

Jill A. Sohm, Ph.D.

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Professional appointments

2020- Associate Professor (Teaching), USC
2016-2020 Assistant Professor (Teaching), USC
2014-2016 Lecturer, USC
2013-2014 Lecturer, Los Angeles Valley College
2013 Lecturer, Mount St. Mary's College
2012-2013 Adjunct Assistant Professor, Harvey Mudd College
2012-2013 Lecturer, Pierce College

Administrative experience and other affiliations

2020- Director, USC Environmental Studies Program
2020- Administrator, USC Sustainability Across the Curriculum Initiative
2019-2020 Interim Director, USC Environmental Studies Program
2018 - Wrigley Institute for Environmental Studies Faculty Affiliate
2018- Certified California Naturalist (and CA Naturalist Instructor)
2016-2019 Director of Undergraduate Studies, USC Environmental Studies Program

Education and training

2011-2012 Marie Tharp Fellow, Lamont Doherty Earth Observatory
2007-2011 Postdoctoral research associate, USC – advisor Eric Webb
2001-2007 Ph.D. in biology from the USC – advisor Douglas Capone
1997-2001 B.S. in biology from Harvey Mudd College – graduated with honors in biology and distinction

Teaching experience

Water and Soil sustainability (ENST 320a)

- Teach or team-teach core course of the Environmental Studies Major
- Introduce students to primary literature and real-life data exploration
- Incorporate hands on learning in soil health measurement
- Renovate and update lecture material
- Design and grade assignments and exams
- *Teach enhanced course on Catalina Island with labs in soil and water health*

Science, Health, and the Environment (ENST 335)

- Develop class on the human/environment/disease nexus; how understanding of the ecology of environmentally relevant diseases can prevent their spread.

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- Choose textbook and reading, design assignments
- Integrate classroom activities for active learning opportunities (e.g., disease mapping, play the cholera game, guest lecture by LA Vector Control)

Senior Seminar in Environmental Studies (ENST 495)

- Teach capstone course of the Environmental Studies major
- Incorporate new material on genetically modified organisms
- Teach GPS and GIS with native plant identification, geotagging and mapping in Google Earth

California Coastal Zone Science and Policy (ENST 540)

- Expose students to coastal zone science and its use in policy/management of coastal zones
- Create assignments that compel students to explore the most up to date issues affecting our coastal zone and give them the tools to pursue work in coastal management (e.g., analyzing and EIR/EIA of a contentious coastal restoration project, learning about Marine Spatial Planning through the creation of a local use map, generating a stakeholder analysis of a complicated coastal issue)

Introduction to Environmental Studies (ENST 100)

- Teach or team-teach gateway course into the Environmental Studies major, introducing ~30% new class material
- Renovate and update lecture material
- Incorporate student led inquiry into specialized topics relating to lecture material (as group exercises)
- Create assignments and exams that allow personal creativity and critical thinking

California Coastal Naturalist Training (Certification offered through University of California Agriculture and Natural Resources California Naturalist Program)

- Co-instructor of class organized through USC Sea Grant
- Taught lecture on southern California Coastal Processes
- Led field excursion to learn about Los Angeles native plants
- Course website: <https://sites.google.com/view/socal-coastal-naturalist>

Environmental Issues in Society (ENST 150), Faculty TA

- Design and lead weekly in class discussions and workshops to supplement lecture materials

Environmental Studies Directed Research (ENST 490)

- Advise students on independently led research projects
- Assist students in completing research and publishing results in appropriate locations

Microbiology (Lecture and lab; at Los Angeles Valley College, Mount St Mary's College, and Pierce College)

Ecology and Environmental Biology (Bio 108; at Harvey Mudd College)

Graduate teaching assistant, USC, 2004-2006

BISC 431: Environmental Microbiology, USC Catalina semester, teaching assistant/lab coordinator

BISC 102: Humans and their Environment, Head TA/TA

USC course evaluation summary

YEAR	COURSE	# STUD.	INST. RATING	COURSE RATING
PREVIOUS SCALE: 1 (poor) – 5 (excellent)				
2014	ENST 100: Intro to Env. Studies	32	4.32	3.91
2014	ENST 100: Intro to Env. Studies	37	4.26	3.73
2015	ENST 100: Intro to Env. Studies	30	4.69	4.25
2015	ENST 320a: Water and Soil Sustainability (co-instructor)	32	4.42	3.84
2015	ENST 540: California Coastal Science and Policy	7	4.5	4.17
2015	ENST 320a In The Field: Water and Soil Sustainability (co-instructor)	5	4.67	5
2015	ENST 100: Intro to Env. Studies	40	4.3	4
2015	ENST 150: Env. Issues in Society (Faculty TA, 25 stu. ea. in 4 sect.)	100	4.6	4.25
2015	ENST 320a: Water and Soil Sustainability (co-instructor)	18	4.5	3.64
2015	ENST 320a: Water and Soil Sustainability (co-instructor)	9	5	4.86
2016	ENST 320a: Water and Soil Sustainability (Catalina Semester)	3	5	4.67
2016	ENST 495: Senior Seminar (co-instructor)	17	4.86	4.36
2016	ENST 100: Intro to Env. Studies (co-instructor)	39	4.38	4.23
2017	ENST 320a: Water and Soil Sustainability	29	4.7	4.43
2017	ENST 495: Senior Seminar	18	5	4.58
2017	ENST 499 (now ENST 335): Science, Health and the Environment	8	5	4.63
2017	ENST 320a In The Field: Water and Soil Sustainability	12	5	5
2017	ENST 100: Intro to Env. Studies	36	4.41	4
2017	ENST 320a: Water and Soil Sustainability	33	4.54	4.25
NEW EVALUATION SCALE: 1-4; Inst. rating = Instructional Practices; Course Rating = Course Impact				
2018	ENST 320a: Water and Soil Sustainability	33	3.48	3.52
2018	ENST 335: Science, Health and the Environment	24	3.73	3.61
2018	ENST 495: Senior Seminar	22	3.83	3.81
2018	ENST 100: Intro to Env. Studies	39	3.37	3.49
2018	ENST 320a: Water and Soil Sustainability (co-instructor)	18	3.73	3.78
2018	ENST 540: California Coastal Science and Policy	13	3.9	3.95
2019	ENST 335: Science, Health and the Environment	13	3.53	3.47
2019	ENST 495: Senior Seminar	24	3.83	3.81
2019	ENST 320a In The Field: Water and Soil Sustainability	11	3.89	4
2019	CORE 103: The Process of Change in Science (co-instructor)	17	3.92	3.90
2019	ENST 320a: Water and Soil Sustainability (co-instructor)	37	3.54	3.63
2019	ENST 540: California Coastal Science and Policy	12	3.70	3.78
2020	ENST 495: Senior Seminar	10	3.93	3.93
2020	ENST 540: California Coastal Science and Policy	12	3.86	4
2021	ENST 335: Science, Health and the Environment	27	3.97	4
2021	ENST 495: Senior Seminar	17	4	3.92

Student Mentoring

Students mentored:

- 2021 **Molly Waring**, ENST Master’s student. Research Project: The national landscape of General Education in Sustainability in Higher Education
- 2020 **Amaya Simpson**, ENST student. Research project: The Analysis of the Intersections of Sustainability, Political Polarization, and Environmental

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- Justice in Baltimore, Maryland and Memphis, Tennessee (with Victoria Campbell-Arvai)
- 2019-2020 **Lauren Abbatista** and **Ben Watkins**. Research Project: Comprehensive study of water pollution in California using large and publicly available datasets
- 2019-2018-2019 **Megan White**, SSI Master's Student, as member of her thesis committee. **Lyndsey Franklin, Lindsay Luchinsky, and Megan White**, ENST Students. URAP Research project: Comprehensive study of water pollution in California using large and publicly available datasets
- 2017-2019 **Corryn Knapp** and **Suriya Tanjasiri**, ENSH students. Research project: Effects of eelgrass and oyster bed restoration on in-shore sediment stabilization.
- 2018 **Milena Castillo-Grynberg**, ENST student. Research project: Food conversion efficiency and green house gas production from black soldier fly larvae compost systems (with Diane Kim)
- 2017-2018 **Jasper McEvoy**, ENST student. Research project: Nitrogen cycling activity and players in aquaponics food production systems
- 2016-2017 **Jeremy Smith**, Independent Studies student. Independent research project: Effects of eelgrass restoration on in-shore sediment stabilization (advised with David Ginsburg and Doug Capone). Recipient of USC Discovery Scholars Prize. Currently a Stanford University graduate student in Environmental Engineering.
- 2016 **Chrystal Li**, ENST student. ENST 490 independent research project: Nitrogen fixation activity on the invasive algae *Sargassum*.
- 2015-2016 **Olivia Trombodore**, ENST Master's student. ENST 590 independent research project: Investigating water pollution in the US using the EPA Toxics Release Inventory (TRI). Fulbright grant recipient to investigate water pollution on the Ganges River in India. Currently works at the EPA.
- 2015 **Kami Cohen**, Mastering laboratory techniques in biogeochemistry of microbial mats from the Dry Valleys, Antarctica.
- 2010 **Wesley Loo**, Postgrad summer student. NSF fellowship recipient. Graduated with Ph.D. from Harvard University (Colleen Cavanaugh lab).
- 2009 **Cara Magnobosco**, USC student, co-advised with Vicky Bertics. Recipient of Fulbright Grant. Graduated with Ph.D. from Princeton University (Tullis Onstott lab). Currently works at the Simons Foundation.
- 2008 **Bethanie Edwards**, REU student. Presented research at the 2009 ASLO Aquatic Science meeting. NSF Fellowship recipient. Received Ph.D. from MIT/WHOI. Currently Assistant Professor at the UC Berkeley.
- 2007 **Carla Steinbring**, REU student. Co-advised with Angela Knapp.
- 2005 **Kelsey Poulson-Ellestad**, REU student. Received Ph.D. from Georgia Tech and is currently an Assistant Professor at Roosevelt University.
- 2004 **Sarah Foster**, REU student. Presented research at the 2005 ASLO Aquatic Science meeting. Currently a Ph.D. student with Wally Fulweiler at Boston University.
- 2003, 2004 **Su Fey Ong**, high school student. Represented the Southern California Academy of Sciences at the national meeting of the American Junior

Academy of Science in 2005 and 2006. Recently received Ph.D. in pathology from Johns Hopkins University.

Student presentations (students mentored while a faculty member):

- Molly Waring: 2021 Association for Environmental Studies and Sciences annual meeting (poster). Implementing Sustainability Education Programs at Higher Education Institutions.
- Corryn Knapp: USC Undergraduate Research Symposium (poster). 2019 Living Shoreline Restoration: A “Soft” Path to Sediment Stabilization and Habitat Remediation.
- Lyndsey Franklin, Lindsay Luchinsky, and Megan White: 2019 USC Undergraduate Research Symposium (poster). California Water Pollution Analysis Using TRI & DMR Datasets.
- Milena Castillo-Grynberg: 2018 Southern California Undergraduate Research Symposium (poster). Growth Rates and Quality of *Hermetia Illucens* (Black Soldier Fly) Larvae Raised on Dehydrated Food Waste.
- Corryn Knapp: 2018 Southern California Academy of Sciences Annual Meeting (poster). Living Shoreline Restoration: A “Soft” Path to Sediment Stabilization and Habitat Remediation
- Jeremy Smith: 2017 Southern California Academy of Sciences Annual Meeting (talk) and 2017 USC Undergraduate Student Symposium (poster). Effects of Eelgrass Restoration on Inshore Sediment Stabilization in the Newport Back Bay, California.
- Olivia Trombadore: 2016 Southern California Academy of Sciences Annual Meeting (poster) and TRI National Training conference (poster). Is water pollution and Environmental Justice issue? A case study of California and Louisiana.

Community Service

University level

- | | |
|-----------|---|
| 2021 | Member of the Landscape & Grounds Advisory Group |
| 2021 | Member of Chief Sustainability Officer Search Committee |
| 2020- | Co-creator and administrator of the Sustainability Across the Curriculum program at USC |
| 2020- | Member of the President’s Working Group on Sustainability Committee on Sustainability Education |
| 2018-2021 | Member of the Academic Senate RTPC committee |
| 2019 | Member of Science & Engineering Librarian Search Committee |
| 2019 | Rose Hills Fellowship reviewer |

Dornsife level

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|-----------|---|
| 2019- | USC Wrigley Institute Faculty Advisory Committee member |
| 2018- | Dornsife College Scholarship interviewer |
| 2016- | Explore USC parent/faculty meals |
| 2015-2016 | Member of the Dornsife Faculty Council RTPC Caucus |

Program level

2020-	Director of the USC Environmental Studies Program
2019-2020	Interim Director of the USC Environmental Studies Program
2018	Chair of Faculty Evaluation Committee for Victoria Petryshyn promotion
2017-2018	Member of Faculty Merit Review Committee
2016-2019	Director of Undergraduate Studies for Environmental Studies Program
2016-2019	Chair of the Environmental Studies Program Curriculum Committee
2015-	Member of the Environmental Studies Program New Hire Committee
2015-2016	Member of the Environmental Studies Program Curriculum Committee

Other

2021	Review committee member for Tufts Environmental Studies Program
2020	Mentor for SACNAS at USC Career Mentorship Program
2020-2021	Member of Community Composting for Green Spaces Advisory Board
2020-	Organizer of City Nature Challenge X USC events, including iNaturalist training documents and videos for students (with ESA)
2018-2020	Member of Mid-Town North Hollywood Neighborhood Council, Arts, Parks and Beautification Committee
2018	Facilitator for Los Angeles Hub of the Global People Summit at USC
2016-2019	Participant in multiple Peaks and Professors hikes (as the “professor”)
2015	Co-adviser of a student group installing a native plant garden at USC
2015	Consultant for a Design for America team at USC on a project to promote composting in restaurants
2012	Chair of Gordon Research Seminar on Marine Microbes
2011	Chair of session at 2011 ASLO meeting: Cyanobacteria in a changing world, with Eric Webb and Gabrielle Rocap
2011	Lunch with a scientist, Culver City Middle School
2010	Judge for USC undergraduate student symposium
2010	Judge for the Edison Challenge, a grade 6-12 science competition
2009-2010	Member USC WiSE postdoctoral networking group Advisory Board
2008	Scientific presenter at COSEE-West Informal Educators Workshop
2008	Science judge for Los Angeles regional National Ocean Science Bowl
2007	Organizer of graduate student seminar series
2007	Initiated and participated in graduate student group discussing plankton exhibit at the Aquarium of the Pacific
2004-2005	Graduate student representative to faculty
2002-2003	Representative to USC Graduate and Professional Student Senate

Reviewer for:

Limnology & Oceanography, ISME Journal, Aquatic Microbial Ecology, Deep-Sea Research Part I, Marine Ecology: Progress Series, Journal of Phycology, Journal of Geophysical Research – Oceans, Environmental Microbiology, Biogeochemistry, ICES Journal of Marine Science, NSF Polar Programs, NSF Biological Oceanography, NSF CAREER, Maryland Sea Grant

Research experience

Current research interests

Current research is focused on microbial activity in the environment, and centered around student research and achievement in the lab/field. Projects include:

- Sustainability education at US higher education institutions
- Nutrient cycling in aquaponics systems
- Distribution and composition of water pollution in the US, using GIS
- Eelgrass and sediment effects on shoreline stabilization
- Hydrology and biofilm formation, and the potential of biofilms for biostorage in hyporheic zones
- Microbial activity in the Dry Valleys, Antarctica
- Black soldier fly larvae compost systems: food conversion efficiency and greenhouse gas production

Postdoctoral

Investigating niche differentiation and diversity in *Synechococcus*

Techniques: qPCR, culture growth parameters, ^{14}C uptake measurements of photosynthesis (P-I curves), chlorophyll and particulate analysis

Characterizing extracellular polysaccharide (EPS) production in *Crocospaera*

Techniques: experimental culture manipulations, microscopy, EPS quantification, photosynthetic efficiency measurements

Examining N_2 -fixation and geochemistry in algal mats in the Dry Valleys, Antarctica

Techniques: Acetylene reduction assay using gas chromatography for measuring N_2 -fixation, stable isotope tracer techniques for carbon and nitrogen fixation, thymidine and leucine uptake for bacterial activity, porewater sampling

Graduate

Investigating P limitation in *Trichodesmium* spp. in field samples and lab cultures

Techniques: Nutrient uptake kinetics and cycling using radiolabelled P, hydrolytic enzyme activity, particulate N:P ratios, culture manipulations, microscopy, acetylene reduction assay, inorganic and dissolved organic P analysis

Exploring the link between bioturbation and N_2 -fixation in coastal marine sediments

Techniques: Acetylene reduction assay, porewater sampling, porosity, LOI, bacterial counting in sediments

Field research experience

Oceanographic cruises

- | | |
|--------------|---|
| June 2011 | Subtropical South Pacific – R/V Tangaroa |
| Feb 2010 | Eastern Tropical South Pacific – R/V Atlantis |
| Nov-Dec 2007 | Tropical South Atlantic Gyre and Benguela Upwelling – R/V Knorr |
| Jan/Jul 2007 | Mediterranean Sea time series DYFAMED – R/V Tethys |
| Jun-Jul 2006 | Tropical North Atlantic – R/V Seward Johnson |
| May 2005 | Gulf of California – R/V El Puma |
| March 2004 | Subtropical/Tropical North Atlantic – R/V Endeavor |

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Jul-Aug 2003 Subtropical North Pacific Gyre – R/V Roger Revelle
Apr-May 2003 Tropical N. Atlantic and Amazon River plume – R/V Seward Johnson
Sep-Oct 2002 Subtropical North Pacific Gyre – R/V Kilo Moana
Jun-Jul 2002 Subtropical North Pacific Gyre – R/V KOK

Field stations

Jan/Dec 2009, Jan 2014/15 McMurdo Station and McMurdo Dry Valleys, Antarctica
2007-2010 Wrigley Marine Science Center on Catalina Island

Honors and awards

2011-2012 Lamont-Doherty Earth Observatory Marie Tharp Fellowship
2009-2010 USC Women in Science and Engineering (WiSE) Merit Award for
Excellence in Postdoctoral Research
2008, '10, '11 USC WiSE travel grant
2006 NSF International Programs grant for research in Villefranche, FR
2005 Outstanding student poster first place award at the American Society of
Limnology and Oceanography (ASLO) Aquatic Sciences meeting
2001 USC College of Letters Arts and Sciences merit fellowship
1999 William K. Purves Biology Prize, Harvey Mudd College

Publications

2020

Sohm JA, Niederberger TD, Parker AE, Tirindelli J, Gunderson T, Carpenter EJ, Cary SC, Capone DG. (2020) Microbial mats of the Dry Valleys: oases of activity in the cold desert. *Frontiers in Terrestrial Microbiology*, DOI: 10.3389/fmicb.2020.537960

Coyne KJ, Parker AE, Lee C, **Sohm JA**, Kalmbach A, Gunderson T, Leon Zayas R, Capone DG, Carpenter EJ, Cary SC (2020) The distribution and relative ecological roles of autotrophic and heterotrophic diazotrophs in the McMurdo Dry Valleys, Antarctica. *FEMS Microbiology Ecology*, DOI: 10.1093/femsec/fiaa010

2019

Niederberger TD, Bottos, EM, **Sohm JA**, Gunderson T, Parker AE, Coyne KJ, Capone DG, Carpenter EJ, Cary SC (2019) Rapid microbial dynamics in response to an induced wetting event in Antarctic Dry Valley soils. *Frontiers in Extreme Microbiology*, DOI: 10.3389/fmicb.2019.00621

2018

Rubol S, Tonina D, Vincent L, **Sohm JA**, Basham W, Budwig, R, Savalia P, Kansa A, Capone DG, Nealon KH (2018) Seeing through porous media: an experimental study for unveiling interstitial flows. *Hydrological Processes*, DOI: 10.1002/hyp.11425

2016

Niederberger TD, **Sohm JA**, Gunderson T, Tirindelli J, Capone DG, Carpenter EJ, Cary SC (2016) Carbon-fixation rates and associated microbial communities residing in

- arid and ephemerally wet Antarctic Dry Valley soils. *Frontiers in Terrestrial Microbiology*, DOI: 10.3389/fmicb.2015.01347
- 2015**
- Sohm JA***, Ahlgren NA*, Thomas Z, Williams C, Moffett JW, Saito, Webb EA, and Rocap G. *Synechococcus* ecotypes have evolved in parallel to occupy four major oceanic regimes. *ISME Journal*, DOI: 10.1038/ismej.2015.115
- Hamersley, MR, **Sohm JA**, Burns JA, and Capone DG. (2015) Nitrogen fixation associated with the decomposition of the giant kelp *Macrocystis pyrifera*. *Aquatic Botany*, 125: 57-63.
- Niederberger TD, **Sohm JA**, Gunderson T, Parker AE, Tirindelli J, Capone DG, Carpenter EJ, Cary SC (2015) Microbial community structure of transiently wetted Antarctic Dry Valley soils. *Frontiers in Terrestrial Microbiology*, 6(9), DOI: 10.3389/fmicb.2015.00009
- 2013**
- McLaughlin K, **Sohm, JA**, Cutter G, Lomas M, and Paytan A (2013) Phosphate cycling in the Sargasso Sea: Investigation using the oxygen isotopic composition of phosphate, enzyme labeled fluorescence, and turnover times. *Global Biogeochemical Cycles*, 27:1013, DOI:10.1002/gbc.20037, 2013
- 2012**
- Bertics VJ*, **Sohm JA***, Magnobosco C, and Ziebis W (2012) Denitrification and Nitrogen Fixation Dynamics Surrounding an Individual Ghost Shrimp (*Neotrypaea californiensis*) Burrow System. *Applied and Environmental Microbiology*, 78(11): 3864-3872, DOI: 10.1128/AEM.00114-12. (*co-authors)
- Niederberger TD, **Sohm JA**, Tirindelli J, Gunderson T, Capone DG, Carpenter EJ, Cary SC (2012) Diverse and highly active diazotrophic assemblages inhabit ephemerally wetted soils of the Antarctic Dry Valleys. *FEMS Microbiology Ecology*, DOI: 10.1111/j.1574-6941.2012.01390.x
- Knapp AN, Dekaezemacker J, Bonnet S, **Sohm JA**, Capone DG (2012) Sensitivity of *Trichodesmium* and *Crocospaera* spp. growth and N₂ fixation rates to NO₃⁻ and PO₄³⁻ concentration and ratios in batch cultures. *Aquatic Microbial Ecology*, 66: 223-236, DOI: 10.3354/ame01577
- 2011**
- Sohm JA**, Webb EA, and Capone DG (2011) Emerging Patterns of Marine Nitrogen Fixation. *Nature Reviews Microbiology*, 9(7): 499-508.
- Sohm JA**, Edwards BR, Wilson BG and Webb EA (2011) Constitutive extracellular polysaccharide (EPS) production in specific isolates of *Crocospaera watsonii*. *Frontiers in Aquatic Microbiology*, 2: 229, DOI: 10.3389/fmicb.2011.00229.
- Sohm JA**, Hilton J, Noble A, Saito MA, Zehr JP, and Webb EA (2011) Nitrogen fixation in the South Atlantic Gyre and the Benguela upwelling. *Geophysical Research Letters*, 38, L16608, DOI: 10.1029/2011GL048315.
- Sohm JA**, Subramaniam A, Gunderson T, Carpenter EJ and Capone DG (2011) Nitrogen fixation by *Trichodesmium* spp. and unicellular diazotrophs in the North Pacific Subtropical Gyre. *Journal of Geophysical Research: Biogeosciences*, 116, G03002, DOI: 10.1029/2010JG001513.

- Cowan DA, **Sohm JA**, Makhalyane T, Capone DG, Green TGA, Cary SC and Tuffin IM (2011) Hypolithic communities important nitrogen sources in Antarctic desert soils. *Environmental Microbiology Reports*, 3(5): 581-586.
- Garcia NS, Fu FX, Breene CL, Bernhardt PW, Mulholland MR, **Sohm JA**, and Hutchins DA (2011) Interactive effects of irradiance and CO₂ on CO₂- and N₂ fixation in the diazotroph *Trichodesmium erythraeum* (Cyanobacteria). *Journal of Phycology*, 47(6): 1292-1303.

2010

- Bertics VJ*, **Sohm JA***, Treude T, Chow CT, Capone DG, Fuhrman JA and Ziebis W (2010) Burrowing deeper into benthic nitrogen fixation: The impact of bioturbation on nitrogen fixation coupled to sulfate reduction. *Marine Ecology Progress Series*, 409:1-15. **Featured article.** (*co-authors)
- Sohm JA** and Capone DG (2010) Zonal differences in phosphorus pools, turnover and deficiency in the tropical North Atlantic Ocean. *Global Biogeochemical Cycles*, 24, GB2008, DOI: 10.1029/2008GB003414.

2008

- Sohm JA**, Mahaffey C, and Capone DG (2008) Assessment of relative phosphorus limitation of *Trichodesmium* spp. in the North Pacific and Atlantic and the North Coast of Australia. *Limnology and Oceanography* 53(6):2495-2502.

2006

- Sohm JA** and Capone DG (2006) Phosphorus dynamics of the tropical and subtropical north Atlantic: *Trichodesmium* vs. bulk plankton. *Marine Ecology Progress Series* 317:21-28
- Krauk J, Villareal TA, **Sohm JA**, Montoya DG, Capone DG (2006) Plasticity of N:P ratios in laboratory and field populations of *Trichodesmium* spp. *Aquatic Microbial Ecology* 42:243-253

2004

- McFadden CS, Tullis LD, Hutchinson MB, Winner K, **Sohm JA** (2004) Variation in coding (NADH dehydrogenase subunits 2, 3, and 6) and noncoding intergenic spacer regions of the mitochondrial genome in Octocorallia (Cnidaria : Anthozoa). *Marine Biotechnology* 6(6):516-526

* **co-authors**

Presentations

- 2021 USC Sustainability Education Symposium. Moderator.
- 2021 NASEM Sustainability Education Webinar. *Cities and Universities for a Sustainable Future: The Importance of Community-focused Partnerships.* Panelist.
- 2020 Huntington-USC Institute on California & the West Webinar. *Los Angeles Underwater: Our Collective Future in Southern California.* Moderator.
- 2020 Trojan Family Weekend. *Dean Amber Miller Presents: A New Model to Solve Environmental Challenges.* Panelist.
- 2019 Jiangsu Provincial Department of Natural Resources Study Tour. *Applied Science for Ocean Protection and Enhancement.* Organized panel/Invited talk (other speakers: John Heidelberg and Scott Applebaum)

- 2019 California State Parks Foundation Habitat Restoration Training. *Urban Habitat Restoration*. Invited Talk.
- 2018 California State Parks Foundation Habitat Restoration Training. *Urban Habitat Restoration*. Invited Talk.
- 2017 Catalina Educators Symposium. *Teaching on Catalina*. Invited talk.
- 2014 University of Southern California. *Exploring the physiology and ecology of cyanobacteria in diverse habitats*. Invited talk.
- 2011 Bigelow Laboratory for Ocean Sciences. *The [potential] relationship of Crocosphaera to the biological pump: How diazotroph diversity might determine the fate of newly fixed N*. Invited talk.
- 2011 Lamont Doherty Earth Observatory: Biology and Paleoenvironment seminar series. *The [potential] relationship of Crocosphaera to the biological pump: How diazotroph diversity might determine the fate of newly fixed N*. Invited talk.
- 2011 Harvey Mudd College. *Exploring the physiology and ecology of marine Synechococcus*. Invited talk.
- 2011 Gordon Research Conference: Applied and Environmental Microbiology. *Diazotrophic diversity and activity in the Dry Valleys, Antarctica*. Poster.
- 2011 University of South Florida. *Exploring the physiology and biogeography of phytoplankton: A test case with marine Synechococcus*. Invited talk.
- 2011 ASLO Aquatic Sciences Meeting. *Synechococcus diversity in the ocean and photosynthetic parameters of diverse clades*. Talk.
- 2010 USC Earth Science department. *The [potential] relationship of Crocosphaera to the biological pump*. Invited talk.
- 2010 ISME conference. *Synechococcus diversity and distribution in the tropical and subtropical oceans*. Poster.
- 2010 Gordon Research Conference: Marine Microbes. *Unexpected phenotypic differences in extracellular polysaccharide production in Crocosphaera watsonii isolates*. Poster.
- 2009 University of Miami Rosenstiel School of Marine and Atmospheric Sciences. *Extreme N₂ fixation*. Invited talk.
- 2009 Microbial Systems Institute Retreat, USC. *Nitrogen fixation in the South Atlantic Gyre and Benguela Upwelling: life at high (and low) nitrate concentrations*. Talk.
- 2008 Harvey Mudd College. *To fix or not to fix: nutrient controls on N₂ fixation*. Invited talk.
- 2008 University of Washington. *Nutrient controls on N₂ fixation*. Invited talk.
- 2008 ASLO Ocean Sciences Meeting. *Nitrogen Fixation in the North Pacific Ocean: rates and spatial variability in functional group activity*. Talk.
- 2007 Laboratoire Océanologique Villefranche. *Phosphorus limitation of diazotrophs in field populations and culture*. Invited talk.
- 2006 ASLO Ocean Sciences Meeting. *Assessment of Relative Phosphorus Limitation of Trichodesmium in the North Pacific and Atlantic and the North Coast of Australia*. Poster.
- 2005 ASLO Aquatic Sciences Meeting. *Phosphorus dynamics of the North Atlantic: Trichodesmium vs. bulk plankton*. Poster.
- 2004 ASLO Ocean Sciences Meeting. *Phosphorus acquisition in Trichodesmium and other nitrogen fixers in the Subtropical North Atlantic and Pacific*. Poster.

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Grant writing/funding

- 2020 Faculty development grant to attend AASHE Sustainability Across the Curriculum Workshop and Association of Environmental Studies and Sciences Annual Meeting, **funded by USC**
- 2018 NGPR-3 Early Career Polar Research Conference: Building the collaborative networks and providing professional training opportunities to facilitate success, **funded by NSF OPP Polar Special Initiatives**
- 2018 Exploring water pollution trends in the United States using large and publicly available datasets – with Nathan Walworth and Adam Schlenger, **funded by USC Undergraduate Research Associates Program (URAP)**
- 2018 Faculty development grant to attend Association of Environmental Studies and Sciences Annual Meeting, **funded by USC**
- 2017 Faculty development grant to support running samples for stable isotope analysis, **funded by USC**
- 2014 Collaborative Research: The influence of microbe-produced substances on hyporheic flow and virus transport in streambeds – with Simonetta Rubol, Doug Capone, Daniel Tonina, and Eva Kanso, submitted to NSF Hydrologic Sciences
- 2012 Collaborative Research: Importance of heterotrophic and phototrophic N₂ fixation in the McMurdo Dry Valleys on local, regional and landscape scales – with Doug Capone, Craig Cary, and Edward Carpenter (as senior staff), **funded by NSF Polar Programs**
- 2011 2012 Marine Microbes GRC/GRS – co-PI with Gabrielle Rocap and GRC, **funded by NSF Bio OCE**
- 2011 The ecological significance of extracellular polysaccharide production in the unicellular diazotrophic cyanobacteria *Crocospaera* – co-PI with Eric Webb and David Caron, submitted to NSF Bio OCE
- 2009 *Synechococcus* diversity and Fe stress and the relationship to dissolved metals in the Eastern Tropical South Pacific (RAPID) – with Eric Webb, **funded by NSF Bio OCE**
- 2008 The role of iron (Fe) in controlling *in situ* distributions and activities of marine *Synechococcus* – with Eric Webb, **funded by NSF Bio OCE**
- 2004 Physiological and stoichiometric studies of marine diazotrophs – with Douglas Capone and Juliette Finzi, **funded by NSF Bio OCE**

Professionalism activities

- 2010 OCB workshop: The molecular biology of biogeochemistry
- 2008 Dissertations Symposium in Chemical Oceanography (DISCO) – organized by the American Institute of Biological Sciences, Honolulu, HI
- 2008 BIOCAT workshop in Ocean/Atmosphere connections – IFM-GEOMAR, Kiel, Germany
- 2007-2008 USC Center for Excellence in Teaching class “The Future Professoriate”
- 2007 NSF ADVANCE “Forward to Professorship” workshop – Gallaudet University

Membership in professional societies

Association for Environmental Studies and Sciences
Soil and Water Conservation Society
American Society of Limnology and Oceanography
American Geophysical Union
American Society of Microbiology