

- 9. Liberzon D., Hocut C., Fernando H.J.S, (2011) Thermally driven upslope flow in mountainous terrain, 64th Annual Meeting of the APS Division of Fluid Dynamics, Baltimore, USA.
- Zavadsky A., Liberzon D., Shemer L., (2011) Initial Stages of Wind-Waves Evolution, Temporal vs. Spatial Cases, Gallery of Fluid Motion at 64th Annual Meeting of the APS Division of Fluid Dynamics, Baltimore, USA.
- 11. Hocut C., Liberzon D, Fernando H.J.S., (2012) Thermally driven upslope flow in mountainous terrain, 92nd American Meteorological Society Annual Meeting, New Orleans, USA.
- Shemer L, Zavadsky A and Liberzon D, (2012) On similarity of wind-waves spectral shapes in laboratory and in ocean, Annual Meeting of the APS Division of Fluid Dynamics, San Diego, USA.
- Silvana Di Sabatino, Leo L.S., Liberzon D., Retallack C., Coppersmith R., Sentic S., Huq P., Hocut C, Fernando H.J.S., (2012) Evening Transition of Atmospheric Boundary Layer (ABL) in Heterogeneous Flat Terrain, 92nd American Meteorological Society Annual Meeting, New Orleans, USA.
- Hocut C., Liberzon D, Fernando H.J.S., (2012) Thermally driven upslope flow in separation in steep mountainous terrain, 15th Conference on Mountain Meteorology, Steamboat, CO, USA.
- 15. Shemer L and Liberzon D, Experiments on kinematics of deep-water breaking waves, (2013) WISE, College Park, USA.
- 16. Liberzon D and Shemer L, (2013) Experimental investigation of the inception of a spilling breaker, Annual Meeting of the APS Division of Fluid Dynamics, Pittsburgh, USA.
- 17. Bracha Y, Liberzon D, and Ramon G, (2014) Investigation of parameters governing the onset of the two-phase Thermoacoustic engine, ETPFGM-52, Dresden, Germany, 2014.
- 18. Berdugo N, Liberzon D, and Ramon G, (2014) Stable operation of a two-phase (wet) thermoacoustic engine using humid air, ETPFGM-52, Dresden, Germany, 2014.
- 19. Hocut C., Kit E., Liberzon D. and Fernando H.J.S., (2014) Stratified turbulence measurements in complex terrain using hot-film probes and collocated sonic anemometer, Annual Meeting of the APS Division of Fluid Dynamics, San Francisco, USA.
- 20. Liberzon D., Weltch O., Ramon G., (2015) Mass transfer adsorption enhanced two-phase thermoacoustic process. 7th European-Japanese Two-Phase Flow Group Meeting, Zermatt, Switzerland.
- 21. Liberzon, D. and Kit E. (2015) Evaluation of performance of multi-sensors hot-wire probes using Neural-Networks in-situ calibration. APS Division of Fluid Dynamics, Boston, USA.
- Fernando H.J.S., Kit E., Hocut C. and Liberzon D. (2016) Fine-Scale Turbulent Bursts in Stable Atmospheric Boundary Layer, AMS – American Meteorological Society Annual Meeting, New Orleans, USA.
- Hocut C., Kit E., Liberzon D. and Feranando H.J.S. (2016) Fine-Scale Turbulent Bursts in Stable Atmospheric Boundary Layer in Complex Terrains, AMS – 22nd Symposium on Boundary Layers and Turbulence, Salt Lake City, USA.
- 24. Itay U. and Liberzon D. (2016) A kinematic criterion for the breaking of shoaling waves, ICTAM-2016, Montreal, Canada.
- 25. Hilel R. and Liberzon D. Statistical parameters of thermally driven turbulent anabatic flow (2016) APS-DFD, Portland, OR, USA.

- 26. Liberzon D. and Itay U. (2016) Kinematic criterion for breaking of shoaling waves, APS-DFD, Portland, OR, USA.
- 27. Fernando HJS., Kit E., Conry P., Hocut C. and Liberzon D. (2016) Turbulence in the Stable Atmospheric Boundary Layer, APS-DFD, Portland, OR, USA

Liberzon Dan – List of Publications

Refereed papers in professional journals

[Graduate students/research assistants - in italics; (impact factor)]

Published papers (last 3 years)

- Vitkin L., Liberzon D., (2014) Grits B. and Kit E., Study of in-situ calibration performance of co-located multi-sensor Hot-Film and Sonic anemometers using "virtual probe" algorithm, Measurement Sci. and Tech., 25, 7, pp 075801. (1.433)
- 2. Liberzon D. and Fernando H.J.S., (2014) Pressure distribution in confined jet flow, Journal of Fluids Eng., 136, 3, 031202. (1.121)
- 3. Shemer L. and Liberzon D., (2014) Lagrangian kinematics of steep waves up to the inception of a spilling breaker, Physics of Fluids, 26, 1,. (2.04)
- 4. Hocut, C. M., D. Liberzon, and H. J. S. Fernando, (2015) Separation of upslope flow over a uniform slope. J. Fluid Mech., 775, 266–287, doi:10.1017/jfm.2015.298. (2.383)
- Fernando, H. J. S., Pardyjak, E. R., Di Sabatino, S., ... Liberzon, D., ... Zsedrovits, T. (2015) THE MATERHORN - Unraveling the Intricacies of Mountain Weather. Bulletin of the American Meteorological Society. doi:10.1175/BAMS-D-13-00131.1. (11.808)
- Kit E. and Liberzon, D, (2016) 3D-calibration of three- and four-sensor hot-film probes based on collocated sonic using neural networks, Measurement Sci. and Tech., 27, no. 9, 95901-95920.
- Itai U. and Liberzon D. (2017) Lagrangian kinematic criterion for the breaking of shoaling waves, Journal of Physical Oceanography, March 2017, http://dx.doi.org/10.1175/JPO-D-16-0289.1.

Submitted papers

- 8. Kit E., Hocut C., Liberzon D. and Fernando H.J.S. (2016) Fine-scale turbulent bursts in stable atmospheric boundary layer in complex terrain, under-review.
- 9. Hilel R. and Liberzon D. (2016) Obtaining turbulence statistics of thermally driven anabatic flow by sonic-hot-films combo anemometer, under-review.
- 10. Ofner A., Weltch O., Liberzon D. and Ramon G. (2016) Mass exchange in wet thermoacoustics, under-review.

Yoav Schechner- Curriculum Vitae



Personal details Name: Yoav Y. Schechner Home page: www.ee.technion.ac.il/~yoav/ E-mail: yoav@ee.technion.ac.il

Academic Degrees

2000	Ph.D. in Electrical Engineering (Technion, Haifa, Israel).
1996	M.Sc. in Physics (Technion, Haifa, Israel).
1990	B.A. in Physics cum laude (Technion, Haifa, Israel).

Academic Appointments

2016–Present 2016	Professor, Viterbi Faculty of Electrical Engineering, Technion. Visiting Scientist, CSAIL, MIT.
2010–2011	Visitor, California Inst. of Tech., and NASA's Jet Propulsion Laboratory.
2007–2015	Associate Professor, Department of Electrical Engineering, Technion.
2002–2007	Senior Lecturer, Department of Electrical Engineering, Technion.
2000–2002	Research Scientist, Department of Computer Science, Columbia University.
1996–1999	Teaching assistant, Department of Electrical Engineering, Technion.
1994–1996	Teaching assistant, Faculty of Physics, Technion.

Professional Experience

- 2006–Present Consultant
- 1990–1994 Meteorological officer, IDF.

Teaching Experience

2002-Present Technion-Israel Institute of Technology -

Advanced course Three-Dimensional Imaging and Reconstruction. Advanced course Imaging Systems for Computer Vision. Undergraduate/graduate course Electroopic Systems. Undergraduate/graduate course Image Processing and Analysis. Undergraduate course Intr. to Digital Signal Processing, Academic supervisor of the Vision and Image Sciences Lab (Supervision of undergraduate projects in the field of computer vision.)

1994–1999 Technion — Israel Institute of Technology –
Undergraduate/graduate course Image Processing and Analysis.
Received the Award for Excellence in Teaching.
Instruction of undergraduate students in the electrooptics laboratory.
Instruction of undergraduate students in the physics laboratories (Faculty of Physics).

Public Professional Activities

2001	Program Committee IEEE Comp. Soc. Conf. on Computer Vision & Pattern Recognition (CVPR'01).
2003	Program Committee IEEE International Conference on Computer Vision (ICCV'03).
2004	Organizer and Chair CCIT Workshop about Innovations in Signal and Image Processing, March 2004.
2004	Program Committee. IEEE Comp. Soc. Conf. on Computer Vision & Pattern Recognition (CVPR'04).
2004	Chairing session on Non-Acoustic Sensors IEEE/MTS Oceans'04.
2005	Chairing session on Non-Acoustic Imaging IEEE/MTS Oceans'05.
2005	Program Committee IEEE International Conf. on Computer Vision (ICCV'05).
2005	Program Committee; Chairing special session on Polarization in Computer Vision SPIE Conf. on Polarization Science and Remote Sensing II.
2005	Program Committee IEEE Comp. Soc. Conf. on Computer Vision & Pattern Recognition (CVPR'05).
2006	Program Committee. European Conf. on Computer Vision (ECCV'06).
2006	Program Committee IEEE Comp. Soc. Conf. on Computer Vision & Pattern Recognition (CVPR'06).
2007	Organizer and Chair IEEE/ONR Scattering'2007: Int. Sympos. on Volumetric Scattering in Vision & Graphics.
2007	Program Committee IEEE Comp. Soc. Conf. on Computer Vision & Pattern Recognition (CVPR'07).

2007	Program Committee IEEE BMG - Beyond Multiview Geometry Workshop (Adjacent to CVPR 2007).
2007	Program Committee SPIE Conf. on Polarization Science & Remote Sensing III.
2007	Organizer and Chair Computer Vision and Graphics, Israel Ministry of Science Infrastructure Research Workshop.
2008	Organizer and Chair CCIT Workshop on Computer Vision and Multimedia, July 2008.
2008	Organizer German-Israel Workshop for Vision and Image Sciences.
2009	Workshop Chair IEEE International Conference on Computer Vision (ICCV'09).
2009	Program Committee Int. Conf. on Computational Photography (ICCP'09).
2009	Area Chair IEEE Comp. Soc. Conf. on Computer Vision & Pattern Recognition (CVPR'09).
2009	Program Committee Pacific-Rim Symposium on Image and Video Technology (PSIVT 2009).
2010	Finance Chair IEEE Int. Conf. on Computational Photography (ICCP'10).
2010	Steering Committee Israel Machine Vision Conference (2010).
2011	Program Committee Int. Conf. on Computational Photography (ICCP'11).
2012	Program Chair Int. Conf. on Computational Photography (ICCP'12).
2012	Area Chair European Conf. on Computer Vision (ECCV'12).
2012–2014	Section Editor Computer Vision: A Reference Guide (Encyclopedia of Computer Vision), Springer, 2014.
2012–2017	Associate Editor Optics Express.
2013-2016	Steering Committee Int. Conf. on Computational Photography (ICCP).

2014	Scientific Committee Member and Session Chair Int. Congress Imaging Science (ICIS'14).
2014	Program Committee IEEE International Workshop on Computational Cameras and Displays (CCD'14).
2015	Program Committee SPIE Conf. on Polarization Science & Remote Sensing VII.
2015	Area Chair IEEE Int. Conf. Computer Vision (ICCV'15).
2016	Program Committee SEEEI Optical Engineering.
2016	Area Chair IEEE Comp. Soc. Conf. on Computer Vision & Pattern Recognition (CVPR'16).
2016	Program Committee Int. Conf. on Computational Photography (ICCP'16).
2016	Chair, jointly with Miri Ben-Chen The Annual Henry Taub International TCE Conference <i>3D Visual Computing:</i> <i>Graphics, Geometry & Imaging</i> .
2016	Guest Editor, jointly with W. Freeman, A. Savakis, N. Snavely, W. Heidrich, IEEE Trans. Computational Imaging, Special Issue on <i>Extreme Imaging</i> .

Reviewer for:

Science Foundation Ireland; ISF Grants; BSF Grants; NOAA Grant; 3DV14; IEEE TPAMI; Int. J. Computer Vision; SIGGRAPH; IEEE TIP; JOSA A; Signal Processing; J. Electronic Imaging; Photogrammetric Eng. and Remote Sensing; Machine Vision and App.; Integrative and Comparative Biology; IEEE ICCV; IEEE CVPR; ECCV; ICPR; Int. Conf. on Advances in Pattern Recognition (ICAPR); IEEE Trans. Circuits and Systems for Video Technology; Applied Optics.

Technion Activities

1996–1999	Coordinator of the "Pixel-Club" - a colloquium forum of Technion researchers in the fields of image processing and computer vision.
2004,2014	Public Relations for the Technion in the press (press releases regarding the invention dealing with underwater photography, including interviews to the general press, television interviews to <i>Reuters, Channel 8</i> , ATS, etc.
2004–2005	Lectures to Technion invited guests and donors.
2005	Trip to Germany (Munich) for making the case in front of the Scientific Review Committee of the Minerva Ollendorff Center.
2004–2006	Interviewing students for the Technion's Excellence Program.
2012–2015	EE representative to the Technion Senate.

2014-2017	Member in the Standing Committee for Academic Studies.
2013–2015	Outreach: Advising a year-long project of high-school (Kabri) student (Sapir Matlaw) for Physics matriculation.
2015	Fund-raising tour for the ATS, February.
2015–2017	Member of the Technion inter-departmental committee for Marine Engineering.
2016–2017	Advisory Board Committee, Samuel Neaman Institute.

Department Activities

2002-2003	Gave introductory lectures in the course "Topics in electrical engineering".	
2003-2005	Gave talks to motivate high-school students in technical studies ("Girls day").	
2002-2006	Served in the Study-Termination Committee of the Elect. Eng. Dept.	
2005-2006	Served in the Undergraduate Curricula Committee of the Elect. Eng. Dept.	
2006-2010	Served as an advisor for distinguished undergraduate students (Dept. of Elect. Eng.).	
2007-2009	Served in the faculty-students committee of the Elect. Eng. Dept.	
2008-2012	Served as Elbit-Systems/Technion vision systems program coordinator (Dept. of Elect. Eng.).	
2008-2010	Served in the social/cultural committee of the Elect. Eng. Dept.	
2009	Coordinator of the Elect. Eng. Dept. undergraduate excellence track with research emphasis.	
2010	Served in the Academic Development Committee of the Elect. Eng. Dept.	
2012-2015	EE representative to the Technion Senate.	
2011-2015	Organizing the EE colloquium.	
2014-2016	Member of the Academic Development Committee.	
2014-2016	Chairing the social/cultural committee of the Elect. Eng. Dept.	
2015-2017	EE Vice-Dean for representation activities.	
2002-Present Serves as the academic supervisor of the Vision and Image Sciences Lab.		

Membership in Professional Societies

IEEE,	MTS (Marine Technology Society),	OES (Oceanic Engineering Society),	OSA
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Awards and Honors

- 1. Best Lecture Award (Mark Sheinin is first author), IAAS 2016.
- 2. Best Student Paper (Marina Alterman is first author), 2nd place IMVC 2015.
- 3. Best Paper Award, ICCP 2013.
- 4. Outstanding Reviewer Award, ICCV 2009.
- 5. Outstanding Reviewer Award, ECCV 2008.
- 6. Henry Taub Prize for Academic Excellence, 2008.
- 7. Outstanding Reviewer Award, IEEE ICCV 2007.
- 8. Outstanding Reviewer Award, IEEE CVPR 2007.
- 9. Ray and Miriam Klein Research Award, 2006.
- 10. Harry Goldman Academic Lectureship Canada, 2005.
- 11. Alon Fellowship, 2002-2005 (This fellowship is a national award to the most outstanding newlsraeli faculty members in the Natural and Exact Sciences).
- 12. Landau Fellowship supported by the Taub Foundation, 2002-2004.
- 13. The Louis Morin Fellowship, 2000,2001.
- 14. The Award for Excellence in Teaching, from the Technion, 1999.
- 15. Otto Schwarz Foundation Excellence Award, 1999.
- 16. Israeli Ministry of Science (Eshkol) Distinction Fellowship, 1998-99.
- 17. Ollendorff Award for research in the field of image processing and analysis, 1998.
- 18. Gutwirth Special Distinction Fellowship, 1995.
- 19. Wolf Foundation Excellence Award for graduate students, 1994.
- 20. Invention Award, from the Chief Eng. Logistic Director (RALZA"D) Israeli Air Force, 1994.
- 21. Excellence Award from the President of the Technion, 1990.
- 22. Excellence Award from the Dean, 1989.
- 23. Excellence Award from the Dean, 1988.

Graduate Students

Completed Theses

- 2004 Mr. Nir Karpel, MSc., *Recovering underwater scenes using polarization analysis*.
- 2005 Ms. Einat Kidron, MSc., *Audio-visual cross-modal analysis* (Secondary Adv.: Prof. Michael Elad).
- 2005 Ms. Sarit Shwartz, MSc., *Blind separation of high dimensional sources*.
- 2006 Mr. Saar Bobrov, MSc., *Image-based prediction of thermal imaging performance*.
- 2006 Mr. Anatoly Litvinov, MSc., Image mosaicing in the presence of radiometric distortions.

- 2006 Ms. Yael Erez, MSc., Spatially varying frequency compounding of ultrasound images. (Secondary Adv.: Prof. Dan Adam); 2006 Mr. Yuval Averbuch, MSc., Adaptive filtering of visibility degraded images. 2006 Mr. Nir Maor, MSc., Compression at the source. (Primary Adv.: Prof. Arie Feuer); 2007 Mr. Michael Kolomenkin, MSc., Image matching using photometric information. (Primary Adv.: Dr. Ilan Shimshoni); 2007 Mr. Netanel Ratner, MSc., Optimal multiplexing for imaging. 2008 Mr. Yaron Diamant, MSc., Overcoming secondary reflections. 2008 Mr. Zohar Barzilay, MSc., Relating audio and video of multiple simultaneous events. 2009 Mr. Fima Koreban, MSc., *Geometry by Deflaring*. 2009 Ms. Tali Treibitz, **PhD**. Geometry and Photometry of Imaging Through a Medium. 2011 Ms. Marina Alterman, MSc., Multiplexed Fluorescence Unmixing. 2011 Mr. Amit Aides, MSc., Multiscale Ultrawide Video Extrapolation 2012 Ms. Dana Segev, MSc., Visual Audio Denoising (Secondary Adv.: Prof. Michael Elad). 2013 Mr. Amit Oved, MSc., Weak Coupling of Spectral-Dimensional Scattering Functions for Atmospheric Recovery and Correction (Primary Adv.: Prof. Steve Lipson). 2013 Mr. Meir Hatzvi, MSc., Three dimensional optical transfer of rotating beams. 2013 Mr. Yohay Swirski, PhD, Three dimensional reconstruction using natural flickering illumination. 2014 Mr. Yuval Bahat, MSc, Multimodal audio inpainting. 2014 Mr. Ron Schneider, MSc, Light propagation in fog. 2015 Mr. Alex Golts, MSc, Resolution limits due to pointwise degradations in color imaging. 2015 Ms. Marina Alterman, **PhD**. *Vision through random dynamic distortions*. (Secondary Adv.: Prof. Joseph Shamir) 2015 Ms. Moran Mordechay, MSc, Optimal measurements for poisson compressed sensing. 2016 Mr. Daniel Veikherman, MSc, Clouds in The Cloud. 2016 Mr. Vadim Holodovsky, MSc, In-situ multi-view multi-scattering stochastic tomography. Theses in Progress Mr. Amit Aides, (towards PhD) expected in 2017. Mr. Aviad Levis, (towards PhD) expected in 2018. Mr. Lior Arbel, (towards PhD) expected in 2017.
- Mr. Mark Sheinin, (towards **PhD**) expected in 2018.

- Mr. Adam Geva (towards MSc) expected in 2018.
- Ms. Adi Vainiger, (towards MSc) expected in 2018.
- Mr. Jonatan Chernyak, (towards MSc) expected in 2018.

Research Grants

ISF, 828,184 NIS.
Principal Investigator: Yoav Y. Schechner.
"Self calibration in polarized imaging".
Ministry of Science, Technology and Space, 800,000 NIS.
Principal Investigators: Daniel Rosenfeld (HUJI) and Yoav Y. Schechner (Technion).
"Development of satellite constellations for observing cloud dynamic properties".
Ministry of Science, Technology and Space, 2,000,000 NIS
Principal Investigators: Timor Katz (IOLR), Gitai Yahel (Ruppin Academic Center), Uri Shavit (Technion), Tali Treibitz (Haifa U.), Yoav Schechner (Technion)
"Developing new methodologies for quantifying biological sediment resuspension in the sea and for studying its dynamics."
Magnet (The Israel Ministry of Commerce), 953,150 NIS for the first two years.
Principal Investigators: Joshua Zeevi, Guy Gilboa and Yoav Y. Schechner.
"OMEK" Consortium.
Norman and Helen Asher Fund (Space Research Inst.) \$ 10,000,
Principal Investigator: Yoav Y. Schechner, "Verification of a multiview sensed atmosphere"
National Geographic Society, \$ 20,000,
Principal Investigator: Gadi Katzir. Contributing Investigators: Daniel Weihs and Yoav Y.
Schechner. "Anthropogenic changes in water optical/photic qualities: Their effects on
avian visual predation of fish and 'fish nurseries' in coastal shallow water habitats"
GIF (The German-Israel Foundation), 90,000 Euro,
Principal Investigators: Yoav Y. Schechner and Dietrich Althausen. Contributing
Investigators: Mordechai (Moti) Segev and Albert Ansmann. "3D Widefield Sky
Scatterer Tomography by Lidar Anchor"
Cornell Tech Faculty Exchange Program \$ 7,000,
Principal Investigators: Yoav Y. Schechner and Lihi Zelnik-Manor.
Minerva equipment fund, Eu 60,000,
Principal Investigator: Yoav Y. Schechner,
Norman and Helen Asher Fund (Space Research Inst.) \$ 10,000,
Principal Investigator: Yoav Y. Schechner, "Network for Remote Atmospheric Scatterer Sensing"

2013–2017	BSF (The US-Israel Binational Science Foundation), \$136,000, Principal Investigator: Yoav Y. Schechner and David Diner, "Multiangular Computational Remote Photography"
2012–2016	TASP (Technion Autonomous Systems Program), \$ 50,000, Principal Investigator: Yoav Y. Schechner, Lihi Zelnik-Manor and Alon Wolf, "Technion Underwater-Threats Snake Robots Detection System"
2013–2014	TASP (Technion Autonomous Systems Program), \$ 34,483, Principal Investigator: Michael Elad and Yoav Y. Schechner, "Better Sensing by Joint Audio-Visual Processing"
2012–2016	ISF (The Israel Science Foundation), 736,000 NIS, Principal Investigator: Yoav Y. Schechner, "Inter-Media Vision"
2011–2012	Elbit Systems Ltd., \$ 28,000, Principal Investigator: Yoav Y. Schechner, "Static vs. Dynamic Object Discrimination at Long Range"
2009–2011	Elbit Systems Ltd., \$ 30,000, Principal Investigator: Yoav Y. Schechner, "Peripheral Distractions and Alerts."
2008–2012	ISF (The Israel Science Foundation), 736,000 NIS, Principal Investigators: Yoav Y. Schechner and Michael Elad , "Auditory computervision."
2007–2011	BSF (The US-Israel Binational Science Foundation), \$ 106,000, Principal Investigators: Yoav Y. Schechner, Srinivasa Narasimhan , Shahriar Negahdaripour , "Sensing fusion for underwater scene recovery."
2007–2011	Philips, 154,000 Euro. Principal Investigator: Yoav Y. Schechner, "Visual extrapolation."
2007–2009	Magneton (The Israel Ministry of Commerce), 2,169,058 NIS, Principal Investigators: Yoav Y. Schechner and Iscan-Robotics "Defect detection in automotive glass."
2006–2009	Ministry of Science (Infrastructure Inter-institution Grant), 900,000 NIS, Principal Investigators: Yoav Y. Schechner, Aryeh Weiss, Ehud Rivlin, "Computer micro-vision."
2005–2006	ElOp Ltd., 113,281 NIS. Principal Investigator: Yoav Y. Schechner, "Improvement of vision in haze."
2005	GIF (The German-Israel Foundation), 30,000 Euro, Principal Investigator: Yoav Y. Schechner, "Quantitative image mosaics."
2004–2008	ISF (The Israel Science Foundation), 475,079 NIS, in addition to \$ 50,000 of equipment (for building a new lab). Principal Investigator: Yoav Y. Schechner, "Computer vision in turbid media."
2004–2005	Magneton (The Israel Ministry of Commerce), 1,021,564 NIS, Principal Investigators: Yoav Y. Schechner and El-Op Electrooptics Industries "Improving capabilities of long-range observations."

2003–2005	BSF (The US-Israel Binational Science Foundation), \$ 59,984, Principal Investigators: Yoav Y. Schechner, Shree K. Nayar, Peter Belhumeur, "Coded vision and illumination."
2002-2005	Alon Fellowship, \$ 29,000, in addition to salary.
2002-2004	NSF (USA), \$250,000, Principal Investigators: Rafael Piestun, Carol Cogswel and Yoav Y. Schechner, "High-speed 3D microscopy by hybrid optical-digital encoding and processing."
2000-2002	The Morin Foundation, \$ 100,000 Principal Investigators: Yoav Y. Schechner and Shree K. Nayar, "Multidimensional image mosaics."
1998-1999	The Eshkol Fund, Doctorate Fellowship.

Yoav Schechner - List Of Publications

Theses

- 1. Y. Y. Schechner, Advisor: Prof. J. Shamir *"Rotation phenomena in waves,"* M.Sc. Thesis in Physics, Technion (1996).
- 2. Y. Y. Schechner, Advisors: Dr. N. Kiryati and Prof. J. Shamir *"Analysis and reconstruction of complex scenes via optical cues,"* Ph.D Thesis in Electrical Engineering, Technion (1999).

Journal Papers

- 1. Y. Y. Schechner and J. Shamir, *"Parameterization and orbital angular momentum of anisotropic dislocations,"* Journal of the Optical Society of America A **13**, pp. 967-973 (1996).
- 2. Y. Y. Schechner, R. Piestun and J. Shamir, *"Wave propagation with rotating intensity distributions,"* Physical Review E. **54**, R50-R53 (1996).
- R. Piestun, Y. Y. Schechner and J. Shamir, *"Self-imaging with finite energy,"* Optics Letters 22, pp. 200-203 (1997).
- 4. Y. Y. Schechner, J. Shamir and N. Kiryati, *"Vision through semi-reflecting media: Polarization analysis,"* Optics Letters **24**, pp. 1088-1090 (1999).
- 5. R. Piestun, Y. Y. Schechner and J. Shamir, *"Propagation invariant wave-fields with finite energy,"* Journal of the Optical Society of America A **17**, pp. 294-303 (2000).
- Y. Y. Schechner, J. Shamir and N. Kiryati, *"Polarization and statistical analysis of scenes containing a semi-reflector,"* Journal of the Optical Society of America A **17**, pp. 276-284 (2000).
- 7. Y. Y. Schechner, N. Kiryati and R. Basri, *"Separation of transparent layers using focus,"* International Journal of Computer Vision **39**, pp. 25-39 (2000).
- 8. Y. Y. Schechner and N. Kiryati, *"Depth from defocus vs. Stereo: How different really are they?"* International Journal of Computer Vision **39**, pp. 141-162 (2000).
- 9. Y. Y. Schechner and S. K. Nayar, *"Generalized mosaicing: Wide field of view multispectral imaging,"* IEEE Trans. Pattern Analysis & Machine Intelligence **24**, pp. 1334-1348 (2002).
- 10. Y. Y. Schechner and S. K. Nayar, *"Generalized mosaicing: High dynamic range in a wide field of view,"* International Journal of Computer Vision **53**/3, pp. 245-267 (2003).
- Y. Y. Schechner, S. G. Narasimhan and S. K. Nayar, "Polarization-based vision through haze," Applied Optics 42/3, Special Feature on Light on Color in the Open Air pp. 511-525 (2003).

- 12. A. Litvinov and Y. Y. Schechner *"A radiometric framework for image mosaicking,"* Journal of the Optical Society of America A **22**, pp. 839-848 (2005).
- 13. Y. Y. Schechner and S. K. Nayar, *"Generalized mosaicing: Polarization panorama,"* IEEE Trans. Pattern Analysis & Machine Intelligence **27**, pp. 631-636 (2005).
- S. Shwartz, M. Zibulevsky and Y. Y. Schechner, "Fast kernel entropy estimation and optimization," Signal Processing, Special Issue on Information Theoretic Signal Processing 85/5, pp. 1045-1058 (2005).
- 15. Y. Y. Schechner and N. Karpel, *"Recovery of underwater visibility and structure by polarization analysis,"* IEEE Journal of Oceanic Engineering **30**, pp. 570-587 (2005).
- 16. A. Greengard, Y. Y. Schechner and R. Piestun, "Depth from diffracted rotation," Optics Letters **31**, pp. 181-183 (2006).
- 17. E. Kidron, Y. Y. Schechner and M. Elad, *"Cross-modal localization via sparsity,"* IEEE Trans. Signal Processing **55**, pp. 1390-1404 (2007).
- 18. Y. Y. Schechner, S. K. Nayar, and P. N. Belhumeur, *"Multiplexing for optimal lighting,"* IEEE Trans. Pattern Analysis & Machine Intelligence **29**, pp. 1339-1354 (2007).
- 19. S. Bobrov and Y. Y. Schechner, *"Image-based prediction of imaging and vision performance,"* Journal of the Optical Society of America A **24**, pp. 1920-1929 (2007).
- 20. Y. Y. Schechner and Y. Averbuch, *"Regularized image recovery in scattering media,"* IEEE Trans. Pattern Analysis & Machine Intelligence **29**, pp. 1655-1660 (2007).
- 21. N. Ratner, Y. Y. Schechner and F. Goldberg, "*Optimal multiplexed sensing: bounds, conditions and a graph theory link,*" Optics Express **15**/25, pp.17072-17092 (2007).
- Y. Erez, Y. Y. Schechner and D. Adam, "Space variant ultrasound frequency compounding based on noise characteristics," Ultrasound in Medicine and Biology 34/6, pp. 981-1000 (2008).
- 23. D. M. Kocak, F. R. Dalgleish, F. M. Caimi and Y. Y. Schechner, *"A focus on recent developments and trends in underwater imaging,"* Marine Technology Society Journal **42**, pp. 52-67 (2008), special issue on *State of the Technology*.
- 24. S. Shwartz, Y. Y. Schechner and M. Zibulevsky, *"Blind separation of convolutive image mixtures,"* Neurocomputing **71**, pp. 2164-2179 (2008), special issue on *advances in blind signal processing*.
- 25. E. Namer, S. Shwartz and Y. Y. Schechner, *"Skyless polarimetric calibration and visibility enhancement,"* Optics Express **17**, pp. 472-493 (2009).
- 26. T. Treibitz and Y. Y. Schechner, *"Active polarization descattering,"* IEEE Trans. Pattern Analysis & Machine Intelligence **31**, pp. 385-399 (2009).

- 27. Z. Barzelay and Y. Y. Schechner, *"Onsets coincidence for cross-modal analysis,"* IEEE Transactions on Multimedia **12**, pp. 108-120 (2010).
- 28. Y. Y. Schechner, *"Inversion by P⁴: Polarization picture post-processing,"* Philosophical Transactions of The Royal Society B **366**:1565, pp. 638-648 (2011).
- 29. T. Avraham and Y. Y. Schechner, "Ultrawide foveated video extrapolation," IEEE Selected Topics in Signal Processing 5, pp 321-334 (2011), special issue on recent advances in processing for consumer displays.
- Y. Swirski, Y. Y. Schechner, B. Herzberg, and S. Negahdaripour, *"CauStereo: Range from light in nature,"* App. Optics **50**/28, Special Feature on *Light on Color in the Open Air* pp. F89F101 (2011). **Selected** for publication at the Virtual Journal for Biomedical Optics **6**/11 (2011).
- 31. T. Treibitz, Y. Y. Schechner, C. Kunz and H. Singh, *"Flat refractive geometry,"* IEEE Trans. Pattern Analysis & Machine Intelligence 34:1, pp. 51-65 (2012).
- 32. T. Treibitz and Y. Y. Schechner *"Resolution loss without imaging blur,"* Journal of the Optical Society of America A **29**, pp. 1516-1528 (2012).
- 33. M. Hatzvi and Y. Y. Schechner, *"Three dimensional optical transfer of rotating beams,"* Optics Letters **37**, pp. 3207-3209 (2012).
- 34. T. Treibitz and Y. Y. Schechner, *"Turbid scene enhancement using multi-directional illumination fusion,"* IEEE Trans. Image Processing **21**, pp. 4662-4667 (2012).
- 35. M. Alterman, Y. Y. Schechner, P. Perona and J. Shamir, *"Detecting motion through dynamic refraction,"* IEEE Trans. Pattern Analysis & Machine Intelligence **35**, pp. 245-251 (2013).
- 36. Y. Y. Schechner, *"A view through the waves,"* Marine Technology Society Journal **47**/5, pp. 148-150, Commentary (2013) **Invited**.
- A. Aides, Y. Y. Schechner, V. Holodovsky, M. J. Garay and A. B. Davis, "Multi sky-view 3D aerosol distribution recovery" Optics Express 21, pp. 25820–25833 (2013). Selected for OSA's Spotlight on Optics, Dec/2013.
- 38. A. Golts and Y. Y. Schechner, *"Cutoff due to pointwise degradations in color images,"* Journal of the Optical Society of America A **31**/12, pp. 2711-2718 (2014).
- 39. Y. Bahat, Y. Y. Schechner and M. Elad, *"Self-content-based audio inpainting,"* Signal Processing **111**, pp. 61-72 (2015).
- 40. A. Deleforge, R. Horaud, Y. Y. Schechner and L. Girin *"Co-Localization of audio sources in images using binaural features and locally-linear regression,"*, IEEE Trans. Audio, Speech and Language Processing bf 23, pp. 718-731 (2015).
- 41. M. Alterman, Y. Y. Schechner, and Y. Swirski, *"Triangulation in random refractive distortions,"* IEEE Trans. Pattern Analysis & Machine Intelligence **39**, pp. 603-616 (2016).

Book Chapters

1. Y. Y. Schechner and S. K. Nayar, *"Multidimensional fusion by image mosaics,"*, in Image Fusion: Algorithms and Applications, pp. 193-221, ed. Tania Stathaki (Academic Press 2008).

Patents

- 1. Y. Y. Schechner and S. K. Nayar *"Methods and apparatus for image mosaicing,"* US Patent 7,440,637 B2, approved 2008.
- 2. S. K. Nayar and Y. Y. Schechner "Method and apparatus for recording a sequence of images using a moving optical element," US Patent 7,554,596 B2, approved 2009.
- 3. R. Piestun, C. Cogswell, A. Greengard and Y. Y. Schechner *"Method and system for optical imaging and ranging,"* US Patent 7,705,970 B2, approved 2010.
- 4. N. Karpel and Y. Y. Schechner *"Enhanced underwater imaging,"* US Patent 7,804,518 B2, approved 2010.
- 5. T. Treibitz and Y. Y. Schechner *"Recovering object visibility and structure in a scattering medium when using artificial illumination,"* US Patent 8,350,957 B2, approved 2013.
- 6. Y. Y. Schechner and T. Treibitz *"Imaging systems and methods for recovering object visibility,"* US Patent 8,836,810 B2, approved 2014.
- 7. Z. Barzeley and Y. Y. Schechner *"Method and apparatus for the use of cross-modal association to isolate individual media sources"* US Patent 8,660,841 B2, approved 2014.
- 8. Y. Y. Schechner and T. Treibitz *"Imaging systems and methods for recovering object visibility,"* Israeli Patent 195124, issued Aug/2013.

Magazine Papers

- 1. Y. Schechner, *"Northern exposure a kayaking trek in Alaska,"* The Nature of Things (Hebrew)The Society for Research of Man and Surroundings **27**, pp. 24-47 (1998).
- 2. Y. Y. Schechner, "Aurora Borealis," Optics and Photonics News 9/9, p. 72 (1998).
- 3. Y. Y. Schechner, *"The arc-family of the rainbow,"* Optics and Photonics News **9**/4, p. 64 (1998).

Invited Lectures in Conferences and Advanced International Schools

- 1. J. Shamir, R. Piestun and Y. Y. Schechner, *"Propagation-invariance and 3D light fields,"* ICO XVIII *Optics for the Next Millennium*, San Francisco (1999).
- 2. Y. Y. Schechner, N. Kiryati and J. Shamir, *"Multi-valued images and their separation,"*, Multi Image Analysis Workshop, Schloss Dagstuhl, Germany (2001).

- 3. Y. Y. Schechner *"Multidimensional image sensing,"* Vision & Image Science Workshop, Schloss Dagstuhl, Germany (2002).
- 4. Y. Y. Schechner, *"Hybrid imaging: Recent advances in physics-based vision,"* German-Israeli Binational Workshop, Israel (2004).
- 5. Y. Y. Schechner, "Underwater vision," German-Israeli Binational Workshop, Israel (2004).
- 6. Y. Y. Schechner, *"Efficient image-based relighting,"* Second Israel-UK Symposium on Computer Graphics, Israel (2004).
- 7. Y. Y. Schechner, *"Recovery of underwater visibility and structure by polarization analysis,"* MTS Underwater Imaging Workshop, Washington DC (2005).
- 8. Y. Y. Schechner, *"Control of active radiation to improve imaging,"* MTS Underwater Imaging Workshop, Boston (2006).
- 9. Y. Y. Schechner, "Light propagation effects for the benefit of 3D structure estimation," Israelltaly Bi-National Conference (2007).
- 10. Y. Y. Schechner, *"Double-click imaging,"* IEEE/ONR Scattering'2007 Int. Sympos. on Volumetric Scattering in Vision and Graphics, Minneapolis (2007).
- 11. Y. Y. Schechner, "Hybrid imaging," Third ORT Braude Research Conference, Israel (2007).
- 12. Y. Y. Schechner, *"Harmony in motion,"* Indo-Israeli Workshop on Computer Vision, Hyderabad, India (2008).
- 13. Y. Y. Schechner, *"Look at sparse events,"* International Workshop on Computational and Cognitive Models for Audio-Visual Interactions, Sheffield, England (2008).
- 14. Y. Y. Schechner, "Inversion by the P⁴: Polarization picture post-processing," Polarization Conference New directions in Research on Polarization of Light, Heron Island, Australia (2008).
- 15. Y. Y. Schechner, *"Fusing sights and sounds,"* CCIT Workshop on Computer Vision and Multimedia, Haifa, Israel (2008).
- 16. Y. Y. Schechner, "*Glasswork*," German-Israel Workshop for Vision and Image Sciences , Haifa, Israel (2008).
- 17. Y. Y. Schechner, "Things you can't resolve," CVPR AC Workshop, Atlanta (2009).
- 18. Y. Y. Schechner, *"Improvement of underwater visual capabilities,"* Unmanned Marine Vehicles Symposium, AUVSI Israeli Chapter , Haifa, Israel (2009).
- 19. Y. Y. Schechner, *"Improvement of underwater visual capabilities,"* Erasmus-Mundus Master in Computer Vision and Robotics, Girona, Spain (2010).

- 20. Y. Y. Schechner, *"Take the blues away: Recovering scenes underwater,"* Multi-angle Imaging SpectroRadiometer (MISR) Data Users Science Symposium, Pasadena (2010).
- 21. Y. Y. Schechner, *"Geometry from refracted radiance,"* Keynote talk, Workshop on Color and Photometry in Computer Vision, Barcelona, Spain (ICCV 2011).
- 22. Y. Swirski and Y. Y. Schechner, *"CauStereo: Structure from underwater flickering illumination,"* Proc. SPIE **8480**: The Nature of Light: Light in Nature IV (2012).
- 23. Y. Y. Schechner, *"Turning photographic degradations into scene information sources,"* Israel Machine Vision Conference (2013).
- 24. Y. Y. Schechner, "Scattered and stray light as scene encoding," OSA Frontiers in Optics (2013).
- 25. Y. Y. Schechner, *"A view through the waves,"* Underwater Vision Workshop, Sydney, Australia (ICCV 2013).
- 26. D. J. Diner, J. Chen, A. B. Davis, M. J. Garay, O. V. Kalashnikova, F. Seidel, M. Tosca, G.van Harten, F. Xu, A. Levis, Y. Schechner, "Capabilities and challenges in remote sensing of aerosol (and cloud) properties using multiangular and polarimetric imaging," Gordon Research Conference, Radiation and Climate (2015).
- 27. Y. Y. Schechner, "*Distributed viewpoints: Grand Nature Challenge*," CVPR AC Workshop, Vancouver (2016).
- 28. M. Alterman and Y. Y. Schechner, *"3D in natural random refractive distortions,"* SPIE 3D Imaging, Visualization, and Display Conference (2016).
- 29. Y. Y. Schechner, *"Revealing the polarization analyzer angles, and the unknown target,* SPIE Polarization: Measurement, Analysis, and Remote Sensing XII (2016).
- 30. Y. Y. Schechner, *"Atmospheric 3D volumetric recovery,"* Royal Society International Scientific Seminar Imaging in Graphics, Vision and Beyond (2016).
- 31. Y. Y. Schechner, *"The next best underwater view,"* Schleswig-Holsteinische Bildverarbeitungstage (2016).
- 32. Y. Y. Schechner, "Opportunities in distributed imaging through scatter," Marine Imaging Workshop (2017).
- 33. Y. Y. Schechner, *"Distributed views across media: From space to ocean-depths,"* EarthVision Workshop at CVPR (2017).

Refereed Conference Papers

Within the fully refereed papers of this section:

Papers # 2,3,5,9-11,13,15,20,22,23,24,27-30,32-34,37-39,43-45,47,48 were Orals Papers # 1,4,8,12,14,16-19,21,25,26,31,35,36,40-42,46,49 were Posters.

- 1. Y. Y. Schechner, N. Kiryati and R. Basri, *"Separation of transparent layers using focus,"* Proc. IEEE ICCV International Conference on Computer Vision, pp. 1061-1066 (1998).
- 2. Y. Y. Schechner and N. Kiryati, "Depth from defocus vs. stereo: How different really are they?" Proc. IAPR ICPR - International Conference on Pattern Recognition pp. 1784-1786 (1998).
- 3. Y. Y. Schechner, N. Kiryati and J. Shamir, *"Separation of transparent layers by polarization analysis,"* Proc. IAPR SCIA Scandinavian Conference on Image Analysis, Vol-I, pp. 235-242 (1999).
- 4. Y. Y. Schechner and N. Kiryati, *"The optimal axial interval in estimating depth from defocus,"* Proc. IEEE ICCV - Int. Conference on Computer Vision, pp. 843-848 (1999).
- 5. Y. Y. Schechner, J. Shamir and N. Kiryati, *"Polarization-based decorrelation of transparent layers: The inclination angle of an invisible surface,"* Proc. IEEE ICCV International Conference on Computer Vision, pp. 814-819 (1999).
- 6. J. Shamir, R. Piestun and Y. Y. Schechner, *"Propagation-invariance and 3D light fields,"* ICO XVIII *Optics for the Next Millennium*, pp. 108-109, (1999) **Invited**.
- 7. Y. Y. Schechner, N. Kiryati and J. Shamir, *"Multi-valued images and their separation,"*, Multilmage Analysis, LNCS **2032**, pp. 129-141 (2001).
- Y. Y. Schechner, N. Kiryati and J. Shamir, "Blind recovery of transparent and semireflected scenes," Proc. IEEE CVPR - Computer Vision and Pattern Recognition, Vol. 1, pp. 38-43 (2000).
- 9. Y. Y. Schechner and S. K. Nayar, *"Generalized Mosaicing"*, Proc. IEEE ICCV International Conference on Computer Vision, Vol. 1, pp. 17-24 (2001).
- Y. Y. Schechner, S. G. Narasimhan and S. K. Nayar, *"Instant dehazing of images using polarization,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition, Vol. 1, pp. 325-332 (2001).
- 11. Y. Y. Schechner, S. K. Nayar, and P. N. Belhumeur *"A theory of multiplexed illumination,"* Proc. IEEE ICCV Int. Conference on Computer Vision, Vol. 2, pp. 808-815 (2003).
- 12. Y. Y. Schechner and S. K. Nayar *"Uncontrolled modulation imaging,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition, Vol. II, pp. 197-204 (2004).
- 13. Y. Y. Schechner and N. Karpel *"Clear underwater vision,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition, Vol. I, pp. 536-543 (2004).
- S. Shwartz, M. Zibulevsky and Y. Y. Schechner *"ICA Using kernel entropy estimation with* NlogN complexity," Proc. ICA - International Conference on Independent Component Analysis and Blind Signal Separation, pp. 422-429 (2004).
- 15. A. Litvinov and Y. Y. Schechner *"Addressing radiometric nonidealities: A unified framework,"* Proc. IEEE CVPR - Computer Vision and Pattern Recognition, Vol. II, pp. 52-59 (2005).

- 16. E. Kidron, Y. Y. Schechner and M. Elad, *"Pixels that sound,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition, Vol. I, pp. 88-96 (2005).
- S. Shwartz, Y. Y. Schechner and M. Zibulevsky, "Efficient separation of convolutive image mixtures," Proc. ICA - International Conference on Independent Component Analysis and Blind Signal Separation, pp. 246-253 (2006).
- T. Treibitz and Y. Y. Schechner, "Instant 3Descatter," Proc. IEEE CVPR Computer Vision and Pattern Recognition, Vol. II, pp. 1861-1868 (2006).
- 19. S. Shwartz, E. Namer and Y. Y. Schechner, *"Blind haze separation,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition Vol. II, pp. 1984-1991 (2006).
- 20. Y. Erez, Y. Y. Schechner and D. Adam, "Ultrasound image denoising by spatially varying frequency compounding," Proc. DAGM Symposium, LNCS **4147**, pp. 1-10 (2006).
- 21. N. Ratner and Y. Y. Schechner, *"Illumination multiplexing within fundamental limits,"* IEEE CVPR Computer Vision and Pattern Recognition (2007).
- 22. R. Kaftory, Y. Y. Schechner and Y. Y. Zeevi, *"Variational distance dependent image restoration,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition (2007).
- 23. Z. Barzeley and Y. Y. Schechner, *"Harmony in motion,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition (2007).
- 24. T. Treibitz, Y. Y. Schechner and H. Singh, *"Flat refractive geometry,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition (2008).
- 25. M. Gupta, S. Narasimhan and Y. Y. Schechner, *"On controlling light transport in poor visibility environments,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition (2008).
- 26. Y. Diamant and Y. Y. Schechner, *"Overcoming visual reverberations,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition (2008).
- 27. F. Koreban and Y. Y. Schechner, *"Geometry by deflaring,"* Proc. IEEE ICCP Int. Conference on Computational Photography (2009).
- 28. T. Treibitz and Y. Y. Schechner, *"Recovery limits in pointwise degradation,"* Proc. IEEE ICCP Int. Conference on Computational Photography (2009).
- 29. T. Treibitz and Y. Y. Schechner, *"Polarization Beneficial for visibility enhancement?,"* Proc. IEEE CVPR Computer Vision and Pattern Recognition (2009).
- 30. Y. Swirski, Y. Y. Schechner, B. Herzberg and S. Negahdaripour, *"Stereo from flickering caustics,"* Proc. IEEE ICCV - Int. Conference on Computer Vision (2009).
- 31. A. Sarafraz, S. Negahdaripour and Y. Y. Schechner, *"Enhancing Images in Scattering Media Utilizing Stereovision and Polarization,"* IEEE WACV Workshop on Applications of Computer Vision (2009).

- 32. M. Alterman, Y. Y. Schechner and A. Weiss, *Multiplexed fluorescence unmixing*, Proc. IEEE ICCP Int. Conference on Computational Photography (2010).
- 33. A. Aides, T. Avraham and Y. Y. Schechner, *Multiscale ultrawide foveated video extrapolation*, Proc. IEEE ICCP - Int. Conference on Computational Photography (2011).
- 34. Y. Y. Schechner, D. J. Diner and J. V. Martonchik, *Spaceborne underwater imaging*, Proc. IEEE ICCP Int. Conference on Computational Photography (2011).
- 35. Y. Swirski, Y. Y. Schechner and T. Nir, *Variational stereo in dynamic illumination*, Proc. IEEE ICCV Int. Conference on Computer Vision (2011).
- 36. D. Segev, Y. Y. Schechner and M. Elad, *Example-based cross-modal denoising*, Proc. IEEE CVPR Computer Vision and Pattern Recognition (2012).
- 37. Y. Swirski and Y. Y. Schechner, *3Deflicker from motion*, Proc. IEEE ICCP Int. Conference on Computational Photography (2013). **Best Paper Award**.
- 38. M. Alterman, Y. Swirski and Y. Y. Schechner, *Triangulation in random refractive distortions*, Proc. IEEE ICCP Int. Conference on Computational Photography (2013).
- 39. M. Alterman, Y. Swirski and Y. Y. Schechner, *STELLA MARIS: stellar marine refractive imaging sensor*, Proc. IEEE ICCP Int. Conference on Computational Photography (2014).
- 40. M. Alterman, Y. Y. Schechner, M. Vo and S. Narasimhan, *Passive tomography of turbulence strength*, Proc. ECCV European Conference on Computer Vision (2014).
- 41. D. Veikherman, A. Aides, Y. Y. Schechner and A. Levis, *Clouds in The Cloud*, Proc. ACCV Asian Conference on Computer Vision (2014).
- 42. M. Mordechay and Y. Y. Schechner, *Matrix optimization for poisson compressed sensing*, Proc. IEEE GlobalSIP (2014).
- 43. Y. Y. Schechner, *Self-calibrating imaging polarimetry*, Proc. IEEE ICCP Int. Conference on Computational Photography (2015).
- 44. A. Levis, Y. Y. Schechner, A. Aides and A. B. Davis, *Airborne three-dimensional cloud tomography*, Proc. IEEE ICCV Int. Conference on Computer Vision (2015).
- 45. V. Holodovsky, Y. Y. Schechner, A. Levin, A. Levis and A. Aides, *In-situ multi-view multiscattering stochastic tomography*, Proc. IEEE ICCP Int. Conference on Computational Photography (2016)
- 46. M. Sheinin and Y. Y. Schechner, *The next best underwater view*, IEEE CVPR Computer Vision and Pattern Recognition (2016).
- 47. M. Alterman, A. Schwartzman, R. Zamir, Y. Y. Schechner, *Turbulence-induced 2D correlated image distortion*, Accepted to Proc. IEEE ICCP Int. Conference on Computational Photography (2017).

- 48. M. Sheinin, Y.Y. Schechner, K. N. Kutulakos, *Computational imaging on the electric grid*, Accepted to Proc. IEEE CVPR Computer Vision and Pattern Recognition (2017).
- 49. A. Levis, Y. Y. Schechner, A. B. Davis, *Multiple-scattering microphysics tomography*, Accepted to Proc. IEEE CVPR Computer Vision and Pattern Recognition (2017).

Other Conference Publications

- 1. Y. Y. Schechner and J. Shamir, "Orbital angular momentum of anisotropic dislocations," OSA Annual Meeting, p. 76 (1995).
- 2. R. Piestun, Y. Y. Schechner and J. Shamir, *"Generalized self-imaging in free space,"* EOS Topical meeting on Diffractive Optics, pp. 128-129 (1997).
- 3. R. Piestun, Y. Y. Schechner and J. Shamir, *"Rotating waves and the generalized self-imaging effect,"* OSA Annual Meeting, (1997).
- 4. Y. Y. Schechner, S. Nayar and P. Belhumeur *"Codes for multiplexing images and lighting,"* Israeli Computer Vision Day, Herzliya (2003).
- 5. Y. Y. Schechner and S. K. Nayar, *"Polarization mosaicking: High dynamic range and polarization imaging in a wide field of view.,"* Proc. SPIE **5158**: Polarization science and remote sensing, pp. 93-102 (2003).
- 6. N. Karpel and Y. Y. Schechner, *"Portable polarimetric underwater imaging system with a linear response,"* Proc. SPIE **5432**: Polarization: Measurement, Analysis and Remote Sensing VI, pp. 106-115 (2004).
- 7. N. Karpel and Y. Y. Schechner, *"Overcoming turbidity in underwater imaging,"* 1st Sympos. of the Israeli Assoc. Aquatic Sciences (2004).
- 8. Y. Y. Schechner, M. Elad and E. Kidron *"Pixels correlated to sound,"* Israeli Computer Vision Day (2004).
- 9. Y. Y. Schechner, S. K. Nayar, P. N. Belhumeur and H. S. Peri *"Imaging in multiplexed illumination,"* SPIE **5529**: Nonimaging Optics and Efficient Illumination Systems, pp. 198-205 (2004).
- 10. A. Greengard, Y. Y. Schechner and R. Piestun *"Depth from rotating point spread functions,"* Proc. SPIE **5557**: Optical Information Systems II, pp. 106-115 (2004).
- 11. Y. Y. Schechner and N. Karpel, *"Recovering scenes by polarization analysis,"* MTS/IEEE OCEANS, pp. 1255-1261 (2004).
- 12. Y. Y. Schechner and N. Karpel, *"Attenuating natural flicker patterns,"* MTS/IEEE OCEANS, pp. 1262-1268 (2004).

- 13. E. Namer and Y. Y. Schechner, *"Advanced visibility improvement based on polarization filtered images,"* Proc. SPIE **5888**: Polarization Science and Remote Sensing II, pp. 36-45 (2005).
- 14. Y. Y. Schechner and Y. Averbuch *"Distance dependent regularization,"* Israeli Computer Vision Day (2005).
- 15. Y. Y. Schechner, "Compensating haze in long range observations," MilTech, pp. 63-70 (2006).
- 16. S. Bobrov and Y. Y. Schechner, *"Image-based prediction of thermal imaging performance,"* Proc. SPIE **6395**: Electro-Optical and Infrared Systems: Technology and Applications III (2006).
- 17. Y. Erez, Y. Y. Schechner and D. Adam *"Acousticlean images,"* Israeli Computer Vision Day (2006).
- 18. Y. Y. Schechner *"Optimal multiplexing within fundamental limits,"* Computer Vision and Graphics, Israel Ministry of Science Infrastructure Research Workshop (2007).
- 19. Y. Y. Schechner *"Glasswork,"* Computer Vision and Graphics, Israel Ministry of Science Infrastructure Research Workshop (2008).
- 20. Y. Y. Schechner, D. J. Diner, A. Davis and R. Chipman *"Polarization-based dehazing,"* Multiangle Imaging SpectroRadiometer (MISR) Data Users Science Symposium, Pasadena (2009).
- 21. A. Sarafraz, S. Negahdaripour and Y. Y. Schechner, "Performance assessment in solving the correspondence problem in underwater Stereo Imagery" Proc. MTS/IEEE OCEANS (2010)
- 22. Y. Swirski, Y. Y. Schechner, B. Herzberg and S. Negahdaripour, "Underwater stereo using natural flickering illumination" Proc. MTS/IEEE OCEANS (2010)
- 23. Z. Barzeley and Y. Y. Schechner *"Audio-visual association: look at sparse events,"* 3rd Annual Southern California Computer Vision Meetup (2010).
- 24. M. Alterman, Y. Y. Schechner and A. Weiss *"Multiplexed fluorescence unmixing,"* Israeli Computer Vision Day (2010).
- 25. J. Martonchik, Y. Schechner, M. Bull and D. Diner, *"Application of graph cut theory to the MISR aerosol retrieval process,"* American Geophysical Union (AGU) Fall Meeting, San Francisco (2011).
- 26. J. Martonchik, Y. Schechner, M. Bull and D. Diner, *"Application of graph cut theory to the MISR aerosol retrieval process,"* Multi-angle Imaging SpectroRadiometer (MISR) Data Users Science Symposium, Pasadena (2011).
- 27. Y. Y. Schechner, M. Alterman, J. Shamir, P. Perona, D. Diner nd J. Martonchik *"Vision through the air-water surface,"* Israel Computer Vision Day (2011).
- 28. Y. Y. Schechner, A. Aides *"Multiscale ultrawide video extrapolation,"* Israeli Machine Vision Conference (2012).
- 29. Y. Y. Schechner, M. Alterman, J. Shamir, P. Perona, *"Detecting motion through dynamic refraction,"* Israeli Machine Vision Conference (2012).
- 30. Y. Swirski and Y. Y. Schechner, *"CauStereo: Structure from underwater flickering illumination,"* Proc. SPIE **8480**, The Nature of Light: Light in Nature IV (2012).
- 31. A. Aides, Y. Y. Schechner, V. Holodovski and M. Garay, *"Recovery of aerosol 3D distribution based on multiangular imaging: a single scattering baseline,"* Multi-angle Imaging SpectroRadiometer (MISR) Data Users Science Symposium, Pasadena (2012).
- 32. A. Aides and Y. Y. Schechner, *"Hi-res cloud base and layer recovery from multi-angle dense images,"* Multi-angle Imaging SpectroRadiometer (MISR) Data Users Science Symposium, Pasadena (2012).
- 33. V. Kotlar, M. Tavil, Y. Erez, Y. Y. Schechner, M. J. Garay and D. J. Diner, *"Detecting moving watercrafts using MISR,"* Multi-angle Imaging SpectroRadiometer (MISR) Data Users Science Symposium, Pasadena (2012).
- A. B. Davis, D. J. Diner, I. Yanovsky, M. J. Garay, F. Xu, G. Bal, Y. Y. Schechner, A. Aides,
 Z.Qu and C. Emde, *3D-TRACE: A new NASA initiative in three-dimensional Tomographic Reconstruction of the Aerosol-Cloud Environment*, Proc. EGU European Geosciences Union general assembly (2013).
- 35. Y. Y. Schechner, *"Views affected by a wavy air-water surface,"*, Light and Color in Nature Conference, Fairbanks, Alaska (2013).
- 36. Y. Swirski and Y. Schechner, "3Descatter from Motion,", Israel Computer Vision Day (2013).
- 37. A. Aides, Y. Y. Schechner, V. Holodovski, M. Garay, and A. B. Davis, "Lightfields for recovering aerosol distributions," IEEE ICCP (2014).
- 38. M. Alterman, Y. Schechner, P. Perona and J. Shamir, *Independent components in dynamic refraction*, SIAM Conf. Imaging Science, MS on Models and Methods for Imaging through Turbulence, Hong Kong (2014).
- 39. A. Aides, Y. Y. Schechner, V. Holodovski, M. Garay, and A. B. Davis, *"Multi sky-view 3D aerosol distribution recovery,"* Int. Congress Imaging Sci., Tel-Aviv (2014).
- 40. M. Alterman, Y. Y. Schechner and Y. Swirski, *Vision through random refractive distortions*, Int. Congress Imaging Sci., Tel-Aviv (2014).
- 41. A. Aides, Y. Y. Schechner, V. Holodovski, M. Garay, A. B. Davis, *"Lightfield for recovering aerosol distributions,"* Int. Workshop Computer Vision, Alghero (2014).
- 42. Y. Schechner, *Virtual Periscope by stellar sensing of wave shape*, Shape and Image Modeling & Analysis (2014).
- 43. D. Veikherman, A. Aides, Y. Y. Schechner and A. Levis, *Clouds in The Cloud*, Israel Computer Vision Day (2014).

- 44. Y. Y. Schechner, *Multi-view sensing across media*, 5th OASIS (2015).
- 45. A. Aides, D. Veikherman, A. Levis and Y. Y. Schechner, *Ground-based multi-angle imaging network for 3D atmospheric sensing*, Challenges for Three-Dimensional Radiative Transfer in the Earth and Atmospheric Sciences, AGU-GAC-MAC-CGU Joint Assembly (2015).
- 46. A. Levis, A. Aides, V. Holodovsky, Y. Y. Schechner, A. Levin and A. B. Davis, *Efficient 3D atmospheric tomography of scatter distribution,* Challenges for Three-Dimensional Radiative Transfer in the Earth and Atmospheric Sciences, AGU-GAC-MAC-CGU Joint Assembly (2015).
- 47. L. Arbel, Y. Schechner and N. Amir, *Methods for exciting wine glasses by coupling to plucked strings theory and experiment* Vienna Talk on Music Acoustics (2015).
- 48. D. Rosenfeld, A. Levis, I. Bibi, Y. Y. Schechner, A. Rosenfeld, D. Fischer and J. Woytach, *Globe imaging of 3D motion: Microphysics to centuries of change*, 1st Int. Workshop on Extreme Imaging (2015).
- 49. A. Levis, Y. Y. Schechner, A. Aides and V. Holodovski *Airborne Three-Dimensional Cloud Tomography*, The 2015 Israel Computer Vision Day (2016).
- 50. A. Levis, Y. Y. Schechner, A. Aides and A. B. Davis, *Airborne Three-Dimensional Cloud Tomography*, Israeli Machine Vision Conference (2016).
- 51. V. Holodovsky, A. Levis, Y. Y. Schechner, A. Levin, A. Aides, and A. B. Davis, *3D MultiScattering Tomography*, Int. Conf. Computational Photography (2016).
- 52. A. Levis, Y. Y. Schechner, A. Aides, and A. B. Davis, *3D Cloud Tomography via Solar Radiative Transfer*, International Radiation Symposium (2016).
- 53. A. Levis, Y. Y. Schechner, A. Aides, and A. B. Davis, *3D Cloud Tomography using Solar Radiative Transfer*, Atmospheric Radiation Science Workshop (2016).
- 54. M. Sheinin and Y. Y. Schechner, *Underwater Multi-Platform Visual Observation Paths*, The Israeli Association for Aquatic Sciences Conference (2016). **Best Lecture Award**.
- 55. V. Holodovsky, A. Avni, Y. Y. Schechner, T. Treibitz, S. Grossbard, U. Shavit, *Underwater Optical Imaging for Quantifying Sediment Resuspension*, The Israeli Association for Aquatic Sciences Conference (2016).
- 56. M. Sheinin and Y. Y. Schechner, *Physical Models in 3D Recovery Problems*, OMEK Symposium (2016).
- 57. L. Arbel, Y. Y. Schehner, N. Amir, *An Electromagnet-Based Wine Glass Instrument*, Proc. International Symposium on Musical Acoustics (ISMA 2017).

Debbie Lindell – Resume



Faculty of Biology

Technion - Israel Institute of Technology <u>dlindell@technion.ac.il</u> <u>http://lindelltechnion.wixsite.com/lindell-lab</u>

Personal Details

Date, place of Birth:	24 October 1964, Melbourne, Australia
Immigration to Israel:	July 1985
Citizenship:	Israeli, Australian
Languages:	English, Hebrew

Positions

10/2006 - presentSenior Lecturer, Faculty of Biology, Technion, Israel

2001-2006	Post-Doctoral Associate, MIT, USA
1992-1999	Teaching Instructor, Hebrew University of Jerusalem
1989-1991	Research Assistant, Interuniversity Institute for Marine Sciences (IUI), Israel

Education

Ph.D. in Physiology	1994 – 2000 (Diploma received June 2	001)
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Hebrew University of Jerusalem, Div. of Microbial and Molecular Ecology, and Interuniv. Institute for Marine Sciences of Eilat (IUI), Israel.

M.Sc. in Physiology 1992 - 1993

Hebrew University of Jerusalem, Div. of Microbial and Molecular Ecology, and the IUI, Eilat, Israel. Received with Excellence – cum laude

B.Sc. in Biology 1986 - 1988

Hebrew University of Jerusalem, Israel.

Received with Excellence – cum laude

Teaching

Laboratory in Genetics – 2nd year undergraduate course, Technion, Israel Molecular Virology – 3rd year undergraduate course, Technion, Israel

Honors and Awards (past 10 years)

2015-2020	ERC Consolidator Grant Award – European Research Council
2014-2020	SCOPE Investigator Award – Simons Foundation
2014	Daniel Shiran Prize for Research Excellence in Biomedicine – Technion
2012	Henry Taub Prize for Academic Excellence – Technion
2012	Nominated to join AcademiaNet – Expert Database of Outstanding Female Scientists and Scholars in Europe – Robert Bosch Stiftung
2009	Krill Prize for excellence in scientific research – Wolf Foundation
2008	ERC Starting Grant – European Research Council
2007-2012	Robert J. Shillman Career Advancement Chair – Technion
2007-2010	Yigal Alon Fellowship – Israel Council for Higher Education

Major Grants

2017-	2020	SCOPE Investigator Award – Simons Foundation \$1,081,815.
		The Role of Cyanophages in Ecological Processes in the North Pacific Ocean
2015-	2020	European Research Council (ERC) Consolidator Grant – €2,162,296
	Closely Re	PhageDiff: Distinct Infection Dynamics and Ecological Success among elated Marine Cyanophages: Why the Differences?
2015-	2019	Binational Science Foundation (BSF) - \$180,000
		Development of the Polony Technique to Quantify the Recently Discovered, Ubiquitous ssDNA Phage Group and to Identify Their Hosts in the Red Sea. Collaborator: Mya Breitbart (Univ. South Florida)
2015-	2016	Schulich Ocean Studies Centre Initiative – CAN\$150,000
	<i>the Spring</i> Bielawski	Dynamics of Complex Microbial Communities and Metabolic Potential during g Bloom in the Gulf of Aqaba, Red Sea. Collaborators: Joseph (Dalhousie Univ. Canada), Oded Beja (Technion Inst.)

2014-2017	SCOPE Investigator Award – Simons Foundation \$839,730 + \$99,960.		
	The Role of Cyanophages in Ecological Processes in the North Pacific Ocean		
2011-2015	Israel Science Foundation (ISF) – NIS 1,560,000 (\$410,000)		
	Cyanophage Dynamics in the Red Sea and their Impact on Cyanobacterial Populations		
2008-2013	European Research Commission (ERC) Starting Grant – €1,582,000		
	PIMCYV: Physiological Interactions between Marine Cyanobacteria and their Viruses		
2006-2009	Israel Science Foundation Legacy Fund (Keren Morasha) – \$720,000 Host-Virus Interactions: Uncovering the Molecular Basis for the Physiological Interactions between Cyanobacteria and their Viruses		

Debbie Lindell - List of selected Publications

- 2017 Fridman, S., O. Alalouf, B. Bailleul, F. Rappaport, A. Philosof, T. Ziv, O. Kleifeld, I. Sharon, C.L. Dupont, F.M. Cornejo-Castillo, P. Sánchez, S.G. Acinas, F. Rohwer, D. Lindell*, O. Béjà, O.*. A novel myovirus encoding both photosystem- I and II proteins enhances cyclic electron flow in infected *Prochlorococcus* cells. Accepted *Nature Microbiology*. *corresponding authors.
- 2015 Biller, S., P. M. Berube, **D. Lindell**, S.W. Chisholm. *Prochlorococcus*: The structure and function of collective diversity. *Nature Reviews Microbiology* 13(1):13-27.
- Avrani, S. and D. Lindell. Convergent evolution toward an improved growth rate and a reduced resistance range in *Prochlorococcus* strains resistant to phage. *Proc. Nat.* Acad. Sci. 112:E2191-E2200.
- 2012 Sabehi, G., L. Shaulov, D. Silver, I. Yanai, A. Harel, D. Lindell. A novel lineage of myoviruses infecting marine cyanobacteria is widespread in the oceans. *Proc. Nat. Acad. Sci.* 109:2037-2042.
- 2011 Avrani, S., O. Wurtzel, I. Sharon, R. Sorek, D. Lindell. Genomic island variability facilitates Prochlorococcus-virus coexistence. Nature 474:604-608. See News & Views about this study, Nature 474:582-583.
- Lindell, D., J.D. Jaffe, M.L. Coleman, M.E. Futschik, I. Axmann, T. Rector, G. Kettler, M.B. Sullivan, R. Steen, W. Hess, G.M. Church, S.W. Chisholm. Genome-wide expression dynamics of a marine virus and host reveal features of co-evolution. *Nature* 449:83-86 doi:10.1038/nature06130. See Faculty of 1000 evaluation, Nature Reviews Microbiology, and ASM current topics write-up of this work.
- 2006 Sullivan*, M.B., D. Lindell*, J.A. Lee, L. Thompson, J. Bielawski, S.W. Chisholm. Prevalence and evolution of core photosystem II genes in marine cyanobacterial viruses and their hosts. *PLoS Biology* 4(8):e234 doi:10.1371/journal.pbio.0040234 *contributed equally to this work. See Faculty of 1000 evaluations, Nature Reviews Microbiology and Science Editors choice write-ups of this work.
- Lindell, D., J.D. Jaffe, Z.I. Johnson, G.M. Church, S.W. Chisholm. Photosynthesis genes in marine viruses yield proteins during host infection. *Nature* 438(7064):86-89; advance online publication (doi:10.1038/nature04111). See Faculty of 1000 evaluations, The Scientist and Blackwell Plant Science News write-ups of this work.
- Lindell*, D., M. B. Sullivan*, Z. I. Johnson, A. C. Tolonen, F. Rohwer and S. W. Chisholm. Transfer of photosynthesis genes to and from *Prochlorococcus* viruses. *Proc. Nat. Acad. Sci*. 101(30):11013-11018. *contributed equally to this work

See Faculty of 1000 evaluation of this work.

Israel Oceanographic and Limnological Research

Herut Barak – Short CV

Personal statement



Herut received his PhD in 1992 (Hebrew University of Jerusalem, Israel) and was promoted to Full Research Professor in 2003. He was appointed as the Director General of Israel Oceanographic and Limnological Research Institute since 2005 (www.ocean.org.il). In 1998-9 he has been a visiting professor at the College of Oceanic and Atmospheric Sciences, Oregon State University (USA) and since 2008 affiliated as Full Professor at the University of Haifa. Herut has published 125 refereed journal articles and book chapters, 45 conference proceedings, 190 abstracts and 210 scientific reports and supervised 27 graduate students. His main

interests concern studies on marine pollution, chemistry of atmospheric aerosols, water geochemistry and chemical oceanography. Emphasis on transfer mechanisms of major and trace constituents from the atmosphere and land to the marine and other aquatic reservoirs, and their role in biogeochemical processes across the reservoirs. He is coordinating Israel's National Monitoring Program along the Mediterranean coast. He has worked on several geo-chemical studies in the SE Mediterranean, the Dead Sea and the Red Sea. He has a broad experience in observational oceanography by participation of >60 national and international research cruises, some of them as chief scientist, focusing on water and sediment geochemistry and applying several sampling devices.

Education

Ph.D 1992 (Geology) Earth Sciences Institute, The Hebrew University of Jerusalem, Israel.
 M.Sc 1988 (Geology-Geochemistry, with honors) Earth Sciences Institute, The Hebrew University of Jerusalem, Israel.
 P.Sc 1985 (Geology, with honors) Earth Sciences Institute. The Hebrew University of Jerusalem, Israel.

B.Sc 1985 (Geology, with honors) Earth Sciences Institute, The Hebrew University of Jerusalem, Israel.

Appointments

2005 - Present	Director General, Israel Oceanographic and Limnological Research	
2008 - Present	Professor, University of Haifa	
1991 - Present	Research full Professor (grade A+) since 2003, Israel Oceanographic and	
	Limnological Research	
1999 - 2009	Associate Professor, Ruppin Academic Center, Maritime College	
1998 - 1999 Visiting professor College of Oceanic & Atmospheric Sciences (OSU), Oregon State		
	University, U.S.A.	

Synergistic Activities:

- Israel State Representative and Head of Israel Delegation in the Intergovernmental Oceanographic Commission, UNESCO.
- Israel State Representative in the Commission Internationale Pour L'exploration Scientifique De La Mer Mediterrane (CIESM). Elected for the Advisory Board (2010- 2015)

Former Graduate Students (MSc, PhD):

Yaniv Barami, Sarah Goldsmith, Timor Katz (MSc&PhD), Orit Sivan, Yair Suari, Dina Pakar, Dganit Yofi-Mena, Orit Hyams, Hadas Yaron, Limor Gruber, Yehuda Shalem (MSc&PhD), Ruthi Arieli, Efrat Eliani, Roi Zeevi, Eyal Rahav, Gilad Atler, Tsofit MorFederman, Nadav Amir, Tomer Keter, Merav Bareket, Yonathan Wainsztok, Daniel Vital.

Current Graduate Student Advisees: Dana Titelboim, Olesya Polupanova, Dina Kolker, Tal Ozer, Eldad Levi.

Herut Barak – List of Publications

Last 5 years (total of 125 refereed journal articles and book chapters)

- Tsiola, A., Tsagaraki, T.M., Giannakourou, A., Niklolioudakis, N., Yücel, N., Herut, B., Paraskevi, P. (2017). Bacterial Growth and Mortality after Deposition of Saharan Dust and Mixed Aerosols in the Eastern Mediterranean Sea: A Mesocosm Experiment. Front. Mar. Sci. 3:281. doi: 10.3389/fmars.2016.00281
- 2. Shmidt, C., Morard, R., Prazeres, M, **Herut, B.**, Kucera, M. 2016. Retention of high thermal tolerance in the invasive foraminifera *Amphistegina lobifera* from the Eastern Mediterranean and the Gulf of Aqaba. Marine Biology, 163: 228.
- Herut B., Rahav E., Tsagaraki T.M., Giannakourou A., Tsiola A., Psarra S., Lagaria A., Papageorgiou N., Mihalopoulos N., Theodosi C.N., Violaki K., Stathopoulou E., Scoullos M., Krom M.D., Stockdale A., Shi Z., Berman-Frank I., Meador T.B., Tanaka T., Paraskevi P. (2016). The potential impact of Saharan dust and polluted aerosols on microbial populations in the East Mediterranean Sea, an overview of a mesocosm experimental approach. Front. Mar. Sci. 3:226 doi: 10.3389/fmars.2016.00226.
- Rahav E, Paytan A, Chien C-T, Ovadia G, Katz T and Herut B (2016) The Impact of Atmospheric Dry Deposition Associated Microbes on the Southeastern Mediterranean Sea Surface Water following an Intense Dust Storm. Front. Mar. Sci. 3:127. doi: 10.3389/fmars.2016.00127.
- 5. Astrahan P., **Herut B.**, Paytan A., Rahav E. (2016) The impact of dry atmospheric deposition on the sea-surface microlayer in the SE Mediterranean Sea: An experimental approach. Front. Mar. Sci. 3:122 doi: 10.3389/fmars.2016.00222.
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- Rahav, E., Ovadia G., Paytan A. and Herut, B. (2016). Contribution of airborne microbes to bacterial production and N2 fixation in seawater upon aerosol deposition. Geophysical Research Letteres, 43, doi:10.1002/2015GL066898.
- Rahav E, Shun-Yan C, Cui G, Liu H, Tsagaraki T.M, Giannakourou A, Tsiola A, Psarra S, Lagaria A, Mulholland M.R, Stathopoulou E, Paraskevi P, Herut B, Berman-Frank I. (2016). Evaluating the Impact of Atmospheric Depositions on Springtime Dinitrogen Fixation in the Cretan Sea (Eastern Mediterranean)—A Mesocosm Approach. Front. Mar. Sci. 3:180. doi: 10.3389/fmars.2016.00180
- 9. Rahav, E., Paytan, A., Chien, C-T, Ovadia, G., Katz, T., and **Herut, B.** (2016).The impact of atmospheric dry deposition associated microbes on the southeastern Mediterranean Sea surface water following an intense dust storm. Front. Mar. Sci. 3:172. doi:

10.3389/fmars.2016.00127. doi: 10.3389/fmars.2016.00127.

- Guo C, Xia X, Pitta P, Herut B, Rahav E, Berman-Frank I, Giannakourou A, Tsiola A, Tsagaraki TM, Liu H (2016) Shifts in Microbial Community Structure and Activity in the Ultra-Oligotrophic Eastern Mediterranean Sea Driven by the Deposition of Saharan Dust and European Aerosols. Front. Mar. Sci. 3:1–13.
- Krom MD, Shi Z, Stockdale A, Berman-Frank I, Giannakourou A, Herut B, Lagaria A, Papageorgiou N, Pitta P, Psarra S, Rahav E, Scoullos M, Stathopoulou E, Tsiola A, Tsagaraki TM (2016) Response of the Eastern Mediterranean Microbial Ecosystem to Dust and Dust Affected by Acid Processing in the Atmosphere. Front. Mar. Sci. 3: 133
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- 13. Danna Titelboim, Ahuva Almogi-Labin, **Barak Herut**, Michal Kucera, Christiane Schmidt, Orit Hyams-Kaphzan, Ofer Ovadia and Sigal Abramovich (2016). Selective responses of benthic foraminifera to thermal pollution. Marine Pollution Bulletin.
- 14. Shefer E., Silverman J., **Herut B.** (2015). Trace metal bioaccumulation in Israeli Mediterranean coastal marine mollusks. Quaternary International.
- 15. Merkado G., Danna Titelboim, Orit Hyams-Kaphzan, Maria Holzmann, Jan Pawlowski, Ahuva Almogi-Labin, Uri Abdu, **Barak Herut**, Sigal Abramovich (2015). Molecular Phylogeny and Ecology of Textularia agglutinans d'Orbigny from the Mediterranean Coast of Israel: A Case of a Successful New Incumbent. PLOS ONE DOI:10.1371.
- Sabine K., E. Rahav, B. Herut and B. Rinkevich (2015). Distribution patterns of bacterioplankton in the oligotrophic south-eastern Mediterranean Sea. FEMS Microbiology Ecology, 91, 2015, fiv070.
- 17. Antler G., Turchyn A.V., **Herut B.**, Sivan O. (2015). A unique isotopic fingerprint during sulfate-driven anaerobic oxidation of methane. Geology, 43(7), dio:10.1130/G36688.1
- Sela-Adler M., Herut B., Bar-Or I., Antler G., Eliani-Russak E., Levi E., Makovsky Y., Sivan O. (2015). Geochemical evidence for biogenic methane production and consumption in shallow sediments of the SE Mediterranean shelf (Israel) Continental Shelf Research, 101, 117-124. doi:10.1016/j.csr.2015.04.001
- Rahav, E., Herut, B., Mulholland, M. R., and Berman-Frank I. (2015). Contribution of dinitrogen fixation to bacterial and primary productivity in the Gulf of Aqaba (Red Sea). Marine Ecology Progress Series 522: 67-77. (doi: 10.3354/meps11143).
- 20. Russak A; Sivan O; **Herut B**; Lazar B; Yechieli Y (2015A). The effect of salinization and freshening events in coastal aquifers on nutrient characteristics as deduced from column

experiments under aerobic and anaerobic conditions. Journal of Hydrology.

- 21. Russak A; Sivan O; **Herut B**; Lazar B; Yechieli Y (2015B). The effect of salinization and freshening events in coastal aquifers on nutrient characteristics as deduced from field data Journal of Hydrology.
- Yudkovski Y, Herut B, Shefer E, Tom M. (2015). Dioxin-like biological activity of organic extracts from sediments and fish livers sampled along the Israeli Mediterranean and Red Sea coasts. Marine Pollution Bulletin, 98: 295–300.
- Guieu C., O. Aumont, A. Paytan, L. Bopp, C.S. Law, N. Mahowald, E. P. Achterberg, E. Marañón, B. Salihoglu, A. Crise, T. Wagener, **B. Herut**, K. Desboeufs, M. Kanakidou, N. Olgun, F. Peters, E. Pulido-Villena, A. Tovar-Sanchez, C. Völker (2014). The significance of the episodic nature of atmospheric deposition to Low Nutrient Low Chlorophyll regions. *Global Biogeochemical Cycles*. 28: 1179–1198. DOI: 10.1002/2014GB004852
- Lang-Yona N., Y. Lehahn, B. Herut, N. Burshtein and Y. Rudich (2014). Marine aerosol as a possible source for endotoxins in coastal areas. *Science of the Total Environment* 499 311– 318.
- Kress N., Gertman I., Herut B. (2014). Temporal evolution of physical and chemical characteristics of the water column in the Easternmost Levantine Basin (Eastern Mediterranean Sea) from 2002 to 2010. Journal of Marine Systems 135, 6–13.
- Pittauerov´a, D., Kirchner G., Garbe-Sch¨onberg D., Herut B., Nishri A., F.W. Helmut (2014). Radionuclides and recent sedimentation and mixing rates in Northern Gulf of Eilat/Aqaba, Red Sea. Journal of Marine Systems 139 1–8.
- 27. Antler G., A. V. Turchyn, **B. Herut**, A. Davies, V. C.F. Rennie, O. Sivan (2014). Sulfur and oxygen isotope tracing of sulfate driven anaerobic methane oxidation in estuarine sediments. Estuarine, Coastal and Shelf Science 142 4-11.
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- Arieli R.N, Almogi-Labin A., Abramovich S. and Herut B. (2011). The effect of thermal pollution on benthic foraminiferal assemblages in the Mediterranean shoreface adjacent to Hadera power plant (Israel). Marine Pollution Bulletin, 62: 1002-1012. IF-2.991 (5yr3.296); Q1 (9/103)
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 B. Herut (2011). Atmospheric acidification of mineral aerosols: A source of bioavailable phosphorus for the oceans. Atmos. Chem. Phys. (ACP), 11, 6265–6272.
- Seguret, M.J.M., Koçak, M., Theodosi, C., Ussher, S.J., Worsfold, P.J., Herut, B., Mihalopoulos, N., Kubilay, N., Nimmo, M. (2011). Iron solubility in crustal and anthropogenic aerosols: The Eastern Mediterranean as a case study. Mar. Chem., 126(14): 229-238.
- 43. Bar-Zeev, E., Berman, T., Rahav, E., Dishon, G., **Herut, B.**, Kress, N., Berman-Frank, I. 2011. Transparent exopolymer particle (TEP) dynamics in the eastern Mediterranean Sea. Mar.

Ecol. Prog. Ser., 431:107-118.

44. Yogev T., **E. Rahav, E. Bar-Zeev, D. Man-Aharonovich, N. Stambler, N. Kress, O. Béjà, M. R.Mulholland, B. Herut, I. Berman-Frank (2011). Is dinitrogen fixation significant in the Levantine Basin, East Mediterranean Sea? Environmental Microbiology. 13(4):854-871

Kress Nurit – Short CV



Personal statement

Herut received his PhD in 1992 (Hebrew University of Jerusalem, Israel) and was promoted to Full Research Professor in 2003. He was appointed as the Director General of Israel Oceanographic and Limnological Research Institute since 2005 (www.ocean.org.il). In 1998-9 he has been a visiting professor at the College of Oceanic and Atmospheric Sciences, Oregon State University (USA) and since 2008 affiliated as Full Professor at the University of Haifa.

Herut has published 125 refereed journal articles and book chapters, 45 conference proceedings, 190 abstracts and 210 scientific reports and supervised 27 graduate students. His main interests concern studies on marine pollution, chemistry of atmospheric aerosols, water geochemistry and chemical oceanography. Emphasis on transfer mechanisms of major and trace constituents from the atmosphere and land to the marine and other aquatic reservoirs, and their role in biogeochemical processes across the reservoirs. He is coordinating Israel's National Monitoring Program along the Mediterranean coast. He has worked on several geo-chemical studies in the SE Mediterranean, the Dead Sea and the Red Sea. He has a broad experience in observational oceanography by participation of >60 national and international research cruises, some of them as chief scientist, focusing on water and sediment geochemistry and applying several sampling devices.

Education

Ph.D 1992 (Geology) Earth Sciences Institute, The Hebrew University of Jerusalem, Israel. M.Sc 1988 (Geology-Geochemistry, with honors) Earth Sciences Institute, The Hebrew University of Jerusalem, Israel.

B.Sc 1985 (Geology, with honors) Earth Sciences Institute, The Hebrew University of Jerusalem, Israel.

Appointments

2005 - Present	Director General, Israel Oceanographic and Limnological Research
2008 - Present	Professor, University of Haifa
1991 - Present	Research full Professor (grade A+) since 2003, Israel Oceanographic and
	Limnological Research
1999 - 2009	Associate Professor, Ruppin Academic Center, Maritime College
1998 - 1999	Visiting professor College of Oceanic & Atmospheric Sciences (OSU),
	Oregon State University, U.S.A.

Synergistic Activities:

Israel State Representative and Head of Israel Delegation in the Intergovernmental Oceanographic Commission, UNESCO.

Israel State Representative in the Commission Internationale Pour L'exploration

Scientifique De La Mer Mediterrane (CIESM). Elected for the Advisory Board (2010-2015)

Former Graduate Students (MSc, PhD):

Yaniv Barami, Sarah Goldsmith, Timor Katz (MSc&PhD), Orit Sivan, Yair Suari, Dina Pakar, Dganit Yofi-Mena, Orit Hyams, Hadas Yaron, Limor Gruber, Yehuda Shalem (MSc&PhD), Ruthi Arieli, Efrat Eliani, Roi Zeevi, Eyal Rahav, Gilad Atler, Tsofit MorFederman, Nadav Amir, Tomer Keter, Merav Bareket, Yonathan Wainsztok, Daniel Vital.

Current Graduate Student Advisees: Dana Titelboim, Olesya Polupanova, Dina Kolker, Tal Ozer, Eldad Levi.

Kress Nurit – List Of Publications

- Tsiola, A., Tsagaraki, T.M., Giannakourou, A., Niklolioudakis, N., Yücel, N., Herut, B., Paraskevi, P. (2017). Bacterial Growth and Mortality after Deposition of Saharan Dust and Mixed Aerosols in the Eastern Mediterranean Sea: A Mesocosm Experiment. Front. Mar. Sci. 3:281. doi: 10.3389/fmars.2016.00281
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- 4. Rahav E, Paytan A, Chien C-T, Ovadia G, Katz T and **Herut B** (2016) The Impact of Atmospheric Dry Deposition Associated Microbes on the Southeastern Mediterranean Sea Surface Water following an Intense Dust Storm. Front. Mar. Sci. 3:127. doi: 10.3389/fmars.2016.00127.
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- 24. Chlorophyll regions. *Global Biogeochemical Cycles.* 28: 1179–1198. DOI: 10.1002/2014GB004852
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- 44. Bar-Zeev, E., Berman, T., Rahav, E., Dishon, G., **Herut, B.**, Kress, N., Berman-Frank, I. 2011. Transparent exopolymer particle (TEP) dynamics in the eastern Mediterranean Sea. Mar. Ecol. Prog. Ser., 431:107-118.
- Yogev T., **E. Rahav, E. Bar-Zeev, D. Man-Aharonovich, N. Stambler, N. Kress, O. Béjà, M. R.Mulholland, B. Herut, I. Berman-Frank (2011). Is dinitrogen fixation significant in the Levantine Basin, East Mediterranean Sea? Environmental Microbiology. 13(4):854-871

Rahav Eyal – Short CV



Personal statement

Dr. Eyal Rahav is a researcher at the Israel Oceanographic and Limnological Research (Haifa, Israel). He obtained his PhD degree at the Mina and Everard Goodman Faculty of Life Sciences at Bar Ilan University in 2013. Eyal's lab deals with microbial ecology aspects of marine, freshwater and estuary systems (www.rahavlab.com). His research involves the impact of anthropogenic pollutants on bacterioplankton (well ameliorations, sewage,

brine discharge, etc.), physiology (production rates, dinitrogen fixation) and diversity of phytoplankton and heterotrophic bacteria, and the role of airborne microbes in marine systems. He participate in many national and several international scientific cruises at the Mediterranean and the Red Sea, some of them as chief scientist. He has published 28 research papers and book-chapters, 8 conference proceedings, ~30 abstracts and scientific reports.

Education

2003-2005	B.Sc. in plants physiology at the Mina and Everard Goodman Faculty of life
	sciences at Bar-Ilan University, Israel.
2006-2008	M.Sc. in Biological Oceanography at the Mina and Everard Goodman
	Faculty of life sciences at Bar-Ilan University, Israel.
2009-2012	Ph.D. in Marine Biogeochemistry at the Mina and Everard Goodman
	Faculty of life sciences at Bar-Ilan University, Israel.

Position

2013-Present	Israel	Oceanographic	and	Limnological	Research,	National	Institute	of
	Ocea	anography						
2017	Ad	djunct lecturer at	Haifa	University, tea	ching Micro	biology cou	urse	

Current Graduate Student Advisees: Ofrat Raveh, Hila Frank, Or Hazan, Eyal Geisler and Sahar Rosenfeld.

Rahav Eyal - List Of Publications

(total of 28 peer-reviewed articles and book chapters)

- Belkin N., Rahav E., Elifantz H., Berman-Frank I (2017). The effect of coagulants and antiscalants discharged with seawater desalination brines on coastal microbial communities: A laboratory and in situ study from the southeastern Mediterranean. *Water Research*- in press. doi: 10.1016/j.watres.2016.12.013.
- Astrahan P., Herut B., Paytan A., Rahav E. (2016) The impact of dry atmospheric deposition on the sea-surface microlayer in the SE Mediterranean Sea: An experimental approach. Frontiers in Marine Science. 3:122 doi:10.3389/fmars.2016.00222
- Herut B., Rahav E., , Tsagaraki T.M., Giannakourou A., Tsiola A., Psarra S., Lagaria A., Papageorgiou N., Mihalopoulos N., Theodosi C.N., Violaki K., Stathopoulou E., Scoullos M., Krom M.D., Stockdale A., Shi Z., Berman-Frank I., Meador T.B., Tanaka T., Paraskevi P. (2016). The potential impact of Saharan dust and polluted aerosols on microbial populations in the East Mediterranean Sea, an overview of a mesocosm experimental approach. Frontiers in Marine Science. 3:226 doi: 10.3389/fmars.2016.00226.
- Guo C, Xia X, Pitta P, Herut B, Rahav E, Berman-Frank I, Giannakourou A, Tsiola A, Tsagaraki TM, Liu H (2016) Shifts in Microbial Community Structure and Activity in the Ultra-Oligotrophic Eastern Mediterranean Sea Driven by the Deposition of Saharan Dust and European Aerosols. Frontiers in Marine Science 3:1–13
- Krom MD, Shi Z, Stockdale A, Berman-Frank I, Giannakourou A, Herut B, Lagaria A, Papageorgiou N, Pitta P, Psarra S, **Rahav E**, Scoullos M, Stathopoulou E, Tsiola A, Tsagaraki TM (2016) Response of the Eastern Mediterranean Microbial Ecosystem to Dust and Dust Affected by Acid Processing in the Atmosphere. Frontiers in Marine Science 3: 133
- Rahav E, Shun-Yan C, Cui G, Liu H, Tsagaraki TM, Giannakourou A, Tsiola A, Psarra S, Lagaria A, Mulholland MR, Stathopoulou E, Paraskevi P, Herut B, Berman-Frank I (2016) Evaluating the Impact of Atmospheric Depositions on Springtime Dinitrogen Fixation in the Cretan Sea (Eastern Mediterranean)—A Mesocosm Approach. Frontiers in Marine Science 3:1–13
- Rahav E., Paytan, A., Chien, C-T, Ovadia, G., Katz, T., and Herut, B. (2016). The impact of atmospheric dry deposition associated microbes on the southeastern Mediterranean Sea surface water following an intense dust storm. Frontiers in Marine Sceince 3:172. doi: 10.3389/fmars.2016.00127. doi: 10.3389/fmars.2016.00127.
- 8. **Rahav, E.,** Giannetto, M.J, and Bar-Zeev, E. (2016). Contribution of mono and polysaccharides to heterotrophic N2 fixation at the eastern Mediterranean coastline.

Scientific Reports. 6:27858. dOI: 10.1038/srep27858

- Berman-Frank I, Spungin D, Rahav E, Wambeke F Van, Turk-Kubo K, Moutin T (2016) Dynamics of transparent exopolymer particles (TEP) during the VAHINE mesocosm experiment in the New Caledonia lagoon. Biogeosciences 13:3793–3805
- Bonnet S, Berthelot H, Turk-Kubo K, Fawcett S, Rahav E, L'Helguen S, BermanFrank I (2016) Dynamics of N2 fixation and fate of diazotroph-derived nitrogen in a lownutrient, low-chlorophyll ecosystem: results from the VAHINE mesocosm experiment (New Caledonia). Biogeosciences 12:19579–19626
- Stein, S., A. Russak, O. Sivan, Y. Yechieli, E. Rahav, Y. Oren, and R. Kasher. (2016). Saline groundwater from coastal aquifers as a source for desalination. Environ. Sci. Technol. 50: 1955–1963. doi:10.1021/acs.est.5b03634
- Rahav, E., G. Ovadia, A. Paytan, and B. Herut (2016). Contribution of airborne microbes to bacterial production and N2 fixation in seawater upon aerosol deposition. Geophysical Research Letter., 43, doi:10.1002/2015GL066898.
- Raveh, O., David, N., Rilov, G., and Rahav, E. (2015). The temporal dynamics of coastal phytoplankton and bacterioplankton in the eastern Mediterranean Sea. PLoS ONE 10(10): e0140690.doi:10.1371/journal.pone.0140690.
- Belkin, N., Rahav, E., Elifantz, H., Kress, N., Berman-Frank, I. (2015). Seawater desalination brine discharges impact coastal microbial communities of the eastern Mediterranean Sea. Environmental Microbiology, doi: 10.1111/1462-2920.12979.
- Kopf, A., Bicak, M., Kottmann. R., Schnetzer, J., Kostadinov, I., Lehmann, K., FernandezGuerra, A., Rahav, E., et al. (2015). The ocean sampling day consortium. Ocean Science, 4:27 doi: 10.1186/s13742-015-0066-5.
- Bar-Zeev, E and Rahav, E. (2015). Microbial metabolism of transparent exopolymer particles during the summer months along a eutrophic estuary system. Frontiers in aquatic microbiology, 6, doi: 10.3389/fmicb.2015.00403.
- Keuter, S., Rahav, E., Herut, B., Rinkevich, B. (2015). Distribution patterns of bacterioplankton in the oligotrophic south-eastern Mediterranean Sea. FEMS Microbiology Ecology, 91: doi: 10.1093/femsec/fiv070.
- 18. **Rahav, E**., Herut, B., Mulholland, M. R., and Berman-Frank I. (2015). Contribution of dinitrogen fixation to bacterial and primary productivity in the Gulf of Aqaba (Red Sea).

Marine Ecology Progress Series. 522, 67–77.

- Krom, M., Kress, N., Berman-Frank, I. and Rahav E. (2014). Past, present and future patterns in the nutrient chemistry of the Eastern Mediterranean. In: The Mediterranean Sea: Its history and present challenges (S. Goffredo and Z. Dubinsky eds.), pp. 3-22. Springer Science&Business Media Dordrecht
- Rahav, E., Bar-Zeev, E., Ohayon, S., Elifantz, H., Belkin, N., Herut, B., Mulholland, M. R. and Berman Frank, I. (2013). Dinitrogen fixation in aphotic oxygenated marine environments. Frontiers in aquatic microbiology, 4, doi: 10.3389/fmicb.2013.00227.
- Rahav, E., Herut, B., Stambler, N., Bar Zeev, E., Mulholland, M. R. and Berman Frank, I. (2013). Uncoupling between dinitrogen fixation and primary productivity in the Eastern Mediterranean Sea. J Geophys. Res.: Biogeosciences 118, 195-202.
- Rahav, E., Herut, B., Levi, A., Mulholland, M. R. and Berman Frank, I. (2013). Springtime contribution of dinitrogen fixation to primary production across the Mediterranean Sea. Ocean Science 9, 1-10.
- Efrati, S., Lehahn, Y., Rahav, E., Kress, N., Herut, B., Gertman, I., Goldman, R., Ozer, T., Lazar M. and Heifetz E. (2013). Intrusion of coastal waters into the pelagic Eastern Mediterranean: in situ and satellite-based characterization. Biogeoscience 10, 33493357.
- Berman-Frank, I. and Rahav, E. (2012). Nitrogen fixation as a source for new production in the Mediterranean Sea: A review. In: Life in the Mediterranean Sea: A Look at Habitat Changes (N. Stambler ed), pp. 199–226. Nova Science Publishers, NY.
- Yogev, T*. Rahav, E*., Bar-Zeev, E., Man-Aharonovich, D., Stambler, N., Kress, N., Beja, O., Mulholland, M.R., Herut, B. and Berman-Frank, I. (2011). Is dinitrogen fixation significant in the Levantine Basin, East Mediterranean Sea? Environ. Microbio.I 13, 854-871. *equally contributor.
- Bar-Zeev, E., Rahav, E., Yogev, T., Dishon, G., Herut, B., Kress, N., Berman, T. and Berman-Frank, I. (2011). Transparent exopolymer particles (TEP) dynamics in the Eastern Mediterranean Sea. Mar. Ecol.-Prog. Ser. 431: 107-118.
- Dishon G, Dubinsky Z, Caras T, Rahav E, Bar-Zeev E, Tzubery Y and Iluz D. (2012). Optical habitats of ultraphytoplankton groups in the Gulf of Eilat (Aqaba). Remote Sens. Environ. 33:2683-2705.

28. Bar-Zeev, E., Berman-Frank, I., Liberman, B., **Rahav, E.,** Passow, U. and Berman, T. (2009). Transparent exopolymer particles: Potential agents for organic fouling and biofilm formation in desalination and water treatment plants. Desalination and Water Treatment 3, 136-142.

Rilov Gil – Resume



Personal statement

Rilov received his PhD in 2000 (Tel Aviv University, Israel). He then did a post-doc as a Fulbright Scholar at Duke

University, and another post-doc as a Mellow Foundation fellow at the University of Canterbury in New Zealand. In 2005 he was appointed as the Science Coordinator of the PISCO project (www.piscoweb.org) and then an Assistant Professor-Senior Research at Oregon State University. He joined

the Israel Oceanographic and Limnological Research Institute (IOLR, www.ocean.org.il) in 2009 to establish the Marine Community Ecology Lab, and became head of the Marine Biology Department in 2016. In 2012, Rilov was also appointed a senior lecturer in the Marine Biology Department at the University of Haifa. Rilov have been studying the ecology of coastal communities (coral reefs, rocky shores and recently, seagrass) for the past 25 years in many biogeographic regions (Mediterranean, Red Sea, Pacific and Atlantic and Caribbean coasts). This includes ecological surveys and field and lab experiments on benthic-pelagic coupling (larval recruitment), species interactions, biodiversity and more. He has 54 publications in peerreviewed journals and 3 book chapters, and he edited a Springer book on Marine Bioinvasions. Rilov received two consecutive ISF grants to study the impacts of climate change and bioinvasions on coastal marine ecosystems and biodiversity. On the international arena, Rilov received an EU Marie Curie grant, was a partner in 3 European Union-FP7 projects, is now part of the core group of a new COST-ACTION project on marine conservation in European waters, was a PI on a joint Israel-Germany grant (BMBF) comparing climate change impacts in the Baltic and east Mediterranean seas, and has recently received a BSF-NSF grant for climate change research on rocky intertidal ecosystems with colleagues at Northeastern University. Rilov's lab currently runs the National Monitoring Program on rocky shore biodiversity, and investigates the ecology and biodiversity of Mediterranean coastal communities, and the effects of bioinvasions, climate change (warming, acidification, sea level rise and extreme events) and marine protected areas on these communities and their functions (most of the results thus far are in different stages of publication). Rilov students also studied sea turtle ecology and conservation, shark populations in the eastern Mediterranean as well as seagrass ecology and mapping in the Red Sea. Rilov is a lead author of the Marine Ecosystems chapter of the upcoming National Ecosystem Assessment of Israel aiming to assess the ecological status of Israel's marine ecosystems and their services. As part of a BaltMed project with GEOMAR (Kiel, Germany), the Rilov lab has constructed several innovative experimental installations (including a large mesocosm facility) to test the effects of warming and acidification on benthic species, communities and ecosystem functions which will provide in years to come valuable insights on the impacts of climate change on Mediterranean ecological communities. In 2015, Rilov also run a Citizen-Science project on human uses and activity in a Mediterranean marine reserve in Haifa. He so far supervised 15 MSc students, 7 PhD students and 1 Post-doc.

Educational training

Institution and location	Degree	Period	Field of study
Faculty of Life Sciences, Tel-Aviv University, Tel Aviv	B. Sc.	1987-1990	Biology
Zoology Department, Faculty of Life Sciences, Tel-Aviv University	M. Sc. (with distinction)	1991-1993	Conservation biology
Institute for Nature Conservation Research (INCR), Faculty of Life Sciences, Tel-Aviv University, Tel Aviv	Ph.D.	1994-2000	Marine ecology
Duke University	"Global Fellows program"	Summer 1998	Courses: "Conservation biology and policy" and "marine mammals"

Appointments

Dates	Name of Institution and Department	Rank/Position
2007-2008	Oregon State University	Assistant Professor – Senior Research
2008-2010	Maritime College, Ruppin Academic Center	Adjunct Lecturer
2008-present	Oregon State University	Assistant Professor – Courtesy faculty
2009-present	Israeli Limnological and Oceanographic Research	Senior Scientist
2012- present	University of Haifa, Charney School of Marine Science, Marine Biology Department	Senior Lecturer

Synergistic activities

- Scientific advisor: (a) Chair of a working group in a workshop on the potential ecological effects of future wave energy projects in Oregon (November 2007). (b) Participant in a workshop on the science of placement and size of Marine Reserves to help planning of a reserve network along the Oregon Coast (April 2008).
- (2) Conference organization: (1) A member of the Scientific Steering Committee of the International Marine Bioinvasions Symposium. (2) Organizer and chair of a session on supply-side ecology at the American Society of Limnology and Oceanography Meeting, in Santa Fe, in February 2007.
- (3) Board member:
 - a. 2009-2015. A Member of *the Israel Society of Ecology and Environmental Sciences* board of directors and a member of the editorial board of the Society's journal Ecology and the Environment (in Hebrew).

- b. A member of the editorial board of the new journal, *Regional Studies in Marine Science*.
- c. 2016-present. Board Member for the Bi-National Science Foundation
- (4) *National activities*: Lead author of the Marine Ecosystems chapter for the *Israel National Ecosystem Assessment* report, due in 2016.

Former graduate students (MSc)

Ateret Shabtai, Tamar Guy-Haim, Natalie Shalev, Sarah Claydon, Olga Vadov, Erez Yeruham, Adi Barash, Regina Itscovich, Tal Garval, Lior Klein, Reut Zamir, Ohad Peleg

Present graduate students (MSc, PhD)

Niv David, Yaniv Levy, Tamar Guy-Haim, Patrick Chavel, Erez Yeruham, Martina Mulas, Chen Rabi, Eyal Amsalem, Inbal Gamliel, Yossi Calic

Rilov Gil - List Of Publications

Edited Book

Rilov G & Crooks J (eds) 2009. Biological Invasions in Marine Ecosystems: Ecological, Management, and Geographic Perspectives. *Ecological Studies Series*. Springer. 625 pp.

Articles in Refereed Journals (last 5 years, our of 54)

- 1. Menge BA, Hacker SD, Lubchenco J, Craig R, **Rilov G**, Nobel M, Richmond E (2011). Potential impact of climate-related changes on a rocky intertidal ecosystem is buffered by differential responses to recruitment and species interactions. *Ecological Monographs* 81(3) 493–509.
- Edelist D, Sonin O, Golani D, Rilov G, Spanier E (2011) Spatiotemporal patterns of catch and discards of the Israeli Mediterranean Trawl fishery in the early 1990s: ecological and conservation perspectives. *Scientia Marina* 75(4) 641-652.
- 3. Simberloff et al. (2011). Non-natives: 141 scientists object. *Nature* 475 (7354) 36.
- Rilov G, & Schiel RD (2011). Community regulation: the relative importance of recruitment and predation intensity in the context of seascape. *PLoS ONE* 6(8): e23958. DOI:10.1371/journal.pone.0023958.
- Edelist D, Golani D, Rilov G, Spanier E (2012). The invasive venomous striped eel catfish *Plotosus lineatus* in the Levant: possible mechanisms facilitating its rapid invasional success. *Marine Biology* 159(2): 283-290. DOI: 10.1007/s00227-011-1806-4.
- Lyons DA, Mant R, Bulleri F, Kotta J, Rilov G, Crowe T (2012). What are the effects of macroalgal blooms on the structure and functioning of marine ecosystems? A Systematic Review Protocol. *Environmental Evidence* 1:7. DOI:10.1186/2047-2382-1-7.
- Bulleri F, Mant R, Benedetti-Cecchi L, Chatzinikolaou E, Crowe T, Kotta J, Lyons L, Rilov R, Maggi E (2012). The effects of exotic seaweeds on native benthic assemblages: variability between trophic levels and influence of background environmental and biological conditions. *Environmental Evidence* 2012, 1:8.
- Rilov G, Mant R, Lyons DA, Bulleri F, Benedetti-Cecchi L, Kotta J, Queiros A, Chatzinikolaou E, Crowe T, Guy-Haim T (2012). How strong is the effect of invasive ecosystem engineers on the distribution patterns of local species, the local and regional biodiversity and ecosystem functions? *Environmental Evidence* 1:10. DOI: 10.1186/2047-2382-1-10.
- Mienis, HK, Rittner, O, Rilov G, Almog O (2012). Some additional records of two hardly known Lessepsian migrants among the molluscs from the Mediterranean coast of Israel. *Triton* 26:1-3.
- 10. Edelist D, **Rilov G**, Golani D, Carlton JT, Spanier E (2013). Restructuring the Sea: profound shifts in the world's most invaded marine ecosystem. *Diversity and Distributions* 19: 69-77.
- 11. Shabtay A. Tikochinski Y, Benayahu Y, **Rilov G** (2013). Preliminary data on the population genetic structure of a highly successful invading oyster suggests its establishment dynamics in the Levant. *Marine Biology Research* 10(4): 407-415.
- Edelist D, Scheinin A, Sonin O, Shapiro J, Salameh P, Rilov G, Benayahu Y, Schulz D and Zeller D (2013). Israel: Reconstructed estimates of total fisheries removals in the Mediterranean, 1950–2010. Acta Adriatica 54(2): 253-246.

- Lyons DA, Arvanitidis C, Blight A, Chatzinikolaou E, Guy-Haim T, Kotta J, Orav-Kotta H, Queirós AM, Rilov G, Somerfield PJ, Crowe T (2014). Effects of macroalgal blooms on marine biodiversity and ecosystem functioning: a global meta-analysis. *Global Change Biology* 20: 2712-2724.
- Levin N, Coll M, Fraschetti S, Gal G, Giakoumi S, Göke C, Heymans JJ, Katsanevakis S, Mazor T, Öztürk B, Rilov R, Gajewski J, Steenbeek J, Kark S (2014). Review of biodiversity data requirements for systematic conservation planning in the Mediterranean Sea. *Marine Ecology Progress Series.* 508: 261-281.
- Sternberg M, Gabay O, Angel D, Barneah O, Gafny S, Gasith A, Grünzweig JM, Hershkovitz Y, Israel A, Milstein D, Rilov G, Steinberger Y, Zohary T (2014). Impacts of climate change on biodiversity in Israel: an expert assessment approach. *Regional Environmental Change*. DOI 10.1007/s10113-014-

0675-z.

16. Maggi E, Benedetti-Cecchi L., Castelli A, Chatzinikolaou E, Crowe TP, Ghedini G, Kotta J, Lyons DA, Ravaglioli C, **Rilov G**, Rindi L, Bulleri F (2014). Ecological impacts of invading seaweeds: a metaanalysis of their effects at different trophic levels. *Diversity and Distributions* 21: 1-12. DOI:

10.1111/ddi.12264.

17. Rilov G (2014). Ecological changes in the Israeli Mediterranean coast. *Ecology and the Environment*

5(1): 44-51. (Hebrew).

18. Edelist D, & Rilov G. 2014. Trends in the Israeli Mediterranean fishers. *Ecology and the Environment*

5(1): 90-97. (Hebrew).

- Levy Y, Perry N, Tchernov D, Rilov G (2014) Intensive Care Tank treating marine turtles in rescue centers. *Herpetological Review*. 45(4): 632-635.
- Guy-Haim T, Rilov G, Achituv Y (2015). Different settlement strategies explain intertidal zonation of barnacles in the Eastern Mediterranean. *Journal of Experimental Marine Biology and Ecology*. 463:
 - 125-134.
- Shabtay A, Rilov G, Benayahu Y (2015). The Indo-Pacific oyster Spondylus spinosus Schreibers, 1793 in the Eastern Mediterranean Sea: Reproductive features. *Molluscan Research*. DOI: 10.1080/13235818.2015.1007534.
- 22. Stokes, K, Broderick, A, Canbolat, A., Candan, O, Fuller, W, Glen, F, Levy, Y, Rees, A, Rilov, G &

Snape, R (2015) Migratory corridors and foraging hotspots: critical habitats identified for Mediterranean green turtles. *Diversity and Distributions*, DOI: 10.1111/ddi.12317.

 Wahl, M, Buchholz, B, Winde, V, Golomb, D. Guy-Haim, T, Müller, J, Rilov, G, Scotti, M, Böttcher, M.E. (2015). A mesocosm concept for the simulation of near-natural shallow underwater climates: The Kiel Outdoor Benthocosms (KOB). *Limnology and Oceanography, Methods* DOI:10.1002/lom3.10055. 24. Yeruham, E, Rilov, G, Shpigel, M & Abelson, A (2015). Collapse of the echinoid Paracentrotus lividus populations in the Eastern Mediterranean - result of climate change? *Scientific Reports.* DOI: 10.1038/srep13479.

- 25. Levy Y, Frid O, Weinberger A, Sade R, Adam Y, Kandanyan U, Berkun V, Perry N, Edelist D, Goren M, Rothman, S, Stern N, Tchernov D, Rilov G (2015). A small fishery with high impact on Sea Turtle Populations. *Zoology of the Middle East* 61: 300-317.
- Raveh, O, David N, Rilov G, Rahav E (2015). The temporal dynamics of coastal phytoplankton and bacterioplankton in the eastern Mediterranean sea. *PLoS One.* DOI:10.1371/journal.pone.0140690.
- 27. Lyons DA, Arvanitidis C, Blight A, Chatzinikolaou E, Guy-Haim T, Kotta J, Orav-Kotta H, Queirós AM, Rilov G, Somerfield PJ, Crowe T (2015). There are no whole truths in meta-analyses: all their truths are half truths. *Global Change Biology* 20: 2712-2724.
- Guy-Haim T, Silverman J, Raddatz S, Wahl M, Israel A, Rilov G (2016). The carbon turnover response to thermal stress of a dominant coralline algae on the fast warming Levant coast. *Limnology and Oceanography*. DOI: 10.1002/Ino.10279
- Winters G, Edelist D, Shem-Tov R, Beer S, Rilov G (2016). A low cost field-survey method for mapping seagrasses and their potential threats: an example from the northern Gulf of Aqaba, Red Sea: Mapping seagrasses and their potential threats in the Gulf of Aqaba. *Aquatic Conservation: Marine and Freshwater Ecosystems*. DOI: 10.1002/aqc.2688
- Raddatz S, Guy-Haim T, Rilov G, Wahl M (2016). Future warming and acidification effects on antifouling and anti-herbivory traits of the brown alga *Fucus vesiculosus* (Phaeophyceae). Journal of Phycology. DOI: 10.1111/jpy.12473
- Hummel H, and 50 co-authors (2016). Geographic patterns of biodiversity in European coastal marine benthos. *Journal of the Marine Biological Association of the UK*. DOI: 10.1017/S0025315416001119.
- 32. Kotta J. and 41 co-authors (2016). Essence of the patterns of cover and richness of intertidal hard bottom communities: a pan-European study. *Journal of the Marine Biological Association of the UK*.

DOI:10.1017/S0025315416001351

- 33. Dal Bello, and 43 co-authors (2016). Consistent patterns of spatial variability between NE Atlantic and Mediterranean rocky shores. *Journal of the Marine Biological Association of the UK*. In press
- 34. Dal Bello M, and 41 more co-authors (2016). Consistent patterns of spatial variability between NE Atlantic and Mediterranean rocky shores. *Journal of the Marine Biological Association of the UK*.

DOI:10.1017/S0025315416001491.

35. Puente A and 41 more co-authors (2016). The role of physical variables in biodiversity patterns of intertidal macroalgae along European coasts. *Journal of the Marine Biological Association of the UK.*

DOI: 10.1017/S0025315416001673.

36. Rilov, G. (2016). Multi-species collapses at the warm edge of a warming sea. *Scientific Reports* 6, 36897; doi: 10.1038/srep36897.

Silverman Jacob (Jack) – Resume



Personal Statement

Jacob Silverman received his PhD from the Hebrew University of Jerusalem in 2005, for his research on the effects of chronic eutrophication on the Metabolism of a Coral Reef in the Gulf of Eilat. In 2015, he was appointed the head of the marine chemistry department at the National Institute of Oceanography in Haifa, Israel (IOLR). Since his appointment as a researcher at IOLR in 2010, Dr. Silverman has been involved in numerous

national and international environmental impact assessments of major marine infrastructure development projects in Israel, such as the Red Sea – Dead Sea water conveyance project, Haifa Port and Ashdod Port expansions, as well as deep-sea gas and oil environmental baseline studies. During this period, Mediterranean water and sediment quality became a central focus of Jacob's research, together with his ongoing research into the effects of global warming and ocean acidification on biogeochemical processes in coral reefs and shallow hard substrate habitats in the Mediterranean. More recently, Jacob has become involved in collaborative research programs studying the effects of desalination on the marine environment in both the Red-Sea and the Mediterranean. His studies on the effects of ocean acidification on coral reefs are highly regarded and were cited many times in the scientific literature. Jacob is also responsible for the carbonate system monitoring in the Mediterranean coastal and open waters as well as the northern Gulf of Eilat, and is following ocean acidification trends in these regions. Currently, he is the only carbonate chemistry expert in the Eastern Mediterranean and Red Sea and is the only contributing member of the Global Ocean Acidification Observation Network in these regions. He is also interested in identifying and understanding processes affecting the marine carbonate system in this region, such as alkaline groundwater discharge into the sea, decrease in biogenic calcification due to ocean acidification, and benthic alkalinity fluxes. In the last few years, Jacob has started to incorporate 3D hydrodynamic-biogeochemical models in his research to help determine eutrophication thresholds and the environmental effects of desalination brine discharges in Mediterranean coastal waters. This tool is very useful in helping to determine the effects of human activities in the marine environment and development of marine infrastructure.

Education

PhD – 2005 (Oceanography) Earth Sciences Institute, The Hebrew University of Jerusalem, Israel.

MSc – 1999 (Oceanography) Earth Sciences Institute, The Hebrew University of Jerusalem, Israel.

BSc – 1996 (Atmospheric and Marine Sciences) Earth Sciences Institute, The Hebrew University of Jerusalem, Israel.

Appointments

2015 – Marine Chemistry department head, Israel Oceanographic and Limnological Research, Haifa, Israel.

2010 – Researcher, department of Marine Chemistry, Israel Oceanographic and Limnological Research, Haifa, Israel.

2008-2009 Moore foundation Postdoc fellow at Carnegie Inst of Science, department of Global Ecology, Stanford.

2005-2007 Chlore foundation Postdoc fellow at Weizmann Inst of Science, departmental of Environmental Studies, Rehovot, Israel.

Former Graduate Students:

Ohad Peleg (MSc).

Current Graduate and Post graduate Students:

Niv David (PhD), Tamar Guy-Haim (PhD), Oriya Barzel (MSc), Olesya Polipnova (MSc), Dina Kolker (MSc), Julie Wood (Postdoc), Martina Mulas (PhD).

Silverman Jacob (Jack) – List Of Publications

(Total of 25 refereed journal articles and book chapters)

- D.I. Kline, L. Teneva, K. Schneider, T. Miard, A. Chai, M. Marker, K. Headley, B. Opdyke, M. Nash, M. Valetich, J.K. Caves, B.D. Russell, S.D. Connell, B.J. Kirkwood, P. Brewer, E. Peltzer, J. Silverman, K. Caldeira, R.B. Dunbar, J.R. Koseff, S. Monismith, B.G. Mitchell, S. Dove, O. Hoegh-Guldberg (2012). A short-term in situ CO₂ enrichment experiment on Heron Island (GBR). Scientific Reports, 2, DOI: 10.1038/srep00413.
- 2. Yoram Klein, Mor Grinstein, Stephen M Cohn, **Jacob Silverman**, Moti Klein, Hanoch Kashtan and Micha Y Shamir (2012). Minute-to-Minute Urine Flow Rate Variability: A New Renal Physiology Parameter. Anesthesia & Analgesia, DOI:10.1213/ANE.0b013e3182625813.
- Silverman J., Kline D., Johnson L., Rivlin T., Schneider K., Erez J., Lazar B., Caldeira K. (2012). Carbon turnover rates in the One Tree Island reef – A 40 year perspective. J. Geophys. Res., VOL. 117, G03023, DOI:10.1029/2012JG001974.
- Hamylton S., Silverman J.. and Shaw E. (2013). The use of remote sensing to scale up measures of carbonate production on reef systems: a comparison of hydrochemical and census-based estimation methods. International Journal of Remote Sensing, DOI:10.1080/01431161.2013.800654.
- Silverman J. and Stambler N. (2013). Anthropogenic changes in the acidity of seawater. In: The Glory of the Sea: Stability and Change in the Aquatic Systems of Israel, Stambler N. (Ed.). Hebrew Publications, Published by The Israeli Association of Aquatic Sciences, pp. 456.
- Schneider K., Silverman J., Kravitz B., Rivlin T., Schneider-Mor A., Barbosa S., Byrne M., Caldeira K. (2013). The inorganic carbon turnover caused by the digestion of carbonate sands and metabolic activity of holothurians. Estuarine, Coastal and Shelf Science, 133:217-223, DOI: 10.1016/j.ecss.2013.08.029.
- Silverman J., K. Schneider, D. I. Kline, T. Rivlin, A. Rivlin, S. Hamylton, B. Lazar, J. Erez, K. Caldeira (2014). Community calcification in Lizard Island, Great Barrier Reef: A 33 year perspective. Geochim. Cosmochim. Acta, 144:72-81, DOI: 10.1016/j.gca.2014.09.011.
- Shefer E., Silverman J., Herut B. (2015). Trace metal bioaccumulation in Israeli Mediterranean coastal marine mollusks. Quaternary Internation, 390:44-55, DOI: 10.1016/j.quaint.2015.10.030.
- Guy-Haim T., Silverman J., Raddatz S., Wahl M., Israel A., Rilov G. (2016). The carbon turnover response to thermal stress of a dominant coralline alga on the fast warming Levant coast. Limnology & Oceanography, DOI: 10.1002/Ino.10279.
- 10. Rebecca Albright, Lilian Caldeira, Jessica Hosfelt, Lester Kwiatkowski, Jana K. Maclaren,
- 11. Benjamin M. Mason, Yana Nebuchina, Aaron Ninokawa, Julia Pongratz, Katharine L. Ricke,

Tanya Rivlin, Kenneth Schneider, Marine Sesboüé, Kathryn Shamberger, **Jacob Silverman**, Kennedy Wolfe, Kai Zhu & Ken Caldeira (2016). Reversal of ocean acidification enhances net coral reef calcification. Nature, 531(7594), 362-365, DOI: 10.1038/nature17155.

- Ozer T., Gertman I., Kress N., Silverman J. and Herut B. (2016). Interannual thermohaline (1979-2014) and nutrient (2002-2014) dynamics in the Levantine surface and intermediate water masses, SE Mediterranean Sea. Global and Planetary Change, DOI: 10.1016/j.gloplacha.2016.04.001.
- Grossowicz M., Roth-Rosenberga D., Aharonovich D., Silverman J., Follows M.J. and Sher D. (2017). Prochlorococcus in the lab and in silico: the importance of representing exudation. Limnology & Oceanography, DOI: 10.1002/Ino.10463.
- Lubinevsky, H., Hyams-Kaphzan, O., Almogi-Labin, A., Silverman, J., Harlavan, Y., Crouvi, O., Herut, B., Kanari, M., Tom, M (2017). Deep-sea soft bottom infaunal communities of the Levantine Basin (SE Mediterranean) and their shaping factors. Marine Biology, DOI: 10.1007/s00227-016-3061-1.
- Astrahan P., Silverman J., Gertner Y., Herut B. (2017). Spatial Distribution and Sources of Organic Matter and Pollutants in the SE Mediterranean (Levantine basin) Deep Water Sediments. Marine Pollution Bulletin, DOI: 10.1016/j.marpolbul.2017.01.006.

Tibor Gideon – Resume



Personal statement

Gideon Tibor received his PhD in 1992 (Tel Aviv University, Israel) and was promoted in 2008 to senior research scientist at IOLR and part time Senior Lecturer at Leon H. Charney School of Marine Sciences, University of Haifa. In 2012 he was a visiting scholar at the Center for Coastal and Ocean Mapping Joint Hydrographic Center (CCOM), University of New Hampshire, U.S.A. His main interests are the development and applications of high resolution marine geophysical and remote sensing methods for studying phenomena's that influence our marine

environment and natural resources. Specifically ocean color remote sensing, Holocene evolution of Lake Kinneret, Holocene evolution of the Gulf of Eilat/Agaba and The Messinian event.

Education

Ph.D 1992 (Geophysics) Tel-Aviv U., Dept. of Geophysics and Planetary Sciences

M.Sc. 1987 (Geophysics) Tel-Aviv U., Dept. of Geophysics and Planetary Sciences

B.Sc 1985 (Marine Geology) Lamar University, Dept. Marine Geology, Beaumont Texas, USA.

Appointment

2008 – Present Senior research scientist at Israel Oceanographic and Limnological Research

2008 – Present Senior Lecturer at Leon H. Charney School of Marine Sciences, University of Haifa.

2012 Visiting scholar at the Center for Coastal and Ocean Mapping Joint Hydrographic Center (CCOM), University of New Hampshire, U.S.A.

Former Graduate Students (MSc., PhD.):

Vicky Ilin, Tal Goldstien, Shachaf Lippman, Gal Hartman, Tomer Keter, Dov Ganor, Eldad Levi

Tibor Gideon - List Of Publications

- Hartman, G., Ben-Avraham, Z., Tibor, G., Niemi, T.M., Al-Zoubi, A., Sade R., Hall J.K., Akawi, E., Abueladas, A., Al-Ruzouq, R. and Makovsky, Y. (2015). Distinct relict fringing reefs in the northern shelf of the Gulf of Elat/Aqaba: Markers of Quaternary eustatic and climatic episodes. Sedimentology 62:516-540.
- Hartman, G., Niemi, T.M., Tibor, G., Ben-Avraham, Z., Al-Zoubi, A., Makovsky, Y., Akawwi, E., Abueladas, A.R., and Al-Ruzouq, R. (2014). Quaternary tectonic evolution of the northern Gulf of Aqaba/Elat along the Dead Sea transform. JGR, 119:9183-9205.
- Zohary, T., Yacobi, Y.Z., Alster, A., Fishbein, T., Lippman, S. and Tibor, G. (2014). Phytoplankton. Lake Kinneret – Volume 6 of the series <u>Aquatic Ecology Series</u> pp 161-190.
- Ben-Avraham, Z., Tibor, G., Rofe, M., Havon, H., Wust-Bloch, H., Hofstetter, R., and Rybakov, M., (2014) Geology: Structure and tectonic development of the Kinneret basin. Lake Kinneret – Volume 6 of the series <u>Aquatic Ecology Series</u> pp 19-38.
- 5. **Tibor, G**., Sade, R., Hall, J.K., and Ben-Avraham, Z., (2014). Lake bathymetry and bottom morphology. Lake Kinneret Volume 6 of the series <u>Aquatic Ecology Series</u> pp 59-68.
- 6. Paz, Y., Reshef, M., Ben-Avraham, Marco, S., **Tibor, G**. and Z., Nadel, D. (2013). A submerged monumental structure in the Sea of Galilee, Israel. Int. J. of Nautical Arch., 42:189-193.
- 7. Paz, Y., Reshef, M., **Tibor, G**., Ben-Avraham, Z., Nadel, D. and Marco, S. (2012). A submerged monumental structure in the sea of Galilee, Israel. PAST, The newsletter of the Prehistoric society, 72:31-34.
- 8. **Tibor, G**., Markel, D., Kaplan, D., Haramati, M. and Tal, D. (2012). A rapid and cost-effective method for vegetation mapping and nutrients content evaluation along the receding Lake Kinneret shoreline using oblique airborne video integrated into *GeoSky*[™] system. Isr. J. of Plant Sciences , 60:151-159.
Ben-Gurion University of the Negev

Sigal Abramovich – Resume



Personal Details:

Work address: Department of Geological and Environmental Sciences, P.O.B 653 Ben Gurion University of the Negev, Beer Sheva 84105 Tel: 08-6472653, 053-3396026 E-mail: <u>sigalabr@bgu.ac.il</u>

Education

- B.Sc 1991-1995- **Ben Gurion University of the Negev**. Department of Geological and Environmental Sciences.
- M.Sc 1995-1997- Ben Gurion University of the Negev Department of Geological and Environmental Sciences. Thesis supervisors: Dr. Ahuva Almogi-Labin, Prof. Chaim Benjamini

Title of the thesis: Perturbation in the pelagic ecosystem prior to the K/T Boundary, Maastrichtian of the Negev, Israel.

PhD 1998-2002- Princeton University-Department of Geosciences.
 Thesis Supervisor: Prof. Gerta Keller
 Title of the thesis: Paleoecology and paleoenvironment of Maastrichtian planktic
 foraminifera: Examples from low and middle latitude localities.

Employment History

- 2016-Present: Associate Professor, Department of Geological and Environmental Sciences, Ben Gurion University of the Negev
- 2013- 2014: Visiting scientist at Cambridge University, UK, Department of Earth Sciences
- 2010-2016: Tenure, Senior Lecturer, Department of Geological and Environmental Sciences, Ben Gurion University of the Negev.
- April 2005: Lecturer, Department of Geological and Environmental Sciences, Ben Gurion University of the Negev.
- 2003- 2005: Kreitman Post-Doctorate fellow, Department of Geological and Environmental Sciences, Ben Gurion University of the Negev.

- 2002-2003: Hess Post-Doctorate fellow, Department of Geosciences, Princeton University.
- 1999- 2002: Teaching and research assistant, Department of Geosciences, Princeton University.
- 1995-1998: Teaching assistant and lab instructor, Department of Geological and Environmental Sciences, Ben Gurion University of the Negev.

Professional Activities

Positions in academic administration

- January 2015: Head of the Undergraduate teaching committee.
- 2015-Present: Member of the BGU Green Campus Council (representative of the Faculty of Natural Sciences)
- 2015-Present: Member of public relationship committee of the Faculty of Natural Sciences
- 2012-2016: Chair of the Women Affairs Committee of the Faculty of Natural Sciences at BGU.
- 2003-present: Head of the Geology and Life Sciences BSc Program, Department of Geological and environmental Sciences, Ben Gurion University of the Negev.
- 2003-present: Member, Undergraduate teaching committee, Department of Geological and environmental Sciences, Ben Gurion University of the Negev.

Professional functions outside universities/institutions

- September 2016- Organizer of an international conference "The Batsheva De Rothschild workshop on Living Foraminifera"
- 2012-Present: Member of Scientific committee for the Israel Center for Mediterranean Sea Research.
- 2014-Present: Representative of Israel (alternate) in the Science Committee of ECORD (ESSAC)
- 2013-Present: Member of the Infrastructure Committee, IUI.
- 2012-2017: Member of committee for high School curriculum program for Earth Sciences, Israel Ministry of Education, Culture and Sport.
- 2012- Organizer of an international meeting on cretaceous foraminifera, September, 2012, Ben Gurion University of the Negev

- 2011-Organizer of special seminar on Applications of Ocean Drilling in Geological Sciences, Ben Gurion University, November 21st 2011
- 2012, Member of the GIF Scientific committee
- 2014: Reviewer of Schulich grant applications
- 2013, Reviewer of GIF grant
- 2014, Reviewer of ISF grant

Significant professional consulting

• Ad-hoc consultant for Genie Oil and Gas

Editor or member of editorial board of scientific or professional journal

- 2014-2017: Editor Journal of Micropaleontology.
- 2014-present: Associate Editor Journal of Foraminifera Research.
- 2014-present: Associate Editor PLOS One.

Ad-hoc reviewer for journals

 Journal of foraminiferal Research; Marine Micropaleontology; Cretaceous Research; Bulletin of Geosciences; PLOS One; Geology, Palaeogeography, Palaeoclimatology, Palaeoecology, Nature Geosciences, Global changes Biology.

Educational activities

Courses taught

- Introduction to Paleontology (undergraduate) 206-11121
- Introduction to fossils (undergraduate) 206-1-1123
- Methods in Evolutionary Paleobiology (undergraduate and graduate) 206-13831
- Students Seminars (undergraduate) 206-13531
- Stratigraphic Boundaries (undergraduate and graduate) 206.2.5381
- Foraminifera as Bioindicators (undergraduate and graduate) 206.2.38810
- Stratigraphy (undergraduate) 206-1-2041

Research students

M.Sc

• Shlomit Yuval- 2006-2008 (jointly supervised with Prof. Chaim Benjamini).

- Ruthie Arieli- 2007-2009 (jointly supervised with Prof. Shimon Feinstein, Dr. Ahuva Almogi Labin and Prof. Barak Herut)
- Shai Oron- 2011-2013 (jointly supervised with Dr. Moshe Kiflawi-Department of Life Sciences)
- Gily Merkado- 2011-2013 (jointly supervised with Dr. Ahuva Almogi Labin and Prof. Abdu Uri)
- Irit Gefen- 2012-2014
- Libby Ron- 2013-2015 (jointly supervised with Dr. Sarit Ashekenazi Polivoda)
- Yehonathan Wainsztok, 2013-present (jointly supervised with Dr. Ahuva Almogi Labin, and Barak Herut)
- Danna Titelboim, = (jointly supervised with Dr. Ahuva Almogi Labin, and Barak Herut)
- Nurit Neumark, 2013-present (jointly supervised with Dr. Ahuva Almogi Labin and Orit Hyams-Kapzan)
- Nittzan Mizrachi 2014-present (jointly supervised with Sarit Ashekenazi-Polivoda)
- Anat Cohen, from September 2015 (jointly supervised with Prof. Abdu Uri)
- Chen Kenisberg, From September 2016

Ph.D

- Sarit Ashekenazi- 2008-2012 (jointly supervised with Prof. Shimon Feinstein, and Dr. Ahuva Almogi Labin)
- Ari Meilijson- 2010-2014 (jointly supervised with Prof. Shimon Feinstein and Dr. Ahuva Almogi Labin)
- Gily Merkado, 2013-2017 (jointly supervised with Dr. Ahuva Almogi Labin and Prof. Abdu Uri)
- Shai Oron, 2013-Present (jointly supervised with Prof. Jonathan Erez and Dr. Ahuva Almogi Labin)
- Danna Titelboim, 2014-Present (jointly supervised with Dr. Ahuva Almogi Labin, and Barak Herut)
- Roni Tadir, September 2015-Present (jointly supervised with Dr. Sarit Ashekenazi-Polivoda)
- Ivan Voltski, 2015 (jointly supervised with Prof. Jan Pawlowski, and Prof. Abdu Uri)

Post Doctorate fellows

- Dr. Aya Schneider Mor 2006
- Dr. Sarit Ashekenazi 2011

Awards, Citations, Honors, Fellowships

Honors, Citation Awards (including during studies)

- 1997: The Peretz Grader Award, Geological Society of Israel
- 1997: Dean's Award for Excellence M.Sc. thesis, BGU Natural Sciences Faculty.

- 1997: Honor in Geology, M.Sc.
- 2006- Best Lecturer award for 2006, The Student Association of Ben Gurion University
- 2007- Career Development Chair in Natural Sciences.

Fellowships

- 1998: Merit Prize, Princeton University.
- 2003 Hess Fellowship for post-docotorate, Princeton University

Lectures and Presentations at Meetings and Invited Seminars

Presentation of papers at conferences/meetings (oral or poster)

Conference Presentations (Since last promotion)

- 1. Abramovich, S., Almogi-Labin, A. Benjamini, Ch. Perturbations in the pelagic ecosystem prior to the K/T boundary, Maastrichtian of the Negev. Israel Geological Society, Annual Meeting, Kfar Giladi, 1997.
- Abramovich, S., Almogi-Labin, A. Benjamini, Ch. Pre K/T environmental perturbations in the pelagic ecosystem, Maastrichtian of the Negev, Israel. First Conference on Applications of Micropaleontology in the Environmental Sciences, Tel Aviv University, June, 1997
- Abramovich, S., Benjamini, C. and Almogi-Labin, A.. Evidence for environmental perturbations within the pelagic ecosystem prior to the K/T boundary, Maastrichtian of the Negev, Israel. Geological Society of America, Salt Lake City, Utah, October, 1997, Abstract. 58, A-160.
- Benjamini, Ch., Abramovich, S. and Almogi-Labin, A. Opportunist blooms and other environmental perturbations in the pre-K/T pelagic ecosystem, Maastrichtian of the Negev, Israel. UNESCO - IGCP Project 335 "Biotic Recoveries from Mass Extinctions" Final Conference "Recoveries '97", Prague, 10-17 Sept., 1997.
- Abramovich, S., Almogi-Labin, A. and Benjamini, C., Ecostratigraphy of the Maastrichtian of the Tethys, based on changes in planktic foraminiferal assemblages from the northern Negev. Geological Society of Israel, Annual Meeting, Mitzpe Ramon, 1998.
- Abramovich, S., Keller, G., Stueben, D., and Berner, Z., Separating Maastrichtian ecological assemblages of planktic foraminifera based on stable isotopes. EGS XXVI, Nice, France, March, 2001.
- 7. Keller, G., Abramovich, S., Adatte, T., Stüben, D., Berner Z., Meudt, M. and Kramar, U., High stress paleoceanographic conditions during the last 700 ky of the Maastrichtian. Workshop on Cretaceous Climate and Ocean Dynamics. Florissant, Colorado, July 14-17, 2002.
- 8. Abramovich. S., Keller, G., Stüben, D. & Berner, Z. Reconstructing changes in upper water habitats during the late Maastrichtian global warm event based on stable isotopes. Forams 2006. Natal, Brazil, 10-15 September 2006
- 9. Yovel, S, Abramovich S. & Benjamini Ch. Environmental perturbations in the latest Maastrichtian based on planktic foraminiferal assemblages from the Negev, Israel. Forams

2006. Natal, Brazil, 10-15 September 2006

- Abramovich, S. Almogi Labin, A. Benjamini, C. 2007. Global extinction of intermediate/thermocline planktic foraminifera at the early Maastrichtian warm event. EGU, Vienna, April 2007
- Sarit Ashckenazi-Polivoda, Aya Schneider-Mor, Sigal Abramovich, Ahuva Almogi-Labin and Shimon Feinstein. Foraminifera of the latest Cretaceous oil shale sequence, Negev Israel: a case study of the Southern Tethyan upwelling system. 27th Oil shale symposium, 15-19 October, Golden Colorado, and Geological Society of America, Annual meeting, Denver, Colorado, 28-31 October 2007
- 12. Aya Schneider-Mor, Sarit Ashckenazi-Polivoda, Sigal Abramovich, Ahuva Almogi-Labin and Shimon Feinstein Paleoceanographic developments of the Late Cretaceous oil shale sequence, southern Tethys, Negev Israel inferred from organic geochemistry and stable isotopes. 27th Oil shale symposium, 15-19 October, Golden Colorado, and Geological Society of America, Annual meeting, Denver, Colorado, 28-31 October 2007
- Arieli, R. N., Abramovich, S., Almogi-Labin, A. & Herut, B. The effect of thermal pollution on benthic foraminifera assemblages in the shore face adjacent to Hadera power plant. The Micropalaeontological Society Foraminifera and Nannofossil Groups Joint Spring Meeting 15-17 May 2008, Tubingen Germany.
- 14. Sarit Ashckenazi-Polivoda, Sigal Abramovich, Aya Schneider-Mor, Ahuva Almogi-Labin and Shimon Feinstein. Paleobiological Implication of the Latest Cretaceous Oil Shale Sequence in Israel as Inferred from Foraminifera. The Micropalaeontological Society Foraminifera and Nannofossil Groups Joint Spring Meeting 15-17 May 2008, Tubingen Germany.
- 15. Ruthie Nina Arieli, R. N., Sigal Abramovich, Ahuva Almogi-Labin and Barak Herut, The effect of thermal pollution on benthic foraminiferal assemblages, in the Mediterranean shore face adjacent to Hadera power plant (Israel). ESF-FMSH Entre-Sciences Conferences in Interdisciplinary Environmental Sciences. 5-10 November 2008, Porquerolles, Hyères, France
- Yovel Shlomit, Sigal Abramovich, Ahuva Almogi Labin and Chaim Benjamini. Planktic foraminiferal acmes linked to global climate in the late Maastrichtian of the Tethys. TMS Spring Meeting, 4-5 June 2009, Zürich, Switzerland
- Sigal Abramovich, Ahuva Almogi Labin and Chaim Benjamini. Global climate change and planktonic foraminiferal response – biostratigraphic markers in the late Campanian -Maastrichtian of the Tethys. Geological Society of America, Annual meeting Portland Ohio, 18-21 October 2009
- Shai Oron, Gily Markado, Sigal Abramovich, Dror Angel and Beverly Goodman Monitoring the benthic formaminiferal response to the removal of the aquaculture fishcages in the gulf of Aqaba-Eilat. The Israeli Association of Aquatic Studies, 7th Annual meeting, Elat 21-22 April 2010
- Ruthie Nina Arieli, Ahuva Almogi-Labin, Sigal Abramovich, & Barak Herut. The impact of thermal pollution on benthic foraminiferal assemblages in the SE Mediterranean shore (Israel) as an analog to global warming. EGU meeting, Vienna, Austria, 2-7 May 2010.
- 20. Ruthie Nina Arieli, Ahuva Almogi-Labin, Sigal Abramovich, & Barak Herut. Thermal pollution

impact on benthic forameniferal assemblages as analog to global warming, SE Mediterranean shore (Israel), 39th CIESM Congress, Venice, Italy, 10-14 May 2010.

- Sigal Abramovich and Carmi Rak. The depth habitat of Guembelitria (Cushman): Isotopic evidences from pristine shells from Brazos river Texas. Forams 2010, Bonn Germany, 5-10 September 2010.
- 22. Shai Oron, Gily Markado, Sigal Abramovich, Dror Angel and Beverly Goodman Monitoring the benthic foraminiferal response to the removal of aquaculture fishcages in the Gulf of Aqaba-Eilat. Forams 2010, Bonn Germany, 5-10 September 2010. Best poster award.
- Sarit Ashckenazi-Polivoda, Sigal Abramovich, Ahuva Almogi-Labin, Aya Schneider-Mor and Shimon Feinstein. Variation in surface productivity and sea floor oxygenation during the last phase in the activity of the southern Tethys upwelling system. Forams 2010 Bonn Germany, 5-10 September 2010.
- 24. Ruthie Nina Arieli, Ahuva Almogi-Labin, Sigal Abramovich, & Barak Herut. The impact of thermal pollution on benthic foraminifera in the SE Mediterranean shore (Israel), Forams 2010 Bonn Germany, 5-10 September 2010.
- Sigal Abramovich. Global climate change and planktonic foraminiferal response: biostratigraphic markers in the late Campanian - Maastrichtian of the Tethys. Mesozoic planktonic foraminiferal working group meeting. Forams 2010 Meeting: Bonn, Germany. September 11-12, 2010
- Illner, P., Ashckenazi-Polivoda, S., Berner, Z., Abramovich, S., Almogi-Labin, A., Feinstein, S.Coupled Geochemical and Foraminiferal Response to Environmental Changes during the deposition of Upper Cretaceous Oil Shale in the Negev, Israel, Goldschmidt Conference 2011, Prague
- 27. Illner, P., Berner, Z., Ashckenazi-Polivoda, S., Puttmann, W., and Abramovich S., Sulphur isotopy in a sequence of iron-limited organic rich deposits. Goldschmidt Conference 2012, Canada.
- Oron, S., Angel, D., Goodman Tchernov, B., Merkado, G., Kiflawi, M., and Abramovich, S., (Monitoring the benthic foraminiferal response to the removal of aquaculture fishcages in the Gulf of Aqaba-Eilat. Forams Field workshop on living Foraminiferal workshop, Japan 2012.
- 29. Merkado, G., Holzmann, M., Abramovich, S., Abdu, U., Almogi-Labin, A., and Pawlowski, J., Breaking biogeographic barriers: Molecular and morphological evidences for the Lessepsian invasion of soritid foraminifers to the Mediterranean Sea. Field workshop on living Foraminiferal workshop, Japan 2012.
- Almogi Labin, A., Arieli, R.N., Avnain Hatav, S., Hayms Kaphtzan, O, and Sigal Abramovich. Pararotalia spinigera (Le Calvez) an alien symbiont-bearing foraminifera flourishing on Israeli rocky coasts: Field and culture observations. Field workshop on living Foraminiferal workshop, Japan 2012.
- 31. Merkado, G., Holzmann, M., Abramovich, S., Abdu, U., Almogi-Labin, A., and Pawlowski, J., Breaking biogeographic barriers: Molecular and morphological evidences for the Lessepsian invasion of soritid foraminifers to the Mediterranean Sea. EGU Meeting Vienne, 2012.

- 32. Meilijson, A., Ashckenazi-Polivoda, S., Ron-Yankovich, L., Illner, P., Alsenz, H., Speijer, R.P., Almogi-Labin, A., Feinstein, S., Berner, Z., Püttmann, W Paleoceanography and depositional environment of Late Cretaceous oil shale deposits in central, the Shefela basin, and southern, the Rotem Basin, Israel, TMS, Edinburgh, Scotland. 2012
- 33. Oron, S. Jonathan Erez, J., Abramovich, S. Observations on physiology and symbiosis of the large benthic foraminiferan Assilina ammonoides from the Gulf of Eilat. The 10th conference of the Israeli association of aquatic Sciences. Michmoret, March 2013.
- 34. Merkado, G., Holzmann, M., Abramovich, S., Abdu, U., Almogi-Labin, A., and Pawlowski, J., Molecular evidence for Lessepsian invasion of soritids (larger symbiont bearing benthic foraminifera. The 10th conference of the Israeli association of aquatic Sciences. Michmoret, March 2013.
- 35. Oron, S., Angel, D., Goodman Tchernov, B., Merkado, G., Kiflawi, M., and Abramovich, S., 4 years monitoring the benthic foraminiferal recovery from fish farm aquaculture in the gulf of Aqaba-Eilat. Bio Monitoring Workshop (FOBIMO III) 2013 Wimereux France
- 36. Meilijson A., Ashckenazi-Polivoda S., Ron-Yankovich L., Illner P., Alsenz H., Almogi-Labin A., Feinstein S., Speijer R. P., Berner Z., Püttmann W., Abramovich S. Paleoceanographic setting and depositional environment of a Late Cretaceous oil shale deposit in the Shefela basin, central Israel. Geological Society of Israel, Akko, 2013
- 37. Meilijson A., Ashckenazi-Polivoda S., Ron-Yankovich L., Illner P., Alsenz H., Almogi-Labin A., Feinstein S., Speijer R. P., Berner Z., Püttmann W., Abramovich S. Chronostratigraphy of the Upper Cretaceous high productivity sequence of the Southern Tethys. Geological Society of Israel, Akko, 2013
- Merkado G., Holzmann M., Pawlowski J., Abdu U., Almogi-Labin A., Hyams-Kaphzan O., Abramovich S. Molecular evidence for Lessepsian invasion of soritids (larger symbiont bearing benthic foraminifera). Geological Society of Israel, Akko, 2013
- Oron S., Merkado G., Goodman B., Kiflawi M., Angel D., Abramovich S. Benthic Foraminiferal Response to the Removal of Aquaculture Fishcages in the Gulf of Aqaba-Eilat. Geological Society of Israel, Akko, 2013
- 40. Ashckenazi-Polivoda S., Almogi-Labin A., Abramovich S. Benthic foraminifera turnover in the Late Cretaceous high productivity sequence of the southern Tethys, Negev, Israel. Geological Society of Israel, Akko, 2013
- 41. Neumark, N., Abramovich, S., Almogi-Labin, A., Winters G., and Hyams O., Ecological characteristics of symbiont bearing larger benthic foraminifera from Halophila seagrass, Gulf of Aqaba, Red Sea, FORAMS 2014, Concepcion Chile.
- 42. Titelboim, D., Abramovich, S., Almogi-Labin, A., and Herut, B., The effect of sea surface temperature and salinity increase on marine benthicecosystems: Revisiting the Hadera heat plume. FORAMS 2014, Concepcion Chile.
- 43. Meilijson, A., Ashckenazi-Polivoda, S., Ron-Yankovich, L., Illner, P., Alsenz, H., Speijer, R.P., Almogi-Labin, A., Feinstein, S., Berner, Z., Püttmann, W. The 'anoxic benthic foraminiferal paradox': A case study from the high productivity deposits in Israel. FORAMS 2014, Concepcion Chile.

- 44. Schmidt, C., Abramovich, S., Janett Brandt, J., Almogi-Labin, A., Herut, B., Kucera, M., Heattolerant symbiosis in the foraminifera Pararotalia spinigera from the Eastern Mediterranean. FORAMS 2014, Concepcion Chile.
- 45. Titelboim D., Abramovich S., Almogi-Labin A., Herut B., and Kucera M. The effect of sea surface temperature and salinity increase on marine benthic eosystems: Revisiting the Hadera heat plume (Israel). Geological Society of Israel, Dead Sea, 2014.
- 46. Ashckenazi-Polivoda, S., Meilijson, A., Ron-Yankovich, L., Illner, P., Alsenz, H., Speijer, RP., Almogi-Labin, A., Feinstein, S., Berner, Z., Püttmann, W., Abramovich S., Biostratigraphy and biocorrelation of the Late Cretaceous high productivity sequence of the Southern Tethys, Israel. EGU Vienna, 2014
- 47. Oron, S., Abramovich, S., Evans, D., Erez, J. The effect of carbonate chemistry and light levels on calcification and photosynthesis in the larger benthic foraminifera *Operculina ammonoides*. EGU, Vienna, 2015.
- 48. Danna Titelboim, Ahuva Almogi-Labin, Barak Herut, Orit Hyams-Kaphzan, Michal Kucera, Christiane Schmidt, Ofer Ovadia, Selective responses of benthic foraminifera to thermal pollution. EGU Vienna, April 2016.
- 49. Christiane Schmidt, Titelboim Danna, Brandt Janett, Morard Raphael, Herut Barak, Abramovich Sigal, Almogi-Labin Ahuva, and Kucera Michal
- 50. Extremely heat tolerant photosymbiosis in a shallow marine benthic foraminifera. EGU Vienna, April 2016
- 51. Danna Titelboim, Aleksey Sadekov, Ahuva Almogi-Labin, Barak Herut, Michal Kucera, Christiane Schmidt, Orit Hyams-Kaphzan, and Sigal Abramovich. 2016 Inferred calcification limits of the thermo tolerant benthic foraminifera *Pararotalia calcariformata*– Mg/Ca records from a field study. TMS meeting, Anger, France, June 2016
- 52. Danna Titelboim, Aleksey Sadekov, Ahuva Almogi-Labin, Barak Herut, Michal Kucera, Christiane Schmidt, Orit Hyams-Kaphzan, and Sigal Abramovich. 2017 Inferred calcification limits of the heat tolerant benthic foraminifera *Pararotalia calcariformata* & *Lachlanella* Mg/Ca records from a field study. ASLO, Honolulu, Hawaii, March 2017.
- 53. Danna Titelboim, Aleksey Sadekov, Ahuva Almogi-Labin, Barak Herut, Michal Kucera, Christiane Schmidt, Orit Hyams-Kaphzan, and Sigal Abramovich. 2017 Geochemical signatures of benthic foraminifera shells from a heat-polluted shallow marine environment provide field evidence for growth and calcification under extreme warmth. EGU Vienna, April 2017.

Seminar presentations at universities and institutions

- Greenhouse warming of oceans in the Pre-K-T Late Maastrichtian. The G.M. Friedman Seminar on paleoclimate and paleoceanography. May 3, 2005
- The 20th GIF Anniversary. Presentation by GIF-supported young scientists in the fields of Life / Exact Sciences. The Van Leer Institute, Jerusalem. November 20 2008

- Seminar presentation at the Institute of Earth Sciences. Planktic foraminiferal acmes linked to global climate in the late Maastrichtian of the Tethys. Hebrew University of Jerusalem. 20 May 2009
- Molecular evidence for Lessepsian invasion of soritids (larger symbiont bearing benthic foraminifera). The Department of Marine Geosciences, Haifa University May 2013.
- Paleoceanographic reconstruction of the Upper Cretaceous oil shale sequence in Israel, Department of Earth Sciences, Isotope Coffee, Cambridge University 7 March 2014
- Foraminifera as bioindicators of marine environments. Sedgwick Club talks, Department of Earth Sciences, Sedgwick Club talks, Cambridge University, 3 March 2014
- Late Cretaceous high productivity regime of the Southern Tethys. Marum seminar. Bremen Germany, 16 March 2015
- Foraminifera as bioindicators of marine environments. Hebrew University of Jerusalem. 12 May, 2015
- Foraminifera as bioindicators of marine environments. Haifa University October, 2015
- Foraminifera as bioindicators of marine environments. 2016 Sde Boker Campus
- Foraminifera as bioindicators of marine environments. Addadi-Weiner group seminar. Weizmann Institute of Science. November 2016

Research Grants

- 2006- 2007 The Young Scientist Program, German-Israeli Foundation (GIF). Subject: Greenhouse Warming of Oceans in the Pre-K-T Late Maastrichtian. Abramovich, S (PI)
- 2005-2007 start-up grant of the USA-Israel Binational Science Foundation (BSF). Subject: Biotic response to multiple high-stress events in the late Cretaceous. Abramovich, S (PI), Keller, G., (PI)
- 2005-2008 The Ministry of National Infrastructure. Subject: Multidisciplinary characterization of the Oil Shale sediments in the Negev, Israel: Integration of micropaleontology, organic geochemistry and stable isotopes. Abramovich, S., (PI) Feinstein S. (PI) and Almogi-Labin (PI),
- 2007-2009 The Ministry of National Infrastructure. Subject: The effect of thermal pollution on benthic foraminiferal assemblages, in the Mediterranean shore face adjacent to Hadera power plant (Israel). Abramovich S (PI), Almogi Labin A. (PI), Herut, B (PI)
- The Wolfson Foundation. Funding for building Stable Isotope Laboratory at Ben-Gurion University. Katzir, Y (PI), Sivan O (PI), Abramovich S (PI)

- 2009- 2011 German-Israeli Foundation (GIF). Multidisciplinary characterization of the Oil Shale in the Negev Israel: Integration of micropaleontology, organic geochemistry trace elements and stable isotopes. Abramovich, S., (PI) Feinstein S. (CI) and Almogi-Labin (PI), Berner, Z., (PI) Püttmann, W. (PI).
- 2009-2010 The Ministry of National Infrastructure. Subject: Monitoring the benthic foraminiferal response to the removal of aquaculture fishcages in the Gulf of Aqaba-Eilat. Abramovich, S (PI)
- 2010- 2011 The Ministry of National Infrastructure. Molecular genetics and morphometrics evidences for the Lessepsian invasion of larger foraminifera to the Mediterranean Sea. Abramovich, S (PI) Abdu U. (PI), Almogi-Labin (PI) Total Sum: 121,00 NIS
- 2012- 2013 The Ministry of National Infrastructure. Basin analysis, depositional environment, and organic matter characteristics in the oil shale unit of the Shfela basin. Abarmovich S(PI) Shimon Feinstein (PI) Total Sum: 87,000 NIS
- 2012- 2015 BMBF-MOST Joint German-Israeli Marine Sciences Program. An integrated field and laboratory study of benthic foraminifera as a model system for understanding the effect of thermal stress on marine coastal ecosystems. Abramovich, S (PI), Ahuva Almogi Labin (PI), Barak Herut (PI), Michal Kucera (PI). Total sum: €491,497
- 2013-2015 The Ministry of National Infrastructure. Larger benthic foraminifera as marine bioindicators in the Eastern Mediterranean. Abramovich, S (PI) Abdu U. (PI), Almogi-Labin (PI) Total Sum: 128,00 NIS
- 2013-2016 ISF. Phylogenetic and ecological characteristics of Lessepsian symbiont bearing larger benthic foraminifera from the Gulf of Elat and Mediterranean coast of Israel. Abramovich, S. (PI), Hymas O (PI) Total Sum: 877,114 NIS
- 2015- Bat Sheva De Rothschild funds for International workshop on "Live foraminifera as a new model system for monitoring and reconstructing marine environments" Total Sum: \$40,000
- Present Academic Activities

Sigal Abramovich – List Of Publications

- 1. Abramovich, S., Almogi-Labin, A. and Benjamini, Ch., 1998. Decline of the Maastrichtian pelagic ecosystem based on planktic foraminifera assemblage changes: Implication for the terminal Cretaceous faunal crisis. Geology, 26: 63-66.
- 2. Abramovich, S. and Keller, G., 2002. High stress upper Maastrichtian Paleoenvironment: Inference from planktic foraminifera in Tunisia. Palaeogeography, Palaeoclimatology, Palaeoecology 178(3-4), 145-164.
- Abramovich, S., Keller, G., Adatte, T., Stinnesbeck, W., Hottinger, L., Stüben, D., Berner, Z., Ramanivosoa, B. and Randriamanantenasoa, A., 2002. Age paleoenvironment of the Maastrichtian-Paleocene of the Mahajanga Basin, Madagascar: a multidisciplinary approach. Marine Micropaleontology 47(1-2).
- 4. Abramovich, S., Keller, G., Stüben, D. and Berner, Z., 2003. Characterization of late Campanian and Maastrichtian planktic foraminiferal depth habitats and vital activities based on stable isotopes. Palaeogeography, Palaeoclimatology, Palaeoecology 202, 1-29.
- 5. Abramovich, S. and Keller, G., 2003. Planktic foraminiferal response to the latest Maastrichtian abrupt warm event: A case study from midlatitude Atlantic Site 525A. Marine Micropaleontology 48(3-4), 225-249.
- Stüben, D., Kramar, U., Berner Z., Leosson M. A., Meudt, M., Keller, G., Abramovich, S., Adatte, T., Hambach, U. and Stinnesbeck. W., 2003. Late Maastrichtian Paleoclimatic and Paleoceanographic changes inferred from Ca/Sr and stable isotopes. Palaeogeography, Palaeoclimatology, Palaeoecology 199, 107-127.
- Adatte, T., Keller, G., Stüben, D., Harting, M., Kramar, U., Stinnesbeck, W., Abramovich, S., and Benjamini, Ch., (2005). Late Maastrichtian and K/T paleoenvironment of the eastern Tethys (Israel): mineralogy, trace element and platinum group elements, biostratigraphy, and faunal turnovers. Bull. Soc. géol. France 176, 35-53. Georgescu, D.
- 8. Abramovich, S., (2008a). A new serial Cretaceous planktonic foraminifer (Family Heterohelicidae Cushman 1927) from the upper Maastrichtian of the equatorial Central Pacific. Journal of Micropalaeontology, 27, 117-123
- 9. Georgescu, D. Abramovich, S., (2008b) Cretaceous (Upper Santonian-Maastrichtian) serial planktonic foraminifera (Family Heterohelicidae Cushman, 1927) with peripheral test wall flexure. Revista Española de Micropaleontología, 40 (1-2). 97-114.
- Keller, G. Abramovich, S. Z. Berner. Z. and T. Adatte, T., (2009). Biotic effects of the Chicxulub impact, K–T catastrophe and sea level change in Texas Palaeogeography, Palaeoclimatology, Palaeoecology, 271, 52-68

- Keller, G. Abramovich, S., (2009) Lilliput Effect in Late Maastrichtian Foraminifera: Response to Environmental Stress. Palaeogeography, Palaeoclimatology, Palaeoecology, 271, 52-68. doi:10.1016/j.palaeo.2008.09.007
- 12. Georgescu, D, and Abramovich, S. (2009). A new Late Cretaceous (Maastrichtian) serial planktic foraminifer (Family Heterohelicidae) with early planispiral coil and revision of Spiroplecta Ehrenberg, 1844. Geobios, 42, 687-698. doi:10.1016/j.geobios.2009.06.001
- Abramovich, S., Yovel, S., Benjamini, Ch., and Almogi-Labin, A. (2010). Global climate change and planktic foraminiferal response in the Maastrichtian, Paleoceanography, 25, PA2201 doi:10.1029/2009PA001843.
- 14. Sarit Ashckenazi-Polivoda, , Ahuva Almogi-Labin, Aya Schneider-Mor, Shimon Feinstein, Wilhelm Puttman and Zsolt Berner. (2011). Paleoenvironments of the latest Cretaceous oil shale sequence, Southern Tethys, Israel, as an integral part of the prevailing upwelling system, Palaeogeography, Palaeoclimatology, Palaeoecology. 305 (1-4), 93-108.
- 15. Ruthie Nina Arieli, Sigal Abramovich, Ahuva Almogi-Labin, & Barak Herut (2011). The effect of thermal pollution on benthic foraminiferal assemblages in the Mediterranean shoreface adjacent to Hadera power plant (Israel), Marine Pollution Bulletin, 62(5), 883-1152.
- 16. Sigal Abramovich, Gerta Keller, Zsolt Berner, Matan Cymbalista, and Carmi Rak (2011). Maastrichtian Planktic Foraminiferal Biostratigraphy and Paleoenvironment of Brazos River, Falls County, Texas. In K-T Mass Extinction and the Chicxulub Impact in Mexico and Texas, SEPM Special Publication, 100, 123-157.
- Gerta Keller, Sigal Abramovich, Thierry Adatte, and Zsolt Berner. (2011). Biostratigraphy, Age of Chicxulub Impact and Depositional Environment of the Brazos River K-T Sequences. In K-T Mass Extinction and the Chicxulub Impact in Mexico and Texas, SEPM Special Publication, 100, 81-123.
- Aya Schneider-Mor, Heiko Alsenz, Sarit Ashckenazi-Polivoda, Peter Illner, Sigal Abramovich, Shimon Feinstein, Ahuva Almogi-Labin, Zsolt Berner, Wilhelm Püttmann (2012) Paleoceanographic reconstruction of the late cretaceous oil shale of the Negev, Israel: integration of geochemical, and stable isotope records of the organic matter. Palaeogeography, Palaeoclimatology, Palaeoecology. 319, 46-57.
- Elisabeth Alve, Emmanuelle Geslin, Frans Jorissen, Sergei Korsun, Joachim, Schönfeld, Silvia Spezzaferri and the FOBIMO group. 2012. The FOBIMO (Foraminiferal Blo-Monitoring) initiative - towards a standardised protocol for benthic foraminiferal monitoring studies. Marine Micropaleontology, 94-95, 1-13.
- 20. Heiko Alsenz, Julia Regnery, Sarit Ashckenazi-Polivoda., Aaron Meilijson, Libby Ron-Yankovich, Sigal Abramovich, Peter Illner, Ahuva Almogi-Labin, Shimon Feinstein, Zsolt Berner, Wilhelm Püttmann (2013). SST variations in the Late Cretaceous upwelling system of the tropical southern Tethys, Palaeogeography, Palaeoclimatology, Palaeoecology.

- 21. Gily Merkado, Maria Holzmann, Laure Apothéloz-Perret-Gentil, Jan Pawlowski, Uri Abdu, Ahuva Almogi-Labin, Orit Hyams-Kaphzan, Anna Bakhrat, Sigal Abramovich (2013). Molecular evidence for Lessepsian invasion of soritids (larger symbiont bearing benthic foraminifera). PLoS ONE
- 22. Sarit Ashckenazi-Polivoda, Carmi Rak, Ahuva Almogi-Labin, Zsolt Berner, Ofer Ovadia and Sigal Abramovich (2014). Paleoecology of Guembelitria (Cushman), the K-Pg mass extinction survivor: Isotopic evidences from pristine foraminifera from Brazos river Texas (Maastrichtian). Paleobiology
- 23. Shai Oron, Dror Angel, Beverly Goodman –Tchernov, Gily Merkado, Moshe Kiflawi, and Sigal Abramovich (2014). Benthic foraminiferal response to the removal of aquaculture fish cages in the Gulf of Aqaba-Eilat, Red Sea. Marine Micropaleontology.
- 24. Aaron Meilijson, Sarit Ashckenazi-Polivoda, Libby Ron-Yankovich, Peter Illner, Heiko Alsenz, Robert P. Speijer, Ahuva Almogi-Labin, Shimon Feinstein, Zsolt Berner, Wilhelm Püttmann and Sigal Abramovich. In press, Chronostratigraphy of the Upper Cretaceous high productivity sequence of the southern Tethys, Israel. Cretaceous Research.
- 25. Alsenz, H., Illner, P., Ashckenazi-Polivoda, S., Meilijson, Abramovich, S., Feinstein, S., Almogi-Labin, A., Berner., Z., and Püttmann, W., 2015. Geochemical evidence for the link between sulfate reduction, sulfide oxidation and phosphate accumulation in a late Cretaceous upwelling system. Geochemical Transactions, 16, 2.
- 26. Schmidt, C., Morard, R, Almogi-Labin, A. Weinman A.E., Titelboim, D., Abramovich, S, Kucera (in press 2015) Recent invasion of the symbiont-bearing foraminifera Pararotalia into the Eastern Mediterranean facilitated by the ongoing warming trend. Plos One.
- 27. Meilijson, A., Ashckenazi-Polivoda, S., Illner, P., Alsenz, H., Speijer, R., Almogi-Labin, A., Feinstein, S., Berner Z, Püttmann, and Abramovich, S., (in press 2015) Evidence for specific adaptations of fossil benthic foraminifera to anoxic-dysoxic environments, Paleobiology.
- MerkadoS, G., TitelboimS, D., Hyams-KaphzanC, O., HolzmannC, M, PawlowskiC J., Almogi-LabinC, A. AbduC, U, BarakC H., and **Abramovich PI**, S. (2015) Molecular Phylogeny and Ecology of Textularia agglutinans d'Orbigny from the Mediterranean Coast of Israel: A Case of a Successful New Incumbent. 10 (11), e0142263 [JR=8/55 (Q1), Multidisciplinary Sciences, IF 4.015, Citation=0].
- Titelboim^s, D., Schmidt^s, C., Almogi-Labin^c, A., Herut^c, B., Kucera^c, M., Hymas Kaphzan^c, O., Ovadia^c, O and **Abramovich**^{PI}, S. (2016). Selective responses of benthic foraminifera to thermal pollution. Marine Pollution Bulletin, [JR=12/103 (Q1) Marine & Freshwater Biology IF 3.118, Citation=1(ISI)]
- 30. Schmidt^s, C., Titelboim^s, D., Brandt^s, J., Herut^c, B., **Abramovich, S**. Almogi-Labin^c, A Kucera^{PI} M., (2016) Extremely heat tolerant photo-symbiosis in a shallow marine benthic

foraminifera. Scientific Reports 6:30930 [JR=7/55 (Q1), Multidisciplinary Sciences, IF 5.525, Citation=0].

31. Titelboim^S, D Schmidt^S, C., J., Herut^C, B., Almogi-Labin^C, A Kucera^{PI} M., Abramovich^{PI}, S. (accepted 2017) Geochemical signatures of benthic foraminiferal shells from a heat-polluted shallow marine environment provide field evidence for growth and calcification under extreme warmth. Global Changes Biology JR=4/225 (Q1), Environmental Sciences, IF 9.028, Citation=0)

Submitted Articles

Meilijson, A., Sarit Ashckenazi-Polivodab, S., Ron-Yankovich, L., Illner, P., Alsenz, H., Robert P. Speijer, R Almogi-Labin., A., Feinstein, S., Berner, Z., Püttmann, W., Abramovich, S., A 19million-years record of the Late Cretaceous Tethyan upwelling regime. Submitted to Paleocanography, January 2017.

In preparation:

- Merkado, G., Holzmann, M., Abramovich, S., Abdu, U., Almogi-Labin, A., Renema, W. and Pawlowski, J. Molecular phylogeny and ecology of *Operculina ammonoides*. Will be submitted to Plos One.
- Danna Titelboim¹, Aleksey Sadekov², Ahuva Almogi-Labin³, Barak Herut⁴, Michal Kucera⁵, and Sigal Abramovich⁶ Metals anomalies in foraminiferal shells as indicators for low-level industrial pollution: A case study from the Mediterranean coast of Israel.

Synopsis of research, including reference to publications and grants in above lists

Motivation

I am a micropaleontologist, committed to a career in foraminiferal research and their use as indicators of recent and ancient marine environments. 'Forams' are marine unicellular protists that are found globally in the oceans. They are among the most ancient and abundant fossils and also the most efficient rock builders. They typically appear in great numbers in all marine habitats (planktonic and benthonic), and are extremely sensitive indicators of environmental conditions, including ecological calamities. The geochemical properties of their shells also allow us to determine important environmental parameters. These qualities make them amenable for interdisciplinary approach that combines paleontological, biological and geochemical tools.

My research

My research involves multidisciplinary investigations of living and fossil foraminifera that include fieldwork (both land and sea), traditional and molecular taxonomy, phylogeny, stratigraphic faunal analysis, and stable isotopes geochemistry. The following is a short summery of my research interests and recent projects (since my last promotion in 2010):

Cretaceous research:

The Late Cretaceous is marked by a worldwide catastrophe, known as the Cretaceous-Paleogene (K-Pg) mass extinction event, which led to the extinction of the dinosaurs, as well as many other terrestrial and marine organisms. The latest Cretaceous was also a time of major oceanic and climatic oscillations.

My research is focused on understanding the distribution of Late Cretaceous foraminiferal habitats, documenting their response to global climatic changes, and characterizing their taxonomy, phylogeny and the ecological strategies of individual species. We have characterized foraminiferal assemblages from many worldwide localities, established a detailed depth ranking of species based on stable isotope analyses and showed the importance of high-resolution studies in tracing paleoceanographic changes.

Marine Biomonitoring:

Marine biomonitoring is been in practice for few decades, yet has become an urgent matter during the past few years due to increase awareness of possible impact of anthropogenic stressors on marine communities. Forams are considered as one of the most powerful tools for marine biomonitoring. As unicellular organisms with a short reproductive cycle and fast growth rates, they show a quick response to environmental change and serve as extremely sensitive indicators of nutrient availability, salinity, irradiation, oxygen concentration, anthropogenic contaminations as well as temperature fluctuations. Several projects on modern marine environments were already been completed in my laboratory, that combined both field and laboratory experiments.

Molecular genetics, and cell biology of foraminifera:

In a recent collaboration with Jan Pawlowski and Maria Holzmann from the University of Geneva, and Uri Abdu from the Department of Life Sciences at BGU my group has acquired expertise in molecular biology methods and genetics that enable us to explore fundamental biological and oceanographic phenomena. Molecular techniques not only contribute to the establishment of a more robust taxonomic subdivision of foraminifera species, but also provide a better understanding of their environments and a more accurate usage of them as bioindicators. These techniques are now used in my laboratory to investigate the large scale Lessepsian invasion of large benthic foraminifera from the Red Sea to the Eastern Mediterranean.

Research projects:

1. Upper Cretaceous oil Shale

In the past few years, we have been engaged in a multidisciplinary research project on oil shale deposits in Israel, that involves collaboration with scientists from Germany (Wilhelm Püttmann and Zsolt Berner) and Israel (Sarit Ashckenazi-Polivoda, Ahuva Almogi Labin and Shimon

Feinstein). This project is aimed at establishing the most detailed paleobiological and paleoceanographic reconstruction of the Levantine upwelling system by integrating high-resolution records of planktic and benthic foraminifera, carbon, oxygen and nitrogen stable isotopes and organic geochemistry. Our research initially focused on the Negev area and in the last couple of years we expanded our research investigation into the Shefela basin, which represents the most distal and among the largest basins in the Levant region. Three PhD students (H. Alsenz, P. Illner, and 2 M.Sc student (L. Ron, and N Mizrachi) were enrolled in this projects, that was funded by the German Israeli Foundation (GIF) and the Ministry of Energy and Infrastructures. Results of this project were published in 6 manuscripts (#27, 25, 24, 22, 20, 18, 14). Additional manuscript on the benthic foraminiferal assemblages from the Shefela Basin will be submitted to publication in early 2016. Current activity on this project involves an investigation of a new core from the Negev region that span into the Late Turonian. We have also recently initiated a new collaboration with a research team from Université de Bourgogne, Dijon (Emmanuelle Puceat and Christophe Thomazo), to establish the Neodymium isotope record of the high productivity sequence.

2. Foraminifera as a model for thermal stress

The eastern most part of the Mediterranean is characterized by extreme oligotrophy and high salinity and temperature values that show a gradual rise over the past few decades. This project follows a similar one conducted in 2007 in a unique natural experimental laboratory setting of the Hadera power plant thermal plume using benthic foraminifera as a model system to investigate the effects of temperature changes. Since that study was conducted a desalination plant started working near the power plant so that in addition to the temperature, salinity is also slightly elevated. This research is now renewed with a new collaboration with Michal Kucera from MARUM, Bremen, Barak Herut (IOLR, Israel) and Ahuva Almogi Labin (GSI), through the support of the BMBF-MOST and the Ministry of Energy and Infrastructures. The new study is focused on investigating the physiological and ecological response of key species living inside the heat plume by combining field and laboratory experience. Results of our study indicate an overall prominent negative response to warming, and a differential tolerance exhibited by various species. The most surprising results of this study include the high tolerance of a specific the invasive symbiont bearing species P. calcariformata and the almost complete absence of tropical larger benthic foraminifera from the heat plume which indicates low tolerance to high temperatures. Two PhD (C. Schmidt, D. Titleboim) and one M.Sc students (Y. Wainsztok) were enrolled in this project (all recently graduated). Results of this project were published in a recent manuscript (#26). Two additional manuscripts are now under review (Titleboim et al.; Schmidt et al).

3. Benthic foraminiferal response to the removal of aquaculture fishcages in the Gulf of Aqaba-Eilat

Worldwide, a significant part of the fish industry is based upon rearing fish in cages, usually at areas close to shore. Those facilities have a significant influence on the immediate environment

and the benthic organisms beneath them due to the release of organic material and nutrients that can cause eutrophication in the water column and hypoxic-anoxic conditions in the sediment.

For about 18 years, fish cage aquaculture facilities were located at the northern end of the Gulf of Eilat, about 300 m offshore and very close to the Israeli-Jordanian border. Rising concerns about the potential damage inflicted on the gulf's ecological system and littoral environment was the center of a heated scientific, legal and public debate that ended with the National Council of Planning and Construction ordering their complete removal, which occurred in June 2008. The cessation of open water fish cage aquaculture operations in the Gulf of Eilat has created a unique opportunity to monitor the process and assess the time that is required for the benthic foraminiferal assemblages in the area where the fish cages were located, and use these data as a measure for the rehabilitation of the benthos. This study was carried an M.Sc student (now PhD), S. Oron and was published in 2014 (manuscript #23). Based on the results of this study, a new investigation has been established in 2013 with collaboration of Jonathan Erez (Hebrew University) that focuses on ecophysiology, symbiosis and metabolism of some of the large symbiont-bearing foraminifera in the Northern Gulf of Elat.

4. Lessepsian invasion.

In recent years we have been witnessing a large-scale invasion of many alien tropical species into the Eastern Mediterranean through the Suez Canal, termed Lessepsian invasion. This process is promoted both by the ongoing warming of sea surface temperature (SST) in the last decades, and the establishment of hyper-oligotrophic conditions in the Eastern Mediterranean as a result of closure of the Nile River by the High Aswan Dam. The unique position of Israel at the vicinity of the two recently connected oceanic provinces, The Red Sea and the Eastern Mediterranean provides an unmatched opportunity to investigate the scale and magnitude of the Lessepsian invasion and to understand its effect on the marine coastal ecosystems. This study focuses on several species of larger benthic foraminifera (LBF) that are indicative to tropical and subtropical regions and serve as an excellent biomonitoring tool for the marine ecosystems of these environments. This study is carried out by Gily Merkado (PhD student) and several senior undergraduate students with collaboration of Orit Hyams-Kaphzan, Ahuva Almogi-Labin (GSI), Jan Pawlowski and Maria Holzmann (Geneva) and Uri Abdu (BGU) and is supported by the ISF and the Israeli Ministry of Energy and Infrastructure. Our study first focused on the investigation of Soritids (manuscript #21), which not only provided conclusive evidences of Lessepsian invasion of single genotype, but also has a significant implication on our understanding of this group phylogeny. Another recently completed study was on the agglutinated species Textularia agglutinans, which has become, in recent years, one of the most common foraminifera of the shallow hard bottom habitats in the Mediterranean coast of Israel. Our study provided new molecular and ecological evidences for the successive invasion of this species (Merkado et al., 2015). Our current investigation focuses on the genetic and ecological cauterization of other important LBF groups (e.g. Operculina ammonoides, Peneroplis species).

Roi Granot – Resume

Contact



Dept. of Geological and Environmental Sciences Phone: (972) (0) 8-647-7509 Ben Gurion University of the Negev (BGU) http://www.geomaglab.org P. O. Box 653, Beer-Sheva 84105, Israel rgranot@bgu.ac.il

Information

Education	Postdoctoral Fellow	Institut de Physique du Globe de Pa	ris 2009-		
	Advisors: Jerome Dyment and Yves Gallet				
	Ph.D. Geology, Scripps Institution of Oceanography, UCSD				
	Advisors: Steve Cande, Lisa Tauxe and Jeff Gee				
	M.Sc. Geology, The Institute of Earth Sciences, Hebrew University of Jerusalem		of 2002- 2004		
	Advisors: Amotz Agnon, Meir Abelson and Hagai Ron				
	B.Sc. Geology, The Institute of Jerusalem	of Earth Sciences, Hebrew University	of 1999- 2002		
employment	Senior Lecturer	Ben Gurion University	2014-		
experience	Lecturer	Ben Gurion University	present 2011- 2014		
Honors and	Rafi Freud Award		2015		
Awards	Kavli Fellow: Israeli-American Kalvi Frontiers of Science Symposium 2013				
	City of Paris Postdoctoral Fellowship 20		2010-2011		
	Institut de Physique du Globe de Paris Postdoctoral Fellowship 2009-2010				
Grants	Israel Geological Society Peretz-Grader Award for excellence in research 2007 Received European CIG , Israel Science Foundation, Ministry of Science and several other grants.				
Community Service	Reviewer: Nature, Geology, G-cubed, Earth-Science Reviews, Physics of the Earth and Planetary Interiors, Earth Planets and Space, proposals of ISF and NSF.				
	Session convener: The Cenozoic West Antarctic Rift System (WARS): Observations, Interpretations, Models and Implications (AGU 2010, Tectonophysics)				

Field Experience Participated as a chief scientist or a scientist in more than 10 scientific cruises in the Southern, and Cruise Pacific and Indian Oceans as well as the Mediterranean Sea. Participation

Paleomagnetic sampling: Troodos ophiolite, Cyprus, Makhtesh Ramon and northern Israel.

Teaching	Introduction to geophysics (BGU 206-3041)	2012-2015	
	Plate Tectonics (BGU 206-3091)	2013-2016	
	Computing for the Earth Scientist (BGU 206-2341)	2013-2016	
	Troodos field trip	2015	
	Physics of Earth Material (BGU 206-3051)	2012	
Professional Society Societies	American Geophysical Union, European Geosciences Union and Israe	li Geological	
Research Studer	nts Neta Dembo (Ph. D.)		
	Shai Roth (M.Sc.)		
	Irina Seliverstov (M.Sc.) - Graduated 2016		
Conference Presentations (Selected)	Zohar Ehrlich (M.Sc.) - Graduated 2014 Granot, R. and Dyment, J., Toward a new approach in dating and reconstructing the Quiet Zones, in: American Geophysical Union, F Meeting, San Francisco, 2013 (Invited).	all	
	 Granot, R. and Dyment, J., Toward a new approach in dating and reconstructing the Quiet Zones, in: American Geophysical Union, Fall Meeting, San Francisco, 2013 (Invited). Granot, R. and Dyment, J., Toward a new approach in dating and reconstructing the Quiet Zones, in: American Geophysical Union, Fall Meeting, San Francisco, 2013 (Invited). 		
	Granot, R. A new approach for reconstructing past plate motions, American Kalvi Frontiers of Science Symposium, Irvine, 2013 (Invite	in: Israeli- ed).	
Honors and Awards	Rafi Freud Award	2015	
	Kavli Fellow: Israeli-American Kalvi Frontiers of Science Symposium	2013	
	City of Paris Postdoctoral Fellowship	2010-2011	
	Institut de Physique du Globe de Paris Postdoctoral Fellowship	2009-2010	
Grants	Israel Geological Society Peretz-Grader Award for excellence in rese Received European CIG , Israel Science Foundation, Ministry of Science several other grants.	arch 2007 nce and	

Community Service	Reviewer: Nature, Geology, G-cubed, Earth-Science Reviews, Physics of the Earth and Planetary Interiors, Earth Planets and Space, proposals of ISF and NSF.			
	Session convener: The Cenozoic West Antarctic Rift System (W Observations, Interpretations, Models and Implications (AGU 20 Tectonophysics)	/ARS): 10,		
Field Experience the Southern, a Participation	e Participated as a chief scientist or a scientist in more than 10 sciend nd Cruise Pacific and Indian Oceans as well as the Mediterranean s	entific cruises in Sea.		
	Paleomagnetic sampling: Troodos ophiolite, Cyprus, Makhtes northern Israel.	sh Ramon and		
Teaching	Introduction to geophysics (BGU 206-3041)	2012-2015		
	Plate Tectonics (BGU 206-3091)	2013-2016		
	Computing for the Earth Scientist (BGU 206-2341)	2013-2016		
	Troodos field trip	2015		
	Physics of Earth Material (BGU 206-3051)	2012		
Professional Society Societies	American Geophysical Union, European Geosciences Union and Is	raeli Geological		
Research	Neta Dembo (Ph. D.)			
Students	Shai Roth (M.Sc.)			
	Irina Seliverstov (M.Sc.) - Graduated 2016			
Conference Presentations (Selected)	Zohar Ehrlich (M.Sc.) - Graduated 2014 Granot, R. and Dyment, J., Toward a new approach in dating an reconstructing the Quiet Zones, in: American Geophysical Union San Francisco, 2013 (Invited).	d , Fall Meeting,		
	Granot, R. and Dyment, J., Toward a new approach in dating an reconstructing the Quiet Zones, in: American Geophysical Union San Francisco, 2013 (Invited).	d , Fall Meeting,		
	Granot, R. and Dyment, J., Toward a new approach in dating ar reconstructing the Quiet Zones, in: American Geophysical Unior San Francisco, 2013 (Invited).	nd n, Fall Meeting,		
	Granot, R. A new approach for reconstructing past plate motio American Kalvi Frontiers of Science Symposium, Irvine, 2013 (In	ns, in: Israeli- vited).		

Roi Granot – List Of Publications

2016

Granot, R., **Palaeozoic oceanic crust preserved beneath the eastern Mediterranean**, *Nature Geo.*, 2016 [link]. External media coverage: <u>Science Nature</u>

Davey, F. J., Granot, R., Cande, S. C., Stock, J. M., Selvans, M., and Ferraccioli, F., **Synchronous oceanic spreading and continental rifting in West Antarctica**, *GRL*, 2016

2015

Dembo, N., Hamiel, Y., and Granot, R., **Intraplate rotational deformation induced by faults**, *JGR*, 2015

Granot, R., and Dyment, J., **The Cretaceous opening of the South Atlantic Ocean**, *EPSL*, 2015

2014

Selvans, M. M., Stock, J. M., Clayton, R. W., Cande S., and Granot, R., **Deep crustal** structure of the Adare and Northern Basins, Ross Sea, Antarctica, from sonobuoy data, *EPSL*, 2014

Granot, R., **Magnetic anomalies**, in *Encyclopedia of Scientific Dating Methods*, Springer, Dordrecht, NL, 2014

Seton, M., Whittaker, J. M., Wessel, P., Müller, D. R., DeMents, C., Merkuryev, S., Cande, S., Gaina, C., Eagles, G., Granot, R., Stock, J., Wright, N. and Williams, E. S., **Community infrastructure and repository for marine magnetic identifications**, *G-Cubed*, 2014

2013

Williams, E. S., Whittaker, J. M., Granot, R., Müller, D. R., **Early India-Australia** spreading history revealed by newly detected Mesozoic magnetic anomalies in the Perth Abyssal Plain, *JGR*, 2013

Granot, R., Cande S. C., Stock, J. M., and Damaske, D., **Revised Eocene-Oligocene** kinematics for the West Antarctic rift system, *GRL*, 2013

2012

Granot, R., Dyment, J., and Gallet, Y., **Geomagnetic field variability during the Cretaceous normal superchron**, *Nature Geo.*, 2012 [News & Views] Selvans, M. M., Clayton, R. W., Stock, J. M., and Granot, R., **Using overlapping** sonobuoy data from the Ross Sea to construct a 2D deep crustal velocity model, *MGR*, 2012

2011

Granot, R., Abelson, M., Ron, H., Lusk, M. W., and Agnon, A., **Direct evidence for** dynamic magma supply fossilized in the lower oceanic crust of the Troodos ophiolite, *GRL*, 2011

2010

Granot, R., Cande S. C., Stock, J. M., Davey, F. J., and Clayton, R. W., **Postspreading rifting in the Adare Basin, Antarctica: Regional tectonic consequences**, *G-Cubed*, 2010

2009

Granot, R., Cande, S. C., and Gee, J. S., **The implications of long-lived asymmetry of remanent magnetization across the North Pacific fracture zones**, *EPSL*, 2009

2007

Granot, R., Tauxe, L., Gee, J. S., and Ron, H., **A view into the Cretaceous** geomagnetic field from analysis of gabbros and submarine glasses, *EPSL*, 2007

2006

Granot, R., Abelson, M., Ron, H., and Agnon, A., **The oceanic crust in 3D: Paleomagnetic reconstruction in the Troodos ophiolite gabbro**, *EPSL*, 2006

Proceedings

Granot, R., Cande S. C., Stock, J. M., Clayton, R. W., and Davey, F. J., **Beyond** seafloor spreading: Neogene deformation and volcanism in the Adare Basin, in *Proceedings for the Tenth International Symposium on Antarctic Earth Sciences*, 2007

Orit Sivan (Cohen) – Reume



Israeli nationality; ID: 024698326; two children

Address and telephone number at work: Department of Geological and Environmental Sciences, Ben-Gurion University of the Negev (BGU), P. O. Box 653, Beer-Sheva 84105, Israel; Phone: ++972-8- 6477504;

Address at home: 4 Lotem St. Lehavim, Israel;

Email: oritsi@bgu.ac.il

Education

- 1994 B.Sc. The Hebrew University (HUJI) Geology & Chemistry (Cum laude)
- 1995 High school teaching diploma with Honors in Chemistry, The Hebrew University
- 1997 M.Sc. The Hebrew University Geology; Advisors: Prof. Y. Erel (HUJI, Geology), Prof. D. Mandler (HUJI, Chemistry) and Dr. A. Nishri (IOLR); Thesis: Iron system in Lake Kinneret.
- 2003 Ph.D. The Hebrew University Geology; Advisors: Prof. B. Lazar (HUJI), Dr. Y. Yechieli (GSI) and Prof. B. Herut (IOLR).

Dissertation: The fate of ¹⁴C across the interfaces of sediment / seawater; saline groundwater / fresh groundwater; and solid / water.

Employment History

2016	Professor (member)	Ben-Gurion University of the Negev
2012-2013	Sabbatical	Caltech, UCSB
2012	Tenure	Ben-Gurion University of the Negev
2011	Senior Lecturer	Ben-Gurion University of the Negev
2006–2011	Lecturer	Ben-Gurion University of the Negev
2003-2006	Postdoctoral associate	Harvard University

Professional Activities

2014-present A	Associate Editor in Geochimica et Cosmochimica Acta
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- Present Guest editor in *Frontiers in Earth Sciences*
- Present Associate Editor in *Geobiology*
- 2013-2016 Committee member of Lake Kinneret monitoring board
- 2013-2015 Faculty representative for advancement of women in academia

2011-present Director, Departmental Environmental and Hydrogeological Program

2013-present Member, Departmental teaching committee

2010-present Director, Departmental admissions committee

2007-present Head, Isotope Laboratory

- Session developer in Goldschmidt, ASLO, IGS, etc.
- Master and Ph.D. Defenses committees
- Professional sub-committee in grant foundations
- A reviewer in research organization (ERC, SNF (Swiss National Foundation), ISF (Israel Science Foundation, Science ministry, Energy ministry).
- A reviewer for journals as EST, GCA, Journal of Hydrology, Biogeosciences, Geobiology, L&O, ECSS, Chemical Geology, Applied Geochemistry, Marine Chemistry and more

Educational activities

(a) Courses taught

Geochemistry, B.Sc, BGU

Stable and radioactive isotopes in water systems, B.Sc, BGU Seminar for under graduated students, B.Sc, BGU Introduction to oceanography, B.Sc, BGU

Chemical oceanography, M.Sc, BGU

Proxies for paleoceanography and paleoclimate, M.Sc, BGU (together with Dr. S. Abramovich).

(b) Research students and post docs

Graduated:

- 2008 Naama Avrahamov, M.Sc, BGU (with B. Lazar (HUJI) and Y. Yechieli (GSI))
- 2008 Amos Russak, M.Sc, BGU (with B. Lazar (HUJI) and Y. Yechieli (GSI))
- 2009 Michal Sela Adler, M.Sc, BGU (with W. Eckert (IOLR))
- 2010 Efrat Eliani Russak, M.Sc, BGU (with B. Herut (IOLR))
- 2011 Gilad Antler, M.Sc, BGU (with A.V. Turchyn (Cambridge) and B. Herut), Recipient of Assaf Gur award for Excellent M.Sc.
- 2011 Itay Bar-Or, M.Sc, BGU (with W. Eckert (IOLR), and A. Kushmaro (BGU))
- 2014 Naama Avrahamov, Ph.D (with B. Lazar (HUJI) and Y. Yechieli (GSI)), Recipient of Assaf Gur and the Rieger Foundation awards for outstanding Ph.D student.
- 2014 Amos Russak, Ph.D (with B. Lazar (HUJI) and Y. Yechieli (GSI))
- 2015 Gilad Antler, Ph.D (with A.V. Turchyn through Cambridge University)

2015 Elan Levy, M.Sc, BGU (with I. Gavrieli (GSI) and Y. Yechieli (GSI))

2016 Michal Adler, Ph.D (with Z. Ronen (BGU)), Recipient of Assaf Gur award for Excellent Ph.D.

2016 Dr. Eyal Wurgaft, Post Doc

2016 Shaked Stein, M.Sc (with R. Kasher (BGU) and Y. Yechieli (GSI))

2017 Hanni Vigderovich M.Sc. BGU.

Active in BGU:

- Itay Bar-Or, Ph.D (with W. Eckert (IOLR), and A. Kushmaro (BGU)), Recipient of the Rieger Foundation awards for outstanding Ph.D student and the Water Authority scholarship.
- Elan Levy, Ph.D (with I. Gavrieli (GSI) and Y. Yechieli (GSI)), Recipient of the Negev Scholarship for outstanding Ph.D student.
- Shaked Stein, Ph.D (with R. Kasher (BGU) and Y. Yechieli (GSI)). Recipient of the Negev Scholarship for outstanding Ph.D student.

Efrat Eliani Russak, Ph.D, BGU.

Hanni Vigderovich, Ph.D, BGU (with W. Eckert (IOLR))

Nitai Amiel, M.Sc. BGU.

Awards, Citations, Honors, Fellowships

- 2017 Press release on the Geology paper (Levy et al.)
- 2016 Press release on the EST paper (Stein et al.)
- 2014 Press release on the PNAS paper (Sivan et al.)
- 2012 BGU, University award for **Excellence in teaching**.
- 2010 BGU, Faculty of Sciences award for **Excellence in Research**.
- 2005 Geological Society of Israel award for Israeli excellent Ph.D. research.
- 2003-2005 HUJI, Bikura Post-Doctoral Fellow at Harvard University, 60000\$.
- 2000, 2002 Rieger Foundation scholarship for **outstanding student**.
- 1996 HUJI, Departmental Dicker-Shraga prize for **M.Sc. outstanding student**.
- 1995 Wolf prize for **M.Sc. outstanding student**.
- 1994-1995 IOLR, "Yochai Ben Nun" scholarship, ~ 12000\$

Orit Sivan - List Of Publications

- 1) Sela-Adler M., Ronen Z., Herut B., Antler G., Vigderovich H., Eckert W., **Sivan O.** (2017) Coexistence of methanogenesis and sulfate reduction with common substrates in sulfate-rich estuarine sediments. Frontiers in Microbiology (in press).
- Levy E.J., Stein M., Lazar B., Gavrieli I., Yechieli Y., Sivan O. (2017) Pore fluids in Dead Sea sediment core reveal linear response of lake chemistry to global climate changes. Geology. DOI: 10.1130/G38685.1.
- Antler G., Turchyn A.V., Ono S., Sivan O., Bosak T. (2017) Combined 34, 33S and 18O isotopic fractionations record different intercellular steps of microbial sulfate reduction. Geochemica et Cosmocimica Acta 203: 364-380.
- 4) Russak A., Sivan O., Yechieli Y. (2016) Trace elements (Li, B, Mn and Ba) as sensitive indicators for salinization and freshening events in coastal aquifers. Chemichal Geology. DOI: 10.1016/j.chemgeo.2016.08.003.
- 5) Sivan O., Shusta S.S., Valentine D.L. (2016) Methanogens rapidly transition from methane production to iron reduction. Geobiology 14: 190-203.
- 6) Stein S., Russak A., Sivan O., Yechieli Y., Rahav E., Oren Y. and Kasher R. (2016) Saline groundwater from coastal aquifers as a source for desalination. Environmental Science & Technology. doi: 10.1021/acs.est.5b03634.
- 7) Antler G., Turchyn A.V., Herut B., **Sivan O.** (2015) A unique isotopic fingerprint of sulfatedriven anaerobic oxidation of methane. Geology 43 (7): 619-622.
- Bar-Or I., Ben-Dov E., Kushmaro A., Eckert W. and Sivan O. (2015) Methane related changes in prokaryotes along geochemical profiles in sediments of Lake Kinneret (Israel). Biogeosciences 12: 2847-2860.
- 9) Avrahamov N., Gelman F., Yechieli Y., Aizenshtat Z., Nissenbaum A. and Sivan O. (2015). Proposed sources of methane along the Dead Sea Transform. Chemical Geology 395: 165-175.
- 10) Sela-Adler M., Herut B., Bar-Or I., Antler G., Eliani-Russak E., Levy E, Makovsky Y., Sivan O. (2015) Geochemical evidence for biogenic methane production and consumption in the shallow sediments of the SE Mediterranean shelf (Israel). Continental Shelf Research 101: 117-124.
- **11**) Russak A., Yechieli Y., Herut B., Lazar B. and **Sivan O.** (2015) The effect of salinization and freshening events in coastal aquifers on nutrients characteristics as deduced from column experiments under aerobic and anaerobic conditions. Journal of hydrology (in press).
- 12) Russak, A., Yechieli Y., Herut B., Lazar B. and **Sivan O.** (2015) The effect of salinization and freshening events in coastal aquifers on nutrient characteristics as deduced from field data. Journal of hydrology (in press).
- 13) Sela-Adler M., Said-Ahmad W., Sivan O., Eckert W., Kiene R. and Amrani A. (2015). Isotopic evidence for the origin of DMS and DMSP-like compounds in a warm-monomictic freshwater lake. Enviro. Chem. doi: org/10.1071/EN15042
- 14) Sivan O., Antler G., Turchyn A.V., Marlow J.J. and Orphan V.J. (2014) Iron oxides stimulate sulfate driven anaerobic methane oxidation in seeps. Proc Natl Acad Sci USA 111 (40): 4139-4147.

- 15) Avrahamov N., Antler G., Yechieli Y, Gavrieli I., Joye S., Saxton M., Turchyn A.V. and Sivan O. (2014) Anaerobic oxidation of methane by sulfate in hypersaline groundwater of the Dead Sea aquifer. Geobiology. DOI: 10.1111/gbi.12095.
- 16) Antler G., Turchyn A.V., Herut B., Davis A., Rennie V., and Sivan O. (2014) Sulfur and oxygen isotope tracing of sulfate driven anaerobic methane oxidation in estuarine sediments. ECSS 142:4-11.
- 17) Lazar B., Sivan O., Yechieli Y., Levi E., Antler G., Gavrieli I. and Stein M. (2014) Long term freshening of the Dead sea brine revealed by porewater Cl⁻ and δ^{18} O in ICDP Dead Sea deep-drill. EPSL 400: 94-101.
- 18) Rubin M., Antler G., Turchyn A.V. Tsadok R. Shemesh E., Goodman-Tchernov B., Austin J.J, Coleman D., Sivan, O. and Tchernov D. (2014) Hydrocarbon related microbial processes in the deep sediments of the Eastern Mediterranean Levantine Basin. FEMS Microbiology Ecology 87(3): 780-796.
- Berman T., Parparov A., Hadas O., Yacobi Y.Z., Sivan O., Ostrovsky I., Pinkas R. and Eckert W. (2014) The fate of organic carbon. In T. Zohary et al. (eds.), Lake Kinneret, Ecology and Management, Aquatic Ecology Series 6.
- 20) Bishop T., Turchyn A.V., and Sivan O. (2013) Fire and Brimstone: The microbially mediated formation of elemental sulfur nodules from an isotope and major element study in the paleo-Dead Sea. PLoS One 8(10): e75883.
- 21) Antler G., Turchyn A.V., Rennie V., Herut B. and Sivan O. (2013) Coupled sulfur and oxygen isotope insight into bacterial sulfate reduction in the natural environment. Geochim. Cosmochim. Acta. 18: 87-117.
- 22) Avrahamov N., Sivan O., Yechieli Y. and Lazar B. (2013) Carbon isotope exchange during calcite interaction with brine Implications for radiocarbon dating of hypersaline groundwater. Radiocarbon 55 (1): 81-101.
- 23) Eliani-Russak E., Herut B. and Sivan O. (2013) The role of highly stratified nutrient-rich small estuaries as a source of dissolved inorganic nitrogen to coastal seawater, the Qishon (SE Mediterranean) case. Marine Pollution Bulletin 71: 250-258.
- 24) Yechieli Y. and Sivan O. (2011) The distribution of saline groundwater and its relation to the hydraulic conditions of aquifers and aquitards: examples from Israel. Hydrogeology Journal 19: 71-81.
- 25) Adler M., Eckert W. and Sivan O. (2011) Quantifying rates of methanogenesis and methanotrophy in Lake Kinneret sediments (Israel) using porewater profiles. Limnol. Oceanogr. 56: 1525-1535.
- 26) Sivan O., Adler M., Pearson A., Gelman F., Bar-Or I., John S.G. and Eckert W. (2011) Geochemical evidence for iron-mediated anaerobic oxidation of methane. Limnol. Oceanogr. 56: 1536-1544.
- 27) McCue, M.D., Sivan O., McWilliams S.R. and Pinshow B. (2010) Breath testing reveal the oxidative kinetics of 13C-labeled dietary carbohydrates, amino acids, and fatty acids in house sparrows, *Passer domesticus*. Journal of Experimental Biology 213(5): 782-9.
- 28) Avrahamov N., Yechieli Y., Lazar B., Lewenberg O., Boaretto E. and Sivan O. (2010) Characterization and dating of saline groundwater in the Dead Sea area. Radiocarbon 52 (3): 1123-1140.

- 29) Russak A. and Sivan O. (2010) A hydrogeochemical tool to identify salinization or freshening of coastal aquifers determined from combined field work, experiments and modeling. Environmental Science & Technology 44: 4096–4102.
- 30) Yechieli Y., Kafri U. and Sivan O. (2009) The inter-relationship between coastal sub-aquifers and the Mediterranean Sea, deduced from radioactive isotopes analysis. Hydrogeology Journal 17(2): 265-274.
- 31) Sivan O., Schrag D. P. and Murray R. W. (2007) Rates of methanogenesis and methanotrophy in deep-sea sediments. Geobiology 5: 141-151.
- 32) Turchyn A.V., Sivan O. and Schrag D. P. (2006) Oxygen isotopic composition of sulfate in deep sea pore fluid: evidence for rapid sulfur cycling. Geobiology 4: 191–201.
- **33)** Sivan O., Yechieli Y., Herut B. and Lazar B. (2005) Dynamics and evolution of seawater intruding into a coastal aquifer. Geochim. Cosmochim. Acta. 69: 579-592.
- 34) Sivan O., Lazar B., Boaretto E., Yechieli Y. and. Herut B. (2004) Radiocarbon in porewater of continental shelf sediments (Southeast Mediterranean). Radiocarbon 46: 633-642.
- **35**) **Sivan O**., Lazar B., Yechieli Y., Boaretto E., Heinemeier J. and Herut B. (2002) ¹⁴C excess in deep-sea sediments porewater driven by diffusion Southeast Mediterranean. Limnol. Oceanogr. 47: 565-570.
- **36**) Yechieli Y., **Sivan O**., Lazar B., Vengosh A., Ronen D. and Herut B. (2001) Radiocarbon in seawater intruding into the Israeli Mediterranean coastal aquifer. Radiocarbon 43:773-781.
- 37) Sivan O., Herut B., Yechieli Y. and Lazar B. (2001) Radiocarbon dating of porewater correction for diffusion and diagenetic processes. Radiocarbon 43:765-771.
- **38)** Sivan O., Erel Y., Mandler D. and Nishri A. (1998) The dynamic redox of iron in the epilimnion of Lake Kinneret (Sea of Galilee). Geochim. Cosmochim. Acta. 62:565-576.

Tel-Aviv University

Yaron Toledo – Resume



School of Mechanical Engineering Faculty of Engineering Tel-Aviv University Birth date: 2.3.76 Tel: +972-3-6406361 E-mail: <u>toledo@tau.ac.il</u>

Education

The Technion – Israel Institute of Technology, Haifa, Israel

B.Sc. (Cum Laude), Civil Engineering, December 1998

The Technion – Israel Institute of Technology, Haifa, Israel

M.S., Civil and Environmental Engineering, September 2004

Ph.D. (direct track), Civil and Environmental Engineering, December 2008

- Dissertation title: "Refraction and Diffraction of Linear and Nonlinear Waves"
- Advisor: Prof. Yehuda Agnon

Academic Experience (Ph.D.)

The Technion – Israel Institute of Technology, Haifa, Israel

Post-doctoral researcherApr. 2009 - Dec. 2009

- A 1D stochastic quadratic nonlinear model for wave shoaling.
- A Pseudo-potential mild-slope equation model.

Technical University Darmstadt, Germany

German-Israeli Young Scientists Exchange Project Jan. 2010 - Apr. 2010 Cooperation with ISMAR-CNR, Venice, Italy

- A coupled model for circulation and surface gravity waves.
- Theory and application of modeling a desalination outlet within a circulation model.

Max Planck Institute – Minerva post-doctoral research fellow May 2010 – June 2011

- Deterministic near-shore surface gravity wave modeling.
- Wave-current interactions.
- Nonlinear wave-bottom interactions.

Wuppertal University, Germany Alexander von Humboldt post-doctoral research fellow July 2011 - June 2013

- Deterministic and stochastic near-shore surface gravity wave modeling.
- Wave interactions with shearing currents.
- Nonlinear wave-bottom interactions.
- Gravity waves in the atmosphere.

Tel-Aviv University, School of Mechanical Engineering, Israel Senior lecturer Oct 2013 -

- Deterministic and stochastic near-shore surface gravity wave modeling.
- Wave interactions with shearing currents.
- Nonlinear wave-bottom interactions.
- Oceanographic measurements using radars and ADCPs.
- wave-wind interactions.

Professional Experience (B.Sc.)

Israeli Defense Force, main construction center, Tel-Aviv, Israel

Project manager Apr. 1999 - Mar. 2000

Managing construction projects including design integration, supervision, and project budget handling.

The Technion – Israel Institute of Technology, Haifa, Israel

Research assistant (part time) Mar. 2000 - July 2001 Research projects focused on chaotic and non-chaotic nonlinear vibrations of pendulums and strings as well as thin film flows. Work responsibilities included analytical modeling using perturbation techniques and numerical modeling of the resulting differential equations.

Israeli Navy, Hydrographic branch, Tel-Aviv, Israel

R&D engineer, head of research squad Apr. 2000 - July 2003

R&D in the field of underwater acoustics, operational numerical models, oceanographic and acoustic field measurements, external instructor in the Israeli navy's academy on underwater acoustics. During the last year and a half, heading a research squad on various topics of propagation and reverberations of underwater sound.

Teaching Experience

The Technion – Israel Institute of Technology, Haifa, Israel (Tel-Aviv branch) Teaching assistant Sept. 1998 - Jan. 1999

Numerical Methods (undergraduate course, 1 semester)
 Computer laboratory tutorials including frontal teaching and classwork assistance. Sole TA of the C language group. Duties included transferring the course materials from FORTRAN

to the C computer language as well as preparing and grading homework assignments and exams.

Teaching assistant Sept. 2004 - Jan. 2009

- Statistics (undergraduate course, 4 semesters)
- Foundations of Applied Mathematics for Engineers (graduate course, 5 semesters) Tutorials in graduate and undergraduate courses. Sole TA in the graduate course. The work included preparing and grading homework assignments and exams.

Lecturer Sept. 2008 - Jan. 2009

Foundations of Applied Mathematics for Engineers, (graduate course)
 Responsible as a sole teacher on lectures and tutorials in a graduate course. The work included preparing and grading homework assignments and exams.

Department of Marine Geosciences, Haifa University, Israel

Lecturer Sept. 2009 - Jan. 2010

 Geophysical fluid dynamics, (graduate course, 1 semester) Responsible as a sole teacher on course material development, lectures and tutorials in a graduate course. The work included preparing and grading homework assignments and exams.

School of Mechanical Engineering, Tel-Aviv University, Israel

Lecturer Mar. 2014 –

- Marine Engineering, (mixed under-graduate and graduate course), Advanced topics on Sea Waves: from theory to experiment, Advanced topics on Sea Waves (graduate courses), Fluid Mechanics for Biomedical students and Fluid Mechanics 2 (under-graduate courses)
- Responsible on course material development, lectures and tutorials in a mixed undergraduate and graduate course. The work included preparing and grading homework programing projects and exams.

Academic Meetings

<u>Toledo, Y.</u> and Agnon, Y. (2006) "On uniformly accurate high-order Boussinesq participation in difference equations for water waves" WISE – Waves In Shallow Environment, Venice, scientific Italy (oral presentation)

<u>Toledo, Y.</u> and Agnon, Y. (2008) "On the complementary mild slope equation (CMSE) and its nonlinear extension" WISE – Waves In Shallow Environment, Helsinki, Finland (oral presentation)

Avni, R., <u>Toledo, Y.</u> and Agnon, Y.(2009) "Linear and nonlinear complementary mild slope equations" The 24th Int. Workshop on Waves and Floating Bodies, St. Petersburg, Russia (oral presentation)

<u>Toledo, Y.</u>, Agnon Y. and Roland A. (2010) "Nonlinear wave-bottom interactions in stochastic wave models" WISE – Waves In Shallow Environment, Brest, France (oral presentation)

<u>Toledo, Y. (</u>2011) "Two-dimensional deterministic and stochastic evolution equations for shoaling of nonlinear waves" The 26th Int. Workshop on Waves and Floating Bodies, Athens, Greece (oral presentation)

<u>Toledo, Y. (</u>2012) "Linear and nonlinear wave shoaling of directional waves" WISE – Waves In Shallow Environment, Barcelona, Spain (oral presentation, session chair)

<u>Toledo, Y.</u> and V. I. Shrira (2012) "Some theoretical advancements and improved conceptions in ocean wave shoaling and wave-current interactions" Geophysical Fluid Dynamics Symposium, Ben Gurion University, Israel (oral presentation)

<u>Toledo, Y.</u> and V. I. Shrira (2013) "Linear and nonlinear wave shoaling of directional waves" WISE – Waves In Shallow Environment, College Park, Maryland, USA (oral presentation, session chair)

<u>Toledo, Y.</u>, Groeneweg J., van Gent, M., van Nieuwkoop J. (2014) "Nonlinear broadening of near-shore wave spectra" WISE – Waves In Shallow Environment, ECMWF, Reading, UK (oral presentation, session chair)

Vrećica T., <u>Toledo Y (</u>2015) "Consistent nonlinear deterministic and stochastic evolution equations for deep to shallow water wave shoaling" WISE – Waves In Shallow Environment, Goa, India (oral presentation, session chair, organizing comity)

Quinn B., <u>Toledo Y.</u> and Shrira V. (2015) A wave action equation for water waves propagating on vertically sheared flows. EGU General Assembly, Vienna, Austria (oral presentation)

Vrećica T., <u>Toledo Y (</u>2015) "Consistent nonlinear deterministic and stochastic evolution equations for deep to shallow water wave shoaling" EGU General Assembly, Vienna, Austria (oral presentation)

<u>Toledo Y.</u>, Vrecica T., Friedland O. and Orr G. (2015) "Consistent nonlinear stochastic evolution equations for deep to shallow water wave shoaling" EastMed Symposium, Haifa, Israel

<u>Vrećica T.</u> and Toledo Y. (2016) "Nonlinear triad source term for wave forecasting models", WISE – Waves In Shallow Environment, Venice, Italy. (oral presentation)

Quinn B., <u>Toledo Y.</u> and Shrira V. (2016) "Wave Action Equation for water waves propagating on vertically sheared currents", WISE – Waves In Shallow Environment, Venice, Italy. (oral presentation, session chair, organizing comity)

<u>Quinn B.</u>, Toledo Y. and Shrira V. (2016) "Explicit wave action conservation for water waves on vertically sheared flows". EGU general assembly, Vienna, Austria. (oral presentation)

<u>Hendin G.</u> and Toledo Y. (2016) "Boundary Layer Flow Over a Moving Wavy Surface". EGU general assembly, Vienna, Austria. (poster presentation)

Vrećica T. and <u>Toledo Y. (</u>2016) "A nonlinear triad interaction source term for wave forecasting models", XXIV ICTAM, 21-26 August 2016, Montreal, Canada. (oral presentation, session co-chair)

<u>Kouskoulas D.</u> and Toledo Y. (2016) "Dispersion in non-linear wave-current interactions" Research School on Fluid Dynamics: Topics in Nonlinear Water Waves, University of Maryland, USA (poster presentation)

<u>Kouskoulas D.</u> and Toledo Y. (2016) "Dispersion in non-linear wave-current interactions" Nonlinear Waves - Theory and Applications, Beijing, China (oral presentation)

<u>Toledo Y.</u>, Vrećica T., Quinn B. and Shrira V. (2016) "Waves and currents in deep water and the nearshore region: theory, modeling and measurements". Tel-Aviv University - University of Maryland cooperation Workshop, Tel-Aviv, Israel (oral presentation)

<u>Toledo, Y.,</u> Vrecica, T., Kit, E., Sofer, R. and Yevnin, Y. (2017) Infra-gravity waves – generation and evolution. GFD days workshop, Ben-Gurion University, Sde Boker, Israel (oral presentation)

<u>Toledo, Y.,</u> Vrecica, T., Kit, E., Sofer, R. and Yevnin, Y. (2017) Infra-gravity waves – generation and evolution. Symposium in honor of Prof. Lev Shemer's 70th birthday. Tel-Aviv University, Tel-Aviv, Israel (oral presentation)

Invited talks

<u>Toledo, Y. (</u>2004) "High order Boussinesq models for internal interfacial waves" Woods Hole Oceanographic Institute, USA

<u>Toledo, Y.</u> and Agnon, Y. (2006) "Derivation of nonlinear mild-slope equations using pseudodifferential operators" Department of Civil and Environmental Eng., MIT, USA

<u>Toledo, Y.</u> and Agnon, Y. (2008) "On uniformly accurate high-order Boussinesq difference equations for water waves" Department of Earth & Planetary Sciences, The University of Tokyo, Japan

<u>Toledo, Y. (</u>2009) "Nonlinear near-shore modeling" Department of Civil and Environmental Eng., National Cheng Kung University, Taiwan

Roland, A., Zanke, U., Umgiesser, G., <u>Toledo, Y. (</u>2009) "Development of the WWMIISHYFEM coupled wave-current forecasting model" Israeli navy headquarters, Hydrographic branch, Tel-Aviv, Israel

<u>Toledo, Y.</u> and Agnon, Y. (2010) "Linear and nonlinear complementary mild slope equations" Danish Technological University, Denmark; Environmental Sciences and Energy Research, Weizmann Institute, Israel; Instituts für Wasserbau und Wasserwirtschaft, Darmstadt Tech. University, Germany; The Ring Department of Atmospheric Sciences, Hebrew University, Israel; Department of Solar Energy & Environmental Physics, Ben Gurion University, Israel; Department of Civil and Environmental Eng., National Cheng Kung University, Taiwan <u>Toledo, Y. (</u>2010) "Nonlinear near-shore wave modeling" Instituto di Sciensa Marine, Consigilo Nazionale delle Reseche, Italy

<u>Toledo, Y. (</u>2011) "Nonlinear water waves" Institute of Coastal Research, Helmholtz Center Geesthacht, Germany; Institute of Oceanography, University of Hamburg, Germany

<u>Toledo, Y. (2011)</u> "Nonlinear wave propagation in the near-shore environment" School of Naval Architecture and Marine Eng., National Tech. Univ. of Athens, Greece

<u>Toledo, Y. (2011)</u> "Nonlinear wave-bottom interactions in the near-shore environment" Atmosphere and Environment, Geosciences Department, Goethe University, Germany

<u>Toledo, Y. (2011)</u> "Two-dimensional nonlinear shoaling" Department of Mechanical Eng., The Technion, Israel; Department of Civil and Environmental Eng., The Technion, Israel; Environmental Sciences and Energy Research, Weizmann Institute, Israel; Faculty of Engineering, Tel-Aviv University, Israel; The Ring Department of Atmospheric Sciences, Hebrew University, Israel

<u>Toledo, Y. (2011)</u> "Nonlinear wave-bottom interactions in the near-shore environment" Laboratoire Saint-Venant, EDF - Recherche et Développement, France

<u>Toledo, Y.</u> and V. I. Shrira (2012) "Some theoretical advancements and improved conceptions in ocean wave shoaling and wave-current interactions" NOAA headquarters, Washington, USA; Delaware University, USA; Princeton University, USA; CICESE, Ensenada, Mexico; Faculty of Engineering, Tel-Aviv University; The Ring Department of Atmospheric Sciences, Hebrew University, Israel

<u>Toledo, Y. (</u>2012) "A parabolic equation model for oblique incident free-surface gravity waves" Danish Technological University, Denmark

<u>Toledo, Y.</u> and V. I. Shrira (2013) "Some theoretical advancements and improved conceptions in ocean wave shoaling and wave-current interactions" Faculty of Mechanical Engineering, UC Berkely, USA.

<u>Toledo, Y.</u> Third international sustainability conference, A window to the Mediterranean Sea – connecting sea beach and city (2015) "The engineer and the sea", Ashdod, Israel

<u>Toledo, Y.,</u> Vrecica, T., Kit, E., Sofer, R. and Yevnin, Y. (2017) Infra-gravity waves – generation and evolution. Hamburg University, Institute of Oceanography, Hamburg, Germany

Academic and Professional awards

Internal Grants

• Research promotion fund. 14K NIS (2016)

External Grants

2009 The German–Israeli Young Scientists Exchange Program (BMBF–MOST, grant YSEP45). 13K EUR. co-PIs: Ulrich Zanke, Aron Roland, Yehuda Agnon

2014-2016 Israel's Ministry of Science and Technology Grant. Observing and

modeling the Eastern Med. in the light of a changing world. 787K NIS. Coordinator. PIs: Pinhas Alpert, Yehuda Agnon, Hezi Gildor and Yosef Ashkenazy

- 2014-2017 Israeli Science Foundation. New-Faculty Equipment Grant no. 2042/14. A system for large-scale and continuous field measurements of surface waves, currents and vertical shear in the East Mediterranean basin. 1.1M NIS. Sole PI.
- 2014-2017 Israeli Science Foundation. Individual Research Grant no. 1940/14. Next generation surface-wave models and their verification using field measurements in the East Mediterranean basin. 1.24M NIS. Sole PI.
- 2015 MAFAT Israeli Navy, R&D support through RAMOT. 100K NIS. Sole PI.
- 2015-2017 Israel's Ministry of Science and Technology Grant. Field, theoretical and laboratory investigations of nonlinear nearshore wave interactions and their effect on harbor agitation. 630K NIS. Coordinator. PIs: Lev Shemer, Yehuda Agnon
- 2015-2017 Israel's Ministry of Energy Grant. Near real-time wave and current measurements in the Mediterranean sea. 90K NIS. Coordinator. PIs: Hezi Gildor, Eli Biton.
- 2016 MAFAT Israeli Navy, oceanographic measurement equipment contribution. 200K USD. Sole PI.
- 2016 MAFAT Israeli Navy, R&D support through RAMOT. 200K NIS. Sole PI.
- 2016 MAFAT Validation of measured surface currents in the Exclusive Economic Zone (EEZ) with a fleet of drifters. 200K NIS co-PI: Prof. Hezi Gildor

Fellowships

- The Geophysical Fluid Dynamics fellowship in the Woods Hole Oceanographic Institute (international), 2004
- Rieger fellowship (national) for excellence in environmental studies, 2004
- Max Planck Institute Minerva post-doctoral fellowship, 2010
- The Danish–Israeli Nachemsohn study foundation scholarship (travel funds for cooperation with Prof. Per Madsen, DTU), 2011
- The Alexander von Humboldt institute post-doctoral fellowship, 2011

Scholarships

- Fein scholarship (The Technion) for excellence in Ph.D. studies, 2004
- Civil and Environmental Engineering faculty scholarship for excellence in Ph.D. studies, 2005
Prizes

- The Civil and Environmental Engineering dean's undergraduate excellence notation (4 times), 1995-8
- Salti prize (national) for excellence in graduate studies, 2004
- The Technion's prize for excelle nce in teaching, 2 with honor notations for repeating achievements, 2004,2005,2006,2007
- Irmai prize (faculty) for best research in hydrodynamics Master thesis, 2006
- Irmai prize (faculty) for best research in hydrodynamics Ph.D. thesis, 2009
- Best Paper Award, Journal of Waterway, Port, Coastal, and Ocean Engineering, 2015

Postdoctoral students

- 2014-2016 Dr. Brenda Quinn, subject: wave interaction with shearing currents
- 2015- Dr. Gali Hendin, subject: wind flow above sea waves

Doctoralstudents

- 2013- Teodor Vrecica (sole adviser, approved proposal, 2016), subject: Nonlinear source terms for wave action equation models
- 2014- David Kouskoulas (sole adviser), subject: wave-current interactions
- 2015- Pavel Chernishov (co-supervisor: Prof. Lev Shemer), subject: X-band radar measurements of waves and currents
- 2016- Rotem Sofer (co-supervisor: Prof. Eliezer Kit), Wave and currents measurements in the East Med.
- 2016- Naor Naaman (sole adviser), subject: Sea surface currents and wave measurements using an oceanographic HF radar

Master

- 2015- Eyal Ginzburg (co-supervisor: Prof. Lev Shemer), subject: laboratory students measurements of wave-current interactions
- 2015- Yuval Yevnin (sole adviser), subject: A reflection source term for wave action equation models
- 2016- Oshrat Klein (sole adviser), subject: Surface gravity waves on a viscous fluid and vertically shearing flows

Yaron Toledo – List Of Publications

Stars (*) mark students

Original Articles (published)

- 1. <u>Toledo, Y.</u> and Agnon Y.On uniformly accurate high-order Boussinesq difference equations for water waves <u>Int. Journal for Numerical Methods in Fluids</u> 50(8), 925-945,2006 (IF=1.244, Q1, TC: ISI=0, GS=1)
- <u>Toledo, Y.</u> and Agnon Y.Nonlinear refraction-diffraction of water waves: the complementary mild-slope equations <u>of Fluid Mech.</u> 641, 509-520, 2009 (IF=2.383, Q1, TC: ISI=7, GS=12)
- 3. <u>Toledo, Y.</u> and Agnon Y.A Scalar Form of the Complementary Mild-Slope Equation J. of <u>Fluid Mech.</u> 656, 407-416, 2010 (IF=2.383, Q1, TC: ISI=6, GS=7)
- 4. <u>Toledo, Y.</u> and Agnon Y.Three dimensional application of the Complementary Mild-Slope Equation <u>Coastal Engineering</u>, 58(1), 1-8, 2011 (IF=2.428, Q1, TC: ISI=3, GS=6)
- 5. Manam, S.R., <u>Toledo, Y.</u> and Agnon Y.Complementary Mild-Slope Equations in two layer fluids <u>Wave Motion</u>, 48 (3), 223-234, 2011 (IF=1.513, Q2, TC: ISI=1, GS=1)
- <u>Toledo Y.</u>, Hsu T.-W. and Roland A.Extended time-dependent mild-slope and wave action equations for wave-bottom and wave-current interactions <u>Proc. of the Royal Soc.</u> A. 468, 184-205, 2012 (IF=2.192, Q1, TC: ISI=5, GS=12)
- <u>Toledo, Y.</u> and Agnon Y.Stochastic evolution equations with localized nonlinear shoaling coefficients <u>European Journal of Mechanics - B/Fluids</u>, 34, 13-18, 2012 (IF=1.656, Q1, TC: ISI=4, GS=7)
- 8. <u>Toledo, Y.</u>The oblique parabolic equation for free-surface gravity waves <u>of Fluid Mech.</u> 715, 103-133, 2013 (IF=2.383, Q1, TC: ISI=3, GS=8)
- J. Muraschko, M. Fruman, U. Achatz, S. Hickel, and <u>Y. Toledo</u> On the application of WKB theory for the simulation of weakly nonlinear dynamics of gravity waves 1 <u>Quarterly J. of</u> <u>the Royal Met. Soc.</u> doi: 10.1002/qj.2381, 22pp, 2014 (IF=3.252, Q1, TC: ISI=2, GS=6)
- J. Groeneweg, M. van Gent, J. van Nieuwkoop, and <u>Y. Toledo</u> Wave propagation into coastal systems with complex bathymetries <u>of Waterway</u>, <u>Port, Coastal</u>, <u>and Ocean</u> <u>Engng.</u> 04015003-1, 2015 (IF=0.792, Q1, TC: ISI=1, GS=3)
- Vrećica T.*, <u>Toledo Y</u>. Consistent nonlinear stochastic evolution equations for deep to shallow water wave shoaling. of Fluid Mech. 794, 310-342, 2016 (IF=2.383, Q1, TC: ISI=0, GS=0)
- Madsen P.A., Schaffer H.A., Fuhrman D.R. and <u>Toledo Y</u>. Uniform asymptotic approximations for transient waves due to an initial disturbance. of Geophysical Research - Oceans 121(1) 60-84, 2016 (IF=3.426, Q1, TC: ISI=0, GS=0)

Original Articles (Accepted)

13. Quinn B.*, <u>Toledo Y</u>. and Shrira V., Explicit wave action conservation for water waves on vertically sheared flows. Ocean Modeling (Accepted) (IF=2.927, Q1)

Original Articles (Submitted)

 Kouskoulas D.*, <u>Toledo Y.</u> Effects of dual wavenumber dispersion solutions on a nonlinear monochromatic wave-current field Coastal Engineering Journal (submitted) (IF=2.428, Q1)

Papers presented in scientific meetings published as proceedings

- 15. <u>Toledo, Y</u>. High order Boussinesq models for internal interfacial waves Geophysical Fluid Dynamics proceedings of the Woods Hole Oceanographic Institute (2004), pp. 205-226.
- Avni, R., <u>Toledo, Y.</u> and Agnon Y.Linear and Nonlinear Complementary Mild Slope Equations <u>Proceedings of the 24th International Workshop on Water Waves and Floating</u> <u>Bodies</u>, Saint Petersburg, Russia, April 2009, 22-25.
- Hsu, T.-W., Lin, T.-Y., Hwung, H.-H., <u>Toledo, Y.</u> and Roland, A. Numerical simulation of wave transformation across the surf zone over a steep bottom <u>Proceedings of the 29th</u> <u>International Conference on Ocean</u>, Offshore and Arctic Engineering, OMAE 2010, ASME , Shanghai, China, June 2010, 20974,1-6.
- 18. <u>Toledo, Y.</u>Two-dimensional deterministic and stochastic evolution equations for shoaling of nonlinear waves <u>Proceedings of the 26th International Workshop on Water Waves and Floating Bodies</u>, Athens, Greece, 2011, 189-192.
- 19. Groeneweg J., van Gent M., van Nieuwkoop J. and <u>Toledo Y. (2015)</u> On modeling of swell wave penetration into tidal inlets. <u>Coastal Engineering Proceedings</u>, 1(34), waves.10.

Abstracts

- 20. <u>Toledo, Y</u>. and Agnon, Y.On uniformly accurate high-order Boussinesq difference equations for water waves WISE Waves In Shallow Environment, Venice, Italy (2006)
- 21. <u>Toledo, Y.</u> and Agnon, Y.On the complementary mild slope equation (CMSE) and its nonlinear extension WISE Waves In Shallow Environment, Helsinki, Finland (2008)
- 22. <u>Toledo, Y.,</u> Agnon Y. and Roland A. Nonlinear wave-bottom interactions in stochastic wave models WISE Waves In Shallow Environment, Brest, France (2010)
- 23. <u>Toledo, Y.</u>Linear and nonlinear wave shoaling of directional waves WISE Waves In Shallow Environment, Barcelona, Spain (2012)
- 24. <u>Toledo, Y.</u> and V. I. Shrira Linear and nonlinear wave shoaling of directional waves WISE Waves In Shallow Environment, College Park, Maryland, USA (2013)
- 25. <u>Toledo, Y.</u>, Groeneweg J., van Gent, M., van Nieuwkoop J.Nonlinear broadening of nearshore wave spectra WISE – Waves In Shallow Environment, ECMWF, Reading, UK (2014)
- Vrećica T.*, <u>Toledo Y</u> Consistent nonlinear deterministic and stochastic evolution equations for deep to shallow water wave shoaling WISE – Waves In Shallow Environment, Goa, India (2015)
- 27. Vrećica T.*, <u>Toledo Y</u> Consistent nonlinear deterministic and stochastic evolution equations for deep to shallow water wave shoaling EGU General Assembly, Vienna, Austria (2015)
- 28. Quinn B.*, <u>Toledo Y.</u> and Shrira V.A wave action equation for water waves propagating on vertically sheared flows EGU General Assembly, Vienna, Austria (2015)

- 29. Quinn B.*, <u>Toledo Y.</u> and Shrira V. Explicit wave action conservation for water waves on vertically sheared flows EGU General Assembly, Vienna, Austria (2016)
- 30. Hendin G.* and <u>Toledo Y.</u> Boundary Layer Flow Over a Moving Wavy Surface EGU General Assembly, Vienna, Austria (2016)
- Vrećica T.*, <u>Toledo Y</u> Nonlinear triad interaction source term for wave forecasting models WISE – Waves In Shallow Environment, Venice, Italy (2016)
- 32. Quinn B.*, <u>Toledo Y.</u> and Shrira V.Explicit wave action conservation for water waves on vertically sheared flows WISE Waves In Shallow Environment, Venice, Italy (2016)
- 33. Vrećica T., <u>Toledo Y. (</u>2016) "A nonlinear triad interaction source term for wave forecasting models", XXIV ICTAM, 21-26 August 2016, Montreal, Canada.

Micha Ilan – Resume



Email: milan@post.tau.ac.il Phone: 03-6408613 Another phone: 03-6405193 Fax: 03-6407274 Website Office: Sherman - Life Sciences

Academic and professional experience

Period of study	Name of University	Department	Rank/Function
2007-2010	Tel Aviv University	Department of Zoology	Department Head
2007-	Tel Aviv University	Department of Zoology	Full Professor
2003-2007	Tel Aviv University	Department of Zoology	Associate Professor
1995-2003	Tel Aviv University	Department of Zoology	Senior Lecturer
1991-1995	Tel Aviv University	Department of Zoology	Lecturer
1980-1989	Tel Aviv University	Department of Zoology	Senior Teaching Assistant

Education

Period of study	Name of University	Subject		Degree	Date of award
1984 - 1989	Tel Aviv University	Zoology - Marine Biology		Ph.D.	1990
1981 - 1984	Tel Aviv University	Zoology - Terrestrial Ecophysiology		M.Sc.	1984 with distinction
1978 - 1981	Tel Aviv University	Biology		B.Sc.	1981
Further studies					
Period of study	Name of Universit	Ŷ	Subject	D	egree

University of California - Santa Barbara Molecular Marine Biology postdoctoral fellowship

Research Interests

Micha Ilan focuses on two main areas: phylum Porifera (sponges) and its symbiosis especially with associated microorganisms (bacteria, Archaea & fungi) and macroorganisms (algae, invertebrates, fish & turtles). He studies sponge-derived natural products via marine biotechnology and chemical ecology, evaluating the potential of metabolites for pharmaceutical purposes, antifouling paints, etc. He also studies material sciences, especially biomineralization, their ecological/physiological function, and possible production of biomimetic materials. His multidisciplinary studies cover ecology, chemistry, microbiology, biochemistry, and molecular biology, from the population, physiological and cellular, to the molecular and chemical levels.

Micha Ilan - List Of Publications

- Zovko, K. Viktorsson, P. Hååg, D. Kovalerchick, K. Färnegårdh, A. Alimonti, M. Ilan, S. Carmeli, R. M. Lewensohn (2014) Marine sponge *Cribrochalina vasculum* compounds activate intrinsic apoptotic signaling and inhibit growth factor signaling cascades in nonsmall cell lung carcinoma. Molecular Cancer Therapeutics *In Press* DOI: 10.1158/1535-7163.MCT-14-0329
- 2. B. Mayzel, M. Haber, **M. Ilan** (2014) Chemical defense against fouling in the solitary *ascidian Phallusia nigra*. Biological Bulletin *In Press*
- L. Koch, A. Lodin, I. Herold, M. Ilan, S. Carmeli, O. Yarden (2014) Sensitivity of *Neurospora crassa* to two marine-derived *Aspergillus tubingensis* anhydrides exhibiting antifungal activity that is mediated by the MAS1 protein. Marine Drugs 12:4713-4731 DOI: 10.3390/md12094713
- 4. B. Mayzel, J. Aizenberg, **M. Ilan** (2014) The elemental composition of Demospongiae from the Red Sea, Gulf of Aqaba. PLOS ONE 9:1-16 DOI: 10.1371/journal.pone.0095775
- Fuchs, Y. Aluma, M. Ilan, Y. Mastai (2014) Induced Crystallization of Amorphous Biosilica to Cristobalite by Silicatein. The Journal of Physical Chemistry B 118: 2104-2111 DOI: 10.1021/jp4114317
- A. Lavy, R. Keren, M. Haber, I. Schwartz, M. Ilan (2014) Implementing sponge physiological and genomic information to enhance the diversity of its culturable associated bacteria. FEMS Microbiology Ecology 87: 486–502 DOI: 10.1111/1574-6941.12240
- M. Haber, M. Ilan (2013) Diversity and antibacterial activity of bacteria cultured from Mediterranean Axinella spp. sponges. Journal of Applied Microbiology 116: 519-532 DOI: 10.1111/jam.12401
- 8. I. Panizel, O. Yarden, **M. Ilan**, S. Carmeli (2013) Eight new peptaibols from spongeassociated Trichoderma atroviride. Marine Drugs 11: 4937-4960 DOI: 10.3390/md11124937
- M. Wysokowski, V.V. Bazhenov, M.V. Tsurkan, R. Galli, A.L. Stelling, H. Stöcker, S. Kaiser; E. Niederschlag, G. Gärtner, T. Behm; M. Ilan, A.Y. Petrenko, T. Jesionowski, H. Ehrlich (2013) Isolation and Identification of chitin in three-dimensional skeleton of Aplysina fistularis marine sponge. International Journal of Biological Macromolecules 62: 94-100 DOI: 10.1016/j.ijbiomac.2013.08.039
- H. Ehrlich, P. Simon, M. Motylenko, M. Wysokowski, V.V. Bazhenov, R. Galli, A.L. Stelling, D. Stawski, M. Ilan, et al. (2013) Extreme Biomimetics: Formation of zirconium Dioxide nanophase using chitinous scaffolds under hydrothermal conditions. Journal of Materials Chemistry B 1: 5092-5099 DOI: 10.1039/C3TB20676A
- H. Ehrlich, O. Kaluzhnaya, E. Brunner, M. Tsurkan, A. Ereskovsky, M. Ilan, K. R. Tabachnick et al. (2013) Identification and first insights into the structure and biosynthesis of chitin from the freshwater sponge Spongilla lacustris (Linnaeus, 1759). Journal of Structural Biology 183: 474-483 DOI: 10.1016/j.jsb.2013.06.015
- H. Ehrlich, O. V. Kaluzhnaya, M. Tsurkan, A. Ereskovsky, K. R. Tabachnick, M. Ilan, A. Stelling et al. (2013) First Report on Chitinous Holdfast in Sponges (Porifera). Proceedings of the Royal Society B Lond. 280: 20130339 DOI: 10.1098/rspb.2013.0339
- 13. M. Haber, S. Shefer, A. Giordano, P. Orlando, A. Gambacorta, **M. Ilan** (2013) Fulvitalea axinellae gen. nov., sp. nov., a novel member of the family Flammeovirgaceae isolated from

the Mediterranean sponge Axinella verrucosa. International Journal of Systematic and Evolutionary Microbiology 63: 1678-1983 DOI: 10.1099/ijs.0.044263-0

- M. Haber, A. Gur, D. Blihoghe, M. Ilan (2013) Barnacle fouling in the Mediterranean sponges Axinella polypoides and A. verrucosa. Marine Ecology -An Evolutionary Perspective 34: 467– DOI: 10.1111/maec.12047
- A. Szitenberg, L. E. Becking, S. Vargas, J. C. C. Fernandez, M. Ilan, M. Kelly, G. Wörheide, N. Santodomingo, D. Huchon (2013) <u>Phylogeny of Tetillidae (Porifera, Demospongiae, Spirophorida) based on three molecular markers</u>. Molecular Phylogenetics and Evolution 67:509-519 DOI: 10.1016/j.ympev.2013.02.018
- 16. M. Haber, S. Shefer, A. Giordano, P. Orlando, A. Gambacorta, M. Ilan (2012) Fulvitalea axinellae gen. nov., sp. nov., a novel member of the family Flammeovirgaceae isolated from the Mediterranean sponge Axinella verrucosa. International Journal of Systematic and Evolutionary Microbiology in press DOI: 10.1099/ijs.0.044263-0
- M. Haber, S. Shefer, A. Giordano, P. Orlando, A. Gambacorta, M. Ilan (2013) Aureivirga marina gen. nov., sp. nov., a novel marine bacterium isolated from the Mediterranean sponge Axinella verrucosa. International Journal of Systematic and Evolutionary Microbiology 63: 1089–1095. DOI: 10.1099/ijs.0.043257-0
- M. Haber, S. Shefer, A. Giordano, P. Orlando, A. Gambacorta, M. Ilan (2013) Luteivirga sdotyamensis gen. nov., sp. nov., a novel bacterium of the phylum Bacteroidetes isolated from the Mediterranean sponge Axinella polypoides. International Journal of Systematic and Evolutionary Microbiology 63:939–945.DOI: 10.1099/ijs.0.043398-0
- F. Belinky, I. Goldfarb, A. Szitenberg, T. Feldstein, G. Wörheide, M. Ilan, D. Huchon (2012) <u>ALG11 - a New Variable DNA Marker for Sponge Phylogeny</u>. Comparison of Phylogenetic Performances with the 18S rDNA and the COI gene. Molecular Phylogenetics and Evolution 63: 702–713. DOI: 10.1016/j.ympev.2012.02.008
- S. Schmitt, P. Tsai, J. Bell, J. Fromont, M. Ilan, N. Lindquist, T. Perez, A. Rodrigo, P. J. Schupp, J. Vacelet, N. Webster, U. Hentschel, M. W. Taylor (2012) Assessing the complex sponge microbiota: core, variable and species-specific bacterial communities in marine sponges. The ISME Journal 6: 564–576. DOI:10.1038/ismej.2011.116
- E. Kapri-Pardes, A. Katz, H. Haviv, Y. Mahmoud, M. Ilan, I. Khalfin-Penigel, S. Carmeli, O. Yarden, S.J.D. Karlish (2011) Stabilization of the alfa2 isoform of Na,K-ATPase by mutations in a phospholipid binding pocket. Journal of Biological Chemistry 286: 42888–42899 DOI:10.1074/jbc.M111.293852
- O. Bergman, B. Mayzel, M. A. Anderson, M. Shpigel, R. T. Hill, M. Ilan (2011) Examination of marine-based cultivation of three demosponges for acquiring bioactive marine natural products. Marine Drugs, 9: 2201-2219 DOI:10.3390/md9112201
- E. Cohen, L. Koch, K. Myint Thu, Y. Rahamim, Y. Aluma, M. Ilan, O. Yarden, S. Carmeli. (2011) Novel terpenoids of the fungus Aspergillus insuetus isolated from the Mediterranean sponge Psammocinia sp. collected along the coast of Israel. Bioorganic & Medicinal Chemistry 19: 6587-6593. DOI:10.1016/j.bmc.2011.05.045
- O. Bergman, M. Haber, B. Mayzel, M. A. Anderson, M. Shpigel, R. T. Hill, M. Ilan (2011) Marine Based Cultivation of Diacarnus Sponges and the Bacterial Community Composition of Wild and Maricultured Sponges and Their Larvae. Marine Biotechnology 13: 1169–1182. DOI:10.1007/s10126-011-9391-6

- Y. Aluma, M. Ilan, D. Sherman (2011) Comments on a skeleton design paradigm for a demosponge. Journal of Structural Biology 175: 415–424 DOI 10.1016/j.jsb.2011.05.006
- M. Haber, M. Carbone , E. Mollo, M. Gavagnin, M. Ilan (2011) Chemical defence against predators and bacterial fouling in the Mediterranean sponges Axinella polypoides and A. verrucosa

Marine Ecology Progress Series 422: 113-122 DOI: 10.3354/meps08921

- A. Szitenberg, C. Rot, M. Ilan, D. Huchon (2010) Diversity of sponge mitochondrial introns revealed by cox 1 sequences of Tetillidae BMC Evolutionary Biology 10: 288 DOI: 10.1186/1471-2148-10-288
- H. Ehrlich, E. Steck, M. Ilan, M. et al. (2010) Three dimensional chitin-based scaffolds from Verongida sponges (Demospongiae: Porifera). Part II. Biomimetic potential and applications. International Journal of Biological Macromolecules 47: 141-145 DOI: 10.1016/j.ijbiomac.2010.05.009
- H. Ehrlich, M. Ilan, M. Maldonado, G. et al. (2010) Three dimensional chitin-based scaffolds from Verongida sponges (Demospongiae: Porifera). Part I. Isolation and Identification of Chitin. International Journal of Biological Macromolecules 47: 132-140 DOI: 10.1016/j.ijbiomac.2010.05.007
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- M. Ilan, Y. Loya, G.A. Kolbasov, I. Brickner (1999) <u>Sponge inhabiting barnacles on coral reefs</u>. Marine Biology 133: 709-716
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- M. Ilan, A. Abelson (1995) <u>The life of a sponge in a sandy lagoon</u>. Biological Bulletin, 189: 363-369
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- D. Green, I. Goldberg, Z. Stein, M. Ilan, Y. Kashman (1992) Cyanthiwigin A-D, novel cytotoxic diterpens from the sponge <u>Epipolasis reiswigi</u>. Natural Products Letters, 1: 193-199
- R. Talpir, R. Rudi, M. Ilan, Y. Kashman (1992) Niphatoxin A and B., two new ichtyo- and cytotoxic tripyridine alkaloids from a marine sponge. Tetrahedron Letters, 33: 3033-3034
- 85. M. Ilan, Y. Loya (1990) <u>Ontogenetic variation in sponge histocompatibility</u> responses. Biological Bulletin, 179: 279-286
- 86. M. Ilan, Y. Loya (1990) <u>Sexual reproduction and settlement of a coral reef sponge Chalinula</u> <u>sp. from the Red Sea.</u> Marine Biology, 105: 25-31
- A. A. Degen, B. Pinshow, M. Ilan (1990) Seasonal water flux and urine and plasma concentrations in free-living fat sand rats feeding solely on saltbush. Journal of Arid Environments, 18,: 59-66
- 88. M. Ilan, Y. Yom Tov (1990) <u>Diel activity pattern of a diurnal desert rodent Psammomys</u> <u>obesus.</u> Journal of Mammalogy, 71: 66-69
- 89. S. Carmeli, M. Ilan, Y. Kashman (1989) <u>2-amino imidazole alkaloids from the marine</u> <u>sponge Leucetta chagosensis</u>. Tetrahedron, 45: 2193-2200

Shmuel Marco – Resume



EDUCATION

Period	Name and Address of School	Subject	Degree	Date of Award
1982-1985	Hebrew University, Jerusalem	Geology	B.Sc.	1985
1988-1990	Hebrew University, Jerusalem	Geology	M.Sc.	1990
1991-1997	Hebrew University, Jerusalem	Geology	Ph.D.	1997

ACADEMIC AND PROFESSIONAL EXPERIENCE

Period	Institution	Department	Rank/Function
1976-1982	Society for the Protection of Israel (SPNI)	Elat Field Study Center	Instructor Nature in
1983-1985	Hebrew University	Geology	Research assistant
1985-1988	SPNI	Elat Field Study Center	Director
1990-1991	Stanford University	Geophysics	Visiting Scholar
1992-1993	Beit Berl College, Israel	Israel Studies	Lecturer (adjunct)
1993-1994	Geoprospect LTD, Economic and Environmental	Geology	Consultant Jerusalem, Israel
1994-1995	Tel Hay College, Israel	Technology	Lecturer (adjunct)
1994-2000	Geological Survey of Israel,	Environmental geology	Researcher
1995-2001	University of Haifa, Oranim, Israel	Biology	Lecturer (adjunct)
2000-2003	Tel Aviv University, Israel	Department of Geophysics	Lecturer and Planetary Sciences
2003-2007	Tel Aviv University, Israel	Geophysics and Planetary Sci.	Senior Lecturer
2007-2012	Tel Aviv University, Israel	Geophysics and Associate Professor Planetary Sci.	
2009-2010	Durham University, UK	Dep. Earth Sciences	Visiting Professor Since 2013
	Tel Aviv University, Israel	Geosciences	Full Proffesor & Head of Department

ACADEMIC AND PROFESSIONAL AWARDS

1989 Institute of Earth Sciences Teddy Dicker award, Jerusalem Israel.1991 The Geological Society of Israel Peretz Grader award.2007 The Geological Society of Israel Raffi Freund award.

Competitive Research Grants

Time	Funding agency	Торіс	Role	Grant
1999-2002	Binational Israel- US	Earthquake patterns	PI	150,000\$
	Science Foundation	and mechanics-Dead		
		Sea		
1998-2000	Ministry of Energy	Holocene earthquakes-	PI	10,000\$
		Dead Sea		
1999-2002	IsraelScienceFoundatio	Seismic hazard-	PI	150,000\$
	(ISF)	Northern		
2002-2004	Ministry of Paleomagnetic	Infrastructure variation	PI	20,000\$
	secular			
2003-2006	ISF	Earthquake sequences	PI	180,000\$
2006-2007	Ministry of Infrastructure	Earthquakes on the	PI	28,000\$
		Carmel Fault		
2007-2010	ISF	Long-term evolution of	CI	120,000\$
		fault branching		
2008-2011	ISF	Quantification of	PI	150,000\$
		seismite formation		
2010-2012	Ministry of Arava	Faults in the southern	PI	28 k\$
		Infrastructure		
2011-2014	ISF	Earthquake	PI	1,350 k\$
		record in the		
		Dead Sea		
		Drilling		
2012-2015	GIF	Archaeological	PI	180 k€
		Structures as Ancient		
		Seismographs		
2014-2017	ISF	Earthquake record in	PI	1,350 k\$
		the Dead Sea Drilling		
		(phase 2)		
2015-2017	Ministry of	Conditions for	PI	23 k\$
		liquefaction		

ACTIVE PARTICIPATION IN SCIENTIFIC MEETINGS

International meetings with full sponsorship by hosts, invited lectures and courses

Year	Name of Meeting	city, country	Туре
9/1994	U.S. Geological Survey: Workshop on Paleoseismology	Marshall, California, USA	Poster
4/1997	GIF: The Dead Sea Rift as a Unique Global Site	Dead Sea, Israel	Talk
10/1997	Geological Society of London: Paleomagnetism and Diagenesis in Sediments	London, UK	Talk
7/1998	European Centre for Geodynamics and Seismology: Summer School on Active Tectonics	Luxemburg	Course
1/2000	ICSU-ICL International Lithosphere Program: International Symposium and School on Active Faulting	Hokudan, Japan	Talk
7/2001	Istituto Nazionale di Geofisica e Vulcanologia	Erice, Italy	Talk
5/2004	The 1st Annual Weizmann Geodynamics Workshop "New results on fracture, faulting and brittle deformation of rocks"	Rehovot, Israel	Talk
6/2004	Archaeoseismology in the beginning of the 21 st century	Messina, Italy	Talk
7/2004	Continental Rifting, Human Dispersion and Natural Hazards	Heidelberg, Germany	Talk
7/2007	International Union of Geophysics and Geodesy (IUGG)	Perugia, Italy	Talk
12/2008	Archaeoseismology along the Dead Sea Fault	Cologn, Germany	Talk
4/2009	Institut de Physique du Globe de Paris Workshop on the Levant Fault	Paris, France	Talk
2/2010	EOST-Institut de Physique du Globe de Strasbourg (UMR 7516)	Strasbourg, France	Talk
3/2010	University College of Dublin	Dublin, Ireland	Talk
5/2010	Ecole Doctorale Geosciences conference, Montpellier Univ.	Montpellier, France	Talk
9/2010	ESF meeting on submarine paleoseismology	Obergurgl, Austria	Poster+talk
6/2012	Advanced course on archaeoseismology	Cologne University	Course
7/2013	Recent advances-Dead Sea Fault Res.	IPG-Paris	Talk
9/2014	International INQUA Meeting on Paleoseismology	Busan, Korea	Talk
11/2015	Pre-modern Architecture and the Seismic Landscape	U Penn, Philadelphia	Talk

Shmuel Marco – List of Publications – updated June 2015

- Matthews, A., Reymer, A. P. S., Avigad, D., Cochin, J., and Marco, S., 1989. Pressures and temperatures of Pan-African high grade metamorphism in the Eilat association, NE Sinai. Isr. J. Earth Sci., 38: 1-17. pdf
- 2. Braun, D., Ron, H., and Marco, S., 1991. Magnetostratigraphy of the hominid tool-bearing Erk el Ahmar formation in the northern Dead Sea Rift. Isr. J. Earth Sci., 40: 191-197. pdf
- Marco, S., Ron, H., Matthews, A., Beyth, M., and Navon, O., 1993. Chemical remanent magnetism related to the Dead Sea rift: evidence from Pan African igneous rocks of Timna, southern Israel. J. Geophys. Res., 98: 16001-16012. pdf
- 4. Marco, S., and Agnon, A., 1995. Prehistoric earthquake deformations near Masada, Dead Sea graben. Geology, 23: 695-698. pdf
- Marco, S., Stein, M., Agnon, A., and Ron, H., 1996. Long term earthquake clustering: a 50,000 year paleoseismic record in the Dead Sea Graben. J. Geophys. Res., 101: 6179-6192. pdf
- Marco, S., Agnon, A., Ellenblum, R., Eidelman, A., Basson, U., and Boas, A., 1997. 817-yearold walls offset sinistrally 2.1 m by the Dead Sea Transform, Israel. Journal of Geodynamics, 24: 11-20. pdf
- Marco, S., Ron, H., McWilliams, M. O., and Stein, M., 1998. High-Resolution Record of Geomagnetic Secular Variation from Late Pleistocene Lake Lisan Sediments (Paleo Dead Sea). Earth Planet. Sci. Lett., 161: 145-160. pdf
- 8. Ellenblum, R., Marco, S., Agnon, A., Rockwell, T., and Boas, A., 1998. Crusader castle torn apart by earthquake at dawn, 20 May 1202. Geology, 26: 303-306. pdf
- Marco, S., Ron, H., McWilliams, M. O., and Stein, M., 1999. The locking in of remanence in Late Pleistocene sediments of Lake Lisan (palaeo Dead Sea). In: Tarling, D. H. and Turner, P. (Editors), Palaeomagnetism and Diagenesis in Sediments. Geological Society, London, Special Publications, London, 151: 47-52. pdf
- Machlus, M., Enzel, Y., Goldstein, S. L., Marco, S., and Stein, M., 2000. Reconstruction of low-stands of Lake Lisan between 55 and 35 kyr. Quaternary International, 73/74: 137-144. pdf
- Ken-Tor, R., Agnon, A., Enzel, Y., Marco, S., Negendank, J. F. W., and Stein, M., 2001. Highresolution geological record of historic earthquakes in the Dead Sea basin. J. Geophys. Res., 106: 2221-2234. pdf
- Ken-Tor, R., Stein, M., Enzel, Y., Agnon, A., Marco, S., and Negendank, J. F. W., 2001. Precision of calibrated radiocarbon ages of historic earthquakes in the Dead Sea Basin. Radiocarbon, 43: 1371-1382. pdf
- Nadel, D., Belitzky, S., Boaretto, E., Carmi, I., Heinemeier, J., Werker, E., and Marco, S., 2001. New dates from submerged Late Pleistocene sediments in the southern Sea of Galilee, Israel. Radiocarbon, 43: 1167-1178. pdf
- Shaked, Y., Agnon, A., Cohen, C., Lazar, B., Marco, S., Sass, E., and Stein, M. 2002. Late Holocene shorelines at the Gulf of Elat: Migrating shorelines despite tectonic and sea level stability. EGS Stephan Mueller Special Publication Series 2:105-111. pdf

- 15. Marco, S., Weinberger, R., and Agnon, A., 2002. Radial clastic dykes formed by a salt diapir in the Dead Sea Rift, Israel. Terra Nova, 14:288-294. pdf
- 16. Marco, S., 2002, Late Pleistocene paleomagnetic secular variation from the Sea of Galilee, Israel: Geophys. Res. Letters, v. 29, p. doi:10.1029/2001GL014038. pdf
- Marco, S., Hartal, M., Hazan, N., Lev, L. and Stein, M., 2003. Archaeology, history, and geology of the 749 AD earthquake, Dead Sea Transform. Geology, 31:665-668 (DOI: 10.1130G19516.1). pdf
- 18. Marco, S., and Agnon, A., 2005. Repeated earthquake faulting revealed by high-resolution stratigraphy. Tectonophysics 408 (1-4):101-112. pdf
- Segal, Y., Marco, S. and Ellenblum, R., 2003. Intensity and direction of the geomagnetic field in 24 August, 1179 measured in Vadum Iacob (Ateret) Crusader Fortress, northern Israel. Isr. J. Earth Sci., 52:203-208. pdf
- Shaked, Y., Lazar, B., Marco, S., Stein, M., Tchernov, D. and Agnon, A., 2003. Detailed evolution of fringing reefs: space and time constraints from the Gulf of Aqaba. Coral Reefs, DOI: 10.1007s00338-004-0454-2. pdf
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- 22. Eppelbaum, L., Ben-Avraham, Z., Katz, Y. and Marco, S., 2003. Lake Kinneret: comprehensive analysis of magnetic anomalies. Isr. J. Earth Sci., 53:151-171. pdf
- 23. Hazan, N., Stein, M. and Marco, S., 2004. Lake Kinneret levels and active faulting in the Tiberias area. Isr. J. Earth Sci., 53:199-205. pdf
- Hazan, N., Stein, M., Agnon, A., Marco, S., Nadel, D., Schwab, M., Negendank, J. and Neev, D., 2005. The late Pleistocene-Holocene limnological history of Lake Kinneret (Sea of Galilee). Quaternary Research, 63:60-77. pdf
- 25. Begin, B.Z., Steinberg, D.M., Ichinose, G.A. and Marco, S., 2005. A 40,000 years unchanging seismic regime in the Dead Sea Rift. Geology, 33(4):257-260. pdf
- Marco, S., Rockwell, T.K., Heimann, A., Frieslander, U. and Agnon, A., 2005. Late Holocene slip of the Dead Sea Transform revealed in 3D palaeoseismic trenches on the Jordan Gorge segment. Earth Planet. Sci. Lett., 234(1-2): 189-205. pdf
- 27. Shtivelman, V., Marco, S., Reshef, M., Agnon, A. and Hamiel, Y., 2005. Using trapped waves for mapping shallow fault zones. Near Surface Geophysics, 3: 95-101. pdf
- Heifetz, E., Agnon, A. and Marco, S., 2005. Soft sediment deformation by Kelvin Helmholtz Instability: A case from Dead Sea earthquakes. Earth and Planetary Science Letters, 236:497-504. pdf
- 29. Michetti, A.M., Audemard, F. and Marco, S., 2005. Future trends in Paleoseismology: Integrated study of the Seismic Landscape as a vital tool in Seismic Hazard Analyses. Tectonophysics, 408 (1-4): 3-21. pdf
- Levi, T., Weinberger, R., Aifa, T., Eyal, Y. and Marco, S., 2006. Earthquake-induced clastic dikes in the Dead Sea rift detected by anisotropy of magnetic susceptibility. Geology, 34(2):69-71. pdf
- 31. Ron, H., Nowaczyk, N.R., Frank, U., Marco, S., and McWilliams, M.O., 2006, Magnetic properties of Lake Lisan and Holocene Dead Sea sediments and the fidelity of chemical and detrital remanent magnetization, in Enzel, Y., Agnon, A., and Stein, M., eds., New Frontiers

in Dead Sea Paleoenvironmental Research: Geological Society of America Special Paper 401, p. 171-182. pdf

- 32. Agnon, A., Migowski, C., and Marco, S., 2006, Intraclast breccia layers in laminated sequences: recorders of paleo-earthquakes, in Enzel, Y., Agnon, A., and Stein, M., eds., New Frontiers in Dead Sea Paleoenvironmental Research: Geological Society of America Special Paper 401. pdf
- Levi, T., Weinberger, R., Aïfa, T., Eyal, Y., and Marco, S., 2006, Injection mechanism of clayrich sediments into dikes during earthquakes: Geochemistry, Geophysics, and Geosystems, Volume 7(12) (Q12009) doi:10.1029/2006GC001410. pdf
- Filin, S., Avni, Y., Marco, S., and Baruch, A., 2006, Land degradation monitoring using airborne laser scanning: International Society for Photogrammetry and Remote Sensing Archives, v. XXXVI, p. 1-6. pdf
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Moshe Reshef – Resume



+972-544521138 moshe@luna.tau.ac.il

Education:

- 1978-1981 B.Sc, Geology, the Hebrew University of Jerusalem.
- 1981-1983 M.Sc, Geophysics, Tel-Aviv University.
- 1983-1985 Ph.D, Geophysics, Tel-Aviv University.

Professional experience:

1982-1983	- Research assistant, the Seismic Acoustics Laboratory, University of Houston. (USA)
1984-1985	- Visiting researcher, Cray Research Inc. (USA)
1986-1987 Inc. (USA)	- senior applications engineer, New Product Development group, Cray Research
1987-1988	- Research associate, Tel-Aviv University.
1987-1993	- Geophysical consultant, Cray Research Inc. (USA & Israel)
1988-1991 1991 (Canada)	- Senior researcher, Institute for Petroleum Research and Geophysics. (Israel) - Visiting researcher, development group, Inverse Theory and Applications Inc.
1991-2009 (USA & Israe	- Research consultant, R&D group, Landmark Graphics Co, a Halliburton company. el)
1992-2001	- Part-time teacher, dep. of geophysics and planetary sciences, Tel-Aviv University.
2000-2001	- Consultant, TopSpin Medical (Israel)

2001-present - Senior academic staff, dep. of geophysics and planetary sciences, Tel-Aviv University.

Areas of interest, expertise and experience:

Seismic algorithm design and development, mainly for the oil & gas industry. Solution of largescale computational problems on parallel computers. Seismic velocity analysis and inversion. Seismic imaging and modeling. Ultra-shallow seismic.

Over 25 years of major involvement in oil & gas exploration projects in Israel and abroad.

Moshe Reshef - List Of Publications

Meiler M., Reshef M. and Shulman H., 2011, Seismic depth-domain stratigraphic classification of the Golan Heights, central Dead Sea Fault: Tectonophysics, v. 510, 354-369.

Reshef, M., Lipzer, N., Dafni, R., and Landa, E., 2012, 3D post-stack interval velocity analysis with effective use of datuming: Geophysical Prospecting, v. 60, 18–28

Dafni, R. and Reshef, M., 2012, Interval velocity analysis using multiparameter common image gathers, Geophysics, v. 77, 1-10.

Lazar, M., Schattner, U. and Reshef, M., 2012, The great escape: An intra-Messinian gas system in the eastern Mediterranean, Geophysical Research Letters, v. 39

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Lellouch, A., and Reshef, M., 2017, Shallow diffraction imaging in an SH-wave crosshole configuration, Geophysics, 82, S9-S18.

Bar-Ilan University

Steve (Shlomo) Brenner – Resume



Name: Brenner, Steve: Date of birth: 18/12/1953

ACADEMIC BACKGROUND

From-To	Institute	Degree	Area of specialization
1975-1982	Massachusetts Institute of Technology	PhD	Meteorology
1971-1975	City College of New York	B.Sc.	Meteorology and physical oceanography

PREVIOUS EMPLOYMENT - begin with present position (do not include students' tutoring, memberships in scientific associations or guest lectures)

From-To	Institute	Degree	Area of specialization
2005-present	Department Geography and Environment, Bar Ilan University, Ramat Gan, Israel	Professor	Physical oceanography and meteorology
2003-2005	Department Geography and Environment, Bar Ilan University, Ramat Gan,	Associate professor	Physical oceanography and meteorology
1985-2003	National Institute of Oceanography, Israel Oceanographic and Limnological Research Ltd., Haifa Israel	Senior scientist and head of the department of physical oceanography	Physical oceanography
1980-1985	US Air Force Geophysical Laboratory, Hanscom AFB, MA, USA	Research scientist	Meteorology

GRANTS AND AWARDS: Grants and contracts the investigator has at present for this or related research subjects:

Grants and contracts the investigator has at present on other subject:

Title of project	<u>Source</u>	<u>Total grant</u>	From date Month/Year	To date Month/Year
Impact of desalination brine	Ministry of Science	1,750,000 NIS	Dec 2015	Dec 2018
Numerical simulations of the Dead Sea circulation	Geological Survey of Israel	300,000 NIS	Jan 2015	Apr 2017

Previous grants and awards received within the past three years

Title of project	<u>Source</u>	<u>Total grant</u>	From date Month/Year	To date Month/Year
Modeling of the Dead Sea circulation	Geological Survey of Israel	200,000 NIS	Nov 2013	Oct 2014

Steve (Shlomo) Brenner - List of Publications

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- 5. Brenner, S. 1988. A comparison of various numerical solutions of the hydrostatic equation. *Eighth Conference on Numerical Weather Prediction, 22-26 February, 1988, Baltimore, MD. American Meterological Society, Boston, p. 438-441.*
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- 7. Rozentroub, Z. and S. Brenner, 1990. On the relationship between eastern Med surface fluxes and precipitation in Israel. *Isr. J. Earth-Sci.*, 39, 119-124.
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- 52. Brenner, S., 2012. The circulation in the Mediterranean Sea, in: *Life in the Mediterranean Sea: A look at habitat changes*, N. Stambler (Ed.), Nova Science Publishers, pp. 99-127.
- 53. Guez, O., A. Gozolchiani, K. Yamasaki, Y. Berezin, S. Brenner, and S. Havlin, 2012. Climate network structure evolves with North Atlantic Oscillation phases. *Europhys. Lett.*, 38006, 4 pp., doi: 1029/0295-5075/98/38006.
- 54. Brenner, S. and S. Shalev-Yitzhaki, 2013. Can regional ocean models forced with global climate model surface fluxes reconstruct the present steady climate? The Mediterranean Sea example. In: *The Meditgerranean Sea: Temporal Variability and Spatial Patterns, AGU Monographs.* Under revision.
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- Brenner, S., 2014. The circulation in the Mediterranean Sea: Past, present, and future, In: *The Glory of the Sea: Stability and Change in the Aquatic Systems of Israel*, N. Stambler, T. Lotan, B. Goodman, and I. Berman-Frank (Eds.), Israel Association for Aquatic Sciences, pp. 47-58 (in Hebrew).

- 58. Malanotte-Rizzoli and the Pan-Med Group, 2014. Physical forcing and physical/biochemical variability of the Mediterranean Sea: a review of unresolved issues and directions for future research. *Ocean Sci.*, **10**, 267-279, doi:10.5194/os-10-281-2014.
- 59. Suari, Y. and S. Brenner, 2014. RGB plots as a tool for the simultaneous visualization of mutiple data layers in a two dimensional space. *PLoS ONE.*, 9(7), e102903, doi:10.1371/journal.pone.0102903.
- 60. Suari, Y. and S. Brenner, 2015. Decadal biogeochemical history of the southeast Levantine basin: Simulations of the river Nile regimes. *J. Mar. Sys.*, 148, 112-121, doi:10.1016/j.marsys.2014.02.004.
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Yishai Weinstein – Resume



Name: Yishai Weinstein Date of Birth: 30.12.1958 Place of Birth: Haifa, Israel Address: 3 Gedaliahu st., Jerusalem, Israel

EDUCATION

Year	Degree	Institution
1998	Ph.D. Geochemistry	The Hebrew University of Jerusalem
1992	M.Sc. Geochemistry	The Hebrew University of Jerusalem
1986	B.Sc. Geology	The Hebrew University of Jerusalem

Scientific Career

Year	Appointment
2013-	Associate Prof., Department of Geography & Environment, Bar-Ilan Univ.
2007-2013	Senior Lecturer, Department of Geography & Environment, Bar-Ilan Univ.
2006–2007	Visiting Researcher (Sabbatical), Scripps Institution of Oceanography, UCSD
2001-2007	Lecturer, Department of Geography, Bar-Ilan University
2000-2010	Head of Geography Department, Lifschitz Teachers Training Collegue
1998-2000	Post-Doc, Scripps Institution of Oceanography, UC San Diego
4-9.1996	Doctoral Fellow Researcher, University of Göttinngen
6-11.1994	Doctoral Fellow Researcher, University of Heidelberg
1990-2014	Lecturer, Lifschitz Teachers Training Collegue, Jerusalem
1990-1997	Graduate Fellow (M.Sc., Ph.D.), Geological Survey of Israel
1989-1997	Teaching Assistant, The Hebrew University of Jerusalem

Organizational Activities

2016-	Head of Earth Sciences and the Environment Program, Bar-Ilan University
2014-2015	President of the Israel Geological Society
2010	Ra-Rn3 Meeting organizer, March 2010, Jerusalem

1986-1989	Director of the Golan Field School, Katzrin, the Golan Heights
1981-1983	Field Guide and director of Keshet-Yehonatan Field School

Grants

<u>Year</u>	<u>Foundation</u>	<u>amount</u>
2000-2001	US-Israel Binational Science Foundation (BSF)	USD 69,000
2003-2007	US-Israel Binational Science Foundation (BSF)	USD 144,000
2004-2005	Israel Water Authority	NIS 103,454
2004-2005	Ministry of National Infrastructure	NIS 40,000
2005-2006	Ministry of National Infrastructure	NIS 74,000
2008-2012	Israel Science Foundation	NIS 784,000
2008-2009	Israel Science Foundation (conference grant)	USD 40,000
2010-2014	USAID MERC	USD 592,000
2010-2014	Israel Water Authority	NIS 350,000
2012-2015	Wolfson Foundation	BP 386,000
2014-2017	Israel Science Foundation-Bikura Program	NIS 1,086,000
2014-2018	Israel Science Foundation	NIS 1,100,000
2014-2017	Israel Water Authority	NIS 412,850

Classes taught at BIU

- Geology Intro'
- Geology of Israel
- Oceanographic fluxes (Seminar)
- Chemical Oceanography
- Volcanology (workshop)
- Groundwater (workshop)
- Israel Geology (workshop)
- Natural Hazards
- Planet Earth and the Solar System
- Geochemistry Intro'
- Groundwater hydrology

- Water between Land and the Sea
- Water in the 21st Century
- Energy Resources and the Environment
- Age determination of rocks, water and landscapes
- Lake Kinneret and watershed (workshop)
- Palaeoclimate/The Ice Ages

Cruise history

- Juan de Fuca ridge flanks (Aug 1998)
- Juan de Fuca ridge flanks and Hydrate Ridge (summer 1999, Alvin submersible)
- Southern Sea of Cortez (Nov 1998)
- Monterey Bay (Feb 2000, MBARI ROV)
- Northern California Eel River (2000)
- Bush Hills, Gulf of Mexico (summers 2002, 2003, Johnson Sea Link submersible)
- Hydrate Ridge and Juan de Fuca flanks (Aug-Sept 2014; ROPOS ROV)

Yishai Weinstein – List of Publications

Recent peer-reviewed Publications

- 1. Tal, A., **Weinsstein**, Y., Yechieli, Y. and Borisover, M. 2017, The influence of fish ponds and salinization on groundwater quality in the multi-layer coastal aquifer system in Israel, *Journal of Hydrology* (in Press).
- 2. Weinstein, Y. and Heimann, A. 2016, Spatial and Temporal Patterns in the Levant late Cenozoic volcanism, in: Enzel, Y. and Bar-Yoseph, O. (eds), Quaternary of the Levant, Chap. 5, Cambridge University Press, pp. 45-51.
- Kiro, Y., Weinstein, Y., Starinsky, A. and Yechieli, Y. 2015, Application of radon and radium isotopes to groundwater flow dynamics: an example from the Dead Sea, *Chemical Geology* 411, 155-171.
- Regenauer-Lieb, K., Rosenbaum, G., Lyakhovsky, V., Liu, J., Weinberg, R., Segev, A. and Weinstein, Y. 2015, Melt instabilities in a cold lithosphere and implications for intraplate volcanism in the Harrat Ash-Shaam volcanic field (NW Arabia), *Journal of Geophysical Research, Solid Earth* 120(3), 1543-1558.
- Rodellas, V., Garcia-Orellana1, J., Masqué, P., Feldman, M. and Weinstein, Y. 2015, Submarine Groundwater Discharge: a major source of nutrients to the Mediterranean Sea, *Proceedings* of the National Academy of Science 112(13), 3926-3930.
- 6. Shalem, Y., **Weinstein**, Y., Levi, E., Herut, B., Goldman, M. and Yechieli, Y. 2014, The extent of aquifer salinization next to an estuarine river, an example from the eastern Mediterranean, *Hydrogeology Journal* DOI 10.1007/s10040-014-1192-3.
- 7. Weinstein, Y. and Garfunkel, Z. 2014, The Dead Sea transform and the volcanism in northwestern Arabia, in: Garfunkel, Z. and Ben Avraham, Z (eds.), *The Dead Sea Transform*, Springer, pp. 91-108.
- 8. Kiro, Y., Weinstein, Y., Yechieli, Y. and Starinsky, A. 2014, The role of long-term aquifer seawater circulation in elemental mass balances: a lesson from the Dead Sea, *Earth and Planetary Science Letters* 394, 146-158.
- Weinstein, Y., Weinberger, R. and Calvert, A. 2013, High resolution ⁴⁰Ar/³⁹Ar study of Mount Avital, northern Golan: reconstructing the interaction between volcanism and a drainage system and their impact on eruptive styles, *Bulletin of Volcanology* 75, 712, doi:10.1007/s00445-013-0712-7
- Kiro, Y., Weinstein, Y., Starinsky, A. and Yechieli, Y. 2013, Groundwater ages and reaction rates during seawater circulation in the Dead Sea aquifer, *Geochimica et Cosmochimica Acta* 122, 17-35, doi: 10.1016/j.gca.2013.08.005
- 11. Weinstein, Y., 2012, Transform faults as lithospheric boundaries, an example from the Dead Sea transform, *Journal of Geodynamics 54*, 21-28, doi:10.1016/j.jog.2011.09.005.
- 12. Shalev, E., Lyakhovsky, V., **Weinstein**, Y. and Ben-Avraham, Z. 2012, The Thermal Structure of Israel and the Dead Sea Fault, *Tectonophysics* 602, 69-77, doi:10.1016/j.tecto.2012.09.011
- 13. Kiro, Y., Yechieli, Y., Voss, C., Starinsky, A. and **Weinstein**, Y. 2012, Modeling radium distribution in coastal aquifers during sea level changes: the Dead Sea case, *Geochimica et Cosmochimica Acta* 88, 237-254.

- Weinstein, Y., Yechieli, Y., Shalem, Y., Burnett, W. C., Swarzenski, P. W. and Herut, B., 2011, What is the role of Fresh Groundwater and Recirculated Seawater in conveying Nutrients to the Coastal Ocean? *Environmental Science and Technology* 45(12), 5195–5200, DOI: 10.1021/es104394r
- 15. Shaanan, U., Porat, N., Navon, O., Weinberger, R., Calvert, A. and **Weinstein**, Y., 2011, OSL dating of a Pleistocene maar: Birket Ram, the Golan heights, *Journal of Volcanology and Geothermal Research*, 201(1-4), 397-403, doi:10.1016/j.jvolgeores.2010.06.007
- Lazar, B., Weinstein, Y., Paytan, A., Magal, E., Bruce, D. and Kolodny, Y., 2008, Ra and Th adsorption coefficients in lakes – Lake Kinneret (Sea of Galilee) "natural experiment" *Geochimica et Cosmochimica Acta* 72(14), 3446-3459.
- 17. Solomon, E. A., Kastner, M., Jannasch, J., Robertson, G. and **Weinstein, Y.** 2008, Dynamic fluid flow and chemical fluxes associated with a seafloor gas hydrate deposit on the northern Gulf of Mexico slope, *Earth and Planetary Science Letters* 270(1-2), 95-105.
- 18. Weinstein, Y., Burnett, W. C., Swarzenski, P. W, Shalem, Y., Yechieli, Y., and Herut, B. 2007, The role of coastal aquifer heterogeneity in determining fresh groundwater discharge and seawater recycling: an example from the Carmel coast, Israel. *Journal of Geophysical Research* 112, C12016, doi:10.1029/2007JC004112.
- Burnett, W. C., Santos, I., Weinstein, Y., Swarzenski, P. W. and Herut, B. 2007, Remaining uncertainties in the use of Rn-222 as a quantitative tracer of submarine groundwater discharge, in: W. Sanford (ed.), A New Focus on Groundwater–Seawater Interactions, IAHS Publ. 312, 109-118, IAHS Press, Wallingford, UK.
- Weinstein, Y., Shalem, Y., Burnett, W. C., Swarzenski, P. W. and Herut, B. 2007, Temporal variability of Submarine Groundwater Discharge: assessments via radon and seep meters, the southern Carmel Coast, Israel, in: W. Sanford (ed.), A New Focus on Groundwater–Seawater Interactions, IAHS Publ. 312, 125-133, IAHS Press, Wallingford, UK.
- 21. Weinstein, Y. 2007, A transition from Strombolian to phreatomagmatic activity induced by a lava flow damming water in a valley, *Journal of Volcanology and Geothermal Research 159*, 167-284.
- 22. Weinstein, Y. and Weinberger, R. 2006, The geology and volcanological history of mount Avital, *Israel Journal of Earth Sciences 55*, 237-255.
- Swarzenski, P. W., Burnett, W. C., Greenwood, W. J., Herut, B., Peterson, R., Dimova, N., Shalem, Y., Yechieli, Y. and Weinstein, Y. 2006, Combined time-series resistivity and geochemical tracer techniques to examine submarine groundwater discharge at Dor Beach Israel, *Geophysical Research Letters 33*, L24405, doi:10.1029/2006GL028282.
- 24. Weinstein, Y., Less, G., Kafri, U. and Herut, B. 2006, Submarine Groundwater Discharge in the southeastern Mediterranean (Israel), preliminary results, *Radioactivity of the Environment 8*, 360-372.

Ilana Berman-Frank – Resume



Personal Data

Work 🛛:	035318214
Fax:	046914842
Home2:	04-6914541
E-mail:	ilana.berman-frank@biu.ac.il
Website:	http://www.ilanaberman.com

Education, Certificates and Degrees, Post-Doctorate

From-To	Institute	Area of Specialty	Degree
1990-1996	Dept of Life Sciences, Barllan University, Ramat Gan, Israel. Kinneret Limnological Laboratory of the Israel Oceanographic and Limnological Research Ltd.	Limnology, Phytoplankton Ecology	Ph.D. (1997)
1983-1987	University of California, Irvine, CA, USA	Ecology (minor in History)	B.Sc.

Doctoral Thesis: Inorganic Carbon Availability for Dinoflagellate Photosynthesis in Lake Kinneret

Supervisors: Prof. Zvy Dubinsky (Bar Ilan U.), **Prof. Jonathan Erez** (Hebrew U.), **Dr. Tamar Zohary** (Kinneret Limnological Laboratory, Israel Oceanography and Limnology Research).

Post – Doctorate Advisor: Professor Paul Falkowski, Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ, USA

Positions Held:

From- To	Institute	Research Area	Title
2011- present	The Mina & Everard Goodman Faculty of Life Sciences, Bar-Ilan University	Aquatic nitrogen fixation, carbon/nitrogen cycling , algal ecophysiology, desalination impacts	Associate Professor
	Ramat Gan, Israel		
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2012- 2013	IRD New Caledonia	Diazotrophic blooms and their fate	Visiting Professor
2007- 2011	The Mina & Everard Goodman Faculty of Life Sciences, Bar-Ilan University Ramat Gan, Israel	Aquatic nitrogen fixation, carbon/nitrogen cycling , algal ecophysiology	Senior Lecturer
2002- 2007	The Mina & Everard Goodman Faculty of Life Sciences, Bar-Ilan University Ramat Gan, Israel	Aquatic nitrogen fixation, carbon/nitrogen cycling , algal ecophysiology	Lecturer
1998- 2002	Institute of Marine and Coastal Sciences, Rutgers State University, NJ, USA	Co-evolution of Oxygenic Photosynthesis and Nitrogen Fixation in the Globally Significant Marine Cyanobacterium <i>Trichodesmium</i> spp.	Postdoctoral research associate
From- To	Institute	Research Area	Title
1999, 2000	Woodrow Wilson National Fellowship Foundation, Princeton University	Lab workshop: The roles and responses of C3 and C4 plants to global warming and increased greenhouse gases	Instructor of highschool teachers
1996- 1998	Departments of Earth and Life Sciences, Hebrew University, Jerusalem	Biogeochemistry of carbon in Lake Kinneret	Postdoctoral research associate
1993- 1998	Tel Hai Rodman Academic College, School of Sciences and Technology	Courses taught: Global Environmental Issues Scientific Writing and PresentationLimnology Algal Ecophysiology	Instructor
1990- 1993	Kinneret Limnological Laboratory	Stable carbon isotopes in the Lake Kinneret food webs	Technician

Academic Administrative Positions

From- To	Institute	Position
2013-	Chair – Education committee of the Mediterranean Sea Research Center	Chair

Present	(consortium of all Israeli universities)	
2008-	Faculty Library Committee (BIU)	Committee member
2009		
2005-	Faculty committee for graduate students (BIU)	Committee member
2010		
1993-	Tel Hai Rodman Academic College	Academic consultant,
1998	School of Sciences and Technology	Assistant to the Dean
	Responsibilities	
	Management	
	 Assisted in establishing a new academic program 	
	Planned budgets and curriculums	
	 Interviewed potential and existing personnel 	
	Coordinated set-up and infrastructure of teaching laboratories	
	Counseled new and continuing students	
	Public relations and Marketing	
	 Created and oversaw production of corporate collateral, including marketing kits, product brochures, and presentations 	
	 Organized telemarketing, conferences and orientation days 	
	 Liaison between school and environmental groups for future collaboration 	

Public Scientific Activities outside the University

From-To	Type of Activity
2016-2018	CoChair ; International Group of Aquatic Primary Productivity (GAP)
2016- Present	Chair: EcoOcean NPO Academic Committee.
2013- Present	Chair , Education Committee, MERCI (Mediterranan Sea Research Center of Israel; consortium of all Israeli Universities focusing on Mediterranean Sea research and education)
2015-2018	Editor, Aquatic Microbial Ecology
2015-2016	Member , professional advisory committee to Ministry of Energy and Infrastructure and Ministry for the Protection of the Environment (Mediterranean and Red Sea monitoring)

2013-2015	Member ASLO scientific organizing committee – Aquatic Sciences meeting Granada 2015.
2009-2012	President, Israeli Association Aquatic Sciences
2004present	Member Board of Directo rs "EcoOcean" environmental non-profit organization to promote marine research and education. Lead PI for international course by EcoOcean and Ocean Team in Italy (June 2011);
2008	Contributing editor – Aquatic Microbial Ecology
2008- 2016	Member international GAP committee (Group for Aquatic Primary Productivity)
2006-2012	Member of ASLO (Association of Limnology and Oceanography) Ethics Committee
2009	Coeditor of special volume of Aquatic Microbial Ecology <i>Progress and perspectives in aquatic primary productivity (Volume 56-2009)</i>
2009	Coeditor of special theme section of Aquatic Botany <i>Primary Production in Seagrasses</i> and Macroalgae (Volume 7 -2009)
2007-2008	Chair–Bat Sheva de Rothschild Group for Aquatic Primary Productivity Workshop, Eilat March 30-April 8, 2008
2008	Local organizing committee member International Association of Phytoplankton Taxonomy & Ecology (IAP), meeting Nov 2008, Israel
2006-2009	Board member - Israeli Association of Aquatic Sciences
From-To	OTHER Type of Activity
2014- 2015	Member Board of Directors – Kibbutz Kfar Hanassi
2010-2013	Member auditing committee, Kibbutz Kfar Hanassi,
1997	Organized public workshop on the restoration of the Hulah (reflooding project) for Tel Hai Rodman
1995-1996	Organization of weekly seminars at Kinneret Limnological Lab

1995-1998	Chairperson of local Town Planning and Development committee, Kfar Hanassi
1992-1994.	Member of Committee for Environmental Concerns, Upper Galilee Regional Council

Participation in National and International Scientific Conferences (last 5 years)

Conference	Place and Date	Title of Lecture/Poster
Gordon Research ConferenceMarine Microbes	June 2016, Girona, Spain	Invited: The role of PCD in export production in the ocean
European Desalination	May 2016, Rome, Italy	Lecture: Impacts of desalination discharges on coastal microbial populations in the eastern Mediterranean Sea.
Ocean and Evolution of Earth's Biogeochemical Cycles	April 2016, Rutgers U. USA	Invited Lecture: Falkowski's Web of Science
GIF 50 th Anniversary Celebration	Dec 2015, Berlin, Germany	Invited Lecture: Ancient cyanobacteria form new international networks via GIF
Bat Sheva de Rothschild Seminar: Environmental Science and Policy - Challenges in the South Eastern Mediterranean	November 2015 Nir Etzion, Israel	Invited lecture Sensitivity and Resilience of Marine Primary and Bacterial Productivity to Hydrocarbon Pollution
SAME14	Aug 2015, Uppsala, Sweden	Lecture : Dust to Dust: coupling export production and programmed cell death in the bloom forming <i>Trichodesmium</i>
Microalgal energy conversion: fundamentals and applications 2015	May 2015, Trebon, Czech Republic	Lecture: Sensitivity and Resilience of primary production and microbial ecology in the Levantine basin to anthropogenic drivers of change.
ASLO aquatic Sciences	February 2015, Granada Spain	Lecture: Mechanism of death determines fate of biomass - coupling export production and programmed cell death in the bloom forming <i>Trichodesmium</i>
IMBER	June 2014, Bergen, Norway	Lecture: Potential of aphotic N2 fixation

ISM	March 2014, Haifa	Invited Lecture: Role of TEP aquatic systems
Workshop - Integrating New Advances in Mediterranean Oceanography	Nov 2013, Barcelona, Spain	Invited Lecture : New players and unexpected N_2 fixation in the Mediterranean
CIESM	Oct 2013, Marseille, France	Lectures: aphotic N_2 fixation and Contribution of N_2 fixation to new production in the Mediterranean
SAME13	Sept 2013, Stresa, Italy	Invited Lecture: Stepping out from TEP
University of Santiago Chile	July 2013 Santiago Chile	Invited Lecture : Programmed Cell death and carbon export in <i>Trichodesmium</i>
Effects of gas and oil exploration in the Mediterranean offshore Israel	May 2011, U. of Haifa	Invited lecture The Role of Aquatic Science in off-shore Industrial Developments: Showcasing Sensitivity and Resilience of Marine Primary Productivity under Anthropogenic Impacts the Impact of Hydrocarbons Spills
Nutrient limitation in surface oceans	2011, Southampton , England	Workshop – invited
ASLO aquatic Sciences	2011, San Juan, Puerto Rico	Trichodesmium's strategies for thriving in the future Ocean's

Funding Sources (from 2006)

From-To	Funding Agency	Title	Amount
Jan 2016-	ISF+M.Energy+M.Environ	Impacts of desalination discharges on the coastal	1,750,000ILS
Jan 2019	ment	microbial populations of the eastern	
		Mediterranean	
Jan 2015-	Schulich Ocean Studies	Dynamics and contribution of N2 fixation to	\$150,000
Dec 2017	Initiative	"New"and "Export" Production in the Gulf of Aqaba	
Oct 2014-	ISF	Sensitivity and Resilience of primary production	1,100,000 ILS
Sept 2018		and microbial ecology to impacts	
		of expedited gas drilling in the ultraoligotrophic easte	
		Mediterranean	
Sept 2012-	Wolfson Foundation	Impacts of gas and oil drilling on primary production an	£ 772,000
2014		microbial ecology of the ultraoligotrophic eastern	

		Mediterranean –an experimental and dynamical	
		approac	
Octobor	MOST Franch Ministry of	Influence of anthronogonic pollution on tovicity of	
October		Influence of anthropogenic pollution on toxicity of	328,000 ILS
2012Sept	Science	Trichoaesmium biooms	
2014	215		100.000.5
Jan 2013-	GIF	Marine diazotrophs in face of environmental change	180,000 Euros
Dec 2016			
Feb 2012-	BMBF-MOST	Applying Metatranscriptomics to assess the impacts	200,000 euros
Feb 2015		of elevated temperatures and sea-water acidification	
		on coastal plankton populations from the eastern	
		Mediterranean and Red Seas	
Oct 2010-	Rashut Hamayim/National	Practical solutions to biofilm formation in RO	350,000 ILS
2013	Water Authority	desalination plants.	
	-		
Oct 2009	ISF	Equipment grant for IUI/Eilat	\$ 140,000
Oct 2009-	BSF	Programmed Cell Death in Trichodesmium	\$ 132,000
Oct 2012			
Oct 2008-	ISF	Eutrophication in eastern Mediterranean	\$344,422
Oct 2012			
April 2008	Bat Sheva de Rothschild	Workshop and seminar – aquatic Primary	\$40,000
	Fund/Israel Academy	Productivity (chairperson of organizing committee)	
2006-2009	BMBF-MOST	Effect of CO ₂ on aquatic nitrogen fixation	Euro 340,000
2004-2008	ISF	Nitrogen fixation in the Mediterranean	\$200,000
2004-2006	NATO Science Programme,	Controlling nitrogen-fixation in aquatic environments	Euro 22,500
	Collaborative Linkage Grant		
2006	ISF equipment grant	2-photon microscope	\$140,000

Supervision of Graduate and Post-Graduate Students

Name of Student	Degree, Years Supervised	Thesis Title
Dr. Reut	Post-doc fellow, 2013-	Environmental regulation of toxicity in
SorekAvrahamovich	present	Trichodesmium
Natasha Belkin	PhD 2012-2016	Effect of desalination outflows on coastal microbial
		communities
Yael Zubari	PhD 2014 – present (2 nd year)	Colony formation in Trichodesmium
Etai Landau	PhD 2015 – present (1 st year)	N2 fixation in the Gulf of Eilat
Dina Spungin	PhD 2013 – present (3 rd year)	Programmed Cell death pathways in Trichodesmium
Ronen Alkalai	PhD 2015 – present (1 st year) co	Export production in the eastern Mediterranean Sea
	supervisor with Y. Weinstein	
Tslil Bar	MSc – 2015-present (1 st year)	Characterizing microplankton of the eastern
		Mediterranean with <i>in-situ</i> flow cytometery
Nurit Amitai	MSc – 2015-present (1 st year)	Impact of desalination plants on phophonate utilizing
		bacteria

Liel Magnesi	MSc – 2015-present (1 st year)	Toxicity in <i>Trichodesmium</i>
Dan Miller	PhD 2010- present (in progress)	Transcriptomics of diazotrophs under eutrophication
Adi Levi	PhD 2010- 2015	Prevention of biofilm formation on RO membranes
Eyal Rahav	PhD 2009-2013	Eutrophication in eastern Mediterranean
Edo Bar Zeev	PhD 2008- 2012	TEP and biofilm formation
Itamar Avishai	MSc 2010- 2012	Programmed cell death in Trichodesmium
Sara Ohaion	MSc 2010-2012	Molecular diagnostics of controls on N ₂ fixation
Ben Brinberg	MSc 2010- 2013	Microbial ecology of subterranean estuaries of
		Mediterranean coastline.
Tali Yogev	PhD 2005-2009	Nitrogen fixation in the eastern Mediterranean
Orly Levitan	PhD 2006-2010	Effect of CO ₂ on aquatic nitrogen fixation
	(Current post-doc at Rutgers U.)	
Tamar Bsor	PhD 2006-2010	Nutrient recycling by zooplankton in Lake Kinneret
Dina Spungin	MSc 2008 -2010	P and CO ₂ influence on Trichodesmium
Natasha Belkin	MSc 2009-2012	Prevention of biofilm formation in RO desalination
	MG 2007 2000	
Max Rubin	MSc – 2007-2009	Fe uptake in <i>Trichodesmium</i>
Adi Levi	MSc – 2007-2010	Photophysiology of zooxanthellae under elevated
		temperatures.
Sami Frenk	MSc – 2006-2008	Macroalgae and nutrient uptake.
Orly Levitan	MSc 2003-2005	Influence of CO ₂ on aquatic nitrogen fixation
Chen Sherman	MSc 2003-2006	Effect of varying pH on Trichodesmium
Edo Bar Zeev	MSc 2005- 2007	Nitrogen fixation in aquatic symbiotic associations
Gad Rosenberg	MSc 2005-2007	Programmed cell death in Trichodesmium
Dovi Kelman	Post-doc 2005-2007	Natural products in Trichodesmium

Teaching Experience

Years	Course title
2003-2016	Introductory Ecology (BIU) (2nd year undergraduate)
2005-2016	Marine Photosynthesis (InterUniversity Institute of Marine Sciences in
	Eilat +BIU) (graduate+ advanced undergrad)
2004-2016	The Global Importance of Algae: from the environment to
	biotechnological applications (graduate+advanced undergrad)
2003-2016	Graduate Seminar in Environmental Sciences (BIU)
2003-2016	Undergraduate Seminar in Environmental Sciences (BIU)
2010	"Environmental Impacts know no Boundaries" – EcoOcean graduate
	workshop for marine science students (2 week course in LaSpezia, Italy
	including 1 week practical on ship)
2005-2016	Guest lecturer in various biological oceanography and marine biology
	courses (Haifa University, Tel Aviv University, IUI-Eilat)

Seagoing Experience:

Nov 2016. R/V Bat Galim. Co-Chief Scientist. Deployment of first deep moored station of south east Mediterrranean.

2012-2013. R/V Alis New Caledonia Lagoon. VAHINE Mesocosm Project. Fate of diazotrophs 2004-2016 R/V Sam Rothberg and previous research vessel. Research and teaching Cruises in the Gulf of Aqaba/Eilat

- 2005-2016 R/V MedExplorer . Chief Scientist Sampling and teaching cruises in the eastern Mediterranean (some years monthly, some seasonally)
- July 2009. R/V MedExplorer Ligurian Sea Chief Scientist. International EcoOcean Course for graduate students in Environmental Sciences. "Environmental Impacts Know No Boundaries".
- Nov-Dec 2002. R/V Alis and smaller vessels sampling in the New Caledonian Lagoon for Trichodesmium blooms
- Nov- Dec 1999 R/V Ewing. Cruise from Townsville across Coral Sea to Western Australia. Examining N2 and C fixing strategies of Trichodesmium
- 1992 1993 R/V Shikmona, Cruises in the eastern basin of the Mediterranean as PhD student of Prof.T.Zohary measuring bacterial Production in the Mediterranean
- 1990-1997: Weekly sampling cruises in Lake Kinneret

Management Experience:

- Heading national association (President -Israeli Association of Aquatic Sciences), promoting association, directing various committees, initiating activities for members and especially students, networking of organization with other organizations, NGOs, overseeing budget, marketing, web-site construction and the execution of annual conferences
- Planning, implementing, and reviewing new research and academic programs
- Designing, overseeing, and managing research programs (administrative, personnel, budgets, scientific)
- Developing and overseeing curriculum
- Interviewing and recruiting new and existing personnel
- Coordinating and setting up infrastructure of teaching laboratories
- Counseling new and continuing students
- Initiating and solidifying national and international collaborations both formal and informal
- Organization and chairing of international and national conferences.
- Fund raising for national and international conferences
- Promoting organizational collateral, including marketing kits, product brochures, websites, and presentations

Miscellaneous: Member in Professional Committees, Editor/Member of an editorial committee, etc.

Date	Membership
2008-present	International Group for Aquatic Primary Productivity
2007-present	The Oceanography Society
2003-present	Israeli Association of Aquatic Sciences (member of board 2006-2008, President 2009-2012)
2004-2012	Israeli society for Microbiology
1994-present	Association for the Sciences of Limnology and Oceanography (ASLO)
2003-2005, 2016	European Geosciences Union
1995-1997	Phycological Society of America
Date	Reviews of Scientific Papers and Scientific Proposals
2000-2016	Nature, Science, Limnology and Oceanography, Journal of Phycology, Marine Ecology Progress Series, European J. Phycology, Molecular Biology and Evolution, Journal Estuarine Coastal and Shelf Science, Geophysical Research Letters, Aquatic Microbial Ecology, J. Plankton Research, Desalination Applied Environmental Microbiology, Environmental Microbiology, Nature Geosciences, PNAS, BSF, ISF, Nature Climate Change, GIF (panel advisor – 2015, 2016), Biogeosciences, NSF, NERC

Ilana Berman-Frank – List of Publications

- 1. Berman-Frank, I., Zohary, T., Erez, J. and Dubinsky, Z. **1994**. CO2 availability, carbonic anhydrase and the annual dinoflagellate bloom in Lake Kinneret. *Limnology and Oceanography*, 39: 1822-1834. http://aslo.org/lo/toc/vol_39/issue_8/1822.pdf
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- 3. Berman-Frank, I., Kaplan, A., Zohary, T. and Dubinsky, Z. **1995**. Carbonic anhydrase activity in a natural bloom forming dinoflagellate. *Journal of Phycology*, 31: 906-913. http://onlinelibrary.wiley.com/doi/10.1111/j.0022-3646.1995.00906.x/abstract
- Berman-Frank, I. and Erez, J. **1996**. Inorganic carbon pools in the bloom forming dinoflagellate *Peridinium gatunense*. *Limnology and Oceanography*, 41: 1780-1789. http://wap.aslo.org/lo/toc/vol_41/issue_8/1780.pdf
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- Berman-Frank, I., Erez, J. and Kaplan, A. **1998**. Changes in inorganic carbon uptake during the progression of a dinoflagellate bloom in a lake ecosystem. *Canadian Journal of Botany*, 76: 1043-1051.

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Vardi, A.⁺, Berman-Frank, I.⁺, Rozenberg, T., Hadas, O., Kaplan, A. and Levine, A. **1999**. Programmed cell death of the bloom forming dinoflagellate Peridinium gatunense is mediated by CO2 limitation, oxidative stress and a conditioning factor. *Current Biology*, 9: 1061-1064. (⁺these authors contributed equally to this work).

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- 9. Dubinsky, Z. and Berman-Frank, I. **2001**. Uncoupling primary production from population growth in photosynthesizing organisms in aquatic ecosystems. *Aquatic Science*, 63: 4-17. http://link.springer.com/article/10.1007/PL00001343
- 10. Berman-Frank, I., Cullen, J.T., Shaked, Y., Sherrell, R.M. and Falkowski, P.G. **2001**. Iron availability, cellular iron-quotas, and nitrogen fixation in *Trichodesmium*. *Limnology and Oceanography*, 46(6): 1249-1260.

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- Berman-Frank, I., Lundgren, P., Chen, Y., Kupper, H., Kolber, Z., Bergman, B., and Falkowski, P.G. 2001. Segregation of nitrogen fixation and oxygenic photosynthesis in the marine cyanobacterium *Trichodesmium*. *Science*, 294: 1534-1537. http://www.sciencemag.org/content/294/5546/1534.short
- 12. Berman-Frank, I., and Falkowski, P.G. **2002**. On the evolution of N2 fixation. *Science*, 295: 799. http://www.sciencemag.org/content/295/5556/798.full

- Berman-Frank, I., Lundgren P., Falkowski P. 2003. Nitrogen fixation and photosynthetic oxygen evolution in Cyanobacteria. *Research Microbiology*, 154: 157-164. http://www.sciencedirect.com/science/article/pii/S0923250803000299
- Berman-Frank, I., Bidle, K., Haramaty, L. and Falkowski, P. 2004. The demise of the marine cyanobacterium, *Trichodesmium* spp., via an autocatalyzed cell death pathway. *Limnology and Oceanography*, 49(4):997-1005. http://aslo.org/lo/toc/vol_49/issue_4/0997.html

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- Benavides, M., Bonnet, S., Hernandez, N., Maria Martinez-Perez, A., Nieto-Cid, M., Anton Alvarez-Salgado, X., Banos, I., Montero, M.F., Mazuecos, I.P., Gasol, J.M., Osterholz, H., Dittmar, T., Berman-Frank, I., and Aristegui, J. 2016. Basin-wide N-2 fixation in the deep waters of the Mediterranean Sea. *Global Biogeochemical Cycles*, 30: 952-961 http://onlinelibrary.wiley.com/doi/10.1002/2015GB005326/full
- 70. Krom, M.D., Shi, Z., Stockdale, A., Berman-Frank, I., Giannakourou, A., Herut, B., Lagaria, A., Papageorgiou, N., Pitta, P., Psarra, S., Rahav, E., Scoullos, M., Stathopoulou, E., Tsiola A., and Tsagaraki, T.M. 2016. Response of the Eastern Mediterranean Microbial Ecosystem to Dust and Dust Affected by Acid Processing in the Atmosphere. *Frontiers in Marine Science* doi: 10.3389/fmars.2016.00133

http://journal.frontiersin.org/article/10.3389/fmars.2016.00133/full

- 71. Rahav, E., Shun-Yan, C., Cui, G., Liu, H., Tsagaraki, T. M., Giannakourou, A., Tsiola, A., Psarra, S., Lagaria, A., Mulholland, M. R., Stathopoulou, E., Paraskevi, P., Herut, B., and Berman-Frank I. 2016. Evaluating the Impact of Atmospheric Depositions on Springtime Dinitrogen Fixation in the Cretan Sea (Eastern Mediterranean)—A Mesocosm Approach. *Frontiers in Marine Science*, 10.3389/fmars.2016.00180 http://journal.frontiersin.org/article/10.3389/fmars.2016.00180/full
- 72. Guo, C., Xia, X., Pitts, P., Herut, B., Rahave, E., Berman-Frank, I., Giannakourou, A., Tsiola, A., Tsagaraki, T., and Liu, H. 2016. Shifts in microbial community structure and activity in the ultraoligotrophic Eastern Mediterranean Sea driven by Saharan Dust and European aerosol deposition. *Frontiers in Marine Science*, http://journal.frontiersin.org/article/10.3389/fmars.2016.00170/full
- 73. Hou, S., Pfreundt, U., Miller, D., Berman-Frank, I., and Hess. W.R. Accepted. mdRNA-Seq analysis of marine microbial communities. *Scientific Reports*, http://www.nature.com/articles/srep35470
- Herut, B., Rahav, E., Tsagaraki, T.M., Giannakourou, A., Tsiola, A., Psarra, S., Lagaria, A., Papageorgiou, N., Mihalopoulos, N., Theodosi, C.N., Violaki, K., Stathopoulou, E., Scoullos, M., Krom, M.D., Stockdale, A., Shi, Z., Berman-Frank, I., Meador, T.B., Tanaka, T., and Paraskevi, P. 2016. The Potential Impact of Saharan Dust and Polluted Aerosols on Microbial Populations in the East Mediterranean Sea, an Overview of a Mesocosm Experimental Approach. *Frontiers in Marine Science*, doi:

10.3389/fmars.2016.00226 http://journal.frontiersin.org/article/10.3389/fmars.2016.00226/full

- 75. Natalia Belkin, Eyal Rahav, Hila Elifantz, Nurit Kress, **Ilana Berman-Frank.** 2017. The effect of coagulants and antiscalants discharged with seawater desalination brines on coastal microbial communities: a laboratory and in situ study from the 3 southeastern Mediterranean. **Water Research.**
- Miller D., Pfreundt U., Hou S., Lott S. C., Hess W.R., Berman-Frank I. 2017. Microbial metatranscriptomes from the thermally stratified Gulf of Aqaba/Eilat during summer. In press. Marine Genomics.

Ulrike Pfreundt*, Dina Spungin*, Shengwei Hou, Björn Voss, Ilana Berman-Frank, Wolfgang R. Hess.
 2017. A marine giant bacteriophage genome family extends the known habitats of this Myoviridae lineage. Accepted. Marine Genomics (*equal contribution)

B. Books:

The Glory of the Sea: Stability and Change in the Aquatic Systems of Israel Editors: Stambler N., Lotan T., Goodman B., **Berman-Frank I.** Publisher - Israeli Association of Aquatic Sciences, 2013. ISBN. 978-965-555-670-4 **C. Chapters in Books:**

- Berman-Frank, I., Chen, Yi-bu, Gao, Y., Fennel, K., Follows, M., Milligan, A., and Falkowski P.G. 2008. Feedbacks between the Nitrogen, Carbon and Oxygen Cycles. Capone, DG, D Bronk, M Mulholland and EJ Carpenter, Eds. Nitrogen in the Marine Environment, 2nd edition. San Diego, Academic Press/ Elsevier ISBN 9780123725226.
- 2. Berman-Frank, I. and Rahav, E. 2012 Nitrogen fixation as a source for new production in the Mediterranean Sea: a review. In N. Stambler (Ed.). Life in the Mediterranean Sea. Nova Science Publishers. NY, Ch. 8, 199-226.
- **3.** Krom, M., Kress, N., **Berman-Frank, I.**, and Rahav, E. 2013. Past, present and future patterns in the nutrient chemistry of the Eastern Mediterranean. In Goffredo, S. and Dubinsky, Z. (ed.) The Mediterranean Sea: Its history and present challenges. Springer, New-York. pp. 49-68

Zvy Dubinsky – Resume



Born: October 18, 1934, Barcelona, Spain Marital Status: Married + 1 child

Educational Background

- 1956 Primary School teacher License, Oranim Teachers Training College
- 1970 B.Sc., Botany and Zoology, Bar-Ilan University, Ramat-Gan, Israel
- 1972 M.Sc. Botany, Bar-Ilan University
- 1977 Ph.D. Life Sciences, Bar-Ilan University
- 1977-78 Postdoctoral Fellow, C.U.N.Y., New York

Guest Appointments

1982-83	Research associate, Oceanography, Brookhaven National Laboratories
1989-	Research associate, Biophysics, The Rockefeller University, New York
1994	Visiting Professor, Marine Biotechnology, RCAST, Research Center for Advanced Science and Technology, Tokyo University
1998	Visiting Professor, Environmental Biotechnology, RCAST, Research Center for Advanced Science and Technology, Tokyo University
1999	Japanese Society for the Promotion of Science & Israel Association for the Promotion of International Scientific Relations, to Tokyo University
2001	Visiting Professor, CCR, Center for Collaborative Research, RCAST, Research Center for Advanced Science and Technology, Tokyo University
2001	Graduate Course, Aquatic Photosynthesis and Coral Ecology Tskuba University, Japan
2002	Coral Ecology Course: Bermuda Biological Research Station

Teaching Positions

1968-73	Plant Physiology, 3rd year biology students, Oranim.
1972-	General Ecology, 2nd year biology students, Bar-Ilan University.
1973-	Quantitative Ecology, 3rd year biology students, Bar-Ilan University.
1977-78	Microbiology, Queens College, C.U.N.Y., New York.

1978-80	Lecturer, Dept. of Life Sciences, Bar-Ilan University.
1979-	Graduate Course: Biological Problems in the Red Sea, Bar-Ilan University.
1981-1984	Senior Lecturer, Dept. of Life Sciences, Bar-Ilan University.
1985-1989	Associate Professor, Dept. of Life Sciences, Bar-Ilan University.
1986- 1990	Graduate Course: Photosynthesis, Bar-Ilan University.
1989-2004	Full Professor, Dept. of Life Sciences, Bar-Ilan University
2004	Professor Emeritus, The Mina & Everard Goodman Faculty of Life Sciences, Bar-Ilan University
2004-present	Courses Man and Biosphere, Departments of Life Sciences, Chemistry and Geography
2008-2010	Course Man and the Biosphere, Interdisciplinary Center, Herzeliyya
2011-	Head of the Program, MBA in Management of Natural Resources, Netanya Academic College, Course: Man and Biosphere.

Membership in Professional & Scientific Organizations

American Society of Limnology and Oceanography (ASLO) Group for Aquatic Primary Productivity (GAP) International Symbiosis Society International Phycological Society International Society for Reef Studies Israel Botanical Society Israel Society for Ecology and Environmental Quality Sciences Israel Society for Aquatic Sciences Japanese Society of Plant Physiologists Phycological Society of America Societas Internationalis Limnologiae (SIL)

Grants Awarded

1974, 1975	GSF, Dortmund, NCRD Israel. Combined systems for algal waste-water treatment and reclamation and protein production. (184,000 IL & 250,000 IL, respectively).
1979	United States-Israel Binational Science Foundation. Primary production of zooxanthellae in coral reefs. (241,000 IL).
1979, 1980	Bar-Ilan Research Authority. Mass culture of microalgae for chemicals (180,000 IL & 100,000 IL, respectively).

1980	Ministry of Industry, Commerce & Tourism, Israel. Potential of microalgae as a source of chemicals for industry. (800,000 IL).
1980	Israel Science Teaching Center, Hebrew University, Jerusalem. The biological significance of colour in the coral reef ecosystem. (Funds for production of 16 mm colour film ca. 500,000 IL).
1981	Israel Oceanographic and Limnological Research. Primary productivity in the Eastern Mediterranean (U.S. \$8,000).
1981-1983	United States-Israel Binational Science Foundation. Light intensity and nutrition in hermatypic corals (365,000 IS).
1985-1986	Israel Ministry of Industry, Commerce & Tourism. Production of pharmaceuticals and fine chemicals from microalgae (\$40,000).
1985-1986	United States-Israel Binational Science Foundation. Environmental effects on the regulation of Algal-Invertebrate Symbiotic Associations (\$25,500).
<mark>1987-1990</mark>	United States-Israel Binational Science Foundation. Fluxes of material and energy
1000	between coral reefs and the open sea (\$447,375).
1988	Chimicalim Le'Israel. Production of polyunsaturated fatty acids and water soluble antioxidants from microalgae. (\$50,000).
1988	Bar-Ilan Research Authority. Lipid soluble antioxidants (\$6,000).
1989	Bar-Ilan Research Authority. Production of astaxanthin from the green alga <i>Haematococcus pluvialis</i> (\$7000).
1990	Chimicalim Le'Israel. Cultivation of economically valuable microalgae (\$50,000).
1990-1993	United States-Israel Binational Science Foundation. Light utilization efficiency of reef building corals: Effects of colony morphology. (\$143,000).
1990-1993	Israel Nature Reserve Authority. Bioassay for coral well-being (\$75,000).
1990-1992	Ministry of Industry, Commerce & Tourism. Intensive cultivation of freshwater pearls
	(\$50,000).
1993-1996	(\$50,000). United States-Israel Binational Science Foundation. Characterization and mode of
1993-1996	(\$50,000). United States-Israel Binational Science Foundation. Characterization and mode of operation of "host factor" in the symbiosis between zooxanthellae and reef building corals (\$150,000).
1993-1996 1994	 (\$50,000). United States-Israel Binational Science Foundation. Characterization and mode of operation of "host factor" in the symbiosis between zooxanthellae and reef building corals (\$150,000). National Academy of Sciences and Humanities. Special Equipment Grant for acquisition of submersible spectroradiometer (\$57,000).
1993-1996 1994 1995	 (\$50,000). United States-Israel Binational Science Foundation. Characterization and mode of operation of "host factor" in the symbiosis between zooxanthellae and reef building corals (\$150,000). National Academy of Sciences and Humanities. Special Equipment Grant for acquisition of submersible spectroradiometer (\$57,000). Bar-Ilan Research Authority. Molecular biology of astaxanthin production in <i>Haematococcus pluvialis</i> (I.S.29,000).
1993-1996 1994 1995 1995	 (\$50,000). United States-Israel Binational Science Foundation. Characterization and mode of operation of "host factor" in the symbiosis between zooxanthellae and reef building corals (\$150,000). National Academy of Sciences and Humanities. Special Equipment Grant for acquisition of submersible spectroradiometer (\$57,000). Bar-Ilan Research Authority. Molecular biology of astaxanthin production in <i>Haematococcus pluvialis</i> (I.S.29,000). Ministry of the Environment and Ministry of Tourism. Development of computerized video-transect methods for monitoring the status of coral reefs in the Gulf of Elat. (\$20,000).
1993-1996 1994 1995 1995 1995-1999	 (\$50,000). United States-Israel Binational Science Foundation. Characterization and mode of operation of "host factor" in the symbiosis between zooxanthellae and reef building corals (\$150,000). National Academy of Sciences and Humanities. Special Equipment Grant for acquisition of submersible spectroradiometer (\$57,000). Bar-Ilan Research Authority. Molecular biology of astaxanthin production in <i>Haematococcus pluvialis</i> (I.S.29,000). Ministry of the Environment and Ministry of Tourism. Development of computerized video-transect methods for monitoring the status of coral reefs in the Gulf of Elat. (\$20,000). Biological, geochemical and remote sensing intercalibration for synoptic estimation of marine primary productivity: Gulf of Aqaba bloom experiment (GABE) Ministry for Science and Technology, Germany (BMFT), (D.M.100,000).
1993-1996 1994 1995 1995 1995-1999 1996	 (\$50,000). United States-Israel Binational Science Foundation. Characterization and mode of operation of "host factor" in the symbiosis between zooxanthellae and reef building corals (\$150,000). National Academy of Sciences and Humanities. Special Equipment Grant for acquisition of submersible spectroradiometer (\$57,000). Bar-Ilan Research Authority. Molecular biology of astaxanthin production in <i>Haematococcus pluvialis</i> (I.S.29,000). Ministry of the Environment and Ministry of Tourism. Development of computerized video-transect methods for monitoring the status of coral reefs in the Gulf of Elat. (\$20,000). Biological, geochemical and remote sensing intercalibration for synoptic estimation of marine primary productivity: Gulf of Aqaba bloom experiment (GABE) Ministry for Science and Technology, Germany (BMFT), (D.M.100,000). Bar-Ilan Research Authority. Photoacoustic determination of phytoplankton biomass and rate of photosynthesis, (I.S.22,000).

1997-2000	United States-Israel Binational Science Foundation. Photoacoustics as a tool in the study of phytoplankton biomass and photosynthesis (\$150,000).
1998-2003	US-AID Gulf of Aqaba Peace Park: Joint Israel-Jordan-Egypt-USA Coral Reef monitoring and Conservation Program (\$ 8000 per year)
1998	Bar-Ilan Research Authority. Coral behaviour (IS 18,000).
1999-2001	Red Sea Program (RSP) Ministry for Science and Technology, Germany (BMFT), (D.M.100,000).
1999-2002	Technion Water technologies: Development of light sources for photoacoustic phytoplankton sensor (\$ 30, 000 per year).
1999-2003	IET International Expert Team Ministry of the environment (\$ 40,000)
1999-2004	AID MERC Fast Track: Development and Implementation of Tools for Real time Monitoring and Evaluation of Coral Health in the Gulf of Aqaba (\$ 50,000)
2003-2007	Israel Science Foundation: Population genetics of the symbiotic complex: <i>Stylophora</i> <i>pistillata</i> /zooxanthellae, from the Red Sea, Gulf of Eilat (Aqaba) (\$150,000)
2003-2007	United States-Israel Binational Science Foundation: Time Resolved Photosynthesis Energy Budget Combining Photoacoustics, Fluorescence and Oxygen (\$175,000)
2006-2009	NATO The effects of dust storms on the plankton of the Gulf of Elat (Aqaba) (E 150,000).
2010-2015	ERC Advanced Award: CORALWARM Global warming effects on coral reefs (€ 3,300,000).
2010-2013	BIU: Growing Microalgae for Lipids, and converting these to Biofuel using a Solid Catalyst and Microwave Radiation (\$150, 000)
2011-2014	Israel Ministry of Ultrastructure: Biodiesel from Microalgae (NIS 766,000)
2012-2014	ERC (European Research Council) POC (Proof of Concept). Development of a diver operated photoacoustic probe on the efficiency of corals, seaweeds and seagrasses, ECHOGREEN, (€ 145,000).
2012-2014	The Israel Ministry of Science: Growing Microalgae for lipids. (\$ 175,000).
2012-2014	The Israel Ministry of Water and Energy, Development of advanced photobioreactor (NIS 1,000,000).
2014-2016	ERC (European Research Council) POC (Proof of Concept). Development of a new class of submersible field and desktop instruments based on photoacoustics for determining the bathymetric distribution of the biomass of phytoplankton, its quantum yields and photosynthetic rates. WATECCO (€ 145,000).
2014	ESA (European Space Agency) Topical Team Proposal entitled "Space bioreactor for
	marine mineralization material research" (SpaceBioMat). (€ 20,000)

Research

Geobotanical survey of the N. Amud region, Lower Galilee.

Dynamics of phytoplankton in L. Kinneret.

Energy conversion efficiencies of natural and man-made algal communities.

Biochemistry and ecological significance of algal pigments.

Ecology of desert isopods and snails and their role in the energy and nitrogen fluxes in the Negev.

Combined systems for sewage treatment and algal protein production.

The potential of microalgae as sources of fine chemicals and pharmaceuticals.

Symbiosis between microalgae and marine invertebrates.

Mechanisms and processes of photoadaptation of the photosynthetic apparatus.

Coral reef conservation.

Remote sensing of phytoplankton dynamics.

Photoacoustic determination of phytoplankton biomass and rate of photosynthesis.

Salt tolerance mechanisms in mangroves.

Production of biofuel by algae

Corals, ocean warming and calcification

The effects of microgravity on marine biomineralzation

Films

 The Tidal Clocks of Nabeq. Israel Science Teaching Center (I.S.T.C.), 1975. Awarded Executive Prize at 1976 Tokyo Festival of Scientific Films.

2. The Biology of the Sand Crab Ocypoda cursor. Educational TV, 1976.

- 3. With the Wind: Biological Effects of Sand Motility. Educational TV, 1976.
- 4. Green Meadows in the Red Sea: Symbiotic Algae in Marine Invertebrates. I.S.T.C., 1978.

Projects and Appointments

1967-1971	Development of Hebrew versions of B.S.C.S.
1969-1970	Initiation, research, co-production and photography of film: "The Tidal Clocks of
	Nabeq." Executive Prize at Tokyo Festival of Scientific Films 1976.
1970-1971	Research, co-production and photography of film about symbiotic algae in Red Sea
	invertebrates.
Nov. 1977	Research cruise with R/V Cape Henlopen, Brookhaven National Laboratory,
	Oceanography Dept.
1979.1987	Research expeditions to Red Sea coral reefs (US-Israel).
1982-	Member of International Committee, Group on Primary Productivity (GAP)
1982	Convenor, Group on Primary Productivity (GAP) of SIL, Konstanz.
1984	Convenor, Group on Primary Productivity (GAP) of SIL, Haifa, Israel.
Nov-Dec 1984	Antarctica III, cruise to Antarctic with R/V Polarstern.
1984-1990	Editor, "Coral Reef Ecosystems" Volume, for Elsevier, Holland.
1985-1987	Chairman, Israel Society for Ecology and Environmental Quality Sciences
1986-1988	National Representative on the Council of the International Association for Ecology (INTECOL)

Feb. 1987	Chairman, Organizing Committee: Bat Sheva De Rotschild Advanced Seminar: First
	Elat Symposium on Marine Symbioses.
Apr. 1988	Convenor, Group on Aquatic Primary Productivity (GAP) of SIL, L'Houmeau, France.
Aug. 1988	Coordinator, Photobiology Minisymposium, 6th International Coral Reef Symposium, Townsville, Australia.
March 1989	Convenor, United States-Israel Binational Workshop on Marine Symbioses, Elat.
1989	Member, Scientific Advisory Forum to the Minister of Environmental Quality.
1992	Consultant on conservation of Caribbean Coral Reefs for the Ministry of the Environment, Mexico
1989-1993	Chairman, Scientific Advisory Committee on the Prevention of Pollution in the Gulf of
	Elat (Red Sea), Ministry of Environmental Quality.
August 1991	Convenor, United States-Israel Binational Workshop on Nutrient Limitation in the Symbiotic Association between Zooxanthellae and Reef Building Corals, Hawaii Institute of Marine Biology.
1991-	Board of Governors, Interuniversity Institute, Elat
1992-1997	National Committee on Biotechnological Infrastructure
November 1993	Convenor United States-Israel Binational Workshop on Optical properties of Aquatic
	Photosynthetic Systems, Elat.
1993-2005	Editorial Board, Israel Journal of Plant Sciences
1994	Convenor, United States-Israel Binational Workshop on Measurement of Ultraviolet Radiation in Tropical Coastal Ecosystems, East-West Center, Honolulu, Hawaii
1994	Advisory Board, Global Change Biology (Journal)
May 1995	First Joint Eritrea-Israel Red Sea Expedition
1999-2003	Steering Committee of L. Kinneret Monitoring, Ministry of Infrastructure
1999	First IUI Seychelles Cruise
1999	International Organizing Committee GAP 99, Zurich
2000	Guest Editor; Aquatic Sciences
1999-2009	Chairman, Board of Governors, Interuniversity Institute, Elat
1999	Chairman, International Mangrove Symposium, Tokyo
1999	Guest Editor: Trees, Structure and Function
2001	Head, Scientific and Technical Team: National Water Project, The Begin-Saadat Center for Strategic Studies
2001-5	Member, National Council for environmental Quality
2001-9	National Representative of the General Assembly of SCOPE (Scientific Committee on Problems of the Environment)
2003	Guest Editor, Limnology and Oceanography
2003-5	First President, Israel Society for Aquatic Sciences
2008	Co-convenor GAP Workshop, Elat, Israel.
2008-	Editorial Board of Journal of Marine Biology
2008	International course, University of the Ryukus, Okinawa, Japan.

2013- Coral Reef Research, Specialty Chief Editor, Frontiers in Marine Science

Supervision of Graduate Students

M.Sc.

1.	Sharf David, 1983 The adaptation of the hermatypic coral <i>Stylophora pistillata</i> to various light intensities.
2.	Herzig Ronny, 1983 Breakdown of <i>Peridinium cinctum</i> biomass in Lake Kinneret.
3.	Blachman Daniel, 1983 Light intensity and temperature as growth and lipid-content controlling factors in some cultured and sewage grown algae species.
4.	Rubin Dina, 1984 Environmental factors and hydrocarbon synthesis in the alga <i>Botryococcus braunii.</i>
5.	Zigman Miriam, 1984 Environmental factors effect on growth-rate, quantity and lipid composition of <i>Isochrysis</i> galbana.
6.	Noga Stambler, 1986 The influence of environmental conditions on the relationship between <i>Anemonia sulcata</i> and its symbiotic algae.
7.	Schlosberg Michal, 1986 Environmental factors effect on fatty acid composition of some microalgae.
8.	Zlotnik Ita, 1986 Environmental effects on excretion of dissolved organic carbon (DOC) by phytoplankton.
9.	Fisher Tamar, 1987 Effect of photoadaptation on photosynthesis and growth in some microalgae.
10.	Rahav-Manor Orit, 1987 Nitrogen fluxes in the association zooxanthellae-cnidarians in Stylophora pistillata and Millepora dichotoma.
11.	Schonwald Chani (with Prof. Y. Achituv), 1988 The zooxanthellae in the hydrocoral <i>Millepora</i> dichotoma.
<mark>12.</mark>	Haramaty Liti (with Prof. Y. Achituv), 1988 Autotrophy and morphology in hermatypic corals.
13.	Katz Shlomit, 1988 On the factors determining the occurrence of picoplankton in the neritic waters of the Eastern Mediterranean.
14.	Cohen Yehuda (with Dr. Don Katcoff), 1991 The mechanisms controlling changes in levels of light-harvesting proteins in the course of photoadaptation in the microalga <i>Nannochloropsis sp.</i>
15.	Iluz David (with Prof. J. Erez), 1992
	Seasonal and spatial patterns of primary productivity in the Northern Gulf of Elat.
16.	Thieberger Yael (with Prof. Y. Achituv), 1993 Effects of nutrients on corals and their symbiotic algae.

- Eden Noa, 1996
 The effects of the "Host Factor" on excretion by symbiotic algae.
- Rotem Einat, 1996
 Light intensity effects on zooxanthellate corals.
- 19. Yehoshua Yaron (with Tamar Zohari) 1998 The dynamics of aquatic vegetation in the new extension of the Hula lake

20. Ami Bachar

- 21. Dana Sadovski
- 22. Michal Schwartzberg
- 23. Yair Suari
- 24. Yael Minai
- 25. Noam Frenkel
- 26. Shachar Koren
- 27. Itai Cohen
- 28. Kobi Gelbwiser
- 29. Amir Yamshon
- 30. Efrat Shacham
- 31. Gal Dishon
- 32. Ariel Reznik
- 33. Rotem Bechor
- 34. Yael Tzubari
- 35. Tzachi Murad
- 36. Yevgenia Shebes
- 37. Lior Klein
- 38. Raz Tamir
- 39. Raaya Hovav

Ph.D.

- Sharf David (with Prof. T. Berman) 1988
 The effects of nitrogen sources on the growth of phytoplankton in the Lake Kinneret system.
- Herzig Ronny
 The effect of light-shade adaptation on various aspects of the photosynthetic parameters and
 on energy partitioning between cyclic and non-cyclic photophosphorylation of phytoplankton
- Stambler Noga Harvesting and utilization of light by hermatypic corals

- 4. Paran Nava (with Prof. T. Berman) 1995 Ecophysiology of mixotrophic flagellates in Lake Kinneret.
- Vago Razi
 Effects of environmental disturbances of growth and settlement of reef building corals.
- 6. Berman-Frank Ilana (with Dr. T. Zohari, Prof. Y. Erez and Prof. A. Kaplan) Inorganic carbon sources of Lake Kinneret phytoplankton
- Magyar Claude (with Prof. S. Grossman) The occurrence and properties of lipoxygenase in microalgae.
- Zlotnik Ita (with Dr. A. Sukenik)
 The ecophysiology of astaxanthin biosynthesis in *Haematococcus pluvialis*.
- 9. Fisher Tamar (with Dr. D. Katcoff) Photoacclimation and light harvesting in phytoplankton
- 10. Iluz David Interactions between phytoplankton and the underwater light field in the Gulf of Elat
- 11. Malinsky-Rushansky Nechama (with Prof. T. Berman) 1999 The ecology and physiology of phototrophic picoplankton in Lake Kinneret.
- 12. Herskovitz Gitit (with Dr. D. Katcoff) Molecular biology of astaxanthin biosynthesis in *Haematococcus pluvialis*.
- 13. Katz Shlomit (with Dr. M. Friedlander) The biology of *Porphyra* in the Mediterranean
- 14. Al Qutub Muataz The seasonal distribution of nutrients in the Red Sea and the annual phytoplankton bloom
- 15. Porat Ram The ecophysiology of *Aphanizomenon ovalisporum* in Lake Kinneret and in The National Water Carrier
- 16. Perelman Alexander The environmental control of antioxidant production in algae
- 17. Sokoletsky Leonid (with Dr. M. Shoshani) The relation of the underwater light and phytoplankton pigments in the Red Sea
- Pinchasov Yulia
 Development of a multicolor light source for the photoacoustic study of phytoplankton
- 19. Yehoshua Yaron (with Prof. Gasith) Ecophysiology of Lake Kinneret epilithic algae
- 20. Levi Oren (with Prof. Achituv) Environmental control of the tentacular behaviour of reef building corals
- 21. Glassom David Reproductive ecology of Red Sea corals
- 22. Wielgus Jeoffrey (with Prof. Shechter) The economic value of coral reef health

- 23. Alster Alla Environmental effects on the germination of *Peridinium cinctum* spores in Lake Kinneret
- 24. Chomski Osnat (with Dr. Furman) Ecophysiology of the beadlet sea anemone *Actinia equina*
- 25. Zakai David (with J. Erez) The annual energy and carbon budgets of reef corals in the Red Sea
- 26. Karako Sarit (with Dr. Katkoff and Prof. Achituv) The molecular ecology of zooxanthellae in corals and its relation to bleaching episodes
- 27. Zigman Miriam The effects of photoperiod on phytoplankton photosynthesis
- Lampert Yael (with Prof. Nitzan)
 The role of bacteria associated with coral mucus in nutrient cycling
- 29. Hoffman Razi Effects of pollution on the distribution of Mediterranean seaweeds
- 30. Shimrit Ukabi The ecophysiology of *Caulerpa*

Current graduate students

- 1. Said Abu Gosh (Ph.D.)
- 2. Itai Cohen (Ph.D.), at HUJI
- 3. Moran Topf (Ph.D)
- 4. Moran Moshaiof (M.Sc.)
- 5. Hofit Admoni (M.Sc.)
- 6. Gil Davidovich (M.Sc.)
- 7. Barak Vescor (M.Sc.)
- 8. Rotem Segman (M.Sc.)
- 9. Miri Benita (M.Sc.)
- 10. Danielle Mayer
- 11. Avigail?

Zvy Dubinsky – List of Publications

Theses:

Dubinsky, Z. The influence of select environmental factors on the abundance and composition of algal populations from Lake Kinneret (Tiberias).

M.Sc., Dept. of Life Sciences, Bar-Ilan University, Ramat-Gan, Israel, 1971, 75 pp., (in Hebrew).

Dubinsky, Z. Light as an ecological factor in Lake Kinneret phytoplankton dynamics.

Ph.D., Dept. of Life Sciences, Bar-Ilan University, Ramat-Gan, Israel, 1976, 112 pp., (in Hebrew).

- Dubinsky, Z. and J. Rotem Relations between algal populations and pH of their media. *Oecologia* (Berlin) 16: 53-60 (1974).
- Dubinsky, Z. and T. Berman
 Light utilization efficiencies of phytoplankton in Lake Kinneret (Sea of Galilee).
 Limnol. Oceanogr. 21: 226-230 (1976).
- Dubinsky, Z. and M. Polna
 Pigment composition during a Peridinium bloom in Lake Kinneret (Israel)
 Hydrobiologia 51: 234-243 (1976).

4. Dubinsky, Z. and T. Berner

Combined systems for algal wastewater treatment and reclamation and protein production. Report to the Gesellschaft fur Strahlen und Umweltforschung (GSF), Dortmund, F.R. Germany, and the National Council for Research and Development (NCRD), 105 pp., 1976.

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David Iluz - Resume

Life sciences, Bar Ilan University and head of Environmental Sciences and Agriculture, Beit Berl College

Personal Data

Identity Number:	069986594
Date of Birth:	November 12, 1960
Family Status:	Married + 5
Nationality:	Israel
Home Address:	Ein Shemes 13 Ganei Tikva 5592969, Israel
Work 🖀:	972-3-5318283
Home 🖀:	972-3-6353711
Cellular 🖀:	972-52-5942512
E-mail:	iluzda@gmail.com

Higher Education

Undergraduate and Graduate Studies

From-To	Name of Institution and Department	Area of Speciality	Degree
1987-1990	Bar-Ilan University (BIU), Ramat-Gan, Israel Dept. of Life Sciences and Dept of Israel Studies and Archaeology	Botany and Zoology	B.Sc.
1990-1991	Bar-Ilan University, Dept. of Life Sciences Ramat-Gan, Israel	Botany, Marine Ecology	M.Sc.
1992-1997	Bar-Ilan University, Faculty of Life Sciences, Ramat-Gan, Israel	Life Sciences, Marine Biology	Ph.D. summa cum laude
1998	Mofet Institute, Tel Aviv, Israel	Education	Teaching license

Postdoctoral Studies

From-To	Name of Institution and Department	Area of Speciality	Degree
1999-2001	Dept. of Earth Sciences, The Hebrew University of Jerusalem, Israel Laboratory of Prof. Jonathan Erez and Prof. Boaz Luz	Radioisotope Methods in Estimation of Primary Production in the Ocean	Postdoctoral fellow

Additional Studies

Dates	Course name	Institute
June-Aug. 1994	Ultraviolet Radiation and Coral Reefs Summer program and workshop	University of Manoa, Honolulu, Hawaii
March 1995	Practical Liquid Chromatography: Introduction to HPLC.	A training course by Dr. S. Levin and Dr. Y. Tabak, Jerusalem, Israel
Jan. 1996	Practical training in flow cytometry	Prof. Daniel Valout's lab, Rosscof, France
Aug. 2003	Practical training in microsensors in biofilms in Prof. Dirk De Beer's lab	Max Planck Institute, Bremen, Germany
June-Aug. 2004	Laboratory Safety Wardens	The Institute of Safety and Hygiene, Dept. of Life Sciences, BIU, Israel
Dec. 2010	Practical training in metabolic cell system for algae and corals, OxyPAM	Walz Company(Dr. Erhard Pfuendel and Dr. Rolf Gademann), Wageningen, Netherlands

Academic Ranks and Tenure in Institutes of Higher Education

Dates	Name of Institution and Department	Position
1988-2000	Bar-Ilan University, The Youth Action Unit (guide for gifted children and seminars for high school students)	Guide, Teacher
1991-1996	Bar-Ilan University, Dept. of Life Sciences	Directory of Teaching Laboratories
1993-1999	Talpiot College, Department of Management Science	Lecturer
1995-1999	Beit Berl College, Environmental Sciences and Agriculture	Lecturer
2001-2008	Talpiot College, Department of Management Science Beit Berl College, Environmental Sciences and Agriculture	Lecturer with tenure
2001- present	Bar-Ilan University, Faculty of Life Sciences	Associate Researcher and Lecturer/Associate Instructor
2003-2013	Bar-Ilan University, Dept. of Israel Studies and Archaeology	Lecturer/Associate Instructor
2007-2010	Makor Ha' Mayanot College, Tour Guide Program	Lecturer

2007-2014	Bar-Ilan University, Dept. of Geography and Environment	Lecturer/Associate Instructor
2008- present	Bar-Ilan University, Faculty of Life Sciences, Center for Teaching Ecology Lab	Senior Lecturer and Research Assistant
2008- present	Talpiot College, Department of Management Science	Senior Lecturer with tenure
2010- present	Beit Berl College, Environmental Sciences and Agriculture	Senior Lecturer with tenure

Offices in Academic Administration

Dates	Name of Institution and Department	Position
1996- present	Talpiot College, Tour Committee	Chairman
1996- 2016	Mofet Institute, Tour Coordinators Forum	Member
2014-2015	Talpiot College, Remote Learning Leaders	Member
2012-2015	Talpiot College, Education for sustainability	Coordinator
2011- present	Beit Berl College, Department of Agriculture and Environmental Sciences	Head of Department
2008- present	Mofet Institute, Science Department Heads Forum	Member
2008- present	Talpiot College, Teaching Committee	Member
2008- present	Talpiot College, Department of Science	Head of Department
2008- present	Talpiot College, Library Committee	Member
2006- present	Bar-Ilan University, Faculty of Life Sciences	Laboratory Manager
2004- present	Talpiot College, Research Committee	Member
2015- present	Talpiot College, Advancement Committee	Member

Participation in Scientific Conferences * Since Last Promotion

Active Participation

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
1989	ASLO/AGU Annual Meeting	New Orleans <u>,</u> <u>USA</u>	Microbial features of a quasi- permanent warm-core eddy in the eastern Mediterranean.	Lecture
1991	REEFLUX. Annual Meeting of the American Society of Limnology and Oceanography (ASLO)	The H. Steinitz Marine Biology Laboratory, Eilat	Nutrient fluxes between coral reefs and the open sea.	Lecture
1991	Symbiosis on the ecosystem level: International Symbiosis Congress	Jerusalem, Israel	 The biogeochemical interactions of coral reefs with their adjacent sea. 	Lecture
			 The biogeochemical interactions of coral reefs with their adjacent sea. 	
			3. Primary production in the northern Gulf of Eilat, Red Sea	
21-24.4. 1992	Symposium on Measurement of Primary Production from the Molecular to the Global Scale, International Council for the Exploration of the Sea,	La Rochelle, France	Primary production in the northern Gulf of Eilat, Red Sea, a case study for open-sea coral-reef interaction	Poster+ Lecture
1995	The ecosystem of the Gulf of Aqaba in relation to the enhanced economic development and the peace process-II	IUI-Eilat, Israel	The biogeochemical interactions of coral reefs with their adjacent sea	Lecture
1996	6 th International Conference, Israel Society of Ecology and Environmental Sciences	Jerusalem, Israel	Seasonal reversal of cross shore gradients in the Northern Gulf of Aqaba, Red Sea	Lecture
16- 19.3.199 7	2 nd General Assembly of Red Sea Program	IUI-Eilat, Israel	Primary production in the Gulf of Eilat	Lecture

1998	The 2 nd Conference of the Federation of the Israeli Societies of Experimental Biology (FISEB)	IUI-Eilat, Israel	Underwater light field and phytoplankton distribution in the Gulf of Eilat	Poster
12-14.1. 1998		Lisbon, Portugal	The estimation of phytoplankton populations and primary productivity in oligotrophic waters	Poster
8-15.3. 1998	3 rd General Assembly of the Multidisciplinary Regional Red Sea Program on Marine Science	Max Planck Institute, Bremen, Germany	Underwater light field and Primary production in the Gulf of Eilat	Lecture
8-15.3. 1998	3 rd General Assembly of the Multidisciplinary Regional Red Sea Program on Marine Science	Max Planck Institute, Bremen, Germany	Seasonal patterns of phytoplankton primary productivity in the Gulf of Aqaba. Quantum yield of phytoplankton populations in the oligotrophic waters of the Red Sea	Poster Poster
1999	CARESS 99, 2 nd Annual Conference on Active Research by Environmental Sciences Students	Weizmann Institute of Science, Rehovot, Israel	Seasonality of primary production in the northern Gulf of Eilat, Red Sea	Lecture
17.3. 1999	Poster day, 1 st Annual Meeting	Faculty of Life Sciences, BIU, Israel	 Bio-optical in situ method for the estimation of phytoplankton concentration in the Gulf of Aqaba (Eilat) The plankton pigment algorithm in the northern Gulf of Eilat 	Poster Poster
1999	CARESS 99, Second Annual Conference on Active Research by Environmental Sciences Students	Weizmann Institute of Science, Rehovot, Israel	Estimation of phytoplankton chlorophyll concentration in the Gulf of Aqaba (Eilat) by spectral bio-optical methods	Lecture
2000	9 th International Coral Reef Symposium	Bali, Indonesia	Tentacle expansion behaviour of stony corals suggests a link to photosynthesis of its symbionts with relation to zooxanthellae densities	Lecture

2000	The Annual Conference for Environmental Education in the School System	Beit Berl College, Israel	Environmental education in the education system - scientific and educational aspects	Chair
2001	33 rd Anniversary Conference of the Interuniversity Institute	IUI-Eilat, Israel	1. Open sea – coral reef interactions	Lecture
	for Marine Sciences		2. Adaptation of an algorithm for chlorophyll, estimation by optical data in the oligotrophic Gulf of Eilat	
			3. Nutrients and oxygen dynamics in the water column of the Gulf of Aqaba, Eilat	
			4. Long-term productivity increase in the Gulf of Eilat – Aqaba based on ¹⁴ C data	
			5. Primary production of the Gulf of Aqaba based on O ₂ isotopes	
10- 12.7.200 2	Tropical Temperate Interactions. Meeting of the Australian Marine Sciences Association	Fremantle, Western Australia	Can coral reefs and mariculture coexist? A case study in the northern Gulf of Eilat (Aqaba), Red Sea	Lecture
2003	The Red Sea Marine Peace Park Conference	IUI-Eilat, Israel	Phytoplankton as trophic status indication	Lecture
6- 11.4.200 3	Geophysics Res. EGS - AGU - EUG Joint Assembly, 2003	Nice, France	Eutrophication processes in the Gulf of Eilat (Aqaba), Red Sea, and their effects on the coral reef ecosystem	Lecture
Jan. 2004	Congress of the Israeli Meteorology Society	Volcani Institute, Beit Dagan, Israel	The oasis effect in his expression an extremely hot and arid climate: The case of southern Israel	Lecture
2004	ASLO/TOS Ocean Research Conference	Manoa University, Honolulu, Hawaii	A review of chlorophyll concentration in the Gulf of Eilat (Aqaba) open waters by in situ monitoring and remote sensing derived data from the past two decades	Lecture

2004	Ocean Research Conference	BIU, Ramat- Gan, Israel	1.Recent environmental changes in the chemical-biological oceanography of the northern Gulf of Eilat (Aqaba)	Lecture
			2. A review of chlorophyll a concentration in the Gulf of Eilat (Aqaba) open waters by in situ monitoring and remote sensing derived data from the past two decades	
2005	ASLO 2005 Summer Meeting, - A Pilgrimage Through Global Aquatic Sciences	Santiago de Compostela, Spain	Recent eutrophication processes caused by caged fish farming in the northern Gulf of Eilat (Aqaba)	Lecture
2.5.2005	The Israeli Association of Aquatic Studies, The 2 nd Annual Conference	Bar-Ilan University, Ramat-Gan	The temperature effect and light intensities on biofilms of epilithic algae from Lake Kinneret	Poster
30.5-1.6. 2005	Israel Society for Ecology and Environmental Quality Sciences	Weizmann Institute of Science,	1. The Lake Kinneret epilithon: ecophysiology and function in the ecosystem	Poster
		Rehovot	2. The influence of varying pH on the nitrogen-fixing cyanobacterium <i>Trichodesmium</i> sp. IMS101	Poster
			3. Influence of manmade oasis on microclimate conditions in the desert environment, the case of the Araya Valley, couthern Israel	
			the Arava valley, southern israel	Poster
2005	The Israeli Association of	Bar-llan	Long term changes of nutrients in	Lecture
	Aquatic Studies, 2 nd Annual Conference	University, Ramat-Gan	the northern Gulf of Eilat (Aqaba)	
23.3.200 5	Congress of the Israeli Meteorology Society	Volcani Institute, Beit Dagan, Israel	The oasis effect in an extremely hot and arid climate in the Arava, Israel	Lecture

.5.2005	International Conference of the Israel Society for Ecology and Environmental Quality	Weizmann Institute of Science, Israel	The influence of varying pH on the nitrogen-fixing cyanobacterium Trichodesmium	Lecture
2006	Sciences The 6 th International Conference on Urban Climate	Gothenburg, Sweden	sp. IMS101 Seasonal behavior of a manmade oasis in an extremely hot, dry climate	Lecture
10.4.200 6	Poster exhibition, The Mina & Everard Goodman Faculty of Life Sciences	BIU, Ramat- Gan, Israel	The scarlet dye of the Holy Land	Poster
2006	The Israeli Association of Aquatic Sciences, 3 rd Annual Conference	Lake Kinneret (Sea of Galilee) Israel	The effects of nutrients and heavy metals on the intertidal macroalgal vegetation, along Israel's Mediterranean shores	Poster
31.3. 2007	Conference in memory of Prof. Y. Felix	BIU, Ramat- Gan, Israel	Innovation in research of <i>Tola'at</i> hashany	Lecture
2007	The Israeli Association of Aquatic Sciences, 4 th Annual Conference	Kfar Maccabiah, Ramat-Gan, Israel	A new Lessepsian macroalga, Galaxaura rugosa, gains control on underwater rocks in the western edges of Haifa Bay infralittoral zone	Poster
11.12. 2007	Meeting of the Israel Association for Veterinary Microbiology and Immunology	Volcani Institute, Beit Dagan, Israel	Application of <i>Pseudomonas</i> <i>aeruginosa</i> and <i>Cromobacterium</i> <i>violaceum</i> lectins in a comparative study of several mammalian milk glycan repertoires and their antipathogen adhesion potential	Lecture
2008	The Israeli Association of Aquatic Sciences, 5 th Annual Conference	Aquatic Sciences School, Michmoret, Israel	 The mysterious disappearance of <i>Halimeda tuna</i> from the Intertidal zone along the Israeli Mediterranean. Dust influence on algae culture physiology 	Poster Poster
*19.6. 2008	The 18th Conference of Judea and Samaria Research	The University Center, Ariel, Israel	Indigo production in Ein Boqeq	Lecture

*15-16.4.	The 34 th Archaeological	Avihai,	Dyes from vegetation in the	Lecture
2008	Conference in Israel	Jerusalem,	Roman period in light of the	
		Israel	antique textiles exposed in Mo'a	
*7.1.	The Biblical Crops Society of	BIU, Ramat-	Industry apparatus in Ein Boqeq;	Lecture
2008	Israel	Gan, Israel	Is it for perfume or factory for	
			Indigo production?	
*7.1.	The Biblical Crops Society of	BIU, Ramat-	Dyes of plants in the Roman	Lecture
2008	Israel	Gan, Israel	period in light of the antique	
			textile dyes are exposed in Mo`a	
*3-	The Israel Association of	Inbal Hotel,	Curdling as a common	Lecture
6.12.200	Allergy and Clinical	Jerusalem,	denominator to allergenic milk	
8	Immunology Annual Meeting	Israel	types	
*2008	The Bat Sheba de Rothschild	Ramot, Israel	Optical habitats of phytoplankton	Lecture
	Seminar on Phytoplankton in		groups and their role in the	
	The Physical Environments:		ultraphytoplankton spring	
	The 15 th Workshop of the		succession in the Gulf of Eilat	
	International Association of			
	Phytoplankton Taxonomy and			
	ECOlogy (IAP)			
*2008		Ben Gurion	The climate effect of a manmade	Lecture
		University	oasis during winter season in a	
			hyper and zone: The case of	
*25-	ASLO 2009 Aquatic Sciences	Nice, France	Bio-optical daily changes during a	Poster
30.1.200	Meeting		mini-diatom bloom in the Gulf of	
9			Aqaba (Ellat)	
*2.3.200	The Israeli Association of	Kfar	Optical habitats of phytoplankton	Poster
9	Aquatic Sciences, 6 th Annual	Maccabiah	groups and their role in the	
	Conference	Hotel, Ramat-	ultraphytoplankton spring	
		Gan, Israel	succession in the Gulf of Ellat.	
*30.3.20	16 th Torah and Science	BIU, Israel	Curdling of milk as a criterion for	Lecture
09	Conference		kashrut of animals in the Bible	
*1-	The 20 th CERF Biennial	Portland	A new red Lessepsian macroalga,	Poster
5.1.2009	Conference	Oregon, USA	Galaxaura rugosa, overtakes the	
			infralittoral zone at the western	
			edges of Haifa Bay (northern	
			Israeli Mediterranean)	

*13-	Ancient Roads	Sde Boker.	Dyes from vegetation in the	Lecture
14.5.201		Israel	Roman period in light of the	
0			antique textiles exposed in Mo'a	
*20-	The 38 th Annual Conference	Ben-Gurion	Optical habitats of phytoplankton	Poster
21/6/201	of the Israel Society of Ecology	University,	groups in the Gulf of Eilat	
0	and Environmental Sciences	Beer Sheva	(Aqaba), Northern Red Sea	
*31.8.20	11 th Conference, City of David:	City of David,	The afarcemon in land of Israel	Lecture
10	Studies of Ancient Jerusalem	Jerusalem,		
		Israel		
*11-12.4.	The Israeli Association for	Hadera Power	Pollution effects on the benthic	Lecture
2011	Aquatic Sciences, 8 th Annual	Station, Israel	intertidal algal flora along the	
	Congress	,	Israeli Mediterranean shores	
*11 17 /	The Israeli Association for	Hadera Dower	Underwater light field variation in	Loctura
2011	Aquatic Sciences 8 th Appual	Station Israel	bigh latitude coral roofs: a case	Lecture
2011	Congress		study from the Gulf of Agaba	
*27-28.6.	The 39 th Conference of the	Ein Hashofet,	The impact of sewage discharge	Lecture
2011	Israel Society of Ecology &	Megiddo,	on intertidal algae diversity along	
	Environmental Sciences	Israel	the Israeli oligothropic	
			Mediterranean	
*2012	The 9 th Annual Conference of	Kinneret, Israel	Physiological changes in the algae	Poster
	the Israeli Association for		pading payonica at a polluted	
	Aquatic Sciences (IAAS)		shore in midlittoral zone	
*13-	The 10 th Annual Conference of	Michmoret	The influence of ocean	Poster
14.3.201	the Israeli Association for	Israel	acidification on the physiology of	
3	Aquatic Sciences (IAAS)		the brown alga Padina (sp.) as a	
			model of its effects on	
			calcification processes	
*13-	The 10 th Annual Conference of	Michmoret	1. Effect of light fluctuation on	Lecture
14.3.201	the Israeli Association for	Israel	photosynthesis and xanthonhyll	
3	Aquatic Sciences (IAAS)	151 421	cycle in microalgae	
	,			
			2. Archaeological aspect of royal	
			purple industry in the	
			weatterranean beaches	
*13.6.	The 23 th Conference of Judea	The University	The Argaman textiles from	Lecture
2013	and Samaria Research	Center, Ariel	M'orabaat caves	
*16-		Canada	Microalgae to biofuels - A step	Poster
19.6.201			towards sustainability.	
3				

*29.12.2	Petyl Thek'ehelet Conference	Kfar Adomim	The Argaman textiles from	Lecture
013			M'orabaat caves	
*10.4.20	The 40 th Archaeological	Haifa	Dyes identified in archaeological	Lecture
14	Conference in Israel	University	textiles from Judean Desert caves	
*22.4. 2014	The 11th Annual Conference of the Israeli Association for Aquatic Sciences (IAAS)	Peres Center for Peace	 Ocean warming effects on zooxanthellate corals Testing the potential impacts of climate change on rocky intertidal species - effects of temperature on the physiology of top shell snails. 	Poster Poster
*12.6. 2014	The 24 th Conference of Judea and Samaria Research	The University Center, Ariel, Israel	The Argaman textiles from M'orabaat caves and other argaman sources were found in Judean Desert caves	Lecture
*31.10. 2014	The 2 nd International Workshop on Mesophotic Coral Reef Ecosystems. Red Sea, Eilat	IUI-Eilat, Israel	The light field in Gulf of Aqaba (Eilat) as influenced by spatial and seasonal dynamics and adverse events	Poster
* 29.2.201 6	Light Pollution in Aquatic Environments Workshop. National Institute of Oceanography, Israel	Oceanographic and Limnological Research Tel- Shikmona, Haifa, Israel	 Spatial distribution of light pollution in the Gulf of Eilat Flickering photosynthesis 	Lecture
*20.4. 2016	The 42 th Archaeological Conference in Israel	Tel-Aviv University, Israel	Evidence of early use of dyes from plants in Timna fabrics	Lecture

Organization of Conferences or Sessions

Date	Name of Conference	Place of	Subject of Conference /Role	Role
		Conference	at Conference/Comments	
*29.2.2016	Light Pollution in Aquatic	Oceanographic and	Part of the joint project of the	Co-
	Environments Workshop.	Limnological	Ministry of Science,	Organizer
	National Institute of	Research, Tel-	Technology & Space (with A.	
	Oceanography, Israel	Shikmona, Haifa,	Lerner, IOLR, and CE. Haspel,	
		Israel	Hebrew University)	

Participation in International Workshops and Research Cruises

Date	Place	Name of Forum
11-12.9.1989	International Workshop GAP/IOLR cruise to the Cyprus Eddy in the Eastern Mediterranean (US-Israel)	The Group for Aquatic Primary Productivity. GAP-IOLR
21-26.11.1993	BSF-IUI Workshop, Eilat	Optical Properties & Quantum Yield of Aquatic Photosynthetic Systems
8/1994	East-West Center, University of Hawaii at Manoa, Honolulu, Hawaii	Workshop on Measurement of Ultraviolet in Tropical Coastal Ecosystems
2/1994	Research cruise in the Red Sea (Israel- Egypt)	Red Sea Program
Mar 1994	Research cruise with The Group for Aquatic Primary Productivity. GAP- IOLR, International Workshop in the Eastern Mediterranean (US-Israel)	East-west transacts from Rosh Hanikra to Gaza and measurements from Kishon port to the open sea. Oceanographic, underwater light field measurements and fisheries
Sep 1995	Research cruise with GAP-IOLR, International Workshop in the Eastern Mediterranean (US-Israel) transacts from Rosh Hanikra to Gaza	East-west transacts from Rosh Hanikra to Gaza and measurements from Kishon port to the open sea. Oceanographic, underwater light field measurements and fisheries
May 1995	Three-week research cruise in Eritrea	Oceanographic, coral reefs and fisheries
Oct 1994-Oct 1995	Monthly cruises in Lake Kinneret	In-situ monitoring of water quality on the basis of light properties and photosynthesis
14-22.7.1996	Red Sea	Joint Egyptian-German-Israeli research cruise in the Red Sea
Dec 1998	Alphones, Seychelles	Research cruise with Interuniversity Institute (IUI) in the Indian Ocean, Seychelles
9-17.9.1999	University of Zurich, Switzerland	The Group for Aquatic Primary Productivity (GAP99). 7 th International Workshop: Dynamics of primary production in spatially and temporally heterogeneous aquatic environments
Dec 2000	Workshop at Bar-Ilan University taught by Prof. A.E. Walsby, University of Bristol, UK	Calculating primary production and phytoplankton growth in natural waters

Date	Place	Name of Forum
Apr 2001	Mid-term Review Committee Formal Meeting, Eilat, Israel. Joint International Presentations, Aqaba, Jordan	Red Sea Marine Peace Park Cooperative Research, Monitoring and Management Program (RSMPP)
*30.3-8.4.2008	The Group for Aquatic Primary Productivity (GAP-Eilat 2008) 8 th International Workshop International seminar and workshop, Eilat, Israel	Gross and Net Primary Production: Closing the Gap between Concepts and Measurements Coordinator of the open sea group
*5-15.6. 2012	Joint research - Bar-Ilan University (Israel) and Bologna University (Italy) in Panarea (Sicilia)	The effect of pH on corals and macroalgae physiology

Invited Lectures/Colloquium Talks

Date	Place of Lecture	Name of Forum	Presentation/Comments
May 1999	Dept. of Earth Sciences, The Hebrew University	The light field, phytoplankton pigmentation and productivity in the Gulf of Eilat	Colloquium Talk
2006	Nato- Belgic	SfP	Invited Lecture for proposal presentation
Jun 2007	IUI-Eilat, Israel	A research vessel project course: Underwater light field and primary production	Invited Lecture
*11-15.10.2009	Koret School of Veterinary Medicine, The Robert H. Smith faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem	ESHMOR WORKSHOP (New techniques in the study of interdisciplinary cultural heritage). Non-destructive methods to study pigments in textiles	Invited Lecture
*Oct 2010	Jordan	Nato-SfP	Invited Lecture, summarize the Nato projects in the Red Sea

Date	Place of Lecture	Name of Forum	Presentation/Comments
*Sep 2012	Talpiot College, Holon Faculty Evaluation Conference for the start of the academic year	Curdling milk as indicator for kosher mammals	Invited Lecture
*Apr 2013	Department of Archaeology and ANE Cultures, Tel Aviv University	Conservation of biodiversity in a modern development accelerated	Invited Lecture
*21.5.2013	Talpiot College, Holon Conference - Research in the College of Education	Thek'helet research as a case study for observing leading change	Invited Lecture
*29.3.2015	Beit Berl College The 15 th Conference of Environmental Education; Sustainable, Pedagogy and Significant Education	Artificial aquatic pool as a model for out-of-class learning	Invited Lecture
*29.4.2015	Hebrew University - Hadassah Medical School, the History of Medicine	The Persimmon from Jericho and Ein-Gedi and its medicinal uses	Colloquium Talk
*3.4.2017	Beit Berl College The 17 th Conference of Environmental Education; The hot story of the world. The Climate Changes and us.	The future of coral reefs in light of the Climate Changes	Invited lecture
*30.4.2017	Faculty of life sciences, Bar Ilan University	Curdling milk as indicator for kosher mammals	Invited lecture

Research Grants

Grants Awarded

Role in Research	Co-Researchers	Торіс	Funding Agency/ Amount	Years
PI		The Lake Kinneret epilithon: ecophysiology and function in the ecosystem	Beit Berl College, NIS 24,000	1999-2000
PI		The environmental and intrinsic controls of the tentacular expansion/contraction behavior of corals	Beit Berl College, NIS 12,000	2001
Ы	D. Kadis, D. Goldman, O. Potchter	Oasis effect in Arava area	Beit Berl College, NIS 96,000	2003-2005
PI		Ancient textile pigments in Moaa	Kusichki Fund, NIS 3,000	2004
PI		The fish farm influence on the Gulf of Aqaba ecosystem	Mofet Institute, NIS 12,000	2004
PI		Primary production method for environmental pollution detection in the Gulf of Eilat	Beit Berl College, NIS 22,000	2004
PI		Development of a non-destructive method for identification of ancient textile pigments	Kusichki Fund, NIS 9,000	2005-2006
PI	N. Steinberg	Nitrogen content in road plants	Beit Berl College, NIS 12,000	2005
PI	D. Kadis, D. Goldman, O. Potchter	Student combination in research on oasis effect in arid zones	Mofet Institute, NIS 30,000	2006
PI		Non-destructive method for identifying antique textile dyes	Beit Berl College, NIS 24,000	2006-2007
PI	T. al Najjar (Jordan); D. Ediger (Turkey)	The protection of the Gulf of Aqaba from anthropogenic and natural stress during global climate change	NATO, Euro 264,000	*2007-2011

Role in Research	Co-Researchers	Торіс	Funding Agency/ Amount	Years
PI		Antique dye textiles from MOA site	Mofet Institute, NIS 12,000	*2008
PI		Biochemical methods to identify cereals	Kusichki Fund, NIS 3000	*2008
PI		Antique dyes textiles from MOA site	Kusichki Fund, NIS 3000	*2009
PI		Non-destructive method for identifying antique textiles dyes	Mofet Institute, NIS 12,000	*2009
PI		Antique dyes textiles from Bar Kochva caves	Kusichki Fund, NIS 3000	*2011
PI		Antioxidants in Commiphora gileadensis	Beit Berl College, NIS 25,000	*2013
Co-PI	Z. Dubinsky, J. Erez, Y. Mastai, D. Omri (BIU-Israel). S. Goffredo, G. Falini, Alma Mater Studiorum (Univ. of Bologna, Italy). J. Kaandorp (Univ. of Amsterdam, Netherlands)	Topical Team Proposal entitled Space bioreactor for marine mineralization material research (SpaceBioMat).	European Space Agency (ESA), Euro 20,000	*2014-2015
PI	A. Lerner, IOLR, and CE. Haspel, Hebrew University	Penetration of light pollution from infrastructure installations into the ocean and its effect on animal vision and distribution	Ministry of Science, Technology & Space. NIS 660,000	*2014-2017
PI		Antioxidants in Commiphora gileadensis	Talpiot College, NIS 12000	*2015
PI	Banet Gabi (Arava Center)	Microalgae as a source of heat for biodiesel production amateur: development processes and genetic improvement technology on productivity	Ministry of Energy and Water, NIS 500,000	*2016-2019
PI	M. Zigman		Talpiot College, NIS 17800	10.2016

Submission of Research Proposals – Pending

Role in Research	Co-Researchers	Торіс	Funding Agency	Year
CO-I	Giueseppe Falini, Elena Fabbri, Paola Fantazzini, Stefano Mengoli, University of Bologna, Italy;	ReefRisk, Proposal ID : 721574 (internal reference number:	Call : H2020- MSCA-ITN-2016	Jan. 2017
	Zvy Dubinsky, David Iluz, YuliaSEP-210321018)Pinchasov, Bar-Ilan University, Israel;	SEP-210321018)		
	Jaap Kaandorp, University of Amsterdam, Netherlands;Baruch Rinkevich, Bella Galil, Israel Oceanographic and Limnological Research, Israel;Manfred Mudelsee, Climate Risk Analysis, Germany;			
	Luca Palmeri, Alberto Barausse, University of Padova, Italy;Ronald Osinga, Porifarma, Netherlands;Cecilia D'Angelo, Jörg Wiedenmann, University of Southampton, UK;			
	Alexandra Kraberg, Claudio Richter, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research, Germany;Aldo Shemesh, Weizmann Institute of Science, Israel;Petar Kružić, University of Zagreb, Croatia;Jeanne Braha, American Association for the Advancement of Science, USA; Susan Marriott, BioScience Writers, USA;Ruth Gates, Rupert Ormond, International Society for Reef Studies, UK;Richard Boyatzis, Luigi Pecoraro, Case Western Reserve University, USA;Dror Zurel, Israel Ministry of Environmental Protection, Israel; Pauhla McGrane, Galway-Mayo Institute of Technology, Ireland			
CO-I	P.M.A. Sloot, Nanyang Technological University, Singapore Z. Dubinsky (BIU)	Reconstruction of the impact of climate change on the	NRF-ISF	Jan. 2017

	J. Kaandorp (Amsterdam)	biomineralisation in scleractinian corals		
CO-I	Z. Dubinsky (BIU) J. Kaandorp (Amsterdam)	Novel marine skeleton-based implants with capacity to cure injuries in the brain and spinal cord	NeuroScaffold	Apr. 2016
PI	Z. Dubinsky (BIU); Dan (Afeka College)	Development of a flexible module designed for the maintenance, experimentation and monitoring of marine biomineralizing model organisms in space	Ministry of Science, Technology and Space	Aug. 2016
CO-I	Bar Ilan University A4F ALGAFUEL SA AlQuds University ALGAELINK Azerbaijan State Oil and Industry University Imperial College PSI University of Malaga Beijing Forestry University Bielefeld University National Technical University of Athens EUREC-The association of European renewable energy research centres	AlgaFuels: From hydrogen to biofuel using microalgae and CO ₂ : A dream come true	Call : H2020	Jan. 2017

Submission of Research Proposals- Not Funded (Last 5 years)

Role in Research	Co-Researchers	Topic Funding Agency		Year
Co-I	S. Goffredo, L. Palmeri (Italy), Z. Dubinsky (Israel), F. Al-Horani (Jordan),	Global Climate Change impacts on the Coral reefs of the Gulf of Aqaba (Red Sea)	oacts NATO: Science for oulf of peace and security programme	
PI	G. Banet (Arava Center) Z. Dubinsky (BIU)	Microalgae as a source of heat for biodiesel production amateur: development processes and genetic improvement technology on productivity	ource of heat Ministry of luction Energy and Water ment netic hnology on	
Co-I	Z. Dubinsky (Israel), F. Al- Horani (Jordan)	Global Climate Change impacts on the Coral reefs of the Gulf of Aqaba (Red Sea)	MERC	2014
PI	G. Winter (The Dead Sea Arava Science Center); H.K. Schneider (Hebrew Univ.), N. Shashar (Ben Gurion Univ.),	CORALED: developing photosynthetic efficient and energy economical coral- specific LED array for coral aquarium systems	Ministry of Science, Technology & Space.	2014
CO-I	S. Goffredo, Z. Dubinsky; J. Kaandorp; W.E.L.G. Müller; J. Erez; D. Omry; M. Trtilek, D. Iluz	Toward new materials by hyper/hypo-g biomineralization	H2020-FETOPEN- 2015-2016-RIA	Jan 2014 Very good
PI	G. Banet (Arava Center) Z. Dubinsky (BIU)	Algae as a source for natural materials and biofuel	Ministry of Energy and Water	2014
PI	H. Carynelisa (HUJI); Z. Dubinsky (BIU)	Energy budget of phytoplankton photosynthesis: Maximizing gains and minimizing losses from light absorption to biomass yields	ISF	Oct 2014
PI	D.I. Kline, B.G. Mitchell, A.E. Andrew (University of California, San Diego); Z. Dubinsky (BIU)	Underwater fluctuating light and photosynthesis: cellular mechanisms and ecological consequences	NSF-BSF	Feb 2015 Very good

CO-I	S. Goffredo, Z. Dubinsky; J. Kaandorp; W.E.L.G. Müller; J. Erez; D. Omry; M. Trtilek, D. Iluz	Toward new materials by hyper/hypo-g biomineralization	H2020-FETOPEN- 2014-2015-RIA	March 2015
PI	Z. Dubinsky (BIU); SpacePharma	Development of a flexible module designed for the maintenance, experimentation and monitoring of marine biomineralizing model organisms in space	Ministry of Science, Technology and Space	May 2015
CO-I	Giueseppe Falini, Elena Fabbri, Paola Fantazzini, Stefano Mengoli, University of Bologna, Italy; Zvy Dubinsky, David Iluz, Yulia Pinchasov, Bar-Ilan University, Israel; Jaap Kaandorp, University of Amsterdam, Netherlands	ReefRisk, Proposal ID : 721574 (internal reference number: SEP-210321018)	Call : H2020- MSCA-ITN-2016	Dec. 2015
CO-I	University of Bologna, Italy; Bar-Ilan University, Israel; University of Amsterdam, Netherlands		ERC- FETOPEN	1/9/16
CO-I		SushiDom		1/5/16
			gBioMin	2016
PI	D.I. Kline, B.G. Mitchell, A.E. Andrew (University of California, San Diego); Z. Dubinsky (BIU)	Algal Mechanisms for coping with Underwater, Super Saturatinf Flashing Light	NSF-BSF	Jan. 2016
PI	Z. Dubinsky, D. Iluz (BIU); Dan (Afeka College)	Development of a flexible module designed for the maintenance, experimentation and monitoring of marine biomineralizing model organisms in space	Ministry of Science, Technology and Space	Aug. 2016

CO-I	P.M.A. Sloot, Nanyang Technological University, Singapore Z. Dubinsky (BIU)	Reconstruction of the impact of climate change on the biomineralisation in scleractinian corals	NRF-ISF	Jan. 2016
	J. Kaandorp (Amsterdam)			

Scholerships, Awards and Prizes

Years	Scholarship
1999-2001	Hebrew University, two-year postdoctoral Meir Baum Fellowship

Teaching

Courses Taught in Recent Years

Abbreviations: Beit-Berl College (**BBC**), Bar-Ilan University (**BIU**), Talpiot College (**TC**)

Years	Name of Course	Type of Course Lecture/Seminar Workshop/High Learn (??) Course/ Introductory Course (Mandatory)	Degree	Number of Student s	Institute
1993-present	Earth Sciences	Introductory Course	B.Ed.	25-30	тс
1993-present	General Botany and Zoology	Lecture	B.Ed.	25-30	тс
1995-present (every two years)	Campus (5 days): Energy flow in a desert ecosystem	Workshop	B.Ed.	16-20	BBC
1995-present (every two years)	Campus (5 days): The Gulf of Eilat ecosystem	Workshop	B.Ed.	16-20	BBC
1995-2015	General Ecology	Introduction course	B.A., B.Ed.	25-30	(BIU), TC, BBC
Years	Name of Course	Type of Course Lecture/Seminar Workshop/High Learn (??) Course/ Introductory Course (Mandatory)	Degree	Number of Student s	Institute
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1995-present	Introduction to Ecosystems	Lecture, High Learn course	B.Ed.	25-30	BBC
2006-2015	Soil Ecology	Lectures and laboratories	B.Ed.	20	BBC
2008-2011	Introduction to Life Sciences	Introduction course (mandatory)	B.Ed.	25-30	BBC
1998-2012	Didactic and disciplinary aspects in Israel areas	Educational tours	Summer program for B.Ed.	25-30	тс
1998-2000	Introduction to Botany and Zoology of Israel	Lectures and educational tours	B.Ed.	25-30	BBC
2009, 2011, 2013	Biogeography	High learn course	B.Ed.	25-30	тс
1998-present	Ecology laboratories	Lectures and laboratories	B.Sc.	80-100	Faculty of Life Sciences, BIU
2002	Ecology Aspects in Geography	Seminar	B.A.	25-30	Dept. of Geography, BIU
2003-2011	Israel Land Vegetation	Lectures and educational tours, high learn course	В.А.	25-30	Dept of Land of Israel Studies and Archaeology, BIU
2004, 2007	Ecology	Teleprocessing course	B.Ed.	25-30	BBC
2005-2013	General Botany	Lectures and laboratories	B.A.	25-30	Dept of Land of Israel Studies and Archaeology, BIU, TC
2005-present	Environmental Bioenergy	Lectures and laboratories	B.Ed.	15-20	BBC

Years	Name of Course	Type of Course Lecture/Seminar Workshop/High Learn (??) Course/ Introductory Course (Mandatory)	Degree	Number of Student s	Institute
2005, 2012	General Astronomy	Teleprocessing course	B.Ed.	25-30	тс
2006-2012	From Algae to High Plants	Lectures and laboratories	B.Ed.	25	тс
2006, 2013, 2015-17	Environments Issues in Israel	Teleprocessing course	B.Ed.	25-30	BBC
2007-present	Out-of-class study	Workshop	B.Ed.	25	ТС, ВВС
2008-2011	Science Seminar	Seminar	B.Ed.	20	тс
2008-2015	Methods on Identifying and Monitoring Pollution	High Learn Course	B.Ed.	25-30	BBC
2008	Eretz Israel Ecosystems	Lecture	B.A.	25-30	Dept. of Geography, BIU
2009-2015	Usage and Utilities in Plants	Lecture and laboratories	B.Ed.	25-30	тс
2009-2014	The Ecology of Israel Vegetation	Lectures and educational tours, high learn course	B.A.	25-30	Dept. of Geography, BIU
2008- present	The Blue Planet	Lecture	B.Ed.	25-30	BBC
2011	Introduction to Ecology	Lectures and educational tours	В.А.	25	Dept. of Geography, BIU
2011, 2013	Marine Ecology	High learn Course	B.Ed.	20	BBC
2013	Nature Issues in the Bible	Lectures and educational tours	B.Ed.	25	тс
2015	Renewable Energy	Lectures	B.Ed.	25	тс

Years	Name of Course	Type of Course Lecture/Seminar Workshop/High Learn (??) Course/ Introductory Course (Mandatory)	Degree	Number of Student s	Institute
2016	Journey of Life	Introductory course	Students with special needs, special education	14	Issie Shapiro Institute
2016	Between Chemistry and Biology in Coral Reefs	Workshop	Ph.D.	15	Dept. of Chemistry, BIU
2017	גינה לימודית אקולוגית		B.Ed.	37	тс

Supervision of Graduate Students (at Bar-Ilan University)

M.Sc. (BIU)

Name of Student	Title of Thesis	Date of Completion /in Progress	Co-supervisor
Sukenik, Naama	The antique textile dyes in M'oa	June 2007 (MA) (with excellence)	Dr. Zohar Amar
*Yamshon, Amir	The effect of dust on the bio- optical properties of the Gulf of Eilat (Aqaba) phytoplankton cultures	2009	Prof. Zvy Dubinsky
*Dishon, Gal	Phytoplankton and underwater light interrelations in the Gulf of Eilat	2010 (with excellence)	Prof. Zvy Dubinsky
*Tzubary, Yael	Pollution effect on the fauna in 4 macroalgae species	2014	Prof. Zvy Dubinsky
*Bechor, Rotem	Strategies of acquiring and utilizing photosynthetic energy of light and shaded coral	2014	Prof. Zvy Dubinsky

	<i>Stylophora pistillata</i> and its implication on calcification		
*Hovav, Raaya	Pollution effect on the foraminifera species live on macroalgae	Oct 2014	Dr. Ahuva Almogi-Labin and Prof. Zvy Dubinsky
*Klein, Lior	Effect of temperature on grazers in the littoral zone	Oct 2014	Dr. Gil Rilov (IOLAR)
*Morad, Tsachi	Characterization of the meiobenthic communities in the intertidal zone of clean and polluted rocky shores in the Mediterranean Sea of Israel	Dec 2014	Prof. Zvy Dubinsky
*Shebis <u>,</u> Yevgenia	Antioxidants in resin plants and microalgae	Dec 2014 (with excellence)	Prof. Zvy Dubinsky
*Tamir Raz	The light field in the Gulf of Aqaba (Eilat), as influenced by spatial and seasonal dynamics	2015 (with excellence)	Prof. Zvy Dubinsky
*Admoni, Hofit	Temperature effect on corals, symbiotic and non-symbiotic	Feb 2016	Prof. Zvy Dubinsky
*Golan, Adva	Biodiversity of fauna in macro algae species using molecular tools	Writing thesis	Prof. Zvy Dubinsky
*Moshaiov, Moran	PH effect on corals, symbiotic and non-symbiotic	Writing thesis	Prof. Zvy Dubinsky
*Mizrahi, Noam	Spatial distribution of phytoplankton in the Northern Gulf of Eilat	Second year	Prof. Zvy Dubinsky
*Gitkin, Marina		Second year	Prof. Zvy Dubinsky
*Benitah, Miri	Environmental effect on the calcification and morphology of <i>Padina pavonica</i>	Second year	Prof. Zvy Dubinsky
*Segman, Rotem	Ocean acidification impacts on calcifying macroalgae (padina sp.)	Second year	Prof. Zvy Dubinsky
*Mayer, Daniel	The effect of light on ephilitic algae in coastal caves	Second year	Prof. Zvy Dubinsky

*Kitov, Avital	Antioxidants in Commiphora species plants	First year	Prof. Zvy Dubinsky
*Weinstein Ben	Thermophilic microalgae as a source of heat for biodiesel production.	First year	Prof. Zvy Dubinsky

Ph.D (BIU)

Name of Student	Title of Thesis	Date of Completion/in Progress	Co-supervisor
*Hoffman, Raz y	The effects of nutrients and heavy metals on the intertidal seaweed, along Israel's Mediterranean shores	June 2011	Prof. Zvy Dubinsky
*Sukenik, Naama	Textiles dyes from Qmeran and Massada	June 2013 (with excellence)	Prof. Zohar Amar
*Abu-Ghosh, Said	The influence of fluctuating light on microalgae	Third year	Dr. Dror Fixler and Prof. Zvy Dubinsky

Post-Doctoral Fellows (BIU)

Name of Student	Title of Thesis	Date of Completion /in Progress	Co-supervisor
*Ramot, Michal	The influence of ocean acidification on the physiology of the brown alga Padina (sp.) as a model of its effects on calcification processes	2010-2013	Prof. Zvy Dubinsky

Supervision of Students in Advanced Laboratory Studies (BIU)

Name of Student	Title	Date of Completion
Dovchok, Rachel	Photoacclimation response of <i>Synechococcus</i> sp. Kinetic changes in photosynthetic parameters	1995

Keynan, Mirit	Photoacclimation response of <i>Cheatoceros</i> sp. Kinetic changes in photosynthetic parameters	1995
Cohen, Meyrav	Kinetic changes in photosynthetic parameters of <i>Dunalliela salina</i> , in three nutrient levels	1996
Yefrah, Erez	Effect of nutrient and light intensity on the alga <i>lsochrysis sp.</i>	1996
Levi, Anat	Kinetic changes in photosynthetic parameters of <i>Dunalliela salina</i> , in three growth conditions of light intensity	1996
Levav, Ganit	Correlation between methods (IMAGE PRO and FLOW CYTOMETER) on size and distribution of phytoplankton	1996
Pinto, Florence	Effect of nutrient and light intensity on the alga; Emiliania huxleii	1996
Yehoshua, Yaron	Changes in chlorophyll content and fluorescence by flow cytometery of <i>Dunalliela salina</i> , in three growth conditions of light intensities and nutrient levels	1996
Zvayg, Michal	Effect of nutrient and light intensity on the alga; Cheatoceros sp.	1996
Levi, Eli	Flow cytometry analysis of phytoplankton in the Gulf of Eilat coastal waters	2002
Shoham, David and Kraef, Ela	Nondestructive method for identifying antique textiles dyes	2005-2006
Tzubary, Yael	Flow cytometry analysis of phytoplankton and bacteria in the Gulf of Eilat	2007
*Alemkayes, Yair	Developing the method of <i>tek'helet</i> dying from Sepia	2008
*Leibovitz, Dov	Determination of β amylase in cereals	2008
*Don, Margarita	Determination of Gluten in cereals	2008
*Yalao, Rina	Phytoliths in resins (with Steeve Weiner and Elizabeta Boareto, Weizmann Institute)	2009
*Tadela, Genet	Experiments on purple dye from murex	2010
*Levi, Yaara	Producing perfume from <i>Commiphora gileadensis</i>	2010
*Cohen, Adi	SEM analyses for elements identification in archaeology findings	
*Leg, Orly	Building dye standards for HPLC analyses	2011

*Klein, Lior	The effect of heavy metals on <i>Chondrophycus sp</i> .	2011
*Meir, Lian	Identification of s by flow cytometry	2012
*Goldstein Aviva	Temperature effect on the coral Stylophora pistillata	2012
*Marina	The effect of salinity on antioxidant activity in algae	2014
*Ben Amram, Nesly	The effect of high and low light on relaxation on algae using flow cytometry	2014
*Kitov, Avital	The amount of antioxidants in Commiphora species plants	2015
*Bitan, Sivan	Xanthophyll cycle in different microalgae	2015
*Sofer, Ela	Comparing the abiotic and biotic factors in the desert and in the coral reef ecosystems	2015
*Sela-Koah, Omer	The effect of light intensity on photoinhibition (chlorella sp.)	2015
*Oskar, Nofar	The effects of ocean acidification on coral calcification and physiology	2016
*Homsi, Jonny	The effect of UV exposure time on the physiology of chlorella sp.	2016
*Abo-Moah, Afif	The effect of UV exposure time on the physiology of <i>Dunaliella salina</i>	2016
*Sarfati, Shani	The influence of different light conditions of <i>Phaeodactylum tricornutum</i> .	2016
*Abed Al-Gafer, Mohamed	Spectral method for dye textile identification	2016
Peer Hila		2016
Loren,		
Benbenishti Tzahi		
Laron Nataly		
Yasmin +		

Miscellaneous

Selected Research Projects

Date	Project
1996-1998	Egyptian, German, Israeli & Palestinian Multidisciplinary Red Sea Program on Marine Science. Project A: Simultaneous estimation of marine primary productivity by biological, geochemical and remote sensing methods; the Gulf of Aqaba bloom experiment (GABE)
1999-2002	Peace Park project (RSMPP), Joint Jordanian, Israeli, and Palestinian project in the Gulf of Aqaba
1998-2003	US-AID Gulf of Aqaba Peace Park: Joint Israel-Jordan-Egypt-USA coral reef monitoring and conservation program
1999-2001	Red Sea Program (RSP), Ministry of Science and Technology, Germany (BMFT)
2002-2005	National Monitoring Project in the Gulf of Aqaba. Joint Jordan and Israel project
2003-2006	Oasis effect in Arava area (continuation of collaborative research with D. Kadish, D. Goldman and O. Potchter)
2004-2006	A research and educational plan in marine biogeochemical cycles: Nutrient dynamics and ecosystem structure in the Gulf of Aqaba – Physical forcing and external nutrient sources. Stanford University funding by NASA New Investigator Program (NIP)
*2007-2012	NATO grant for Israel-Jordan-Turkey collaboration project: The protection of the Gulf of Aqaba from anthropogenic and natural stress during global climate change
*2010-2015	CoralWarm, the European Research Council FP7-IDEAS Project: Corals and global warming: the Mediterranean versus the Red Sea
*2013-2015	A novel optical device for the culture of lipid-rich algae (with Carmel Rothschild and Zvy Dubinsky)
*2015-2017	Penetration of light pollution from infrastructure installations into the ocean and its effect on animal vision and distribution (with Amit Lerner, IOLR, and Caryn Elisa Haspel from the Hebrew University of Jerusalem)
*2016-2018	Microalgae as a source of heat for biodiesel production amateur: development processes and genetic improvement technology on productivity (with Gabi Banet, Arava Center)

Professional Experience

Development of Educational Learning Programs

Date	Name of program and participants	Institute
1995-present	Promoting college educational tours	Beit Berl College
		Talpiot College

1995-present	Intensive courses based on educational tours for teachers: Interdisciplinary aspects in regions of Israel	Talpiot College
1996-1998	The development of curriculum in the Department of Agriculture and Environmental Studies, and the promotion of academic recognition (with Dr. D. Kadish)	Beit Berl College
2002-present	Developing an environmental studies program with the Depts. of Geography and Land of Israel Studies (with Prof. Z. Amar)	Bar-Ilan University
2003-2004	Development of an environmental studies program with the Depts. of Geography and Land of Israel Studies (with Dr. D. Kadish and Dr. O. Potchter)	Beit Berl College
2003- 2015	Construction and teaching remote learning courses (Ecosphere, Environmental Issues, Astronomy, Geography and Ecological aspects)	Talpiot College Beit Berl College
2004-2005	Development of curricula for B.A. and B.Sc. degrees in Agriculture and Environmental Studies (with Dr. D. Goldman and Dr. D. Kadish)	Beit Berl College
2005	Team partner in the Forum of the Mofet Institute for the promotion of field trips in the educational system following the Dovrat report	Mofet Institute
*2012-2015	Sustainable education program, Leading and assimilation of this program for all students in the college.	Talpiot College
*2014	A joint program with Dr. I. Amer from the Arab Institute for Combined Science and Environmental Sciences and Agriculture, for B.Ed. students	Beit Berl College
* 2015-present	Program for training teachers of agricultural youth villages in Beit Berl College, Department of Environmental Sciences and Agriculture (6 seminars)	Beit Berl College
* 2015	Construction of undergraduate curriculum in science for the ultra-Orthodox sector. With Dr. B. Bashan	Talpiot College
*2015	Program of undergraduate curriculum in science for the ultra-Orthodox sector. With Dr. R. Israeli	Beit Berl College
*2015-16	Development of a study program: Environmental Advisor, with Prof. O. Potchter, Dr. D. Goldman, Dr. A. Kartin and Prof. Y. Shnel - for BA students	Beit Berl College

David Iluz – List of Publications

Note: For joint publications, the order of the listed authors appears according to their relative contribution. The last in the list of authors is an equal contribution to the first author or second to first author

SJR; Q Impact Factor = IF; Ci= all citations minus self-citations

A. Ph.D. Dissertation

The light field, phytoplankton pigmentation and productivity in the Gulf of Eilat (1998), PhD thesis, Faculty of Life Sciences, Bar-Ilan University, Ramat-Gan, Israel, 170 pp (Hebrew). (Ci =13)

Supervisor: Prof. Zvy Dubinsky

<u>Related publications</u>: Iluz, 1998; Erez et al., 2000; Lazar et al., 2000; Lazar et al., 2008; Iluz et al., 2003; Iluz et al., 2008; Lazar et al., 2008

C. Submitted - Scientific Books

*Sukenik N., Amar Z., and **Iluz D**. *Dye and textiles dying in Israel in the antique period* (Accepted by Yad Ben Zvi publishing)

*Almalem Ofer and Iluz D. The reef keeper. (In Press, "Tzameret" publishing)

D. Articles in Refereed Journals

D.1. Published

- Leshem Y.Y., Haramaty E., Iluz D., Malik Z., Sofer Y., Roitman L. and Leshem Y. (1997) Effect of stress nitric oxide (NO): Interaction between chlorophyll fluorescence, galactolipid fluidity and lipoxygenase activity. *Plant Biochemistry and Physiology* 35: 573-579. (Ranking =Q1; IF= 2.96; Ci=397)
- 2. Fisher T., Berner T., **Iluz D**. and Dubinsky Z. (1998) The kinetics of the photoacclimation response of Nannochloropsis sp. (Eustigmatophyceae): A study of changes in ultrastructure and PSU density. *Journal of Phycology* 34: 818-824. (Ranking = Q1; IF= 2.53; Ci= 42)
- Erez J., Lazar B., Iluz D., Alhatib M., Dry M., Nehorai A., Rivlin T., Stambler N. and Dubinsky Z. (2000) Nutrient enrichment in the Northern Gulf of Eilat and their influence on the ecosystem. *Ecology and Environment 6: 119-121 (in Hebrew).* ארז, י., לזר ב., אילוז ד., אלחטיב מ, דריי מ., נהוראי א., ריבלין א., סטמבלר נ., ודובינסקי צ. (2000). העשרה 6:119-221
- Lazar B., Erez J., Iluz D., Al-Hatib M., Rivlin T., Dray M., Nehorai A., Stambler N. and Dubinsky Z.
 (2000) The effect of eutrophication process in the Northern Gulf of Eilat on its ecological systems. *Ecology and Environment* 6: 116-117 (in Hebrew).

לזר ב., ארז, י., אילוז ד., אלחטיב מ, דריי מ., נהוראי א., ריבלין א., סטמבלר נ., ודובינסקי צ. (2000).השפעת תהליך האאוטרופיקציה על המערכת האקולוגית בצפון מפרץ אילת. *אקולוגיה וסביבה,* 1116-117

- 5. **Iluz D**., Yosef, Z. and Gitelson A. (2003) Adaptation of an algorithm for chlorophyll. International *Journal of Remote Sensing* 24: 1157-1163. (Ranking= Q1; IF= 1.652; Ci=50)
- 6. Amar Z., Gotlieb H., Varshavsky L. and Iluz D. (2005) The scarlet dye of the Holy Land. *Bioscience* 55: 780-784. (Ranking = Q1; IF=5.44 ; Ci=7)
- Hoffman R., Dubinsky Z., Israel A. and Iluz D. (2007) A new Lessepsian macroalga, *Galaxaura rugosa*, gains control on underwater rocks in the westernedges of Haifa bay infralittoral zone. Israel *Journal of Ecology and Evolution* 53: 208-209. (Ranking= Q3; IF= 0.432; Ci=4)
- *Hoffman R., Israel A., Lipkin Y., Dubinsky Z. and Iluz D. (2008) First record of two seaweeds from the Israeli Mediterranean *Galaxaura rugosa* (J Ellis and Solander) J.V. Lamouroux (Rhodophyta) and *Codium adhaerens* C. Agardh (Chlorophyta). *Israel Journal of Plant Sciences* 56: 123-126. (Ranking = Q3; IF=0.42; Ci=5)
- *Iluz D., Yehoshua Y. and Dubinsky Z. (2008) The quantum yields of phytoplankton photosynthesis in the Gulf of Aqaba (Eilat), Northern Red Sea. *Israel Journal of Plant Sciences* 56: 29-38. (Ranking= Q3; IF=0.42; Ci=4)
- *Yehoshua Y., Dubinsky Z., Gasith A., Berman T., Alster A. and Iluz D. (2008) The epilithic algal assemblages of Lake Kinneret, Israel. *Israel Journal of Plant Sciences* 56: 85-92. (Ranking= Q3; IF=0.42; Ci=3)
- 11. ***Iluz D**. and Amar Z. (2008) 'Wall pellitory' as cleaning material for glass in medieval Israel. *Economic Botany* 62: 85-89. (IF=0.77). (Ranking = Q2; IF=2.06)
- *Potchter O., Goldman D., Kadish D. and Iluz D. (2008) The oasis effect in an extremely hot and arid climate: The case of southern Israel. *Journal of Arid Environments* 72: 1721–1733. DOI: 10.1016/j.jaridenv.2008.03.004. (Ranking =Q1; IF= 1.82; Ci=40)
- *Iluz D., Vago R., Chadwick N.E., Hoffman R. and Dubinsky Z. (2008) Seychelles lagoon provides corals a refuge from bleaching. *Journal of Research Letters in Ecology*. Article ID 281038. (Ranking= Q3; IF= ;Ci=11)
- 14. *Hoffman R., Dubinsky Z., Israel A. and **Iluz D**. (2008) The mysterious disappearance of *Halimeda tuna* from the intertidal zone along the Israeli Mediterranean. *Israel Journal of Ecology and Evolution* 54: 267-268. (Ranking= Q3; IF=0.432)
- ***Iluz D**. and Amar Z. (2009) Indigo production in En Boqeq. Judea and Samaria Research Studies 18: 223-231 (in Hebrew). (Ranking = Q4)
 אילוז דוד ועמר זהר (2009). מתקן התעשייה בעין־בוקק: בשמיה או מפעל להפקת ניל (אינדיגו), מחקרי יהודה ושומרון, 223-231
- *Amar Z., Merin U. and Iluz D. (2009) Curdling of milk as a criterion for kashrut of animals in the Bible. Ba'da'd 21: 75-94 (in Hebrew). (Ranking = Q4)
 , גיבון חלב כקריטריון כשרות להבחנה בין בעלי חיים טהורים לטמאים. בד"ד, 2009). גיבון חלב כקריטריון כשרות להבחנה בין בעלי חיים טהורים לטמאים. בד"ד, 21:75-94
- 17. ***Iluz D**., Dishon G., Capuzzo E., Meeder E., Astoreca R., Montecino V., Znachor P., Ediger D. and Marra J. (2009) Short-term variability in primary productivity during a wind-driven diatom bloom in the Gulf of Eilat (Aqaba). *Aquatic Microbial Ecology* 56: 205-215. (Ranking=Q1; IF= 1.90; Ci=8)

- 18. *Bar-Zeev E., Berman-Frank I., Stambler N., Vázquez Domínguez E., Zohary T., Capuzzo E., Meeder E., Suggett D.J., Iluz D., Dishon G. and Berman T. (2009) Transparent exopolymer particles (TEP), a link between phytoplankton and bacterial productivity in the Gulf of Aqaba. Aquatic Microbial Ecology 56: 217-225. (Ranking= Q1; IF= 1.90; Ci=32)
- *Suggett D.J., Stambler N., Prášil O., Kolber Z., Quigg A., Vázquez-Dominguez E., Zohary T., Berman T., Iluz D., Levitan O., Lawson T., Meeder E., Lazar B., Bar-Zeev E., Medova H., Berman-Frank I. (2009) Nitrogen and phosphorus limitation of oceanic microbial growth during spring in the Gulf of Aqaba. *Aquatic Microbial Ecology* 56: 227-239. (Ranking= Q1; IF= 1.90; Ci=19)
- *Zinger-Yosovich K.D., Iluz D., Sudakevitz D. and Gilboa-Garber N. (2010) Blocking of *Pseudomonas aeruginosa* and *Chromobacterium violaceum* lectins by diverse mammalian milks. *Journal of Dairy Science* 93: 473-482. (Ranking= Q1; IF= 2.55; Ci=14)
- *Iluz D., Hoffman M., Gilboa-Garber N. and Amar Z. (2010) Medicinal properties of *Commiphora gileadensis*. *African Journal of Pharmacy and Pharmacology* 4: 516-520. (Ranking= Q2; IF=0.84; Ci=17)
- 22. *Mass T., Kline D.I., Roopin M., Cohen S., Veal C.J., **Iluz D**. and Levy, O. (2010) The spectral quality of light is a key driver of photosynthesis and photoadaptation in *Stylophora pistillata* colonies from different depths in the Red Sea. *Journal of Experimental Biology* 213: 4084-4091. (Ranking=Q1; IF=3.00; Ci=43)
- *Brokovich E., Ben-Ari T., Kark S., Kiflawi M., Dishon G., Iluz D. and Shashar N. (2010) Functional changes of the visual system of the damselfish *Dascyllus marginatus* along its bathymetric range. *Physiology and Behaviour* 101: 413-421. (Ranking = Q2; IF= 3.03; Ci=14)
- 24. *Pinhasov Grinblat Y., **Iluz D**., Alster A., Perelman A. and Dubinsky Z. (2010) Comparison of two methods for estimating energy storage efficiency in phytoplankton photosynthesis. *Journal of Oceanography and Marine Science* 1: 86-92. (Ranking= Q1; IF= 11.08)
- *Zinger-Yosovich D.K., Sudakevitz D., Iluz D. and Gilboa-Garber N. (2011)
 Analyses of diverse mammals' milk and lactoferrin glycans using five pathogenic bacterial lectins.
 Food Chemistry 124: 1335-1342. (Ranking = Q1; IF= 3.26; Ci=9)
- *Hoffman R., Shemesh E., Dubinsky Z. and Iluz D. (2011) First record of *Codium arabicum* Kützing (Chlorophyta) in the Mediterranean. *Botanica Marina* 54: 487-495. DOI 10.1515/BOT.2011.056. (Ranking = Q2; IF= 1.00; Ci=11)
- 27. ***Iluz D.,** Amar Z., Goldberg M., Merin U. and Katz Y. (2011) Biblical milk taboos and scientific methodology with ancient nomenclature. *Natural Resources* 2: 240-243. (Ranking= Q3; Ci=1)
- 28. *Dishon G., Dubinsky Z., Caras T., Rahav E., Bar Zeev E., Tzubery Y. and **Iluz D**. (2012) Optical habitats of ultraphytoplankton groups in the Gulf of Eilat (Aqaba), Northern Red Sea. *International Journal of Remote Sensing*. DOI:10.1080/01431161.2011.619209. (Ranking= Q1; IF= 1.36; Ci=11)
- 29. *Atamna-Ismaeel N., Finkel O.M., Glaser F., Sharon I., Schneider R., Post A.F., Spudich J.L., von Mering C., Vorholt J.A., **Iluz D**., Béjà O. and Belkin S. (2012) Microbial rhodopsins on leaf surfaces of terrestrial plants. *Environmental Microbiology* 14: 140-146. (Ranking= Q1; IF= 6.24; Ci=37)
- *Meeder E., Mackey K.R.M., Paytan A., Shaked Y., Iluz D., Stambler N., Rivlin T., Post A.F. and Lazar B. (2012) Nitrite dynamics in the open ocean - A lesson from the northern Red Sea. *Marine Ecology Progress Series* 453: 11-26. (Ranking= Q2; IF= 2.64; Ci=16)

- *Dishon G., Dubinsky Z., Fine M. and Iluz D. (2012). Underwater light field patterns in subtropical coastal waters: A case study from the Gulf of Eilat (Aqaba). *Journal of Plant Sciences* 60: 265-277. (Ranking= Q1; IF= 0.42; Ci=5)
- 32. *Potchter O., Goldman D., **Iluz D.** and Kadish D. (2012) The climate effect of a manmade oasis during winter season in a hyper arid zone: The case of southern Israel. *Journal of Arid Environment* 87: 231-242. DOI: 10.1016/j.jaridenv.2012.07.005. (Ranking = Q1; IF= 1.82, Ci=2)
- 33. *Shebis Y., **Iluz D.**, Kinel-Tahan Y., Dubinsky Z. and Yehoshua Y. (2013) Natural antioxidants: Function and sources. *Food and Nutrition Sciences* 4: 643-649. (Ranking = Q3; IF= 0.96; Ci=28)
- *Cohen I., Dishon G., Iluz D. and Dubinsky Z. (2013) UV-B as a photoacclimatory enhancer in the hermatypic coral *Stylophora pistillata*. *Open Journal of Marine Science* 3: 15-27. (Ranking = Q1; IF=0.91; Ci=40; Ci=3)
- 35. *Sukenik N., Iluz D., Shamir O. and Amar Z. (2013) True purple textiles from Wadi Murabba'at Historical, Archaeological, and Chemical Aspects. *Archaeological Textiles Review* 55: 47-54. (Ranking = Q3)
- 36. *Iluz D. and Dubinsky Z. (2014) Sea in the Bible. *Ecology and Environment*, pp. 112-114 (in Hebrew)
 .112-114. אילוז דוד וצבי דובינסקי (2014). הים במקורות, א*קולוגיה וסביבה*, עמ 112-114
- 37. *Sukenik N, Iluz D, Shamir O., Varvak A. and Amar Z. (2014) True purple textiles from Murabba'at Caves and other purple substitutes which were found in caves in the Judean Desert. *Judea and Samaria Research Studies* 23: 409-425 (in Hebrew). (Ranking = Q4)
- ארגמן מורבעאת תחליפי ממערות האמָתי ארגמן עמר (2014). אריגי וזהר ורוואק שמיר, אלכס אורית אילוז, דוד סוקניק, נעמה ארגמן מורבעאת תחליפי ממערות אחרים 2014). אריגי וזהר ודה *ושומרון*, מדבר שנמצאו במערות אחרים
- *Laiolo L., Barausse A., Dubinsky Z., Palmeri L., Goffredo S., Kamenir Y., Al Najjar T. and Iluz D. (2014) Phytoplankton dynamics in the Gulf of Aqaba (Eilat, Red Sea): A simulation study of mariculture effects. *Marine Pollution Bulletin* 86: 481-493. (Ranking = Q1; IF= 2.79; Ci=2)
- 39. *Sukenik N, Iluz D. Shamir, O. Varvak A. and Amar Z. (2014) "Neue Textilfunde mit der Farbe Purpur aus der judäischen Wüste in Israel", *Antike Welt*, 2 pp. 4 – 5
- *Sukenik N, Amar Z. and Iluz D. (2014) Identification of dyes from Moyat Awad textiles. *Michmanim* 25: 63-72 (in Hebrew).
 , סוקניק נעמה, עמר זהר ודוד אילוז (2014). זיהוי הצבענים באריגי מויאת עואד. *מכמנים 25*, הוצאת מוזיאון הכט, 63-72
- *Iluz D. and Dubinsky Z. (2015) Coral photobiology: New light on old views. *Zoology* 118, pp. 71-78. (Ranking = Q1; IF= 1.60; Ci=4)
- 42. *Abu-Ghosh S., Dubinsky Z., Fixler D. and **Iluz D.** (2015). Energy-input analysis of the life-cycle of microalgal cultivation systems and best scenario for oil-rich biomass production. *Applied Energy*. DOI.org/10.1016/j.apenergy.2015.02.086 (Ranking= Q1; IF= 5.597; Ci=7)
- *Abu-Ghosh S., Dubinsky Z., Fixler D. Solovchenko A., Zigman M., Yaron Y. and Iluz D. (2015).
 Enhancement of growth in Dunaliella salina under flash illumination occurs when photochemistry and photoprotection are balanced. *European Journal of Phycology*, pp. 1–12. (Ranking= Q1; IF= 2.338)
- 44. *Abu-Ghosh S., Dubinsky Z., Fixler D. and **Iluz D**. (2015). Continuous background light significantly increases flashing-light enhancement of photosynthesis and growth of microalgae. *Bioresource*

Technology, 187C: 144-148. 07/2015; 187. DOI: 10.1016/j.biortech.2015.03.119. (Ranking= Q1; IF= 5.04; Ci=5)

- *Sukenik N, Amar Z. Varvak A. and Iluz D. (2015). A new examination of the dyes textiles from the Cave of letters. Judea and Samaria Research Studies 24: 331-350 (in Hebrew). (Ranking= Q4)
 , האיגרות, ורווק אלכסנדר ודוד אילוז (2015). בחינה מחודשת של הצבענים שבאריגים ממערת האיגרות, 2015) מוקרי יהודה ושומרון, כד: 331-350
- *Sukenik N, Varvak A. Amar Z. and Iluz D. (2015). Chemical analysis of Murex-dyed textiles from wadi Murabba'at, Israel. *Journal of Archaeological Science*: Reports 3 pp. 565–570 (Ranking= ; IF= ; Ci=1)
- 47. *Abu-Ghosh S., Dubinsky Z., Fixler D. and **Iluz D**. (2016). Flashing light in microalgae biotechnology. *Bioresource Technology*. (Ranking= Q1; IF= 5.04; Ci=2)
- *Mayer D, Dubinsky Z, and Iluz D (2016). Light as a limiting factor for epilithic algae in the supralittoral zone of littoral caves. *Frontiers Marine Science*. doi: 10.3389/fmars.2016.00018 (Ranking=; IF= ; Ci=2)
- *Iluz D. and Abu-Ghosh S. (2016). A novel photobioreactor manages solar energy for a higher light-to-biomass conversion efficiency". *Energy Conversion and Management* 126:767-773 (Ranking= Q1; IF= 5.63; Ci=8)
- *Fratkin Segman R., Dubinsky Z. & Iluz D. (2016). Impacts of ocean acidification on calcifying macroalgae: *Padina* sp. as a test case a review. *Israel Journal of Plant Sciences*. Published Online: 27 Oct 2016 (Ranking= ; IF= 0.3)
- 51. *Tamir R., Lerner A., Haspel C., Dubinsky Z., and Iluz D. (2017). The spectral and spatial distribution of light pollution in the waters of the northern Gulf of Aqaba (Eilat)". Scientific Reports 7, 42329. P. 1-10; doi: 10.1038/srep42329 (Ranking= Q1; IF= 5.57)
- 52. *Sukenik N., **Iluz D.**, Amar A., Varvak A. and S. Bar (2017). New evidence of the purple- dye industry at Tel Shiqmona, Israel. Archaeometry. doi: 10.1111/arcm.12290 (Ranking= Q3; IF= 1.364)
- 53. *Abu-Ghosh S., Kumar V., Fixler D., Dubinsky Z., Gedanken A., and Iluz, D. (2017). Nitrogendoped carbon dots prepared from bovine serum albumin to enhance algal astaxanthin production. Algal Research 23:161-165. (Ranking= Q1; IF= 5.64)
- 54. Morad T, Dubinsky Z and Iluz D. (2017). Pollution promotes changes in foraminifera and nematodes assemblages in the eastern Mediterranean. (Accepted in Journal of Marine Science, will published on July). (Ranking= Q3; IF= 1.40)
- 55. *Sukenik N., Iluz D., Amar A., Varvak A., Shamir S., Workman V.A. and Ben-Yosef E. (). Early Evidence (Late 2nd Millennium BCE) of Plant-Based Dyeing of Textiles from Timna, (final revision in Plose One) (Ranking= Q1; IF= 3.54)

D.2. Submitted articles

1. Iluz D., Erez J., Hease C., Dubinsky Z., Silverman J. and Lazar B. Long-term and seasonal changes in primary production in the Northern Gulf of Eilat (Aqaba), Red Sea (submitted to Marine Pollution Bulletin).

- Rahav E, Stambler N, Dishon G, Bar-Zeev E, Levi A, Iluz D, Herut B and Berman-Frank I. Phytoplankton photophysiology at the Levantine basin eastern Mediterranean Sea during summer (Submitted to MEPS).
- 3. Bnitah Miri Dubinsky Z, and Iluz D. The morphology of padina pavonica. Journal of Phycology

D.3. in Preparation

- 1. Pinchasov Y, Dubinsky Z and **Iluz D.** The influence of ocean acidification on the physiology of the brown alga *Padina* (sp.) as a model of its effects on calcification processes.
- 2. **Iluz D.**, Erez J., Lazar B., and Dubinsky Z. Seasonal reversal of cross-shore productivity gradients in the Northern Gulf of Aqaba, Red Sea.
- 3. Hoffman, R., **Iluz, D.**, Dubinsky, Z. and Israel, A. Pollution effects on benthic intertidal algal diversity, along the Israeli Mediterranean.
- 4. Tzabari, M., C. Haspel, D. Iluz, and A. Lerner, Sensitivity study on the contribution of scattering by randomly oriented non-spherical hydrosols to linear polarization in clear to semi-turbid shallow waters, in preparation for Journal of the Optical Society of America A, 2017
- 5. Tzabari, M., C. Haspel, D. Iluz, and A. Lerner, Sensitivity study on the contribution of scattering by coated hydrosols to linear polarization in clear to semi-turbid shallow waters, in preparation for Journal of the Optical Society of America A, 2017.
- 6. Tzabari, M., D. Iluz, Z. Dubinsky, C. Haspel, and D. Mayer, Linear polarization characteristics within the Rosh HaNikra mid-littoral cave, Israel, in preparation, 2017
- 7. *Mayer D, Dubinsky Z, and Iluz D. First taxonomic identification of the epilithic algal community of a mid-littoral cave in Israel
- 8. Iluz D., M. Ramot- Identification of padina Australis
- 9. Mizrachi, N., Iluz D., PP GIS
- 10. Iluz et al. panarea
- 11. Raz Tamir- thesis
- 12. Rotem thesis
- 13. Iluz-Abo Gosh- Oxypam

E. Articles/Chapters in Scientific Books

E.1. Published

- Iluz D., Erez J. and Dubinsky Z. (1996) Seasonal reversal of cross-shore productivity gradients in the northern Gulf of Aqaba, Red Sea. Preservation of our World in the Wake of Change, Vol. VI A/B. ISEEQS Pub, Jerusalem, Israel. Editor: Steinberger Yosef., pp. 85-86
- Iluz D. (1998). The light field, phytoplankton pigmentation and productivity in the Gulf of Eilat. Red Sea. DIALOG III; Dissertations Initiative for the Advancement of Limnology and Oceanography, pp. 86-88.
- *Lazar B., Erez J., Silverman J., Rivlin T., Rivlin A., Dray M., Meeder M. and Iluz D. (2008). Recent environmental changes in the chemical-biological oceanography of the Gulf of Aqaba (Eilat). In: Aqaba-Eilat, the Improbable Gulf. Environment, Biodiversity and Preservation (Editor: Por, F.D.). Magnes Press, Jerusalem, pp. 49-62. ; (Ci=8)

- *Amar Z. and Iluz D. (2010) The persimmon in the Land of Israel. In: Studies of Ancient Jerusalem, City of David. The 11th Conference (Editor: Meiron, E.), pp. 61-73 (in Hebrew). (Ranking = Q4) נערך: מירון (2010). האפרסמון בארץ-ישראל. עיר דוד: מחקרי ירושלים העתיקה, הכנס ה- 11 (עורך: מירון 61-73). אילוז (2010).
- *Iluz D. (2010) Zoochory: The dispersal of plants by animals. In: All Flesh is Grass: Plant-Animal Interactions (Editors: Seckbach J. and Dubinsky Z.). Cellular Origin, Life in Extreme Habitats and Astrobiology 16, DOI 10.1007/978-90-481-9316-5_4, © Springer Science+ Business Media B.V., pp. 201-218. (Ci=2)
- *Iluz D. (2010) The plant-aphid universe. In: All Flesh is Grass: Plant-Animal Interactions (Editors: Seckbach J. and Dubinsky Z.). Cellular Origin, Life in Extreme Habitats and Astrobiology 16, DOI 10.1007/978-90-481-9316-5_4, © Springer Science+ Business Media B.V., pp. 93-120.
- *Zigman M., Dubinsky Z. and Iluz D. (2012) The xanthophyll cycle in aquatic phototrophs and its role in the mitigation of photoinhibition and photodynamic damage. In: Applied Photosynthesis / Book 1 (Editor: Mahdi Najafpour M.). ISBN 978-953-307-928-8. InTech Open Access Publisher, pp. 191-214. (Ranking= Q4; IF= 0.557; Ci=2)
- *Iluz D., Dubinsky Z. and Alexandrovich I. (2012) The enhancement of photosynthesis by fluctuating light. In: Applied Photosynthesis / Book 3" (Editor: Mahdi Najafpour M.). ISBN 979-953-307-665-1. InTech Open Access Publisher. pp. 115-134. (Ranking= Q4; IF= 0.557; Ci=10)
- *Topf M., Tavassi M., Kinel-Tahan Y., Iluz D., Dubinsky Z., Yehoshua Y. (2012) Algal oils: Biosynthesis and uses. In: The Science of Algal Fuels: Phycology, Geology, Biophotonics, Genomics and Nanotechnology (Cellular Origin, Life in Extreme Habitats and Astrobiology) (Editors: Gordon R. and Seckbach J), Vol. 25. Springer, Dordrecht, New York, pp. 193-214. (Ci=3)
- *Amar Z. and Iluz D. (2012). The persimmon from Jericho and Ein-Gedi and its medicinal uses. In: Second Temple Period in Art and Architecture (in memory of Ehud Netzer) (Editors: Shiler E. and Barkai G.). Ariel, Jerusalem, pp. 179-186 (in Hebrew).
 ,(אוריהו ומעין גדי ושימושיו הרפואיים. בתוך: תקופת המקדש השני באמנות ובארכיטקטורה (לזכר אהוד נצר), עמ'. 179-186)
- ***Iluz D.**, Baranes, A. and Amar Z. (2012) Identifying silkworm fibers in ancient Land of Israel fabrics. In: Jerusalem and Eretz Israel, 8-9. (Editor: Zisu B.). pp. 441-456 (in Hebrew) 441- 441- 441- (עורך, בועז זיסו), עמ' 8-9 (עורך, בועז זיסו), עמ' 456
- **12. *Iluz D.** and Dubinsky Z. (2013) Quantum Yields in Aquatic Photosynthesis. In: Photosynthesis (Editor: Dubinsky Z). InTech Open Access Publisher. pp. 135-158. (Ranking= Q4 ; IF= 0.557; Ci=6)
- *Iluz D. (2013). The Mediterranean Royal Purple, biology through ritual. "The Mediterranean Sea: Its History and Present Challenges", S. Goffredo and Z. Dubinsky (Eds.). Springer. pp. 559-570. ISBN 978-94-007-6703-4
- 14. *Dubinsky Z. and Iluz D. (2016). Corals and light: From energy source to deadly threat. "The Cnidaria, past present and future" (Eds: Goffredo S. and Dubinsky Z.). 30 pages.
- **15.** Sukenik N, Amar Z. Varvak A. and **Iluz D**. (2016). A re-evaluation of the textile dyes in the cave of letters. In Textiles, Basketry and Dyes in the Ancient Mediterranean World. J. Ortiz, C. Alfaro, L. Turell and M.ª J. Martínez (eds.), p. 263-274

16. *Amar Z. and **Iluz D**. (2017). "Balsam: The Most Expensive Perfume Plant in the World", The Paths of Daniel: Studies in Judaism and Jewish Culture in Honor of Rabbi Professor Daniel Sperber (A. S. Ferziger ed.), Ramat Gan, pp. 15-27 (Ranking= Q3)

E.2. Accepted for Publication/in Press

- *Sukenik N., Amar Z. and Iluz D. The textile dyes from Mo`a. in Mo'a's perfume road, Israel Antiquities Authority (collaboration with the late Mr. Izhar Hershfeld (in press). 18 pages. (Ranking = Q3)
- **18.** Yehoshua Y., Zohary T., Dubinsky Z. and **Iluz, D.** Seasonal partitioning of primary production and biomass between phytoplankton and metaphyton in a newly created shallow lake in northern Israel. (Accepted for publication in a book on Lake Kinneret. Editor: Gophen, M.).

F. Articles in Conference Proceedings

- Iluz D., Erez J., Lazar B. and Dubinsky Z. (1991) Primary production in the northern Gulf of Elat, Red Sea. Proceedings of the 12th Conference of the Interuniversity Institute, the H. Steinitz Marine Biology Laboratory, Eilat, pp. 54-56.
- Kamenir Y., Brenner S., Dubinsky Z., Haese C., Iluz D., Lazar B., Al Qutob M., Sokoletsky L. and Stambler N. (2000) Time-space structure of a microbial food web: Oligotrophic Gulf of Eilat (Red Sea) simulation model. In: Book of Abstracts of the 7th European Marine Microbiology Symposium (EMMS), (Netherlands Institute of Ecology-Centre of Estuarine and Coastal Ecology and Netherlands Institute of Sea Research, Noordwijkerhout).
- **3.** Erez J., **Iluz**, **D**., Silverman J. and Lazar B. (2002) Can coral reefs and mariculture coexist? A case study in the Northern Gulf of Eilat (Aqaba), Red Sea. Tropical temperate interactions. Proceedings of the 2002 Meeting of the Australian Marine Sciences Association (10-12 July, Fremantle, Western Australia).
- Erez J., Iluz D., Zakai D., Silverman J., and Lazar B. (2003) Eutrophication processes in the Gulf of Eilat (Aqaba) Red Sea, and their effects on the coral reef ecosystem. Geophysical Research 5:11772 (Abstract). (Ranking= Q2)
- Potchter O., Goldman D., Kadish D., Iluz D., Yaacov, Y. (2006) Seasonal behavior of manmade oasis in an extremely hot, dry climate. Proceedings of the 6th International Conference on Urban Climate, Gothenburg, Sweden, pp. 258-261.
- 6. Hoffman R., Dubinsky Z., Israel A. and Iluz D. (2006) The effects of nutrients and heavy metals on the intertidal macroalgal vegetation along Israel's Mediterranean shores. Poster presented at the Israeli Association of Aquatic Sciences 3rd Annual Conference. Abstract published in the conference's 3rd Book of Abstracts, pp. 30-31 (in Hebrew).
- Hoffman R., Dubinsky Z., Israel A. and Iluz D. (2007) A new Lessepsian macroalga, *Galaxaura rugosa*, gains control on underwater rocks in the western edges of Haifa bay infralittoral zone. Poster presented at the Israeli Association of Aquatic Sciences 4th Annual Conference. Abstract published in the conference's 4th Book of Abstracts, pp. 14-15 (in Hebrew).
- **8.** *Hoffman, R., Dubinsky Z., Israel A. and **Iluz D**. (2008) The mysterious disappearance of *Halimeda tuna* from the intertidal zone along the Israeli Mediterranean. Poster presented at the Israeli

Association of Aquatic Sciences 5th Annual Conference. Abstract published in the conference's 5th Book of Abstracts, pp. 40-41 (pp. 7-8 in the PDF Book of Abstracts).

- *Sokoletsky L., Oren A., Stambler N. and Iluz D. (2009) Practical algorithms for remote-sensing retrieval of the water column constituents in the Israeli waters. Proceedings of the V International Conference Current Problems in Optics of Natural Waters, pp. 235-239. (Ci=4)
- 10. *Hoffman R., Dubinsky Z. and Iluz D. (2011) Four alien seaweed species from Indo-Pacific origin (including two new records for the Mediterranean) threatening the local algal flora at the Haifa Bay in Israel. Poster presented at the 18th Symposium on Cryptogamic Botany, Barcelona, Spain. Abstract published in the conference Book of Abstracts, p. 61. http://www.ub.edu/sbcn2011/docs/abstracts_book_sbcn2011.pdf
- 11. *Hoffman R., Israel A., Kamenir Y., Dubinsky Z. and Iluz D. (2011) Pollution effects on the benthic intertidal algal flora along the Israeli Mediterranean shores. Oral presentation at the 39th Annual Conference of the Israel Society of Ecology and Environmental Sciences.
- 12. *Hoffman R., Israel A., Kamenir Y., Dubinsky Z. and Iluz D. (2011) Pollution effects on the benthic intertidal algal flora along the Israeli Mediterranean shores. Oral presentation at the Israeli Association of Aquatic Sciences, 8th Annual Conference, Hadera. Abstract published in the conference's 8th Book of Abstracts, P. 38.
- 13. *Sukenik N, Amar Z. Varvak A. and Iluz D. (2014). A re-evaluation of the textile dyes in the cave of letters. In Textiles, Basketry and Dyes in the Ancient Mediterranean World. J. Ortiz, C. Alfaro, L. Turell and M.ª J. Martínez (eds.), Proceedings of the Vth International Symposium on Textiles and Dyes in the Ancient Mediterranean World (Montserrat, 19-22 March, 2014). P. 263-274
- **14.** *Derya Akkaynak, Tali Treibitz, Tom Shlesinger, Raz Tamir, Yossi Loya, and **David Iluz** (2017). What is the space of attenuation coefficients in underwater computer vision? Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, p. 1-11.

H. Other Scientific Publications

H.1. Research Reports

- 1. Gradients of primary production from shore to open water in the northern Gulf of Eilat. Reeflux Program, 1991
- 2. Long-term changes in primary production in the northern Gulf of Eilat, Peace Park Program, 2001
- 3. Epilithic algae and sea water quality in terms of changes of sea levels. Beit Berl College, 2001
- 4. Phytoplankton as indicator of nutrient level. The Red Sea Marine Peace Park Project, 2003
- 5. The oasis effect in semi-arid regions. Beit Berl College, 2005
- 6. Checking the presence of contaminants by measuring the primary productivity and potential influence on the ecosystem in the Gulf of Eilat. Beit Berl College, 2005
- 7. The effect of the fish cages on the ecosystem in the Gulf of Eilat. Mofet Institute, 2006
- 8. Training research students in Ein-Yahav about the oasis effect in semi-arid regions. Beit Berl College, 2006

- 9. *Reports every six months on the impact of dust on the ecosystem of the Gulf of Aqaba. NATO Research Foundation, 2007-2011
- 10. *Development of a method for detecting spectral destructively dyes in ancient textiles. Beit Berl College, 2008
- 11. * Ancient textiles found on MOA. Mofet Institute, 2008
- 12. * Development of a non-destructive method for identifying ancient textiles. Mofet Institute, 2010
- 13. *Report summarizing the five-year project on the impact of dust on the ecosystem of the Gulf of Aqaba. NATO SfP-981883, 2012
- 14. * Penetration of light pollution from infrastructure installations into the ocean and its effect on animal vision and distribution. Ministry of Science, Technology and Space, 2014
- 15. * Penetration of light pollution from infrastructure installations into the ocean and its effect on animal vision and distribution. Ministry of Science, Technology and Space, April 2016
- 16. Antioxidants- Talpiot
- 17. Banet
- 18. Lerner final report

I. Other Publications:

I.1. Non-scientific, Non-refereed Publications

1. Spanier Y., Sapir S., **Iluz D.** and Har Shefer Z. (2001) The educational field day in the educational system. Mofet Institute (in Hebrew)

שפנייר יוסף, ספיר שאול, אילוז דוד והר שפר צבי (2001). הסיור הלימודי במערכת החינוך, הוצאת מכון מו"פת

- Yehoshua Y. and Iluz D. (2002) Light field in the Kinneret littoral and its influence on epilithic algae. Kinneret News 25: 32-39 (in Hebrew).
 25:32-39. שדה האור בליטוראל בכינרת והשפעתו על האצות האפיליטיות. חדשות הכנרת: (2002).
- **3.** *Amar Z. and **Iluz D**. (2013) Dyeing with Tek'helet according to Maimonides and using natural dyeing substances. HaMaayan, vol. 53, 4 (206), pp. 35-53 (in Hebrew)

צביעת תכלת על פי הרמב"ם ושימוש בסממני צביעה טבעיים. המעיין, תמוז 5773, חוברת 53,4 (206) עמ' 35-53.

I.2. Popular Magazines

- 1. *The Romans wore green 7.1.2008, Maariv.
- 2. *Indigo in the Dead Sea. Danny Shalom, 23.6.2008. –Makor Rishon, p. 11
- 3. *New study recommends allowing eating giraffe and deer. Jonathan Bender, 2008–*Makor Rishon*.
- 4. *Camels for patients. David Kapah, 20.6.2008. Diukan.
- 5. *Smell history. Smadar Shir, 17.9.2010. *The Kibbutz News*, p. 40.
- 6. *The Bible Perfume's comeback. Dalia Mazuri, 02.09.2010. "Maariv", p. 23
- 7. *Smell history. Smadar Shir, 2.9.2010. Yediot Aharonot, 24, p. 8.
- 8. *Exposed plants of the Mishnah and Talmud. Yuri Yalon, 2.9.2010. Israel Today, p. 21.

- 9. *After centuries, probably solved the persimmon puzzle. Nir Hasson, 2.9.2010. *Haaretz*, p. 15.
- 10. *Ancient textiles from the Roman period. National Geographic.2008
- 11. *The discovery of persimmon in Ein Gedi. National Geographic-March 2011.
- 12. *Foreign donors profile (On the persimmon findings), Public Relations, Bar-Ilan University.
- 13. *The findings of the month (September 2011) of researchers at Bar-Ilan University (about persimmon).
- 14. *Perfume gardens. *Makor Rishon*, 20.7.12.
- 15. *The full directory of Murex. *Makor Rishon*, 826, 7.6.2013.
- 16. *Persimmon mystery in the Land of Israel. *Tzemah Hasade*, 2.12.13. http://www.wildflowers.co.il/hebrew/tiulimReadMore.asp?ID=562
- 17. *Blue, purple and scarlet worm 2000-years-old rare fabrics found, Meir Stein, Cocker reporter. 31.12.2013. <u>http://news.walla.co.il/?w2707954//=</u>.
- 18. *2,000-year-old discovery: Textileldye with a snail found in the desert. Walla! News Tuesday, December 31, 2013, <u>http://news.walla.co.il/?w=//2707954</u>.
- 19. *Desert discovery: Ancient fabric dyed by a snail. The most ancient, blue, purple, and scarlet worm uncovered in the study of the Antiquities Authority. The discovery that there are no parallels in the archaeological finds. *Maariv*. Missouri Medal, 31/12/2013. http://www.nrg.co.il/online/1/ART2/535/654.html?hp=1&cat=402
- 20. *Researchers find ancient fabrics in colors noted in Jewish sources. Jewish Press News Briefs. 31.12.2013. <u>http://www.jewishpress.com/news/breaking-news/researchers-find-ancient-fabrics-in-colors-noted-in-jewish-sources/2013/12/31/</u>
- 21. *Research on advertising MOA fabrics in a popular magazine in Germany in the German language. <u>http://www.antikewelt.de/index.php/neue-textilfunde-mit-der-farbe-purpur-aus-der-judaischen-wuste-in-israel/</u>.
- 22. The green algae which could lightning Ramat Gan city: <u>http://www.zavit.org.il/%D7%94%D7%90%D7%A6%D7%94-%D7%A9%D7%AA%D7%90%D7%A8-%D7%99%D7%A8-%D7%98%D7%96-%D7%A8%D7%9E%D7%AA-%D7%92%D7%9F/</u>

J. Other Works Related to my Research Field

J.1. Video Production

1. *Produced a video for the holiday of Tu Bishvat about the seven species. Bar-Ilan University Press (2014).

<u>https://www.youtube.com/watch?v=Q-wwe_Svx-c</u> (in Hebrew) <u>https://www.youtube.com/watch?v=x40fgG3wcgw</u>

Produced a video - Teaching workshop tour in rocky and sandy beaches. Bar-Ilan University Press (2012) (in Hebrew).
 http://www.youtube.com/watch?v=Lvi05uiarMo&feature=edu&list=PL8B44040DDBBCD253

J.2. Development of Research Instruments

- 1. OxyPAM- Metabolic cell that can measure photosynthesis and respiration of fluorescence spectroscopy in corals, macro and microalgae. Includes control of temperature, pH, light intensity, and fluorescence sensors, Control box and connected to a computer. Can measure photosynthesis and light intensity.
- 2. **Flashing light panel** with 8 led for algal growth and acclimation that can set frequencies of flashing light and intensity of light for experiments of its effect on photosynthesis
- 3. **Photosynthetron** an instrument for measuring photosynthesis (C¹⁴ uptake) vs. light intensity. Twelve triplicates of light intensities. System on swivel wheel in water flow, exposed to sun light source. It has glass that penetrates visible and UV light.
- 4. A system of led light source that can be controlled by a computer. It can design light intensities, frequencies of flashing light, and duty cycle. Designed for unique photosynthesis experiments.
- 5. System for antioxidant measurements.
- 6. In situ system for ¹⁴C injection and incubation in the sea.
- 7. Carbon (¹⁴C) evaporation system.
- 8. Educational greenhouse Building a greenhouse for botany studies and issues of *Shmita* (the seventh year).
- 9. **Bioreactor** for growing algae under flashing-light conditions (following our publication Abo Ghosh et al. 2015).
- 10. Cell for microscope include *Flashing light control*

L. Summary of my Activities and Plans

L.1. In my field of research:

- 1. Algal Biotechnology: A. Determining the optimal abiotic conditions for growing algae at maximal quantum yields, fast growth rates, and low energy investment. B. Elucidating the metabolic pathways of lipid synthesis in algae and designing ways to raise the oil content in their cells. C. Finding high-value fine chemicals, such as antioxidants, pigments, and polyunsaturated fatty acids that, as by-products, contribute to the economic feasibility of algal-based biodiesel production.
- Photobiology: A. Understanding the mechanism of flashing light enhancement of photosynthesis.
 B. Determining the kinetics of the xanthophyll cycle and its role in controlling energy losses in photosynthetic light-utilization efficiency due to thermal dissipation.
- 3. Energetics: A. Constructing an energy budget for algal photosynthesis that evaluates effects on process gains and losses. B. Finding ways to minimize yield losses due to thermal dissipation, fluorescence, and respiration.
- 4. Bioreactor development: Growing algae under a flashing light regime that increases biomass yields.
- 5. Global warming and acidification effects on the rate of calcification in corals, algae, and gastropods.
- 6. Documenting "light pollution" from infrastructure installations surrounding the Gulf of Eilat, and determining its effects on shallow-water organisms.
- 7. Study the influence of micro-gravity on biomineralization of organisms (calcification and silicification).

Torah and Science:

- 1. Continuing to study the biological aspects of historical and archaeological research in collaboration with Prof. Zohar Amar from the Dept. of Land of Israel Studies and Archaeology. In these studies, we combine historical and archaeological findings with Jewish traditions and religious rites. This is accomplished by applying the tools of life sciences (physics, chemistry, and biology) to recreate the material culture of ancient times. Here are a few examples of such studies and publications:
- a. Curdling, a property of animal milk and its relation to kashrut and lactose allergies.
 b. Identifying blue plant and animal pigments listed by the Rambam. c. Reintroducing the culture of the most precious herbal incense and perfume source, the biblical persimmon, for which we submitted a proposal to establish a center of learning and exploring its history and exploitation at Ein Gedi.
- 3. I supervised a study done by my student (Dr. Naama Sukenik, M.Sc and Ph.D.) on the characterization and identification of dyes in antique textiles. We studied fabrics and textiles in MOA and Judean Desert caves. Naama now works at the Israel Antiquities Authority, and we continue to explore ancient textiles from other sources. On this topic, I am developing a nondestructive method (spectral measurements) for identifying dyes in ancient fragile and precious fabrics currently in museum collections.

L.2. In Teaching:

- 1. Last year I gave a **teleprocessing-teaching** workshop in Mofet Institute and we are now leading the development and application of this approach in the college. I plan to introduce and use this tool to promote science education in schools.
- 2. **Development of distance learning** for a meaningful introduction to science. Schools have less and less resources for conducting laboratory experiments and field studies. Given the high costs of maintaining laboratories, schools should find a replacement or provide students with tools for scientific thinking through experience from far. Cameras and sensors placed in institutions or centers will allow distance learning in the lab without having to physically be there, in schools lacking such facilities and resources.
- 3. **Outdoor learning** I see great significance in students learning outside the classroom, both in the immediate vicinity and away on educational tours. Interdisciplinary field trips and outdoor study has a strong impact, resulting in high assimilation. This connects the students to their heritage, traditions, and to the Land of Israel. I am planning to promote the training of teachers to be able to conduct educational field trips in the college and beyond. I am also doing this within the central forum for educational tours, Mofet (a"reft).
- 4. **Teachers for working in the field:** Science teachers are not being trained to work outside the classroom, and guide their pupils in field work began to design projects for training teachers in these practices. (sentence unclear)
- 5. Education for sustainability: It is very important to us and to future generations to implement sustainability and environmental education in teaching. During the last few years, I was the coordinator of these studies in the college. These aspects are currently being studied by early childhood and elementary school. I am also responsible for the recognition of Talpiot College as a 'green' campus.

Geological Survey of Israel

Zohar Gvirtzman – Resume



Geologist

Senior Researcher, Geological Survey of Israel Adjunct Professor, Hebrew University Office: 972-2-5314269 Mobile: 052-6234542 Eail: zohar@gsi.gov.il

GENERAL

Zohar Gvirtzman (PhD 1997, Hebrew University; post-doc 1999, Stanford) is a senior researcher at GSI and an adjunct professor of geology at the Hebrew University. As to March 2017, he published 37 articles in highly ranked scientific journals including Nature, Geology, EPSL, BSSA, JGR, Tectonics, Tectonophysics, Marine Geology, and Journal of Sedimentary Research. He has ~1070 citations, H index of 15, and has supervised 5 MScs and 5 PhDs. Gvirtzman is primarily a tectono-stratigrapher studying vertical motions and sedimentary basins. He established the seismic interpretation laboratory at GSI and served as the Head of the Stratigraphic and Subsurface Research Division for 5 years. In recent years, he focuses on Levant and Middle-East geology and geo-hazards related to the marine environment and particularly to salt tectonics.

EDUCATION

From-to	Institute Hebrew	Degree	Advisor	Specialization
1985-1989	University	B.Sc.	-	Geology and Computer Science
1989-1992	Hebrew University	M.Sc.	Zvi Garfunkel	Aeromagnetics of southern Israel
1992-1997	Hebrew University	PhD	Zvi Garfunkel	Vertical movements of continental interiors related to magmatism
1997-1999	Stanford University	Post-doc	Amos Nur	Backarc Basins and slab rollback
2000-2001	Hebrew University	Post-doc	Zvi Garfunkel	Topography of overriding plates in convergence zones

APPOINTMENTS AT THE GEOLOGICAL SURVEY

2002	Research Scientist C (equivalent to "lecturer")
2004	Research Scientist B (equivalent to "senior lecturer")
2007 to 2012	Head of the department of Stratigraphy and Subsurface Research
2011	Senior Scientist A (equivalent to "associate professor")

APPOINTMETS IN ACADEMIA

1991 to date	State Teachers College "Seminar Hakibbutzim", Tel-Aviv	Lecturer
1999-2004	State Teachers College "Lifshitz", Jerusalem	Lecturer
2006 to 2013	Hebrew University, Institute of Earth Sciences, Jerusalem	Lecturer
2014	Hebrew University, Institute of Earth Sciences, Jerusalem	Adjunct associate

AWARDS AND HONORS

1997	Hebrew University	Special grade Summa cum Laude on PhD thesis
1997	Israel Geological Society	The Perez Grader Award for young scientist
1997	Hebrew University	Post-doc fellowship
1997/8:	Stanford University	The Jacob and Hilda Blaustein Fellowship for post doc
1999/01	Hebrew University	The Friedman Fellowship for post doc
2006	Geological Survey of Israel	Member in an Excellent Team chosen by the Division of Government Civil Servants

PROFFESSIONAL ACTIVITIES (5 YEARS)

2007 - 2017	The Standards Institution of Israel	Member, technical committee for seismic building codes
2011	Geological survey of Israel -Hebrew University - Ben Gurion University	Member, Inter-institutional advisory committee for preparation of a Petroleum Geology program
2011	European Geophysical Union (EGU)	Session convener, Annual assembly, Vienna

Twice	Israel Science Foundation (ISF)	Member of the annual ISF Research Proposal Evaluation Committee
2011	Interuniversity consortium	Committee for developing a new Inter-university Petroleum Geology program
2011 to date	Inter-institutional committee for the Israeli Center of Mediterranean Marine Research (MERCI)	Member in the scientific committee
2013	The International Batsheva De Rothschild Seminar about Hydrocarbons Exploration and Development in the Levant Offshore	Member in the organizing committee
	Binational Scientific Foundation (BSF)	Member of the annual BSF Research Proposal Evaluation Committee
2013 to date	ECORD	Member in the international initiative DREAM (Deep-sea Record of Mediterranean Messinian Events) for deep ocean drilling in the Mediterranean Sea.
2015	COST	Nominated to an Israeli representative for the management of COST Action N0 CA15103 Titled "Uncovering the Mediterranean Salt Giant".
2017	Israel Geological Society	Elected for the 2017 vise president and the 2018 president of the Israel Geological Society

RESEARCH AREAS

Stratigraphy Tectonics Sedimentary basins Geology of the Middle East and Levant regions Seismic hazard

RESEARCH GRANTS (5 YEARS)

Competitive Grants

- 2011-2013 Grant of the Ministry of Energy and Infrastructure, Title: "Seismic wave propagation and intra basin ground motions effects in the Dead Sea Rift", Cooperating investigator, for 3 years, Total budget: \$13,500 per year, Researcher part: \$5,000 per year.
- 2012-2013 Israel-Italy Joint Innovation Program for Scientific and Technological Cooperation in R&D, Title: The disconnection of the Mediterranean Basin from the Mesopotamian Basin and its relations to dynamic topography,

 Principal Investigator, for 2 years, Total budget: \$46,000 per year, Researcher part (Israeli side) \$27,000 per year.
 2013-2015 Grant of the Ministry of Energy and Infrastructure, Title: "The Origin and Evolution of the Yonah Ridge (Levant Basin): Fold, Volcano, or Horst", Principal Investigator, for 3 years, Total budget (=Researcher's part) \$15,000 per year.
 2013-2015 Grant of the Ministry of Energy and Infrastructure, Title: 3-D modeling of propagation through complex sedimentary structures – ground motions

- Plain and Hula Valley, Cooperating investigator, for 3 years, Total budget: \$13,500 per year, Researcher part: \$5,000 per year.
- 2016-2019 COST Action N0 CA15103 Titled "Uncovering the Mediterranean Salt Giant". This program funds networking of a group joined together for Messinian research at the Mediterranean Sea.
- 2015-2017 Grant of the Ministry of Energy and Infrastructure, Title: "Deterministic, scenario based, seismic hazard modeling for selected regions in Israel", Principal Investigator, for 3 years, Total budget \$15,000 per year Researcher part: \$5,000 per year.

Other Research Grants

2010-2011	The Israel Petroleum Commissioner (Ministry of Energy and Infrastructure), Title: "Fundamental researches for hydrocarbon exploration in Israel", Principal investigator, 2 years, \$~150,000 (600,000 NIS) per year
2010-2011	Chief Scientist of the ministry of Energy and Infrastructure, Title: "Multi- technical Research Plan for CO ₂ sequestration", Principal investigator, for 2 years, Total budget: \$~150,000 (600 K NIS) per year, Researcher part: \$~50,000 (200K NIS) per year.
2011-2013	The Prime Minister's Office, Title: "CO ₂ sequestration in southern Israel", Principal Investigator, 3 years, Total budget: \$270,000 per year, Researcher part for 2012: \$270,000; Researcher part for 2013: \$130,000.
2011	Steering Committee of National Earthquake preparedness and Mitigation, Title: "Characterizing Ground motion in sedimentary basins in Israel", Principal investigator, 1 year, Total budget (=Researcher's part) \$13,000.
2013-2014	Steering Committee of National Earthquake preparedness and Mitigation, Title, "Measuring earthquake ground motion in sedimentary basins", 2 years, Total budget: \$135,000 per year, Researcher part \$135,000 per year.
2016	Steering Committee of National Earthquake preparedness and Mitigation, Title: "Faults in the continental slope and their significance for earthquakes hazards", Principal investigator, 1 years, Total budget (=Researcher's part) \$13,000 per year.

Zohar Gvirtzman - Selected List of Publications

- 1. **Gvirtzman, Z,** and Garfunkel, Z, 1998. The transformation of southern Israel from a swell to a basin: stratigraphic and geodynamic implications for intracontinental tectonics. Earth and Planetary Sciences Letters, 163, 275-290.
- 2. **Gvirtzman, Z**., and Nur, A., 1999a. Plate detachment, asthenospheric upwelling, and topography across subduction zones. Geology, 24, 563-566, doi: 10.1130/0091-7613.
- 3. **Gvirtzman Z.,** and Nur, A., 1999b. The Formation of Mount Etna as a consequence of slab rollback. Nature, 401, 782-785, doi:10.1038/44555.
- 4. **Gvirtzman, Z.,** and Nur, A., 2001, Residual topography, lithospheric thickness, and sunken slabs in the central Mediterranean. Earth and Planetary Science Letters, 187, 117-130, doi:10.1016/S0012-821X(01)00272-2.
- 5. **Gvirtzman, Z**., and Stern, R., 2004. Bathymetry of the Mariana Trench-Arc system and the formation of the Challenger Deep as a consequence of weak plate coupling. <u>*Tectonics*</u>, 23, TC2011, doi:10.1029/2003TC001581.
- Avigad, D., Gvirtzman, Z., 2009. Late-Neoproterozoic rise and fall of the northern Arabian-Nubian Shield: The role of lithospheric mantle delamination and subsequent thermal subsidence. Tectonophysic, Volume 477, 217-228
- 7. Steinberg, J.S, **Gvirtzman, Z.,** Folkman, Y., and Garfunkel, Z. 2011. The origin and nature of the rapid late Tertiary filling of the Levant Basin. Geology, vol. 39, 355-358.
- 8. **Gvirtzman, Z**., Steinberg, J. S, Siman-Tov, R., Zilberman, E., Bar, O. S, Calvo, R., Grossowicz, L., Almogi-Labin, A., and Rosensaft, M., 2011. Retreating Late Tertiary Shorelines in Israel: Implications for the Exposure of north Arabia and Levant during Neo-Tethys Closure. Lithosphere, vol. 3, 95-109.
- 9. Shani-Kadmiel, S., Tsesarsky, M., Louie, JN., **Gvirtzman, Z**., 2012. Simulation of seismic wave propagation through geometrically complex basins the Dead Sea Basin Bulletin of the Seismological Society of America, v. 102, 1729-1739; doi: 10.1785/0120110254;
- Gvirtzman, Z. and Steinberg, J., 2012, Inland jump of the Arabian northwest plate boundary from the Levant continental margin to the Dead Sea Transform, Tectonics, vol. 31, TC4003, doi:10.1029/2011TC002994
- **Bar, O., Gvirtzman, Z., Feinstein, S., Zilberman, E., 2013, Accelerated Subsidence and Sedimentation in the Levant Basin during the Late Tertiary and Concurrent Uplift of the Arabian Platform: Tectonic versus Counteracting Sedimentary Loading Effects, Tectonics, vol. 32 (3), 334-350, DOI: 10.1002/tect.20026.
- 12. **Gvirtzman, Z**., Reshef, M., Buch-Leviatan, O., Ben-Avraham, Z., 2013, Intense salt deformation in the Levant Basin in the middle of the Messinian Salinity Crisis, Earth and Planetary Science Letters, vol. 379, 109-119.
- 13. Lugli, S., Gennari, R., **Gvirtzman, Z.**, Manzi, V., Roveri, M. and Schreiber, C., 2013, Evidence of Clastic Evaporites In the Canyons of the Levant Basin (Israel): Implications For the Messinian Salinity Crisis, Journal of Sedimentary Research, v. 83, p. 942-954.
- 14. **Gvirtzman, Z**., Csato, I., Granjeon, D., 2014, Constraining sediment transport to deep marine basins through submarine channels: the Levant margin in the Late Cenozoic, Marine Geology, vol. 347 p. 12–26, 10.1016/j.margeo.2013.10.010

- **Shani-Kadmiel, S., Tsesarsky, M., Louie, JN., Gvirtzman, Z., 2014, Geometrical focusing of seismic waves by buried geological structures – analytical and numerical study, Bulletin of Earthquake Engineering, DOI 10.1007/s10518-013-9526-4
- 16. **Steinberg, J., Gvirtzman, Z., Garfunkel, Z., 2014,

Flexural response of a continental margin to sedimentary loading and lithospheric rupturing: The mountain ridge between the Levant Basin and the Dead Sea Transform, Tectonics, 33, 166-186. DOI: 10.1002/2013TC003330.

- 17. **Gvirtzman, Z.,** Reshef, M., Buch-Leviatan, O., Groves-Gidney, G., Karcz, Z., Makovsky, Y., & BenAvraham, Z. (2015). Bathymetry of the Levant basin: interaction of salt-tectonics and surficial mass movements. Marine Geology, 360, 25-39.
- Sagy. Y., Gvirtzman, Z., Reshef, M., Makovsky. Y., 2015, The Enigma of the Jonah high in the Middle of the Levant Basin and its Significance to the History of Rifting, Tectonophysics 10/2015; DOI:10.1016/j.tecto.2015.09.037
- Katz, O., Reuven, E., Elfassi, Y., Paldor, A., Gvirtzman, Z., Aharonov, E., 2016, Spatial and temporal relation of submarine landslides and faults along the Israeli continental slope, eastern Mediterranean, <u>Submarine Mass Movements and their Consequences</u>, 351-359
- **Shani-Kadmiel, Tsesarsky. M., and Gvirtzman Z., 2016 Distributed Slip Model for Forward Modeling Strong Earthquakes, <u>Bulletin of the Seismological Society of America</u>, Vol. 106, No. 1, pp. 93–103, doi: 10.1785/0120150102
- **Bar, O., Zilberman, E., Feinstein, S., Calvo, R., Gvirtzman, Z., 2016 The uplift history of the Arabian plateau as inferred from geomorphologic analysis of its northwestern edge, <u>Tectonophysics</u>, 671 (2016) 9–2, doi.10.1016/j.tecto.2016.01.004
- 22. **Gvirtzman**, Z, Faccenna, C., Becker T.W., 2016, Isostasy, flexure, and dynamic topography, <u>Tectonophysics</u>, doi:10.1016/j.tecto.2016.05.041;
- 23. **Zucker E., **Gvirtzman** Z., Steinberg J., Enzel Y., 2017, Diversion and morphology of submarine channels in response to regional slopes and localized salt tectonics, Levant Basin, <u>Marine and Petroleum Geology</u>, doi.org/10.1016/j.marpetgeo.2017.01.002
- 24. **Volk, O., Shani-Kadmiel, S., **Gvirtzman**, Z., Tesarsky, M. 2017, 3D effects of sedimentary wedges and sub-surface canyons: ground motion amplification in the Israeli coastal plain, <u>Bulletin of the</u> <u>Seismological Society of America</u>, in press.

Oded Katz – Resume



Geological Survey of Israel 30 Malkhe Israel St., Jerusalem 95501, Israel Voice: +972-2-5314267 Fax: +972-2-5314349 E-mail: odedk@gsi.gov.il

EDUCATION

 1996 – 2002 Ph.D. in Geology at the Hebrew University, Jerusalem, Israel and Rock Mechanics Inst. University of Oklahoma, Norman, Oklahoma.
 Title of dissertation: Mechanisms of faults nucleation in brittle rocks. Advisors: Z. Reches (Hebrew Uni.) and G. Baer (Geological Survey of Israel).
 1993 – 1996 M.Sc. in Geology at the Hebrew University, Jerusalem, Israel.
 Title of thesis: The metamorphism and the structure of southeastern Roded block, contribution to the Precambrian basement evolution research. Advisors: D. Avigad (Hebrew Uni.), A. Matthews (Hebrew Uni.) and A. Heimann (Geological Survey of Israel).

1990 – 1993 B.Sc. in Geology at the Hebrew University, Jerusalem, Israel.

PROFESSIONAL EXPERIENCE

ACADEMIC APPOINTMENTS

- 2017 Present: Senior Research Scientist in the Geological Survey of Israel
- 2012-2017: Head, Stratigraphy and sub-surface research Division, Geological Survey of Israel
- 2008 2010: Visiting Scholar, Earth Science Department, Rice Univ., Houston, TX
- 2006 2012: Senior Research Scientist in the Geological Survey of Israel
- 2002 2006: Research Scientist in the Geological Survey of Israel

RESEARCH INTERESTS

Rock Mechanics, Landslides Mechanics, Submarine Landslides, Landslides Hazard, Earthquakes Hazard, Computer Simulations

Oded Katz - List of Publications

PEER REVIEWED PAPERS:

- 1. Katz, O., Reichenbach, P., Guzzetti, F. 2011. Rock fall hazard along the railway corridor to Jerusalem, Israel, in the Soreq and Refaim valleys. Natural Hazards. DOI: 10.1007/s11069-010-9580-z.
- 2. Katz, O., Amit, R., Yagoda-Biran, G., Hatzor, Y. H. 2011. Quaternary earthquakes and landslides in the Sea of Galilee area, the Dead Sea Transform; paleoseismic analysis and evaluation of current hazard. Israel Journal of Earth Sciences 58, In-Press.
- 3. Klar, A., Aharonov, E., Kalderon Asael, B., Katz, O., 2011. Analytical and observational relations between landslide volumes and surface areas. JGR Earth Surface 116, doi:10.1029/2009JF001604.
- 4. Grodec, T., Jacoby, Y., Morin E., Katz, O. 2011. The effectiveness of exceptional rainstorm on basin landscape evolution. Accepted for publication to Geomorphology.
- 5. Ryb, U., Matmon, A., Porat, N., Katz, O., 2012. From mass-wasting to slope stabilization putting constrains on 1 the transition in slope erosion mode: A case study in the Judea Hills, Israel. Accepted for publication in Earth Surface Processes and Landforms.
- 6. Katz, O., Mushkin, A., 2013. Characteristics of sea-cliff erosion induced by a strong winter storm in the eastern Mediterranean. Quaternary Research 80, 20-31.
- 7. Katz, O., Morgan, J.K., Aharonov, E., 2014. Controls on the size and geometry of landslides:
- 8. Insights from discrete element numerical simulations. Geomorphology, doi: 10.1016/j.geomorph.2014.05.021.
- 9. Marco, S., Katz, O., Dray, Y., 2014. Historical sand injections on the Mediterranean shore of Israel: evidence for liquefaction hazard. Natural Hazards, doi 10.1007/s11069-0141249-6.
- 10. Levi, T., Bausch, D., Katz, O., Rozelle, J., Salamon, A. 2015. Insights from Hazus loss estimations in Israel for Dead Sea Transform earthquakes. Natural Hazards, doi 10.1007/s11069-014-1325-y.
- Katz, O., Reuven, E., Aharonov, E., 2015. Submarine landslides and fault scarps along the eastern Mediterranean Israeli continental-slope. Marine Geology 369, 100-115. DOI 10.1016/j.margeo.2015.08.006.
- Aharonov, E., Katz, O., Morgan, J.K., Dugan, B., 2016. Reply to comment by Chen et al. on "Controls on the size and geometry of landslides: Insights from discrete element numerical simulations". Geomorphology 253, 551-552. DOI:10.1016/j.geomorph.2015.03.024.
- 13. Goodman-Tchernov, B., Katz, O., 2016. Holocene-era submerged notches along the southern Levantine coastline: Punctuated sea level rise? Quaternary International 401, 17 27.
- Mushkin A., Katz, O., Crouvi, O., Alter, S.R., Shemesh, R., 2016. Sediment contribution from Israel's coastal cliffs into the Nile's littoral cell and its significance to cliff-retreat mitigation efforts. Engineering Geology 215, 91-94.
- 15. Siman-Tov, S., Katz, O., Matmon, A., (2017). Examining the effects of ground motion and rock strength on the size of boulders falling from an overhanging cliff. Accepted to Engineering Geology.

GEOLOGICAL SURVEY OF ISRAEL REPORTS:

16. Katz, O., 2012. Evaluation of landslides hazard in Sothern Israel, 1:200,000 scale map (in Hebrew). Geological Survey of Israel, Report: GSI/18/12.

- 17. Levi, T., Salamon, A., Hoyland, S., Hamiel, Y., Katz, O., Akerman, B., 2012. Earthquake damage scenario as a base for national emergency exercise "Nekudat Mifne 6" (in Hebrew). Geological Survey of Israel, Report: GSI/21/12.
- Katz, O., Mushkin A., Crouvi, O., Shemesh, R., 2016. The background and modern retreat rates of Israel's coastal cliffs and a new method for effective monitoring of changes in rates (in Hebrew). Geological Survey of Israel, GSI/26/2016, 35pp.
- 19. Katz, O., Mushkin A., Bustan, I., Crouvi, O., Shemesh, R., (2017). Failure and erosion along Israel's coastal cliffs between 2015 and 2016 (in Hebrew). Geological Survey of Israel, GSI/01/2017, 29pp.

Orit Hyams-Kaphzan – Resume



Research Scientist, Department of Stratigraphy and subsurface research, the Geological Survey of Israel, Jerusalem

E-mail: orithy@gsi.gov.il

Website: <u>http://www.gsi.gov.il/?CategoryID=296&ArticleID=956</u>

Education

Dates	Degree	Institute
1994 -1997	B.Sc.	Geological & Environmental Sciences, Ben-Gurion University,
		Beer-Sheva, Israel
1997 - 2001	M.Sc. (with Distinction)	Geological & Environmental Sciences, Ben-Gurion University,
		Beer-Sheva, Israel
2001 - 2006	Ph.D.	Geological & Environmental Sciences, Ben-Gurion University,
		Beer-Sheva, Israel

Positions

2007 - 2008	Postdoctoral position	Dept. of Biology at the City University of NewYork (CUNY), New- York, NY, USA
2009 - 2010	Research Fellow	Dept. of Geochemistry, Lamont-Doherty Earth Observatory
		(LDEO), Columbia University, Palisades, NY, USA
2010 to date	Principal Investigator	Geological Survey of Israel, Jerusalem, Israel
2013 to date	Head of the	Geological Survey of Israel, Jerusalem, Israel
	Micropaleontology	
	Laboratory	

Research Grants

2011	Anthropogenic modification of the Israeli	Chief Scientist of the	\$42,200	2 years
Co-PI	Mediterranean coast tracked by live-dead	Ministry of Energy and		
	benthic foraminifera, ostracode and mollusk	Water Resources		
	assemblages.			
2012	Biofacies of Eocene organic-rich sediments in	Chief Scientist of the	\$41,250	2 years
Co-PI	the autochthonous pelagic realm, Levant	Ministry of Energy and		
	margin, Israel.	Water Resources		
2013	Phylogenetic and ecological characteristics of	Israel Science Foundation	\$219,000	4 years
Co-PI	Lessepsian symbiont bearing larger benthic			
	foraminifera.			

2013	The characteristics of the deep sea benthic	Chief Scientist of the	\$31,430	2 years
Co-PI	foraminifera from the Levantine basin (Israel	Ministry of Energy and		
	economic zone)	Water Resources		
2013	Characteristics of benthic foraminifera	Chief Scientist of the	\$26,000	3 years
Co-PI	inhabiting rocky reefs in northern Israeli	Ministry of Energy and		
	Mediterranean shelf.	Water Resources		
2015	Spatial distribution of brine discharges and its	The Ministry of Science,	\$296,474	3 years
Co-PI	impacts on the shallow Israeli shelf.	Technology and Space		

Achievements and awards

2001	Honor in Geology for excellence in M.Sc studies
	Geological & Environmental Sciences, Ben-Gurion University, Beer-Sheva, Israel
2016	Scientific Coordinator of the international Workshop on Live foraminifera as a new model system
	for monitoring and reconstructing marine environments, Eilat, Israel
2017	Member of the FOBIMO (FOraminiferal Blo-MOnitoring) consortium

Research Interests

Micropaleontology, benthic & planktic foraminifera, geochemistry of foraminiferal shells, taxonomy, larger symbiont bearing foraminifera, lessepsian migration, shallow and deep marine environments, ecology, marine pollution.

Orit Hyams-Kaphzan - List of Publications

Articles in reviewed journals only

1. **Hyams O.**, Benjamini, C. and Almogi-Labin, A., 2001. Benthic Foraminifera from the Mediteranean inner shelf, Israel. Report submitted to the Ministry of National Infrastructures, 60 pp.

- Herut, B., Halicz, L. Hyams, O. and Almogi-Labin, A., 2003. Tracking dissolved trace metals in Haifa Bay, using benthic foraminifera. *IOLR Report H47/2003*, 19 pp.
- 3. Herut, B., Benjamini, C., **Hyams, O.**, Schilman, B., Harlavan, Y. and Almogi-Labin, A., 2004. Anthropogenic eutrophication affecting benthic foraminifera on the oligotrophic Eastern Mediterranean shallow shelf. *IOLR Report H15/2004*, 29 pp.
- Herut, B., Halicz, L., Hyams, O. and Almogi-Labin, A., 2005. Tracking dissolved trace metals in Haifa Bay, using benthic foraminifera. *Israel Geological Survey Report GSI/02/ 2005*, 28 pp.
- 5. Harlavan, Y., Almogi-Labin, A., **Hyams, O.** and Herut, H., 2006. Utilizing Pb isotopes in tracing anthropogenic contribution of Pb to sediments along the Mediterranean coast of Israel.

Israel Geological Survey Report GSI/19/2006 and IOLR Report H34/2006, 33 pp.

- Herut, B., Benjamini, C., Hyams, O. and Almogi-Labin, A., 2006. Anthropogenic eutrophication affecting benthic foraminifera on the oligotrophic Eastern Mediterranean shallow shelf. *IOLR Report H38/2006*, 101 pp.
- Hyams-Kaphzan, O., Edelman-Furstenberg, Y., Leshno, Y., Tadir R., Benjamini, C. and Almogi-Labin, A., 2012. Anthropogenic modification of the Israeli Mediterranean coast, tracked by live-dead benthic foraminifera, ostracode and mollusk assemblages. *Israel Geological Survey Report GSI/36/2012*, 24 pp.
- 8.a. Hyams-Kaphzan, O., Perelis Grossowicz, L. and Almogi-Labin, A., 2014. Characteristics of benthic foraminifera inhabiting rocky reefs in northern Israeli Mediterranean shelf. *Report submitted to the Ministry of National Infrastructures, Energy and Water Resources, ES 20-*2014, 32 pp.
 - 9. Hyams-Kaphzan, O., Edelman-Furstenberg, Y., Leshno, Y., Tadir R., Benjamini, C. and Almogi-Labin, A., 2014. Anthropogenic modification of the Israeli Mediterranean coast, tracked by live-dead benthic foraminifera, ostracode and mollusk assemblages. *Report submitted to the Ministry of National Infrastructures, Energy and Water Resources, ES-37-14*, 39 pp.
 - 10. Almogi-Labin, A. and **Hyams-Kaphzan, O.**, 2015. Benthic foraminifera as bioindicators for deep sea conditions off the Israeli coast. Report submitted to the Ministry of National Infrastructures, Energy and Water Resources, GSI/34/2014, 38 pp.
 - 11. Hyams-Kaphzan O., 2016. Eutrophication affecting benthic foraminifera on the oligotrophic eastern Mediterranean shallow shelf. *Israel Geological Survey Report GSI/07/2016*, 157 pp.
 - 12. Hyams-Kaphzan O., Perelis Grossowicz, L., Gefen, I., Sultan-Levi, S., Rilov, G. and Almogi-Labin, A., 2016. Seasonality, biodiversity and assemblage dynamics of benthic foraminifera inhabiting rocky reefs macroalgae in the northern Israeli Mediterranean shelf. *Report*

submitted to the Ministry of National Infrastructures, Energy and Water Resources, ES-13-2016, 24 pp.

- 13. Tadir R., 2016. Anthropogenic modification of the Israeli Mediterranean coast, tracked by live-dead benthic foraminifera assemblages. *Israel Geological Survey Report GSI/06/2016*, 120 pp.
- 14. Biton, E., Silverman, J., Galanti, B., Rahav, E. and **Hyams-Kaphzan, O.**, 2016. Spatial distribution of brine discharges and its possible impacts on the shallow Israeli shelf: present and future perspectives. *IOLR Mid-Report IOLR/H45/2016*, 13pp.

Onn Cruvi – Resume



Geological Survey of Israel 30 Malkhe Israel st., Jerusalem, Israel Phone: 972-2-5314242, 972-50-6234540 E-mail:<u>crouvi@gsi.gov.il</u> Web-site: <u>http://www.gsi.gov.il/?CategoryID=296&ArticleID=958</u>

Onn Crouvi is a geomorphologist focusing on soil and eolian geomorphology. Since he started to work at the GSI as a researcher in 2012 he also works on coastal geomorphology, focusing on coastal dynamics and on sedimentology of marine and coastal environments.

Education

2003-2009 Ph.D., Geology, The Institute of Earth Sciences, The Hebrew University of Jerusalem,	
Jerusalem, Israel. Dissertation: "Sources and formation of loess in the Negev	
desert during the late Quaternary, with implications for other worldwide	
deserts". Supervisors: Prof. Yehouda Enzel, The Hebrew university of	
Jerusalem; Dr. Rivka Amit, the Geological Survey of Israel.	
1999-2002 M.Sc. (cum laude), Geology, The Institute of Earth Sciences, The Hebrew University of	;
Jerusalem, Jerusalem, Israel. Thesis: "Geomorphic mapping using	
hyperspectral remote sensing – Wadi Raham alluvial fan as a case study".	
Supervisors: Prof. Eyal Ben-Dor, Department of Geography, Tel-Aviv	
University; Prof. Dov Avigad, The Hebrew university of Jerusalem; Dr. Michae	el -
Beyth, Geological Survey of Israel.	
1995-1998 B.Sc., Geology , The Institute of Earth Sciences, The Hebrew University Jerusalem, Jerusalem, Israel.	of

Research and work experience

	ar, bepartment of decisionees, oniversity of Anzona, ooA.
ſ	Modelling calcic soil formation, with Prof. Jon Pelletier and Dr. Craig Rasmussen.
8/2015, 8/2013 V i	isiting scholar, The Division of Earth & Ocean Sciences, Nicholas School of the
	Environment, Duke University, Durham, NC, USA. Modelling Sea Cliff
	dynamics along the Israeli Mediterranean coastline, with Prof. Brad Murray
	(Duke), Prof. Marco Marani (Duke), and Dr. Patrick Limber (USGS).
2012-present	Researcher at the Geological Survey of Israel.
2012-present 2010-2012 Postdo	Researcher at the Geological Survey of Israel. A pottoral research scientist at the department of Geosciences, University of
2012-present 2010-2012 Postdo	Researcher at the Geological Survey of Israel. octoral research scientist at the department of Geosciences, University of Arizona, USA. Applying and testing innovative mechanistic modeling
2012-present 2010-2012 Postdo	Researcher at the Geological Survey of Israel. octoral research scientist at the department of Geosciences, University of Arizona, USA. Applying and testing innovative mechanistic modeling techniques for estimating the spatial and temporal variability in soil thickness
Geosciences, and Dr. Craig Rasmussen, Department of Soil, Water and Environmental Science.

2001–2010 Geologist at the Geological Survey of Israel.

8/2000 Visiting student, The Remote Sensing section, GFZ German Research Centre for Geosciences, Potsdam, Germany. Image processing and laboratory spectroscopy measurements.

Awards and honors

2012	Exceptional reviewer for the Geological Society of America.
2011	The Bentor award for excellence in Ph.D. research, the Institute of Earth Sciences, the Hebrew University of Jerusalem.
2006	Best poster award at the Israel Geological Society Annual Meeting.
2002 The Shraga-Di	cker award for excellence in M.Sc. research, the Institute of Earth Sciences, the
	Hebrew University of Jerusalem.
2002	M.Sc. cum laude.

Community service

2016	Lead organizer of the GEODUST 1 st meeting, 22-23 November 2016, Leipzig, Germany.
2015-present Lead	organizer of the GEODUST (Geomorphology of dust sources and dynamics of dust emission from different geomorphic units) International Focus Group, TERPRO, INQUA.
2015 Lead organize	r of Batsheva de Rothschild Seminar on Atmospheric Dust, Dust Deposits (Loess) and Soils in Deserts and Desert Fringe: The Sahara-Sinai-Negev as an Analogue for the Global Arid Regions, 14-19 October 2015, Jerusalem & Negev Desert, Israel.
2015 Convener of se	ession "Atmospheric dust and loess formation and their climatic implications: Source to sink and beyond", XIX INQUA congress, Nagoya, Japan.
2014 Convener of se	ession "Aeolian environments", 19 th International Sedimentological Congress, Geneva, Switzerland.
2007	Co-organizer of the Israel Geological Society Annual Meeting.
2006 Organizer and	convener of session "Remote sensing applications in earth sciences", Israel Geological Society Annual Meeting.
2004-present Revie	wer of the following research programs: German-Israeli Foundation for Scientific Research and Development; Israel Science Foundation; National Geographic Society grant.
2002-present Revie	wer of the following international journals: Africa Geoscience Review; Catena, Chemical Geology; Climate of the Past; Earth Surface Processes and Landforms; Geological Society of America Bulletin; Geology; Geomorphology; International Journal of Remote Sensing; Journal of African Earth Sciences;

Journal of Geochemical Exploration; Journal of Geophysical Research – Earth surface; Quaternary International; Quaternary Research.

Grants

2015	ISF grant for 4 years, \$167,580, title "Geomorphology of dust sources and dynamics of dust emission in northern Sahara".
2015	BSF young scientist grant for 2 years, \$75,000, title "Process-based modeling of calcic soil formation on a regional scale: Implications for pedogenic processes, paleoclimatic reconstructions and estimation of inorganic carbon pool", with Jon Pelletier and Craig Rasmussen, University of Arizona, USA.
2013	The Ministry of National Infrastructures, Energy and Water Resources grant for 3 years, \$28,000, title "The characteristics and sources of sediments from the deep sea of the Levantine basin (Israel economic zone)".
2012	The Ministry of National Infrastructures, Energy and Water Resources grant for 4 years, \$116,785, title "Quantification of sediment budget along the Israeli shoreline in different spatial and temporal scales".

Onn Cruvi – List of Publications

Refereed Journal Articles (since 2008; total 31)

- 1. (31) **Crouvi, O**., Barzilai, O., Goldsmith, Y., Amit, R., Porat, N., Enzel, Y. Unver review in Quaternary Science Reviews, Middle and late Pleistocene dust accretion in Jerusalem's prehistoric sites downwind of the Levant deserts.
- (30) Ben-Asher, M., Haviv, I., Roering, J.J., and Crouvi, O., Unver review in *Earth Surface Processes and Landforms*, The Influence of Climate and Micro-climate (aspect) on Soil Creep Efficiency: cinder cone morphology and evolution along the eastern Mediterranean Golan Heights.
- (29) Lubinevsky, H., Hyams-Kaphzan, O., Almogi-Labin, A., Silverman, J., Harlavan, Y., Crouvi, O., Herut, B., Kanari, M., and Tom, M., 2017, Deep-sea soft bottom infaunal communities of the Levantine Basin (SE Mediterranean) and their shaping factors, *Marine Biology*, accepted on 16-Dec2016.
- 4. (28) **Crouvi, O**., Dayan, U., Amit, R., and Enzel, Y., 2017, An Israeli haboob: Sea breeze activating local anthropogenic dust sources in the Negev loess, *Aeolian Research*, 24, 39-52.
- 5. (27) Mushkin, A., Katz, O., **Crouvi, O.**, Alter, S., and Shemesh, R., 2016, Sediment contribution from Israel's coastal cliffs into the Nile's littoral cell and its significance to cliff-retreat mitigation efforts, *Engineering Geology*, 215, 91-94.
- (26) Crouvi, O., Amit, R., and Enzel, Y., 2016, Seeking knowledge in the dust, EOS, 97, doi:10.1029/2016E0049501. Published on 8 April 2016.
- (25) Brevik, E. C., Richter, D. d., Verrecchia, E. P., Ryan, J., Poch, R. M., Crouvi, O., Sauer, D., Waroszewski, J., Solleiro-Rebolledo, E., Monger, C., Ottner, F., and Targulian, V., 2016, The influence of Dan H. Yaalon: His impact on people, *Catena*, 146, 147-154.
- (24) Vardi, J., Yegorov, D., Crouvi, O., and Birkenfeld, M., 2015, Renewed excavations at site K7: A Final Report of the 2012 Salvage Excavation at Har Harif Plateau, *Journal of the Israel Prehistoric Society*, 45, 170-191.
- (23) Matmon, A., Hidy, Al. J., Vainer, S., Crouvi. O., Fink, D., Erel, Y., ASTER Team, Horwitz, L., and Chazan, M., 2015, New chronology for the southern Kalahari Group sediments with implications for sediment-cycle dynamics and early hominin occupation, *Quaternary Research*, 84, 1, 118-132.
- 10. (22) **Crouvi, O**., Polyakov, V. O., Pelletier, J. D., and Rasmussen, C., 2015, Decadal-scale soil redistribution along hillslopes in the Mojave Desert, *Earth Surface Dynamics*, 3, 251-264, doi:10.5194/esurf-3-251-2015.
- 11. (21) Amit, R., Enzel, Y., Mushkin, A., Gillespie, A. R., Batbaatar, J., **Crouvi, O**., Vandenberghe, J., and Zhisheng, A., 2013, Linking coarse silt production in Asian sand deserts and Quaternary accretion of the Chinese Loess Plateau, *Geology*, 42, 23-26.
- 12. (20) **Crouvi, O**., Pelletier, J.D., and Rasmussen, C., 2013, Predicting the thickness and aeolian fraction of soils in upland watersheds of the Mojave Desert, *Geoderma* 195-196C, 94-110.
- 13. (19) Crouvi, O., Schepanski, K., Amit, R., Gillespie, A. R., and Enzel, Y., 2012, Multiple dust sources in the Sahara Desert: The importance of sand dunes, *Geophysical Research Letters*, doi:10.1029/2012GL052145.

- 14. (18) Bacon, S. N., McDonald, E. V., Amit, R., Enzel, Y., and **Crouvi, O**., 2011, Total suspended particulate (TSP) emissions at high friction velocities from landforms in the Negev Desert, *Journal of Geophysical Research Earth Surface*, 116, F03019, doi:10.1029/2011JF001965.
- (17) Amit, R., Enzel, Y., Crouvi, O., Simhai, O., Matmon, A., Porat, N., McDonald, E. V., and Gillespie, A. R., 2011, The role of the Nile in initiating a massive dust influx to the Negev late in the middle Pleistocene, *Geological Society of America Bulletin*, *123*, 5/6, 873-889.
- 16. (16) Amit, R., Simhai, O., Ayalon, A., Enzel, Y., Matmon, A., Crouvi, O., Porat, N., and McDonald,
 E. V., 2011, Transition from arid to hyper-arid environment in the southern Levant deserts as recorded by early Pleistocene cummulic Aridisols, *Quaternary Science Reviews*, 30, 312-323.
- 17. (15) Amit, R., Enzel, Y., Grodek, T., **Crouvi, O**., Porat, N., and Ayalon, A., 2010, The role of rare rainstorms in the formation of calcic soil horizons on alluvial surfaces in extreme deserts, *Quaternary Research*, 74, 177-187.
- 18. (14) **Crouvi, O**., Amit, R., Enzel, Y., and Gillespie, A. R., 2010, The role of active sand seas in the formation of desert loess, *Quaternary Science Reviews*, 29, 2087-2098.
- 19. (13) Enzel, Y., Amit, R., **Crouvi, O**., and Porat, N., 2010, Abrasion-derived sediments under intensified winds at the latest Pleistocene leading edge of the advancing Sinai–Negev erg, *Quaternary Research*. 74, 121-131.
- 20. (12) Salamon, A., Katz, O., and **Crouvi, O.**, 2009, Zones of required investigation for earthquakerelated hazards in Jerusalem, *Natural Hazards*, doi:10.1007/s11069-009-9436-6.
- 21. (11) Barzilai, O., Birkenfeld, M., and **Crouvi, O**., 2009, Ramat Rachel A Palaeolithic site in Jerusalem, *Eurasian Prehistory*, 6, 1-2, 65-72.
- 22. (10) Ginat, H., Beyth, M., and **Crouvi, O.,** 2009, Geomorphic evidence for young tectonic activity around Har Timna, *Israel Journal of Earth Sciences*, 57, 213-229.
- (9) Crouvi, O., Amit, R., Porat, N., Gillespie, A. R., McDonald, E. V., and Enzel, Y., 2009, Significance of primary hilltop loess in reconstructing dust chronology, accretion rates, and sources: An example from the Negev Desert, Israel, *Journal of Geophysical Research*, 114, F02017, doi:10.1029/2008JF001083.
- 24. (8) **Crouvi, O.,** Amit, R., Enzel, Y., Porat, N., and Sandler, A., 2008, Sand dunes as a major proximal dust source for late Pleistocene loess in the Negev desert, Israel, *Quaternary Research*, 70, 275-282.
- (7) Enzel, Y., Amit, R., Dayan, U., Crouvi, O., Kahana, R., Ziv, B., and Sharon, D., 2008, The climatic and physiographic controls of the eastern Mediterranean over the late Pleistocene climates in the southern Levant and its neighboring deserts, *Global and Planetary Change*, 60, 3-4, 165-192. <u>Book chapters</u>
- Crouvi, O., Amit, R., Ben Israel, M., Enzel, Y., 2017, Chapter 53. Loess in the Negev Desert: Sources, Loessial Soils, Palaeosols, and Palaeoclimatic Implications. In: Y. Enzel, O. Bar-Yosef (Eds.), Quaternary Environments, Climate Change and Humans in the Levant, Cambridge University Press.
- McDonald, E. V., Bacon, S. N., Bassett, S. D., Amit, R., Enzel, Y., Minor, T. B, McGwire, K., Crouvi, O., and Nahmias, Y., 2016, Integrated terrain forecasting for military operations in deserts: geologic basis for rapid predictive mapping of soils and terrain features. In: E. V. McDonald, T. Bullard (Eds.), Military Geosciences and Desert Warfare, 353-375, Springer New York.

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- 33. **Crouvi, O**., Enzel, Y., Amit, R., Schepanski, K., Gillespie, A.R. 2015, Dust emission from different soil types and geomorphic units in the Sahara implications for modeling dust emission and transport, *XIX INQUA congress*, Nagoya, Japan.
- 34. **Crouvi, O**., Amit, R., Enzel, Y., 2015, The Negev loess deposits an archetype of desert loess, Dan Yaalon Symposium, Vienna, Austria.
- 35. **Crouvi, O**., Enzel, Y., Amit, R., Schepanski, K., Gillespie, A.R. 2014, Sand dunes an important source of atmospheric dust and loess in deserts, *19th International Sedimentological Congress*, Geneva, Switzerland.
- 36. Elyashiv H., **Crouvi O**., Almogi-Labin A., HarLavan Y., Hyams-Kaphzan O. 2014, Characteristics of deep sea sediments from the Levantine basin (Israel economic zone) Preliminary results, *19th International Sedimentological Congress*, Geneva, Switzerland.
- 37. **Crouvi, O**., Katz, O., Mushkin, A. 2014, Seasonal-scale morphological evolution of the beach and sea cliff along the Sharon escarpment, *Israel Geological Society Annual Meeting, Dead Sea*.
- 38. Elyashiv H., **Crouvi O**., Almogi-Labin A., HarLavan Y., Hyams-Kaphzan O. 2014, Particle size analysis of deep sea sediments from the Levant basin (Israel economic zone)-Preliminary results, *Israel Geological Society Annual Meeting, Dead Sea*.

The Hebrew University of Jerusalem

Hezi Gildor – Resume



Associate professor The Fredy & Nadine Herrmann Institute of Earth Sciences The Hebrew University Edmond J. Safra Campus, Givat Ram Jerusalem, 91904 Israel Web-Site: <u>http://hezigildor.es.huji.ac.il/</u>

EDUCATION

1993, B.Sc. Geophysics and Atmospheric Sciences: Tel-Aviv University, Israel.

1996, M.Sc. Physical Oceanography: The University of Tokyo, Japan. Thesis title: Modeling interannual variations of the Indonesian Throughflow using ERS-1 Satellite Wind. Adviser: <u>Prof. Toshio Yamagata</u>.

2001, Ph.D. Environmental Sciences: The Weizmann Institute of Science, Israel. Thesis title: Dynamics of glacial-interglacial cycles: the "sea ice switch" and the role of ocean biogeochemistry. Adviser: <u>Prof.</u> <u>Eli Tziperman</u>.

HONORS AND AWARDS

2009: JSPS (Japan Society for the Promotion of Science) Fellowship for Research in Japan (short-term).

2007: Prize of the Scientific Council, Weizmann Institute.

2006: Gledden Visiting Senior Fellowships, The university of Western Australia (declined).

2003: The Sir Charles Clore Prize, Weizmann Institute.

2001: NOAA Postdoctoral Fellowship in Climate and Global Change.

2001: John F. Kennedy Memorial Prize for outstanding research work at the Weizmann Institute.

2001: Bikura fellowship, Israel Science Foundation.

1994-1996: Fellow student of the Japanese government.

1992, 1993: Deans list, Tel-Aviv University.

1993: Magna cum Laude, Tel-Aviv University.

RESEARCH

My research interests focus on interdisciplinary problems in oceanography, climate dynamics, and paleoclimate, involving interactions between different components of the climate system. Three long-term goals of my research program are: (1) to understand the role of small-scale ocean processes in the large-scale ocean circulation and in climate; (2) to understand past climate variability; and (3) to understand the interactions between the biota and climate.

- Submesoscale processes in the Gulf of Eilat. We investigate processes such as ocean mixing, internal waves, and density currents.
- Circulation in the Eastern Mediterranean Sea.
- Interactions between ocean biota and climate.
- Climate dynamics and paleoclimate

Hezu Gildor - List of Publications

Journal Publications

- 1. Gildor, H., and E. Tziperman, Sea ice as the glacial cycles' climate switch: Role of seasonal and orbital forcing, *Paleoceanography*, 15, 605-615, 2000. <u>download</u>
- 2. Gildor, H., and E. Tziperman, A sea ice climate switch mechanism for the 100-kyr glacial cycles, *J. Geophys. Res.*, 106, 9117-9133, 2001. <u>download</u>
- 3. Gildor, H., and E. Tziperman, Physical mechanisms behind biogeochemical glacialinterglacial *CO*₂ variations, *Geophys. Res. Lett.*, 28, 2421-2424, 2001. <u>download</u>
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- 6. Tziperman, E. and H. Gildor, The stabilization of the thermohaline circulation by the temperature-precipitation feedback, *J. Phys. Oceanogr.*, 32, 2704-2714, 2002. <u>download</u>
- 7. Crosta, X., A. Shemesh, M.E. Salvignac, H. Gildor, and R. Yam, Late Quaternary variations of elemental ratio (C/Si and N/Si) in diatom-bound organic matter from the Southern Ocean, *Deep Sea Research Part I I*, 49(9-10), 1939-1952, 2002.
- Gildor, H. and M. Follows, Two-way interaction between ocean biota and climate mediated by biogeochemical cycles, *Israel Journal of Chemistry*, 42, 15-27, 2002 (special issue on Environmental Chemistry). <u>download</u>
- Tziperman, E. and H. Gildor, The mid-Pleistocene 41 kyr to 100 kyr glacial cycle transition, and the source of asymmetry between glaciation and deglaciation times, *Paleoceanography*, 18, 10.1029/2001PA000627, 2003. <u>download</u>
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- 12. Sobel, A.H. and H. Gildor, A simple time-dependent model of SST hot spots, *J. Climate*, 3798-3992, 2003. <u>download</u>
- Ashkenazy, Y., D.R. Baker, H. Gildor, and S. Havlin, Nonlinearity and multifractality of climate change in the past 400,000 years, *Geophys. Res. Lett.*, 30, 2146, 10.1029/2003GL018099, 2003. <u>download</u>
- 14. Ashkenazy, Y., D.R. Baker, H. Gildor, Simple stochastic models for glacial dynamics, *J. Geophys. Res.*, 110, Art. No. C02005, 10.1029/2004JC002548, 2005. <u>download</u>
- Gildor, H. and N.H. Naik, Evaluating the effect of interannual variations of surface chlorophyll on upper ocean temperature, *J. Geophys. Res.*, 110, Art. No. C07012, 10.1029/2004JC002779, 2005. <u>download</u>
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- 44. Ashkenazy, Y., M. Losch, H. Gildor, D. Mirzayof, and E. Tziperman, Multiple sea-ice states and abrupt MOC transitions in a general circulation ocean model, *Climate Dynamics*, 40, 1803-1817, doi: 10.1007/s00382-012-1546-2, 2013. <u>download</u>
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- 46. Boss, E., H. Gildor, W. Slade, L. Sokoletsky, A. Oren, J. Loftin, Optical properties of the Dead Sea, *J. Geophys. Res.*, 118, 1-9, doi: 10.1002/jgrc.20109, 2013. <u>download</u>
- 47. Fine, M., H. Gildor, and A. Genin, A coral reef refuge in the Red Sea, *Global Change Biology*, 19, 3640-3647, doi: 10.1111/gcb.12356, 2013. <u>downloa</u>
- 48. Carlson, D.F., E. Fredj, H. Gildor, The annual cycle of vertical mixing and restratification in the northern Gulf of Eilat/Aqaba (Red Sea) based on high temporal and vertical resolution observations, *Deep Sea Research Part I*, 84, 1-17, 2014. <u>download</u>
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- 56. Ashkenazy, H. Gildor, Y., and G. Bel, The effect of stochastic wind on the infinite depth Ekman layer model, *European Physical Letters*, doi:10.1209/0295-5075/111/39001, 2015.
- 57. Gildor, H., N. Paldor, and S. Ben Shushan, Numerical Simulation of Harmonic, and Trapped, Rossby Waves in a Channel on the Mid-latitude β-plane, *Quarterly Journal of the Royal Meteorological Society*, doi: 10.1002/qj.2820, 142(699), 2292-2299, 2016.
- 58. Amitai, Y., Y. Ashkenazy, and H. Gildor, Multiple equilibria and overturning variability of the Aegean-Adriatic Seas, *Global and Planetary Change*, in press, 2016.
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- Fredj, E., D.F., Carlson, Y. Amitai, A. Gozolchiani, H. Gildor, The particle tracking and analysis toolbox (PaTATO) for Matlab, *Limnology and Oceanography: Methods*, doi: 10.1002/lom3.10114, 2016.
- 62. Amitai, Y., and H. Gildor, Can precipitation over Israel be predicted from Eastern Mediterranean heat content? *International Journal of Climatology*, doi: 10.1002/joc.4860, 2016.

Chapters in Book

- 63. Gildor, H., Glacial-interglacial *CO*₂ variations, in M. Follows and T. Oguz (Eds.), *The ocean carbon cycle and climate*, 317-352, Kluwer Academic Publishers, 2004. download
- 64. Sobel, A.H., C.S. Bretherton, H. Gildor, and M. Peters, Convection, cloud-radiative feedbacks and thermodynamic ocean coupling in simple models of the Walker circulation, *in Earth's Climate: The Ocean-Atmosphere Interaction*, C. Wang S.-P. Xie, and J. A. Carton, Eds., American Geophysical Union Geophysical Monograph 147, 393-405, 2004. <u>download</u>

- 65. Carlson, D.F., A.G. Ostrovskii, K. Konstantin, and H. GildorP, Moored automatic mobile profilers and their applications, in *Advances in Marine robotics* (Ed. Oren Gal), 169-206, LAP LAMBERT Academic Publishing, 2013. <u>download</u>
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- Masumoto, Y., M. Nagura, S-P Xie, P. N. Vinayachandran, T. Miyama, Z. Yu, J. P. McCreary, Jr., R. R. Hood, H. Gildor, Ocean processes relevant to climate variations in the Indian Ocean sector, Climate Variability and Predictability, Eds. Behera and Yamagata, Asia Pacific Weather and Climate Vol. 7, World Scientific, 2016.

Reviewed Proceedings

- Gildor, H. and E. Tziperman, Sea-ice, the glacial cycles' climate switch, and inter-hemispheric thermohaline teleconnections. *Annals of Glaciology*, 23, 501-506, 2001. [Proceedings of International Glaciological Society meeting. Fairbanks, Alaska, U.S.A., 19-23 June 2000.]
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Yeala Shaked – Resume



Affiliation

The Fredy & Nadine Herrmann Institute of Earth Sciences, The Hebrew University of Jerusalem The Inter-University Institute for Marine Sciences,

Eilat Phone (Office): 08-6360139 E-mail: <u>yeala.shaked@mail.huji.ac.il</u>

EDUCATION

1994-1997 B.Sc. in Earth Sciences and Environmental Studies. The Hebrew University of Jerusalem.

1997-2002 PhD in Environmental Studies in the Earth Sciences Institute at the Hebrew University of Jerusalem, under the supervision of Prof. Yigal Erel.

Thesis: "Iron redox dynamics and biogeochemical cycling in the epilimnion of Lake Kinneret"

PREVIOUS APPOINTMENTS AT OTHER INSTITUTES

2002-2005 Postdoctoral researcher at Princeton University in the research group of Prof. Francois M. M. Morel

APPOINTMENTS AT THE HEBREW UNIVERSITY

2005 Lecturer (joint appointment at the Inter-University Institute for Marine Sciences in Eilat and the Institute of Earth Sciences, Hebrew University).

2010 Senior lecturer (joint appointment at the Inter-University Institute for Marine Sciences in Eilat and the Institute of Earth Sciences, Hebrew University)

2015 Associate Professor (joint appointment at the Inter-University Institute for Marine Sciences in Eilat and the Institute of Earth Sciences, Hebrew University)

ADMINISTRATIVE APPOINTMENTS: TEACHING (COURSES)

At the IUI (intensive 7-10 days hands-on courses): Introduction to the Ecosystem of the Red Sea

Nutrients Biogeochemistry and Uptake;

Methods in Oceanography At Earth Sciences, HUJI: Marine Biogeochemistry and Biology, Practical Oceanography, Undergraduate Seminar

Yeala Shaked – List of Publications

- 2016 Enhanced ferrihydrite dissolution by a unicellular, planktonic cyanobacterium: a biological contribution to particulate iron bioavailability C Kranzler, N Kessler, N Keren, Y Shaked Environmental microbiology 18 (12), 5101-5111
- 2. 2016 Rapid Hydrogen Peroxide Release during Coral-Bacteria Interactions R Armoza-Zvuloni, A Schneider, Y Shaked Frontiers in Marine Science 3, 124
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- 4. 2016 Rapid Hydrogen Peroxide release from the coral Stylophora pistillata during feeding and in response to chemical and physical stimuli R Armoza-Zvuloni, A Schneider, D Sher, Y Shaked Scientific Reports 6 (Article number: 21000)
- 5. 2015 Iron bioavailability to phytoplankton: an empirical approach H Lis, Y Shaked, C Kranzler, N Keren, FMM Morel The ISME journal 9 (4), 1003-1013
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- 8. 2014 Coordinated transporter activity shapes high-affinity iron acquisition in cyanobacteria C Kranzler, H Lis, OM Finkel, G Schmetterer, Y Shaked, N Keren The ISME journal 8 (2), 409-417
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- 14. 2012 Disassembling iron availability to phytoplankton Y Shaked, H Lis Environmental Bioinorganic Chemistry of Aquatic Microbial Organisms, 28
- 15. 2011 The role of reduction in iron uptake processes in a unicellular, planktonic cyanobacterium C Kranzler, H Lis, Y Shaked, N Keren Environmental microbiology 13 (11), 2990-2999
- 16. 2011 Dust-and mineral-iron utilization by the marine dinitrogen-fixer Trichodesmium M Rubin, I Berman-Frank, Y Shaked Nature Geoscience 4 (8), 529-534
- 17. 2010- Extracellular production and degradation of superoxide in the coral Stylophora pistillata and cultured Symbiodinium E Saragosti, D Tchernov, A Katsir, Y Shaked PLoS One 5 (9), e12508
- 18. 2010 Hydrogen peroxide photocycling in the Gulf of Aqaba, Red Sea Y Shaked, R Harris, N Klein-Kedem Environmental science & technology 44 (9), 3238-3244

Nir Keren – Resume



E-mail: <u>nir.ke@mail.huji.ac.il</u> URL: <u>http://nirkerenslab.weebly.com/</u>

Research Fields: Metal transport, accumulation and homeostasis in photosynthetic organisms. Dynamics of the photosynthetic apparatus: adaptation of photosynthetic organisms to the ever-changing environment.

Academic education

1989-1992B.Sc. Studied in the Hebrew University in Jerusalem1992-1999Ph.D. Studied in the Hebrew University, Department of Biological Chemistry, under the
guidance of Prof. Itzhak Ohad.

Scientific career

2000-2005 Post-doctoral training in the laboratory of Prof. Himadri Pakrasi.
 2005-present Senior Lecturer, Dept. of Plant and Environmental Sciences, The Hebrew University of Jerusalem.

External Academic Positions and Awards

Post-doctoral research, Laboratory of Prof. Himadri Pakrasi, Biology Dept., Washington Univ. (St. Louis, MO), 1999-2005

Research Projects

Photosynthesis and metal homoeostasis processes: study of the basic

Molecular biology of metal transporters:

Chloroplast proteomics:

Nir Keren – List of Publications

- Keren N, Ohad I State transition and Photoinhibition. In: Molecular biology of *Chlamydomonas*: chloroplast and mitochondria (eds. Rochaix J-D, Goldschmidt-Clarmont, M, Merchant, S) 1997:569 596.
- 2. Ohad I, Keren N, Zer H, Gong H, Mor TS, Gal A, Tal S, Domovich Y Light induced degradation of the photochemical reaction center II-D1 protein in vivo: an integrative approach. In: Photoinhibtion from Molecule to the Field (ed. Baker. N.) 1993: 161-173.
- 3. Solomon E, Renger G, **Keren N** Mn homeostasis and the assembly of photosystem II. In: The Bioenergetic Processes of Cyanobacteria From Evolutionary Singularity to Ecological Diversity (ed. Pesceck G) in press
- 4. Solomon E, Kanateev M, Adir N, **Keren N** Manganese in biological systems: transport and function. In: The Chemistry of Organo-Manganese Compounds (eds. Marek I, Rappaport, Z) in press

Articles

- 5. **Keren N**, Gong H, Ohad I Oscillations of reaction center II-D1 protein degradation in vivo induced by repetitive light flashes. Correlation between the level of RCII-Q_B and protein degradation in low light. *J Biol Chem* (1995) 270: 806-814.
- 6. Hassidim M, **Keren N**, Ohad I, Reinhold L, Kaplan A Acclimation of *Synechococcus* WH7803 to ambient CO2 concentration and to elevated light intensity. *J Phycol* (1997) 33: 811-817.
- Keren N, Berg A, van Kan PJ, Levanon H, Ohad I Mechanism of photosystem II photoinactivation and D1 protein degradation at low light: The role of back electron flow. *Proc Natl Acad Sci* U S A (1997) 94: 1579-1584.
- Tal S , Keren N , Hirschberg J , Ohad I Photosystem II activity and turnover of the D1 protein are impaired in the psbA Y112L mutant of *Synechocystis* PCC6803 sp. *J Photochem Photobiol* B (1999) 48: 120-126.
- Zer H , Vink M , Keren N , Dilly-Hartwig HG , Paulsen H , Herrmann RG , Andersson B , Ohad I Regulation of thylakoid protein phosphorylation at the substrate level: reversible light-induced conformational changes expose the phosphorylation site of the light-harvesting complex II. *Proc Natl Acad Sci* U S A (1999) 96: 8277-8282.
- 10. Meetam M , **Keren N** , Ohad I , Pakrasi HB The PsbY protein is not essential for oxygenic photosynthesis in the cyanobacterium *Synechocystis* sp. PCC 6803. *Plant Physiol* (1999) 121: 1267-1272.
- 11. Spetea C , **Keren N** , Hundal T , Doan JM , Ohad I , Andersson B GTP enhances the degradation of the photosystem II D1 protein irrespective of its conformational heterogeneity at the Q_B site. *J Biol Chem* (2000) 275: 7205-7211.
- 12. **Keren N**, Ohad I, Rutherford AW, Drepper F, Krieger-Liszkay A Inhibition of Photosystem II activity by saturating single turnover flashes in calcium-depleted and active Photosystem II. *Photosynth Res* (2000) 63: 209-216.
- Tchernov D , Helman Y , Keren N , Luz B , Ohad I , Reinhold L , Ogawa T , Kaplan A Passive entry of CO₂ and its energy-dependent intracellular conversion to HCO₃ in cyanobacteria are driven by a photosystem I- generated DmH. J Biol Chem (2001) 267: 23450-23455.
- 14. **Keren N**, Kidd MJ, Penner-Hahn JE, Pakrasi HB A light dependent mechanism for massive accumulation of manganese in the photosynthetic bacterium *Synechocystis* sp. PCC 6803. *Biochemistry* (2002) 41: 1508-15092.

- 15. Ramesh VM , Fish A , Michaeli D , **Keren N** , Ohad I , Vorchovsky L , Nechushtai R Isolation and characterization of an oxygen evolving photosystem 2 core complex from the thermophilic cyanobacterium *Mastigocladus laminosus*. *Photosynthetica* (2002) 40: 355-361 2002.
- 16. Zchut S, **Keren** N, Ohad I, Pick U Cold-acclimation protects photosystem II against freezing damage in the halotolerant alga *Dunaliella salina*. *J Plant Physiol* (2003)160: 185-192.
- 17. Thornton LE, Ohkawa H, Roose JL, Kashino Y, **Keren N**, Pakrasi HB Homologs of Plant PsbP and PsbQ proteins are necessary for regulation of Photosystem II activity in the cyanobacterium, *Synechocystis* 6803. *Plant Cell* (2004) 16: 2164-2175.
- 18. Keren N, Aurora R, Pakrasi HB Critical roles of bacterioferritins in iron-storage and proliferation of cyanobacteria. *Plant Physiol* (2004) 135: 1666-1675.
- 19. Thornton LE, **Keren N**, Ohad I, Pakrasi HB Using the mosses, *Physcomitrella patens* and *Ceratodon purpureus*, in photosynthesis studies. *Photosynth Res* (2005) 83: 87-96.
- 20. Keren N, Liberton M, Pakrasi HB Photochemical competence of assembled photosystem II core complex in cyanobacterial plasma membrane. *J Biol Chem* (2005) 280: 6548-6553.
- 21. Keren N , Ohkawa H , Welsh EA , Liberton M , Pakrasi HB Psb29, a conserved 22-kD protein, functions in the biogenesis of Photosystem II complexes in synechocystis and arabidopsis. *Plant Cell* (2005) 17: 2768-2781.
- 22. Balint I , Bhattachary J , Perelman A , Schatz D , Moskovitz Y , **Keren N** , Schwarz R Inactivation of the extrinsic subunit of photosystem II, PsbU, in *Synechococcus* PCC 7942 results in elevated resistance to oxidative stress. *FEBS lett* (2006) 580: 2117-2122.
- 23. Shcolnick S, Keren N Update: Metal homeostasis in cyanobacteria and chloroplasts: balancing benefits and risks to the photosynthetic apparatus *Plant Physiol* (2006) 141: 1-6.
- 24. Shcolnick S, Shaked Y, Keren N A role for mrgA, a DPS family protein, in the internal transport of Fe in the cyanobacterium *Synechocystis* sp. PCC6803 *Biochim Biophys Acta* (2007) 1767: 814-819.
- 25. Hassidim M, Yakir E, Fradkin D, Hilman D, Kron I, Keren N, Harir Y, Yerushalmi S, Green RM Mutations in chloroplast RNA binding provide evidence for the involvement of the chloroplast in the regulation of the circadian clock in Arabidopsis *Plant J* (2007) 51: 551-562.
- 26. Eisenshtadt D , Ohad I , **Keren N** , Kaplan A Changes in the photosynthetic reaction center II in the diatom *Phaeodactylum tricornutum* result in non-photochemical fluorescence quenching *Environ Microbiol* (2008) 10: 1997–2007
- Wegener KM , Welsh EA , Thornton LE , Keren N , Jacobs JM , Hixson KK , Monroe ME , Camp DG 2 , Smith RD , Pakrasi HB High sensitivity proteomics assisted discovery of a novel operon involved in the assembly of photosystem II, a membrane protein complex. J Biol Chem (2008) 283: 27829-27837.
- 28. Shcolnick S, Summerfield TC, Reytman L, Sherman LA, **KerenN** The mechanism of iron homeostasis in the unicellular cyanobacterium *Synechocystis sp.* PCC 6803 and its relationship to oxidative stress. *Plant Physiol* (2009) 150: 2045-56.
- 29. Shimoni-Shor E , Hassidim M , Yuval-Naeh N , **Keren N** Disruption of Nap14, a plastid-localized nonintrinsic ABC protein in Arabidopsis thaliana results in the over-accumulation of transition metals and in aberrant chloroplast structures. *Plant Cell Environ* (2010) 33: 1029-1038.
- Ohad I, Raanan H, Keren N, Tchernov D, Kaplan A Light-induced changes within photosystem II protects *Microcoleus* sp. in biological desert sand crusts against excess light. *PLoS One* 2010 5(6): e11000.
- Nedbal L , Cervený J, Keren N, Kaplan A Experimental validation of a non-equilibrium model of CO₂ fluxes between gas, liquid medium, and algae in a flat-panel photobioreactor. J Ind Microbiol Biotechnol (2010) 37: 1319-26
- 32. Wegener KM , Singh AK , Jacobs JM , Elvitigala TR , Welsh EA , **Keren N** , Gritsenko MA , Ghosh BK , Camp DG 2 , Smith RD , Pakrasi HB Global proteomics reveal an atypical strategy for

carbon/nitrogen assimilation by a cyanobacterium under diverse environmental perturbations. *Mol Cell Proteomics* (2010) in press.

33. Solomon E, **Keren N** Manganese limitation induces changes in the activity and in the organization of photosynthetic complexes in the cyanobacterium Synechocystis sp. strain PCC 6803 *Plant Physiol* (2010) in press

Amotz Agnon – Resume



Date of Birth: 5/Feb/1955

Amotz Agnon's research interests include: Mechanics of oblique rifting and seafloor spreading, dike propagation, liquefaction. Pre-instrumental seismicity and sea level changes. Destruction layers and geomagnetic secular variations. Geo-archeology of the "agricultural revolution" (Neolothization).

ACADEMIC BACKGROUND

Date: From-To	Institute	<u>Degree</u>	Area of specialization
1977-1980	The Hebrew University	B.Sc.	Geology
1980-1983	D-1983 The Hebrew University		Geology
1983-1988 Univ. California Berkeley		Ph.D	Geophysics

PREVIOUS EMPLOYMENT

Date: From-To	<u>Institute</u>	<u>Title</u>	<u>Research area</u>	
2009-2016	The Hebrew University	Full Prof.	Paleomagnetism Earthquake geology	
2003-2009 The Hebrew University		Assoc.Prof.	Sea level	
1996-2003	The Hebrew University	Sen. Lect.		
1997-1998 Stanford University		Visit. Prof.	Damage mech.	
1988-1996 The Hebrew University		Lecturer	Mineral physics	

Professional Service: President, Vice Pres., Israel Geological Soc. (2002-2003).

GRANTS received within the past five years

Research Topics	Funding Agency	<u>Total grant</u>
Paleo-quakes & paleohydrology	German-Israel (GIF)	\$88,600
DESERVE Dead Sea: seismic hazard	Helmhotz Association	\$200,000
Tsunami deposits in estuaries	Ministry of Energy	\$40,000
Large catastrophic earthquakes	Frei Univ. Berlin-HUJ	\$8,000
Flow direction in oceanic magma	ISF - Singapore Collab	\$114,000 x 2
Dead Sea stromatolites: environment	Hebrew U - U Geneva	10,000_ChF x 2
Earthquake prep ultraorthodox sector	Ministry of Science	NIS 200,000

AWARDS

Landau Research Prize - 1982

Grader Prize - Israel Geological Society - 1989

Freund Prize - Israel Geological Society - 2007

International Fellow - Helmholtz Association - 2012

F. Pro-bono Publico

National Committee of Infrastruct., Ministry of Interior- Dead Sea Protection Project - Consultant, 2008-2009

Amotz Agnon - List of Publications

Publications (2014-2017)

Refereed Journal Articles

- Neugebauer, I., Brauer, A., Schwab, M., Waldman, N.D., Enzel, Y., Kitagawa, H., Torfstein, A., Frank, U., Dukski, P., Agnon, A., Ariztegui, D., Ben-Avraham, Z., Goldstein, S., Stein, M., DSDDP, 2014. Lithology of the long sediment record recovered by the ICDP Dead Sea Deep Drilling Project (DSDDP). Quatern. Sci. Rev. 102: 149-165.
- Masson F., Hamiel, Y., Agnon, A., Klinger, Y., Deprez, A. (2015). Variable behaviour of the Dead Sea Fault along the southern Arava segment from GPS measurements. Comptes Rendu Geosciences 347: 161-169.
- Wechsler, N., Rockwell, T., Klinger, Y., Stepancikova, P., Kanari, M., Marco, S., Agnon, A., 2014. A Paleoseismic Record of Earthquakes for the Dead Sea Transform Fault between the First and Seventh Centuries CE: Nonperiodic Behavior of a Plate Boundary Fault. Bull. Seism. Soc. Amer. 104: 1329-1347. DOI: 10.1785/0120130304
- Ellenblum, R., Marco, S., Kool, R., Davidovitch, U., Porat, R., Agnon, A., 2015. Archaeological record of earthquake ruptures in Tell Ateret, the Dead Sea Fault, Tectonics, 34, doi:10.1002/2014TC003815.
- Langgut, D., Yannaib, E., Taxela, I, Agnon, A., Marco, S., 2015. Resolving a historical earthquake date at Tel Yavneh (central Israel) using pollen seasonality, Palynology http://dx.doi.org/10.1080/01916122.2015.1035405
- Neugebauer, I., Schwab, M., Waldman, N.D., Tjallingii, R., Frank, U., Hadzhiivanova, E. Naumann, R., Taha, N., Agnon, A., Enzel, Y., Brauer, A., 2015. Hydroclimatic variability in the Levant during the early last glacial (~117-75 ka) derived from micro-facies analyses of deep Dead Sea sediments. Submitted to Climate of the Past Discussions, 12(1), pp.75-90..
- Avnaim-Katav, S., Agnon, A., Sivan, D. and Almogi-Labin, A., 2016. Calcareous assemblages of the southeastern Mediterranean low-tide estuaries—Seasonal dynamics and paleo-environmental implications. Journal of Sea Research, 108, pp.30-49.
- Goodman-Tchernov, B., Katz, T., Shaked, Y., Qupty, N., Kanari, M., Niemi, T. and Agnon, A., 2016. Offshore Evidence for an Undocumented Tsunami Event in the 'Low Risk'Gulf of Aqaba-Eilat, Northern Red Sea. PloS one, 11(1), p.e0145802.
- Shaar, R., Tauxe, L., Ron, H., Ebert, Y., Zuckerman, S., Finkelstein, I. and Agnon, A., 2016. Large geomagnetic field anomalies revealed in Bronze to Iron Age archeomagnetic data from Tel Megiddo and Tel Hazor, Israel. Earth and Planetary Science Letters, 442, pp.173-185.
- Kottmeier, C., Agnon, A., Al-Halbouni, D., Alpert, P., Corsmeier, U., Dahm, T., Eshel, A., Geyer, S., Haas, M., Holohan, E. and Kalthoff, N., 2016. New perspectives on interdisciplinary earth science at the Dead Sea: The DESERVE project. Science of the Total Environment, 544, pp.1045-1058.
- 11. Haas, M., Agnon, A., Bindi, D., Parolai, S. and Pittore, M., 2016. Data-Driven Seismic-Hazard Models Prepared for a Seismic Risk Assessment in the Dead Sea Region. Bulletin of the

Seismological Society of America, 106(6), pp.2584-2598.

- 12. Yehudai, M., Lazar, B., Bar, N., Kiro, Y., Agnon, A., Shaked, Y. and Stein, M., 2017. U–Th dating of calcite corals from the Gulf of Aqaba. Geochimica et Cosmochimica Acta, 198, pp.285-298.
- Avnaim-Katav, S., Almogi-Labin, A., Agnon, A., Porat, N. and Sivan, D., 2017. Holocene hydrological events and human induced environmental changes reflected in a southeastern Mediterranean fluvial archive. Palaeogeography, Palaeoclimatology, Palaeoecology, 468, pp.263-275.

A Chapter in an Edited Book

Agnon, A., 2014. Pre-instrumental earthquakes along the Dead Sea transform. Z. Garfunkel, Z. Ben-Avraham, E. Kagan (eds.), Dead Sea Transform Fault System: Reviews, Modern Approaches in Solid Earth Sciences 6, Ch. 8, pp. 207-261 DOI 10.1007/978-94-017-8872-4_8, © Springer, Dordrecht

University of Haifa

Zvi Ben-Avraham – Resume



Professor of Geophysics, Head, Israel Center for Mediterranean Sea Research

Director of the Minerva Dead Sea Research Center in the Department of Geophysical, Atmosperic and Planetary Sciences, Faculty of Exact Sciences, Tel Aviv University, Ramat Aviv 69978, Israel. Holds the Max Sonnenberg Professor of Marine Geoscience, Department of Geological Sciences, University of Cape Town, Founding Director, Charney School of Marine Sciences, University of Haifa

Education:

B.Sc. with honors, The Hebrew University, Jerusalem (Geology), 1969. Ph.D. Massachusetts Institute of Technology and Woods Hole Oceanographic Institution (Geophysics), 1973.

Academic and Professional Experience:

- Department of Geophysical, Atmospheric and Planetary Sciences, Tel Aviv University.
- Department of Geological Sciences, University of Cape Town.
- Department of Geophysics, Stanford University.
- Department of Applied Mathematics, Weizmann Institute of Science.
- Department of Marine Geology, Israel Oceanographic and Limnological Research

Experience at Sea:

Participated in scientific cruises to the Atlantic, Pacific and Indian Oceans, the Mediterranean, the Red Sea, the Gulf of Elat, the Dead Sea and the Sea of Galilee, aboard American, Japanese, British, French, Russian, German and Israeli research vessels.

Duties held:

1985-1986 President, Israel Geological Society.

- 1987-1991 Chairman, Department of Geophysics and Planetary Sciences, Tel Aviv University.
- 2004- Chairman, Israel National Committee IUGS
- 2008- Scientific Advisor to the President of the State of Israel

Research Topics:

- Continental Margins.
 - Structure and evolution of passive continental margins.
 - Levant continental margin.
 - Tectonic processes at active continental margins.
 - Pacific and Indian Oceans active margins.
 - Calabrian, Hellenic and Cyprean Arcs, eastern Mediterranean.
 - Sheared continental margins.
 - Agulhas margin.
- Continental Transforms.
 - Dead Sea fault.
 - San Andreas fault.
 - Philippine fault.
- Collisional Processes at plate margins.

Membership in National and International Committees - partial list:

- Commission for the Geological Map of the World.
- International Lithosphere Program.
- Board of Directors, Geophysical Institute of Israel.
- Board of Directors, Interuniversity Institute of Marine Studies, Elat, Israel.
- Gordon Center for Energy Studies, Tel Aviv University

Editorial Boards:

- Associate Editor, Tectonics.
- Associate Editor, Annales Tectonicae.
- Associate Editor, Tectonophysics.
- Associate Editor, Israel Journal of Earth Sciences.
- Associate Editor, Russian Geology and Geophysics

Membership in Educational Committees -- Tel Aviv University.

- Departmental Ph.D. Committee, Chair
- Departmental M.Sc. Committee, Chair
- Departmental B.Sc. Committee
- Dean's Committee

Honors and Awards:

- 1976 Grader Prize, Israel Geological Society
- 1981 Fellow, Geological Society of America
- 1984 Citation of excellence, USSR Academy of Sciences
- 1985 Freund Prize, Israel Geological Society
- 1985 Invited Lecture, Royal Astronomical Society, London

- 1996 Foreign member, Academia Europaea
- 1998 Incumbent of the Nebenzahl and Grossberg Chair in Geodynamics
- 1999 Fellow, American Geophysical Union
- 2000 Corresponding member, Heidelberg Academy of Sciences
- 2000 Member, Israel Academy of Sciences and Humanities
- 2003 Israel Prize
- 2003 Honorary member, World Jewish Academy of Sciences
- 2004 L.Meitner-A.v. Humboldt Research Award
- 2006 Foreign member, Netherlands Academy of Arts and Sciences
- 2012 Lifetime Achievement Award, Israeli Association for Aquatic Sciences
- 2014 Honorary member, Israel Geological Society

Professional Societies:

- American Geophysical Union
- Geological Society of America
- Sigma Xi (M.I.T. Chapter)
- European Geophysical Society
- Israel Geological Society

Over 230 publications in scientific journals and ten books and special issues. Supervision of PhD and MSc Students and of Post Doctoral Fellows:

29 PhD Students35 MSc Students6 Post Doctoral Fellows

Zvi Ben-Avraham – List Of Publications

From 2010

- 1. Smit, J., J.-P Brun, S. Cloetingh and Z. Ben-Avraham, 2010. The rift-like structure and asymmetry of the Dead Sea Fault, *Earth and Planetary Science Letters* **290**, 74–82, doi:10.1016/j.epsl.2009.11.060.
- 2. Ben-Avraham Z., V. Lyakhovsky and G. Schubert, 2010. Drop-down formation of deep basins along the Dead Sea and other strike-slip fault systems, *Geophys. J. Int.*, **181**, 185-197, doi: 10.1111/j.1365-246X.2010.04525.x.
- 3. Tibor, G., T. Niemi, Z. Ben-Avraham, A. Al-Zoubi, R. A. Sade, J. K. Hall, G. Hartman, E. Akawi, A. Abueladas and R. Al-Ruzouq, 2010. Active tectonic morphology and submarine deformation of the northern Gulf of Eilat/Aqaba from analyses of multibeam data, *Geo-Marine Letters*, **30**, 561-573, DOI 10.1007/s00367-010-0194-y.
- 4. Lazar, M., Z. Ben-Avraham, Z. Garfunkel, N. Porat, and S. Marco, 2010. Is the Jericho escarpment a tectonic or a geomorphological feature? Active faulting and paleoseismic trenching, *The Journal of Geology*, **118**, 261-276, doi: 10.1086/651504.
- Civile D., E. Lodolo, D. Accettella, R. Geletti, Z. Ben-Avraham, M. Deponte, L. Facchin, R. Ramella and R. Romeo, 2010. The Pantelleria graben (Sicily Channel, Central Mediterranean): An example of intraplate 'passive' rift, *Tectonophysics*, **490**, 173-183, doi:10.1016/j.tecto.2010.05.008.
- 6. Schattner U., M. Lazar, G. Tibor, Z. Ben-Avraham and Y. Makovsky, 2010. Filling up the shelf a sedimentary response to the last interglacial sea rise, *Marine Geology*, **278**, 165-176.
- Rybakov, M., V. Goldshmidt, J. K. Hall, Z. Ben Avraham and M. Lazar, 2011. New insights into the sources of magnetic anomalies in the Levant, *Russian Geology and Geophysics*, 52, 377-397.
- 8. Coleman, D.F., J.A. Austin Jr. and Zvi Ben-Avraham, 2011. Exploring the continental margin of Israel, *Oceanography*, **24**, No. 1, Supplement, 32-33.
- 9. Coleman, D.F., J.A. Austin Jr., Z. Ben-Avraham and R.D. Ballard, 2011. Exploring the Continental Margin of Israel: "Telepresence" at Work, *Eos*, **92**, No. 10, 81-82.

- Austermann, J., Z. Ben-Avraham, P. Bird, O. Heidbach, G. Schubert and J. M. Stock, 2011. Quantifying the forces needed for the rapid change of Pacific plate motion at 6 Ma, <u>Earth and</u> <u>Planetary Science Letters</u>, **307**, 289-297, doi:10.1016/j.epsl.2011.04.043.
- 11. Stein, M., Z. Ben-Avraham and S. Goldstein, 2011. Dead Sea deep cores: a window into past climate and seismicity, *Eos*, **92**, No. 49, 453-454.
- Weber, M., Z. Alasonati-Tašárová, K. Abu-Ayyash, Z. Ben-Avraham, S. Choi, J. Darwish, R, El-Kelani, Z. Garfunkel, H.-J. Götze, G. Grünthal, A. Hofstetter, D. Kesten, J, Mechie, U, Meyer, A, Mohsen, M, Paschke, A. Petrunin, T, Ryberg, S. V. Sobolev, M. Stiller and the DESERT and DESIRE Groups, 2011. Results of geophysical studies across the Dead Sea Transform: The Arava/Araba Valley and the Dead Sea Basin, *Isr. J. Earth Sci.*, **58**, 147–161, DOI: 10.1560/IJES.58.3-4.147.
- Coleman, D.F., J.A. Austin Jr., Z. Ben-Avraham, Y. Makovsky and D. Tchernov, 2012. Seafloor Pockmarks, deepwater Corals, and Cold Seeps Along the Continental Margin of Israel, in: Bell, K.L.C., K. Elliott, C. Martinez, and S.A. Fuller, eds., New Frontiers in Ocean Exploration: The E/V *Nautilus* and NOAA Ship *Okeanos Explorer* 2011 Field Season. *Oceanography* 25(1), supplement, 40-41.
- Ben-Avraham, Z., M. Lazar, Z. Garfunkel, M. Reshef, A. Ginzburg, Y. Rotstein, U. Frieslander, Y. Bartov and H. Shulman, 2012. Structural styles along the Dead Sea Fault, in: *Regional Geology and Tectonics: Phanerozoic Passive Margins, Cratonic Basins and Global Tectonic Maps,* Roberts D.G. and A.W. Bally editors, Volume 1c, p. 617-633, Elsevier B.V., DOI: 10.1016/B978-0-444-56357-6.00016-0
- 15. Lazar M., Z. Ben-Avraham and Z. Garfunkel, 2012. The Red Sea New insights from recent geophysical studies and the connection to the Dead Sea fault, *J. Afri. Earth Sciences*, **68**, 96–110, http://dx.doi.org/10.1016/j.jafrearsci.2012.04.001
- 16. Paz Y., M. Reshef, G. Tibor, Z. Ben-Avraham, D. Nadel and S. Marco, 2012. A submerged monumental structure in the Sea of Galilee, Israel, *Past*, **72**, 4-5.
- 17. Eppelbaum, L., Y. Katz and Z. Ben-Avraham, 2012. Israel petroleum geology and prospective provinces, *AAPG-ER Newsletter*, December 2012, 4-7.
- 18. Paz, Y., M. Reshef, Z. Ben-Avraham, S. Marco, G. Tibor and D. Nadel, 2013. A submerged monumental structure in the Sea of Galilee, Israel, *Int. J. Nautical Archaeology*, **42**, 189-193.
- 19. Shalev, E., V. Lyakhovsky, Y. Weinstein and Z, Ben-Avraham, 2013. The thermal structure of Israel and the Dead Sea Fault, Tectonophysics, **602**, 69-77.
- Mechie, J., Z. Ben-Avraham, M.H. Weber, H.-J. Götze, H.-J. I. Koulakov, A. Mohsen, and M. Stiller, 2013. The distribution of Moho depths beneath the Arabian plate and margins, Tectonophysics, 609, 234-249, doi: 10.1016/j.tecto.2012.11.015.

- 21. Lodolo, E., F. Coren and Z. Ben-Avraham, 2013. How do long-offset oceanic transforms adapt to plate motion changes? The example of the western Pacific-Antarctic plate boundary, J. Geophys. Res., 118, 1-8, doi: 10.1002/jgrb.50109.
- 22. Gvirtzman, Z., M. Reshef, O. Buch-Leviatan and Z. Ben-Avraham, 2013. Intense salt deformation in the Levant Basin in the middle of the Messinian Salinity Crisis, Earth Planet. Sci. Letters, 379, 108-119.
- 23. Civile, D., E. Lodolo, H. Alp, Z. Ben-Avraham, A. Cova, L. Baradello, D. Accettella, M. Burca and J. Centonze, 2013. Seismic stratigraphy and structural setting of the Adventure Plateau (Sicily Channel), *Mar. Geophys. Res.*, **35**, 37-53, DOI: 10.1007/s11001-013-9205-5.
- 24. Hartman, G., Z. Ben-Avraham, G. Tibor, T.M. Niemi, A. Al-Zoubi, R. A. Sade, J. K. Hall, E. Akawi, A. Abueladas, R. Al-Ruzouq and Y. Makovsky, 2014. Distinct relict fringing reefs in the northern shelf of the Gulf of Elat/Aqaba: markers of Quaternary eustatic and climatic episodes, *Sedimentology* (in press).
- 25. Xu, J., Z. Ben-Avraham, T. Kelty and H.-S. Yu, 2014. Origin of marginal basins of the NW Pacific and their plate tectonic reconstructions, *Earth Science Reviews*, **130**, 154-196, doi: 10.1016/j.earscirev.2013.10.002.
- Ben-Avraham, Z., 2014. Geophysical Studies of the Crustal Structure Along the Southern Dead Sea Fault, in: Z. Garfunkel, Z. Ben-Avraham and E. Kagan (eds.), *Dead Sea Transform Fault System: Reviews, Modern Approaches in Solid Earth Sciences*, 6, 1-27, DOI 10.1007/978-94-017-8872-4_1, Springer Science+Business Media Dordrecht.
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- 45. Eruteya, O. E., N. Waldmann, D. Schalev, Y. Makovsky, and Z. Ben-Avraham, 2015. Intra- to Post-Messinian deep-water gas piping in the Levant Basin, SE Mediterranean, *Mar. Pet. Geol.*, [0], doi:10.1016/j.marpetgeo.2015.03.007.
- 46. Eruteya, O. E., M. Safadi, N. Waldmann, Y. Makovsky, and Z. Ben-Avraham, 2016. Seismic Geomorphology of the Israel Slump Complex in the Levant Basin [SE Mediterranean], in *Submarine Mass Movements and their Consequences*, pp. 39–47, Springer International Publishing.

Books

- 1. Ben-Avraham, Z., 1985. The floor of the oceans, *Broadcast University series, Ministry of Defence Pub. House*, Tel Aviv, 122 pp.
- Ben-Avraham, Z., (Ed.)., 1987. Sedimentary basins along the Dead Sea Rift and other rift zones, *Special Issue Tectonophysics, Elsevier Science Pub.*, Amsterdam, **141**, No. 1-3, 275 pp.
- 3. Ben-Avraham, Z., (Ed.)., 1989. The evolution of the Pacific Ocean margins, *Oxford University Press*, New York, 234 pp.
- Kovach, R.L. and Z. Ben-Avraham (Eds.)., 1990. Geologic and tectonic processes of the Dead Sea rift zone, *Special Issue Tectonophysics, Elsevier Science Pub.*, Amsterdam, **180**, No. 1, 137 pp.
- 5. Ratschbacher, L. and Z. Ben-Avraham (Eds.), 1995. Kinematics of distributed deformation in plate boundary zones with emphasis on the Mediterranean, Anatolia and Eastern Asia, *Special Issue Tectonophysics, Elsevier Science Pub.*, Amsterdam, **243**, No. 1-2, 207 pp.
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- 7. Niemi, T.M., Z. Ben-Avraham and J. Gat (Eds.), 1997. The Dead Sea: The Lake and Its Settings, *Oxford University Press*, New York, 286 pp.
- 8. Cloetingh, S and Z. Ben-Avraham (Eds.), 2002. From extension to collision: The Dead Sea rift and other natural laboratories, *European Geophysical Union Stephan Mueller Special Publication Series* **2**, 246 pp.
- 9. Ben-Avraham (Ed.), 2004. Geophysics and geology of Lake Kinneret and its surrounding, Honoring Zvi Garfunkel on the occasion of his 65th birthday, *Special Issue Israel Journal of Earth Sciences, Laser Pages, Pub., Jerusalem*, **53**, 237 pp.
- 10. Garfunkel, Z., Z. Ben-Avraham and E.J. Kagan (Eds.), 2014. Dead Sea Transform Fault System Reviews, *book series Modern Approaches in Solid Earth Sciences*, **6**, 359 pp., *Springer*.

Morel Groper- Resume



Marine Technologies Cellular Phone: (054) 929 0009

mgroper@univ.haifa.ac.il

Electronic Address:

Higher Education

Undergraduate and Graduate Studies

1987: B.Sc., Mech. Engineering, Technion, Israel Institute of Technology

1995: M.Sc., Mech. Engineering, Technion, Israel Institute of Technology

1999: Ph.D., Mech. Engineering, Technion, Israel Institute of Technology

Post-Doctoral Studies

None

Academic Ranks and Tenure in Institutes of Higher Education

Dates	Name of Institution and Department	Rank/Position
2005 – Present	Technion, Israel Institute of Technology, Faculty of	Adjunct Senior Lecturer *
	Mechanical Engineering	
2014 – Present	University of Haifa, The Department of Marine	Adjunct Associate Professor
	Technologies (under establishment)	(Specialist)

(*) Teaching the courses in Mechanical Engineering Design and Hydrodynamic Lubrication, two courses each semester

Scholarly Positions and Activities outside the University

Professional Experience

Dates	Activity
1987 - 1991	Design engineer (Lieutenant Navy – "Seren"), Marine Engineering Branch, Israeli Navy Headquarters, Israeli Navy. Design of mechanical elements and power systems for new and existing Navy vessels.
1991 - 1995	Chief marine engineer (Lieutenant Commander Navy – "Rav-Seren") for the SA'AR5 corvette technical team at Ingalls Shipbuilding Inc., MS, U.S.A. Development of propulsion elements and control algorithms for the corvette's propulsion system, part of the team for the design of the propulsion, auxiliary and damage control systems, responsible for the analysis of sea trials experiments and ship performance tests.

1995 - 1997	Head of the mechanical systems department (Lieutenant Commander Navy – "RavSeren"), Marine Engineering Branch, Israeli Navy Headquarters, Israeli Navy. Group leader responsible for the design of mechanical components and retrofits for propulsion and auxiliary systems installed onboard the Israeli Navy surface vessels.
1999 - 2000	Head of the mechanical workshop (Lieutenant Commander Navy – "Rav-Seren"), Israeli Navy Shipyard, Israeli Navy. Development of maintenance procedures and troubleshooting of complicated failures in Navy's vessels mechanical systems. In charge of 100 employees, technicians and engineers.
2000 – 2002	Head of the Engineering Squadron (Commander Navy – "Sgan-Aluf"), Israeli Navy Shipyard, Israeli Navy. Development of maintenance concepts and design of retrofits for mechanical and hydraulic systems. Analysis of failures in diesel engines and other mechanical equipment. Responsible of the shipyard's technical design office, metallurgical laboratory and workshops.
2002 – 2005	Head of the Marine Engineering Branch (Commander Navy – "Sgan-Aluf"), Israeli Navy Headquarters, Israeli Navy. Lead the design and development of propulsion and other mechanical systems for new and existing Navy surface vessels and submarines. Conduct and instruct a team of 20 mechanical engineers.
2005 – 2007	Head of the Naval Architecture Branch (Commander Navy – "Sgan-Aluf"), Israeli Navy Headquarters, Israeli Navy. Lead the design, development and analysis of the Naval Architecture aspects for the new and existing Navy's marine platforms. Conduct and instruct a team of 30 mechanical engineers and naval architects.
2007 – 2010	Head of Naval Architecture and Marine Engineering (NA&ME) Department (Captain Navy – "Aluf-Mishne"), Israeli Navy Headquarters, Israeli Navy. Responsible for the design, development and retrofit in the Naval Architecture and Marine Engineering aspects for the new and existing Navy's marine platforms. Conduct and instruct a team of 70 Mechanical Engineers and Naval Architects.
2010 - 2012	Owner of M.G. Mechanical and Marine Engineering Design Bureau. Design and
	Consulting on Mechanical and Marine Engineering Projects.
2012 – 2014	Owner and CEO of GALIM, Marine Engineering, Design & Consultancy Ltd (<u>www.galim-engineering.co.il</u>). GALIM provides comprehensive mechanical engineering and project management services to the Naval, Marine, Offshore and Industrial sectors. GALIM services focus on Naval Architecture & Marine Engineering, Concept Design & Technical Solutions, Mechanical Engineering and Consultancy Services.
2014 – Present	Adjunct Associate Professor (Specialist), Head of the Department of Marine Technologies (under establishment), Charney School of Marine Sciences, University of Haifa.
	Adjunct Senior Lecturer (part-time), Machine Design, Hydrodynamic Lubrications, Faculty of Mechanical Engineering, Technion, Israel Institute of Technology.

Participation in Scholarly Conferences

Active Participation

Date	Name of	Place of	Subject of Lecture	Role
	Conference	Conference		
April 6 – 8, 1994	The 14th International Conference on Fluid Sealing	Firenze, Italy	The Accuracy of Analytical Solutions for the Temperature Distribution in Mechanical Face Seals	
June 14 -15, 2000	The 28th Israel Conference on Mechanical Engineering	Beer-Sheba, Israel	The Effect of Shear Flow and Dissolved Gas Diffusion on the Cavitation in a Submerged Journal Bearing	
Feb. 25, 2004	The 16th Conference of the Israeli Tribology Society	Holon, Israel	The Failure Analysis of a Fast Patrol Boat Propeller Shaft	
Jan. 29, 2007	1st. Conference of Naval Architecture & Marine Engineering, The Association of Engineers and Architects in Israel	Haifa, Israel	Comparison and performance analysis of two similar planning crafts equipped with different propulsion systems in the Israeli Navy service	
December 18, 2008	2nd. Conference of Naval	Haifa, Israel	Failure analysis of an Arneson Drive propeller	
	Architecture & Marine Engineering, The Association of Engineers and Architects in Israel		shaft	

Organization of Conferences or Sessions

Date	Name of	Place of	Subject of Lecture	Role
	Conference	Conference		
January 29, 2007	1st. Conference of Naval Architecture & Marine Engineering, The Association of Engineers and Architects in Israel	Haifa, Israel	Comparison and performance analysis of two similar planning crafts equipped with different propulsion systems in the Israeli Navy service	Conference Organizer
December 18, 2008	2nd. Conference of Naval Architecture & Marine Engineering, The Association of Engineers and Architects in Israel	Haifa, Israel	Failure analysis of an Arneson Drive propeller shaft	Conference Organizer
July 15, 2010	3rd. Conference of Naval Architecture & Marine Engineering, The Association of Engineers and Architects in Israel	Haifa, Israel		Conference Organizer

Research Grants

The Ministry of Science and Technology, 2015 together with Tali Treibitz

"Our Eyes Beneath The Sea – a Holistic AUV Based Framework for Visual Seafloor Surveys".

Teaching

Courses Taught in Recent Years

Year	Name of Course	Type of Course	Institution	Number of Students
2003 - 2010	Marine	Lecture	Naval Academy, Haifa	15
	Engineering			(approximately)
2005 –	Mechanical	Undergraduate	Faculty of Mechanical	150
Present	Engineering	course	Engineering, Technion	(approximately)
	Design 1 (034015)			
2005 –	Mechanical	Undergraduate	Faculty of Mechanical	70
Present	Engineering	course	Engineering, Technion	(approximately)
	Design 2 (034016)			
2010 -	Hydrodynamic	Postgraduate	Faculty of Mechanical	14
Present	Lubrication	course	Engineering, Technion	(approximately)
	(03610)			
Supervision of Graduate Students

Name of Student	Title of Thesis	Degree	Date of
			Completion
Avishai Dov	On the influence of operational parameters on the performance of a	M.Sc. (Technion)	2017
	water lubricated journal bearing		
Allaka	Motion Assessment of a Planing Craft	M.Sc.	2017
Himabindu	in Seaway		
Ivgeni Gotnik	Accurate maneuvering of a Hovering	M.Sc.	2018
	AUV (temporary)		
Gil Maor	Development of a vectored thruster	M.Sc.	2018
	for AUV applications		

Public Professional Activities

1. Head of the Naval Architecture & Marine Engineering cell, The Association of Engineers and Architects in Israel.

Membership in Professional Societies:

- 1. Member, Israel Society for Tribology.
- 2. Member, The Association of Engineers and Architects in Israel.

Significant Professional Projects

Bellow a list of some of the unclassified projects I conducted throughout the last 6 years:

- 1. Development and design of a large Underwater Autonomous Vehicle GALIM Engineering in cooperation with the Israel Defense Industry and a foreign company.
- 2. Simulation of a fuel pipeline subjected to a water hammer effect GALIM Engineering for the Eilat Ashkelon Pipeline Company.
- 3. Simulation of the towing of an underwater maneuverable "fish" by a surface vessel GALIM Engineering for the LOGIC Industries Ltd.
- 4. Finite Element modeling and strength analysis of a composite radome antenna GALIM Engineering for the Israel Air Industry.
- 5. Design of a naval underwater, high pressure resistant mast M.G. engineering for the Israel Defense Industry.
- 6. Adaptation and retrofit of a land based weapon system for military naval installation M.G. Engineering for the Israel Defense Industry.
- 7. Response of a fuel storage tank to an internal explosion Analytical and FEA M.G. Engineering for the Eilat Ashkelon Pipeline Company.
- 8. Finite Element study on the local buckling response of a pipeline under combined loading conditions
 M.G. Engineering for the Eilat Ashkelon Pipeline Company

- 9. Finite Element modeling and strength analysis of a fillet weld joint in a fuel storage tank M.G. Engineering for the Eilat Ashkelon Pipeline Company.
- 10. Feasibility study and preliminary design for the installation of a fixed phased array radar system on an Israel Navy Corvette design by the Israeli Navy.
- 11. Repower of the HVFC craft with Caterpillar C18 engines design and execution by the Israeli Navy.
- 12. Upgrade of the propulsion system for the new Fast Patrol Boats (FPBs) to MTU12V4000M90 diesel engines cooperation in the design between the Israeli Navy, IAI Ramta and Israeli Shipyards. Execution by IAI Ramta and Israeli Shipyards.

Morel Groper-List of Publications

A. Ph.D. Dissertation

 Groper, M., 1999, "New Aspects of the Cavitation Phenomenon in a Submerged Journal Bearing", Ph.D. Thesis under the supervision of Professor I. Etsion at the Technion, Israel Institute of Technology, 125 pages

B. Authored Books

2. Klebanov, B, and **Groper, M.**, "Power mechanisms of Rotational and Cyclic Motion," CRC press, 2016, 550 pages. [relative contribution].

C. Articles

- 3. Etsion, I., and **Groper, M.**, 1994, "The Accuracy of Analytical Solutions for the Temperature Distribution in Mechanical Face Seals," *Proceedings of the 14th International Conference on Fluid Sealing*, Firenze, Italy, 6-8 April 1994, pp. 341-350.
- 4. **Groper, M.**, and Etsion, I., 2001, "The Effect of Shear Flow and Dissolved Gas Diffusion on the Cavitation in a Submerged Journal Bearing," *ASME Journal of Tribology*, 123, pp. 494-500.
- 5. **Groper, M.**, and Etsion, I., 2001, "Reverse Flow as a Possible Mechanism for Cavitation Pressure Buildup in a Submerged Journal Bearing," *ASME Journal of Tribology*, 124, pp. 320-326.

D. Patents

1. "Window Tape Alarm Interlock Device", U.S. Patent No. 4,808,973, Feb. 28, 1989.

Michael Lazar- Resume



Department of Marine Geosciences Office Telephone Number: 04-8288424 Cellular Phone: +972-54-4224644 Email Address: mlazar@univ.haifa.ac.il

Higher Education

Undergraduate and Graduate Studies

Period of Study	Name of Institution and	Degree
	epartment	
1993-1996	Tel Aviv University, Dept. Geophysics and Planetary Sciences.	B.Sc.
	Completed with distinction - Magna cum laude	
1997-1999	Tel Aviv University, Dept. Geophysics and Planetary Sciences.	M.Sc.
	Completed with distinction - Summa cum laude	
1999-2004	Tel Aviv University, Dept. Geophysics and Planetary Sciences.	Ph.D.

Post-Doctoral Studies

N/A

Academic Ranks and Tenure in Institutes of Higher Education

Years	Name of Institution and Department	Rank/Position
2004-2005	Israel Oceanographic and Limnological Research Ltd.	Affiliated Researcher
1.4.2008-	Leon H. Charney School of Marine	Lecturer (Proposed
30.9.2009	Sciences (under establishment), University of Haifa,	Rank)
	Haifa, Israel.	
2009-31.2.2015	Dr. Moses Strauss Department of Marine	Lecturer
	Geosciences, Leon H. Charney School of Marine	
	Sciences, University of Haifa, Haifa, Israel.	
1.3.2015present	Dr. Moses Strauss Department of Marine	Senior Lecturer (with
	Geosciences, Leon H. Charney School of Marine	tenure)
	Sciences, University of Haifa, Haifa, Israel.	

Notes: * represents activities and publications since last appointment (senior lecturer with tenure).

Offices in Academic Administration

Years	Name of Institution and Department	Role
2012-present	University of Haifa, Department of	Head, International M.Sc.
	Marine Geosciences	Program
2013-2016	University of Haifa, Department of	Acting Head of the
	Marine Geosciences	Department
*2016-present	University of Haifa, Department of	Head of the Department
	Marine Geosciences	

Organization and participation in scientific cruises

- 2008 Dor submarine slump cruise Planning the R\V Eziona cruise and seismic survey to the Dor Slump
- 2008 CSMS school cruise Participation in the first educational cruise of the Charney School of Marine Sciences to the continental shelf of northern Israel aboard the R\V Shikmona.
- 2010 CSMS school cruise Participation in the second educational cruise of the Charney School of Marine Sciences to the continental shelf of northern Israel aboard the R\V Shikmona.
- 2010 Planning and participation in Dead Sea Seismic Cruise Leg 1 across the northern ¼ of the lake and across the intended ICDP borehole site
- 2012 Planning and participation in Dead Sea Seismic Cruise Leg 2 across the center of the lake and across the ICDP borehole site
- 2014 Panning and participation in high-resolution seismic survey of Santos Estuary, Brazil in cooperation with the Oceanographic Institute, University of Sao Paulo, Brazil
- *2015 Shallow seismic "Chirp" survey, Dead Sea Israel

Organization of international courses:

*2016- The Mediterranean: Past, Present and Future - A summer course on the Geology, Biology and Resource Management of the Mediterranean for excellent Chinese students – academic supervisor and responsible for writing the proposal for funding (awarded by the Council for Higher Education for 6 years).

Foreign and public relations

- 2008-2012 Liaison University of Haifa and the University of Nice Sophia Antipolis
- 2010 Head of Public Relations, "Deep Sea Mysteries" project Nautilus 2010.

2010-present Head of Foreign Relations, Dr. Moses Strauss Department of Marine Geosciences

Participation in Professional Courses

- 2010 International Continental Drilling Program (ICDP) training course "Lightening the Darkness: From Borehole Measurements to Earth Models, Windischeschenbach, Germany
- *2015 Workshop on Science Communication, Israel Society of Ecology and Environmental Sciences, Tel Aviv, Israel
- *2015 Advanced Training School on Sustainable Blue Growth in Mediterranean and Black Sea Countries, Trieste, Italy

Scholarly Positions and Activities outside the University

Years	Memberships in Academic Professional Associations	
	Geological Society of Israel	
	American Geophysical Union	
	European Geophysical Union	
	Israeli Society for Marine and Aquatic Sciences	

Years	Editorial Assignments
*2017-	Associate Editor, Anthropocene Coasts (under establishment)

Years	Reviewing for Refereed Journal		
	Journal of African Earth Sciences (IF: 1.403)		
	Journal of Seismology (IF: 1.55; Rank: 42/81)		
	Tectonophysics (IF: 2.65; Rank: 23/81)		
*2016-	Marine Geology (IF: 2.503; Rank: 46/184)		
*2017-	Journal of Applied Geophysics (IF: 1.355; Rank: 116/184)		

Years	Reviewing for Fund Agencies
*2015	Ministry of Science, Technology and Space (MOST)

Organization and participation in scientific cruises

- 1999 Head of scientific team "Delta" submarine survey of Dead Sea lake floor
- 1999-2004 Planning and execution of 4 cruises on the Dead Sea to collect high-resolution seismic data
- 2002 "RV METEOR" Cruise 52, Leg 2, scientific crew, geophysical study of the eastern Mediterranean basin, shallow seismic reflection acquisition team

Academic Activities

1997	GeoForschungsZentrum (GFZ) Potsdam, Gernamy (September-December) – Visiting
	Research Fellow, Remote Sensing of Lake Kinneret and Dead Sea, Calibration o
	Airborne ImagingSensors
1997-2007	Minerva Dead Sea Research Center's expert on remote sensing.
2004-2005	Geochemistry Laboratory – Research assistant at the Geochemistry Laboratory – Dr.
	Dror Avisar, Department of Geography, Tel Aviv University.
2001-2015	External Lecture in coastal geomorphology, Israel Maritime College, Michmoret.

Committees

2000-2004 International Geological Correlation Program (IGCP) - Scientific coordinator, Paleoclimate of the Dead Sea basin.

- 2004-2005 Member of Work Group 6 (Structural Geology and Active Tectonics) of The International Geoscience Programme – IGCP521: Black Sea-Mediterranean Corridor during the last 30 ky: sea level change and human adaptation
- 2005 Member of German Israeli Jordanian Palestinian Joint Research Program "Water Resources Evaluation for a Sustainable Development in the Jordan Rift Basin"
- 2006-2007 Steering committee, M.Sc. Program in Marine Studies, Ruppin Academic Center. In charge of writing M.Sc. curriculum
- 2012-2015 Israeli representative to Membership Committee of COST Action ES 1001
- 2014-2015 Representative in the Israel Academy of Science and Humanities Forum on Promoting Scientific Communication in Israel
- 2015-present Member of Planning Committee and expert on geology for the Marine Spatial Planning program, Ministry of Interior, Government of Israel.
- *2016-present Israeli representative to Membership Committee of COST Action ES1301

Active Participation in Scholarly Conferences

International Conferences - Held Abroad

Date	Name of	Place of	Subject of Lecture/Discussion	Role
	Conference	Conference		
2001	Ten Years of Paleoseismology in the International Lithosphere Program (ILP): progress and prospects	Kaikoura New Zealand	The Surface Expression of the Dead Sea Transform in the Jericho Area – Fault or Fiction?	
2005	IGCP 521 "Black Sea- Mediterranean Corridor during last 30 ky: Sea level change and human adaptation", First Plenary Meeting	lstanbul, Turkey	Tectonic isolation of the Levant basin offshore Galilee-Lebanon - Effects of the Dead Sea fault plate boundary on the Levant continental margin, eastern Mediterranean	
2009	EGU General Assembly	Vienna, Austria	1. Evidence for visco-elastic upward gas percolation through sediments of the outer continental shelf offshore Israel from high resolution seismic profiling	

			2. Cold seeps in the eastern Mediterranean a quantitative geological- biological-chemical investigation of causes, processes and implications— a preliminary seismic study	
			3. Meter scale 3D structure of the base of autumn mixing layer imaged by high resolution seismic profiling of the outer shelf offshore Haifa Bay, Israel	
2011	5th International Limnogeology Congress	Constance, Germany	The Dead Sea Deep Drilling Project (DSDDP): Filling gaps on the shrinking/swelling tale of a lacustrine basin	
2011	28 th IAS meeting of sedimentology	Zaragoza, Spain	Insight into the Dead Sea Deep Drilling Project (DSDDP): preliminary results	
2013	CIESM 40th Congresses	Marseille, France	Achziv Submarine Canyon: an oasis in the warming oligotrophic Levantine Basin?	Student presenta tion
2015	Geohab 2015 – Marine Geological and Biological Habitat Manning	Salvador, Brazil	Spatial analysis of a giant pockmark field, SE Brazilian slope	
2015	14th Deep-Sea Biology Symposium	Aveiro, Portugal	Akhziv submarine canyon: an oasis in the deep sea?	Student presenta tion

International Conferences - Held in Israel

Date	Name of	Place of	Subject of Lecture/Discussion	Role
	Conference	Conference		
2000	The First Stephan	Dead Sea	Recent Tectonic Activity in the Northern	
	Mueller		Dead Sea Basin	
	Conference of the			
	European			
	Geophysical			
	Society (EGS)			
2013	Batsheva	Caesarea	Holocene tectono-stratigraphy	Student
	Conference on Oil and	Israel	development of the northern Dead Sea	poster
	Gas		Lake inferred from new shallow seismic reflection data	

Local Conferences

Date	Name of	Place of	Subject of Lecture/Discussion	Role
	Conference	Conference		
1998	Israel Geological	Mitzpe	Quantitative Monitoring of Lake	
	Society Annual	Ramon	Kinneret Using High Resolution	
	Meeting		Spectral Imaging	
1999	Israel Geological	Dead Sea	1. Using Hyperspectral Imaging for	
	Society Annual		Quantitative Moderating of	
	Meeting		Lake Kinneret, Israel	
			2. SAR Penetration and Its	
			Correlation to Shallow Geophysical	
			Methods	
2000	Israel Geological	Ma'alot	The Jericho Fault: A Multi-Sensor	
	Society Annual		Approach to Tectonic Problems in the	
	Meeting		Northern Dead Sea Basin	
2002	Israel Geological	Ma'alot	1. Is the Jericho Escarpment a	
	Society Annual		Tectonic Feature? Paleoseismic	
	Meeting		Observations	
			2. Marine Geophysical Study of the Carmel	
			Structure Offshore Northern Israel: Initial	
			Results	
2003	Israel Geological	Ein Boqeq	A Comprehensive Investigation of the	
	Society Annual		Jericho-Dead Sea Basin Area	
	Meeting			
2004	First Annual	Bar Ilan	Evidence for tectonic activity in the	
	Meeting of the	University	northern Dead Sea from submersible data	
	Israeli Society for		and seismic observations	
	Marine and			
	Aquatic Sciences			
2004	Israel Geological	Hagoshrim	1. The Structure of the Northern	
	Society Annual		Dead Sea Basin – Lower Jordan	

	Meeting		Valley from Seismic Data	
			2. Aftershock Characterization by Portable Seismic Arrays and Tectonic Implications of the MB 5.1 Kalia Earthquake of 11 February 2004	
2005	Israel Geological Society Annual Meeting	Mashabim	Evidence for parallel rifting across the Arabian plate	

2006	Israel Geological Society Annual Meeting	Bet-Shean	Tectonic isolation of the Levant basin offshore Galilee-Lebanon - Effects of the Dead Sea fault plate boundary on the Levant continental margin, eastern Mediterranean	
2008	Israel Geological Society Annual Meeting	Nazareth	Formation of sequential basins along a strike slip fault: Geophysical observations from the Dead Sea basin	
2009	Israel Geological Society Annual Meeting	Kfar Blum	 Remote Detection of Seasonal Patterns of Chlorophyll Biomass in Lake Kinneret during the years 2006- 2008 	
			2. High resolution survey of the Dor submarine landslide: recent activity in the shallow sub surface	
2010	The Israel Society of Ecology and Environmental Sciences	Ben Gurion University of the Negev, Be'er Sheva, Israel	Using a multi-satellite platform for monitoring the pollution spreading in the eastern Mediterranean	Student poster
2010	Israel Association of Aquatic Sciences	Eilat, Israel	Using a multi-satellite platform to characterize and monitor substance spreading in the eastern Mediterranean	Student poster
2010	Israel Geological Society Annual Meeting	Kibbutz Eilot, Israel	Directional development of the Dead Sea basin	Invited talk
2011	Israel Association of Aquatic Sciences	Hadera Israel	Mechanisms for surface chlorophyll pattern formation: satellite based examples from the Eastern Mediterranean	Student poster
2012	Israeli Association of Aquatic Sciences annual conference	Kinnernet Academic College, Jordan Valley	 Intrusion of coastal waters into the pelagic eastern Mediterranean: satellite and in situ characterization 	Student poster
			2. Holocene tectono-stratigraphy development of the northern Dead Sea Lake inferred from new shallow seismic reflection data	Student poster

			3. The Present as the key to the	Student
			past – Morphological changes to the Caesarea coast during the last 2000 years	poster
2013	Israeli Association of Aquatic Sciences annual conference	Ruppin Academic Center, Michmoret, Israel	Contaminant Spread in the Eastern Mediterranean - summary of the COSEM project	Student presentation
2013	Geological Society of Israel Annual Meeting	Akko, Israel	Structural and stratigraphy evolution of the Dead Sea Lake: insights in an active strike-slip basin.	Student poster
2014	Geological Society of Israel Annual Meeting	Dead Sea, Israel	 Cyclic gas emission from the seafloor and the connection to climatic feedback - an example from the Eastern Mediterranean 	
			2. Flip convergence across thePhoenician basin through nucleation of subduction	
			3. Integrating seismic stratigraphy and well logging data in defining Dead Sea palaeoclimate changes since the Pleistocene	Student poster
			 Morphological analysis of a deep- water sinuous channel complex offshore Israel 	Student poster
			5. Post Messinian Seismic stratigraphy of the Levant margin - preliminary result of a 3D seismic interpretation.	Student poster
2015	Geological Society of Israel Annual Meeting	Kibbutz Kinar, Israel	1. Bottom currents regime along Israeli continental shelf and the upper slope during last interglacial, as inferred from the sedimentological pattern	Student lecture
			2. 3D Seismic stratigraphy of the post Messinian Levant marginPreliminary results from seismic interpretation	Student lecture
			 3. Petrophysical core-log characterization of the Northern Dead Sea Basin: lithological reconstruction at the ICDP site 5017- 1A 	Student poster

			4. 3D seismic geomorphology and evolution of deep-water channels from the Levant Basin- floor, offshore Israel	Student poster
*2015	Israel Association for Aquatic Sciences Annual Meeting	Dan Hotel, Herzliya, Israel	The physical dimension in marine spatial planning in Israel	

Organization of Conferences or Sessions

Year	Name of	Place of	Subject of	Role
	Conference	Conference	Conference	
July 15-18, 2004	Interdisciplinary workshop on "Continental Rifting, Human Dispersals and Natural Hazards"	Heidelberg, Germany		In charge of organization
March 13-14, 2008	Heat-Flow around Dead Sea Transform: Problems and Perspectives	Dalia, Israel		Part of the organizing team
May 28-30, 2013	Geological Society of Israel Annual conference	Acco, Israel		Part of the organizing team
*2016	Israel Association for Aquatic Sciences Annual Meeting	Dan Hotel, Herzliya, Israel		Geological and physical oceanography: Session organizer and convener
*2017	COST Action ES1301 - International workshop	Leonardo Beach Hotel, Tel Aviv	The Dead Sea	Organizer of workshop

Invited Lectures (Others than in Scholarly Conferences)

Year	Name of Forum	Place of Lecture	Subject of Lecture	Role
2005		GFZ, Potsdam, Germany	New insights on the	
			tectonics of the Dead Sea	
			basin – an interdisciplinary	
			study	

2005	Palestinian Joint Research Program: "Water Resources Evaluation for a Sustainable Development in the Jordan Rift Basin"	Dead Sea, Jordan	New insights on the tectonics of the Dead Sea basin – an interdisciplinary study
2009	International Science Day	Manchester, England	Marine Geosciences in Israel
2009	International Science Day	London, England	Marine Geosciences in Israel
2012	Dead Sea workshop	The Max Planck Institute for Marine Microbiology, Bremen, Germany	Tectonics of the Dead Sea – an introduction
2012	Cost Management Committee and Work Group meeting	Hotel Golden Bay, Larnaca, Cyprus	Remote Sensing in Israel – an Overview
2013	A Virtual Memory, Vilnius, 2013	Jewish Culture and Information Center, Vilnius, Lithuania	Inscribed in Earth
2013	Jewish Community of Rio De Janeiro, Brazil	Midrash Eliezer Max, Rio De Janeiro, Brazil	Deep Drilling in the Dead Sea – the ICDP Borehole in the Lowest Place on Earth
2013	Jewish Community of Sao Paulo, Brazil	House of the Israeli Consul to Brazil, Sao Paulo, Brazil	Marine Research in Israel – an Overview
2013		MUBE – Museu Brasileiro da Escultura, Sao Paulo, Brazil	On the Interface Between Art and Science.
2014		MUBE – Museu Brasileiro da Escultura, Sao Paulo, Brazil	Workshop: Art and Science – Interrelations, Practice and Theory
2014		Hotel Tryp Higienopolis, Sao Paulo, Brazil	Science, Art and Life

2014 *2015	The 7th Annual Euromed Academy of Business conference Special seminar for students of: "Sciences and Management of Nature" and	Kristiansand, Norway University of Bologna, Italy, School of Science	On the importance of communication between industry and academia - gas escape features as a case study Dead Sea studies - tectonics, biology and climate at the lowest place on earth	KEYNOTE TALK
	"Geology and Land Management"			
*2015	Special seminar for students of: "Sciences and Management of Nature" and "Geology and Land Management"	University of Bologna, Italy, School of Science	Gas seeps from the seafloor - forced regression, negative feedback and climate change	
*2015	Special seminar for students of: "Coastal Risks and Management"	University of Bologna, Italy, School of Science	Dynamics and risks along the Israeli coast	
*2016	COST Action ES1301 meeting	Heraklion, Crete	Springs of life: fluid flow in the Dead Sea	
*2016	Workshop on: Shifting Memories: Moving Histories	Faculty of Humanities and Social Sciences, University of Cologne, Germany	Shifting memories, moving histories	
*2016	3rd SKLEC International Workshop on Estuarine and Coastal Research	East China Normal University, Shanghai	The old men and the sea: human adaptation to ancient coastal changes	

In Israel

Year	Name of Forum	Place of Lecture	Subject of Lecture	Role
2001	Graduation Ceremony Postdoctoral Studies in Orthodontics	Tel Aviv University	660 meters below sea level – a journey to the bottom of the Dead Sea	
2008	Green Industry	Ruppin Academic College	Geothermal Energy, the Wave of the Future?	

2009	"Ocean-Science"	Michmoret,	Why are the coastal cliffs	
2009	First in Science	Herzeliya Municipality,	The Israeli Coast	
		Environmental Unit, Center for Science		
2009	Department of Maritime Civilizations	University of Haifa	Geophysical Methods in Marine Sciences	
2011	Kibbutz Elders	Kibbutz Ein Gedi	Why drill in the Dead Sea?	
2011	Science Unit	Israel Nature and Parks Authority	Research in the Dead Sea	
2011		Israel Academy of Sciences and Humanities	ICDP Dead Sea Drilling	
2011	Green Industry	Ruppin Academic College	Geothermal Energy – what do we really know about "green energy"	
*2016	8th annual	Ben Gurion	Continental movement	
	symposium of the Swiss Institute for Dryland Environmental & Energy Research (SIDEER)	University of the Negev, Sdeh Boker, Israel	and human migration from Africa	
*2016	Ecoocean	Sdot Yam, Israel	From the Nile to Haifa – sand transport along the coast, shelf and deep basin offshore Israel	

Colloquium Talks

Year	Name of Forum	Place of Lecture	Presentation
2003	Colloquium	Department of Geophysics and Planetary Sciences, Tel Aviv University	

2005	Colloquium	Syracuse University,	New insights on the tectonics of the Dead
		Syracuse, New York	Sea basin – an interdisciplinary study
2006	Colloquium	Dept. of Geography and Human Environment, Tel Aviv University	An interdisciplinary study of the Dead Sea basin
2008	Colloquium	University of Haifa, Department of Maritime Civilizations	The northern Dead Sea basin - structure and tectonic activity
2011	Colloquium	University of Haifa, Department of Maritime Civilizations	1200m below sea level - the Dead Sea Deep Scientific Drilling Project
2011	Colloquium	University of Haifa, Department of Geography	0.045 leagues under the Dead Sea - tectonics, life and a yellow submarine
2013	Colloquium	Ben-Gurion University, Department of Geological and Environmental Sciences	Tectonics in the Dead Sea - what do we really know?
2013	Colloquium	Oceanographic Institute of the University of Sao Paulo, Brazil	Active gas systems offshore Israel and their effect on past climatic changes
2013	Colloquium	Universidade Federal	Active gas systems offshore Israel and their effect on past climatic changes
		Flumeninse, Rio De Janeiro, Brazil	

Research Grants

Grants Awarded

Role in Research	Other Researchers	Торіс	Funded by	Amount	Year
PI		Ultra high resolution Sparker survey of the northwestern corner of the Dead Sea – a case study	[C] GIF- Young Scientist	35,500 Euro	2010

PI	Additional PIs: Eyal Heifetz, Isaac Gertman, Nathan Paldor	Development of Operational Infrastructure for Forecasting, Monitoring and Data Management of Marine Substances and Contaminant Spreading in the Eastern Mediterranean	[C] MOST	205,390 NIS (total budget: 1,750,016 NIS)	2010- 2012
PI		Seismic processing software package	GEDCO	\$195,000	2011open ended
PI	Additional PIs: Yigal Erel (HU), Zvi Ben Avraham (TAU), Yehouda Enzel (HU), Shmulik Marco (TAU), Hagai Ron (HU), Boaz Lazar (HU)	The Dead Sea Deep Drilling Project: The Dead Sea as a Global Late Quaternary Paleo- Environmental, Tectonic, and Seismological Archive	[C] ISF Center of Excellence	Total budget \$1,500,000	2012- 2015
PI	Additional PIs: Yigal Erel (HU), Zvi Ben- Avraham (TAU), Yehouda Enzel (HU), Shmulik Marco (TAU), Hagai Ron (HU),	The Dead Sea Borehole - The Longest Archive of the Late Quaternary Levant Geological and Geophysical	[C] ISF Center of Excellence (Grant No. 1436/14)	Total budget \$1,650,000	2015- 2018
*Collaborator	Pls: Assaf Yasur-Landau, Ruth ShahackGross	Understanding Collapse: The Destruction of the Tel Kabri Palace	[C] ISF (Grant No. 910/15)		

Submission of Research Proposals - Pending

Role in	Other Researchers (Name &	Title	Funded by	Years
Research	Role)		(C = Competitive	
			Fund)	
*PI	PI – Alina Polonia	Estimating earthquake	MOST Israel-Italy	2017
	Additional researchers -	activity in the Sea of Galilee,		
	Luca Gasperini,	Israel: a benchmark for		
	Giuseppe Stanghellini,	bilateral studies on		
	Sonia Albertazzi,	paleoseismology and		
	Romano Stefania, Uri	seismic hazard assessment		
	Basson			
*PI	PI - Shilun Yang	Holocene-recent changes in	ISF Israel-China	2017
	CI – Weiguo Zhang	the subaqueous Yangtze		
	Additional researchers –	delta resulting from natural		
	Jing Chen, Bing Deng,	and anthropogenic		
	Yan Liu, Xiaomei Nian, Qianli	influences		
	Sun, Uri Basson			

Scholarships, Awards and Prizes

- 2008 Award of Excellence in Teaching Geomorphology of the Israeli Coast, University of Haifa
- 2008 **Research Authority, University of Haifa** \$1000 grant for submitting a proposal to a competitive fund ISF
- 2010 Rector Award, University of Haifa 18,000 NIS grant for wining competitive proposals
- 2011 Award of Excellence in Teaching Ruppin Academic College
- 2012 Award of Excellence in Teaching Ruppin Academic College
- 2016 Award of Excellence in Teaching Ruppin Academic College

Teaching

Courses Taught in Recent Years

Years	Name of Course	Type of Course Lecture/Seminar/ Workshop/ Online Course/ Introduction Course (Mandatory)	Level	Number of Students
1996- 1998	Selected Chapters in Geodynamics	Lecture – Teaching Assistant; Tel Aviv University	Graduate	Ca. 15
1996- 1998	Introduction to Geotectonics 2	Lecture – Teaching Assistant; Tel Aviv University	Graduate	Ca. 15
1996- 1998	Gas Hydrates	Lecture – Teaching Assistant; Tel Aviv University	Graduate	Ca. 10

1996-	Physics of the Earth	Lecture – Teaching Assistant; Tel Aviv University	Graduate	Ca. 15
1998				
1996-	The Dynamic Earth	Lecture – Teaching Assistant; Tel Aviv University	Graduate	Ca. 15
1998				
2001-	Coastal	Lecture - Israel Maritime College, Ruppin	Undergra	Between
2014	Geomorphology	Academic Center.	duate	70-100
2008	Geomorphology of the Israeli Coast	Pro-seminar – University of Haifa	Graduate	Over 35
2008-	Colloquium	Seminar – University of Haifa	Graduate	-
2011				
2009present	Advanced topics in	Lecture – University of Haifa	Graduate	Open to
	Coastal			Dept. Only
	Geomorphology			(between
				4-9)
2009present	Morphology of the	Lecture – University of Haifa	Graduate	Open to
	Seafloor			Dept. Only
2011-	Forefront of	Lecture/Seminar – University of Haifa	Graduate	Open to
2014	Scientific Research			Entire
				University
				(11)
2015	Seismic	Lecture – University of Haifa	Graduate	9
	Interpretation			

Supervision of Graduate Students

Name of Student	Name of Other Mentors	Title of Thesis	Degree	Year of Completion / In Progress	Students' Achievement s
M.Sc. Studen	ts				
Shahaf Lipman	Gideon Tibor (IsraelOceanographi c and Limnological Research)	Remote detection and seasonal patterns of chlorophyll biomass in Lake Kinneret	M.Sc.	2011	Position in geophysics company
Liat Roter		Morphology and tectonic structure of submarine landslides within the Dor disturbance, offshore Israel	M.Sc.	2012	Senior position in oil company
Gilad Shtienberg	Dorit Sivan and Dov Zviely (University of Haifa)	The effect of past coastal construction on the morphology of the coast of Caesarea	M.A.	2012	Accepted into Ph.D. Program, University of Haifa Article Published D21

Mor Rozman	Tzipi Eshet, (University of Haifa)	Protection from retreat of the Beit-Yannai coastal cliff – examination of alternatives and analysis of public preferences	M.Sc.	2012	Dean's award for excellent M.Sc. thesis 2013 Position in Environmenta I company
Shai Efrati	Eyal Heifetz, (Tel Aviv University)	Remote sensing of pollution spread in the eastern Mediterranean Sea	M.Sc.	2013	Article Published D17
Orna Buch	Uri Schatner, (University of Haifa)	Active tectonics offshore Galilee	M.Sc.	2015	Position in Zion Oil and Gas
Keren Engoltz	Assaf Yasur Landau, (University of Haifa)	Marine structures at Tel Dor	M.A.	2015 Internationa l Program. Dept. Maritime Civilization s.	Article Published D26
Markos Gurevitz	Uri Schatner, (University of Haifa)	Contourites and erosional features on the continental shelf of Israel	M.Sc.	2016	Article Published K23
Guy Lang	Uri Schatner, (University of Haifa)	Seismic stratigraphy across the Levant continental margin through the Pliocene and Pleistocene.	M.Sc.	2016	Article Published K22, E5 and article in submitted
Bar Oryan	Zvi Ben- Avraham (Tel Aviv University)	Heat flow values obtained by the ICDP cores and their implications	M.Sc.	2016	Studying towards a PhD at Columbia University, New York, USA
Michal Koren	Uri Schatner, (University of Haifa)	Deep-water channelized turbidity currents regime, during the late Pliocene, as reflected in deep-water sinuous channel complex, offshore Israel.	M.Sc.	In progress	
Tomer Hadary	Uri Schatner, (University of Haifa)	Basal shear surface morphology at the continental margin, an	M.Sc.	In progress	

		Eastern Mediterranean case study			
Lior Suchoy	Gerya Taras, (ETH, Zurich, Switzerland)	Computerized numerical model for prediction of future tectonic developments in Levant and Phoenician basins	M.Sc.	In progress	
*Linjing Cheng		FDEM in the Dead Sea	M.Sc.	In progress	
*Naama Sarid	Beverly Goodman- Tchernov(University of Haifa)	Microplastics in sediments	M.Sc.	In progress	Asaf Shani Grant
*Babatunde Oluwadamilar e Ayodeji	Beverly Goodman- Tchernov (University of Haifa)	Tsunami deposits, Michmoret, Israel	M.Sc.	In Progress	
*Ashley Himmelstein	Assaf Yasur Landau (University of Haifa)	FDEM Survey of Dor's South Bay	M.A.	In Progress	
Ph.D. Students	5				
Mia RoditiElasar	Dani Kerem and Dror Angel, (University of Haifa)	Akhziv submarine canyon as a modifier of the regional foodweb	Ph.D.	Completed October 2016	
Lisa Coianiz	Zvi Ben-Avraham		Ph.D.	In progress	
Thomai Anagnostoudi	Uri Schattner (University of Haifa)	Salt Tectonics and Thin-skin Deformations, A Case Study from the Levant Basin	Ph.D.	In progress	
Akos Kalman	Beverly Goodman- Tchernov(University of Haifa)	Paleoflood reconstruction in the Gulf of EilatAqaba	Ph.D.	In progress	
Eyal Mardar	Revital Bookman (University of Haifa) and Eitan Shelef (University of Pittsburgh)	The effect of tectonics on geomorphologica I processes in the Jordan valley	Ph.D.	In progress	
Semion Polinov	Revital Bookman (University of Haifa) and Noam Levin (Hebrew University)	The human footprint in the Eastern Mediterranean since the industrial revolution	Ph.D.	In progress	

Michael Lazar-List of Publications

Ph.D. Dissertation

Title: Tectonic processes along the northern edges of pull-apart basins in the Dead Sea Rift: A case study from the northern Dead Sea.

Date of submission: 2004 Number of pages: 143 Language: English Name of supervisor: Zvi Ben Avraham University: Tel Aviv University Publications: D1 and D6

Published

- 1. Lazar, M., Ben-Avraham, Z., 2002. First Images from the Bottom of the Dead Sea Indications of Recent Tectonic Activity. Israel Journal of Earth Sciences, vol. 51, p. 211218. (IF: N/A; Rank: N/A; Non-self citations: 4).
- 2. Blumberg, D.G., Neta T., Margalit, N., Lazar, M., Freilikher, V., 2004. Mapping exposed and buried drainage systems using remote sensing in the Negev Desert, Israel, Geomorphology, v. 61, p. 239-250. (IF: 2.577; Rank: 41/174 and 18/46; Non-self citations: 22).
- 3. Ben-Avraham, Z., Schattner, U., Lazar, M., Hall, J.K., Ben-Gai, Y., Neev, D. and Reshef, M., 2006. Segmentation of the Levant continental margin, eastern Mediterranean: Tectonics, 25, TC5002, doi:10.1029/2005TC001824. (IF: 3.994; Rank: 9/80; Non-self citations: 14).
- Schattner, U., Ben-Avraham, Z., Lazar, M. and Huebscher, C., 2006. Tectonic isolation of the Levant basin offshore Galilee-Lebanon - Effects of the Dead Sea fault plate boundary on the Levant continental margin, eastern Mediterranean. In: Tectonic Inversion and Structural Inheritance in Mountain Belts, Journal of Structural Geology, doi:10.1016/j.jsg.2006.06.003. (IF: 2.420; Rank: 49/174; Non-self citations: 21).
- 5. Schattner U., Ben-Avraham Z., Reshef M., Bar-Am G. and Lazar, M., 2006. OligoceneMiocene formation of the Haifa basin: Qishon-Sirhan rifting coeval with the Red SeaSuez rift system. Tectonophysics, v. 419, no.1-4, p. 1-12. (IF: 2.866; Rank: 18/80; Nonself citations: 26).
- Lazar, M., Ben-Avraham Z. and Schattner U., 2006. Formation of sequential basin along a strike slip fault – geophysical observations from the Dead Sea basin: Tectonophysics, V. 421, no. 1-2, p. 53-69. (IF: 2.866; Rank: 18/80; Non-self citations: 29).
- Ben-Avraham, Z., Garfunkel, Z., Lazar, M⁺., 2008. Geology and Evolution of the Southern Dead Sea Fault with Emphasis on Subsurface Structure: Annual Review of Earth and Planetary Sciences. doi: 10.1146/annurev.earth.36.031207.124201 (⁺Authors appear in alphabetical order). (IF: 10.188; Rank: 2/174 and 5/59; Non-self citations: 28).
- Rybakov, M., Voznesensky, V., Ben-Avraham, Z., and Lazar, M., 2009. The Niklas anomaly southwest of Cyprus: New insights from combined gravity and magnetic data. Israel Journal of Earth Sciences, v. 57, p. 125–138. doi: 10.1560/IJES.57.2.125. (IF: N/A; Rank: N/A; Non-self citations: 4).
- Schattner, U. and Lazar, M., 2009. Subduction, collision and initiation of hominin dispersal. Quaternary Science Reviews: v. 28, p. 1820-1824. (IF: 4.571; Rank: 7/174 and 3/46; Non-self citations: 8).
- Lazar, M., Ben-Avraham, Z., Garfunkel, Z., Porat, N., and Marco, S., 2010, Is the Jericho Escarpment a tectonic or a geomorphological feature? Active faulting and paleoseismic trenching: The Journal of Geology, v. 118, p. 261-276. doi:10.1086/651504. (IF: 2.436; Rank: 8/44; Non-self citations: 5).

- 11. Lazar, M., Schattner, U., 2010. Landscape evolution and hominin dispersal (comment). Quaternary Science Reviews, 29, 1495-1500. (IF: 4.571; Rank: 7/174 and 3/46;).
- 12. Schattner, U., Lazar, M., Tibor, G., Ben-Avraham, Z., Makovsky, Y., 2010. Filling up the shelf a sedimentary response to the last post-glacial sea rise. Marine Geology, 278, 165-176. (IF: 2.201; Rank: 54/174 and 20/59; Non-self citations: 7).
- Rybakov, M., Goldshmidt, V., Hall, J.K., Ben-Avraham, Z., Lazar, M., 2011. New insights into the sources of Magnetic Anomalies in the Levant. Russian Geology and Geophysics, 52, 377-396. (IF: 1.409; Rank: 91/174; Non-self citations: 4).
- Lazar, M., Ben-Avraham, Z., Garfunkel, Z., 2012. The Red Sea New insights from recent geophysical studies and the connection to the Dead Sea fault. Journal of African Earth Sciences, 68, 96-110. (Invited article). (IF: 1.382; Rank: 97/174; Non-self citations: 5).
- Schattner, U., Lazar, M., Harari, D. and Waldmann, N., 2012. Active gas migration systems offshore northern Israel, first evidence from seafloor and subsurface data, Continental Shelf Research, doi: 10.1016/j.csr.2012.08.003. (IF: 2.115; Rank: 21/59; Non-self citations: 2).
- Lazar. M., Schattner, U. and Reshef, M., 2012. The great escape an intra-Messinian gas system in the eastern Mediterranean. Geophysical Research Letters, 39, 20, doi:10.1029/2012GL053484, 2012. (IF: 4.456; Rank: 9/174; Non-self citations: 10).
- #Efrati, S., Lehahn, Y., Rahav, E., Kress, N., Herut, B., Gertman, I., Goldman, R., Ozer, T., Lazar, M., Heifetz, E., 2013. Intrusion of coastal waters into the pelagic Eastern Mediterranean: in situ and satellite-based characterization, Biogeosciences, 10, 33493357, doi:10.5194/bg-10-3349-2013. ([§]Student paper. Last two authors are supervisors) (IF: 3.753; Rank: 16/174; Non-self citations: 6)
- 18. Miroslav, B., Rybakov, M., Lazar, M., 2013. Tutorial: The gravity stripping process as applied to gravity interpretation in the eastern Mediterranean. The Leading Edge, 32, 410-416 (SJR indicator: 1.676; Non-self citations: 1).
- 19. Schattner, U., Lazar, M., 2014. Flip convergence across the Phoenician basin through nucleation of subduction. Gondwana Research, 25, 729-735 (IF: 8.122; Rank: 3/174; Non-self citations: 1).
- Ginat, H., Rybakov, M., Shirman, B., Lazar, M., 2014. Magmatic occurrences in the Central Arava (southern Israel) based on geology and magnetometry, Journal of Asian Earth Sciences 85, 106-116 (IF: 2.831; Rank: 30/174; Non-self citations: 0).
- #Shtienberg, G., Zviely, D., Sivan, D., Lazar, M., 2014. Two centuries of coastal morphology changes in the prominent site of Caesarea, Israel. Geo-Marine Letters DOI 10.1007/s00367-014-0355-5 (#Student paper) (IF: 2.062; Rank: 63/172; 25/60; Non-self citations: 2)
- *Schattner, U., #Gurevich, M., Kanari, M., Lazar, M., 2015. The Levant jet system effect of Post LGM seafloor currents on Nile sediment transport in the eastern Mediterranean. Sedimentary Geology, 329, 28-39 (IF 2.665).
- 23. *Schattner, U., Lazar., M., 2016. Hierarchy of source-to-sink systems-Example from the Nile distribution across the eastern Mediterranean. Sedimentary Geology, 343, 119-131.
- 24. *Schattner, U., Lazar, M., Souza, L.A.P., ten Brink, U., Mahiques, M.M., 2016. Pockmark asymmetry and seafloor currents in the Santos Basin offshore Brazil. GeoMarine Letters, 1-8.
- 25. *Lazar, M., #Lang, G., Schattner, U., 2016. Coincidence or not? Interconnected gas/fluid migration and ocean–atmosphere oscillations in the Levant Basin. Geo-Marine Letters, 1-14.
- 26. *Lazar, M., #Engoltz, K., Basson, U., Yasur-Landau, A., 2017. Water saturated sand and a shallow bay: Combining coastal geophysics and underwater archaeology in the south bay of Tel Dor. Quaternary International

http://dx.doi.org/10.1016/j.quaint.2017.02.025 (IF: 2.062)

27. *De Mahiques, M. M., Schattner, U., **Lazar, M.,** Sumida, P. Y. G., de Souza, L. A. P., 2017. An extensive pockmark field on the upper Atlantic margin of Southeast Brazil: spatial analysis and its relationship with salt diapirism. Heliyon, 3, e00257. <u>http://doi.org/10.1016/j.heliyon.2017.e00257</u>

Articles or Chapters in Scientific Books (Refereed)

Published

- Ben-Avraham, Z., Lazar, M., Schattner, U. and Marco S., 2005. The Dead Sea Fault and its effect on civilization. In: F. Wenzel (ed.), Lecture Notes in Earth Sciences: Perspectives in Modern Seismology, Springer Verlag Heidelberg, v. 105, p. 147-170. (Non-self citations: 8).
- Ben-Avraham, Z., Lazar, M., 2006. The structure and development of the Dead Sea basin: recent studies. In: Enzel, Y., Agnon, A., Stein, M. (Eds.), New Frontiers in Dead Sea Paleoenvironmental Research, Geological Society of America Special Papers, p. 113. DOI: 10.1130/2006.2401(01). (Nonself citations: 17).
- 3. Ben-Avraham, Z., **Lazar, M.,** Ballard, R.D., Por, F.D., 2008. Microtopography of a continental rift zone: the Gulf of Elat (Aqaba). Indications of hydrothermal-connected biological activity. In: F.D. Por (Ed) Aqaba-Eilat, the Improbable Gulf: Environment, Biodiversity and Preservation. Magnes Press.
- Ben-Avraham, Z., Lazar, M., Reshef, M., Garfunkel, G., Ginzburg, Y., Rotstein, Y., Frieslander, U., Bartov, Y., Shulman, H., 2012. Structural styles along the Dead Sea fault. In: Roberts, D.G., Balley, A.W. (Eds.) Phanerozoic Regional Geology of the World, v. 2. P. 612-633.

Accepted for Publication

 Schattner, U., #Lang, G., Lazar, M., Pliocene or Pleistocene, that is the question – new constraints from the eastern Mediterranean (in press). In: Enzel, Y., Bar-Yosef, O. (Eds.), Quaternary Environments, Climate Change and Humans in the Levant. Cambridge University Press, Cambridge.

Articles in Conference Proceedings (Refereed)

Published

- Lazar, M., Ben-Avraham, Z., Ben-Dor, E., 1998. Comprehensive comparison of atmospheric corrections of "CASI" Hyperspectral images over water – A case study. Proceedings of the 1st EARSeL Workshop on Imaging Spectroscopy. Remote Sensing Laboratories. University of Zurich, Switzerland, 6-8 October, 1998. p. 97103.
- Neta T., Blumberg, D.G., Lazar, M., 1999. Mapping exposed and buried river channels using remote sensing techniques with an example from Mubra channel, the Negev, Israel. Proceedings of SPIE, Remote Sensing for Earth Science, Ocean, and Sea Ice Applications Cecchi, G, Engman, E. T., Zilioli, E. (Eds.), vol. 3868, p. 495503

Entries in Encyclopedias (Refereed)

Accepted for Publication.

1. Lazar, M., Schattner, U., Reshef, M., (In Press). Chapter 13 - The Levant Basin. *In*: Lofi, J. Déverchère, J., Gaullier, V., Gillet, H., Gorini, C., Guennoc, P., Loncke, L.,

Maillard, A., Sage et I. Thinon, F. (Eds.), Seismic Atlas of the Messinian Salinity Crisis Markers in the Mediterranean and Black Seas – Volume 2. Commission for the Geological Map of the World and Société Géologie de France.

Other Scientific Publications

Published

Professional Reports

- 1. Lazar, M., Ben-Avraham, Z., 1998. Remote sensing of hydrocarbons for petroleum exploration. A preliminary report. Confidential report for Applied Spectral Imaging (ASI), Migdal Haemek.
- 2. Lazar, M., 2004. Tectonic processes along the northern edges of pull-apart basins in the Dead Sea Rift: A case study from the northern Dead Sea. MDSRC-2004/4, Minerva Dead Sea Research Center, Tel Aviv University, Tel Aviv, 150 p.
- 3. Schattner U., Ben-Avraham Z., Reshef M., Bar-Am G. and Lazar M. 2005. Development of parallel rifts across the northeastern Afro-Arabian plate, MDSRC-2005/5, Minerva Dead Sea Research Center, Tel Aviv University, Tel Aviv, 11 p.
- 4. Schattner U., Ben-Avraham Z., Lazar M. and Hüebscher, C., 2005. Tectonic isolation of the Levant basin offshore Galilee-Lebanon Effects of the Dead Sea fault plate boundary on the Levant continental margin, eastern Mediterranean, MDSRC-2005/3, Minerva Dead Sea Research Center, Tel Aviv University, Tel Aviv, 26 p.

<u>Abstracts</u>: all lectures listed under Participation in Scholarly Conferences (number 6 above) were accompanied by a scientific abstract.

Dan Tchernov– Resume



Dr. Dan Tchernov Marine Biology

Home Telephone Number: +972-(0)77-514-1040 Office Telephone Number: +972-(0)4-8240515 Cellular Phone: +972-(0)52-8666408 Fax Number: +972-(0)4-8288267 Electronic Address: dtchernov@univ.haifa.ac.il

Higher Education

Undergraduate and Graduate Studies

Degree	Name of Institution and Department	Period of Study
B.Sc.	The Hebrew University of Jerusalem Faculty of Science	1991-1995
M.Sc.	The Hebrew University of Jerusalem Faculty of Science	1995-1998
Ph.D.	The Hebrew University of Jerusalem Faculty of Science	1998-2003

Post-Doctoral Studies

Name of Host	Name of Institution and Department/Lab	Period of Study
Prof. Paul G.	Institute of Marine and Coastal Sciences, Rutgers	2002-2004
Falkowski	University, New Brunswick, NJ, USA. The Department of Environmental Biophysics and Molecular Ecology	

Academic Ranks and Tenure in Institutes of Higher Education

Rank/Position	Name of Institution and Department	Years
Lecturer	Faculty of Science, The Alexander Silberman Institute of Life Sciences, Department of Evolution, Systematics and Ecology (ESE), The Hebrew University of Jerusalem	2004-2009
Tenure, Senior Lecturer	Leon Charney School of Marine Sciences, Dept. of Marine Biology, University of Haifa	*2009-Present

Offices in University Academic Administration

Years	Name of Institution and Department	Role
2004 - 2009	The Inter-University Institute for Marine Sciences-Eilat	Administrative Director
*2009 - present	Department of Marine Biology, Leon Charney School of Marine Sciences, University of Haifa	Department Head
*2010 - 2012	Leon Charney School of Marine Sciences, University of Haifa and founder of the biology department	Deputy Director

Scholarly Positions and Activities outside the University

Years	Memberships in Academic Professional Associations
*2009 - 2015	Member of the Board—-The Inter-University Institute for Marine
	Sciences-Eilat
*2014 - present	Member of the Board—Israel's National Ecosystem Assessment
	Program "HA MAARAG"
*2013 - present	Founder of the Helmsley Center Marine Station in Sdot-Yam
*2013 - present	Scientific Manager of the Mediterranean LTER program—Israel's
	National Ecosystem Assessment Program
*2013 - present	Member of the Scientific Board—Mediterranean Sea Research Center
	of Israel
*2013	Observer status—European Marine Board
2008 - present	Panel member—European Scientific Diving Panel
Years	Reviewing for Refereed Journal
	Nature
	Nature Climate Change
	Science
	PNAS
	Limnology & Oceanography Methods
	Coral Reefs
	Marine Ecology Progress Series
	Journal of Plankton Research
	Journal of Phycology
	Marine Biotechnology
	Plos One
	Current Biology

Years	Reviewing for Fund Agencies
	Israel Science Foundation
	NSF
	New Zealand Science Foundation
	Technion
	Department of Defense (DOD) USA

Active Participation in Scholarly Conferences

International Conferences - Held Abroad

Role	Subject of Lecture/Discussion	Place of Conference	Name of Conference	Date
Presenter	Climate Change And Coral Bleaching	Princeton, NJ, USA	Center for Environmental Bioinorganic Chemistry (CEBIC) Conference	2003
Presenter	Apoptosis In Corals, A Possible Mechanism	Colombia University, NY, USA	The Coral Mini- Symposium	2003
Presenter	1) Development Of Advanced Bio-Optical Technologies For Environmental Monitoring Of Benthic Ecosystems At DoD Installations (Gorbunov M, Tchernov D, Matz M, Falkowski P)	Washington DC, USA	Ocean Sciences Meeting	2004
Presenter	2) Development And Applications Of Advanced Fluorometry Technologies For Monitoring The Health Of DoD Coral Reef Communities (Tchernov D, Bibby T, Haramaty L, Helman Y, Falkowski P, Natale F)			
Presenter	Response Of Holosymbiont Pigments From The Scleractinian Coral (Tchernov D, Gorbunov M, De Vargas C, Narawan S, Milligan AJ, Haggblom M, Falkowski PG)	Honolulu, Hawaii, USA	American Society of Limnology and Oceanography	2004

Presenter	Programmed Cell Death Is A Part Of The Cellular Mechanism Of Coral Bleaching (Tchernov D, Haramaty L, Bibby T, Gorbunov M, Falkowski P)	Santiago de Compostela, Spain	American Society of Limnology and Oceanography	2005
Presenter	Will Corals Acclimate To Ocean Acidification? (Tchernov D, Fine M)	Seville, Spain	Frontiers of Science and Engineering-Middle East (FOSE, sponsored by National Academy of Sciences-USA)	2007
Presenter	Deep Coral Photosynthesis (Einbinder S, Fine M, Tchernov D)	Nice, France	American Society of Limnology and Oceanography	*2009
Invited speaker	Oxygen Levels, Scleractinian Corals Origin And Mesophotic Corals Photosynthesis (Tchernov D	Wageningen, The Netherlands,	European ISRS Meeting	*2010

Notes: * represents activities and publications since last appointment/promotion.

International Conferences - Held in Israel

Role	Subject of Lecture/Discussion	Place of Conference	Name of Conference	Date
Presenter	Science Based Management Of Marine & Costal Management	The University of Haifa, Haifa		2015*

Invited Lectures

Abroad

Year	Name of Forum	Place of Lecture	Subject of Lecture	Role
2003	Hawaiian Institute	University of	Apoptosis In Coral Tissue	Invited
	of Marine Biology	Hawaii, USA		speaker
2003	Department of	Washington	Frrf Measurements Of	Invited
	Biology	University (St.	Corals Under Thermal	speaker
		Louis)	Stress	
2003	The Coral Mini-	Columbia	The Cellular Mechanism	Invited
	Symposium	University, USA	Of Coral Bleaching	speaker
2004	Earth Sciences	Princeton	Coral Symbiotic Alga Lipid	Invited
	symposium	University, USA	Change, A Cellular	speaker
			Response To Thermal	
			Stress	

2005	Ecology &	University of	Thermal Acclimation	Invited
	Evolutionary	Arizona, USA	Versus Light Acclimation	speaker
	Biology		In Scleractinian Corals	-
*2010	European ISRS	Wageningen,	Oxygen Levels,	Invited
	Meeting	The Netherlands	Scleractinian Corals Origin	speaker
			And Mesophotic Corals	
****			Photosynthesis	
*2011	Hopkins Marine	Stanford	The Rise And Fall Of	Invited
	Station	University, USA	Corais	
*2012	Cth CID	Malta	Miero Stations And	
2015	Barmonidos	IVIdita	Marino Monitoring	inviteu spoakor with
	Conference		warme worntoring	
	"ODMED			A Selicitin
	Observatory for			
	the Development			
	of the			
	Mediterranean, a			
	Tool for Decision			
	Makers"			
*2015		Rutgers		Invited
		University, US		speaker
*2015	Monthly Seminar	Wyss Institute	The resilient mechanisms	Invited
	Series	Harvard	of corals:	speaker
***		University USA		
*2016	The International	National Dong	The third-tier paradox.	Invited
	Symposium for	Hwa University		speaker
	Narine Biology and	Taiwan		
*2016	The 2nd Japan	OIST Okinawa	The third tier peradox	Invited
2010	Israel Workshop	lanan	The tillu-tier paradox.	sneaker
	(Okinawa Institute	Japan		зреаке
	of Science and			
	Technology			
	Graduate			
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	Japanese Coral			
	Reef Society (JCRS)			
	Israel Academy of			
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	Humanities (IASH)			
	Science Council of			
	Japan (SCJ))			

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Colloquium Talks

Presentation	Place of Lecture	Name of Forum	Year
Carbon Cycling In Marine Algae	Tel Aviv University, Israel	Plants Sciences Department	2002
The Effect Of Light On Carbon Acquisition In Phytoplankton	Rutgers University, USA	Institute of Marine Sciences	2002
Carbon Concentrating Mechanism – Cycling Carbon As A Response To Light	The Hebrew University of Jerusalem, Israel	Institute of Life Sciences	2002
Apoptosis In Coral Tissue	University of Hawaii, USA	Hawaiian Institute of Marine Biology	2003
Lipid Content Change In Zooxanthellae	Rutgers University, USA	Institute of Marine Sciences	2003
Frrf Measurements Of Corals Under Thermal Stress	Washington University (St. Louis), USA	Department of Biology	2003
The Cellular Mechanism Of Coral Bleaching	Columbia University, USA	The Coral Mini- Symposium	2003
Coral Symbiotic Alga Lipid Change, A Cellular Response To Thermal Stress	Princeton University, USA	Earth Sciences	2004
Thermal Acclimation Of Coral To Thermal Stress – A Cellular Mechanism	The Hebrew University of Jerusalem, Israel	Ecology, Systematics and Evolution	2004
Apoptosis In Corals, A Response To High ROS Concentration As A Response To Thermal Stress	Eilat, Israel	Inter-University Institute for Marine Sciences	2004
Thermal Acclimation Versus Light Acclimation In Scleractinian Corals	University of Arizona, USA	Ecology & Evolutionary Biology	2005
Global Change And Carbon Concentrating Mechanism In Phytoplankton	Eilat, Israel	The National Center for Mariculture (NCM)	2005
Apoptosis In Corals, A Response To High ROS Concentration As A Response To Thermal Stress	Tel Aviv University, Israel	Zoology Department	2006

Thermal Acclimation Of Coral To Thermal Stress – A Cellular Mechanism	Technion, Haifa, Israel	Biology Department	2006
Coral Response To Ocean Acidification And Thermal Stress: Implications For The Past, Present And Future (with Fine M)	Eilat, Israel	The National Center for Mariculture (NCM)	2007
Scleractinian (Stony) Corals Can Withstand A Substantial Decrease In Ph Conditions (with Fine M)	Bar Ilan University, Israel	Israel Society for Microbiology	2007
Coral Response To Ocean Acidification: Implications For The Past, Present And Future (with Fine M)	University of Haifa, Haifa, Israel	Israel Association of Aquatic Sciences, Fourth Annual Meeting	2007
Scleractinian (Stony) Corals Can Withstand A Substantial Decrease In Ph Conditions (with Fine M)	Hebrew University	ESC Departmental Seminar	2007
Bleaching And Scleractinian (Stony) Corals Can Withstand A Substantial Decrease In Ph Conditions (with Fine M)	Ben-Gurion University, Israel	Geography Department	2008
The Effect Of Global Climate Change On Corals Reefs: Bleaching And Skeleton Loss (with Fine M)	Eilat, Israel Chair and invited speaker	The Federation of the Israel Societies for Experimental Biology	2008
Deep Coral Photosynthesis	Nice, France	ASLO meeting	2009
The Reef Gap And Scleractinian Corals Origins	Eilot, Israel	Israel Geological Society	*2010
Coral Evolution And Apoptosis	Hebrew University	EEB Symposium Jerusalem	*2011
The Rise? And Fall? Of Scleractinian Corals	Hebrew University, invited speaker	The Alexander Silverman Symposium	*2012

Research Grants

Grants Awarded

Years	Amount	Funded by	Title	Other	Role in
		C=competitive fund		Researchers	Research
2004-2006	\$24,000	Hebrew University	The Bleaching Mechanism		PI
2005-2009	\$220,000	The Israeli Science Foundation C	The Cellular Mechanism Of Coral Bleaching		PI
2006-2010	€143,000	BMBF: Federal Ministry of Education and Research C	Paleo Reconstruction Of Past Bleaching Events		PI
2006-2007	₪30,000	ISF C	Geochemical Based Reef Fish Ecology In The Gulf Of Eilat		PI
2009-2013	€215,155	7 th European Commission C	Fp7- Infrastructures- 2008-1.1.1 Association Of European Marine Biological Laboratories	Maoz Fine (PI)	*рі
2009	\$15,000	The Israeli Science Foundation C	The Cellular Mechanism Of Coral Bleaching (Work Shop)		*PI
2009-2014	\$1,250,000	Yad Hanadiv Foundation	Coral Shield- Corals In The Red Sea Under Climate Change		*PI

2011-2017	\$1,180,000	Yad Hanadiv Foundation	Science-Based Management Of Marine And Coastal Resources In The Photic Zone Along The Northern Israeli Coastline		*PI
2012-2014	£868,000	The Wolfson Foundation	Mitigation Of Hydrocarbon- Related Operational Failures In The East Mediterranean	N. Valdman, U. Schattner (PI)	*PI
2014-2017	\$580,000	The "MAARAG" & the Israeli Academy of Science	Marine Biodiversity In The Mediterranean – Monitoring The Benthic Community		*pj
2016-2018	\$600,000	Yad Hanadiv	Climate Changes In The Eastern Mediterranean Sea – Lter Project -		*PI
2016-2017	\$300,000	The Israeli Science Foundation C	Closed Aquarium System	T. Mass D. Sher (PI)	*PI
2017-2021	\$2,500,000	Yad Hanadiv	Lter, Blue Tech		*PI
2016-2020	\$377,000	ISF – CNSF C	How Do Corals Preserve A Complex Response To Lower Ph	Senjie Lin (PI)	*PI

Submission of Research Proposals – Pending None

Submission of Research Proposals – Not Funded

Year	Funded by <i>C=competitive fund</i>	Title	Other Researchers	Role in Research
2015-2016	NSF –BSF C	Exploration The Mesophotic Reef	David Gruber (PI), Rob Wood (PI)	*PI

Scholarships, Awards and Prizes

- 1997 The Avner Ezion Award (in Oceanography)
- 1997 The Polack Award (The Alexander Silberman Institute of Life Sciences).
- 1998 The Israeli Ecological Fund
- 2003 IMCS, Rutgers Fellowship

Teaching

Courses Taught in Recent Years

Inter-University courses (Eilat):

No. of Students	Level	Type of Course	Name of Course	Years
24	M.Sc.	Lecture/Seminar/ Workshop	Marine Photosynthesis (with Prof. Sven Beer and Dr. Ilana Frank- Berman. Dr. R. Schwartz – 2007-2008)	-2004present (annually)
20	B.Sc., M.Sc.	Lecture/Seminar/ Workshop	Coral Biology (with Dr. Maoz Fine)	2004-present

Hebrew University courses:

No. of Students	Level	Type of Course	Name of Course	Years
200	B.Sc.	Lecture	From Cell To Organism II (one of 2 teachers)	2005-2007 (annually)
20	B.Sc. M.Sc	Lecture	Biochemistry And Physiology Of Photosynthesis (one of 6 teachers)	2006-2008 (annually)
Supervision of Graduate Students

Students'	Year of	Degree	Title of Thesis	Name of	Name of
Achievements	Completion/ In Progress			Other Mentors	Student
M.Sc. Students	; ;	I		I	I
	2008	M.Sc.	The Effect Of Global Warming And Ocean Acidification On Coral Physiology		Amicam Bar- Gil
	2007	M.Sc. Magna cum laude	The Distribution Of The Coral <i>Seriatopora Histrix</i> In The Gulf Of Eilat	Dr. S Kark (HUJI)	Orit Nir
	2007	M.Sc.	The Molecular Pathway Of Coral Apoptosis		Adi Ramon
Published D44	2009	M.Sc.	Paleo Proxies For Detection Of Bleaching Events		Jay Fisch
	2009	M.Sc.	Coral Acidification Effect On In The Mediterranean Coral Oculina Spp	Dr. M. Fine (BIU) and A. Abelson (TAU)	*Rami Tsadok
	2009	M.Sc.	The Lipid Composition Of Scleractinian Coral Symbiotic Algae And Its Role In Thermal Tolerance	Dr. Ilana Berman-Frank (BIU)	*Adi Levi
	2009	M.Sc.	Genetic Variability In The Endolithic Algae Ostreobium	Dr. M. Fine (BIU)	*Eldad Hoch
	2009	M.Sc.	Scleractinian Corals Resilience To Decreased Ocean Ph	Dr. M. Fine (BIU)	*Noah Ben- Aderet
	2011	M.Sc.	Calcification Under Ocean Acidification Conditions	Dr. M. Fine (BIU)	*Stephanie Cohen

Article in review	2011	M.Sc.	Ocean Acidification And Apoptosis In	Sarit Larish	*Keren Maor
Published (D24)	2010	M.Sc.	Radical Oxygen Species Accumulation In Corals	Dr. Y. Shaked (HU)	*Eldad Saragosti
	2012	M.Sc.	Coral And Symbiont Mass Energy Fluxes: Does The Coral Reduce The Symbiotic Algae Photosystem?	Dr. B. Rinkevitch (ILOR)	*Yaniv Blumenfeld
	2015	M.Sc.	Bleaching In Corals		*Tal Michael
Ph.D. Students	1	1	1	I	I
Published (D17, D25)	2010	Ph.D.	The Light Adaptation And Acclimation Of Coralimorpharians In The Gulf Of Eilat	Prof. Yair Achituv (BIU)	*Baraka Kuguru
1 article in review, 1 article published D43	2014	Ph.D.	Phylogenetic Assessment Of The Subphylum Medusozoa Fauna In The Eastern Mediterranean Sea		*Gur Mizrahi
1 article in review	2014	M.Sc./ Direct Ph.D.	Caspase Role In Hermatypic Corals Apoptosis Mechanism		*Oded Liran
Published (#33, 34, 35, 37, 39)	2014	Ph.D.	Deep Sea Microbial Consortiums Under Cold Methane Seeps		*Max Rubin
Published (#28, 29)	2014	Ph.D.	The Molecular Mechanism Of Coral Apoptosis		*Hagit Kvitt
Published (D19, D27) 2 articles in preparation	Submitted	Ph.D.	The Deep Reef Community And Its Physiological Adaptations		*Shai Einbinder
Published (D27, D36)	2015	Ph.D.	Deep Reef Photosynthesis		*Orit Nir

Published	In progress	Ph.D.	Deep Reefs Fauna In		*Rami
(D33, D35, D39)			Eastern Mediterranean		Tsadok
2 articles published (D41, 38)	In progress	Ph.D.	Sea Turtles In The Mediterranean Sea, Physiology Changes Related To Climate	Gil Rilov-IOLR	*Yaniv Levy
1 article published (D44)	In progress	Ph.D.	Boron Isotopes In Corals		*Gal Dishon
	In progress	Ph.D.	Mediterranean Food Webs Before And After The Aswan High Dam Completion		*Stephan Martinez
	In progress	PhD	Food Web Modelling In The Eastern Mediterranean Sea (Co- Supervised With D Sher)		*Michal Grossovitch
2 articles in preparation	In progress	PhD	Fluid Dynamics And Uptake Of Nutrients And Particles In Marine Systems At The Intertidal Eastern Mediterranean Sea Niche		*Yotam Popovitch
2 articles in preparation	In progress	Ph.D.	MAA Biochemistry And Ecology In Marine Ecosystems		*Amicam Bar-Gil
	In progress	Ph.D.	Deep Reef Ecology Of Porifera In The East Mediterranean Sea		*Adam Wiesman
	In progress	Ph.D.	Interactions Between Algae And The Chytrid Fungus		*Tamar Leshem
	In progress	Ph.D.	Comparative Community Genomics And Evolution In Dead Sea Fungus	Aviatar Nevo)	*Tova Perel
	In progress	Ph.D.	Biodiversity Assessment Of The Elasmobranch (Shark And Ray) Fauna Of Israel,		*Adi Barash

			With First Insights Into Species Ecology And Distribution Patterns		
	In progress	Ph.D.	Functional Characterization Of The Bcl-2 Family Members Derived From The Stony Coral Stylophora Pistillata Inhabiting The Gulf Of Eilat	O Ayalon	*Leigh Kroeger
	In progress	Ph.D.	Temporal And Spatial Dynamics Of Freshwater Aquatic Microbiome Associated With The Bloom Of Toxic Cyanobacteria	A Sukenik	*Orna Schweitzer Natan
	In progress	Ph.D.	Temporal And Spatial Dynamics Of Siganus Population	G Rilov	*Erez Yeruham
	In progress	Ph.D.	Antioxidants Expression In Marine A Halophilic Algae In The Mediterranean And The Dead Sea	AB Nevo	*Raghvendra Sharma
Post-Doctora	ate Students				
Published (D21)	2008-9	Post- doctoral fellow	Coral Biochemical Attractants And Repellants For Larvae Recruitment In The Gulf Of Eilat		Ofer Ben- Tzvi
	In progress	Post-doc	The Origin Of Medusozoa In The Eastern Mediterranean Sea		*Gur Mizrahi

Miscellaneous

2006 – Present: Member, Moshe Shilo Minerva Center for Marine Biogeochemistry

Hebrew University of Jerusalem

Dan Tchernov-List of Publications

Ph.D. Dissertation

* Indicates publications since last promotion

Title: Response of photosynthetic marine organisms to changing ambient CO₂ concentration. Date of submission: 2002 Number of pages: 105 Language: English Name of supervisor: Prof. Aaron Kaplan University: Hebrew University of Jerusalem Publications: D1- D10

Indicated in the parentheses is the impact factor (according to ISI 2013) and my contribution to thepaper coded as follows:§ - minor§§ - intermediate§§§ - major

Articles in Refereed Journals IF: R=Level; Q=Quartile

Published

 Tchernov, D., Hassidim, M., Luz, B., Sukenik, A., Reinhold, L., Kaplan, A. (1997) Sustained net CO₂ evolution during photosynthesis by marine microorganisms. *Current Biology* 7: 723-728. (9.916, §§§)

IF 1997= 6.667

R 1997= Biochemistry & Molecular Biology: 25/253 (Q1); Biology: 3/63 (Q1)

 Sukenik, A., Tchernov, D., Huerta, E., Lubian, L.M., Kaplan, A., Livne, A. (1997) Uptake, efflux and photosynthetic utilization of inorganic carbon by the marine eustigmatophyte Nannochloropsis sp. *Journal of Phycology* 33: 969-974. (2.529, §§§) IF 1997= 1.847

R 1997= Plant Sciences: 22/139 (Q1); Marine & Freshwater Biology: 4/68 (Q1)

 Kaplan, A., Ronen-Tarazi, M., Zer, H., Schwarz, R., Tchernov, D., Bonfil, D.J., Schatz, D., Vardi, A., Hassidim, M., Reinhold, L. (1998) The inorganic carbon-concentrating mechanism in cyanobacteria: induction and ecological significance. *Canadian Journal of Botany* 76: 917-924. (§§) IF 1998= 0.983

R 1998= Plant Sciences: 51/142 (Q2)

 4. Tchernov, D., Hassidim, M., Vardi, A., Luz, B., Sukenik, A., Reinhold, L., Kaplan, A. ^{PI} (1998) Photosynthesizing marine microorganisms can constitute a source of CO₂ rather than a sink. *Canadian Journal of Botany* 76: 949-953. (§§§) IF 1998= 0.983

R 1998= Plant Sciences: 51/142 (Q2)

 Kaplan, A., Helman, Y., Tchernov, D., Reinhold, L. (2001) Acclimation of photosynthetic microorganisms to changing ambient CO₂ concentration. *Proceedings of the National Academy of Sciences USA* 98: 4817-4818. (9.809, §§)

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IF 2001= 1.869
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R 2001= Multidisciplinary Sciences: 3/48 (Q1)

 Tchernov, D., Helman, Y., Keren, N., Luz, B., Ohad, I., Reinhold, L., Ogawa, T. Kaplan, A. (2001) Passive entry of CO₂ and its energy-dependent intracellular conversion to HCO₃⁻ in cyanobacteria are driven by a photosystem I- generated ΔµH⁺. *Journal of Biological Chemistry* 276: 23450-23455. (4.600, §§§) IF 2001= 7.258

R 2001= Biochemistry & Molecular Biology: 29/308 (Q1)

 Sukenik, A., Eshkol, R., Livne, A., Hadas, O., Rom, M., Tchernov, D., Vardi, A., Kaplan, A. (2002) Inhibition of growth and photosynthesis of the dinoflagellate Peridinium gatunense by Microcystis sp. cyanobacteria: A novel allelopathic mechanism. *Limnology and Oceanography*; 47: 1656-1663. (3.615, §§)

IF 2002= 3.169

R 2002= Limnology: 1/12 (Q1); Oceanography: 3/41 (Q1)

 Helman, Y., Tchernov, D., Reinhold, L., Shibata, M., Ogawa, T., Schwarz, R., Ohad, I., Kaplan, A. (2003) Genes encoding a-type flavoproteins are essential for photoreduction of O-2 in cyanobacteria *Current Biology* 13 (3): 230-235. (9.916, §§§)
 IF 2003= 11.910

R 2003= Biochemistry & Molecular Biology: 7/261 (Q1);

Tchernov, D., Silverman, J., Luz, B., Reinhold, L., Kaplan, A. (2003) Massive light-dependent cycling of inorganic carbon between oxygenic photosynthetic microorganisms and their surroundings. *Photosynthesis Research* 77 (2-3): 95-103. (3.185, §§§)
 IF 2003= 2.239

R 2003= Plant Sciences: 21/136 (Q1)

10. Kaplan, A., Lieman-Hurwitz, J., **Tchernov, D.** (2004) Resolving the biological role of the Rhesus (Rh) proteins of red blood cells with the aid of a green alga. *Proceedings of the National Academy of Sciences USA* 101(20): 7497-74988. (9.809, §)

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IF 2004= 10.452
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R 2004= Multidisciplinary Sciences: 3/45 (Q1)

 Tchernov, D., Gorbunov, M.Y., de Vargas, C., Narayan Yadav, S., Milligan, A.J., Haggblom, M., Falkowski, P.G. (2004) Membrane lipids of symbiotic algae are diagnostic of sensitivity to thermal bleaching in corals. *Proceedings of the National Academy of Sciences USA* 101(37): 13531-13535. (9.809, §§§)

IF 2004= 10.452

R 2004= Multidisciplinary Sciences: 3/45 (Q1)

Shaked, Y., Lazar, B., Marco, S., Stein, M., Tchernov, D., Agnon, A. (2005) Evolution of fringing reefs: space and time constraints from the Gulf of Aqaba. *Coral Reefs* 24 (1): 165-172. (3.623, §§)
 IF 2005= 2.398

R 2005= Marine & Freshwater Biology: 9/77 (Q1)

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 IF 2007= 26.372

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R 2007= Multidisciplinary Sciences: 2/50 (Q1)
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- 14. Fine, M., and Tchernov, D. (2007) Ocean acidification and scleractinian corals Response. *Science* 317 (5841): 1032-1033. (31.477, §§§)
 IF 2007= 26.372
 P 2007= Multidiscipling (Sciences: 2 (50 (01)))
 - R 2007= Multidisciplinary Sciences: 2/50 (Q1) Tchernov, D., and Lipschultz, F. (2008) Carbon isotopic composition
- 15. **Tchernov, D.,** and Lipschultz, F. (2008) Carbon isotopic composition of Trichodesmium spp. colonies off Bermuda: effects of colony mass and season. *Journal of Plankton Research* 30: 21-31. (2.263, §§§)

IF 2008= 1.707

R 2008= Marine & Freshwater Biology: 29/87 (Q2); Oceanography: 20/50 (Q2)

 Tchernov, D., Livne, A., Kaplan, A., Sukenik, A. (2008) The kinetic properties of ribulose-1,5bisphosphate carboxylase/oxygenase may explain the high apparent photosynthetic affinity of *Nannochloropsis* sp. to ambient inorganic carbon. *Israel Journal of Plant Sciences* 56: 37-44. (0.419, §§§)

IF 2008= 0.369

R 2008= Plant Sciences: 133/156 (Q4)

17. Kuguru, B., Chadwick, N. E., Achituv, Y., Zendbank K., **Tchernov, D.** (2008) Mechanisms of habitat segregation between corallimorpharians: photosynthetic parameters and Symbiodinium types. *Marine Ecology Progress Series* 369: 115–129. (2.640, §§§)

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IF 2008= 2.631
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R 2008= Ecology: 40/124 (Q2); Marine & Freshwater Biology: 11/87 (Q1); Oceanography: 7/50 (Q1)

 Einbinder, S., Mass, T., Brokovich, E., Dubinsky, Z., Yonatan, E., Tchernov, D. (2009) Changes in morphology and diet of the coral Stylophora pistillata along the depth gradient. *Marine Ecology Progress Series* 381: 167-174. (2.640, §§§)

IF 2009= 2.519

R 2009= Ecology: 43/129 (Q2); Marine & Freshwater Biology: 11/88 (Q1); Oceanography: 8/56 (Q1)

 *Gruber, D., DeSalle, F. R., Tchernov, D., Pieribone, V. A., Kao1, H. T. (2009) Novel internal regions of fluorescent proteins undergo divergent evolutionary patterns. *Molecular Biology and Evolution* 26 (12): 2841-2848. (14.308, §§)

IF 2009= 9.872

R 2009= Biochemistry & Molecular Biology: 17/283 (Q1); Evolutionary Biology: 2/45 (Q1); Genetics & Heredity: 9/146 (Q1)

*Ben-Tzvi, O., Tchernov, D., Kiflawi, M. (2010) Role of coral-derived chemical cues in microhabitat selection by settling Chromis viridis. *Marine Ecology-Progress Series* 409: 181-187. (2.640, §§§)
 IF 2010= 2.483

R 2010= Ecology: 48/130 (Q2); Marine & Freshwater Biology: 13/93 (Q1); Oceanography: 9/59 (Q1)

*Mass, T., Genin, A., Shavit, U., Grinstein, M., Tchernov, D. (2010). Flow enhances photosynthesis in marine benthic autotrophs by increasing the efflux of oxygen from the organism to the water. *Proceedings of the National Academy of Sciences USA* 107 (6): 2527-2531. (9.809, §§§)
 IF 2010= 9.771

R 2010= Multidisciplinary Sciences: 3/59 (Q1)

22. * Ohad, I., Raanan, H., Keren, N., **Tchernov**, **D.**, Kaplan, A. (2010) Light-induced changes within photosystem II protects Microcoleus sp in biological desert sand crusts against excess light. *PLoS ONE* 5 (6) (3.534, §§§)

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IF 2010= 4.411
R 2010= Biology: 12/86 (Q1)
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 *Saragosti, E., Tchernov, D., Katsir, A., Shaked, Y. (2010) Extracellular production and degradation of superoxide in the coral Stylophora pistillata and cultured Symbiodinium. *PLoS ONE* 5 (9) (3.534, §§§) IF 2010= 4.411

R 2010= Biology: 12/86 (Q1)

*Kuguru, B., Achituv, Y., Gruber, D.F., Tchernov, D. (2010) Photoacclimation mechanisms of corallimorpharians on coral reefs: Photosynthetic parameters of zooxanthellae and host cellular responses to variation in irradiance. *Journal of Experimental Marine Biology and Ecology* 394 (1-2): 53-62. (2.475, §§§)

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IF 2010= 1.910
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R 2010= Ecology: 59/130 (Q2); Marine & Freshwater Biology: 29/93 (Q2)

 *Veal, C.J., Carmi, M., Dishon, G., Sharon, Y., Michael, K., Tchernov, D., Hoegh-Guldberg, O., Fine. M. (2010) Shallow-water wave lensing in coral reefs: a physical and biological case study. *Journal of Experimental Biology* 213 (24): 4304-4312. (3.002, §§§)

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R 2010= Biology: 18/86 (Q1)

26. *Nir, O., Gruber, D., Einbinder, S., Kark, S., Tchernov, D. (2011) Changes in scleractinian coral Seriatopora hystrix morphology and its endocellular Symbiodinium characteristics along a bathymetric gradient from shallow to mesophotic reef. *Coral Reefs* 30 (4): 1089-1100. (3.623, §§) IF 2011= 3.878

R 2011= Marine & Freshwater Biology: 3/97 (Q1)

*Tchernov, D., Kvitt, H., Haramaty, L., Bibby, T.S., Gorbunov, M.Y., Rosenfeld, H., Falkowski, P.G. (2011) Apoptosis and the selective survival of host animals following thermal bleaching in zooxanthellate corals. *Proceedings of the National Academy of Sciences of the United States of America* 108 (24): 9905-9909. (9.809, §§§)

IF 2011= 9.681

R 2011= Multidisciplinary Sciences: 3/56 (Q1)

 *Kvitt, H., Rosenfeld, H., Zandbank, K., Tchernov, D. (2011) Regulation of apoptotic pathways by Stylophora pistillata (Anthozoa, Pocilloporidae) to survive thermal stress and bleaching. *PLoS ONE* 6 (12). (3.534, §§§)

IF 2011= 4.092

R 2011= Biology: 12/85 (Q1)

29. *Coleman, D. F., Austin, J. A., Ben-Avraham, Z., Makowsky, Y., **Tchernov, D.** (2012) Seafloor pockmarks, deepwater corals, and cold seeps along the continental margin of Israel. *Oceanography, Suppl* 25: 40-41. (§§§)

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IF 2012= 2.701
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R 2012= Oceanography: 11/60 (Q1)
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*Mehr, S. F. P., DeSalle, R., Kao, H.T., Narechania, A., Han, Z., Tchernov, D., Pieribone, V., Gruber, D.F. (2013) Transcriptome deep-sequencing and clustering of expressed isoforms from Favia corals. *BMC Genomics* 14 (1): 546. (4.041, §§§)

IF 2013= 4.041

R 2013= Biotechnology & Applied Microbiology: 29/165 (Q1); Genetics & Heredity: 41/165 (Q1)

 *Rubin-Blum, M., Antler, G., Shemesh, E., Tsadok, R., Goodman-Tchernov, B. N., Austin Jr., J. A., Coleman, D. F., Ben-Avraham, Z., **Tchernov, D**. (2014) First evidence for the presence of iron oxidizing zetaproteobacteria at the Levantine continental margins. *PLoS One* 9 (3): e91456. (3.534, §§§)

IF 2014= 3.234

R 2014= Multidisciplinary Sciences: 9/57 (Q1)

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IF 2014= 2.391

R 2014= Marine & Freshwater Biology: 22/103 (Q1)

 *Rubin-Blum, M., Antler, G., Turchyn, A.V., Shemesh, E., Tsadok, R., Austin Jr., J. A., Coleman, D. F., Goodman-Tchernov, B. N., Sivan, O., **Tchernov, D.** (2014) Hydrocarbon related microbial processes in the deep sediments of the Eastern Mediterranean Levantine Basin. *FEMS Microbiology Ecology* 87 (3): 780-796. (3.875, §§§)

IF 2014= 3.568

R 2014= Microbiology: 31/119 (Q2)

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R 2014= Multidisciplinary Sciences: 9/57 (Q1)

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R 2014= Oceanography: 12/61 (Q1)

 37. *Tchernov, D., Gruber, D.F., Irwin, A. (2014) Isotopic fractionation of carbon in the coccolithophorid, Emiliania huxleyi *Marine Ecology Progress Series* /DOI 10.3354/meps10840. (2.640, §§§)
 IF 2014= 2.619
 B 2014= Ecology: 52/145 (O2): Marine & Ereshwater Biology: 17/103 (O1): Oceanography: 11/61

R 2014= Ecology: 52/145 (Q2); Marine & Freshwater Biology: 17/103 (Q1); Oceanography: 11/61 (Q1)

*Levy, Y., Perry, N., Tchernov, D. Rilov, G. (2014) Use of an intensive care tank for treatment of sea turtles. *Herpetological Review* 45 (4): 632-635. (0.43; NA; 0; §§§)
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SJR 2014= 0.351

R 2014= Animal Science & Zoology: 195/356 (Q3); Ecology, Evolution, Behavior & Systematics: 354/526 (Q3)

*Tsadok, R., Rubin-Blum, M., Shemesh, E., Tchernov, D. (2015) On the occurrence and identification of Abudefduf saxatilis (Linnaeus, 1758) in the easternmost Mediterranean Sea. *Aquatic Invasions* 10 (1): 101-105. (1.600, §§§)

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IF 2015= 1.955
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R 2015= Ecology: 69/150 (Q2); Marine & Freshwater Biology: 35/104 (Q2)

 *Kvitt, H., Kramarsky-Winter, E., Maor-Landaw, K., Zandbank, K., Kushmaro, A., Rosenfeld, H., Tchernov, D. (2015) Breakdown of coral colonial form under reduced pH conditions is initiated in polyps and mediated through apoptosis. *Proceedings of the National Academy of Sciences* 112 (7): 2082-2086. (9.809, §§§)

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R 2015= Multidisciplinary Sciences: 4/63 (Q1)

41. *Stokes, K.L., Broderick, A.C., Canbolat, A.F., Candan, O., Fuller, W.J., Glen, F., Levy, Y., Rees, A.F., Rilov, G., **Tchernov, D.,** Snape, R.T. (2015) Migratory corridors and foraging hotspots: Critical habitats identified for Mediterranean green turtles. *Diversity and Distributions* 21: 665-674. (3.667, §§§)

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R 2015= Biodiversity Conservation: 5/49 (Q1); Ecology: 21/150 (Q1)

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R 2015= Ecology: 69/150 (Q2); Marine & Freshwater Biology: 35/104 (Q2)

*Mizrahi, G., Shemesh, E., van Ofwegen, L., Tchernov, D. (2015) First record of Aequorea macrodactyla (Cnidaria, Hydrozoa) from the Israeli coast of the eastern Mediterranean Sea, an alien species indicating invasive pathways. *NeoBiota* 26: 55. (NA, §§§)

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R 2015= Ecology: 31/150 (Q1); Geosciences, Multidisciplinary: 17/184 (Q1)

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R 2015= Zoology: 118/161 (Q3)

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R 2015= Robotics: 1/25 (Q1)

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 N/A

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R 2015= Biology: 4/86 (Q1)

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Articles or Chapters in Scientific Books (which are not Conference Proceedings)

Published

 Falkowski, P. G. and Tchernov, D. (2004) Human footprints in the ecological landscape. In: H.J. Schellnhuber, P. J. Crutzen, W. C. Clark, M. Claussen and H. Held (Eds.) Earth System Analysis for Sustainability, The MIT Press, pp. 211-226.

Articles in Conference Proceedings

Published

Coral Response To Ocean Acidification: Implications For The Past, Present And Future (Tchernov D, Fine M)	University of Haifa, Haifa, Israel	Israel Association of Aquatic Sciences, Fourth Annual Meeting	2007	1.
Will Corals Acclimate To Ocean Acidification? (Tchernov D, Fine M)	Seville, Spain	Frontiers of Science and Engineering-Middle East (FOSE, sponsored by National Academy of Sciences-USA)	2007	.2
The Effect Of Global Climate Change On Corals Reefs: Bleaching And Skeleton Loss (Tchernov D, Fine M)	Eilat, Israel	The Federation of the Israel Societies for Experimental Biology	2008	.3
Deep Coral Photosynthesis	Nice, France	ASLO meeting	*2009	4.
The Reef Gap And Scleractinian Corals Origins	Eilot, Israel	Israel Geological Society	*2010	5.
Oxygen Levels, Scleractinian Corals Origin and Mesophotic Corals Photosynthesis	Wageningen, The Netherlands,	European ISRS Meeting	*2010	6.

The Rise? and Fall? of Scleractinian Corals	Hebrew University, Israel	The Alexander Silverman Symposium	*2012	7.
Micro-Stations And	Valetta, Malta	6th GID Parmenides Conference	*2013	8.
Marine Monitoring		"ODMED, Observatory for the		
		Development of the		
(Tchernov D, Scheinin A)		Mediterranean, a Tool for		
		Decision Makers"		

Summary of My Activities and Future Plans

In Preparation

General Overview

Long and short-term environmental changes affect and modify complex biological systems on a multitude of levels. From a strictly anthropocentric standpoint the understanding of such processes can assist in perceiving the current changes our ecosystems are undergoing. Our own habitat has entered an unfamiliar zone in terms of global carbon biogeochemical cycles, as atmospheric CO₂ levels rose for the first time in 420,000 years above 280 ppmv. These changes are bound to have significant effects on the global climate as the deviation from the glacial interglacial steady state increases. I have chosen to study two systems, corals and marine phytoplankton, which may assist in elucidating complex systems reactions to environmental shifts. My decision to study these systems is due to their evident responses to environmental changes and their abundance throughout the geological record, thus providing contemporary physiologically measurable subjects that can be manipulated in the laboratory or tested in-situ. Additionally, these two systems leave behind skeletons that are harboring possible markers that can uncover past climatic events. Both systems have a substantial fossil record that can help unravel the evolutionary changes that occurred following these events. Yet another benefit arises from investigating these two systems simultaneously; a better understanding of the physiology of phytoplankton increases the chance of correctly interpreting data from the much more complex coral symbiosis.

My overarching research aspiration is to enhance our understanding of the fundamental effects of global climatic changes on the marine environment, through coral and phytoplankton systems.

Significant research achievements

a. Coral bleaching

The threat of coral bleaching on a global scale is a growing concern both because of the reduction in essential ecological services provided by zooxanthellae (symbiotic algae) containing corals within reef communities, and the potentially devastating economic impacts of their demise. Coral bleaching is the largest natural cause of coral death. During the 1997-1998 El Niño-Southern Oscillation (ENSO), 16% of the world's coral reefs died.

My current research aims to unravel the causes of the physiological causation of coral bleaching and the evolutionary and ecological impact of these processes on corals and reefs respectively. We have revealed (Tchernov et al. 2004) that the resilient clones of zooxanthellae show a genetically encoded adaptation to higher temperatures, resulting from changes in the lipid composition in the thylakoids that confer resistance to elevated temperature stress.

In addition, we are currently studying the response of coral tissue under thermal stress, and have found that the coral goes through programmed cell death (PCD). Interestingly, some corals, which proved to be resilient to thermal stress, are capable of biochemically inhibiting PCD (publication pending).

The coevolution (if indeed a reciprocal evolutionary change in interacting species has occurred) of scleractinian corals and zooxanthellae started as early as the Norian period (a sub-division of the late Triassic period, from 220.7 to 209.6 Ma.). However, very little is known about the evolutionary mechanism that led to the formation of this symbiosis and to the conditions that maintained it for such a long period. This leads to major questions, such as 1) Is coral bleaching simply a selective mechanism that is an integral part of algae-coral coevolution? and 2) On the other hand, could coral bleaching be a consequence of the latest climatic changes brought about by anthropogenic activity?

I am currently developing a new paleo-proxy that could shed light on past bleaching events, through the detection of Boron 11 isotopes in the coral skeleton. This paleo-proxy coupled with Sr/Ca ratios and ¹⁴C or ²³⁰Th-²³⁴U-²³⁸U isotopic compositions may indicate the time, temperature, and severity of such events in the past. Such a proxy will create a new way to validate or dismiss any of the current hypotheses. Moreover, it would be possible to determine if during the last 150 years, the frequency of bleaching events is increasing, and what the occurrence rate of bleaching was during previous interglacial periods. In addition to bleaching, we are experiencing an acidification effect that is derived from the increased CO_2 concentration in the atmosphere over the past 150 years.

b. Ocean Acidification and its affect on Corals and Phytoplankton

In addition to bleaching, we are experiencing an acidification effect that is derived from the increased CO₂ concentration in the atmosphere over the past 150 years. It is important to understand how this phenomenon is affecting the inhabitants of the marine realm. In our current research (Fine and Tchernov 2007), we have discovered that one species of coral can withstand low pH values (7.2-7.4 versus modern value 8.2). The corals lose their aragonite skeleton, which disassociated, while their polyp biomass increased fivefold. Moreover, the coral lost its colonial structure and separated into a multitude of single polyps. These polyps maintained their reproductive ability.

Our study has vast implications for our understanding of coral evolution in light of the fact that marine pH has shifted dramatically during the earth's history. There are two major 'reef gaps'- a period in the geological record which is absent of coral fossils. One occurred during the Permian-Triassic mass extinction event (251 million years ago) and another occurred during the Triassic-Jurassic boundary extinction event (206 million years ago). The lack of fossilized coral in the geological record during those periods can now be better understood. In addition, and further reinforcing this significance of our findings, molecular clocking has produced a phylogenetic tree that dates the origin of scleractinian corals at 280 million years ago, yet there is no such marker in the geological record. Again, our findings provide an explanation for this incongruence.

I am currently expanding this research to a multitude of species and testing both their physiological and biochemical reactions to acidification in an attempt to elucidate the mechanisms behind those very dramatic responses.

In addition, one of the major outcomes of coral acidification studies is that colony separation into individual polyps is executed through an apoptotic pathway. This finding is linked to the apoptotic response that we have discovered that is heat-stress related and causes, in many cases, the annihilation of the whole colony. Therefore, these studies provide a broader view of the evolution of corals in light of their changing environment over their long-term history.

I am also pursuing questions related to how acidification impacts phytoplankton in the water column as a means to create a dependable tool for paleoreconstruction of past climates. A major determinant of global climate is the atmospheric CO₂ concentration. A possible tool for making such assessments is through the use of various forms of organic phytoplankton remains in the sediments. These methods have been developed and tested during the last decade and found to be lacking in several aspects, mainly that these methods did not consider significant physiological characteristics of phytoplankton such as active carbon transport. I have developed a model that may be capable of extracting paleoatmospheric CO₂ concentration values from the stable carbon isotope composition of phytoplankton, considering the typical physiological parameters for each species. The model is based on both in situ and in vivo measurements. This work is summarized in two separate manuscripts (Tchernov and Lifshultz *in revision*, and Tchernov et al. *submitted*) that show the impact of temporal and spatial changes in the water on the stable carbon isotopes composition of phytoplankton.

c. Deep Coral Physiology

Most of the world's reefs lie below a depth of 50 meters, and normally continue to 150 meters, particularly in the Indo-Pacific realm. This means that most of the reef has never been thoroughly investigated due to the technological limitations of diving to those depths. Recently, due to advancements in SCUBA technology (namely, more accessible and affordable TRIMIX and rebreather systems), it has become possible to study the coral reefs at these depths in Eilat or in the Mediterranean Sea. Because this is an entirely new research area, there is a substantial amount of work underway analyzing and understanding the basic physiology of the organisms living in those deep reefs.

Our findings thus far include the description of a totally new photosynthetic pathway and organization. Deep corals and macroalgae seem to have an extremely low photosynthetic rate and an almost complete absence of PS1 functional response. In the case of corals, this makes this symbiosis questionable in terms of the benefit of the hosts. We believe that the host is actually contributing carbohydrates to the algal symbionts. If this is true, it redefines the nature of the symbiosis between corals and their algal symbionts.

Surprisingly, the photosynthetic organisms that dwell at those depths have not lost their ability to produce high rates of photosynthesis at high light intensities, and do not show the characteristic non-photochemical quenching evident from corals and macro algae living in shallower depths.

We are currently in the final stages of fortifying and retesting these results using different techniques prior to publishing. Because of the novelty of this research, in the process of analysis we have developed new techniques and machinery that enable us to acquire data. For example, we have now a membrane inlet mass spectrometer that is linked to both a fast repetition rate fluorometer and a pulse-amplitude

modulated fluorometer, especially modified for this purpose. I believe that this is a promising new research direction that will be the foundation for a wide range of studies in the future.

III. Scientific public service

Since October 2004, I have been serving as the administrative director of the Interuniversity Institute for Marine Sciences (IUI). This institute hosts seven universities and one college in their hands-on marine research and provides courses for over 250 students per year. The IUI is the only marine biology facility in the country that is under academic criteria and is directly budgeted via the VATAT. We are currently employing six resident scientists and over 40 students. In addition, the institute hosts over 30 Israeli research groups that conduct active research from this facility. The IUI hosts several international expeditions and courses each year including a wide variety of foreign institutions. My responsibilities as administrative director include administrative tasks such as managing 55 employees on an annual budget of over 10 million NIS, representing our institute to the municipalities and educational bodies pursuing its development and growth, and assisting in the planning and execution of the development plans for the institute.

IV. Future plans

My future research plans include the expansion and continuation of research described above. The following interrelated themes summarize the focus of my research for the near future:

Ocean Acidification

Anchored in the findings thus far, I am turning to a wide-range of species and genuses to learn about the general responses to a low pH environment. I also intend to investigate the biochemical and molecular pathways that lead to these acute responses. My overarching goal is to create a sound evolutionary study that will depict their response to their changing environmental conditions.

(2) Coral Bleaching

The research to date has shed light on the fundamental physiological reason that bleaching occurs under thermal stress. From this point forward, I will pursue the impact of bleaching on the host and the differential response that occurs amongst different species. I believe that a better understanding of the mechanistic processes of cell death in corals is crucial to our understanding of both coral ecology and their evolution.

(3) Paleoproxy Development

a) Coral paleo-bleaching proxy. At this point in time, we are in the midst of a controlled experiment that will be the basis for the Boron isotope method for paleo-bleaching determination. I plan to begin collecting cores from several locations in the world's oceans that represent different environmental conditions and analyze them for both Boron isotope ratios and other paleo proxies. I am very committed to continuing this research, as it will be able to produce conclusive answers to whether coral bleaching is related to anthropogenic fossil fuel consumption or rather, that it is part of a naturally occurring pattern.

b) Paleoclimate reconstruction via phytoplankton. I intend to continue my research on coccolithosphores and diatoms and further characterize their responses to environmental changes and the impact they have on their isotopic composition. My ultimate goal is to refine my model for paleoreconstruction via ODP cores and their algal remains.

(4) Deep Reef Investigations

The deep reef represents a nearly endless source for novel and relevant research. I choose to focus on the photosynthetic questions that challenge the organisms at those depths. I will also investigate the photosynthetic apparatus of both the algal symbionts of corals and macro algae in order to elucidate the photosynthetic mechanism that is manifested in those organisms. My final goal is to create a bioenergetic model that will explain the way these creatures operate in the deep, along with a precise photosynthetic mechanism.

Gil Gambash- Resume



Department of Maritime Civilizations Tel.: +972-528676765 E-mail address: ggambash@univ.haifa.ac.il

Higher Education

Undergraduate and Graduate Studies

Period of Study	Name of Institution	Degree	Year of Approval of
	and Department		Degree
2000-2003	Hebrew University	B.A.	2004
		History and Literature	
2004-2009	Princeton University	Ph.D.	2009
		Ancient History	

Post-Doctoral Studies

Period of Study	Name of Institution, Department and Host	Degree	Year of Completion
2009-2011	Yad Hanadiv Hebrew University	Post-Doctoral Fellowship	2011

Academic Ranks and Tenure in Institutes of Higher Education

Dates	Name of Institution and Department	Rank/Position
2011 to present	University of Haifa	Senior Lecturer
	Department of Maritime Civilizations	
2011 to present	University of Haifa	Researcher
	Recanati Institute for Maritime Studies	

Note: The Asterisk symbol below ('*') represents activities and publications obtained since being promoted to the rank of senior lecturer (Dec. 2015).

Offices in University Academic Administration

Years	Name of Institution and Department	Role
2012-present	Department of Maritime Civilizations	MA committee, member
2013-2015	Rothschild Faculty Planning Initiative	: 'The History of the Pre-Modern Mediterranean, from Antiquity to the Early Modern Period.' With Dr. Zur Shalev (History, Haifa). Pre-Proposal shortlisted by Yad Hanadiv. Organization of preparatory trips to London, Oxford, Paris, Aix-en- Provence, Marseille; visits in Haifa of leading scholars from abroad; four workshops with relevant local scholars. Proposal submitted in January 2015 (See also items 9.a and 9.b below). News of winning the RFPI arrived in June 2015.
2013-present	Helmsley Mediterranean Sea Research Center	Committee for the purchasing of an ROV (Remotely Operated Underwater Vehicle), member.
2012-present	Recanati Institute for Maritime Studies	Editor of the annual report.
2015-present	Department of Maritime Civilizations	Chair
2015-present	Department of Maritime Civilizations	PhD committee, member
2015-2016	Faculty of Humanities	Organizer of Dean's Seminar with Prof. Dina Stein
2015-present	Haifa Antiquity Forum	Member
* 2016- present	Haifa Center for Mediterranean History (HCMH)	Director, with Dr. Zur Shalev. The Center was established in 2016, and is the result of the proposal mentioned above, submitted to Yad Hanadiv in January 2015 as part of the Rothschild Faculty Planning Initiative.
* 2016- present	Haifa Antiquity Forum	Organizer of the Forum's seminar.
* 2016- present	Hecht Museum	Member of the Museum's new academic committee.
* 2016- present	Recanati Institute for Maritime Studies	Head

Scholarly Positions and Activities outside the University

Years	Memberships in Inter-University Committees
2015-present	Haifa representative in the Joint Programme for Classical Studies (funded by Yad Hanadiv).
2015-present	Haifa representative in the Israel Society for the Promotion of Classical Studies (ISPCS)
Years	Research Expeditions
2010	Research expedition on board Robert Ballard's Research vessel Nautilus
Years	Organisation of Academic Forums
2011-2014	Coordinator of the inter-university 'Interdisciplinary Classics Seminar' (joint coordination with Dr. Ido Israelowich from Tel Aviv University and Dr. Naly Thaler from the Hebrew University).
2015-present	Member of the committee for the organization of the Israel doctoral seminar in Classics, organized with the Shazar Center.
Years	Reviewing for Fund Agencies
2014	Israel Science Foundation Referee

Participation in Scholarly Conferences

Active Participation

Abroad

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
2005	Priests and Power in the Ancient World	Oxford University	Eastern Priestly Power in the Face of Macedonian Invasion	Speaker
2010	Second German-Israeli Frontiers of the Humanities Symposium	Potsdam	In and Out of Place: Dynamics of Belonging	Invited Participant
2011	Trade Routes and Seafaring in the Ancient Near East	Oxford University	Maritime Activity in Late Antique Dor	Speaker
2013	Archaeological Institute of America, Annual Meeting	Seattle	In Search of Akko's mid-1 st Millennium Harbor	Speaker

2013	DEGUWA – In Poseidon's Realm XVIII	Manching	Caesarea Maritima and the Grand Strategy of the Roman Empire	Joint lecture with Michal Artzy Speaker
2013	Impact of Empire Conference	New Yourk University	Estranging the Familiar: Rome's Ambivalent Approach to Britain	Speaker
2013	Ebrei e Altri Popoli del Vicino Oriente Conference	Università degli Studi della Basilicata Potenza	ludaea Recepta	Invited Speaker Joint Lecture with Hannah Cotton and Haim Gitler
2014	Mediterranean Studies Association, Annual Meeting	Malaga	Classical Athens: Ends and Means	Speaker
2014	X Congress of the European Association for Jewish Studies	Paris	Roman Policy in the Aftermath of the Great Jewish Revolt: A Reconsideration in Light of New Evidence	Invited Speaker
2015	The Crazy Genius of Herod the Great	Dublin	Herod and Sebastos	Speaker
2015	Lines Between: Culture and Empire in the Eastern Mediterranean	Nicosia	The Maritime Aspects of Grand Strategy in Antiquity	Speaker
2015	Impact of Empire Conference	Rome	Between Mobility and Connectivity in the Roman Mediterranean	Speaker
2015	Harbors from the Roman Period to the Middle Ages	Kiel	Efficient Simplicity: Roman Harbours in the Southern Levant	Speaker with Ms. Paula Zajac and Prof. Assaf Yasur Landau
2015	Harbors from the Roman Period to the Middle Ages	Kiel	The North Bay of Dor	Speaker with Mr. Ehud Arkin and Prof. Assaf Yasur Landau

*2016	Forum de la Méditerranée - Sciences humaines et sociales	Marseille	The Haifa Center for Mediterranean History	Speaker
*2016	Mediterranean Studies Association, Annual Meeting	Palermo	Servicing the Mediterranean Empire – Non-State Actors and Maritime Logistics	Speaker
*2016	The German Society for the Exploration of Ancient Palestine	Mainz	The Southern Levant and the Mediterranean	Invited: key- note speaker

International Conferences in Israel

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
2010	The Israeli Society for the Promotion of Classical Studies	Annual Meeting University of Haifa	Tacfarinas: A Bandit after All	Speaker
2012	Consortium of the Jewish Culture in the Ancient World	University of Haifa	Foreign Enemies of the Empire: The Great Jewish Revolt and the Roman Perception of the Jews	Invited Speaker
2012	Israeli Society for the Promotion of Classical Studies	Hebrew University	Epigraphy	Session Chair
2013	Jerusalem-Vienna Numismatic Seminar	Jerusalem	<i>Iudaea Recepta</i> : a New Aureus of Vespasian	Invited Speaker Joint Lecture with Hannah Cotton and Haim Gitler
2014	Université de Lausanne and Tel Aviv University Conference The Long Third Century	Tel Aviv University	Re-dating Akko's Phoenician Harbor: A New Ptolemaic Commercial Center in the Levant	Invited Speaker
2014	New Studies on Jerusalem	Jerusalem	The Roman Attitude towards Judea after the Destruction of	Speaker Joint Lecture with Hannah

			Jerusalem in Light of	Cotton and Haim
			Numismatic Evidence	Gitler
2014	The 2nd Haifa	Haifa	Deep Sea Research: the Next	Session Chair
	Conference on		Challenge	
	Mediterranean Sea			
	Research			
2014	Augustus Symposium	Jerusalem	The Trilingual Gallus	Speaker
			Inscription	
*2016	Self and Other in Late	Haifa	Self and Other in the Law	Session Chair
	Antiquity		System	

Organization of Conferences or Sessions

Date	Name of	Place of	Subject of	Role
	Conference	Conference	Conference/	
			Role at Conference/	
			Comments	
2006	Syria in Antiquity	Princeton	History	Organizer
	Graduate Conference	University		
2013-	The Annual Haifa	University of	Mediterranean	Co-organizer School of
2014	Conference	Haifa	Research	Marine Sciences
2014	Rothschild Faculty	University of	Mediterranean	Co organizer with Zur
	Planning Initiative – Four	Haifa	History	Shalev
	preparatory workshops			
*2016	The Annual Haifa	University of	Mediterranean	Co organizer with Zur
	Conference: The History	Haifa	Historiography	Shalev
	of the Mediterranean			
*2016	The Israel doctoral	University of	Ancient History	Co organizer with Uriel
	seminar in Classics,	Haifa		Simonsohn, Emma
	organized with the			Maayan, and Michael
	Shazar Center			Eisenberg
*2017	The Annual Conference	University of	Classics	Organizer
	of the Israel Society for	Haifa		
	the Promotion of			
	Classical Studies			

Invited Lectures

Abroad

Date	Place of Conference	Subject of Lecture/Discussion	Role
2009	Brown University Classics	Praeesse Feroci Provinciae: Roman Policy and the Boudican Revolt	Invited Speaker
2009	Oxford University Jewish Studies	Externa Cura: The First Jewish Revolt as Roman Foreign Campaign	Invited Speaker

In Israel

Date	Place of Conference	Subject of Lecture/Discussion	Role
2010	Tel Aviv University	<i>Nisi Succederetur Suetonio</i> Early Roman Imperialism in Britain	Invited Speaker
2010	University of Haifa Maritime	Rome and the Crossing of Ocean	Invited Speaker
2013	Civilizations Hebrew University	Destroy and Rule: Roman Policy in the face of Provincial Opposition	Invited Speaker

Colloquium Talks

None

Research Grants

Grants Awarded

C = Competitive grant

Role in Research	Other Researchers	Торіс	Funded by	Year	Budget
PI		The Ancient Harbors of the Mediterranean and the Grand Strategy of Regional Empires.	Israel Science Foundation Individual Research Grant C	2013- 2016	Three years: NIS 115,000 per year
PI	Zur Shalev- PI	History of the Mediterranean	Yad Hanadiv – Rothschild	2014	NIS 70,000

			Faculty		(This sum
			Planning		was granted
			Initiative		for the
			с		preparation of a full
					proposal)
PI	Zur Shalev- PI	The Haifa Centre for	Yad Hanadiv –	2015-	NIS
		Mediterranean History	Rothschild	2023	6,000,000
			Faculty Planning Initiative C		(three academic tenure track positions)

Submission of Research Proposals – Pending None

Submission of Research Proposals – Not Funded

Role in	Other	Торіс	Funded by	Year	Score
Research	Reserc-hers				
PI		The Maritime Heritage of Israel	ISF Institutional Bikura	2010	Shortlisted to represent the university in the national competition

Scholarships, Awards and Prizes

None.

Teaching

Courses Taught in Recent Years

Year	Name of Course	Type of Course Lecture/Seminar/Workshop/Hi gh Learn Course/ Introduction Course (Mandatory)	Degree	Number of Students
2006	ClassicalMythology	Introduction	BA	80
2007	Intermediate Latin	Language	BA	20
2009	Rome and Judea	Seminar	BA	15

2010 -2013	The Historiography of the Mediterranean	Monography	MA	up to 10
2011 -2014	Introduction to Maritime Civilizations	Introduction	MA	20
2012-2014	Greek and Roman Port Cities	Seminar	MA	15
2012 –2014	Departmental Research Cruise	Field Activity	MA	20
*2015 – 2016	Empire and the Mediterranean	Seminar	MA	10
*2015 – 2016	Mediterranean Historiography	Monography	MA	20

Supervision of Graduate Students

Name of Student	Title of Thesis	Degree	Date of Completion /in Progress	Students' Achievements
Matthew Susnow (with Prof. Assaf Yassur-Landau)	The Coastal and Inland Traditions of Cultic Architecture and Furnishings in Middle Bronze Canaan	MA	2013	
Ehud Arkin (with Prof. Assaf Yassur-Landau)	Harbor Facilities from the RomanPeriod in Dor's Northern Bay	MA	2015	
*Or Sadot (with Dr. Arnon Golan)	The Connection between Maritime Awareness and the Formation of the Israeli Coastal Landscape in the 20th Century	MA	2015	
*Itzik Levi (with Dr. Dror Angel)	Batoids along the Israeli Coast	MA	2015	

			-	
*José M. Martín García	The Carmel Coast during the	MA	2016	
(with Prof. Michal Artzy)	Late Bronze Age to Iron Age Transition: Continuation and Change			
*Joe Pacheco (with Prof. Assaf Yasur- Landau)	Pirates as :Mercenaries An Exploration of State- Sponsored Piracy from Alexander to Pompey	MA	2017	
*Sara Lantos (with Prof. Guy Bar Oz)	Late Antique Settlements of the Negev – Prosperity and Crisis	MA	In Progress	
*Ariel Polokoff (with Dr. Adi Erlich)	Jewlery from Maresha	MA	In Progress	
Paula Zajac (with Prof. Assaf Yassur-Landau)	The Coastal Southern Levant and the Mediterranean during the Hellenistic and Early Roman Periods	PhD	In Progress	
Matthew Susnow (with Prof. Assaf Yassur-Landau)	The Impact of the Eastern Mediterranean Setting upon MB and LB Canaanite Religion	PhD	In Progress	
Ehud Arkin with (Prof. Assaf Yasur-Landau)	Settlement Patterns and Maritime Activity in the Carmel Coast from the Middle Bronze Age to the Persian Period	PhD	In Progress	
*Eleonora Bedin	Macro- and Micro- Identities: Mediterranean, Imperial, and Local Self- Perceptions	PhD	In Progress	

	in Ptolemaic Anatolia, Cyprus, and the Coastal Levant			
Dr. Yifat Thareani (with Prof. Assaf		Postdoc	2014	
Yasur Landau)				
Dr. Yossi Eliav (with Prof. Yaakov Kahanov and Dr. Debbie Cvikel)		Postdoc	2014	
*Dr. Amir Yeruham		Postdoc	2016	
*Dr Alexandra Ratzlaff		Postdoc	2017	
(with Prof. Assaf Yassur-Landau)				

Other Activities

2012: 'In the Footsteps of St. Paul'. Presentation of Caesarea Maritima in a BBC production on St. Paul.2014: 'In the Footsteps of St. Peter'. Presentation of Caesarea Maritima in a BBC production on St. Peter.

Gil Gambash- List of Publications

Note: For joint publications, the order of the listed authors appears according to their relative contribution.

'V' – appears in Vatat lists SJR ranking 2014. IF – not available.

Ph.D. Dissertation

The Roman State's Response to Local Resistance, 2009, 460 pages, English, Princeton University, Brent Shaw (Princeton), Harriet Flower (Princeton), Martin Goodman (Oxford).

Scientific Books (Refereed)

Authored Books - Published

 Gambash, G. (2015), Rome and Provincial Resistance, New-York: Routledge (200 pages). [The Ph.D. dissertation focused on two case studies and was published in a number of articles (E1; D1; D2). The book expands the discussion to include a variety of cases and to produce broader generalizations].

Edited Books and Special Journal Issues None Monographs None

Articles in Refereed Journals

Published

- Gambash, G. (2012), 'To Rule a Ferocious Province: Roman Policy and the Boudican Revolt,' Britannia 43: 1-15. V SJR: Archaeology 56/235 Q1, Archaeology (Arts and Humanities) 48/234 Q1, Classics 4/102 Q1, History 126/897 Q1
- Gambash, G. (2013), 'Foreign Enemies of the Empire: The Great Jewish Revolt and the Roman Perception of the Jews,' *Scripta Classica Israelica* 32: 173-194. SJR: Classics 46/102 Q2, History 567/897 Q3, Literature and Literary Theory 293/659 Q2
- 3. Gambash, G., Gitler, H., and Cotton, H. M. (2013), '*Iudaea Recepta*,' *Israel Numismatic Research* 8: 89-104.
- Gambash, G. (2014), 'En Route to Egypt Akko in the Persian Period,' Journal of Near Eastern Studies 73.2: 273-282. V SJR: Archaeology 100/235 Q2, Arts and Humanities (miscellaneous) 274/431 Q3, Cultural Studies 246/689 Q2, Linguistics and Language 265/617 Q2
- 5. * Gambash, G. (2015), 'Maritime Activity in the Ancient Southern Levant The Case of Late Antique Dor,' *ARAM* 27: 61-74.
- 6. * Gambash, G. (2016), 'Estranging the Familiar: Rome's Ambivalent Approach to Britain,' *Impact of Empire* 11: 20-32.

7. *** Gambash, G.** (2017), 'Between Mobility and Connectivity in the Ancient Mediterranean: Coast-Skirting Travellers,' *Impact of Empire* 12: 155-172.

Accepted for Publication

1. **Gambash, G.** (forthcoming 2017), Servicing the Mediterranean Empire – Non-State Actors and Maritime Logistics,' *Mediterranean Studies Association* (30 pages).

Articles or Chapters in Scientific Books (which are not Conference Proceedings)

Published

- 1. **Gambash, G.** (2009), 'Official Roman Responses to Indigenous Resistance Movements: Aspects of Commemoration,' in H. Cotton, J. Geiger, and G. Stiebel (eds.), *Israel's Land: Collected Papers*, Tel Aviv/ Jerusalem: Open University, 53-76.
- 2. * Gambash, G. (2016), 'Flavian Britain,' in A. Zissos (ed.), A Companion to the Flavian Age of Imperial Rome, Malden, MA: Wiley Blackwell, 255-273.

Accepted for Publication

1. **Gambash, G.** (forthcoming 2017), 'Roman Policy in the Aftermath of the Great Jewish Revolt,' in E. Nantet and C. Rodriguez (eds.), *Les Juifs et le pouvoir politique dans l'Antiquité.*

Articles in Conference Proceedings

Published

- 1. **Gambash, G**. (2013), 'Caesarea Maritima and the Grand Strategy of the Roman Empire,' *Skyllis* 13.1: 53-58.
- 2. Gambash, G., Gitler, H., and Cotton H. M. (2014), 'Iudaea Recepta,' *New Studies in the Archaeology* of Jerusalem and its Region 8: 37-49 (Heb.). V

Accepted for Publication

1. Gambash, G. (forthcoming 2017), 'Re-dating Akko's Phoenician Harbor: A New Ptolemaic Commercial Center in the Levant,' in S. Honigman, O. Lipschits, C. Nihan, and T. Römer (eds.), Judaea and the Judaeans in the Long Third Century BCE (Winona Lake, IN). (20 pages)

Entries in Encyclopedia

None.

Other Scientific Publications

Published

- 1. **Gambash, G**. (2010), Review of Andrew Harker, *Loyalty and Dissidence in Roman Egypt, The Case of the Acta Alexandrinorum*, Cambridge: Cambridge University Press, 2008. In *Scripta Classica Israelica* 29: 135-7. INT1
- 2. **Gambash, G**. (2012), 'Between Persia and Egypt: Literary Evidence for Achaemenid Activity in Akko,' *Recanati Institute for Maritime Studies Research Report* 37: 15-18.
- 3. **Gambash, G**. (2013), Review of Sandra Gambetti, *The Alexandrian Riots of 38 C.E. and the Persecution of the Jews: A Historical Reconstruction. Supplements to the Journal for the Study of Judaism 135*, Leiden/Boston: Brill, 2009. In *Scripta Classica Israelica* 32: 281-284. INT1
- 4. **Gambash, G**., Gitler, H., and Cotton, H. M. (2013), '*Iudaea Recepta: A New Aureus of Vespasian*,' *Epistula* 7: 3.
- 5. **Gambash, G**. (2015), 'Mare Nostrum,' *Recanati Institute for Maritime Studies Research Report* 39. (5 pages)

Yizhaq Makovsky- Resume



Department of Marine Geosciences Mobile: +972-52-3020406; Fax: +972-4-8288267; E-mail: yizhaq@univ.haifa.ac.il; Skype: izik_mako; http://marsci.haifa.ac.il/

Head, Applied Marine Exploration Laboratory, Dr. Moses Strauss Department of Marine Geosciences & Hatter Department of Marine Technologies, Charney School of Marine Sciences (CSMS), University of Haifa, Haifa 31905, Israel

REASEARCH INTERESTS

Active seafloor processes - potential geohazards and resources:

- Recent submarine mass transport sliding and turbidity channels
- Seafloor gas, seepage and hydrates and their associated phenomena
- The working and impacts of environmental change
- The Messinian Salt, evolution and mechanisms

Multi-attribute 2D & 3D seismic methods in offshore exploration and development:

- Depth migration processing & analysis
- AVO processing & analysis
- Reservoir characterization
- Coherency & Spectral decomposition

Very high resolution acoustic profiling & imaging:

- Full phase sonar
- Shallow water imaging
- VHR multi-channel seismic
- Diffraction imaging
- Target characterization
- Synthetic Aperture Sonar (SAS) imaging

Crustal structure and evolution of the Levant Basin

EDUCATION:

- 1987-1990 B.Sc. in Geophysics and Planetary Sciences, Tel-Aviv University, Israel.
- 1990-1997 Ph.D. in Geophysics; advisor Simon L. Klemperer. Stanford University, CA, USA.
- 1997-1998 Post-doctoral training; European Commission TMR URO network. PI Prof. Andres Perez-Estaun. CSIC-IJA, Barcelona, Spain.

ACADEMIC RANKS

- 1997- 1998 **Post-doctoral research** scientist; European Commission TMR URO network; PI Andres Perez-Estaun; CSIC-IJA, Barcelona, Spain.
- 2002-2007 **Honorary academic research** and students' guidance in environmental, exploration, crustal, and geotechnical geophysics using seismic, acoustic, ground penetrating radar, and potential methods. Tel Aviv University, Geophysical Institute of Israel, Hebrew University, and Weizmann Institute of Science, Israel. Participant in Ethiopia Afar Lithospheric Experiment (EAGLE) international project.
- 2007 Adjunct Research Associate, Interuniversity Institute of Marine Sciences in Elat, Eilat, Israel, and Rcanati Institute of Marine Studies, University of Haifa, Haifa, Israel.
- 2007-present **Senior Lecturer**, The Dr. Moses Strauss Department of Marine Geosciences, Leon H. Charney School of Marine Sciences, University of Haifa, Haifa, Israel.
- 2008-2010 **Department chair**, The Dr. Moses Strauss Department of Marine Geosciences, Leon H. Charney School of Marine Sciences (CSMS), University of Haifa, Haifa, Israel.
- 2011-present **Head of Applied Marine Exploration Laboratory**, Leon H. Charney School of Marine Sciences (CSMS), University of Haifa, Haifa, Israel.
- 2011-present **External Lecturer**, Grand Technion Energy Program, Technion Israel Institute of Technology, Haifa, Israel.
- 2014-present **Joint faculty appointment**, Hatter Department of Marine Technologies (in establishment), Leon H. Charney School of Marine Sciences, University of Haifa, Haifa, Israel.

PROFESIONAL POSITIONS AND EXPERIENCE

- 1992-1997 **Managed the wide-angle seismic component** of INDEPTH-1 (1992 three-month field season) and INDEPTH-2 (1994 six-month field season) in southern Tibet. Responsible for planning, field teams management, data analysis, and reporting. Participant in Wilkes Basin geophysical transect (1992-3 three months field operation) in west Antarctica.
- 1998-1999 **Manager of Paradigm quality assurance department**. Also investigation of particular imaging issues.
- 2000-2007 **Paradigm: senior consulting geophysicist** performing worldwide on-site service, technology transfer, support, and quality assurance. Specialized on use and development

of Paradigm Epos product suite. Carried out time processing, 2D and 3D velocity analysis and PreSDM, AVO, reservoir characterization, and time-depth conversion projects for Exxon-Mobile, Total, PetroBrass, EcoPetrol, Isramco, PDVSA, TPAO, and others; in Canada, France, Angola, China, Venezuela, Colombia, US, UK, Turkey, and more. Also carried onsite training for Paradigm and clients in India, Canada, China, Angola, Israel, Mexico, Brazil, and more. Produced internal reports and developed methodologies that can not be detailed due to confidentiality.

- 2008-present **Geophysical consulting and services** to commercial and public exploration and production (E&P) and infrastructure development projects, mostly in Israel. Lead, conducted and participated in processing and analysis projects with EDT, Noble Energy, Oceana, Ocean Sciences, Ratio Oil, Afek and Adira Energy.
- 2008-present **Cruise leader** on several marine research and commercial expeditions including seismic acquisition and remotely operated vehicle operations with CSMS, IOLR, IFE and EDT.
- 2010-2013 **Member of an internal committee** on development of the Israel's academic infrastructure related with the offshore gas and oil industry, Israel Academy of Science and Humanities.
- 2011-present **Technical manager, science coordinator and core committee member**, University of the University of Haifa led ten-institute consortium Mediterranean Sea Research Center of Israel (MERCI).

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

American Geophysical Union (AGU) - since 1991

Society of Exploration Geophysicists (SEG) - since 1999

Geological Society of Israel – since 2002

American Association of Petroleum Geologists (AAPG) - since 2012

Israel Association of Aquatic Sciences (IAAS) - since 2008

TEACHING

Courses Taught in Recent Years

Year	Name of Course	Type of Course	Degree
		Lecture/Seminar/Workshop	
2000-2007	Geophysical Methods, Physics of the Earth, and Seafloor Mapping.	Invited topical lecturer hosted by A. Agnon. Hebrew University, Jerusalem, Israel.	B.Sc. / M.Sc. / Ph.D.

2000-2007	Paradigm System Approach, Time Processing, Time and Depth Domain Velocity Analysis and Migrations, and AVO analysis.	Training courses for Paradigm employees and customers worldwide.	M.Sc. / Ph.D. / professionals
2007	Seafloor Mapping	Co-teaching with A. Agnon. Interuniversity Institute of Marine Sciences in Elat, Elat, Israel.	B.Sc. / M.Sc.
2007-2008	Workshops in seismic processing.	Semesterial workshop courses. Department of Marine Geosciences, University of Haifa.	M.Sc. / Ph.D.
2007-pres. Yearly	Analysis and processing of seismic data.	Department of Marine Geosciences, University of Haifa.	M.Sc. / Ph.D.
2008-pres. Yearly	Geophysical methods in research of the marine environment	Department of Marine Geosciences, University of Haifa.	M.Sc. / Ph.D.
2009, 2011	Geology and geophysics of the marine environment.	Co-teaching with Amotz Agnon, A. Almogi, B. Goodman and Y. Shaked. Interuniversity Institute of Marine Sciences in Elat, Elat, Israel.	B.Sc. / M.Sc. / Ph.D.
2009, 2011	Workshops on seismic processing and interpretation in the Paradigm environment.	Concentrated 1-2 days courses for the Department and external faculty, students and other professionals.	M.Sc. / Ph.D. / professionals
2011-12	An introduction to oil and gas geophysics	Co-teaching with Anat Canning. Natural Gas & Petroleum Engineering program, Technion.	M.E.

Supervision of Graduate Students

Students graduated:

Name of	Title of Thesis	Degree	Department	Graduation
Student			and co-advisors	date
Boaz Gatteno	Quantitative electromagnetic mapping of soil composition and archaeological remains in agricultural areas: Mapping the eastern Roman circus of Caesarea.	M.Sc.	Department of Geophysics and Planetary Sciences, Tel Aviv University.	Cum laude 2006
Gal Hartman	The structure of the transition zone from deep to shallow basins along a transform fault: the northern Gulf of Eilat Aqaba case example	Ph.D.	Department of Geophysics and Planetary Sciences, Tel Aviv University; Co-advisor with Z. Ben- Avraham and G. Tibor	2012
lsaak Elhanaty	High Resolution seismic characterization of shallow gas bearing sediments, North Western Sea of Galilee, Israel	M.Sc.	Department of Marine Geosciences, University of Haifa	2014
Yaniv Marig	A New Look at the Tectonic Evolution of the Palmahim Disturbance	M.Sc.	Department of Geological and Environmental Sciences, Ben-Gurion University; Co-advisor with Shimon Feinstein and Yuval Ben Gai.	2015
Assaf Tsabar	Monitoring the dynamics of the hydrological system in Mineral Beach sinkholes, Dead Sea.	M.Sc.	Department of Marine Geosciences, University of Haifa; Co-advisors E. Shalev and A. Sagy, Geological Survey of Israel.	2015

Omri Gadol	Submarine slides: shaping of the continental slope offshore Israel	M.Sc.	Department of Marine Geosciences, University of Haifa	2015
Murad Safadi	Long lasting continued activity of buried mass transport deposits in the southeast Levant margins	M.Sc.	Department of Marine Geosciences, University of Haifa	2015

Students in progress:

Name of Student	Title of Thesis	Degree	Department
Oded Ezra	Topology and formation settings of deep water carbonates at the boundaries of the Palmahim Disturbance, offshore Israel	M.Sc.	Department of Marine Geosciences, University of Haifa
Ziv Tyber	Methane hydrate stability and potential reserves in the Levant basin	M.Sc.	Department of Marine Geosciences, University of Haifa
Liad Bar-Zvi	Geomechanical characterization of marine sediments: an updated tool for studying submarine slides on the continental slope of Israel	M.Sc.	Department of Marine Geosciences, University of Haifa
Ravit Ben- Naim	Petrophysical properties of shallow marine sediments offshore Haifa Bay, Northern Israel with implication on fluid flow inhibition	M.Sc.	Department of Marine Geosciences, University of Haifa; Co-advisor with Nicolas Waldmann
Matan Elad	Time constraints and sedimentary structures of recent submarine landslides on the continental slope of Israel: a tool for hazard assessments in an active landslides province	M.Sc.	Department of Marine Geosciences, University of Haifa; Co-advisor: Revital Bukman
Mor Arnon	Geomorphological insights into the evolution of the Israeli continental shelf since the Pleistocene	M.Sc.	Department of Marine Geosciences, University of Haifa; Co-advisor with Nicolas Waldmann
Inbal	The Kinematics of the Dor	M.Sc.	Department of Marine
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Lifshitz	Disturbance		Geosciences, University of Haifa
Nadav	Gravity study of the Moho	M.Sc.	Department of Marine
Bronshtein	boundary beneath the northern		Geosciences, University of Haifa;
	Dead Sea Transform		Co-advisor with Uri tenBrink
Yaniv Alter	CT scanning of seafloor sediments	M.Sc.	Department of Marine
	(preliminary title)		Geosciences, University of Haifa
Gal	Seismo-electric geophysical target	M.Sc.	Department of Marine
Goldshtein	detection (preliminary title)		Geosciences, University of Haifa
Jie Liu	Miocene evolution of the deep	M.Sc.	Department of Marine
	Levant Basin (preliminary title)		Geosciences, University of Haifa
Shiwei	Velocity structure of the Levant	M.Sc.	Department of Marine
Wang	middle crust (preliminary title)		Geosciences, University of Haifa
Omri Gadol	Very high resolution multichannel	Ph.D.	Department of Marine
	profiling sub-marine slides		Technologies, University of Haifa
	(preliminary title)		
Adi	Synthetic Aperture Sonar (SAS)	Ph.D.	Department of Marine
Neuman	target identification (preliminary title)		Technologies, University of Haifa
		1	

Supervision of post-doctoral trainees

Name of trainee	Primary research topic	Period	Department
Devrim	Recent tectonics in the Sea of	2009-	Department of Marine
Tezcan	Marmara	2012	Geosciences, University of Haifa
Ari	The Messinian Salinity Crisis from	2014-	Department of Marine
Meilijson	new commercial drill hole sampling	2016	Technologies, University of Haifa
Erika	The Messinian Salt in the Alegro-	2016	Department of Marine
Barison	Balearic basin – SALTFLU project		Geosciences, University of Haifa

Organization of Conferences or Sessions

Date	Name of	Place of	Subject of Conference/
	Conference	Conference	Role at Conference/
			Comments
1996	7th International Symposium on Deep Seismic Profiling of the Continents	Assilomar, CA, USA	As a PH.D. student I participated with my thesis advisor in organizing this meeting.
2009	IGS Annual Meeting	Kfar Blum, Israel	Session convener: "In the fore-front of applied geophysics".
2011	An open forum on the effects of gas and oil exploration and development in the Mediterranean offshore of Israel	University of Haifa, Israel	Primary organizer (cooperating with personnel of Israel Ministry of Environmental Protection and Israel Ministry of National Infrastructure) of this 1-day symposium, bringing together important representatives of academic, Commercial, public and government organizations. This day served as an important step in advancing environmental issues in the offshore development of Israel.
2013	Batsheva De Rothschild Seminar - Hydrocarbons Exploration and Development in the Levant Offshore: Perspectives and Challenges	Dan Caesarea Hotel, Israel	Primary organizer and Program Chair of this 3-days professional meeting, bringing together for the first time oil and gas industry and academia professional in Israel.

RESEARCH AND CURRICULAR FUNDING

Funding Awarded

- 1992 U.S. National Science Foundation grant EAR-9218600 of \$ 113,148 for 2-years analysis of INDEPTH wide-angle data. Proposal was written and managed by me. PI: Simon Klemperer.
- 2004 Israel Ministry of Infrastructure ES-22-2004 NIS 100,000 2-years grant: *Mapping the active morphotectonic system in the head of Eilat Gulf using existing acoustic data*. The grant was written and managed by me. Official PI: Zvi Ben-Avraham; in collaboration with Z. Ben Avraham, A. Agnon and A. Shemesh.

2004	Tel Aviv University Bikura NIS 40,000 grant grant: <i>Geophysical imaging of a buried archaeological site: The Minoic Palace at Kabri</i> . The grant was written and managed by me. Official PI: S. Marco.
2005	Ring Foundation \$ 20,000 2-years grant: <i>An acoustic method for monitoring the state of coral reefs</i> . I participated in writing and managing the grant. PI: A. Agnon and A. Genin.
2005	MERC USAID \$ 30,000 1-year grant: <i>Mapping living and fossil coral reefs</i> . I participated in writing and managing the grant. PI: A. Agnon; a part of a larger project contracted to M. Ottolenghi.
2008	Paradigm about \$1 million value per year long term software sponsorship to the Department of Marine Geosciences, University of Haifa.
2008	Israel Ministry of Infrastructure NIS 35,000 1-year research grant: Application of advanced very-high-resolution multi-channel seismic reflection technology to the estimation of recent activity of the Carmel fault, and its associated submarine hydrologic system: a feasibility test. PI: Y. Makovsky.
2009	Geological Survey of Israel NIS 50,000 2-years funding and student stipend granted as part of research collaboration: <i>Acoustic monitoring of the hydrological system of Dead Sea Sinkholes</i> . PI: Y. Makovsky, E. Shalev, A. Sagy.
2009	Israel Ministry of Infrastructure NIS 35,000 1-year continuation research grant: Application of advanced very-high-resolution wide-angle seismic reflection technology to the estimation of recent activity of the Carmel fault, and its associated submarine hydrologic system. PI: Y. Makovsky.
2010	Fulbright Foundation, \$ 10,000 funding for a specialist visit of Prof. Tina Niemi. The visit resulted in a seminary organized by Niemi.
2011	Geological Survey of Israel NIS 50,000 funding for data acquisition and preliminary analysis: <i>Geophysical detection of sinkhole potential in the Dead Sea</i> . PI: Y. Makovsky, E. Shalev.
2011	Israel Water Authority NIS 1, 275,511 1.5-years funding for: Detection of salty water bodies along Beer Sheva Valley between the Dead Sea and Mediterranean using geo- electrical methods. PI: M. Goldman, Co-PI: U. Kafri, Y. Makovsky.
2011	EuroFleets International research Cruise: <i>Salt deformation and fluid circulation in the Algero-Balearic abyssal plain (SALTFLU)</i> . List of P.I.s: Camerlenghi A. PI (University of Barcelona) and Belan, A. (Statoil U.K.), De Lange, G.J. (University of Utrecht), Lucchi, R.G. (University of Barcelona), Makovsky, Y. (University of Haifa), Panieri, G. (University of Bologna), Ranero, C., (CSIC, Barcelona), Urgeles, R. (CSIC Barcelona), Wardell, N. (OGS, Trieste).

2011	Batsheva De Rothschild Foundation \$60,000 1-year funding for Israel Academy of Science and Humanities activities to strengthen Israel's academic infrastructure relevant to the gas and oil industry. PI: Z. Ben-Avraham. I participated in submitting the proposal, and managed the funded activities.
2012	Ministry of Science and Technology (MOST) Infrastructure Program NIS 2,870,910 multi-institute 3-years research grant: <i>Identifying and timing the latest submarine</i> <i>slides offshore Israel – an essential basis for coastal and offshore development risk</i> <i>estimation.</i> I am the lead P.I. of a NIS 1,423,182 three-institute component with: University of Haifa - Co-P.I. R. Bookman; Israel Oceanographic and Limnological Research (IOLR) – P.I. G. Tibor; Ben Gurion University – P.I. A. Kamishney, Co-P.I. O. Sivan. This project was submitted and reviewed independently, then unified by MOST into the larger project.
2012	Planning and Budgeting Committee (VATAT) NIS 60-million 3-years multi-institute infrastructure grant: <i>The Israel Mediterranean Sea Research Center</i> . Earned by a consortium of 6 universities and 2 research institutes, lead by Zvi Ben Avraham. I coordinated the scientific part of the proposal.
2012	Institutional Wolfson Family Charitable Trust £900,000 infrastructure grant: <i>Mitigation of hydrocarbon-related operational failures in the East Mediterranean</i> . I am part of a large group of investigators submitting this proposal and realizing the funded purchase of equipment, University of Haifa.
2013	Electricity Company of Israel NIS 600,000 2-years grant: <i>Repelling Jellyfish with acoustic methods.</i> P.I. Y. Makovsky, T. Lotan and B. Katsnelson, Charney School of Marine Sciences, University of Haifa.
2013	Institutional Helmsley Charitable Trust \$ 6.6 Million grant: <i>Helmsley Mediterranean Sea Research Center – Deep Sea Research Facility.</i> I played a major role in formulating this proposal, University of Haifa.
2015	Eurofleets-2 11 days cruise (09/2016) on board RV Aegaeo (a worth of c. € 200,000): SEMSEEPS (South Eastern Mediterranean SEEPS) Investigation of gas seeps and carbonates in the deep Levant Basin. Y. Makovsky (Chief scientist) and A. Rueggeberg (PI).
2017	Ministry of National Infrastructure Energy and Water NIS 227,954 3-years research grant: <i>Stratigraphy, depositional environment and composition of the Tortonian-</i> <i>Messinian deposits in the offshore Levant basin.</i> Y. Makovsky (P.I.) and A. Meilijson (C.I.), Charney School of Marine Sciences, University of Haifa.

Yizhaq Makovsky- List of Publications

Articles in Refereed Journals

Published

- Zhao, W., K.D. Nelson, and project INDEPTH team, (1993) Deep seismic reflection evidence for continental underthrusting beneath southern Tibet, *Nature*, 366, 557-559 (Y. Makovsky appears on the affixed list of INDEPTH team).
- Makovsky, Y., S.L. Klemperer, L. Huang, D. Lu, and project INDEPTH team, (1996) Structural elements of the southern Tethyan Himalaya crust from wide-angle seismic data, *Tectonics*, *15*, *5*, 997-1005.
- Nelson, K. D., W. Zhao, L. D. Brown, J. Kuo, J. Che, X. Liu, S. L. Klemperer, Y. Makovsky, R. Meissner, J. Mechie, R. Kind, F. Wenzel, J. Ni, J. Nabelek, L. Chen, T. Handong, W. Wu, A. G. Jones, J. Booker, M. Unsworth, W. S. F. Kidd, M. Hauck, D. Alsdorf, A. Ross, M. Cogan, C. Wu, E. Sandvol, and M. Edwards, (1996) Partially molten middle crust beneath southern Tibet: synthesis of project INDEPTH results, *Science*, 274, 1684-1688.
- Makovsky, Y., S. L. Klemperer, L. Ratschbacher, L. D. Brown, M. Li, W. Zhao, and F. Mung, (1996) INDEPTH wide-angle profiling in southern Tibet: magma beneath the Tibetan rift system, *Science*, 274, 1690-1691.
- ten Brink, U.S., R.I. Hackney, S. Bannister, T.A. Stern, and **Y. Makovsky**, (1997) Uplift of the Transantarctic mountains and the bedrock beneath the East Antarctic ice sheet, *Journal of Geophysical Research*, *102* (B12), 27,603-27,621.
- Alsdorf, D., Y. Makovsky, Z. Wenjin, L.D. Brown, K.D. Nelson, S.L. Klemperer, M. Hauck, A. Ross, M. Cogan, M. Clark, J. Che, and J. Kuo, (1998) INDEPTH (International Deep Profiling of Tibet and the Himalaya) multi-channel seismic reflection data: Description and availability, J. Geophys. Res.,103 (B11), 26,993-26,999.
- Alsdorf, D., L.D. Brown, K.D. Nelson, **Y. Makovsky**, S.L. Klemperer, and W. Zhao, (1998) Crustal deformation of the Lhasa terrain, Tibet Plateau from INDEPTH (International Deep Profiling of Tibet and the Himalaya) seismic reflection profiles, *Tectonics*, *17* (4), 501-519.
- Makovsky, Y., and S.L. Klemperer, (1999) Measuring the seismic properties of Tibetan bright-spots: Evidence for free aqueous fluids in the Tibetan middle crust, J. Geophys. Res., 104 (B5), 10,795-10,825.
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- Makovsky, Y., A. Wunch, R. Ariely, Y. Shaked, A. Rivlin, A. Shemesh, Z. Ben Avraham, A. Agnon, (2008) Quaternary transform kinematics constrained by sequence stratigraphy and submerged coastline features: The Gulf of Aqaba, *Earth and Planetary Science Letters*, 271, 109-122.
- Zhao, W., L. Brown, Z. Wu, S.L. Klemperer, D. Shi, J. Mechie, H. Su, F. Tilmann, M. Karplus, **Y. Makovsky**, (2008) Seismology near the NE Edge of the Tibetan Plateau, *EOS Transactions, AGU, 89* (48), 487.
- Schattner U., Lazar M., Tibor G., Ben-Avraham Z., and **Makovsky Y.**, (2010) Filling up the shelf a sedimentary response to the last post-glacial sea rise, *Marine Geology*, 278, 165–176.

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 R. Al-Ruzouq (2014) Quaternary tectonic evolution of the northern Gulf of Aqaba/Elat along the
 Dead Sea Transform, J. Geophys. Res. Solid Earth, 119, doi:10.1002/2013JB010879.
- Gvirtzman, Z., M. Reshef, O. Buch-Leviatan, G. Groves-Gidney, Z. Karcz, Y. Makovsky, Z. Ben-Avraham,
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 movements, *Marine Geology*, 390, 25-39.
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- Safadi, M., A. Meilijson, **Y. Makovsky**, (2017) Long lasting continued activity of buried mass transport deposits in the southeast Levant margin, *Tectonics*, (*published online*).

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Eruteya, O. E., M. Safadi, N. Waldmann, Y. Makovsky and Z. Ben-Avraham, (2015) Seismic geomorphology of the Israel Slump Complex in the central Levant Basin, in Lamarche G. et al., Submarine Mass Movements and Their Consequences, 7th international symposium, Advances in Natural and Technological Hazards Research, 41, 39-47.

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- Makovsky, Y., (1995) Ground penetrating radar measurements, in U.S. ten Brink and S. Bannister, EAST93 - geophysical traverse from the Transantarctic mountains to the Wilkes basin, east Antarctica, A joint U.S. - N.Z. Science project, U.S. Geological Survrvey Open File Report 95-225, p. A3.1-A3.5.
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- Makovsky, Y., (2011) Adira Energy Gabriella Yitzhak Licenses: Profile IS-1004 AVO processing report, pp. 50.
- Makovsky, Y., (2011) Adira Energy Gabriella Yitzhak Licenses: Profile IS_1004 Depth Migration Project processing report, pp. 28.
- Makovsky, Y., (2011) Adira Energy Gabriella Yitzhak Licenses: Profile IS-2035 Depth Migration report, pp. 8.
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- Gvirtzman, Z., Y. Makovsky, Y. Sagy, (2011) Reprocessing and geological interpretation of old seismic lines in the Haifa Bay, *Geological Survey of Israel Report GSI/27/2011*, pp. 15.
- Goldman, M., U. Kafri, **Y. Makovsky**, E. Levi (2012) Detection of saline groundwater bodies along the Be'er Sheva valley between the Dead Sea and the proximity of the Mediterranean Sea using geoelectric methods, *A report produced for: The Governmental Authority for Water and Sewage, State of Israel,* Report *no. CSMS-2012/DMG-01, Haifa*, pp. 84.
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- Tsabar, A. (2015) Monitoring the dynamics of the hydrological system in Mineral Beach sinkholes, Dead Sea, *M.Sc. Thesis; Advisors:* **Y. Makovsky**, *E. Shalev, A. Sagy, The Moses Strauss Department of Marine Geosciences, University of Haifa*, pp. 110.
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- <u>Makovsky, Y.</u>, and S.L. Klemperer, (1996) <u>Converted shear-wave reflectfrom the Tibetan middle crust:</u> <u>melt or water?</u>, in 7th International Symposium on Deep Seismic Profiling of the Continents, Assilomar, CA, p. 32.
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- <u>Meilijson, A.</u>, J. Steinberg, F. Hilgen, O. Bialik, P. Ilner, N. Waldmann, **Y. Makovsky** (2017) <u>Integrated</u> <u>stratigraphy and chronology of Messinian evaporites from the Levant basin in the deep eastern</u> <u>Mediterranean</u>, *EGU General Assembly Conference Abstracts*, Vol. 19, EGU2017-5803.

Weizmann Institute of Science

Aldo Shemesh- Resume



Date of birth: September 4, 1953 Married + 3; Israeli citizenship Army Service: 1971-1975 Address: Department of Earth and Planetary Sciences The Weizmann Institute of Science, Rehovot, 76100 Israel Aldo.Shemesh@weizmann.ac.il Tel: 972-8-9343429; fax: 972-8-9344124

Academic Background

Date	Institute	Degree	Area of specialization
1986	Hebrew University of	Ph.D	Geology, isotope geochemistry
	Jerusalem		
1981	Hebrew University of	MSc	Oceanography, stable isotopes
	Jerusalem		
1979	Hebrew University of	BSc	Geology and Chemistry
	Jerusalem		

M.Sc Thesis: Carbon isotopes and the carbonate system in the Gulf of Eilat

Ph.D. Dissertation: Stable isotopes and rare earth elements in phosphatic rocks. Advisers: Y.Kolodny and A. Katz.

Employment

Date	Institute	Title	Research Area
2011-	Weizmann Institute of	Full Professor	Geochemistry,
	Science		Paleoceanography
1995-2011	Weizmann Institute of	Associate Professor	Geochemistry,
	Science		Paleoceanography
1997-2003	Weizmann Institute of	Head of Department	
	Science		
1991-1995	Weizmann Institute of	Senior Scientist	Geochemistry,
	Science		Paleoceanography
1988-1991	Weizmann Institute of	Scientist	Geochemistry,
	Science		Paleoceanography
1986-1988	Lamont Doherty Earth	Post Doctoral research	Oceanography,
	Observatory of Columbia	scientist	Marine Chemistry,
	University, NY, USA		Geology

Academic Administration

2014-	Head, The De Botton Center for Marine Science, Weizmann Institute of Science
1998-2003	Head, The Sussman Family Center for Environmental Sciences, Weizmann Institute of Science.
1997-2003	Head, Department of Environmental Sciences and Energy research, Weizmann Institute of Science.

Other Employment and activities

Sept-Oct 2017	Visiting Professor, Tongi University, Shanghai, China
Apr-May 2016	Visiting Scientist, Otago University, New-Zealand
Summer 2010	Visiting Scientist, Museum of Natural History, Paris
Summer 2008	Visiting Scientist, Museum of Natural History, Paris
Summer 2007	Visiting Scientist, Museum of Natural History, Paris
Summer 2006	Visiting Scholar, James Cook University, Australia
Summer 2004	Visiting Scientist, Cambridge University, UK.
Summer 2002	Visiting Scientist, University of Bordeaux, France.
Summer, 1997	Visiting Scientist, Stockholm University, Sweden. NFR fellowship.
Summer, 1995	Visiting Scientist, The Climate Center of Lamont-Doherty Earth Observatory of Columbia University, NY
1981 – 1986	Teaching assistant and instructor, Department of Geology, Hebrew University, Jerusalem.
1979 – 1981	Research and teaching assistant, Department of Geology and the Oceanographic Program, Hebrew University, Jerusalem.

Member of the Scientific Advisory Committee Marine Spatial Policy Plan for Israel's territorial Waters and Exclusive Economic Zone Of the Mediterranean Sea (Since 2014).

Member of the Faculty of Chemistry Promotion Committee (Since 2013).

Member of the Scientific Committee of the Mediterranean Sea Research Center of Israel (Since 2012).

Editor – Biogeosciences, Journal of the European Geosciences Union (Since 2009).

Co-Convener of sessions in the European Geosciences Union General Assembly, Vienna, during the annual meetings of 2008, 2009, 2010.

Member of the Committee for National Oceanographic Research and Studies, Established by the Planning and Budgeting Committee (VATAT; 2009-2010).

Member of the Board, The Inter-University Marine Laboratory, Eilat, Israel (1994-2010).

JAC (Joint Advisory Committee) Member, GLOWA Jordan River Project, BMBF-MOS (from 2004)

Advisory Committee to the Chief Scientist of the Ministry of Environment, Gulf of Eilat management (from 2004)

Associate Member, SCOR/IMAGES Working Group on Analyzing Links between Present Oceanic Processes and Paleo Records (from 2004).

Reviewer for Scientific Journals: Science, Nature, Paleoceanography, Geophysical Research Letters, Geochimica et Cosmochemica Acta, Earth and Planetary Science Letters, Deep Sea Research, Quaternary Science Reviews, Global Biogeochemical Cycles, Journal of Paleolimnology, Chemistry and Ecology, Reviews of Geophysics.

Reviewer for funding agencies: NSF, US-Israel Binational Science Foundation, German Israel Science Foundation, Israel Ministry of Science, Israel Ministry for Infrastructure, NERC-UK, Marsden Fund – Australia.

Students and Post Doc (past 5 years)

- 1. Aya Schneider-Mor Ph.D graduated 2009
- 2. Guy Sisma Ventura Ph.D graduated 2013
- 3. Yitzhak Jacobson Ph.D
- 4. Ziv Sade M.Sc (with Dr. Itay Halevy)
- 5. Eldad Hoch M.Sc (with Dr. O. Levy of BIU)
- 6. Dr. Jae II Lee Post Doc till 2008
- 7. Dr. Julien Crespin Post Doc till 2014
- 8. Dr. Anastasia Yanchilina Post Doc 2016-
- 9. Dr. Yael Amitai Post Doc 2017-

Grants and Funding

1. Large Equipment for the Weizmann Institute

- *a.* Wolfson Family Charitable Trust. 2012. The Eastern Mediterranean Susceptibility to Anthropogenic Stress and Forcing. \$1,015,000 with additional WIS matching of \$1,015,000.
- b. Israel Planning and Budgeting Committee, 2013. Grant to establish a consortium for marine research in Israel. \$5,900,000 (total of \$18,000,000 with matching and inkind) for 7

universities. I am leading the Weizmann component in it. Weizmann share: \$900,000 direct + \$900,000 matching.

2. Personal Grants

- a. Israel Science Foundation. 2016-2020. From opal-A to chert: the isotope diagenesis of biogenic siliceous sediments in the deep ocean. \$305,000.
- b. Israel Science Foundation. 2012-2016. Reconstruction of trace elements concentrations and pH of the Eastern Mediterranean. \$192,000.
- c. University of Bologna. 2014-2015. Isotope composition of corals and seawater along the Italian coast. \$25,000.
- d. Weizmann UK Joint Research Program. 2013-2015. Ocean Acidification: Decoupling the anthropogenic acidification from the natural variability during the last millennial in the Eastern Mediterranean. With Prof. G. Foster, Southampton UK. \$75,500.
- e. Israel Science Foundation. 2009-2012. The isotopic composition of Vermetid reefs: calibration and application to paleoclimate reconstruction and the eutrophication history of the SE Mediterranean. \$153,000
- f. German Israel Binational Science Foundation. 2006-2009. Oxygen isotopes of radiolarians: development of a new paleoceanographic tool. With. Dr. A. Abelmann AWI. \$ 148,500.

Aldo Shemesh- Five Publications

- 1. Sisma-Ventura, G., Yam, R., Kress, N. and Shemesh, A. 2016. Water column distribution of stable isotopes and carbonate properties in the South-eastern Levantine basin (Eastern Mediterranean): Vertical and temporal change, *Journal of marine system*, doi:10.1016/j.jmarsys.2016.01.012
- 2. Steiner, Z., Erez, J., Shemesh, A., Yam, R., Katz, A., and Lazar, B., 2014. Basin-scale estimates of pelagic and coral reef calcification in the Red Sea and Western Indian Ocean. Proceedings of the National Academy of Sciences, 111, 46, 16303-16308.
- 3. Sisma-Ventura, G., Yam, R., Shemesh, A., 2014. Recent unprecedented warming and oligotrophy of the Eastern Mediterranean Sea within the last millennium. Geophysical Research Letters 41, doi:10.1002/2014GL060393.
- 4. Crespin, J., Yam, R., Crosta, X., Masse, G., Schmidt, S., Campagne, P., Shemesh, A., 2014. Holocene glacial discharge fluctuations and recent instability in East Antarctica. Earth and Planetary Science Letters 394, 38-47.
- 5. Mor, A.S., Yam, R., Bianchi, C., Kunz-Pirrung, M., Gersonde, R., Shemesh, A., 2012. Variable sequence of events during the past seven terminations in two deep-sea cores from the Southern Ocean. Quaternary Research 77, 317-325.