

CURRICULUM VITAE

Research Interests

Biological oceanography, host-virus interactions, phytoplankton ecophysiology, viral ecology, molecular ecology, trace metal and nutrient bioavailability, marine biogeochemical cycling

Professional Preparation

Oct 2021 – Present Senior Lecturer, The Mina and Everard Goodman Faculty of Life Sciences, Bar Ilan University

2017 – 2021 Simons Foundation postdoctoral fellow in Marine Microbial Ecology, Rutgers University, *Diatom host-virus dynamics and the marine silicon cycle*, Advisor: Kimberlee Thamtracoln

2016 – 2017 Postdoctoral fellow, Institute of Earth, Ocean and Atmospheric Sciences, Rutgers University, *Diatom host-virus dynamics*, Advisor: Kimberlee Thamtracoln

2011 – 2016 Ph.D. Environmental Science, Hebrew University of Jerusalem, Israel, *Iron acquisition mechanisms in a unicellular, planktonic cyanobacterium*, Advisors: Nir Keren and Yeala Shaked

2008 – 2010 M.Sc. Environmental Science, Hebrew University, *The role of reduction in iron uptake processes in Synechocystis sp PCC 6803*, Advisors: Nir Keren and Yeala Shaked

2007 – 2008 Department of Plant and Environmental Science, Hebrew University, Undergraduate Laboratory Research Assistant

2004 – 2008 B.S., Biology and Environmental studies, Hebrew University of Jerusalem, Israel

Publications

Arsenieff L., Kimura K., **Kranzler C.F.**, Baudoux, A., Thamtracoln, K. Diatom Viruses, The Molecular Life of Diatoms, eds. Falciatore A. and Mock, T. (2022) Springer-Nature Publisher, *In Press*

Kranzler C.F., Brzezinski M.A., Cohen N. R., Lampe R. H., Maniscalco M., Till C.P., Mack, J., Latham J. R., Bruland K.W., Twining B.S., Marchetti A., Thamtracoln K. Impaired viral infection of diatoms in iron-limited oceanic regimes. (2021) *Nature Geoscience* 14, 231-237

Kranzler C. F., Krause J. W., Brzezinski M. A., Edwards B. R., Biggs W. P., Maniscalco M., McCrow J. P., Van Mooy B. A. S., Bidle K. D., Allen A. E., Thamtracoln K. Silicon limitation facilitates virus infection and mortality of marine diatoms. (2019) *Nature Microbiology*. 4(11):1790-1797.

Kranzler C.*, Kessler N.*, Keren N., Shaked Y. Enhanced dissolution of ferrihydrite by a unicellular, planktonic cyanobacterium: a biological contribution to particulate iron bioavailability. (2016) *Environmental Microbiology* 18(12):5101-5111 *equal contribution

Rudolf M., Stevanovic M., **Kranzler C.**, Pernil R., Keren N., Schleiff E. (2016) Multiplicity and specificity of uptake of endogenous siderophores in cyanobacteria on the example of *Anabaena* sp. PCC 7120. *Plant Molecular Biology*, 92:57.

Rudolf M., **Kranzler C.**, Lis H., Margulis K., Stevanovic M., Keren N., Schleiff E., (2015) Multiple modes of iron uptake by the filamentous, siderophore-producing cyanobacterium, *Anabaena* sp. PCC 7120. *Molecular Microbiology* 97:577-588

Lis H., **Kranzler C.**, Keren N., Shaked Y. (2015) A comparative study of iron uptake rates and mechanisms amongst marine and freshwater cyanobacteria: Prevalence of reductive iron uptake. *LIFE* 5:841-860.

Lis H., Shaked Y., **Kranzler C.**, Keren N., Morel F. (2015) Iron bioavailability to phytoplankton – an empirical approach. *ISME Journal* 9:1003-1013.

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Sharon S., Salomon E., **Kranzler C.**, Lis H., Lehmann R., Georg J., Zer H., Hess W.R., Keren N. (2014) The hierarchy of transition metal homeostasis: Iron controls manganese accumulation in a unicellular cyanobacterium. *Biochimica et Biophysica Acta - Bioenergetics* 12:1990-1997.

Kranzler C., Lis H., Finkel O.M., Schmetterer G., Shaked Y., Keren N. (2014) Coordinated transporter activity shapes high affinity iron acquisition in cyanobacteria. *ISME Journal* 8:409-417.

Kranzler C., Rudolf M., Keren N., Schleiff E. (2013) Iron in cyanobacteria. *In Genomics of Cyanobacteria, Advances in Botanical Research* vol 65 (pp 57- 105). Amsterdam, Elsevier Ltd.

Kranzler C., Lis H., Shaked Y. and Keren N. (2011) The role of reduction in iron uptake processes in a unicellular, planktonic cyanobacterium. *Environmental Microbiology*. 13:2990 - 2999.

Fellowships, Awards and Scholarships

2022 Alon Scholarship, The Planning and Budget Committee at the Council for Higher Education, Israel

2018-2021 Simons Foundation Postdoctoral Fellowship in Marine Microbial Ecology, "The interplay between diatom-virus dynamics and the marine silicon cycle", Three-year appointment, awarded to C.F. Kranzler, \$256,000

2017-2018 Dalia and Dan Maydan Fellowship, Hebrew University Fellowship for Women Postdoctoral Researchers

2016-2018 Award for Women Postdoctoral Researchers, The Planning and Budget Committee at the Council for Higher Education, Israel

2016-2017 Rappaport Fund for Advanced Studies, Hebrew University Fellowship for Women Postdoctoral Researchers

2017 Travel grant to attend the Molecular Life of Diatoms Meeting in Kobe, Japan

2016-2017 Postdoctoral Fellowship, Institute of Earth, Ocean and Atmospheric Sciences, Rutgers University

2015 Best Lecture Award, First Place, Israeli Annual Conference for Science and the Environment, Ecology and Conservation Category

2014 Allan Brown Prize for Excellence in Environmental Studies, Canadian Friends of the Hebrew University

2014 Scholarship for Academic Excellence, Environmental Science Department, Hebrew University

2013 AS-ILS Selected Monthly ARTicle (SMART) Prize, Life Sciences Department, Hebrew University

2013 Travel grant to attend Iron Biogeochemistry - From Molecular Processes to Global Cycles (FIMIN) meeting in Ascona, Switzerland

2013 Best Poster, Department of Environmental Sciences, Faculty Day, Hebrew University

2013 Scholarship for Academic Excellence, Environmental Science Program, Hebrew University

2012 Karten Charitable Trust – Management of Water Resources Award

2009-2011 Scholarship for Academic Excellence, Environmental Science Program, Hebrew University

2007 Mayer Family Award for Undergraduate Research in Plant Sciences, Hebrew University

Field Research

2022 Field work in the Gulf of Naples, Stazione Zoologica Anton Dohrn, Italy

2017 Mesocosm experiment in the Norwegian fjords, University of Bergen, Marine Biological Station, Norway, *Algal host-virus interactions*

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2016 Field sampling in the Gulf of Aqaba, The Interuniversity Institute for Marine Sciences in Eilat, Israel, *Probing the bioavailability of mineral phase iron to natural cyanobacterial assemblages*

2011 Field sampling in the Gulf of Aqaba, The Interuniversity Institute for Marine Sciences in Eilat, Israel, *Assessing iron uptake pathways of natural phytoplankton populations*

Teaching Experience

2019 – 2021 Mentor of Undergraduate Research, Devin Busono, Research Intern, Rutgers University

2017 – 2019 Mentor of Undergraduate Research, William Biggs, Research Intern, Rutgers University

Summer 2018 Mentor of Undergraduate Research, Skyler Kilgore, Summer Research Internship in Ocean Science (RIOS), Rutgers University

Summer 2017 Mentor of Undergraduate Research, Kenza Oualim, Aresty Summer Research Fellowship, Rutgers University

2017 – 2018 Mentor of Undergraduate Research, James Mack, Senior Honors Thesis, Rutgers University

2013 – 2016 Teaching Assistant, *Introduction to Environmental Sciences*, Department of Environmental Sciences, Hebrew University

2011 – 2013 Teaching Assistant, *Selected Topics in Environmental Sciences*, Department of Environmental Sciences, Hebrew University

2011 – 2012 Teaching Assistant, *Field Camp to the Sea of Galilee*, Department of Environmental Sciences, Hebrew University

Graduate Students

2021 – Present Yael Tenenbaum, MSc Student, Project Title: Characterizing ssDNA diatom viruses in the Gulf of Aqaba, Red Sea

Conference Participation

2022 The Israeli Society for Microbiology Annual Meeting (ISM), Marine Microbial Ecology session, **Invited Speaker**

2021 Aquatic Virus Workshop, Virtual Format, *Biogeochemical consequences of diatom host-virus interactions across nutrient regimes*, **oral presentation**

2020 Ocean Sciences Meeting, San Diego, CA. *Biogeochemical consequences of diatom-virus interactions in the California Current Ecosystem*, **oral presentation**

2020 Ocean Sciences Meeting, San Diego, CA. *Synergistic impacts of viral infection and iron limitation on diatom-mediated biogeochemical cycling*, **poster presentation**

2019 Meeting of Early Career Investigators and Fellows in Marine Microbial Ecology and Evolution, Simons Foundation, New York, NY. *Silicon limitation facilitates virus infection and mortality of diatoms*, **poster presentation**

2019 The Molecular Life of Diatoms Meeting, Norwich, UK. *Silicon limitation facilitates virus infection and mortality of diatoms*, **oral presentation**

2019 Annual Meeting of the Israeli Association for Aquatic Sciences (IAAS), Haifa, Israel. *Silicon limitation facilitates virus infection and mortality of diatoms*, **oral presentation**

2019 Annual Meeting of the Israeli Society of Microbiology (ISM), Rehovot, Israel. *Silicon limitation facilitates virus infection and mortality of diatoms*, **poster presentation**

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- 2018** Silicamics, Biogeochemistry and genomics of silicification and silicifiers, Victoria, Canada. *The interplay between diatom-virus dynamics and silicon cycling*, **oral presentation**
- 2018** Ocean Sciences Meeting, Portland, Oregon. *The interplay between diatom-virus dynamics and nutrient availability*, **oral presentation**
- 2017** The Molecular Life of Diatoms Meeting, Kobe, Japan. *The interplay between diatom-virus dynamics and nutrient availability*, **oral presentation**
- 2016** The Israeli Society for Microbiology Annual Meeting (ISM), Bar Ilan University, Israel. *Biological dissolution of ferrihydrite by a unicellular, planktonic cyanobacterium: insights into the bioavailability of particulate iron*, **oral presentation**
- 2015** Israeli Annual Conference for Science and the Environment (ISEES), Jerusalem, Israel. *Interactions between particulate iron and cyanobacteria: Multiple facets of bioavailability*, **oral presentation, best lecture award**
- 2014** The 5th Kaplan Workshop on Environmental Geochemistry “Biogeochemistry - where Earth Sciences meets Biology” Sedot Yam, Israel. *Coordinated transporter activity shapes high affinity iron acquisition in cyanobacteria*, **poster presentation**
- 2014** The Israeli Society for Microbiology Annual Meeting (ISM), Haifa, Israel. *Coordinated transporter activity shapes high affinity iron acquisition in cyanobacteria*, **poster presentation**
- 2013** Iron Biogeochemistry - From Molecular Processes to Global Cycles (FIMIN), Ascona, Switzerland. *Iron uptake mechanisms in the unicellular cyanobacterium, Synechocystis sp. PCC 6803*, **poster**
- 2013** Conference on Active Research by Environmental Science Students (CARESS), Weizman Institute, Israel. *The molecular components of the reductive iron uptake pathway in a unicellular, planktonic cyanobacterium*, **oral presentation**

Invited Seminars

- 2022** Department of Zoology, Tel Aviv University, Israel. *Host-virus interactions in marine diatoms*
- 2021** Department of Plant and Environmental Science, Weizmann Institute, Israel. *Biogeochemical consequences of host-virus interactions in marine diatoms.*
- 2021** Department of Plant and Environmental Science, Hebrew University of Jerusalem, Israel. *Biogeochemical consequences of host-virus interactions in marine diatoms.*
- 2020** French Associates Institute for Agriculture and Biotechnology of Drylands, Sde Boker, Israel. *Divergent biogeochemical consequences of diatom host-virus interactions across nutrient regimes*
- 2020** Life Sciences Institute, Bar Ilan University, Israel. *Phytoplankton ecophysiology, host-virus interactions and the fate of organic matter in the sea*
- 2020** School of Marine Sciences, University of Haifa, Israel. *Phytoplankton ecophysiology, host-virus interactions and the fate of organic matter in the sea*
- 2020** Life Sciences Institute, Hebrew University of Jerusalem, Israel. *Phytoplankton ecophysiology, host-virus interactions and the fate of organic matter in the sea*
- 2019** Weizmann Institute, Rehovot, Israel. Invited talk for Vardi, Segev and Gal research groups, Department of Plant and Environmental Sciences. *Diatom host-virus dynamics and the marine silicon cycle: Linking molecular ecology with marine biogeochemistry*
- 2019** Interuniversity Institute for Marine Sciences of Eilat, Israel. *Diatom host-virus dynamics and the marine silicon cycle: Linking molecular ecology with marine biogeochemistry.*
- 2016** Hebrew University, Givat Ram, Jerusalem, Environmental Sciences Seminar. *Enhanced ferrihydrite dissolution by a unicellular, planktonic cyanobacterium: insights in the bioavailability of particulate iron.*