

Rachel S. Poretsky

University of Illinois at Chicago, Department of Biological Sciences
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EDUCATION

The University of Georgia, Athens, GA Ph.D. in Marine Sciences, August 2008
Brandeis University, Waltham, MA B.S. in Biology, Cum Laude, May 1999

SHORT COURSES

Microbial Genomics/Metagenomics Workshop, January 7-11, 2008
DOE Joint Genome Institute, Walnut Creek, CA
International Geobiology Summer Course, Summer 2005
USC Wrigley Institute for Environmental Studies, Catalina Island, CA
Microbial Diversity Summer Course, Summer 2003
Marine Biological Laboratory, Woods Hole, MA
Semester in Environmental Sciences, Fall 1997
Marine Biological Laboratory Ecosystems Center, Woods Hole, MA

PROFESSIONAL EXPERIENCE

January 2013-present: Assistant Professor

University of Illinois at Chicago, Department of Biological Sciences

May 2010-2012: Postdoctoral Fellow

Georgia Institute of Technology, School of Civil and Environmental Engineering
Supervisor: Kostas Konstantinidis

2009-2010: Postdoctoral Scholar in Geobiology

California Institute of Technology, Division of Geological and Planetary Sciences
Supervisor: Victoria Orphan

2009: Adjunct Assistant Professor

Occidental College, Department of Biology

2002-2008: NSF Graduate Research Fellow in Marine Sciences

The University of Georgia, Department of Marine Sciences
Supervisor: Mary Ann Moran

1999-2000: Visiting Graduate Research Fellow

The Hebrew University of Jerusalem, Division of Molecular and Microbial Ecology
Supervisor: Shimon Schuldiner

RESEARCH AND FIELD WORK

R/V Lake Guardian, Great Lakes Summer Survey, 2014-2018

R/V Endeavor, Metagenomics and metatranscriptomics in the Gulf of Mexico, May-June 2012

Lake Lanier, GA, Comparative metagenomics and metagenomics of viral and bacterial/archaeal
Communities, 2010-2012

Eel River Basin, CA, Metagenomic and physiological analyses of symbiotic consortia (archaea
and bacteria) in deep-sea sediments, 2009

Sapelo Island, GA, Investigation of microbe-DOM interactions in coastal microbial communities
using metatranscriptomics

R/V Atlantis, Anaerobic methane oxidation at the Costa Rica Margin, January 2010

R/V Kilo Moana, Metagenomics, transcriptomics, and nitrogen fixation in the South Pacific,
March-April 2007

R/V Kilo Moana, Transcriptomics at the Hawaii Ocean Time-Series, November 2005
R/V Yellowfin, San Pedro Basin sediment core biogeochemistry, microbiology, June 2005
Sapelo Island Microbial Observatory, UGA Marine Institute at Sapelo Island, GA. Repeated site visits for sampling, 2002-2008
The Hebrew University of Jerusalem, Biochemistry of microbial transporters, 1999- 2000
Florida Marine Research Institute, Marathon, FL, Student Conservation Association intern and AAUS scientific SCUBA diver, 1999
Rosenstiel Basic Medical Sciences Research Center, Brandeis University, 1996-1999
Senior honor thesis: Somatic mutation and immune response diversification
Smithsonian Environmental Research Center, Work/Learn Intern, Denitrifying eukaryotic microbes in riparian soils, Summer 1998
SUNY Health Science Center at Brooklyn, High School Science Research Program, Department of Immunology and Cell Biology. Westinghouse Science Talent Search, 1993-1995

PUBLICATIONS

2019

Kauser, I., Ciesielski, M., and **Poretsky, R.** 2019. Ultraviolet disinfection impacts the microbial community composition and function of treated wastewater effluent and the receiving urban river. *PeerJ* 7:e7455 <https://doi.org/10.7717/peerj.7455>.

Pierce, M.L., Lee, J.S.F., Dodd, E., & **Poretsky, R.** 2019. Water additives influence survival and microbial community structure in sablefish (*Anoplopoma fimbria*) rearing tanks. *Frontiers in Marine Science* 6.10.3389/fmars.2019.00203.

Petrovich, M.L., **Poretsky, R.S.**, Maamar, S.B., and Wells, G.F. 2019. Viral Composition and context in metagenomes from biofilm and suspended growth municipal wastewater treatment plants. *Microbial Biotechnology*. <https://doi.org/10.1111/1751-7915.13464>

Hampton-Marcell, J.T., Eshoo, T.W., Macam, R., Gilbert, J.A., Horswill, C.A., **Poretsky, R.S.** Comparative Analysis of the Gut Microbiota and Acute Changes in Exercise Volume among Collegiate Swimmers. *In review* in *International Journal of Sports Medicine*, July 2019.

Petrovich, M.L., Zilberman, A., Kaplan, A., Eliraz, G.R., Langenfeld, K., Wang, Y., Wigginton, K., **Poretsky, R.**, Avisar, D., Wells, G.F. Metagenomics-Guided Analysis of Antibiotic Resistance Genes and Viral Communities in a Hospital Wastewater Treatment System. *In review* in *Frontiers in Microbiology*, August 2019.

Dodd, E., Pierce, M.L., Lee, J.S.F., and **Poretsky, R.** 2019. Influences of aquaculture water additives on the skin microbiome of larval sablefish (*Anoplopoma fimbria*). *In review* in *Aquaculture*, June 2019.

2018

Chaudhary, A., Kauser, I., Ray, A., and **Poretsky R.** 2018. Taxon-Driven Functional Shifts Associated with Storm Flow in an Urban Stream Microbial Community. *mSphere* 3. DOI: 10.1128/mSphere.00194-18.

Chu, B. T. T., Petrovich, M. L., Chaudhary, A., Wright, D., Murphy, B., Wells, G. and **Poretsky, R.** 2018. Metagenomics Reveals the Impact of Wastewater Treatment Plants on the Dispersal of Microorganisms and Genes in Aquatic Sediments. *Applied and Environmental Microbiology* 84.

Petrovich, M. L., Binh, C. T. T., Wright, D., Griffin, J., Murphy, B., **Poretsky, R.**, Wells, G. 2018. Antibiotic resistance genes show enhanced mobilization through suspended growth and biofilm-based wastewater treatment processes. *FEMS microbiology ecology* 94, fiy041. **Selected as "Editor's Choice"**

Berger-Wolf, T., Igic, B., Taylor, C., Sloan, R., and **Poretsky, R.** 2018. A biology-themed introductory CS course at a large, diverse public university. In Proceedings of the 49th

ACM Technical Symposium on Computer Science Education (SIGCSE '18). ACM, New York, NY, USA, 233-238. DOI: <https://doi.org/10.1145/3159450.3159538>.

2017

Wang, Y., Hatt, J.K., Tsementzi, D., Rodriguez-R, L.M., Ruiz-Pérez, C.A., Weigand, M.R., Kizer, H., Maresca, G., Krishnan, R., **Poretsky, R.** and Spain, J.C., 2017. Quantifying the Importance of the Rare Biosphere for Microbial Community Response to Organic Pollutants in a Freshwater Ecosystem. *Applied and Environmental Microbiology* **83**.

2016

Lee, J.S.F., **Poretsky, R.S.**, Cook, M., Reyes-Tomassini, J., Berejikian, B., and Goetz, F. 2016. Dimethylsulfoniopropionate (DMSP) Increases Survival of Larval Sablefish, *Anoplopoma fimbria*. *Journal of Chemical Ecology* **42**, 533-536.

Ricketts, M.P., **Poretsky, R.S.**, Welker, J., Gonzalez-Meler, M. 2016. Soil bacterial community and functional shifts in response to altered snowpack in moist acidic tundra of northern Alaska. *Soil* **2**, 459. doi:10.5194/soil-2015-89.

2015

~Leave of absence due to birth of a child and death of a parent~

2014

Poretsky, R., Rodriguez-R, L. M., Luo, C. W., Tsementzi, D. and Konstantinidis, K. T. 2014. Strengths and limitations of 16S rRNA gene sequencing in revealing temporal microbial community dynamics. *PLoS One* **9**, doi:10.1371/journal.pone.0093827.

Article is among the top 10% most cited in PLoS ONE

Vila-Costa, M., Rinta-Kanto, J. M., **Poretsky, R. S.**, Sun, S., Kiene, R. P. & Moran, M. A. 2014. Microbial controls on DMSP degradation and DMS formation in the Sargasso Sea. *Biogeochemistry* **120**, 295-305.

Tsementzi, D., **Poretsky, R.**, Rodriguez, L. M., Luo, C. W. and Konstantinidis, K.T. 2014. Evaluation of metatranscriptomic protocols and application to the study of freshwater microbial communities. *Environmental Microbiology Reports* **6**, 640-655.

Prior to 2013

Oh, S., Caro-Quintero, A., Tsementzi, D., DeLeon-Rodriguez, N., Luo, C. W., **Poretsky, R.** and Konstantinidis, K. T. 2011. The metagenome of Lake Lanier provides new insights into the evolution, function and complexity of temperate freshwater microbial communities. *Applied and Environmental Microbiology*. **77**:6000-6011.

Poretsky, R. S., and Moran, M.A. Comparative metatranscriptomics of marine microbial communities. In: de Bruijn FJ, editor. Handbook of Molecular Microbial Ecology I: Metagenomics and Complementary Approaches: Wiley/Blackwell.

Hewson, I., **Poretsky, R. S.**, Tripp, H. J., Montoya, J. P. and Zehr, J. P. 2010. Spatial patterns and light-driven variation of microbial assemblage gene expression in surface waters of the oligotrophic open ocean. *Environmental Microbiology* **12**:1940-1956.

Vila-Costa, M., Rinta-Kanto, J. M., Sun, S. L., Sharma, S., **Poretsky, R.** and Moran, M. A. 2010. Transcriptomic Analysis of a Marine Bacterial Community Enriched with Dimethylsulfoniopropionate (DMSP). *The ISME Journal* **4**: 1410-1420.

Dekas, A.E., **Poretsky, R.S.**, and Orphan, V.J. 2009. Deep-sea archaea fix and share nitrogen in methane-consuming microbial consortia. *Science* **326**:422-426.

Poretsky, R.S., Sun, S., Mou, X., and Moran, M.A. 2009. Transporter genes expressed by coastal bacterioplankton in response to dissolved organic carbon. *Environmental Microbiology* **12**:616-627.

Hewson, I., **Poretsky, R. S.**, Dyhrman, S. T., Zielinski, B., White, A. E., Tripp, H. J., Montoya, J. P.

- and Zehr, J. P. 2009. Microbial community gene expression within colonies of the diazotroph, *Trichodesmium*, from the Southwest Pacific Ocean. *The ISME Journal* **3**:1286–1300.
- Poretsky, R. S.**, Hewson, I., Sun, S. L., Allen, A. E., Zehr, J. P. and Moran, M. A. 2009. Comparative day/night metatranscriptomic analysis of microbial communities in the North Pacific subtropical gyre. *Environmental Microbiology* **11**:1358-1375.
- Poretsky, R. S.**, Gifford, S., Rinta-Kanto, J., Vila-Costa, M. and Moran, M. A. 2009. Analyzing gene expression from marine microbial communities using environmental transcriptomics. *Journal of Visualized Experiments*. Feb 18;(24). pii: 1086. doi: 10.3791/1086.
- Hewson, I., **Poretsky, R. S.**, Beinart, R. A., White, A. E., Shi, T., Bench, S. R., Moisaner, P. H., Paerl, R. W., Tripp, H. J., Montoya, J. P., Moran, M. A. and Zehr, J. P. 2009. *In situ* transcriptomic analysis of the globally important keystone N₂-fixing taxon *Crocospaera watsonii*. *The ISME Journal* **3**:618-631.
- Poretsky, R. B.**, N; Buchan, A; Moran, MA and Hollibaugh, JT. Environmental Transcriptomics: A method for exploring community gene expression. In: Kowalchuk GA, de Bruijn FJ, Head IM, Akkermans ADL, van Elsas JD, editors. *Molecular Microbial Ecology Manual*, 3rd Ed: Springer Netherlands. pp 1892-1904.
- Poretsky, R. S.**, Bano, N., Buchan, A., LeClerc, G., Kleikemper, J., Pickering, M., Pate, W. M., Moran, M. A. and Hollibaugh, J. T. 2005. Analysis of microbial gene transcripts in environmental samples. *Applied and Environmental Microbiology* **71**, 4121-4126.

INVITED PRESENTATIONS

- East + West Research Mixer, UIC, March 6, 2019
 UIC College of Medicine, February 11, 2019
 UIC School of Public Health, January 18, 2019
 The Ohio State University, November 1, 2018
 Northwestern University, April 24, 2018
 University of Chicago, June 8, 2016
 Loyola University at Chicago, October 13, 2015
 University of Wisconsin-Madison, December 15, 2015
 University of Illinois Urbana-Champaign, October 31, 2014
 UIC College of Engineering, September 9, 2014
 Northwestern University, May 23, 2014
 Kent State University, April 24, 2014
 University of Delaware, EU-US Bioinformatics Course, June 28, 2013
 Argonne National Laboratory, May 2, 2013
 University of Wisconsin-Madison, April 3, 2013
 United States Geological Survey, Reston Virginia, March 20, 2012
 University of Montreal, March 14, 2012
 University of Illinois, Chicago, February 16, 2012
 Pacific Northwest National Laboratory, January 20, 2012
 Old Dominion University, September 9, 2011
 Bigelow Laboratory for Ocean Sciences, July 29, 2011
 University of Connecticut, March 8, 2011
 Yale University, March 2, 2011
 University of Michigan, November 29, 2010
 Georgia Institute of Technology, May 21, 2010
 California Institute of Technology, January 15, 2008
 Auburn University, January 25, 2006

SELECTED CONFERENCE PRESENTATIONS

Since 2013, **two** postdocs, **three** graduate students, and **five** undergraduate students have presented their research at several local and national conferences including the **American Society for Microbiology General Meetings** (2014, 2015, 2018, 2019), the **Argonne Soil Metagenomics meetings** (2014, 2015), **DOE Environmental System Science** (2015), **Soil Science Society of America** (2014), **Argonne National Laboratory Undergraduate Research Symposium** (2014), the **Annual Biomedical Conference for Minority Students** (2014-2018), the **UIC Undergraduate Research Forum** (2014, 2015), the **New York Academy of the Sciences Urban Genome Conference** (2015), **International Symposium for Microbial Ecology** (2016), **International Association for Great Lakes Research** (2017), **International Symposium on the Environmental Dimension of Antibiotic Resistance** (2017).

Select specific presentations:

Invited oral presentation and poster: "Stormflow associated taxa-driven functional shifts in an urban stream microbial community" ASM Microbe 2018, Atlanta, Georgia, June 7-11, 2018.

Invited oral presentation: "Microbiomes of Sablefish larviculture: The differential effects of common water additives" at the Illinois Association of Community College Biologists annual meeting, October 12, 2018.

Poster: "Response of the larval sablefish skin microbiome to shifts in rearing water" at the Society for Aquatic Microbial Ecology 15, Zagreb, Croatia, September 2017.

Poster: "Response of sablefish-associated microbial communities to environmental changes within an aquaculture facility" at the Society for Aquatic Microbial Ecology 15, Zagreb, Croatia, September 2017.

Poster: "Metagenomic analysis unveils how wastewater treatment effluents influence the receiving water bodies in terms of antibiotic resistance genes, mobile genetic elements, and microbial community" at the 4th International Symposium on the Environmental Dimension of Antibiotic Resistance, August 2017.

Poster: "Metagenomics analysis of antibiotic resistance gene composition, mobilization, and co-occurrence with antibiotic production genes in different wastewater treatment systems" at the Association of Environmental Engineering and Science Professors, June 2017

Poster: "Evaluating Over-trained Athletes via Shifts in SCFA Producers within the Gut Microbiome" at the University of Chicago Microbiome Symposium, May 2017.

Poster: "Metagenomics of Lake Michigan bacterioplankton and in response to allochthonous dissolved organic matter" at the International Association for Great Lakes Research, May 2017.

Oral Presentation (invited): "Wastewater effluent impacts on an urban river microbiome." at Microbes in the City: Mapping the Urban Genome, June 19, 2015.

Poster Presentation: **Poretsky, R.S.**, D. Tsementzi, C. Luo, and K.T. Konstantinidis. "Strengths and limitations of 16S rRNA gene sequencing in revealing temporal microbial community dynamics" at the 111th ASM General Meeting, New Orleans, LA, 2011.

Oral Presentation (invited): Microbe-DOM interactions in aquatic environments session, ASLO Ocean Sciences Meeting 2011.

Poster presentation: **Poretsky, R. S.**, S A. Green, S. Sun, M. Ellisman, and V.J. Orphan. "Targeted metagenomics of methane cold seep syntrophic assemblages using Magneto-FISH" at the 13th International Symposium on Microbial Ecology, Seattle, WA, 2010.

Poster presentation: **Poretsky, R. S.**, S. Sun, X. Mou, and M. A. Moran. "Insights into dissolved organic carbon transformations through comparative metatranscriptomics of coastal marine bacterioplankton" at the ASLO Ocean Sciences Meeting, Portland, OR, 2010.

Poster Presentation (invited): **Poretsky, R.S.**, S. Sun, X. Mou, and M.A. Moran "Metatranscriptomics of bacteria over a diel cycle and during transformation of algal- and

- plant-derived dissolved organic carbon in a coastal ecosystem” at Metagenomics 2008, CAMERA, San Diego, CA, 2008.
- Poster Presentation: **Poretsky, R.S.**, I.Hewson, S. Sun, M.A. Moran, and J.P. Zehr “Diel metatranscriptomic analysis of bacterioplankton at Station ALOHA” at the ASLO Ocean Sciences Meeting, Orlando, FL, 2008.
- Poster Presentation: **Poretsky, R.S.**, P. Jasrotia, J. Oliver, J. Cherrier, M.A. Moran. “Gene expression of a marine *Roseobacter* during uptake and utilization of phytoplankton exudate” at the 11th International Symposium on Microbial Ecology, Vienna, Austria, 2006.
- Oral Presentation (*invited*): “Environmental Transcriptomics: Exploring microbial gene expression in natural samples” at the Gordon Research Conference on Applied and Environmental Microbiology, Connecticut College, New London, CT, 2005.
- Oral Presentation: "Analysis of Microbial Gene Transcripts from Environmental Samples" at the 3rd Annual Microbial Observatories Principal Investigators' Workshop, Big Sky, MT. 2004.
Travel award recipient
- Poster Presentation: **R.S. Poretsky**, N. Bano, A. Buchan, M. Pickering, M. Moran, J.T. Hollibaugh. "Environmental Transcriptomics at the Sapelo Island Microbial Observatory and Mono Lake Microbial Observatory" at the 10th International Symposium on Microbial Ecology, Cancun, Mexico, 2004.
Poster was selected for a special discussion session that included an oral presentation.
- Oral Presentation (*invited*): "Environmental Transcriptomics at the Sapelo Island Microbial Observatory and Mono Lake Microbial Observatory" at the 2nd Annual Microbial Observatories Principal Investigators' Workshop, NSF, Arlington, VA. 2003.
Graduate student travel award
- Poster Presentation: The 9th International Symposium on Microbial Ecology, Amsterdam 2001.

TEACHING EXPERIENCE

Developed three new courses at UIC:

Environmental Microbial Genomics (graduate; BIOS 594)

Advanced Microbiology (undergraduate, taught every spring semester at UIC; BIOS 450)

Introduction to Computer Science for Biology (CS 111 Green)

Redesigned Introduction to Ecology and Evolution I at UIC (BIOS 531)

Organizer and instructor for a Software Carpentry Bootcamp at UIC

Fall 2017 and Fall 2018: CS111 Green

Fall 2015: BIOS 531: Introduction to Ecology and Evolution (required for E&E graduate students)

Fall 2015, Spring 2016: HONS 201: Foundations for the Future (Honors College career development course)

Spring 2015-present: BIOS 450: Advanced Microbiology

Spring 2014: Guest Lecturer, BIOS 532: Ecology and Evolution II

Fall 2013: BIOS 594: Environmental Microbial Genomics, UIC

October 2013: Software Carpentry Bootcamp, UIC

Spring 2013: Guest Lecturer, UIC

BIOS 532: Ecology and Evolution II

Spring 2011: Guest Lecturer, Georgia Institute of Technology

CEE8813: Environmental Microbial Genomics

Fall 2010: Guest Lecturer, Georgia Institute of Technology

CEE 2300- Environmental Biotechnology

Spring 2009: Adjunct Assistant Professor, Occidental College

BIO 130: Introduction to Cell and Molecular Biology (~50 students)

BIO 130-Lab (2 sections)
 Fall 2004: Teaching Assistant and Lab Instructor, University of Georgia
 MARS 1010 Honors: Introduction to the Marine Environment

MENTORING

Postdocs:

Melissa Pierce, 2016-present
 Binh Chu, 2015-2017
 Aigerim Bizhanova, Summer 2017 Visiting Scholar, Bridges 2 Baccalaureate faculty participant

Graduate:

Emily Dodd, MS student, 2016-2019
 Sarah Turner, PhD student, 2015-present
 Jarrad Hampton-Marcell, PhD student, 2015-present
 Adit Chaudhary, PhD Student, 2014-present
 Imrose Kauser, PhD Student, 2013-2016
 Katherine Barkus, MS Student, 2014-2015
 Yukun Sun, MS Student (IIT, co-advised with Jean-Francois Pombert), 2013

Graduate Committee Member:

Morgan Petrovich (PhD, Environmental Engineering, Northwestern University)
 Mahsa Izadmehr (PhD, Environmental Engineering)
 Emily Potratz (PhD, Ecology and Evolutionary Biology)
 Maryam Elfeki (PhD, Center for Pharmaceutical Biotechnology)
 Abhilasha Shrestha (PhD, School of Public Health 2019)
 Michael Ricketts (PhD, Biogeochemistry 2019)
 Ankur Naqib (PhD, Bioengineering 2018)
 Peter Larsen (PhD, Bioinformatics 2017)
 Yanina Tovpeko (PhD, Microbiology 2016)
 Kristin Woycheese (PhD, Earth and Environmental Science 2015)
 Raghav Venkatramanan (MS, Bioinformatics 2014)

Undergraduate:

The Bridges to Baccalaureate program (B2B) is a partnership between UIC and local community colleges to increase the number of underrepresented students in the sciences

Savannah Stiglic 2018-present
 Maria Pappas 2018-2019 (Honorable Mention for the BIOS 2019 Elmer Hadley Award)
 Dolores Sanchez, 2017-present (Bridges 2 Baccalaureate and L@S GANAS student)
 Kehinde Pedro, 2017 (SROP student)
 Mayowa Balogun, 2016 (Bridges 2 Baccalaureate student)
 Rachel Macam, 2015-2017 (LAS Undergraduate Research Initiative awardee)
 Dorothy Wright, 2015-2016 (Bridges 2 Baccalaureate student)
 Marc Ciesielski 2014-2016 (Honors College Capstone)
 Hillary Pham, 2014-2016 (Honors College Capstone)
 Jennifer Arista, 2014-2016 (Honors College Capstone)
 Juana Villagomez, 2014-2015 (Bridges 2 Baccalaureate student)
 Neil Mohindra, 2013-2014
 Markeia Scruggs, 2013-2014
 Parth Patel, 2013-2014 (Honors College Capstone)
 Kristina Behnke, 2013-2014 (Honors College Capstone)

Research Experience for Undergraduates (REU) Students:

Amisha Poret-Peterson (2001- Tulane); Claire Hierling (2003- UGA); Whitney Pate (2004- UGA); Jennifer Oliver (2005-2006- UGA)

AWARDS AND HONORS

2019: Nominated for the UIC Teaching Recognition Program

2019: Nominated for full membership in Sigma Xi, the Scientific Research Honor Society

2017: Nominated for UIC Rising Star in Basic Life Sciences Award

2017: Selected as UIC nominee for the NY Academy of Sciences Blavatnik National Awards for Young Scientists

2015: Selected as an Honors College Faculty Fellow awardee

2010: Poretsky et al., 2009. *Environmental Microbiology* **12**:616-627 selected as a “Top 10 Hidden Jewel” by Faculty of 1000 and Most Downloaded paper of 2009 by EM.

2005: Agouron Institute Scholarship for the International Geobiology Summer Course

2004: University of Georgia Graduate School Assistantship

2004: Poster award, International Symposium on Microbial Ecology

2003 and 2004: Travel awards for Microbial Observatories Principal Investigators' Workshop

2002: Office of Naval Research award to attend the Microbial Diversity Course

2001: National Science Foundation Graduate Research Fellowship

2001: Louisiana Board of Regents Fellowship (*declined*)

2001: University of Georgia Fellowship (*declined*)

1999: Hebrew University Visiting Graduate Research Fellowship

1999: Rachel Carson Award for Outstanding Performance & Leadership in Environmental Studies

1998: Howard Hughes Fellowship for Undergraduate Summer Research in the Life Sciences

1995-1999: Justice Lewis D. Brandeis Academic Scholarship

1995: American Society for Microbiology New York City Branch, Science Research Award

1995: Otto P. Burgdorf Award for Outstanding Research in Biological Science

1995: New York Academy of Sciences, Sterling Winthrop Award

OUTREACH AND ACADEMIC SERVICE

Master Mentor for 1000 Girls, 1000 Futures, part of the New York Academy of Sciences' Global STEM Alliance (GSA) Initiative

Member, Faculty Advisory Committee for the Genome Research Core (GRC) and Research Informatics Core (RIC)

Member, Chancellor's Committee on Sustainability and Energy

Current consortium member water researcher

UIC Biological Sciences Undergraduate Curriculum Committee Member

UIC LAS Elections Committee Member

Associate Editorial Board, *Frontiers in Microbiology*

Associate Editorial Board, *PLoS ONE*

Bridges to Baccalaureate advisor

Ad Hoc reviewer: *Nature*, *Science*, *Marine Biology*, *Journal of Marine Systems*, *Applied Microbiology and Biotechnology*, *ISME J.*, *Environmental Microbiology*, *PLoS One*, *PLoS Biology*, *Applied and Environmental Microbiology*, *Marine Biology*, *Journal of Marine Systems*, *Aquatic Ecology*, *PeerJ*, *Water Research*, *Science of the Total Environment*

Proposal reviewer: National Science Foundation, Israel Science Foundation, European Science

Foundation, Chicago Biomedical Consortium Catalyst and Postdoctoral Research Grant Program, Hadley Awards, UIC Chancellor's Graduate Research Award, UIC Provost's Graduate Research Award Program

Program Committee Member, Great Lakes Bioinformatics Conference (GLBIO; 2017, 2019)

Panel participant: National Science Foundation (2013, 2015)

Judge: UIC Student Research Forum and Impact Day

Georgia Tech Research and Innovation Conference

Tester for CAMERA (Community Cyberinfrastructure for Advanced Marine Microbial

Ecology Research and Analysis), 2009-2010

Organizing committee member for the 7th Southern California Geobiology Symposium, 2010

Member and volunteer, Brandeis University Alumni Admissions Council, 2007- current

Dept. of Marine Sciences representative to the Graduate Student Association (GSA), 2003-2005

Co-President of the Marine Sciences Graduate Student Association, Fall 2004-Spring 2005

Professional Affiliations: Sigma Xi (2019-present)
 American Society for Microbiology (2001- present)
 International Society for Microbial Ecology (2001-present)
 American Society of Limnology and Oceanography (2007- present)
 Association of Environmental Engineering and Science Professors
 (2013-present)
 New York Academy of Sciences (1995- present)

COMPUTATIONAL BIOLOGY SKILLS

Programming languages: Perl, Python, R

Good knowledge of multiple bioinformatics related tools and databases including: Pfam, GenBank, Swiss-Prot, EMBOSS, COG, KEGG, rfam, BLAST, HMMER, ClustalW, Velvet, Newbler, QIIME, samtools, bowtie, and other assembly, mapping, gene prediction, and visualization tools on Mac, Linux, Unix, and Windows OS.

GRANT SUPPORT

Title: Impact of taxonomic and genetic diversity on dissolved organic carbon uptake by bacterial communities

Agency: Illinois-Indiana Sea Grant

Amount: \$49,692

Role: PI

Completed

2/2015-1/2016

Title: Co-occurrence and implications of antibiotic production and resistance genes in the environment

Agency: Chicago Biomedical Consortium

Amount: \$199,782

Role: PI (with Murphy and Wells)

Completed

3/2015-2/2017

Title: Development of a Greenwater Alternative for Larval Sablefish (*Anoplopoma fimbria*)

Agency: NOAA

Amount: \$389,049

Role: PI (with several NOAA collaborating partners)

Current

11/2015-in NCE

Title: Exploring the microbial diversity in the Chicago River: temporal dynamics and impacts of wastewater

Agency: UIC Honors College

Amount: \$4,841

Role: PI

Current

Title: Diversifying CS with a Biology-themed Introductory CS Course at a Large, Diverse Public University

Agency: National Science Foundation

Amount: \$297,763

Role: co-PI

Current

7/2016-in NCE

Title: Optimizing Feeding and Water Quality Methods to Improve Larval Growth and Survival

Agency: NOAA

Amount: \$299,990

Role: PI

Current

9/2018-9/2020