**CURRICULUM VITAE**

**MAKOTO (Mak) SAITO**

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# EDUCATION

1990 The Sidwell Friends School, Washington D.C.

1994 Oberlin College, B.A., Biology and Environmental Studies majors,

Chemistry minor (Highest Honors)

2001 MIT/WHOI Joint Program in Chemical Oceanography, Ph.D.

2003 Princeton University, Postdoctoral Fellow

**PROFESSIONAL EXPERIENCE**

Constructed Wetlands Project Manager - Lorain County General Health District, Ohio, 1993-1995

Research Assistant - Ohio Geological Survey, Lake Erie Division, 1994-1995

Graduate Research Assistant, Woods Hole Oceanographic Institution, 1995-2001

Harry Hess Post-Doctoral Scholar, Geosciences Department, Princeton University, 2001-2003

Assistant Scientist, Marine Chemistry and Geochemistry Department, Woods Hole Oceanographic Institution, 2003-2007

Associate Scientist, Marine Chemistry and Geochemistry Department, Woods Hole Oceanographic Institution, 2007-2011

Associate Scientist with Tenure, Marine Chemistry and Geochemistry Department, Woods Hole Oceanographic Institution, 2011-2017

Senior Scientist, Marine Chemistry and Geochemistry Department, Woods Hole Oceanographic Institution, 2017-present

Co-Principal Investigator for the Biological Chemical Oceanography Data Management Office, 2017-present.

**FELLOWSHIPS AND AWARDS**

1990 Thomas Sidwell Award, The Sidwell Friends School

1993 Mellon Foundation Grant for Environmental Research, Oberlin College

1993 Environmental Careers Organization (ECO) - Student Initiated Project Fellowship

1994 Mellon Foundation Grant for Environmental Research, Oberlin College

1994 Norman Wright Biology Award, Oberlin College

1994 Joyce Gorn Award in Environmental Studies, Oberlin College

1995-1996 National Science Foundation Coastal Trainee Graduate Fellowship

1998-1999 Massachusetts Institute of Technology Martin Sustainability Fellow

1996-2000 EPA STAR Graduate Fellowship

2000 Ocean Venture Fund Research Grant, WHOI

2001-2003 Hess Post-Doctoral Fellowship in Geosciences, Princeton University

2005 Office of Naval Research Young Investigator Award

2005 Ruth and Paul Fye WHOI Graduate Student Paper Award in Chemical Oceanography

2012 National Academy of Sciences Kavli Fellow

2012 Gordon and Betty Moore Foundation Marine Microbial Investigator Award

2020 Stanley Watson Senior Scientist Chair

**PROFESSIONAL AFFILIATIONS**

Member, American Society for Limnology and Oceanography

Member, American Geophysical Union

Member, Union of Concerned Scientists

Member, America Chemical Society

Member, American Society of Biochemistry and Molecular Biology

Member, American Society for Mass Spectrometry

Member, The Geochemical Society

**RESEARCH INTERESTS**

Proteomics and Marine Metaproteomics

Trace Metal Biogeochemistry of Bioactive Metals and Vitamins (Co, Fe, Cd, Zn, Mn, Ni, and B12)  
Trace Metal Requirements and Metalloenzyme Use in Life (Metallomics)

Discovery of Novel Metalloenzymes in Microbes

Bioinorganic Chemistry

The Co-Evolution of Biogeochemical Cycles and Life Throughout Earth History

The Influence of Human Economies on Global and Regional Biogeochemical Cycles

**PROFESSIONAL ACTIVITIES** Outside WHOI *(Other than Attendance at Society/National Meetings):*

2002-2003 Participant in Diatom Genome Annotation (*Thalassiosira pseudonana*) at the Joint Genome Institute

2005 Co-Session Chair, Metal Cycling, ASLO meeting, Salt Lake City, February

2005 Co-Session Chair, Trace Element Biogeochemistry, American Chemical Society Meeting – Geosciences Division, San Diego, March 17-18

2006 Co-Session Chair, Trace Elements and Isotopes. ASLO meeting Victoria, Canada, June

2011 Co-Session Chair, Trace Metals and their Nutritional Importance to Phytoplankton and Bacteria, ASLO Aquatic Sciences Meeting, San Juan Puerto Rico

2012 Vice-Chair Bioinorganic Chemistry Gordon Research Conference

2014 Co-Session Goldschmidt: The Biogeochemical Cycling of the Nutrients N, P and Si: Terrestrial and Marine Insights for the Present, Past and Future

2011-2014 US Ocean Carbon and Biogeochemistry Scientific Steering Committee Member

2014 Session Chair, Insights from Model Systems. Marine Microbes Gordon Research Conference, Waltham MA, June 22-27, 2014

2014 Discussion leader Ocean Carbon and Biogeochemistry Summer Workshop. Led community discussion on Ocean Omics Data and Intrastructure Needs for OCB community, July 24, 2014

2014-2016 Steering committee member for Oceanography and Geobiology OMICS ECOGEO Research Coordination Network

2015 Co-organized GEOTRACES Biogeotraces working group meeting for incorporation of biological and biochemical parameters into 2017 GEOTRACES Intermediate Data Product

2016 Discussion Moderator for Micronutrients Working Group, GEOTRACES Internal Cycling Synthesis Meeting, Lamont August 2016

2016 ECOGEO Town Hall presenter ASLO-AGU OSM Meeting 2016

2016 SeaView Workshop Participant ASLO-AGU OSM Meeting 2016

2016 Session Chair: “Microbes” at the Copper in Biology 16 Conference

2015-2017 Vice-Chair for Chemical Oceanography Gordon Research Conference

2017-2019 Chair for Chemical Oceanography Gordon Research Conference

2018-present Lead PI for the Ocean Protein Portal EarthCube Prototype <http://www.oceanproteinportal.org>

2017-present Lead and Science PI for Biological Chemical Data Management Office (BCO-DMO)

2018-present US National Representative for the International BioGeoSCAPES Effort

2021-present Knowledge Transfer Coordinator – Center for Chemical Currencies of a Microbial Planet (C-CoMP)

2021-present Member of Executive Committee for Center for Chemical Currencies of a Microbial Planet (C-CoMP)

2021 OCB Ocean Metaproteomics Intercomparison Workshop. Co-organizer with Dr. Matthew McIlvin. September 16-17th 2021.

2022-present Lead PI Accel-Net Development of an International Network for the Study of Ocean Metabolism and Nutrient Cycles on a Changing Planet (BioGeoSCAPES). Developed the Biogeoscapes.org website, organized multiple meetings and coordinated activities and grant management.

2023 Co-organized BioGeoSCAPES Intercalibration Webinar with Harriet Alexander and Maite Maldonado

2023 Co-organized BioGeoSCAPES Data Management Webinar with Harriet Alexander

2023-4 Session co-chair ASLO/OSM

2023-present Co-Organizer of BioGeoSCAPES International Science Planning Meeting November 5-9, Woods Hole MA USA. 2023

*Editorial and Reviewing Activities*

2013 – present Advisory Board Member – Metallomics Journal

2014 – present Editorial Board – Environmental Microbiology Reports

2007 – 2021 Associate Editor – Marine Chemistry

2010 – 2021 Review Editor – Frontiers in Aquatic Microbiology

2011 – 2021 Editorial Board – Frontiers in Microbiological Chemistry

Manuscript reviewer for Aquatic Microbial Ecology, Aquatic Sciences, Aquatic Toxicology, Astrobiology, Biogeosciences, Biotechnology Progress, Deep-Sea Research, Earth Atmospheric Planetary Science Letters, Ecology, Ecology Letters, Environmental Microbiology, Environmental Microbiology Reports, Environmental Science and Technology, Estuarine, Coastal and Shelf Science, Frontiers in Aquatic Microbiology, Frontiers in Microbiological Chemistry, Geobiology, Geochemical Transactions, Journal of Geophysical Research – Oceans, Limnology and Oceanography, Limnology and Oceanography Methods, Marine Chemistry, Marine Ecology Progress Series, Nature, Nature Biotechnology, Nature Geosciences, Plant Cell & Environment, Plos One, Proceedings of the Royal Society B, Proceedings National Academy of Science USA, Science

Proposal reviewer for National Science Foundation, NASA, NSERC, Hudson River Foundation, Deutsche Forschungsgemeinschaft (DFG), United States-Israel Binational Science Foundation, Academia Sinica Taiwan, Netherlands Organization for Scientific Research, CRNS

Panel member for National Science Foundation (Chemical Oceanography and Polar Programs)

Panel member for NASA Astrobiology Program

**PROFESSIONAL ACTIVITIES** *- WHOI (Non-Education Related):*

Biosafety Committee, Chemistry Department representative (?-present)

ICP-MS Facility Committee (?-2016)

75th Anniversary Committee

Ocean Microbiome Catalyst Project Participant 2016-2017

Department Faculty Search Committee 2017-2018

PI for the Biological and Chemical Data Management Office (BCO-DMO), 2017-present

Co-Chair of the Gender Equity Program Advisory Committee 2017

Search Committee for Human Resources Training Position Hire 2020

Co-Chair of the Workplace Climate Committee 2018-2022

**PARTICIPATION IN EDUCATION**

*Advising Overview:* Student and Post-Doc Advising: advised or advising 13 Ph.D. students, 3 Masters students, 11 Post-doctorates, and 8 summer undergraduates students

*Graduate Advising:*

*Doctorate Students:*

Anne Thompson - MIT-WHOI Doctorate student, 2004-2009, co-advised with Chisholm

Alysia Cox - MIT-WHOI Doctorate graduate student, 2005-2011

Erin Bertrand - MIT-WHOI Doctorate student 2006-2012

Abigail Noble - MIT-WHOI Doctorate student 2006-2012

Carly Buchwald - MIT-WHOI Doctorate student 2011-2012 (primary advisor K. Casciotti)

Nicholas Hawco - MIT-WHOI Doctorate Student 2011-2017

Noelle Held - MIT-WHOI Doctorate Student 2014-2019

Riss Kellogg - MIT-WHOI Doctorate Student 2017-2022

Deepa Rao - MIT-WHOI Doctorate Student 2017-2022 (primary advisor Mick Follows)

Rebecca Chmiel - MIT-WHOI Doctorate Student 2017-2023

Annaliese Meyer - MIT-WHOI Doctorate Student 2021-present

Emily Burdige - MIT-WHOI Doctorate Student 2022-present (co-advised with Adam Subhas)

Fadime Stemmer - MIT-WHOI Doctorate Student 2023-present

*Masters Students:*

Whitney Krey - MIT-WHOI Masters student, 2005-2008, co-advised with Webb and Delong

Tyler Goepfert - MIT-WHOI Masters Student 2010-2013

Daniel Tabersky - University of Duisberg-Essen Masters Student 2010

*Post-Doctorates:*

Chad Hammerschmidt, Postdoctoral Scholar, 2005-2007

Katherine Mackey, Postdoctoral Scholar, 2011-2014

Sara Bender, Postdoctoral Scholar, 2013-2015

Tristan Horner, Postdoctoral Scholar, 2014-2015

Julia Gauglitz, Postdoctoral Scholar, 2014-2017

Randelle Bundy Postdoctoral Scholar, 2014-2017, co-advised with Dan Repeta

Veronique Oldham Postdoctoral Scholar, 2017-2019, co-advised with Colleen Hansel

Natalie Cohen, Simons Postdoctoral Scholar, 2017-2020

Michael Mazzotta, Drefyus Environmental Chemistry Scholar, 2018-2020

Jaci Saunders, NASA/GMBF Postdoctoral Scholar/Investigator, 2017-2022

Margaret Mars Brisbin WHOI Postdoctoral Scholar, 2021-2023

Ichiko Sugiyama WHOI Postdoctoral Investigator 2022-present

Viktoria Steck WHOI Postdoctoral Investigator October 2023-present

Loay Jabre Postdoctoral Investigator October 2023-present

*Undergraduate Advising - WHOI Summer Student Fellows, PEP Fellows and Guest Students, Post-Bac Advising:*

Erin Bertrand (Bates College, 2005)

Alexandra Borst (Pomona College, 2004)

Allison St. Vincent (MIT, 2009)

Sarah Choyke (Haverford, 2009)

Emily Lorch (Plymouth UK, 2009, 2010)

Noelle Held (Stetson University, 2013)

Marissa Kellogg (Boston College, 2015, 2016)

Luis Valentin (U. Puerto Rico, 2016)

Kristina McCormack (University of Sweden, 2022)

Dominique Kelly, C-COMP Post-Bac, 2022-present

*Thesis Committee and Defense Chairs:*

Committee Member for Rachel Wisniewski (Moffett student), Madeli Castruita (Stiefel and Morel Student), Seth John (Boyle student), Jake Waldbauer (Chisholm Student), Yanmei Shi (DeLong Student), Laure-Anne Ventouras (DeLong Student), Daniel Ohnemus (Lam Student), Carly Buchwald (Casciotti Student), Rene Boiteau (Repeta Student), Bethanie Edwards (Van Mooy Student), Keisuke Inomura (Follows Student), David Shire (Rutgers, Kustka Student), Jennifer Kenyon (Buesseler Student), Deepa Rao (Follows Student), Tianyi Huang (Boyle Student), Donald Martocello (Wankel Student), Jingxuan (Jay) Li (Repeta Student), Katie Halloran (Kujawinski Student), Jack Goodspeed Payette (Fournier student)

Chaired Thesis Proposal Defense of Kathleen Munson, December 13th 2013 (Lamborg Student)

Chaired Doctoral Thesis of Virginia Rich (Ed DeLong Student, June 2008)

Chaired Doctoral Thesis of Li Li (U. Mass Boston, April 29th 2009, Gordon Wallace Advisor)

Chaired Thesis Proposal Defense for Gabriela Farfan (2015)

External Examiner for Gabriel Dulaquais (University of Brest 2015)

External Examiner for David Jansen (U. Victoria 2017)

Chaired Doctoral Thesis of Winn Johnson (2017)

External Examiner for Margaret Mars Brisbin, Okinawa Institute Science and Technology (2020)

External Examiner for Indrani Sarker, Macquarie University Australia (2020)

*Teaching*

2008-present Marine Bioinorganic Chemistry, MIT-WHOI Graduate Course 12.741 (Offered in alternate years)

Guest Lecturer for Microbial Diversity Course at MBL on Proteomics and Metal Nutrition 2014, 2015, 2016, 2017

Guest Lecturer for Microbial Biogeochemistry (2015, 2017, 2019, 2021, 2023)

Guest Lecturer at Sea Education Association, Antarctic Science, March 11, 2015

Teaching assistant for graduate level class Aquatic Chemistry, MIT (1996)

*Education Administration*

Joint Committee for Chemical Oceanography (JCCO) for the MIT-WHOI Joint Program, 2013-2023

WHOI Chemical Oceanography General Exam Co-Coordinator (2005, 2011)

First-year Chemical Oceanography Graduate Student Advising Committee (2003-2004, 2010-2011)

Pre-selection Committee for WHOI Dean search (2016)

WHOI Dean and VP Search Committee (2017)

**SUPERVISION AT WHOI**

*Technical Staff:*

Dr. Matthew McIlvin, Research Specialist, 2010-present

Paloma Lopez, Research Associate, 2021-present

Annie Stefanides, Research Assistant 2023-present

Dawn Moran, Research Associate, 2007-2022

Laura Rea, Research Assistant, 2017-2018

Luis Valentin, Research Assistant, 2016-2018

Marissa Kellogg, Research Assistant, 2016-2017

Meghan Jelloe, Research Assistant, 2014-2015

Dr. Vladimir Bulygin, Research Associate, 2007-2009

Abigail Noble, Research Assistant, 2004-2006

Erin Bertrand, Research Assistant, 2005-2006

Tyler Goepfert, Research Assistant, 2004-2008

# CRUISE PARTICIPATION AND FIELD WORK

1995 June R/V *Westward*, Coastal Atlantic

1996 June R/V *Oceanus*, Sargasso Sea

1997 March R/V *Oceanus*, Sargasso Sea

1998 February R/V *Oceanus*, Sargasso Sea

1998 August R/V *Oceanu*s, Sargasso Sea

1999 September R/V *Oceanus*, Sargasso Sea

2000 August-October R/V *Melville*, San Diego CA to Arica, Chile

## 2003 June-July R/V *Kilo Moana*, Seattle to Dutch Harbor, Alaska

## 2004 February R/V *Kilo Moana*, Central Pacific - *Chief Scientist*

## 2005 January R/V *Wecoma*, Hawaiian Islands, E-Flux program

## 2005 July-August R/V *Knorr*, Panama to Galapagos - *Chief Scientist*

## 2005/2006 December-January R/V *N.B. Palmer*, Ross Sea, Antarctica

2006 June R/V *Seward Johnson*, Equatorial Atlantic

2006 November-December R/V *N.B. Palmer*, Ross Sea, Antarctica

2007 November-December R/V *Knorr*, South Atlantic - *Chief Scientist*

2009 January-February McMurdo Sound, Antarctica *- Expedition leader*

2009 November-December McMurdo Sound, Antarctica - *Expedition leader*

2011 October 1st-26th , 2012 R/V *Kilo Moana*, Central Pacific - *Co-Chief Scientist with Carl Lamborg*

2015 January 30th-February 4th R/V *Atlantic Explorer*, Bermuda Atlantic Time Series

2016 January 15th-February 12th R/V *Falko*r, Hawaii to Tahiti - *Chief Scientist*

2017 July 5-9th R/V Armstrong, AUV Clio Engineering Trials, Woods Hole to Woods Hole

2017-2018 Dec 16th – Jan 20th R/V N.B. Palmer Punta Arenas to McMurdo Station, Antarctica

2018 April 12th-15th R/V Atlantic Explorer, BATS - AUV Clio Deployment

2018 June 13th-16th R/V Atlantic Explorer, BATS - AUV Clio Deployment

2018 October 20th-24th R/V Atlantic Explorer, BATS - AUV Clio Deployment

2019 April 20th-24th R/V Atlantic Explorer, BATS - AUV Clio Deployment

2019 June 16-28th R/V Atlantic Explorer AE1913, Bermuda - Woods Hole w/Clio – *Chief Scientist*

2023 May 2nd – June 9th R/V Atlantis, Costa Rica AT50-10 - San Diego – *Chief Scientist (with Alyson Santoro Co-Chief Scientist)*

**PATENTS**

Cobalamin Acquisition Protein and Use Thereof. U.S. Patent No. 9,234,012 Mak Saito and Erin Bertrand.

**SOFTWARE**

METATRYP – Python Libraries for in silico analysis of shared tryptic peptides across microbial genomes. Alex Dorsk and Mak Saito <https://github.com/saitomics/metatryp>

METATRYP Version 2.0 Jaci Saunders, David Gaylord <https://github.com/WHOIGit/metatryp-2.0>

**Informatics Websites for Proteomics Datasets**

<http://Metatryp.whoi.edu> Launched at Ocean Sciences Feburary 2018

<https://metatryp-coronavirus.whoi.edu/> Corona virus instance of METATRYP

<http://Oceanproteinportal.org> Launched summer of 2018 at ASMS, SciPy, and EarthCube

**PAPERS IN REFEREED JOURNALS** *(\*Ph.D. Advisee, +Post-Doc Advisees**, #Class Participant)*

1. Natalie R. Cohen, Arianna I. Krinos, Riss M. Kell, Rebecca Chmiel, Dawn M. Moran, Matthew R. McIlvin, Paloma Z. Lopez, Alexander Barth, Joshua Stone, John A. Breier, Michael V. Jakuba, Rod Johnson, Harriet Alexander, Mak A. Saito. Protistan metabolism across the western North Atlantic Ocean revealed through autonomous underwater profiling. Submitted
2. Mak A. Saito, Jaclyn K. Saunders, Matthew R. McIlvin, Erin M. Bertrand, John A. Breier, Margaret Mars Brisbin,Sophie M. Colston, Jaimee R. Compton, Tim J. Griffin, W. Judson Hervey, Robert L. Hettich, Pratik D. Jagtap, Michael Janech, Rod Johnson, Rick Keil, Hugo Kleikamp, Dagmar Leary, Lennart Martens, J. Scott P. McCain, Eli Moore, Subina Mehta,Dawn M. Moran,Jacqui Neibauer, Benjamin A. Neely, Michael V. Jakuba, Jim Johnson, Megan Duffy, Gerhard J. Herndl, Richard Giannone, Ryan Mueller, Brook L. Nunn, Martin Pabst, Samantha Peters, Andrew Rajczewski, Elden Rowland, Brian Searle,Tim Van Den Bossche, Gary J. Vora, Jacob R. Waldbauer, Haiyan Zheng, Zihao Zhao. Results from a Multi-Laboratory Ocean Metaproteomic Intercomparison: Effects of LC-MS Acquisition and Data Analysis Procedures. In review at ISME Communications.
3. A close-up of a book cover

   Description automatically generatedMadeline M. Paoletti#, Gregory P. Fournier, Erin L. Dolan, Mak A. Saito. 2023. Metaproteogenomic profile of a mesopelagic adenylylsulfate reductase: Course-based discovery using the Ocean Protein Portal. J. Proteome Res. 22, 9, 2871–2879. <https://pubs.acs.org/doi/full/10.1021/acs.jproteome.3c00152>
4. Chmiel\*, R. J., Kellogg, R. M., Rao, D., Moran, D. M., DiTullio, G. R., and Saito, M. A. 2023. Low Cobalt Inventories in the Amundsen and Ross Seas Driven by High Demand for Labile Cobalt Uptake Among Native Phytoplankton Communities. Biogeosciences. https://doi.org/10.5194/egusphere-2023-402
5. Margaret Mars Brisbin, Alese Schofield, Matthew R McIlvin, Arianna I Krinos, Harriet Alexander, Mak A Saito. Vitamin B12 conveys a protective advantage to phycosphere-associated bacteria at high temperatures. ISME Communications*.* **3**, 88 (2023). <https://doi.org/10.1038/s43705-023-00298-6>
6. JT Middleton, A Paytan, M Auro, MA Saito, TJ Horner, [Barium isotope signatures of barite–fluid ion exchange in Equatorial Pacific sediments](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=UYLjZe4AAAAJ&sortby=pubdate&citation_for_view=UYLjZe4AAAAJ:-4bc1-6Giq0C). Earth and Planetary Science Letters. 612, 118150. <https://doi.org/10.1016/j.epsl.2023.118150>
7. Nathan S Garcia, Mingyu Du, Michele Guindani, Matt McIlvin, Dawn M Moran, Mak A Saito, and Adam C Martiny. Cellular proteome identifies regulation of marine *Synechococcus* elemental stoichiometry and cell traits under global change. Submitted.
8. Laura M. Whitmore; Julie Granger; Yang Xiang; Lauren E. Kipp; Angelica Pasqualini; Robert Newton; Alison M. Agather; Robert F. Anderson; Erin E. Black; Katlin L. Bowman; Annie Bourbonnais; Mark A. Brzezinski; Randelle M. Bundy; Matthew A. Charette; R. Lawrence Edwards; Jessica N. Fitzsimmons; Dennis A. Hansell; Phoebe J. Lam; Peter Morton; Mak Saito; Alan M. Shiller; William M. Smethie; Benjamin S. Twining; Ryan J. Woosley; Ruifeng Zhang. A U.S. GEOTRACES synthesis of the Arctic Ocean Upper Halocline: multielemental tracers in the Amerasian Basin reveal interlinked biogeochemical and physical processes**.** Progress in Oceanography. In Review.
9. Discovery, diversity and distribution of functional dark matter through global metagenomics Georgios A. Pavlopoulos, Fotis A. Baltoumas, Sirui Liu, Oguz Selvitopi, Antonio Pedro Camargo,Stephen Nayfach, Ariful Azad, Simon Roux, Lee Call, Natalia N. Ivanova, I Min Chen, David Paez-Espino, Evangelos Karatzas. Novel Metagenome Protein Families Consortium, Ioannis Iliopoulos, Konstantinos Konstantinidis, James M. Tiedje, Jennifer Pett-Ridge, David Baker, Axel Visel, Christos A. Ouzounis, Sergey Ovchinnikov, Aydin Buluç, Nikos C. Kyrpides. Nature. In press.
10. Browning, T.J., Saito, M.A., Garaba, S.P., Wang, X., Achterberg, E.P., Moore, C.M., Engel, A., Mcllvin, M.R., Moran, D., Voss, D. and Zielinski, O. 2023. Persistent equatorial Pacific iron limitation under ENSO forcing. *Nature*, 621, 330–335.
11. Riss M. Kellogg, Nicole L. Schanke, Lauren E. Lees, Rebecca J. Chmiel, Deepa Rao, Margaret M. Brisbin, Dawn M. Moran, Matthew R. McIlvin, Francesco Bolinesi, Raffaella Casotti, Cecilia Balestra, Tristan J. Horner, Adam V. Subhas, Robert B. Dunbar, Andrew E. Allen, Giacomo R. DiTullio, Mak A. Saito. Zinc-Iron co-limitation of natural marine phytoplankton assemblages in coastal Antarctica. In Review at PNAS.
12. Deepa Rao, Zoltan Fussy, Dawn M. Moran, Matthew R. McIlvin, Andrew E. Allen, Michael J Follows, Mak A. Saito. Flexible B12 ecophysiology of *Phaeocystis antarctica* due to a fusion B12-independent methionine synthase with widespread homologues. In revision at PNAS.
13. Johnson, Matthew D., Holly V. Moeller, Christopher Paight, Riss M. Kellogg, Matthew R. McIlvin, Mak A. Saito, and Erica Lasek-Nesselquist. 2023. Functional control and metabolic integration of stolen organelles in a photosynthetic ciliate. *Current Biology* 33, no. 5 (2023): 973-980. https://doi.org/10.1016/j.cub.2023.01.027
14. Webb, Eric A., Noelle A. Held, Yiming Zhao, Elaina D. Graham, Asa E. Conover, Jake Semones, Michael D. Lee et al. 2023. Importance of mobile genetic element immunity in numerically abundant *Trichodesmium* clades. ISME communications. 3, no. 1: 15. https://doi.org/10.1038/s43705-023-00214-y
15. Jaclyn K. Saunders*+*, Matthew McIlvin, Chris L. Dupont, Drishti Kaul, Dawn Moran, Tristan Horner, Sarah M. Laperriere, Eric Webb, Tanja Bosak, Alyson E. Santoro,and Mak A. Saito. 2022. Microbial Functional Diversity across Biogeochemical Provinces in the Central Pacific Ocean. 119(37), e2200014119. <https://doi.org/10.1073/pnas.2200014119>
16. K. Kunde, N. A. Held, C. E. Davis, N. J. Wyatt, E. L. Mann, E. M. S. Woodward, M.R. McIlvin, A. Tagliabue, B. S. Twining, C. Mahaffey, M.A. Saito, M. C. Lohan.Trace metal effects on cyanobacterial alkaline phosphatase concentrations in the subtropical North Atlantic. Submitted.
17. Randelle M. Bundy, Lauren E. Manck, Rene M. Boiteau, Jiwoon Park, Edward F. DeLong, Nicholas J. Hawco, Matthew J. Church, Mak A. Saito, Daniel J. Repeta.Seasonal siderophore uptake and biosynthesis associated with carbon flux at Station ALOHA. Submitted. Saunders JK, Duffy ME, Kellogg N,Gibbons K, Gawel JE, Saito M, Rigg A, McIlvin M, Knox C, Legendre-Fixx M, Lopez J, Acker M, and Rocap G. Divergent responses to arsenic among strains of the Cyanobacterium *Prochlorococcus*: toxicity, resilience, and enhanced growth. Submitted
18. Mary Ann Moran, Elizabeth B. Kujawinski, William F. Schroer, Shady A. Amin, Nicholas R. Bates, Erin M. Bertrand, Rogier Braakman, C. Titus Brown, Markus W. Covert, Scott C. Doney, Sonya T. Dyhrman, Arthur S. Edison, A. Murat Eren, Naomi M. Levine, Liang Li, Avena C. Ross, Mak A. Saito, Alyson E. Santoro, Daniel Segrè, Ashley Shade, Matthew B. Sullivan, Assaf Vardi. 2022. Microbial metabolites in the marine carbon cycle. *Nature Microbiology*, *7*(4), 508-523. <https://doi.org/10.1038/s41564-022-01090-3>
19. Chris M Marsay, William M Landing, Devon Umstead, Claire P Till, Robert Freiberger, Jessica N Fitzsimmons, Nathan T Lanning, Alan M Shiller, Mariko Hatta, Rebecca Chmiel, Mak Saito, Clifton S Buck. 2022. [Does Sea Spray Aerosol Contribute Significantly to Aerosol Trace Element Loading? A Case Study From the US GEOTRACES Pacific Meridional Transect (GP15)](https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2022GB007416). Global Biogeochemical Cycles 36. 8. e2022GB007416. <https://doi.org/10.1029/2022GB007416>
20. Chmiel, R., Lanning, N., Laubach, A., Lee, J.M., Fitzsimmons, J., Hatta, M., Jenkins, W., Lam, P., McIlvin, M., Tagliabue, A. and Saito, M., 2022. Major processes of the dissolved cobalt cycle in the North and equatorial Pacific Ocean. *Biogeosciences*, *19*(9), 2365-2395. <https://doi.org/10.5194/bg-19-2365-2022>
21. German, C.R., Baumberger, T., Lilley, M.D., Lupton, J.E., Noble, A.E., Saito, M., Thurber, A.R. and Blackman, D.K., 2022. Hydrothermal Exploration of the Southern Chile Rise: Sediment‐Hosted Venting at the Chile Triple Junction. *Geochemistry, Geophysics, Geosystems*, *23*(3), p.e2021GC010317.
22. Mars Brisbin, Margaret, Satoshi Mitarai, Mak A. Saito, and Harriet Alexander. 2022. Microbiomes of bloom-forming *Phaeocystis* algae are stable and consistently recruited, with both symbiotic and opportunistic modes.  *ISME J* **16**, 2255–2264. <https://doi.org/10.1038/s41396-022-01263-2>
23. Tanya Marshall, Julie Granger, Karen L. Casciotti, Kirstin Dähnke, Kay-Christian Emeis, Dario Marconi, Matthew R. McIlvin, Abigail E. Noble, Mak A. Saito, Daniel M. Sigman, Sarah E. Fawcett. 2022. The Angola Gyre is a hotspot of dinitrogen fixation in the South Atlantic Ocean. *Commun Earth Environ* **3**, 151. <https://doi.org/10.1038/s43247-022-00474-x>
24. Zhou Liang, Kelly McCabe, Sarah E. Fawcett, Heather J. Forrer, Catherine Jeandel, Dario Marconi, Hélène Planquette, Mak A. Saito, Jill A. Sohm, Rachel K. Thomas, Eric A. Webb, Robert T. Letscher, Angela N. Knapp. A global ocean dissolved organic phosphorus concentration database (DOPv2021). *Sci Data* **9**, 772 (2022). Scientific Data. <https://doi.org/10.1038/s41597-022-01873-7>
25. Noelle A. Held\*, John B. Waterbury, Eric A. Webb, Riss M. Kellogg\*, Matthew R. McIlvin, Michael Jakuba, Frederica W. Valois, Dawn M. Moran, Kevin M. Sutherland, Mak A. Saito. 2022. Dynamic diel proteome and daytime nitrogenase activity supports buoyancy in *Trichodesmium erythraeum*. Nature Microbiology. 7 (2), 300-311. <https://doi.org/10.1038/s41564-021-01028-1>
26. Kellogg\*, Riss M., Dawn M. Moran, Matthew R. McIlvin, Adam Subhas, Andrew Allen, Mak A. Saito. 2022. Lack of a Zn/Co substitution ability in the polar diatom Chaetoceros RS19. Limnol. Oceanogr. 67(10), 2265–2280. <https://doi.org/10.1002/lno.12201>
27. Kellogg\* Riss M., Mark A. Moosburner, Natalie R. Cohen+, Nicholas J. Hawco\*, Matthew R. McIlvin, Dawn M. Moran, Andrew E. Allen, Mak A. Saito. 2022. Adaptive responses of marine diatoms to zinc scarcity and ecological implications. Nature Communications *13, 1995.* <https://doi.org/10.1038/s41467-022-29603-y>
28. Walworth#, N.G., Saito, M.A.#, Lee, M.D., McIlvin, M.R., Moran, D.M., Kellogg\*, R.M., Fu, F.X. and Hutchins, D.A., 2021. Why Environmental Biomarkers Work: Transcriptome-Proteome Correlations and Modeling of Multi-Stressor Experiments in the Marine Bacterium *Trichodesmium*.  # co-first authors. Journal of Proteome Research. 21(1). 77-89. <https://doi.org/10.1021/acs.jproteome.1c00517>
29. McIlvin, M.R. and Saito, M.A., 2021. Online Nanoflow Two-Dimension Comprehensive Active Modulation Reversed Phase–Reversed Phase Liquid Chromatography High-Resolution Mass Spectrometry for Metaproteomics of Environmental and Microbiome Samples. *Journal of Proteome Research*. 20, 9, 4589–4597. <https://doi.org/10.1021/acs.jproteome.1c00588>
30. **Mazzotta+ Michael G, Matthew R. McIlvin, Dawn M. Moran, David T. Wang, Kay D. Bidle, Carl H. Lamborg, Mak A. Saito.** 2021. **Characterization of the metalloproteome of *Pseudoalteromonas* (BB2-AT2): biogeochemical underpinnings for zinc, manganese, cobalt and nickel cycling in a ubiquitous marine heterotroph**. Metallomics. 13(12). <https://doi.org/10.1093/mtomcs/mfab060>
31. Cohen, N.R., Noble, A.E., Moran, D.M., McIlvin, M.R., Goepfert, T.J., Hawco, N.J., German, C.R., Horner, T.J., Lamborg, C.H., McCrow, J.P. and Allen, A.E., 2021. Hydrothermal trace metal release and microbial metabolism in the Northeast Lau Basin of the South Pacific Ocean. *Biogeosciences.* 18(19), 5397–5422. https://doi.org/10.5194/bg-18-5397-2021
32. Oldham, V.E., Chmiel, R., Hansel, C.M., DiTullio, G.R., Rao, D. and Saito, M., 2021. Inhibited manganese oxide formation hinders cobalt scavenging in the Ross Sea. *Global Biogeochemical Cycles*, *35*(5), 2020GB006706.
33. Bianchi, T.S., Anand, M., Bauch, C.T., Canfield, D.E., De Meester, L., Fennel, K., Groffman, P.M., Pace, M.L., Saito, M. and Simpson, M.J., 2021. Ideas and perspectives: Biogeochemistry–some key foci for the future. *Biogeosciences*, *18*(10). 3005-3013.
34. Held, N.A., Sutherland, K.M., Webb, E.A., McIlvin, M.R., Cohen, N.R., Devaux, A.J., Hutchins, D.A., Waterbury, J.B., Hansel, C.M. and Saito, M.A., 2021. Mechanisms and heterogeneity of in situ mineral processing by the marine nitrogen fixer *Trichodesmium* revealed by single-colony metaproteomics. *ISME Communications*, 1, 35. https://doi.org/10.1038/s43705-021-00034-y
35. Natalie R. Cohen+, Matthew R. McIlvin, Dawn M. Moran, Noelle A. Held\*, Jaclyn K. Saunders+, Nicholas J. Hawco, Michael Brosnahan, Giacomo R. DiTullio, Carl Lamborg, John P. McCrow, Chris L. Dupont, Andrew E. Allen, Mak A. Saito. 2021.Dinoflagellates contribute to primary and secondary production in the central Pacific Ocean. *Nature Microbiology*.
36. M.A. Saito, Jaclyn K. Saunders+, Michael Chagnon, David Gaylord, Adam Shepherd, Noelle A. Held\*, Chris Dupont, Nick Symmonds, Amber York, Matt Charron, Danie Kinkade. 2021 Development of an Ocean Protein Portal for Interactive Discovery and Education. *J. Proteome Research*.   20, 326-336.
37. Julia M. Gauglitz+, Rene M. Boiteau, Craig McLean, Lydia Babcock-Adams, Matthew R. McIlvin, Dawn M. Moran, Daniel J. Repeta, Mak A. Saito. 2021. Dynamic proteome response of a marine *Vibrio* to a gradient of iron and ferrioxamine bioavailability. *Marine Chemistry.* 229.
38. Barbara Bayer, Mak A. Saito, Matthew R. McIlvin, Sebastian Lücker, Dawn M. Moran, Thomas S. Lankiewicz, Christopher L. Dupont, and Alyson E. Santoro. 2021. Metabolic versatility of the nitrite-oxidizing bacterium *Nitrospira marina* and its proteomic response to oxygen-limited conditions. *ISME*. 2021;15(4), 1025–1039. https://doi.org/10.1038/s41396-020-00828-3
39. Breier, John C., Michael V. Jakuba, Mak A. Saito, Gregory J. Dick, Sharon L. Grim, Eric W. Chan, Matthew R. McIlvin, Dawn M. Moran, Brianna A. Alanis, Andrew E. Allen, Chris L. Dupont, Rod Johnson. 2020. Robotic oceanography: Revealing ocean-scale biochemical structure with a deep-diving autonomous vehicle. *Science Robotics*.
40. Saunders+, Jaclyn K., David Gaylord, Noelle Held\*, Nick Symmonds, Chris Dupont, Adam Shepherd, Danie Kinkade, Mak A. Saito. 2020. METATRYP v 2.0: Metaproteomic Least Common Ancestor Analysis for Taxonomic Inference Using Specialized Sequence Assemblies - Standalone Software and Web Servers for Marine Microorganisms and Coronaviruses. *J. Proteome Research*. 19, 4718-4729.
41. Mazzotta+ M, McIlvin MR, Saito MA. Characterization of the Fe Metalloproteome of a Ubiquitous Marine Heterotroph, *Pseudoalteromonas* (BB2-AT2): Multiple Bacterioferritin Copies Enable Significant Fe Storage. *Metallomics*. 12, 654-667. DOI: [10.1039/D0MT00034E](https://doi.org/10.1039/D0MT00034E)
42. Mak A. Saito, Matthew R. McIlvin, Dawn M. Moran, Alyson E. Santoro, Chris L. Dupont, Patrick Rafter, Jaclyn Saunders+, Drishti Kaul, Carl H. Lamborg, Marian Westley, Frederica Valois, John B. Waterbury. 2020. Abundant nitrite-oxidizing metalloenzymes in the mesopelagic zone of the tropical Pacific Ocean. *Nature Geosciences*, 13(5). 355-362. <https://doi.org/10.1038/s41561-020-0565-6>.
43. Nicholas J. Hawco\*, Matthew M. McIlvin, Randelle M. Bundy+, Alessandro Tagliabue, Tyler J. Goepfert\*, Dawn M. Moran, Luis Valentin-Alvarado, Giacomo R. DiTullio, and Mak A. Saito. 2020. **Minimal cobalt metabolism in the marine cyanobacterium *Prochlorococcus*. *Proc. Natl. Acad. Sci.***  **117(27). 15740-15747.** <https://doi.org/10.1073/pnas.2001393117>
44. Bundy+, R. M., Tagliabue, A., Hawco, N. J., Morton, P. L., Twining, B. S., Hatta, M., Noble, A., Cape, M. R., John, S. G., Cullen, J. T., and Saito, M. A. 2020. Elevated sources of cobalt in the Arctic Ocean. *Biogeosciences*. https://doi.org/10.5194/bg-2020-84.
45. Morel, F.M., Lam, P.J. and Saito, M.A., 2020. Trace Metal Substitution in Marine Phytoplankton. *Annual Review of Earth and Planetary Sciences*, *48*:491-517. <https://www.annualreviews.org/doi/10.1146/annurev-earth-053018-060108>
46. Marissa Kellogg\*, Matthew R. McIlvin, Jagruti Vedamati, Benjamin S. Twining, James W. Moffett, Adrian Marchetti, Dawn M. Moran, Mak A. Saito. Efficient zinc/cobalt interreplacement in northeast Pacific diatoms and relationship to high surface dissolved Co:Zn ratios. 2020. *Limnol. Oceanogr.* <https://doi.org/10.1002/lno.11471>
47. Held\*, N.A., Webb, E.A., McIlvin, M.M., Hutchins, D.A., Cohen, N.R., Moran, D.M., Kunde, K., Lohan, M.C., Mahaffey, C.M., Woodward, E.M.S. and Saito, M.A., 2020. Co-occurrence of Fe and P stress in natural populations of the marine diazotroph *Trichodesmium*. *Biogeosciences.* 17. 2537-2551. https://doi.org/10.5194/bg-17-2537-2020
48. Matthew A Charette, Lauren E Kipp, Laramie T Jensen, Jessica S Dabrowski, Laura M Whitmore, Jessica N Fitzsimmons, Tatiana Williford, Adam Ulfsbo, Elizabeth Jones, Randelle M Bundy, Sebastian M Vivancos, Katharina Pahnke, Seth G John, Yang Xiang, Mariko Hatta, Mariia V Petrova, Lars‐Eric Heimbürger‐Boavida, Dorothea Bauch, Robert Newton, Angelica Pasqualini, Alison M Agather, Rainer MW Amon, Robert F Anderson, Per S Andersson, Ronald Benner, Katlin L Bowman, R Lawrence Edwards, Sandra Gdaniec, Loes JA Gerringa, Aridane G González, Mats Granskog, Brian Haley, Chad R Hammerschmidt, Dennis A Hansell, Paul B Henderson, David C Kadko, Karl Kaiser, Patrick Laan, Phoebe J Lam, Carl H Lamborg, Martin Levier, Xianglei Li, Andrew R Margolin, Chris Measures, Rob Middag, Frank J Millero, Willard S Moore, Ronja Paffrath, Hélène Planquette, Benjamin Rabe, Heather Reader, Robert Rember, Micha JA Rijkenberg, Matthieu Roy‐Barman, Michiel Rutgers van der Loeff, Mak Saito, Ursula Schauer, Peter Schlosser, Robert M Sherrell, Alan M Shiller, Hans Slagter, Jeroen E Sonke, Colin Stedmon, Ryan J Woosley, Ole Valk, Jan van Ooijen, Ruifeng Zhang. The Transpolar Drift as a Source of Riverine and Shelf‐Derived Trace Elements to the Central Arctic Ocean. *Journal of Geophysical Research: Oceans* 125, no. 5 (2020): e2019JC015920.
49. Keisuke Inomura, Curtis Deutsch, Samuel T. Wilson, Takako Masuda, Evelyn Lawrenz, 4 Bučinská Lenka, Roman Sobotka, Julia M. Gauglitz, Mak A. Saito, Ondřej Prášil and Michael J. Follows. 2019. Quantifying oxygen management and temperature-light dependencies of nitrogen fixation by *Crocosphaera watsonii. mSphere*.DOI:10.1128/mSphere.00531-19.
50. Julia M. Diaz, Sydney Plummer, Colleen M. Hansel, Peter F. Andeer, Mak A. Saito, and Matthew R. McIlvin. 2019. NADPH-dependent extracellular superoxide production is vital to photophysiology in the marine diatom *Thalassiosira oceanica*. *Proceedings of the National Academy of Sciences.* *116*(33), 16448-16453.
51. Michael D Lee, Nathan A Ahlgren, Joshua D Kling, Nathan G Walworth, Gabrielle Rocap, Mak A Saito, David A Hutchins, Eric A Webb. 2019. [Marine *Synechococcus* isolates representing globally abundant genomic lineages demonstrate a unique evolutionary path of genome reduction without a decrease in GC content](https://scholar.google.com/scholar?oi=bibs&cluster=3892203828636149655&btnI=1&hl=en&authuser=1). *Environmental Microbiology* 21 (5), 1677-1686
52. Noelle A Held+, MR McIlvin, DM Moran, MT Laub, MA Saito. [Unique Patterns and Biogeochemical Relevance of Two-Component Sensing in Marine Bacteria](javascript:void(0)). 2019. *MSystems* 4 (1), e00317-18
53. Saito, Mak; Bertrand, Erin ; Duffy, Megan; Gaylord, David; Held, Noelle; Hervey, Judson; Hettich, Robert; Jagtap, Pratik; Janech, Michael ; Kinkade, Danie; Leary, Dagmar ; McIlvin, Matthew; Moore, Eli; Morris, Robert; Neely, Benjamin; Nunn, Brook; Saunders, Jaclyn; Shepherd, Adam; Symmonds, Nick; Walsh, David. 2019. Progress and Challenges in Ocean Metaproteomics and Proposed Best Practices for Data Sharing. *Journal of Proteome Research*. 18 (4), 1461-1476
54. Gunnar F Kwakye, Jessica A Jiménez, Morgan G Thomas, Brett A Kingsley, Matthew McIIvin, Mak A Saito, Edmund M Korley. 2019 Heterozygous huntingtin promotes cadmium neurotoxicity and neurodegeneration in striatal cells via altered metal transport and protein kinase C delta dependent oxidative stress and apoptosis signaling mechanisms. *Neurotoxicology* 70, 48-61
55. Kathleen M. Munson, Carl H. Lamborg, Rene M. Boiteau, and Mak A. Saito. Dynamic mercury methylation and demethylation in oligotrophic marine waters. 2018. *Biogeosciences*. 15 (21), 6451-6460
56. Cohen+, Natalie R., Weida Gong, Dawn M. Moran, Matthew R. McIlvin, Mak A. Saito, and Adrian Marchetti. 2018. Transcriptomic and proteomic responses of the oceanic diatom *Pseudo‐nitzschia* granii to iron limitation. *Environmental microbiology.* 20 (8), 3109-3126
57. Emma Tarrant, Gustavo P. Riboldi, Matthew R. McIlvin, Jack Stevenson, Anna Barwinska-Sendra, Louisa J. Stewart, Mak A. Saito, Kevin J. Waldron.2019.Proteomic analysis of the response of *Staphylococcus aureus* to elevated copper indicates major effects on metal homeostasis and alterations to carbon metabolism. *Metallomics*. 11 (1), 183-200.
58. MV Jakuba, JA Breier, D Gómez-Ibáñez, K Tradd, MA Saito. 2018. [Clio: An Autonomous Vertical Sampling Vehicle for Global Ocean Biogeochemical Mapping](javascript:void(0)). 2018. *IEEE/OES Autonomous Underwater Vehicle Workshop (AUV)*, 1-8.
59. Bender+, S.J., D. Moran, M.R. McIlvin, H. Zheng, J.P. McCrow, J. Badger, G.R. DiTullio, A.E. Allen, M.A. Saito. 2018. Colony formation in *Phaeocystis antarctica*: connection molecular mechanisms to iron biogeochemistry*.* *Biogeoscience*s 15, 4923-4942, <https://doi.org/10.5194/bg-15-4923-2018>.
60. Held\*, Noelle and Saunders, Jaclyn and Futrelle, Joe and Saito, Mak. Harnessing the Power of Scientific Python to Investigate Biogeochemistry and Metaproteomes of the Central Pacific Ocean. *Proceedings of the Python in Science Conference*, 2018. [doi:10.25080/Majora-4af1f417-010](javascript:popwin('http://dx.doi.org/10.25080/Majora-4af1f417-010'))
61. Schlitzer, Reiner; Anderson, Robert F; Dodas, Elena Masferrer; Lohan, Maeve; Geibert, Walter; Tagliabue, Alessandro; Bowie, Andrew; Jeandel, Catherine; Maldonado, Maria T; Landing, William M; Cockwell, Donna; Abadie, Cyril; Abouchami, Wafa; Achterberg, Eric P; Agather, Alison; Aguliar-Islas, Ana; Van Aken, Hendrik M; Andersen, Morten; Archer, Corey; Auro, Maureen; De Baar, Hein J; Baars, Oliver; Baker, Alex R; Bakker, Karel; Basak, Chandranath; Baskaran, Mark; Bates, Nicholas R; Bauch, Dorothea; Van Beek, Pieter; Behrens, Melanie K; Black, Erin; Bluhm, Katrin; Bopp, Laurent; Bouman, Heather; Bowman, Katlin; Bown, Johann; Boyd, Philip; Boye, Marie; Boyle, Edward A; Branellec, Pierre; Bridgestock, Luke; Brissebrat, Guillaume; Browning, Thomas; Bruland, Kenneth W; Brumsack, Hans-Jürgen; Brzezinski, Mark; Buck, Clifton S; Buck, Kristen N; Buesseler, Ken; Bull, Abby; Butler, Edward; Cai, Pinghe; Mor, Patricia Cámara; Cardinal, Damien; Carlson, Craig; Carrasco, Gonzalo; Casacuberta, Núria; . The GEOTRACES Intermediate Data Product 2017. *Chemical Geology*. 493. 210-223.
62. Moffett, James W; German, Christopher R; Peters, Brian D; Jenkins, William J; Swift, James H; Casciotti, Karen L; Sanial, V; Kipp, LE; Henderson, PB; van Beek, P; Charette, MA; Black, Erin E; Buesseler, Ken O; Pike, Steven M; Lam, Phoebe J; Kipp, Lauren E; Sanial, Virginie; Henderson, Paul B; van Beek, Pieter; Charette, Matthew A; John, Seth G; Helgoe, Joshua; Townsend, Emily; Weber, Tom; Till, Claire; Cutter, Gregory A; Moffett, James G; Nielsdóttir, Maria C; Lee, Jong-Mi; Heller, Maija I; Mehic, Sanjin; Bates, Nicholas R; Ohnemus, Daniel C; Twining, Benjamin S; Hawco, Nicholas J; Saito, Mak A; Lott, Dempsey E; Cahill, Kevin L; Longworth, Brett; Hoffman, Colleen L; Nicholas, Sarah L; Fitzsimmons, Jessica N; Toner, Brandy M; Marsay, Chris M; Pavia, Frank; Anderson, Robert; Vivancos, Sebastian; Fleisher, Martin; Edwards, R Lawrence; Buck, Kristen N; Sedwick, Peter N; Sohst, Bettina; Carlson, Craig A; Ho, Peng; Shiller, Alan M. 2018. The US GEOTRACES Eastern Tropical Pacific Transect (GP16). *Marine Chemistry*. 201. 1-5.
63. Bundy+, Randelle M., Rene M. Boiteau, Craig McLean, Kendra A. Turk-Kubo, Matt R. McIlvin, Mak A. Saito, Benjamin AS Van Mooy, and Daniel J. Repeta. 2018. Distinct Siderophores Contribute to Iron Cycling in the Mesopelagic at Station ALOHA. *Frontiers in Marine Science* 5 (2018): 61.
64. Tagliabue, Alessandro, Nicholas J. Hawco, Randelle M. Bundy, William M. Landing, Angela Milne, Peter L. Morton, and Mak A. Saito. 2018. The role of external inputs and internal cycling in shaping the global ocean cobalt distribution: insights from the first cobalt biogeochemical model. *Global Biogeochemical Cycles* 32, no. 4. 594-616.
65. Walworth, Nathan G., Michael D. Lee, Christopher Suffridge, Pingping Qu, Fei-Xue Fu, Mak A. Saito, Eric A. Webb, Sergio A. Sañudo-Wilhelmy, and David A. Hutchins.2018. Functional genomics and phylogenetic evidence suggest genus-wide cobalamin production by the globally distributed marine nitrogen fixer *Trichodesmium*. *Frontiers in Microbiology* 9. 189.
66. Hawco\*, Nicholas J., and Mak A. Saito. 2018. Competitive inhibition of cobalt uptake by zinc and manganese in a Pacific *Prochlorococcus* strain: Insights into metal homeostasis in a streamlined oligotrophic cyanobacterium. *Limnology and Oceanography*. 63(5). 2229-2249.
67. NG Walworth, FX Fu, MD Lee, X Cai, MA Saito, EA Webb, DA Hutchins. [Nutrient-colimited *Trichodesmium* as a nitrogen source or sink in a future ocean](javascript:void(0)). 2018. Appl. Environ. Microbiol. 84 (3), e02137-17.
68. Lee, M.D., Webb, E.A., Walworth, N.G., Fu, F.X., Held\*, N.A, Saito, M.A., Hutchins, D.A. 2017. Transcriptional profiles of the *Trichodesmium* consortium following long term CO2 adaptation: community nitrogen cycling, respiration, and ecological niche-space delineation. Applied and Environmental Microbiology. AEM-02026.
69. Hawco\*, N.J., Lam, P.J., Lee, J.M., Ohnemus, D.C., Noble\*, A.E., Wyatt, N.J., Lohan, M.C. and Saito, M.A., 2017. Cobalt scavenging in the mesopelagic ocean and its influence on global mass balance: Synthesizing water column and sedimentary fluxes. *Marine Chemistry*. 201. 151-166.
70. Saito, Mak A., Abigail E. Noble\*, Dan Ohnemus, Nicholas Hawco\*, Seth John, Phoebe Lam, Ben Twining, Rod Johnson, Dawn Moran, Matthew McIlvin. 2017. The Acceleration of Dissolved Cobalt’s Ecological Stoichiometry due to Biological Uptake, Remineralization, and Scavenging in the Atlantic Ocean. Biogeosciences. 14:20. 4637-4662.
71. Noble\*, A. E., Ohnemus, D. C., Hawco\*, N. J., Lam, P. J., & Saito, M. A. 2017. Coastal sources, sinks and strong organic complexation of dissolved cobalt within the US North Atlantic GEOTRACES transect GA03. *Biogeosciences, 14*(11), 2715-2739. doi: 10.5194/bg-14-2715-2017
72. Hutchins, D. A., Fu, F., Walworth, N. G., Lee, M. D., Saito, M. A., & Webb, E. A. 2017. Comment on “The complex effects of ocean acidification on the prominent N2-fixing cyanobacterium Trichodesmium”. *Science, 357*(6356), eaao0067.
73. Santoro, A. E., Saito, M. A., Goepfert\*, T. J., Lamborg, C. H., Dupont, C. L., & DiTullio, G. R. 2017. Thaumarchaeal ecotype distributions across the equatorial Pacific Ocean and their potential roles in nitrification and sinking flux attenuation. *Limnology and Oceanography*. 62. 1984-2003.
74. Tagliabue, Alessandro, Andrew Bowie, Philip Boyd, Kristen Buck, Kenneth Johnson,

Mak Saito. 2017. New insights into the modulation of ocean biogeochemistry by iron. 543. 51-59. *Nature*.

1. Chong, W., Jiménez, J., McIIvin, M., Saito, M. A., & Kwakye, G. F. 2017. α-Synuclein Enhances Cadmium Uptake and Neurotoxicity via Oxidative Stress and Caspase Activated Cell Death Mechanisms in a Dopaminergic Cell Model of Parkinson’s Disease. Neurotoxicity Research. 1-16.
2. Sanial, V., Kipp, L., Henderson, P., van Beek, P., Reyss, J.-L., Hammond, D., Hawco, N., Saito, M., Resing, J., and Sedwick, P. 2018. Radium-228 as a tracer of dissolved trace element inputs from the Peruvian continental margin, Marine Chemistry. 201, 20-34.
3. Boiteau, Rene, Claire P. Till, Angel Ruacho, Randelle M. Bundy+, Nicholas J. Hawco\*, Amy M. McKenna, Katherine A. Barbeau, Kenneth W. Bruland, Mak A. Saito, Daniel J. Repeta. 2016.Structural Characterization of Natural Nickel and Copper Binding Ligands along the US GEOTRACES Eastern Pacific Zonal Transect. *Frontiers in Marine Science*. 3.
4. Robbins, Jamie, Brian Kendall, Noah Planavsky, Chris Reinhard, Camille Partin, Stefan Lalonde, Clint Scott, Dalton Hardisty, Simon Poulton, Andrey Bekker, Tim Lyons, Mak Saito, Chris Dupont, Dan Alessi, Ross Large, Kurt Konhauser. Trace elements at the intersection of biological and marine geochemical evolution. 2016. *Earth Science Reviews.* 163. 323-348.
5. Hawco\*, N.J., D.C. Ohnemus, J.A. Resing, B.S. Twining, M.A. Saito. 2016. A cobalt plume in the oxygen minimum zone of the Eastern Tropical South Pacific. *Biogeosciences*. 2016. 1-60.
6. Walworth, Nathan G., Fei-Xue Fu, Eric A. Webb, Mak A. Saito, Dawn Moran, Matthew R. Mcllvin, Michael D. Lee, David A. Hutchins. 2016. Mechanisms of increased *Trichodesmium* fitness under iron and phosphorus co-limitation in the present and future ocean. *Nature Communications.* 7. 12081.
7. Boiteau, Rene M., Daniel R. Mende, Nicholas J. Hawco\*, Matthew R. McIlvin, Peter N. Sedwick, Mak A. Saito, Edward F. Delong, Daniel J. Repeta. 2016. Siderophore-based microbial adaptations to iron scarcity across the eastern Pacific Ocean. *Proc. Natl. Acad. Sci.*
8. Zheng, Xin-Yuan, Yves Plancherel, Mak A. Saito, Gideon M. Henderson. 2016. Rare earth elements (REEs) in the tropical South Atlantic and quantitative deconvolution of their non-conservative behavior. *Geochimica Cosmochimica Acta.* 177. 217-237. *Provided samples, contributed to manuscript editing and discussion of data.*
9. Mackey+, K. R., Post, A. F., McIlvin, M. R., & Saito, M. A. (2017). Physiological and proteomic characterization of light adaptations in marine *Synechococcus*. *Environmental microbiology*. 19:6. 2348-2365
10. Mackey+, K.M., A.F. Post, M.R. McIlvin, G.A. Cutter, S. John, M.A. Saito. 2015. Divergent responses of Atlantic coastal and oceanic *Synechococcus* to iron limitation. *Proceedings of the National Academy of Sciences. 112:32.* 9944–9949, doi: 10.1073/pnas.1509448112.
11. Hutchins, D.A., Nathan S. Walworth, Eric A. Webb, Mak A. Saito, Dawn Moran, Matthew R. McIlvin, Jasmine Gale, Fei-Xue Fu. 2015. Irreversibly increased nitrogen fixation in *Trichodesmium* experimentally adapted to elevated carbon dioxide. *Nature.* 6. doi:10.1038/ncomms9155.
12. Saito, M. A., A. Dorsk, A.F. Post, M. McIlvin, M.S. Rappé, G. DiTullio, D. Moran. 2015. Needles in the Blue Sea: Sub‐Species Specificity in Targeted Protein Biomarker Analyses within the Vast Oceanic Microbial Metaproteome. *Proteomics.* 15. 3521-3531. DOI: 10.1002/pmic.201400630.
13. Sohm, J. A., Ahlgren, N. A., Thomson, Z. J., Williams, C., Moffett, J. W., Saito, M. A., Webb, E. A., and Rocap, G.: Co-occurring *Synechococcus* ecotypes occupy four major oceanic regimes defined by temperature, macronutrients and iron, The ISME journal, 10, 333-345, 2016.
14. Swanner, E. D., Wu, W., Hao, L., Wüstner, M. L., Obst, M., Moran, D. M., McIlvin, M. R., Saito, M. A., and Kappler, A. 2015. Physiology, Fe (II) oxidation, and Fe mineral formation by a marine planktonic cyanobacterium grown under ferruginous conditions, Frontiers in Earth Science, 3, 60.
15. Santoro, Alyson E., Christopher L. Dupont, R. Alex Richter, Matthew T. Craig, Paul Carini, Matthew R. McIlvin, Youngik Yang, William D. Orsi, Dawn M. Moran, Mak A. Saito. 2015. Genomic and proteomic characterization of “*Candidatus Nitrosopelagicus brevis*”: An ammonia-oxidizing archaeon from the open ocean. Proceedings of the National Academy of Sciences. 201416223.
16. Boyle, E.A., R.F. Anderson, G.A. Cutter, R. Fine, , W.J. Jenkins, , M. Saito. 2015. Introduction to the US GEOTRACES North Atlantic Transect (GA-03): USGT10 and USGT11 cruises. *Deep Sea Research Part II: Topical Studies in Oceanography*. *116*. 1-5.
17. Horner+, T.J., H.M. Williams, J.R. Hein, M.A. Saito, K.W. Burton, A.N. Halliday, S.G. Nielsen. 2015. Persistence of deeply sourced iron in the Pacific Ocean. *Proceedings of the National Academy of Sciences.*  112 (5). 1292-1297.
18. Guannel, M., D. Haring, M.Twiner, Z.Wang, A. Noble, P. Lee, M. Saito, G. Rocap. Toxigenicity and biogeography of the diatom Pseudo-nitzschia across distinct environmental regimes in the South Atlantic Ocean. 2015.*Marine Ecology Progress Series*, 526. 67-87.
19. Munson, K.M., C.H. Lamborg, G.J. Swarr, M.A. Saito. 2015. Mercury Species Concentrations and Fluxes in the Central Tropical Pacific Ocean. *Global Biogeochemical Cycles.* DOI: 10.1002/2015GB005120*.*
20. The GEOTRACES Group. 2015. The GEOTRACES intermediate data product 2014. Marine Chemistry 177. 1-8.
21. Saito, M.A., M.R. McIlvin, D.M. Moran, T.J. Goepfert, G.R. DiTullio, A.F. Post, C. H. Lamborg. 2014. Multiple nutrient stresses at intersecting Pacific Ocean biomes detected by protein biomarkers. *Science.* 345. 1173-1177.
22. Lamborg, C.H., C.R. Hammerschmidt, K.L. Bowman, G.J. Swarr, K.M. Munson, D.C. Ohnemus, P.J. Lam, L.-E. Heimburger, M.J.A. Rijkenberg, and M.A. Saito. 2014. A global ocean inventory of anthropogenic mercury based on water column measurements. *Nature.* 512. 65-68.
23. Austin, Rachel Narehood, Mak A. Saito. 2014. Metals in Marine Biochemistry. *Metallomics.* 6.6. 1105-1106.
24. Lee, Peter A. Erin M. Bertrand\*, Mak A. Saito, Giacomo R. DiTullio. 2015. Influence of Vitamin B12 availability on oceanic dimethylsulfide. *Environmental Chemistry*. http://dx.doi.org/10.1071/EN15043.
25. Mackey+, K.R., C.-T. Chien, A.F. Post, M.A. Saito, A. Paytan. 2015. Rapid and gradual modes of aerosol trace metal dissolution in seawater. *Frontiers in Microbiology***.** *5*. 794.
26. Cox, Alysia. D.\*, A.E. Noble\* M.A. Saito. 2014. Cadmium enriched stable isotope uptake and addition experiments with natural phytoplankton assemblages in the Costa Rica Upwelling Dome. *Marine Chemistry.* 166. 70-81.
27. Swanner, Elizabeth D., Noah J. Planavsky, Stefan V. Lalonde, Leslie J. Robbins, Andrey Bekker, Olivier J. Rouxel, Mak A. Saito, Andreas Kappler, Stephen J. Mojzsis, Kurt O. Konhauser. 2014. Cobalt and marine redox evolution. *Earth and Planetary Science Letters.* 390. 253-263.
28. Ahlgren, N.A., A. Noble, A.P. Patton, K. Roache-Johnson, L. Jackson, D. Robinson, C. McKay, L.R. Moore, M.A. Saito, and G. Rocap. 2014. The unique trace metal and mixed layer conditions of the Costa Rica upwelling dome support a distinct and dense community of *Synechococcus*. *Limnology and Oceanography*. 59. 2166-2184.
29. Cox\*, Alysia, Mak Saito. 2013. Proteomic responses of oceanic *Synechococcus* WH8102 to phosphate and zinc scarcity and cadmium additions. *Frontiers in Microbiological Chemistry*. 4. 387. doi: 10.3389/fmicb.2013.00387.
30. Noble\*, Abigail E., Dawn M. Moran, Andrew E. Allen, Mak A. Saito. 2013. Dissolved and particulate trace metal micronutrients under the McMurdo Sound seasonal sea ice: basal sea ice communities as a capacitor for iron. *Frontiers in Microbiological Chemistry.* doi: 10.3389/fchem.2013.00025.
31. Bertrand\*, Erin M., Dawn M. Moran, Matthew R. McIlvin, Jeffrey M. Hoffman, Andrew E. Allen, Mak A. Saito. Methionine synthase interreplacement in diatom cultures and communities and the persistence of B12 use by eukaryotic phytoplankton. *Limnology and Oceanography.* 58. 4. 1431-1450.
32. Saito, M.A., A.E. Noble\*, A. Tagliabue, T. J. Goepfert, C.H. Lamborg, W.J. Jenkins. 2013. A Large Hydrothermal Iron Plume in the South Atlantic and Implications for Global Iron Cycling. *Nature Geosciences.* 6(9). 775-779.
33. Aguirre, J. Daphne, Hillary M. Clark, Matthew McIlvin, Christine Vazquez, Shaina L. Palmere, Dennis Grab, J. Seshu, Mak A. Saito, Valeria C. Culotta. 2013. A Manganese-Rich Environment Supports Superoxide Dismutase Activity in the Lyme Disease Pathogen, *Borrelia burgdorferi. Journal of Biological Chemistry.* http://www.jbc.org/cgi/doi/10.1074/jbc.M112.433540.
34. Robbins, L.J., S.V. Lalonde, M.A. Saito, N.J. Planavsky, A.M. Mloszewska, E. Pecoits, C. Scott, C.L. Dupont, A. Kappler, and K.O. Konhauser. 2013. Authigenic iron oxide proxies for marine zinc over geological time and implications for eukaryotic metallome evolution. *Geobiology.* DOI: 10.1111/gbi.12036.
35. Moore, C.M., M.M. Mills, K.R. Arrigo, I. Berman-Frank, L. Bopp, P.W. Boyd, E.D. Galbraith, R.J. Geider, C. Guieu, S.L. Jaccard, T.D. Jickells, J. LaRoche, T. Lenton, N.M. Mahowald, E. Marañón, I. Marinov, J.K. Moore, T. Nakatsuka, A. Oschlies, M.A. Saito, T.F. Thingstad, A. Tsuda, and O. Ulloa. 2013. Processes and patterns of Ocean Nutrient Limitation. *Nature Geosciences*. 6. 702-710.
36. Halperin, D., F. Ribalet, K. Weitz, M. A. Saito, B. Howe, E. Armbrust. 2013. In *Real-time collaborative analysis with (almost) pure SQL: a case study in biogeochemical oceanography*, Proceedings of the 25th International Conference on Scientific and Statistical Database Management, ACM: 2013; p 28*.*
37. Mackey+, K.R.M., K. Caldeira, A. Grossman, D. Moran, M. McIlvin, A. Paytan, M Saito. 2013. Effect of temperature on photosynthesis and growth in diverse marine *Synechococcus* strains. *Plant Physiology*. DOI:10.1104/pp.113.221937.
38. Alexander H., B.D. Jenkins, T.A. Rynearson, M.A. Saito, M.L. Mercier, S.T. Dyhrman. 2012. Identifying reference genes with stable expression from high throughput sequence data. *Frontiers in Aquatic Microbiology*. 3. 385. doi: 10.3389/fmicb.2012.00385.
39. Bertrand, E.M.\*, A.E. Allen, C.L. Dupont, T. Norden-Krichmar, J. Bai, M.A. Saito. 2012. Impact of Cobalamin Starvation on Diatom Molecular Physiology and the Identification of a Novel Cobalamin Acquisition Protein. *Proc. Nat. Acad. Sci.* www.pnas.org/cgi/doi/10.1073/pnas.1201731109.
40. Mackey, Katherine R.M., Kathryn Roberts, Michael W. Lomas, Mak A. Saito,Anton F Post, Adina Paytan. 2012. Variable solubility and ecological impact of atmospheric phosphorus deposition. *Environ. Sci. Technol.* **DOI:** 10.1021/es3007996.
41. Saito, Mak A. 2012. The Rise of Oxygen and Aerobic Biochemistry. *Structure*. 20:1. 1–2.
42. Noble\*, A.E., C.H. Lamborg, D. Ohnemus, P.J. Lam, K. T.J. Goepfert, C.I. Measures, C.H. Frame, K.L. Casciotti, G.R. DiTullio, J. Jennings, and M.A. Saito. 2012. [Basin-scale plumes of cobalt, iron, and manganese emanating from the Benguela-Angola front in the South Atlantic Ocean](http://www.whoi.edu/fileserver.do?id=127184&pt=2&p=89849). Limnology and Oceanography. 57:4. 989-1010.
43. Jakuba, R., M.A. Saito, J.W. Moffett, Y. Xu. 2012. Dissolved zinc in the subarctic North Pacific and Bering Sea: Its distribution, speciation, and importance to primary producers. *Global Biogeochemical Cycles*. 26, GB2015, doi:10.1029/2010GB004004.
44. Dyhrman, Sonya T., Bethany D. Jenkins, Tatiana A. Rynearson, Mak A. Saito, Melissa L. Mercier, Harriet Alexander, LeAnn P. Whitney, Andrea Drzewianowski, Vladimir V. Bulygin, Erin M. Bertrand, Zhijin Wu, Claudia Benitez-Nelson, Abigail Heithoff. 2012. Coordination in the transcriptome and proteome of the diatom *Thalassiosira pseudonana* reveals a diverse phosphorus stress response. *PLoS One*. 7:3. e33768.
45. Wurch, Louie L., Erin M. Bertrand, Mak A. Saito, Benjamin A.S. Van Mooy, Sonya T. Dyhrman Proteome changes driven by phosphorus stress and recovery in the brown tide-forming alga, *Aureococcus anophagefferens. PLOS One*. 6(12): e28949. doi:10.1371/journal.pone.0028949.
46. de Souza, Gregory F., Ben C. Reynolds, Jörg Rickli, Martin Frank, Mak Saito, Loes J. A. Gerringa, Bernard Bourdon. 2012. Southern Ocean control of silicon stable isotope distribution in the deep Atlantic Ocean. Global Biogeochemical Cycles. 26, GB2035, doi:10.1029/2011GB004141.
47. Saito, M.A., Vladimir Bulygin, Dawn Moran, Craig Taylor, Christopher Scholin. 2011. Examination of Microbial Proteome Preservation Techniques Applicable to Autonomous Environmental Sample Collection. *Front. Microbio.* 2:215. doi: 10.3389/fmicb.2011.0021.
48. Sohm, Jill A., Jason Hilton, Abigail Noble, Jonathan P. Zehr, Mak A. Saito, Eric A. Webb. 2011. Nitrogen fixation in the South Atlantic Gyre and the Benguela upwelling system. *Geophys. Res. Lett.* 38, L16608, doi:10.1029/2011GL048315.
49. Thompson, A.W. \*, K. Huang, M.A. Saito, S.W. Chisholm. 2011. [Transcriptome response of high and low-light adapted Prochlorococcus strains to changing iron availability](http://www.whoi.edu/fileserver.do?id=86104&pt=2&p=89849). ISME Journal.  1-15. doi: 10.1038/ismej.2011.49.
50. Bertrand\*, E. M., M.A. Saito, P.A. Lee, R.B. Dunbar, G.R. DiTullio. 2011. Iron limitation of springtime bacterial and phytoplankton populations in the Ross Sea: Interactive effects of iron and vitamin B12 nutrition. *Front. Microbiology*. 2:160. doi: 10.3389/fmicb.2011.00160
51. Saito, M.A., E.M. Bertrand, V. Bulygin, D. Moran, S. Dutkiewicz, F.M. Monteiro, M.J. Follows, F.W. Valois, J.B. Waterbury. 2011. Iron Conservation by Reduction of Metalloenzyme Inventories in the Marine Diazotroph *Crocosphaera watsonii*. *Proc. Natl. Acad. Sci*. doi:10.1073/pnas.1006943108.
52. Saito, M.A., T.J. Goepfert, A.E. Noble, P.N. Sedwick, G.R. DiTullio. 2010. A Seasonal Study of Dissolved Cobalt in the Ross Sea of Antarctica: Micronutrient Control, Absence of Observed Scavenging, and Relationships with Zn, Cd, and P. *Biogeosciences*. 7. 4059-4082.
53. Bertrand, E.M.\*, M.A. Saito,Y. Jae Jeon, B.A. Neilan. 2011. Vitamin B12 biosynthesis gene diversity in the Ross Sea: the identification of a new group of polar B12-biosynthesizers. *Environmental Microbiology*. doi:10.1111/j.1462-2920.2011.02428.x
54. Gobler, C.J. (and 29 others). Ecological Niche of Harmful Alga, *Aureococcus Anophagefferens*, revealed in genome. 2010. *Proc. Natl. Acad. Sci*.
55. Higgins, M.B., F.L. Wolfe-Simon, R.S. Robinson, Y. Qin, M.A. Saito, A. Pearson. 2011. Paleoenvironmental implications of taxonomic variation among δ15N values of chloropigments. *Geochimica et Cosmochimica Acta.* 75:22. 7351-7363.
56. Sedwick, P.N., C.M. Marsay, A.M. Aguilar-Islas, M.C. Lohan, B.M. Sohst, M.C.Long, K.R. Arrigo, R.B. Dunbar, M.A. Saito, W.O. Smith, G.R. DiTullio. 2011. Early-season depletion of dissolved iron in the Ross Sea polynya: Implications for iron dynamics on the Antarctic continental shelf. *Journal of Geophysical Research.* 116:C12019.
57. Wu, Z., B.D. Jenkins, T.A. Rynearson, S.T. Dyhrman, M.A. Saito, M. Mercier, L. Whitney. 2010. Empirical Bayes Analysis of Sequencing-based Transcriptional Profiling without Replicates. *BMC Bioinformatics*. **11:**564. doi:10.1186/1471-2105-11-564.
58. Saito, M.A. 2009. Less Nickel for More Oxygen. *Nature*. 458. 714-715.
59. Saito, M.A., T.J. Goepfert. 2008. Zinc-cobalt co-limitation in *Phaeocystis antarctica*. *Limnology and Oceanography*, 53(1). 266-275.
60. Saito, M.A., T.J. Goepfert, J.T. Ritt. 2008. Some thoughts on the concept of co-limitation: Three definitions and the importance of bioavailability. *Limnology and Oceanography*. 53(1). 276-290.
61. Church, M.J., K.M. Björkman, D.M. Karl, M.A. Saito, and J.P. Zehr. 2008. Regional distributions of nitrogen fixing bacteria in the Pacific Ocean. *Limnology and Oceanography*. 53(1). 63-77.
62. Noble, A.E.\*, M.A. Saito, K. Maiti, C. Benitez-Nelson. 2008. A concentrating mechanism for cobalt within a cyclonic eddy and sources of cobalt, manganese, and iron in intermediate waters near the Hawaiian Islands. *Deep-Sea Research II.* 55. 1473-1490.
63. Bertrand\*, E.M., M.A. Saito, J.M. Rose, C.R. Riesselman, M.C. Lohan, A.E. Noble, P.A. Lee, G.R. DiTullio. 2007. Vitamin B12 and iron co-limitation of phytoplankton growth in the Ross Sea. *Limnology and Oceanography*, 52(3). 1079-1093.
64. Montsant, A., A.E. Allen, S. Coesel, A. De Martino, A. Falciatore, M. Heijde, K. Jabbari, U. Maheswari, M. Mangogna, E. Rayko, M. Siaut, A. Vardi, K.E. Apt, J.A. Berges, A. Chiovitti, A.K. Davis, M.Z. Hadi, T.W. Lane, J.C. Lippmeier, D. Martinez, M.S. Parker, G.J. Pazour, M.A. Saito, K. Thamatrakoln, D.S. Rokhsar, E.V. Armbrust, C. Bowler. 2007. Identification and Comparative Genomic Analysis of Signaling and Regulatory Components in the Diatom *Thalassiosira pseudonana*. *Journal of Phycology. 43. 585-604.*
65. Moore, L., A. Coe, E. Zinser, M.A. Saito, M. Sullivan, D. Lindell, K. Frois-Moniz, J. Waterbury, S.W. Chisholm. 2007. Culturing of the marine cyanobacterium *Prochlorococcus. Limnology and Oceanography Methods.* 5. 353-362.
66. John, S.G., R.W. Geis, M.A. Saito, E.A. Boyle. 2007. Zinc isotope fractionation during high-affinity and low-affinity transport in *Thalassiosira oceanica*. *Limnology and Oceanography*. 52(6). 2710-2714.
67. Castruita, M., M.A. Saito, P.C. Schottel, L.A. Elmegreen, S. Myneni, E.I. Stiefel, F.M.M. Morel. 2006. Overexpression and characterization of an iron storage and DNA-binding Dps protein from *Trichodesmium erythraeum*. *Applied and Environmental Microbiology.* 72(4). 2918-2924.
68. Saito, M.A., D.L. Schneider. 2006. Examination of the precipitation chemistry and improvements in precision using the Mg(OH)2 preconcentration ICP-MS method for high-throughput analysis of open-ocean Fe and Mn in seawater. *Analytica Chimica Acta.* 565. 222-233.
69. Lane+, T.W., M.A. Saito+, G.N. George, I.J. Pickering, R.C. Prince, F.M.M. Morel. 2005. A Cadmium Enzyme from a Marine Diatom. *Nature.* 435. 42. +*co-first authors, written by Saito*
70. Saito, M.A., G. Rocap, J.W. Moffett. 2005. Production of Cobalt Binding Ligands in a *Synechococcus* Feature at the Costa Rica Upwelling Dome. *Limnology and Oceanography.* 50. 279-290.
71. Armbrust, E.V., J.A. Berges, C. Bowler, B.R. Green, D. Martinez, N.H. Putnam, S. Zhou, A.E. Allen, K.E. Apt, M. Bechner, M.A. Brzezinski, B.K. Chaal,A. Chiovitti, A.K. Davis,M.S. Demarest,J.C. Detter, T. Glavina, D. Goodstein, M.Z. Hadi, U. Hellsten, M. Hildebrand, B.D. Jenkins, J. Jurka, V.V. Kapitonov, N. Kröger, W.W.Y. Lau, T.W. Lane, F.W. Larimer, J.C. Lippmeier, S. Lucas, M. Medina, A. Montsant, M. Obornik,M.S. Parker, B. Palenik, G.J. Pazour, P. M. Richardson, T.A. Rynearson, M.A. Saito, D.C. Schwartz, K. Thamatrakoln, K. Valentin, A.Vardi,F.P. Wilkerson, D. S. Rokhsar. 2004. Analysis of whole genome sequence of the centric diatom *Thalassiosira pseudonana*. *Science*. 306. 79-86.

## Edgcomb, V.P., S.J. Molyneaux, M.A. Saito, K. Lloyd, S. Böer, C.O. Wirsen, M.S. Atkins and A. Teske. 2004. Sulfide Ameliorates Metal Toxicity for Deep-Sea Hydrothermal Vent Archaea. *Applied and Environmental Microbiology.* 70(4). 2551-2555.

1. Saito, M.A., G.R. DiTullio, J.W. Moffett. 2004. Cobalt and Nickel in the Peru Upwelling Region: A major flux of labile cobalt utilized as a micronutrient. *Global Biogeochemical Cycles.* 18. GB4030. 1-14.
2. Morel, F.M.M., A.J. Milligan. M.A. Saito. 2003. “Marine Bioinorganic Chemistry: The Role of Trace of Metals in the Oceanic Cycles of Major Nutrients” in *Treatise on Geochemistry* edited by K.K. Turekian, H.D. Holland, Elsevier Science Ltd, Cambridge, UK.
3. Saito, M.A., D. Sigman, F.M.M. Morel. 2003. The bioinorganic chemistry of the ancient ocean: the co-evolution of cyanobacterial metal requirements and biogeochemical cycles at the Archean-Proterozoic boundary? *Inorganica Chimica Acta.* 356C. 308-318.
4. Atkins, M.S., M.A. Hanna, E.A. Kupetsky, M.A. Saito, C.D. Taylor, C.O. Wirsen. 2002. Tolerance of flagellated protozoa to extreme environmental conditions potentially encountered at deep-sea hydrothermal vents. *Marine Ecological Progress Series.* 226. 63-75.
5. Saito, M.A., J.W. Moffett. 2002. Temporal and Spatial Variability of Cobalt in the Atlantic Ocean. *Geochimica et Cosmochimica Acta.* 66(11). 1943-1953.
6. Saito, M.A., S.W. Chisholm, J.W. Moffett, J. Waterbury. 2002. Cobalt limitation and uptake in the marine cyanobacterium *Prochlorococcus.* *Limnology and Oceanography.* 47(6). 1629-1636.

## Saito, M.A., J.W. Moffett. 2001. Complexation of cobalt by natural organic ligands in the Sargasso Sea as determined by a new high-sensitivity electrochemical cobalt speciation method suitable for open ocean work. *Marine Chemistry.* 75. 49-68.

**REPORTS**

Maldonado, Maria T, Marchetti, Adrian, Saito, Mak A, & Tagliabue, Alessandro. (2018). Biogeoscapes: Ocean Metabolism and Nutrient Cycles on a Changing Planet. Zenodo. <https://doi.org/10.5281/zenodo.4314954>

Twining, Benjamin S., Saito, Mak A., Santoro, Alyson E., Marchetti, Adrian, Levine, Naomi M. 2023-01-09. US National BioGeoSCAPES Workshop Report. <https://hdl.handle.net/1912/29604>

**BOOK CHAPTERS AND THESES**

1. Saito, M.A. 2001. The Biogeochemistry of Cobalt in the Sargasso Sea. Ph.D. Thesis. MIT/WHOI Joint Program in Chemical Oceanography.
2. Saito, Mak. 2015. The Hydrosphere as Microbial Habitat. Chapter 5 in Geomicrobiology. 6th Edition. Edited by Lutz and Newman.
3. Saito, M. A., Breier, C., Jakuba, M., McIlvin, M., and Moran, D. 2017. Environing a Chemical Metaproteomics Capability for Biochemical Research and Diagnosis of Global Ocean Microbiomes. In: The Chemistry of Microbiomes: Proceedings of a Seminar Series, National Academies Press, National Academies of Sciences, Engineering, Medicine. 29-36.

**OUTREACH BOOKS**

* Antarctic Adventures. 2011. Elizabeth Saito and Mak Saito. Children’s Book on Antarctic Science, self-published. All proceeds donated to local children’s organizations, and copies donated to libraries and schools.
* To the Top of the World. 2016. Kaitlin Bowman and Elizabeth Saito Children’s Book on GEOTRACES Arctic Expedition. Self-published. All proceeds donated to science conservation and children’s education organizations, and copies donated to libraries and schools. Supported on an NSF Broader Outreach award.

**OUTREACH MEDIA, WEB, PRESENTATIONS**

* CORSACS Antarctica Cruises Outreach Website (Controls on Ross Sea Algal Community Structure [www.whoi.edu/sites/Corsacs](http://www.whoi.edu/sites/Corsacs), with over 16,000 unique visitors)
* Oceanus Audio [Slideshow](http://www.whoi.edu/oceanus/invisiblerealm) on Antarctic Proteomic Research
* [Oceanus](http://www.whoi.edu/oceanus/hotbunking) Article on Hotbunking of Iron in Marine Nitrogen Fixing Cyanobacteria
* [Oceanus](http://www.whoi.edu/oceanus/proteomics) Article on Vitamin B12 Claw and Proteomics
* Oceanus Article on Lyme Disease and metalloenzymes
* Living Lab Live Radio [Interview](http://capeandislands.org/post/marine-microbes-hold-clues-biomedical-researchers), National Public Radio WCAI, June 3, 2013
* Evening Presentation for the Woods Hole Children’s School of Science on Antarctica and Vitamins, July 2013
* Media interviews regarding South Atlantic Hydrothermal Iron Plume Study August 2013 ([New York Times](http://www.nytimes.com/2013/08/27/science/vein-of-iron-in-south-atlantic.html?_r=0) , [NBC](http://www.nbcnews.com/science/science-news/huge-iron-rich-plume-discovered-beneath-atlantic-ocean-f6C10962826), [Science Daily](http://www.sciencedaily.com/releases/2013/08/130819171822.htm), Die Weld (Germany), Science Times, La Gran Epoca (Spain).
* Interviewed in Imagine Magazine by the Center for Talented Youth January 2015 Edition on exploring career options as a marine scientist
* Media reports related to 2014 Science Protein Biomarker manuscript ([Oceanus](http://www.whoi.edu/oceanus/feature/proteomics), [NSF](https://www.nsf.gov/news/news_summ.jsp?cntn_id=132505) , [Live Science](http://www.livescience.com/47691-mapping-ocean-nutrients-with-bacteria.html) , [Phys Org](http://phys.org/news/2014-09-scientists-biomedical-technique-reveal-body.html) , [Yahoo News](http://news.yahoo.com/crafty-ocean-bacteria-conquer-food-deserts-114623572.html)
* Feature blog post on [Proteomics news](http://proteomicsnews.blogspot.com/2014/09/protein-biomarkers-in-ocean.html), the most popular proteomics blog
* News related to Tristan Horner’s 2015 PNAS Iron paper ([Science 2.0](http://www.science20.com/news_articles/study_finds_deep_ocean_is_source_of_dissolved_iron_in_central_pacific-152815), [Hydro-International](http://www.hydro-international.com/news/id7477-Central_Pacifics_Deep_Ocean_Source_of_Dissolved_Iron.html))
* News related to 2015 Nature manuscript on irreversible changes in phytoplankton ([USC](https://news.usc.edu/85742/climate-change-will-irreversibly-force-key-ocean-bacteria-into-overdrive/), [WHOI](http://www.whoi.edu/news-release/oa-tricho), [Washington Post](http://www.washingtonpost.com/news/energy-environment/wp/2015/09/01/climate-change-could-push-these-tiny-marine-organisms-to-evolve-irreversibly/), [The Scientist](http://www.the-scientist.com/?articles.view/articleNo/43888/title/Adapting-to-Elevated-CO2/), [Grind TV](http://www.grindtv.com/nature/climate-change-force-irreversible-change-key-ocean-bacteria/#wl94ciIwGgKAMsd6.97))
* Laboratory and dock tour for visiting Sidwell Friends High School Students, April 11, 2015
* Microbiome experiments and lecture, Ocean Science Journalism Fellows, September 2015
* News related to the environmental influence on and analytical uncertainties of ball inflation (widely [syndicated AP story](http://www.usnews.com/news/sports/articles/2015/09/09/the-public-weighed-in-with-deflategate-judge-before-ruling), original blog [post](http://bluemassgroup.com/2015/08/northern-nfl-teams-will-need-many-backup-quarterbacks/))
* GEOTRACES [Highlight](http://geotraces.org/science/science-highlight/1119-do-you-know-that-coastal-phytoplankton-is-able-to-adapt-to-iron-limitation) on Mackey et al., PNAS manuscript
* Living Lab Radio on Science and Art aboard the R/V Falkor: <http://capeandislands.org/post/art-science-synergy-work-tropical-pacific#stream/0>
* [National Academy of Science Chemical Roundtable](http://nas-sites.org/csr/the-chemistry-of-microbiomes-marine-seminar/) Lecture on the Chemistry of Ocean Microbiomes, October 19, 2016, Washington DC and [Webcast](https://vimeo.com/album/4222052)
* Inside Manned Systems [article](http://insideunmannedsystems.com/double-dipping/) on AUV Clio, December 29th 2016.
* UPI [article](https://www.upi.com/Science_News/2017/07/06/Another-threat-to-the-ocean-deoxygenation/9061499349691/) on ocean deoxygenation, July 8th 2017.
* Falmouth Community Television story on the AUV Clio, September 2017.
* Cape Code Times [article](http://www.capecodtimes.com/news/20170730/auv-clio-samples-sea) on AUV Clio, July 30th 2017.
* Popular article: Evans, S., Birch, J., Breier, J., Jakuba, M., Saito, M. and Robidart, J., 2019. Ocean robots uncover microbial secrets. *Microbiology Today*, *46*(1), 22-25. <http://nora.nerc.ac.uk/id/eprint/528297>
* Virtual Brunch Proteome Software Users Group 2020 YouTube [video](https://www.youtube.com/watch?v=MGJmdqBQlfM)
* PNAS Inner Workings Article: [Research sub buoys prospects for 3D map of marine Microbial communities](https://www.pnas.org/doi/10.1073/pnas.2019245117). Amy McDermott. October 7, 2020. 117 (43) 26544-26547
* Outreach talk. Girl Scout Troup Silver Spring Maryland. February 14th 2021.
* ASLO Presentation “Why Environmental Nutrient Stress Biomarkers Work: Protein-Transcript Correlations and Review of Biomarker Discoveries” June 2021 YouTube [video](https://www.youtube.com/watch?v=89Sq6B0s6Zs)
* OCB2021 Update on BioGeoSCAPES program development [short talk](https://www.youtube.com/watch?v=yGLImSF_Vc8).

**PUBLISHED ABSTRACTS**

Comparing microeukaryote metatranscriptomes and metaproteomes captured using an autonomous underwater vehicle Natalie Cohen, Arianna Krinos, Harriet Alexander, Riss Kellogg, Rebecca Chmiel, Dawn Moran, Matt McIlvin, Paloma Lopez, John Breier, Michael Jakuba, Rod Johnson, Mak Saito. ASLO Meeting, Palma de Mallorca, Spain 2023.

Global patterns and drivers of C:N:P in marine ecosystems. Nathan Garcia, Mak Saito, Adam Fagan, Catherine Garcia, Tatsuro Tanioka. ASLO Meeting, Palma de Mallorca, Spain 2023.

Development and Testing of Spectral Libraries for Ocean Metaproteomics Analyses Leveraging the Ocean Protein Portal. Margaret A Mars Brisbin ; Matthew McIlvin ; Damian Wilburn ; Harriet Alexander ; Andy Allen ; Natalie Cohen ; Jaclyn Saunders ; Adam Shepherd ; Brian C Searle ; Mak A. Saito. American Society for Mass Spectrometry Meeting. June 2022, Minneapolis.

Can data-independent acquisition mass spectrometry be used confidently for metaproteomics?

Annaliese C.S. Meyer ; Andrew T Rajczewski ; Alfredo Blakeley-Ruiz ; Matthew McIlvin ; Tim Van Den Bossche ; Timothy J Griffin ; Brian C. Searle ; Makoto Saito ; Manuel Kleiner ; Pratik Dilip Jagtap

American Society for Mass Spectrometry Meeting. June 2022, Minneapolis.

Harnessing data-independent acquisition protein mass spectrometry to explore the zinc requirements of modern prokaryotes. Annaliese C.S. Meyer ; Matthew McIlvin ; Dawn Moran ; Makoto Saito. American Society for Mass Spectrometry Meeting. June 2022, Minneapolis.

Metalloproteomics of Pseudomonas aeruginosa in several redox environments. Matthew Mcilvin ; Mak A. Saito American Society for Mass Spectrometry Meeting. June 2022, Minneapolis.

Microbial Functional Diversity across Biogeochemical Provinces in the Central Pacific Ocean. Jaclyn K Saunders ; Matthew McIlvin ; Chris L. Dupont ; Drishti Kaul ; Dawn Moran ; Tristan Horner ; Alyson E. Santoro ; Eric A. Webb ; Tanja Bosak ; Mak A. Saito. American Society for Mass Spectrometry Meeting. June 2022, Minneapolis.

Disentangling overlapping environmental stresses on the Sargasso Sea surface microbial community through metaproteomics. Annaliese C.S. Meyer ; Dawn M. Moran ; Matthew R. Mcilvin ; Rod Johnson ; Paloma Lopez ; Natalie Cohen ; Harriet Alexander ; Mak A Saito ; Arianna Krinos. American Society for Mass Spectrometry Meeting. November 2021, Philadelphia.

Influence of Spectral Library Characteristics on Data Independent Acquisition (DIA) Ocean Metaproteomics Analyses. Margaret Mars Brisbin ; Matthew R. Mcilvin ; Dawn M. Moran ; Harriet Alexander ; Andrew E. Allen ; Arianna Krinos ; Natalie R. Cohen ; Brian Searle ; Mak Saito. American Society for Mass Spectrometry Meeting. November 2021, Philadelphia.

Transitioning the Ocean Protein Portal to a Knowledge Graph: a structure to support FAIR data standards and future AI applications. Jaclyn Saunders ; Adam Shepherd ; Danie Kinkade ; Mak A. Saito. American Society for Mass Spectrometry Meeting. November 2021, Philadelphia.

Why Environmental Biomarkers Work: Transcriptome-Proteome Correlations and Modeling of Multi-Stressor Experiments in the Marine Microbes. Mak Saito ; Nathan G. Walworth ; Matthew R. Mcilvin ; Michael Lee ; Dawn M. Moran ; Riss Kellogg ; Fei-Xue Fu ; David Hutchins ; Eric Webb. American Society for Mass Spectrometry Meeting. November 2021, Philadelphia.

Why Environmental Nutrient Stress Biomarkers Work: Protein-Transcript Correlations and Review of Biomarker Discoveries ASLO June 2021 Aquatic Sciences Meeting Virtual Presentation.

[Dissolved cobalt speciation along the GEOTRACES Pacific meridional transect (GP15)](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/655287). Rebecca Chmiel, Karen L Casciotti, Gregory A Cutter, Phoebe J Lam, Mak A Saito. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[Interactive Effects of Iron, Vitamin B12 and UV Light on Phytoplankton in the Amundsen Sea](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/655230). Giacomo R DiTullio, Nicole Lyn Schanke, Francesco Bolinesi, Lauren Lees, Raffaella Casotti, Peter A Lee, Mak A Saito and Olga Mangoni. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[Defining Conserved Epibiotic Bacterial Genomes in the Trichodesmium Holobiont Using New Isolate Genomes and Field ‘Omic Techniques](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/646828). Eric A Webb, Yiming Zhao, Noelle Held, Elaina D Graham, Asa Conover, Jacob Semones, Yuan Yuan Feng, Feixue Fu, Mak A Saito, David A Hutchins and Michael D Lee. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[Strong Zonal Gradients in States, Rates and Proteomics provide New Insight into Trace Metal Control on Phosphorus Acquisition in the subtropical Atlantic](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/637545). Claire Mahaffey, Clare Elizabeth Davis, Noelle Held, Mak A Saito, Korinna Gerda Ludia Kunde, Neil Wyatt, Malcolm Woodward, Alessandro Tagliabue, and Maeve C Lohan. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[Clio: Toward routine operations for a fast vertical profiling vehicle designed for global ocean biogeochemical mapping](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/653390). Michael Jakuba, John A Breier Jr, Mak A Saito, Rodney J Johnson. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

Elucidating Novel Trace Metal Biogeochemical Relationships of Marine Heterotrophic Bacteria through Metalloproteomics. Michael Mazzotta, Matthew R McIlvin, Mak A Saito. Ocean Sciences Meeting 2020. San Diego, California, February 20, 2020. Poster presentation.

Comparison of HPLC Derived Phytoplankton Pigments from Autonomously Collected Samples and CTD Methods to Evaluate the Integration of Autonomous Vehicles as Platforms for Enhancing Ocean Time-series Programs. Claire Medley, John A Breier, Michael Jakuba, Eric W Chan, Rodney J Johnson, Matthew R McIlvin, Quinn Wright Montgomery, Paloma Lopez, Mak A Saito. Ocean Sciences Meeting 2020. San Diego, California, February 20, 2020. Poster presentation.

High-resolution Upper Ocean Metal Distributions within the Sargasso Sea Revealed using the Clio Autonomous Vehicle. John A Breier Jr, Eric W Chan, Mak A Saito, Michael Jakuba, Brianna Alanis, Rebecca Chmiel, Marissa Morgan Kellogg, Matthew R McIlvin, Dawn M Moran, Victor Naklicki, Paloma Lopez, Quinn Wright Montgomery, Rodney Johnson. Ocean Sciences Meeting 2020. San Diego, California, February 20, 2020. Oral Presentation.

[Trace Metal Availability for Alkaline Phosphatases: A Proteomic Perspective from the Oligotrophic North Atlantic](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/643281). Korinna Kunde, Noelle Held, Clare Davis, Neil Wyatt, Matthew R McIlvin, Malcolm Woodward, Mak A Saito, Alessandro Tagliabue, Claire Mahaffey and Maeve C Lohan. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[The influence of hydrothermal metal inputs on protistan and particle-associated bacterial metabolism in the Lau Basin of the tropical South Pacific Ocean](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/639037). Natalie Cohen, Dawn M Moran, Matthew R McIlvin, Abigail Emery Noble, John McCrow, Andrew E Allen and Mak A Saito. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[Nutrient limitation of cyanobacteria in the Tropical Pacific](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/641446). Thomas Browning, Mak A Saito, Xuechao Wang, Alessandro Tagliabue, Anja Engel and Eric P. Achterberg. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[Predicting how O2 characterizes the niche of marine unicellular diazotroph Crocosphaera](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/647954).  
Keisuke Inomura, Curtis A. Deutsch, Samuel T Wilson, Takako Masuda, Evelyn Lawrenz, Bučinská Lenka, Roman Sobotka, Julia Gauglitz, Mak A Saito, Ondřej Prášil, Naoto Takahata, Takuhei Shiozaki, Yuji Sano, Ken Furuya and Michael J Follows. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[Gradients in Functional Capabilities in the Sargasso Sea as determined by Metaproteomes collected by the Biogeochemical AUV Clio](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/651610). Mak A Saito, Matthew R McIlvin, Eric W Chan, Dawn M Moran, Brian Searle, Natalie Cohen, Marissa Morgan Kellogg, Rebecca Chmiel, Paloma Lopez, Fernando Pacheco, Zachary Anderson, Rodney J Johnson, Michael Jakuba and John A Breier Jr. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[Identification of a putative Zn metallochaperone (ZCRP-A) in multiple marine diatoms and characterization in Phaeodactylum tricornutum](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/656446). Marissa Morgan Kellogg, Mak A Saito, Mark Moosburner, Tyler Coale, Andrew E Allen, Matthew R McIlvin and Dawn M Moran. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

[NADPH-dependent extracellular superoxide production is vital to photophysiology in the marine diatom Thalassiosira oceanica](https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/644198). Sydney Plummer, Colleen Hansel, Peter F Andeer, Mak A Saito and Matthew R McIlvin. Presented at Ocean Sciences, San Diego, 16-21, February 2020.

Haskins, Christina, Biddle, Matt, Copley, Nancy J., Rauch, Shannon, Soenen, Karen, York, Amber, Kinkade, Danie, Saito, Mak A., Shepherd, Adam, Wiebe, Peter, "Share Your Thoughts", Presented at Ocean Sciences, San Diego, 16-21, February 2020.

Biddle, Matt, Copley, Nancy, Haskins, Christina, Rauch, Shannon, Soenen, Karen, York, Amber, Kinkade, Danie, Saito, Mak A., Shepherd, Adam, Wiebe, Peter, "Code and Software: How would you share yours?", Presented at Ocean Sciences, San Diego, 16-21, February 2020.

Saunders JK, McIlvin M, Moran D, Held N, Santoro A, Dupont C, and Saito MA. “Assessing the validity of protein inference on a large environmental metaproteomic dataset”. ASMS 2019 Atlanta. American Society of Mass Spectrometry. Atlanta, Georgia. June 4, 2019.

Saunders JK, McIlvin M, Moran D, Held N, Futrelle J, Webb E, Santoro A, Dupont C, and Saito MA. “Functional Diversity of Bioenergetic Pathways across Oxygen Gradients in the Central Pacific”. ASLO Aquatic Science Meeting 2019. San Juan, Puerto Rico. February 28, 2019.

Saunders JK, Held N, Shepherd A, Chagnon M, Gaylord D, York A, Symmonds N, Kinkade D, and Saito MA. “Introducing the Ocean Protein Portal: Prototype Launch – oceanproteinportal.org”. ASLO Aquatic Science Meeting 2019. San Juan, Puerto Rico. February 26, 2019.

Metagenomic-based Metaproteomic Functional Characterization of the Sargasso Sea in a Three Year Time Series Dataset. Mak Saito ; Brian Searle ; Dawn Moran ; Jaci Saunders ; Noelle Held ; Chris Dupont ; Rod Johnson ; Matthew McIlvin. American Society of Mass Spectrometry, Atlanta, June 2019.

METATRYP 2.0: Improvements in METATRYP Software for Metaproteomic Least Common Ancestor Analyses within the Ocean Protein Portal. David Gaylord ; Jaclyn Saunders ; Noelle Held ; Nick Symmonds ; Adam Shepherd ; Michael Chagnon ; Danie Kinkade ; Tom Delmont ; A. Murat Eren ; Chris Dupont ; Mak Saito. American Society of Mass Spectrometry, Atlanta, June 2019.

Methods for Metaproteomic Analysis of the Ocean. Matthew Mcilvin ; Mak Saito. American Society of Mass Spectrometry, Atlanta, June 2019.

Single colony metaproteomes of a marine bacterium: Exploring heterogeneity in the natural environment. Noelle Held ; Matthew Mcilvin ; Eric Webb ; Mak Saito. American Society of Mass Spectrometry, Atlanta, June 2019.

[John A Breier](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/37701), [Michael Jakuba](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/59273), [Mak A Saito](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/60911), [Gregory Dick](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/28503), [Daniel Gomez-Ibanez](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/168738), [Kaitlyn Tradd](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/243857),

[Sharon L Grim](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/77437), [Rebecca Chmiel](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/707787), [Matthew R McIlvin](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/237986), [Abigail Emery Noble](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/5251), [Brianna Alanis](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/707810),

[Marissa Morgan Kellogg](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/230863), [Javier Garcia](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/707851). Clio: a vertical sampling AUV for next-generation ocean sectional studies. ASLO Ocean Sciences Meeting Portland Oregon, February 15, 2018. Poster

[Mak A Saito](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/60911), [Matthew R McIlvin](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/237986). [Dawn M Moran](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/20817), [Alyson E Santoro](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/6219), [Eric A Webb](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/22713), [Michael D Lee](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/242403). [Christopher L Dupont](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/12735). [Tristan J Horner](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/85834), [Noelle Held](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/706928). Surveying Metalloproteins in the Euphotic Zone and Oxygen Minimum Zone of the Central Pacific Ocean and Their Influence on Biogeochemical Cycles. ASLO Ocean Sciences Meeting Portland Oregon, February 15, 2018. Oral Presentation.

[Alyson E Santoro](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/6219), [Mak A Saito](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/60911), [Matthew R McIlvin](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/237986), [Dawn M Moran](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/20817). Trace Metal Requirements of Nitrite-Oxidizing Bacteria: Implications for Nitrite Oxidation in the Upper Mesopelagic. ASLO Ocean Sciences Meeting Portland Oregon, February 15, 2018. Poster

[Hannah Ake](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/518755), [Matt Biddle](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/704123), [Nancy J Copley](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/157889), [Danie Kinkade](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/20514), [Shannon Rauch](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/80148), [Mak A Saito](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/60911), [Adam Shepherd](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/6313), [Peter H Wiebe](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/68940), [Megan Switzer](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/704165), [Amber York](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/518791). BCO-DMO – a domain-specific repository for oceanographic data from around the world. ASLO Ocean Sciences Meeting Portland Oregon, February 15, 2018. Poster

[Adam Shepherd](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/6313), [Douglas Fils](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/19749), [Danie Kinkade](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/20514), [Mak A Saito](https://agu.confex.com/agu/os18/meetingapp.cgi/Person/60911). The Frictionless Data Package: Data Containerization for Addressing Big Data Challenges. ASLO Ocean Sciences Meeting Portland Oregon, February 15, 2018. Poster

Mak A Saito, Matthew R McIlvin, Jaci Saunders, Noelle Held, Dawn M Moran, Laura Rea, Luis Valentin, Tristan J Horner, Danie Kinkade, Adam Shepherd, David Gaylord, Nick Symmonds, Joe Futrelle, Mike Jakuba, Chip Breier. Improving Global and Targeted Metaproteomic Analyses of Oceanic Microbiomes:(Developing an ocean ecosystem health capability). ABRF Conference Myrtle Beach, SC.April 24th, 2018.

Noelle Held ; Matthew McIlvin ; Jacyln Saunders ; Joe Futrelle ;Claire Mahaffey ; Maeve Lohan ;Malcolm Woodward ; Mak Saito. Approaches for Environmental Phosphoproteomics: Measuring, validating and interpreting a "Metaphosphoproteome". ASMS 2018 San Diego. American Society of Mass Spectrometry. San Diego, California. June 6, 2018.

Best Practices for Data Sharing of Ocean Metaproteomic Data Workshop Results. Matt McIlvin ; Erin M. Bertrand ; Megan Duffy ; David Gaylord ;Noelle Held ; W. Judson Hervey ; Robert L. Hettich ; Pratik D Jagtap ; Michael G. Janech ; Danie Kinkade ; Dasha Leary ;Eli Moore ; Robert Morris ; Benjamin Neely ; Brook Nunn ; Jaclyn K. Saunders; Adam Shepherd ; Nick Symmonds ;David Walsh ; Mak Saito. ASMS 2018 San Diego. American Society of Mass Spectrometry. San Diego, California. June 68 2018.

Jaclyn K. Saunders, Matthew McIlvin, Dawn Moran, Noelle Held, Joe Futrelle, Alyson Santoro, Chris Dupont, Mak A. Saito. “Characterization of the Central Pacific Oxygen Minimum Zone: The Results of the ProteOMZ Expedition.” ASMS 2018 San Diego. American Society of Mass Spectrometry. San Diego, California. June 6, 2018.

Development of an Ocean Protein Portal for Exploration of Marine Metaproteomic Datasets

Mak Saito ; David Gaylord ;Adam Shepherd ; Jacyln Saunders ;Noelle Held ; Michael Chagnon ; Nick Symmonds ; Danie Kinkade ; Alex Dorsk; Matthew McIlvin. ASMS 2018 San Diego. American Society of Mass Spectrometry. San Diego, California. June 6, 2018.

## Cobalt Speciation in the Amundsen and Ross Seas during Bloom Conditions

## Chmiel R, DiTullio G & Saito M. Goldschmidt Conference. Boston 2018

## [A Unique Mn Redox Cycle in the Ross Sea](https://goldschmidtabstracts.info/abstracts/abstractView?id=2018004659)  Oldham V, Saito M, diTullio J & Hansel C. Goldschmidt Conference. Boston 2018

Cohen NR, McIlvin MR, Moran DM, Hawco NJ, DiTullio GR, McCrow JP, Dupont CL, Allen AE, Saito MA. Nitrate, iron and B12 stress in eukaryotic phytoplankton of the tropical and equatorial Pacific. Northeastern Geobiology Symposium. Woods Hole, MA. April 2018.

Cohen NR, McIlvin MR, Moran DM, Hawco NJ, DiTullio GR, McCrow JP, Dupont CL, Allen AE, Saito MA. Nitrate, iron and B12 stress in eukaryotic phytoplankton of the central Pacific Ocean. Ocean Carbon & Biogeochemistry Workshop. Woods Hole, MA. June 2018.

Jaclyn K. Saunders, Matthew McIlvin, Dawn Moran, Noelle Held, Joe Futrelle, Eric Webb, Alyson

Santoro, Chris Dupont, Mak A. Saito. “Proteomic characterization of Central Pacific Oxygen

Minimum Zone microbial communities.” Marine Microbes GRC: Elucidating Microbial Processes

Across Spatial and Temporal Scales. Gordon Research Conference. Lucca, Italy. July 3, 2018.

Noelle A. Held\*, Jaclyn K. Saunders\*, Joe Futrelle, Mak A. Saito. (\*co-presenters of work)

“Harnessing the Power of Scientific Python to Investigate Biogeochemistry and Metaproteomes of the Central Pacific Ocean.” SciPy 2018. The 17th annual Scientific Computing with Python

conference. Austin, Texas. July 11, 2018.

Mak Saito, Matthew McIvin, Dawn Moran, Luis Valentin, Nicholas Hawco. A Comparison of Adaptive Responses to Metal and Nutrient Scarcity in the Between Atlantic and Pacific Oceanic Regions. International Conference on Biological Inorganic Chemistry (ICBIC-18), Florianopolis, Brazil July, 2017.

Mak Saito; Matthew McIlvin; Dawn Moran; Luis Valentin; Romain Huguet; Shannon Eliuk; Graeme McAlister; Rod Johnson. Diagnosis of Ecosystem Adaptive Responses by Analysis of Hundreds of Peptide Biomarkers in the North Atlantic Ocean using Targeted Metaproteomics. American Society for Mass Spectrometry, June 7th 2017. *Poster.*

Luis Valentin-Alvarado, L. E.; Nicholas Hawco, N.; Matthew McIlvin, M. R.; Mak Saito\*, M.; EXPLORING THE POTENTIAL FOR CARBONIC ANHYDRASE (CA) PROTEIN AS BIOMARKER FOR GROWTH RATE ESTIMATES OF PROCHLOROCOCCUS IN THE OCEAN (E) (Abstract ID: 29167) ASLO Meeting, Honolulu Hawaii, February 27th, 2017.

Hawco, N. J.; McIlvin, M. R.; Moran, D. M.; Tagliabue, A.; Saito, M. A.; COBALT METABOLISM IN PROCHLOROCOCCUS: POTENTIAL FOR LIMITATION AND INTERFERENCE BY OTHER METALS(Abstract ID:29850), ASLO Meeting, Honolulu Hawaii, February 2017.

Gauglitz, J. M.; McLean, C.; Boiteau, R. M.; McIlvin, M. R.; Moran, D. M.; Repeta, D. J.; Saito, M. A.; BIOAVAILABILITY OF DESFERRIOXAMINE SIDEROPHORES AND THE PROTEOMIC RESPONSES OF A MARINE VIBRIO TO LOW IRON (Abstract ID:29530) ASLO Meeting, Honolulu Hawaii, February 2017.

## Saito, M. A.; McIlvin, M. R.; Moran, D. M.; Hawco, N. J.; Matheson, J.; Sedwick, P. N.; Noble, A. E.; Bates, N. R.; Lomas, M. W.; Johnson, R.; LAYERING OF ADAPTIVE NUTRIENT RESPONSES IN THE NORTH ATLANTIC SUBTROPICAL GYRE AS DETECTED BY METAPROTEOMICS.  ASLO Meeting, Honolulu Hawaii, February 2017.

Held, N. A.; Saito, M. A.; McIlvin, M. R.; Moran, D. M.; SENSING AND SIGNALING: TWO-COMPONENT SYSTEMS IN MARINE MICROBES (E) (Abstract ID:29775). ASLO Meeting, Honolulu Hawaii, February 2017.

Walworth, N. G.; Hutchins, D. A.; Fu, F.; Lee, M. D.; Saito, M. A.; Webb, E. A.; TRANSCRIPTOMIC AND PROTEOMIC ANALYSES OF TRICHODESMIUM UNDER IRON AND PHOSPHORUS CO-LIMITATION IN THE PRESENT AND FUTURE OCEAN (Abstract ID:30019). ASLO Meeting, Honolulu Hawaii, February 2017.

Bundy, R. M.; Saito, M. A.; Hawco, N. J.; Tagliabue, A.; WIDESPREAD DISTRIBUTION OF ELEVATED SURFACE COBALT IN THE ARCTIC OCEAN (Abstract ID: 29120). ASLO Meeting, Honolulu Hawaii, February 2017.

Kellogg, M.; Moran, D. M.; McIlvin, M.; Moosburner, M.; Allen, A. E.; Saito, M. A.; IDENTIFICATION OF THE HIGH-AFFINITY ZINC TRANSPORTER AND POTENTIAL FOR USE AS A BIOMARKER DETECTED BY PROTEOMICS IN THE MARINE DIATOM THALASSIOSIRA PSEUDONANA (E)(Abstract ID: 29967). ASLO Meeting, Honolulu Hawaii, February 2017.

Mak Saito; Matt McIlvin; Dawn Moran; Alyson Santoro; Chris Dupont; Michael Rappe;

ProteOMZ: Development of Biogeochemically Relevant Peptide Biomarkers for High-Throughput Marine Microbial Ecosystem Characterization in Oceanic Oxygen Minimum Zones. American Society for Mass Spectrometry, June 2016. *Poster.*

Saito, Mak A., Alexander Dorsk, Anton Post, Matthew McIvin, Michael S. Rappe, Giacomo DiTullio, Dawn Moran. Needles in the blue Sea: Sub-species specificity by targeted metaproteomics of the vast oceanic microbial metaproteome. AGU Meeting San Francisco. December 2015.

Saito, M.A., M. McIlvin, A. E. Santoro, D. M. Moran, C. L. Dupont, P. A. Rafter and C. H. Lamborg. Prevalence of Metalloenzymes in Oxygen Minimum Zones Extremities: Implicit Widespread Mesopelagic Nitrogen Cycling Activity and Potential Impacts of Deoxygenation on Nitrogen and Iron Biogeochemical Cycles. ASLO/AGU Ocean Sciences Meeting. New Orleans, Louisiana. February 21-26, 2016. *Oral Presentation.*

Held, Noelle, Matthew McIlvin, Mak Saito. Identification of Phosphorylation Sites in Marine Microbes. American Society for Mass Spectrometry, May 31 – June 4, 2015. St. Louis Missouri.

Saito, Mak, Matthew McIlvin, Dawn Moran, Alex Dorsk, Anton Post. Targeted Metaproteomics: Finding Needles in the Deep Blue Sea. American Society for Mass Spectrometry, May 31 – June 4, 2015. St. Louis Missouri.

Walworth, N G., F. X. Fu, E.A. Webb, M.A. Saito, D. Moran, M.R. McIlvin, J. Gale, C. Johnson, D.A. Hutchins. Comparative functional genomics and epigenomics of *Trichodesmium* adapted to long-term elevated CO2 under simultaneous iron and phosphorus co-limitation (Abstract ID: 25521). Association for the Sciences of Limnology and Oceanography, Granada Spain. February 22-25, 2015.  
  
Gauglitz, J.M., M.R. McIlvin, J.B. Waterbury, M.A. Saito. Influence of iron on the proteome of the unicellular diazotroph Crocosphaera Watsonii WH8501 (Abstract ID: 26348). Association for the Sciences of Limnology and Oceanography, Granada Spain. February 22-25, 2015.  
  
Bender, S.J., D. Moran, M. McIlvin, A.E. Allen, M. Saito. Unfolding colony formation mechanisms in *Phaeocystis antarctica* (Abstract ID: 27320). Association for the Sciences of Limnology and Oceanography, Granada Spain. February 22-25, 2015.  
  
Saito, M.A., M.R. McIlvin, D.M. Moran, A. Santoro, C. Dupont, T.J. Goepfert, P. Rafter, D.M. Sigman, J.W. Waterbury, C.H. Lamborg. Distributions of oceanic microbial metalloenzymes and their potential role in nitrogen biogeochemical cycling as measured by targeted metaproteomics (Abstract ID: 27386). Association for the Sciences of Limnology and Oceanography, Granada Spain. February 22-25, 2015.

McIlvin, Matthew, J. Dafhne Aguirre, Hillary Clark, Valeria Culotta, Mak Saito. Metallomic Analysis of Metalloproteins within the Lyme Disease Pathogen *Borrelia burgdorferi.* American Society for Mass Spectrometry June 2014 Poster

Saito, Mak, Matthew McIlvin, Dawn Moran, Tyler Goepfert, Giacomo DiTillio, Carl Lamborg. Multiple Nutrient Stresses at Intersecting Pacific Ocean Biomes Detected by Protein Biomarkers. American Society for Mass Spectrometry June 2014 Poster

Saito, M.A., M. McIlvin, D.M. Moran, C.H. Lamborg, G. DiTullio. “Detection and Distribution of Metalloenzymes in Pacific Ocean Environments”. ASLO Meeting, New Orleans. February 2013. Oral Presentation.

Noble, A.E., N. Held, M.A. Saito. Probing the chemical speciation of cobalt: preservation artifacts and redox sensitive ligands. Ocean Sciences Meeting Hawaii, 2014.

Mackey, K., M. McIlvin, A. Post, M. Saito. Strain-specific response of marine synechococcus to iron limitation. Ocean Sciences Meeting Hawaii, 2014.

Hawco, N.J., M.R. McIlvin, M.A. Saito. A meridional cobalt section from the Equatorial Pacific. Ocean Sciences Meeting Hawaii, 2014.

Ahlgren, N.A., A. Noble, L. Moore, M. Saito, R. Rocap. The unique trace metal and macronutrient conditions of the Costa Rica Upwelling Dome upwelling support a distinct and dense community of Synechococcus. Ocean Sciences Meeting Hawaii, 2014.

Munson, K.M., C.H. Lamborg, G.J. Swarr, M.A. Saito. Mercury species concentrations and fluxes in the Tropical and Equatorial Central Pacific Ocean. Ocean Sciences Meeting Hawaii, 2014. Oral Presentation.

Santoro, A.E., C.L. Dupont, M.A. Saito. The genome and proteome of an ammonia-oxidizing archaeon from the open ocean. Ocean Sciences Meeting Hawaii, 2014. Oral Presentation.

Saito, M.A., M. McIlvin, D.M. Moran, C.H. Lamborg, G. DiTullio. Distribution of Metalloenzymes in Pacific Ocean Environments as Detected by Proteomic Analysis. Goldschmidt Conference, Florence Italy August 27, 2013.

Saito, Mak, Matthew McIlvin, Dawn Moran, Tyler Goepfert, Alyson Santoro, Carl Lamborg, Vlad Zabrouskov, Justin Blethrow. Discovery and Quantitation of the Marine Microbial Metaproteome in the Central Pacific Ocean. American Society of Mass Spectrometry. Minneapolis MN, June 12, 2013.

McIlvin, M., K. Waldron, D. Moran, N. Robinson, M. Saito. Metalloprotein Characterization of the Marine Cyanobacteria: Diving into Marine Microbial Metallomes and the Search for Novel Metalloproteins in the Oceans. American Society for Mass Spectrometry. Vancouver, Canada, June 2012. 

Saito, M., E. Bertrand. Marine metalloprotein abundance patterns yield insight into the implications of metal scarcity for oceanic biogeochemical processes. ACS Meeting, Environmental Bioinorganic Session. San Diego, CA. March 29, 2012.

[Jenkins, B.D., T.A. Rynearson, S.T. Dyhrman, M.A. Saito, P.D. Chappell, L.P. Whitney, H. Alexander, E. M. Bertrand. From Lab To Launch: Integrating Biomarkers Derived From Genomics and Proteomics Approaches Into Remote Observing Platforms](http://www.sgmeet.com/osm2012/viewabstract2.asp?AbstractID=11862). ASLO meeting Salt Lake City, February 2012.

[Noble, A. E., M.A. Saito. Insight Into The Chemical Speciation Of Cobalt In The North Atlantic](http://www.sgmeet.com/osm2012/viewabstract2.asp?AbstractID=12439). ASLO meeting Salt Lake City, February 2012.

[Dyhrman, S.T., L.L.;Wurch, C.J. Gobler, E. Bertrand, M. Saito. Transcriptome and Proteome Profiling Identifies Pathways of Nutrient Metabolism In *Aureococcus anophagefferens*.](http://www.sgmeet.com/osm2012/viewabstract2.asp?AbstractID=10122) ASLO meeting Salt Lake City, February 2012.

Saito, M.A., E.M. Bertrand, V. Bulygin, A.D. Cox, T.J. Goepfert, D. Moran. The Potential for Colimitation of Marine Primary Productivity: Three Biochemical Definitions, Field Observations, Application of Proteomic Diagnostics, and Comments on the Future (*Invited*). AGU/ASLO Ocean Sciences Meeting Portland, February 2010.

Bertrand, E.M., V. Bulygin, M.A. Saito. Proteomics of Vitamin B12 and Iron Stress and Co-stress in Marine Diatoms. AGU/ASLO Ocean Sciences Meeting Portland, February 2010.

Saito, M.A., A.E. Noble, T.J. Goepfert. Trace Element Distributions and Phytoplankton Colimitations on a Full Depth Ocean Section in the South Atlantic Ocean. Goldschmidt Conference Davos Switzerland, June 2009.

Saito, M.A., E.M. Bertrand, V. Bulygin, D. Moran, J.B. Waterbury. Strategies for Economization of Cellular Iron in *Crocosphaera watsonii* as Revealed by Global Quantitative Proteomic Analysis. Goldschmidt Conference, Davos, Switzerland, June 2009.

Noble, A.E., T. Goepfert, M.A. Saito. Cobalt Biogeochemistry in the South Atlantic: An Ocean Section of Total Dissolved Cobalt, and Prospects for a High Throughput ICP-MS Method. AGU December 2008. Poster Presentation.

Saito, M.A., E.M. Bertrand, V. Bulygin, D. Moran, J.B. Waterbury. Proteomic Analysis of the marine cyanobacterium *Synechococcus* WH8102 and implications for estimates of the cellular iron content. 2008 AGU Fall Meeting, San Francisco.

Saito, M.A., E.M. Bertrand, A. Anber. Neoproterozoic Oxygenation of Earth’s Surface Environments Reflected in the Late Evolution of the O2-Dependent Vitamin B12 Biosynthesis Pathway. AGU Fall Meeting, San Francisco, 2008. Invited Speaker.

Saito, M.A., A.E. Noble, A.Cox, T.J. Goepfert. Trace Element Distributions and Phytoplankton Colimitations on a Full Depth Ocean Section in the South Atlantic Ocean. Goldschmidt Conference, Davos, Switzerland, June 2009. Keynote Talk.

Saito, M.A. The bioinorganic chemistry of the ancient ocean: the co-evolution of cyanobacterial metal requirements and biogeochemical cycles at the Archean-Proterozoic boundary? Goldschmidt Conference, Melbourne, Australia, August 2006. Invited Talk.

Saito, M.A., A.E. Noble, M.B. Westley, B.N. Popp. Evidence of Redox Cycling of Cobalt in the Costa Rica Dome and Central Pacific: Similarities to Nitrite and Nitrous Oxide Distributions. ASLO Meeting, Victoria Canada June 2006. Oral Presentation and Co-Session Chair.

John, S.G., B.A. Bergquist, M.A. Saito, E.A. Boyle. The Marine Biological Cycling of Zn Isotopes. ASLO Meeting, Victoria Canada June 2006. Oral Presentation.

Thompson, A.W., M.A. Saito, S.W. Chisholm. *Prochlorococcus* Iron Requirements and Whole Genome Response to Iron Starvation. ASLO Meeting, Victoria, Canada, June 2006. Oral Presentation.

Cox, A.D., A.E. Noble, M.A. Saito. **Cadmium Stable Isotope Uptake by Phytoplankton, Speciation, and Toxicity Experiments in the Costa Rica Upwelling Dome.** ASLO Meeting, Victoria, Canada, June 2006. Poster Presentation.

Bertrand, E.M., A.E. Noble, D.J. Repeta, E.A. Webb, M.A. Saito. Contrasting vitamin B12 and cobalt uptake in phytoplankton populations in the Costa Rica Upwelling Dome. ASLO Meeting, Victoria, Canad, June 2006. Poster Presentation.

Goepfert, T.J., M.A. Saito. Cobalt substitution of the zinc requirement in *Phaeocystis antarctica* and thoughts on the concept of co-limitation. ASLO Meeting, Victoria, Canada, June 2006. Poster Presentation.

Noble, A.E., K. Maita, C. Benitez-Nelson, M.A. Saito. Cobalt, manganese, cadmium, and iron among the Hawaiian Islands: The influence of cyclonic eddies and hydrothermal signals. ASLO Meeting, Victoria, Canada, June 2006. Poster Presentation.

Saito, M.A. Cobalt, iron, and manganese biogeochemistry in the Equatorial Pacific and recovery experiments using the MgOH2 precipitation ICP-MS method. American Chemical Society Geochemical Division. March 16, 2005. San Diego, Oral Presentation and Co-Session Chair.

Saito, M.A. Cobalt, iron, and manganese biogeochemistry in the Equatorial Pacific: Cobalt Scavenging in the Oxygen Minimum Zones. ASLO meeting February 2005. Oral Presentation and Co-Session Chair.

Saito, M.A., D.M. Sigman, F.M.M. Morel. The Bioinorganic Chemistry of the Ancient Ocean: The Co-Evolution of Cyanobacterial Metal Requirements and Biogeochemical Cycles at the Archean-Proterozoic Boundary? Environmental Bioinorganic Chemistry Gordon Conference. Maine, 2004.

Saito, M.A., Y. Xu, R. Wisniewski, J.W. Moffett. Cobalt Biogeochemistry in the North and Equatorial Pacific: Observations of Cobalt Limitation, and Cobalt Scavenging in Oxygen Minimum Zones. Environmental Bioinorganic Chemistry Gordon Conference. Maine, 2004.

Edgcomb, V.P., S.J. Molyneaux, M.A. Saito, K. Lloyd, S. Böer, C.O. Wirsen, M.S. Atkins, A. Teske. Sulfide Ameliorates Metal Toxicity for Deep-Sea Hydrothermal Vent Archaea. Environmental Bioinorganic Chemistry Gordon Conference. Maine, 2004.

Saito[, M.A., Y. Xu, R. Wisniewski, R.J. Wallsgrove, J.W. Moffett, B.N. Popp. Iron and Cobalt Co-Limitation in the Central North Pacific and Bering Sea.](http://www.sgmeet.com/aslo/honolulu2004/viewabstract2.asp?AbstractID=1188&SessionID=SS5.03) ASLO-TOS, Hawaii, February 2004.

Castruita, [M., M.A. Saito, P.C. Schottel, E.I. Stiefel, F.M.M. Morel. Cloning and Overexpression of an Iron Storage Protein in *Trichodesmium erythrae*](http://www.sgmeet.com/aslo/honolulu2004/viewabstract2.asp?AbstractID=966&SessionID=SS5.03). ASLO-TOS, February 2004, Hawaii.

Saito M.A., G. DiTullio, J.W. Moffett. Depletion of Cobalt as a Micronutrient in the Eastern Equatorial Pacific. Goldschmidt Conference, Kurashiki Japan. September 2003.

Castruita, M., M.A. Saito, P.C. Schottel, M.J. Grossman, M.K. Cody, F.M.M. Morel, E.I. Stiefel. Nature’s Iron Controllers: Ferritin-Family Proteins in Bacteria. Departments of Chemistry and Geosciences, Princeton University, Princeton. ACS MARM (Middle Atlantic Regional Meeting), Princeton NJ, 2003.

Saito, M.A., T-Y Ho, F.M.M. Morel. Cadmium Toxicity to Marine Cadmium Toxicity to Marine *Synechococcus* at Picomolar Concentrations: Vestigial Interactions Indicative of Ancient Ocean Chemistry. ASLO Aquatic Sciences Meeting. Salt Lake City, Utah. 2003.

Saito, M.A., T.W. Lane, G. Taroncher-Oldenburg, F.M. M. Morel, B.B. Ward. A Search for Cobalt Proteins in *Synechococcus*: Overexpression of the Gamma Carbonic Anhydrase Enzyme and a Genome Wide Analysis of Cobalt Limited Cells. ASLO/AGU Ocean Sciences Meeting. Honolulu, Hawaii, USA 2002.

Saito, M.A., J.W. Moffett. Temporal and Spatial Variability of Cobalt in the Atlantic Ocean. AGU/ASLO Ocean Sciences Meeting. Honolulu, Hawaii. February 2002.

Saito, M.A.. The Coupling of the Biogeochemistry of Cobalt and the Bioinorganic Chemistry of Cobalt Carbonic Anhydrases. Gordon Conference on Environmental Bioinorganic Chemistry. June, 2002.

Edgcomb, V.P., S. Boer, S. Molyneaux, K. Lloyd, C. Wirsen, J. Erickson, M.A. Saito, M. Atkins, A. Teske. Hyperthermophiles of the Hydrothermal Vent Subsurfaces: Limits of Life and extraterrestrial analogs. 2nd Astrobiology Science Conference, NASA-Ames, 2002.

Edgcomb, V.P., S. Boer, S. Molyneaux, K. Lloyd, C. Wirsen, J. Erickson, M.A. Saito, M. Atkins, A. Teske. Hyperthermophiles of the hydrothermal vent subsurface: limits of life and extraterrestrial analogs (Poster Presentation). *Eos, Transactions, American Geophysical Union*, 83(4), Ocean Sciences Meet. Suppl., Abstract OS32B-130, 2002.

Castruita, M., I. E. Stiefel, F. M.M. Morel, M.A. Saito, G. Taroncher-Oldenberg Iron, Bacterioferritin, and the Marine Cyanobacterium Synechococcus WH8102. Presented at the 2002 Gordon Research Conference on Environmental Bioinorganic Chemistry, Andover, NH, June 2002.

Saito, M.A., F.M.M. Morel. Cobalt and Cadmium Carbonic Anhydrases in Marine Phytoplankton. American Chemical Society, Environmental Bioinorganic Chemistry Session. Orlando, 2002.

Saito, M.A., T-Y Ho, F.M.M. Morel. An unexpected turn in the trace metal trio story (Co,Cd, Zn): Cadmium toxicity to *Synechococcus* WH8102 at picomolar levels. Chemical Oceanography Gordon Conference, Oxford England, 2002.

Saito, M.A. Cobalt and Cadmium Carbonic Anhydrases in Marine Phytoplankton: Biogeochemical and Genomic Analyses. Gordon Conference on Environmental Bioinorganic Chemistry, June 2002.

Saito, M.A., J.W. Moffett. Cobalt Speciation in the Equatorial Pacific and Peru Upwelling Region: Sources and Chemical Properties of Natural Cobalt Ligands. American Society for Limnology and Oceanography, New Mexico, February 2001.

Saito, M.A., J.W. Moffett. Cobalt Speciation in the Equatorial Pacific and Peru Upwelling Region: Sources and Chemical Properties of Natural Cobalt Ligands. Gordon Conference New Hampshire, August, 2001.

Saito, M.A., F.M.M Morel. Metal Substitution in the Cyanobacteria. Center for Bioinorganic Chemistry Annual Meeting, Princeton, June, 2001.

Saito, M.A. The Influence of Cyanobacteria on the Marine Biogeochemistry of Cobalt. 2001 DIALOG ASLO Recent Dissertations.

Saito, M.A. The Biogeochemistry of Cobalt in the Sargasso Sea. 2000 DISCO Dissertations in Chemical Oceanography Conference, Honolulu, Hawaii October, 2000.

Saito, M.A., S.W. Chisholm, J.W. Moffett. Cobalt Uptake Mechanisms in *Prochlorococcus*: "Cobalophores" Versus the Free-Ion Model. American Society for Limnology and Oceanography, San Antonio, Texas, February, 2000.

Saito, M.A., J.W. Moffett, S.W. Chisholm. Are Cobalt Ligands Produced by *Prochlorococcus*? American Society for Limnology and Oceanography, Santa Fe, New Mexico, February, 1999.

Moffett, J.W., M.A. Saito. Organic Complexation of Cobalt in the Sargasso Sea. American Society for Limnology and Oceanography, Santa Fe, New Mexico, February, 1999.

Saito, M.A., M.R. Twiss. Total cobalt and copper concentrations in Lake Erie surface waters. Proceedings of the 41st Conference of the International Association for Great Lakes Research, 1998.

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| **PAPERS PRESENTED AT MEETINGS AND INVITED LECTURES** |

* 1st Joint International Conference ICOBTE and ICHMET ([International Conference of Biogeochemistry of Trace Elements and International Conference of Heavy Metals](https://icobte-ichmet-2023.com/frontend/index.php)) September 2023. Wuppertal, Germany. Plenary Speaker
* Cellular Biology of Metals Gordon Research Conference. Zinc and Cobalt Responsive Proteins in Marine Diatoms and Evidence for Zn-Fe-C co-limitation in Antarctica. July 30th-August 4th. Poster
* Chemical Oceanography Gordon Research Conference. Capturing Changes in the Bio-inorganic Chemistry of the Sea using Trace Metal and Metaproteomic Observations. July 16-21st. Keynote Session Speaker
* 4th [International Ross Sea Conference](https://www.rossseaconference.org/ross/index.html). Naples Italy. July 3-7th. Invited Speaker
* CINAC, University of Costa Rica, invited speaker. April 27th, 2023. Invited talk
* EAWAG, Zurich, Switzerland. Exploring functional marine microbial biogeochemistry using metaproteomics and metalloproteomics. March 16, 2023. Invited Speaker. [Recorded Talk](https://www.youtube.com/watch?v=Hzg3OhmR5J8)
* Clark University Fall 2022 Department Seminar Series. October 12, 2022. Invited Speaker
* Marine microbes in a changing climate, Royal Society Meeting, September 12-13, 2022. Invited Speaker
* OCB Meeting, BioGeoSCAPES Accel-Net and Omics Intercalibration Session, June 2022. Panelist

### [ProSynFest Conference](https://www.prosynfest2020.com/)  Córdoba Spain, March 16-19th 2022. Invited Speaker

### 4th International Metaproteomics Symposium. September 27-29, 2021 Neumunster Abbey, Luxembourg. Invited Speaker

### University of California Santa Cruz, October 8th, 2021. Invited Virtual Lecture

### Cellular Biology of Metals. Gordon Research Conference. October 2021. Invited Lecture

### Tara AtlantECO workshop. June 4th, 2021

### ASLO Meeting, Invited Lecture ASLO Presentation “Why Environmental Nutrient Stress Biomarkers Work: Protein-Transcript Correlations and Review of Biomarker Discoveries” June 2021 YouTube [video](https://www.youtube.com/watch?v=89Sq6B0s6Zs)

### UN Ocean Shot presentation BioGeoSCAPES concept. February 2nd 2021. [Recording](https://youtu.be/yGLImSF_Vc8)

### University of Southern California Department Seminar series November 17th 2020.

### Ocean Protein Portal Lighting talk AGU EarthCube booth, December 4, 2020.

### GEOTRACES GP15 Mini-Seminar November 5th, 2020. [Recording](https://drive.google.com/file/d/1O0xO7dpNLKQ3AZydufuinnh99ORrntrv/view?usp=sharing)

### Oregon State University Center for Genome Research and Bioinformatics. October 14th, 2020. Invited Virtual Lecture. [Recording](https://media.oregonstate.edu/media/t/1_vpt1sw3n)

### Tri-Service Microbiome Consortia. April 12-14th 2020. Invited Virtual Lecture.

### Marine Chemistry and Geochemistry Department Seminar March 2nd 2021.

### Stockholm University Aquatic Microbial Ecology Lecture Series. Invited Lecture November 18, 2020. [Recording](https://youtube.com/playlist?list=PL27AI8qr2l3h12_Weap75OITIjQgqfwbl)

### Marine Biogeochemistry. Gordon Research Conference. Hong Kong. June 2020. Invited Speaker Cancelled due to COVID-19.

### Scripps Institute of Oceanography, April 29th 2020. Invited Virtual Lecture

### Geobiology. Gordon Research Conference. Texas, January 2020. Invited Lecture

### Metals in Biology. Gordon Research Conference. California, January 2019, Invited Lecture

### Science Beyond Guyot: 25 Years of Hess Fellows – A Symposium During Reunions. Princeton University. May 31st, 2019. Invited Speaker

### ACS New Orleans. Alfred Bader Award in Bioinorganic or Bioorganic Chemistry: Symposium in honor of Alison Butler. March 17th, 2018. Oral Presentation

### Presentation to Massachusetts Life Sciences at WHOI, November 28th 2017.

### Thermo Power Users Meeting, ASMS Pre-Meeting Users Group. San Diego June 2018. Invited Talk

### ASMS Meeting San Diego. June 2018. Poster

### Francois Morel Retirement Celebration Princeton University. June 11th 2018. Poster

### OCB Meeting WHOI 2018. Poster

### Marine Microbes GRC Meeting Il Ciocco Italy. July 2018. Poster

### Annual Foundation Marine Microbial Investigators Meeting. July 23th 2018. Oral Presentation

### ASLO Meeting. Portland Oregon. February 2018. Oral Presentation

### Honolulu Aquarium, October 3rd, 2017. 5th year anniversary event for the R/V Falkor, Schmidt Ocean Institute. Invited Interactive Data Display

### WHOI Ocean Science Journalism Symposium, 2017. Invited Speaker

### International Conference on Biological Inorganic Chemistry (ICBIC-18), Florianopolis, Brazil July, 2017. Keynote Speaker

### Goldschmidt Geochemistry Meeting, Paris France. August 14, 2017. Speaker

### Chemical Oceanography Gordon Research Conference, July 26th 2017. Poster

### Annual Foundation Marine Microbial Investigators Meeting. July 19th 2017. Speaker

### American Society for Mass Spectrometry, June 7th 2017. Poster

### Presentations at Ocean Metaproteomics for Data Sharing Workshop. May3-5th, 2017. Speaker

### Royal Society of Chemistry Session on “Genomics, Proteomics and Other ‘Omics” Pittcon, 2017. Chicago. Invited speaker

### ASLO Meeting, Honolulu Hawaii, February 27th, 2017. Speaker

### National Academy of Sciences Chemistry of Microbiome Seminar Series. December 7, 2016. Washington DC. Panelist

### National Academy of Sciences Chemistry of Microbiome-Oceans Seminar Series. October 19, 2016. Washington DC. Invited Speaker

### Naval Research Laboratory, October 18, 2016, Washington DC. Invited Speaker

### 10th International Copper Meeting: Copper in Biology, Sorrento Italy. Sept 27, 2016. Invited Speaker

### Greater Boston Mass Spectrometry Discussion Group, November 17, 2015. Monthly Evening Lecture Series. Invited Speaker

### University of California Santa Barbara, October 19, 2015, Invited Speaker

### Harvard University Microbial Science Initiative, September 10, 2015, Invited Speaker

### Cell Biology of Metals Gordon Research Conference. July 27, 2015. Invited Speaker

### Ocean Acidification Principal Investigators Meeting, Woods Hole June 11, 2015. Invited Speaker

### Bermuda Institute of Ocean Sciences January 28, 2015. Invited Speaker

### University of Dartmouth, March 10, 2015. Invited Speaker

### Sea Education Association. March 10, 2015. Lecture to Students on Antarctica

### ASLO Meeting, Session: The Molecular Ecology of Microbe-Metal Interactions in the Ocean Environment. Granada Spain, February 23, 2015. Invited Speaker

### Laboratoire des Sciences de l’Environnement Marin (LEMAR), Institut Universitaire Européen de la Mer, Technopôle Brest Iroise. November 20, 2014. Department Seminar

### Marine Biological Laboratory. November 14, 2014. Invited Seminar

### Congresso Brasileiro De Oceanografia (Brazilian Congress of Oceanography). Itajai, Santa Catarina, Brazil. October 2014. Keynote Speaker

### 9th International Copper Meeting: Copper in Biology. Vico Equense, Italy. October 2014. Invited Speaker

### WHOI Ocean Science Journalism Symposium. September 9, 2014. Invited Speaker

### Biometals. Duke University. July 2014. Invited Speaker

### Ocean Global Change Biology Gordon Research Conference. Waterville Valley New Hampshire, July 6-11, 2014. Invited Speaker

### Saito, Mak, Matthew McIlvin, Dawn Moran, Tyler Goepfert, Giacomo DiTullio, Carl Lamborg. Multiple Nutrient Stresses at Intersecting Pacific Ocean Biomes Detected by Protein Biomarkers. American Society for Mass Spectrometry. Baltimore Maryland, June 14-19, 2014. Poster.

### Environmental Geochemistry and Geophysics Seminar, Princeton University, March 27, 2014. Invited Speaker

### Saito, M.A., M. McIlvin, D.M. Moran, C.H. Lamborg, G. DiTullio. Intersection of nutrient limitation biomes in the Equatorial Pacific Ocean as detected by quantitation of proteomic biomarkers (Abstract ID: 16377). Ocean Sciences Meeting Hawaii, February 2014. Presentation

### University of Rochester Biology Department. January 27th 2014. Invited Lecture

### University of Victoria, School of Earth and Ocean Sciences. January 21, 2014. Invited Lecture

### University of Santa Cruz, Department of Ocean Sciences. October 4, 2013. Student-Selected Invited Speaker

### WHOI Ocean Science Journalism Symposium. September 12, 2013. Invited Speaker

### “Distribution of Metalloenzymes in Pacific Ocean Environments as Detected by Proteomic Analysis” Goldschmidt Florence Italy August 27, 2013. Keynote Speaker

### Evening Presentation for the Woods Hole Children’s School of Science on Antarctica and Vitamins, July 2013.

### “Distribution of nutrient stress biomarkers and metalloenzymes in the Pacific Ocean”. Ocean Carbon and Biogeochemistry Summer Workshop. Woods Hole MA, July 23, 2013.

### Saito, Mak, Matthew McIlvin, Dawn Moran, Tyler Goepfert, Alyson Santoro, Carl Lamborg, Vlad Zabrouskov, Justin Blethrow. Discovery and Quantitation of the Marine Microbial Metaproteome in the Central Pacific Ocean.; American Society of Mass Spectrometry. Minneapolis MN, June 12, 2013. Poster.

### Microbial ecology and biogeochemistry of oxygen-deficient marine waters, 18-22 March 2013, Santa Cruz, Chile. Invited Speaker.

### “Detection and Distribution of Metalloenzymes in Pacific Ocean Environments”. ASLO Meeting, New Orleans. February 2013. Oral Presentation.

### "Metalloproteins in the Ocean: Strategies for Coping with Extreme Metal Scarcity". Metals in Biology Gordon Research Conference. Ventura California January 2013. Invited Speaker.

### “Metalloenzymes from Marine Microbes of the Pacific Ocean Oxygen Minimum Zones”. 8th International Copper Meeting: Copper in Biology. Sardinia Italy. October 4, 2012. Invited Speaker.

### WHOI Ocean Science Journalism Symposium Invited Speaker. September 13, 2012.

### "Proteomic Investigations of Key Biogeochemical Marine Metalloenzymes". Marine Microbes Gordon Research Conference, June 25, 2012. Il Ciocco Tuscany Italy. Invited Speaker.

### American Chemical Society San Diego CA. March 29, 2012. Invited Speaker.

### Forsythe Institute, Boston MA, January 31, 2012. Invited Speaker.

### Chemical Oceanography Gordon Research Conference, August 16, 2011, Invited Speaker.

### Ocean Carbon and Biology Global Biogeochemical Flux – Ocean Observing Initiative Scoping Workshop May 2011, Invited Speaker.

### Polar Marine Science Gordon Research Conference, March 2011. Invited speaker.

### Upper-Ocean Nutrient Limitation IGBP workshop, Southampton UK. November 2010, Invited Speaker.

### Biogeotraces Workshop Los Angeles, November 2010, Invited Speaker

### Society for General Microbiology, Metals and Microbes Session, Nottingham UK. September 8, 2010. Invited speaker.

### EU COST Speciation Database Workshop, Kiel Germany, August 2010, Invited speaker.

### Organic Geochemistry Gordon Conference, August 3, 2010. Invited speaker.

### Environmental Bioinorganic Chemistry Gordon Conference, June 2010. Invited speaker.

### Caltech, May 5, 2010. Invited speaker.

### Massachusetts Institute of Technology, EAPS March 5, 2010, Invited speaker.

### Goldschmidt Conference, Davos Switzerland June 2009, Keynote Lecture.

### U. Mass Boston, April 29, 2009. Invited speaker.

### Stanford University February 2009. Invited speaker.

### Marine Chemistry and Geochemistry Department Lecture WHOI, February 2009.

### AGU Fall Meeting, San Francisco, December 2008. Invited Speaker.

### Rutgers University, October 6, 2008. Invited speaker.

* GEOTRACES Pacific Cruise Planning Meeting, U. Southern California October 1-3 2008, Plenary Speaker.
* Environmental Bioinorganic Chemistry Gordon Conference June 2008, Invited Speaker.
* Medical University of South Carolina, Student Open House, June 2008, Keynote Speaker.
* Environmental Bioinorganic Chemistry Gordon Conference, June 2008, Invited Speaker.
* Stanford University, Oceans Seminar, May 2008. Invited Speaker.
* WHOI Summer Student Fellow Lecture Series. July 2008.
* Children’s School of Science. Presentation to Global Sustainability and Experiments Class. July 2008.
* GEOTRACES, Atlantic Basin Planning Meeting. September 2007, Oxford University. Invited Speaker.
* Ocean Carbon Biogeochemistry Workshop, July 2007. Invited Speaker.
* University of Kyoto, June 2007. Invited Speaker.
* Stonybrook University, May 2006. Invited Speaker.
* Harvard University, October 2006. Microbial Science Initiative Invited Speaker.
* U. Rhode Island. September 2006. Invited Speaker.
* Oregon Graduate Institute. September 2006. Invited Speaker.
* Old Dominion University. September 2006. Invited Speaker.
* Goldschmidt August 2006. Invited Speaker.
* ASLO June 2006. Oral Presentation and Co-Session Chair.
* American Chemical Society Meeting, March 16, 2005. Oral Presentation and Co-Session Chair
* ASLO February 2005. Oral Presentation and Co-Session Chair.
* Earth Atmospheric Planetary Sciences Department, MIT. December 3, 2004. Invited Speaker.
* Summer Lecture Series. Woods Hole Oceanographic Institution. July 8, 2004.
* American Society for Limnology and Oceanography –TOS meeting, February 2004, Hawaii. Presentation
* Goldschmidt Conference, Kurashiki Japan. September 2003. Oral Presentation.
* McGill University, November 12, 2003. Invited Speaker.
* Stanford University, Geosciences Department. October 23, 2003. Invited Speaker
* University of South Carolina, Columbia. April 2003. Invited Speaker
* Gordon Research Conference on Environmental Bioinorganic Chemistry. June 18, 2002. Invited Speaker
* Gordon Research Conference on Environmental Bioinorganic Chemistry, Andover, NH, June 16-21, 2002. Poster
* AGU/ASLO Ocean Sciences Meeting. Honolulu, Hawaii. February 2002. Oral Presentation
* Environmental Geochemistry and Geophysics Seminar. Princeton University. 2002
* American Chemical Society, Environmental Bioinorganic Chemistry Session. Orlando, 2002. Invited Speaker
* Chemical Oceanography Gordon Conference, Oxford England. 2002. Poster
* Princeton Bioinorganic Chemistry Supergroup, Department of Chemistry. December 4, 2002.
* Wesleyan University. February 2002. Invited Speaker
* Marine Chemistry and Geochemistry Department Seminar. April 3, 2002. Invited Speaker
* American Chemical Society, Environmental Bioinorganic Chemistry Session. Orlando, 2002. Invited Speaker
* American Society for Limnology and Oceanography. February 2001 New Mexico. Oral Presentation
* American Society for Limnology and Oceanography. February 13. 2001 New Mexico
* Center for Bioinorganic Chemistry Annual Meeting, Princeton. June 20, 2001. Invited Speaker
* College of Marine Studies Seminar Series, University of Delaware in Lewes. November 6, 2001. Invited Speaker
* 2001 DIALOG ASLO Recent Dissertations Conference, BBSR, Bermuda
* Woods Hole Oceanographic Institution. Summer Student Lecture Series. June 23, 2000
* Marine Chemistry and Geochemistry Seminar, Woods Hole Oceanographic Institution. June 12, 2000
* Dissertations in Chemical Oceanography Conference. October 24, 2000. Honolulu, Hawaii
* American Society for Limnology and Oceanography. 2000. San Antonio, Texas. Oral Presentation
* Office of Naval Research History of Oceanography Conference. WHOI. March 2000. Poster
* American Society for Limnology and Oceanography. February 3, 1999. Santa Fe, New Mexico. Oral Presentation
* American Society for Limnology and Oceanography. February 4, 1999. Santa Fe, New Mexico. Oral Presentation
* Aquatic Sciences Seminar. Civil and Environmental Engineering MIT. November 1999
* MIT Environmental Biology Seminar. April 30, 1999. Invited Speaker