

CURRICULUM VITAE

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Education B.A. Biology, Johns Hopkins University, 1987
 Ph.D. Oceanography, Stony Brook University, 1993

Professional Experience

2009 – present Professor, Department of Environmental Sciences, Rutgers University
2002 – 2009 Associate Professor, Department of Environmental Sciences, Rutgers University
1996 – 2002 Assistant Professor, Department of Environmental Sciences, Rutgers University
1994 – 1996 Research Associate, Laboratory of Prof. François Morel, Department of Geosciences, Princeton University
1993 – 1994 Post Doctoral Fellow, Laboratory of Prof. François Morel, Ralph M. Parsons Laboratory, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology
1989 – 1992 Research Assistant, Laboratory of Prof. Nicholas Fisher, Stony Brook University

Teaching Experience

Undergraduate: Byrne Freshman Seminar: Exploring New Jersey's Estuarine Waterways;
 Chemical Principles of Environmental Science; Water Chemistry
Graduate: Applications of Aquatic Chemistry
Lectures: Oceanography Seminar, Hydrogeology, Marine Biogeochemistry, Stable Isotopes in the Environment, Seminar in Environmental Sciences

Research Interests

Trace metal accumulation, limitation, and trophic transfer in aquatic organisms; mercury cycling in estuarine and coastal waters; mercury stable isotopes; inorganic carbon accumulation and fixation in marine phytoplankton; subsurface biogeochemistry.

Journal Articles

Kustka, A.B., A.J. Milligan, H. Zheng, A.M. New, C.M. Gates, K.D. Bidle, J.R. Reinfelder (2014) Low CO₂ results in a rearrangement of carbon metabolism to support C₄ photosynthetic carbon assimilation in *Thalassiosira pseudonana*. *New Phytol.* 204: 507-520. DOI: 10.1111/nph.12926.
Colombo, M.J., J. Ha, J.R. Reinfelder, T. Barkay, and Nathan Yee (2014) Oxidation of Hg(0) to Hg(II) by diverse anaerobic bacteria. *Chem. Geol.* 363: 334-340.
Yu, R., J.R. Reinfelder, M.E. Hines, and T. Barkay (2013) Mercury methylation by the methanogen *Methanospirillum hungatei*. *Appl. Environ. Microbiol.* 79: 6325-6330.
Reinfelder, J.R. (2013) Sea changes. *Nature* 500: 532-533.

- Schofield, O., M. Moline, B. Cahill, T. Fraser, A. Kahl, M. Oliver, J. Reinfelder, S. Glenn, R. Chant (2013) Phytoplankton productivity in a turbid buoyant coastal plume. *Cont. Shelf Res.* 63: S138–S148.
- Columbo, M.J., J. Ha, J.R. Reinfelder, T. Barkay, and N. Yee (2013) Anaerobic oxidation of Hg(0) and methylmercury formation by *Desulfovibrio desulfuricans* ND132. *Geochim. Cosmochim. Acta* 112: 166–177.
- Tarique, Q., J. Burger, J.R. Reinfelder (2013) Relative importance of burrow sediment and pore water to the accumulation of trace metals in the clam *Amiantis umbonella*. *Arch. Environ. Contam. Toxicol.* 65: 89-97.
- Kritee, K., J.D. Blum, J.R. Reinfelder and T. Barkay (2013) Microbial stable isotope fractionation of mercury: a synthesis of present understanding and future directions. *Chem. Geol.* 336: 13-25.
- Reinfelder, J.R. (2012) Carbon dioxide regulation of nitrogen and phosphorus in four species of marine phytoplankton. *Mar. Ecol. Prog. Ser.* 466: 57–67.
- Zhu, W. and J.R. Reinfelder (2012) The microbial community of a black shale pyrite biofilm and its implications for pyrite weathering. *Geomicrobiol. J.* 29: 186–193.
- Tarique, Q., J. Burger, J.R. Reinfelder (2012) Metal concentrations in organs of the clam *Amiantis umbonella* and their use in monitoring metal contamination of coastal sediments. *Water Air Soil. Pollut.* 223: 2125-2136.
- Reinfelder, J.R. (2011) Carbon concentrating mechanisms in eukaryotic marine phytoplankton. *Annu. Rev. Mar. Sci.* 3: 291–315.
- Wright D.D., T.K. Frazer, and J.R. Reinfelder (2010) The influence of river plume dynamics on trace metal accumulation in calanoid copepods. *Limnol. Oceanogr.* 55: 2487–2502.
- Smith, L.M., and J.R. Reinfelder (2009) Mercury volatilization from salt marsh sediments, *J. Geophys. Res. Biogeosci.*, 114, G00C09, doi:10.1029/2009JG000979.
- Crespo-Medina, Melitza, Aspasia D. Chatziefthimiou, Nicolas S. Bloom, George W. Luther III, Derek D. Wright, John R. Reinfelder, Costantino Vetriani, and Tamar Barkay (2009) Adaptation of chemosynthetic microorganisms to elevated mercury concentrations in deep-sea hydrothermal vents. *Limnol. Oceanogr.* 54: 41-49.
- Mark A. Moline, Thomas K. Frazer, Robert Chant, Scott Glenn, Charles A. Jacoby, John R. Reinfelder, Jennifer Yost, Meng Zhou, and Oscar M.E. Schofield (2008) Biological responses in a dynamic buoyant river plume. *Oceanography*, 21: 70-90.
- Zhu, W., L.Y. Young, N. Yee, M. Serfes, E.D. Rhine, and J.R. Reinfelder (2008) Sulfide-driven arsenic solubilization from arsenopyrite and pyritic black shale. *Geochim. Cosmochim. Acta* 72: 5243-5250.
- Rhine, E.D., K.M. Onesios, M.E. Serfes, J.R. Reinfelder, and L.Y. Young (2008) Arsenic transformation and mobilization from minerals by the arsenite oxidizing strain WAO. *Environ. Sci. Technol.* 42: 1423–1429.
- Cardona-Marek, T., J. Schaefer, K. Ellickson, T. Barkay, and J.R. Reinfelder (2007) Mercury speciation, reactivity, and bioavailability in a highly contaminated estuary, Berry's Creek, New Jersey Meadowlands, U.S.A. *Environ. Sci. Technol.* 41: 8268-8274.
- Wolfe-Simon, F., V. Starovoytov, J.R. Reinfelder, O. Schofield, and P.G. Falkowski (2006) Localization and role of manganese superoxide dismutase in a marine diatom. *Plant Physiol.* 142: 1701-1709.

- Finkel, Z.V., A.S. Quigg, J.A. Raven, J.R. Reinfelder, O.E. Schofield, and P.G. Falkowski (2006) Irradiance-induced changes in the elemental stoichiometry of marine phytoplankton. *Limnol. Oceanogr.* 51: 2690-2701.
- Quigg, A., J.R. Reinfelder, and N.S. Fisher (2006) Copper uptake kinetics in diverse marine phytoplankton. *Limnol. Oceanogr.* 51: 893-899.
- Goodrow, S.M., R. Miskewitz, R.I. Hires, S.J. Eisenreich, W.S. Douglas, J.R. Reinfelder (2005) Mercury emissions from cement-stabilized dredged material. *Environ. Sci. Technol.* 39: 8185-8190. *with correction:* Goodrow et al. (2006) *Environ. Sci. Technol.* 40: 409.
- Gigliotti, C.L., L.A. Totten, J. H. Offenberg, J. Dachs, J.R. Reinfelder, E. Nelson, T.R. Glenn IV, and S.J. Eisenreich (2005) Atmospheric concentrations and deposition of PAHs to Mid-Atlantic east coast. *Environ. Sci. Technol.* 39: 5550-5559.
- Reinfelder, J.R., A.J. Milligan, and F.M.M. Morel (2004) The role of the C₄ pathway in carbon accumulation and fixation in a marine diatom. *Plant Phys.* 135: 2106-2111.
- Schaefer, J.K., J. Yagi, J.R. Reinfelder, T. Cardona, K.M. Ellickson, S. Tel-Or, and T. Barkay (2004) Role of the bacterial organomercury lyase (MerB) in controlling methylmercury accumulation in mercury-contaminated natural waters. *Environ. Sci. Technol.* 38: 4304 – 4311.
- Totten, L.A., C.L. Gigliotti, D.A. Van Ry, J.H. Offenberg, E.D. Nelson, J. Dachs, J.R. Reinfelder, S.J. Eisenreich (2004) Atmospheric concentrations and deposition of polychlorinated biphenyls to the Hudson River Estuary. *Environ. Sci. Technol.* 38: 2568-2573.
- Koelliker, Y., L.A. Totten, C.L. Gigliotti, J.H. Offenberg, J.R. Reinfelder, Y. Zhuang, S.J. Eisenreich (2004) Atmospheric Wet Deposition of Total Phosphorus in New Jersey. *Water, Air, and Soil Pollut.* 154: 139-150.
- Quigg, A., Z.V. Finkel, A.J. Irwin, Y. Rosenthal, T.-Y. Ho, J.R. Reinfelder, O. Schofield, F.M.M. Morel, P.G. Falkowski (2003) The evolutionary inheritance of elemental stoichiometry in marine phytoplankton. *Nature* 425: 291-294.
- Fan, C.-W. and J.R. Reinfelder (2003) Phenanthrene accumulation kinetics in marine diatoms. *Environ. Sci. Technol.* 37: 3405-3412.
- Chang, S.I. and J.R. Reinfelder (2002) Relative importance of dissolved versus trophic bioaccumulation of copper in marine copepods. *Mar. Ecol. Prog. Ser.* 231:179-186.
- Morel, F.M.M., E.H. Cox, A.M.L. Kraepiel, T.W. Lane, A.J. Milligan, I. Schaperdoth, J.R. Reinfelder, and P.D. Tortell (2002) Acquisition of inorganic carbon by the marine diatom *Thalassiosira weissflogii*. *Funct. Plant Biol.* 29:301-308.
- Reinfelder, J.R. (2001) Photosynthesis in a marine diatom. *Nature* 412:40-41.
- Chang, S.I. and J.R. Reinfelder (2000) Bioaccumulation, subcellular distribution and trophic transfer of copper in a coastal marine diatom. *Environ. Sci. Technol.* 34: 4931-4935.
- Reinfelder, J.R., A.M.L. Kraepiel and F.M.M. Morel (2000) Unicellular C₄ photosynthesis in a marine diatom. *Nature* 407:996-999.
- Reinfelder, J.R., R.E. Jablonka, and M. Cheney (2000) Metabolic responses to sub-acute toxicity of trace metals in a marine microalga. *Environ. Toxicol. Chem.* 19:448-453.
- Reinfelder, J.R. and S.I. Chang. (1999) Speciation and microalgal bioavailability of inorganic silver. *Environ. Sci. Technol.* 33:1860-1863.
- Reinfelder, J.R., N.S. Fisher, W. -X. Wang, J. Nichols, S.N. Luoma (1998) Trace element trophic transfer in aquatic organisms: a critique of the kinetic model approach. *Sci. Total Environ.* 219:117-135.

- Reinfelder, J.R., W.-X. Wang, S.N. Luoma, and N.S. Fisher (1997) Assimilation efficiencies and turnover rates of trace elements in marine bivalves: a comparison of oysters, clams, and mussels. *Mar. Biol.* 129:443-452.
- Tortell, P.D., J.R. Reinfelder, and F.M.M. Morel (1997) Active uptake of bicarbonate by diatoms. *Nature* 390:243-244.
- Mason, R.P., J.R. Reinfelder, and F.M.M. Morel (1996) The uptake, toxicity and trophic transfer of inorganic mercury and methylmercury in a marine diatom. *Environ. Sci. Technol.* 30:1835-1845.
- Wang, W.-X., J.R. Reinfelder, B.-G. Lee, and N.S. Fisher (1996) Assimilation and regeneration of trace elements by marine copepods. *Limnol. Oceanogr.* 41:70-81.
- Morel, F.M.M. and J.R. Reinfelder (1995) Growth limits on phytoplankton. *Nature* 373:28.
- Mason, R., J.R. Reinfelder, and F.M.M. Morel (1995) Bioaccumulation of mercury and methylmercury. *Water, Air, Soil Pollut.* 80:915-921.
- Reinfelder, J.R. and N.S. Fisher (1994) The retention of elements absorbed by juvenile fish (*Menidia menidia*, *M. beryllina*) from zooplankton prey. *Limnol. Oceanogr.* 39:1783-1789.
- Morel, F.M.M., J.R. Reinfelder, S.B. Roberts, C.P. Chamberlain, J.G. Lee, and D. Yee (1994) Zinc and carbon co-limitation of marine phytoplankton. *Nature* 369:740-742.
- Reinfelder, J.R. and N.S. Fisher (1994) The assimilation of elements ingested by marine planktonic bivalve larvae. *Limnol. Oceanogr.* 39:12-20.
- Reinfelder, J.R., N.S. Fisher, S.W. Fowler, and J.-L. Teyssié (1993) Release rates of trace elements and protein from decomposing planktonic debris. 2. Copepod carcasses and sediment trap particulate matter. *J. Mar. Res.* 51:423-442.
- Luoma, S.N., C. Johns, N.S. Fisher, N.A. Steinberg, R.S. Oremland, and J.R. Reinfelder (1992) Absorption of organo-selenium and elemental selenium via ingestion in the bivalve *Macoma balthica*. *Environ. Sci. Technol.* 26:485-491.
- Reinfelder, J.R. and N.S. Fisher (1991) The assimilation of elements ingested by marine copepods. *Science* 251:794-796.
- Fisher, N.S. and J.R. Reinfelder (1991) Assimilation of selenium in the marine copepod *Acartia tonsa* studied with a radiotracer ratio method. *Mar. Ecol. Prog. Ser.* 70:157-164.

Submitted Manuscripts

- Janssen, S., Marcus W. Johnson, Joel Blum, Tamar Barkay, and John R. Reinfelder (submitted) Separation of monomethylmercury from estuarine sediments for mercury isotope analysis. *Chemical Geology*.

Manuscripts in Preparation

- Kritee, K., Laura C. Motta, Joel D. Blum, Martin Tsui, Tamar Barkay and John R. Reinfelder (in preparation for ES&T) Mass independent fractionation of mercury during photochemical reduction of intracellular mercury in marine phytoplankton.
- Motta-Medina, Laura C., K. Kritee, Joel D. Blum, Martin Tsui, Tamar Barkay and John R. Reinfelder (in preparation for ES&T) Fractionation of mercury stable isotopes during photochemical reduction of organically-complexed Hg(II).
- Ndu, U., T. Barkay, R.P. Mason, A.T. Schartup, R. Al-Farawati, J. Liu, J.R. Reinfelder (in prep. for submission to Plos One) The use of a mercury biosensor to evaluate the

- bioavailability of mercury-thiol complexes and mechanisms of mercury uptake in bacteria.
- Reinfelder, J.R. and Derek D. Wright (in prep. for submission to Marine Chemistry) Production, oxidation, and volatilization of dissolved gaseous mercury in the Hudson River buoyant plume.
- Smith, L.M. and J.R. Reinfelder (in prep for submission to Environmental Science and Technology) Effects of light and sediment properties on mercury volatilization from intertidal sediments.
- Wright D.D. and J.R. Reinfelder (in prep. for submission to Environmental Science and Technology) Mercury speciation and transport in the Hudson River buoyant plume.
- Yu, R., J.R. Reinfelder, M.E. Hines, and T. Barkay (in prep. for submission to AEM) Syntrophic pathways for microbial mercury methylation.

Reports, Articles, Abstracts and Proceedings

- Reinfelder, J.R. and W. Wallace (2013) Delineation of a potential gaseous elemental mercury emissions source in northeastern New Jersey. Report to the New Jersey Department of Environmental Protection.
- Colombo, M., T. Barkay, J.R. Reinfelder, N. Yee (2011) Microbial uptake and methylation of dissolved elemental mercury. *Mineral. Mag.*, 75: 690.
- Reinfelder, J.R. (2009) Carbon dioxide regulated nutrient demand in marine diatoms. *Geochim. Cosmochim. Acta*, 73: A1085.
- Reinfelder, J.R. and S. Peters (2008) Mercury emissions from Meadowlands sediments and vegetation to the atmosphere. Report to the New Jersey Department of Environmental Protection.
- Young, L.Y., E.D. Rhine, E. Garcia-Dominguez, J.R. Reinfelder, M.E. Serfes (2007) Microbial transformations of hazardous metals in the environment. 12th International Symposium on Water-Rock Interaction, Proceedings, Volumes 1 and 2: 41-46.
- Chant, R., Paul Bissett, Robert Chen, Thomas Frazer, Bernie Gardner, Scott Glenn, Robert Houghton, Mark Moline, John Reinfelder, Oscar Schofield, John Wilkin and Meng Zhou (2005) Update: Lagrangian Transport and Transformation Experiment – LaTTE. *Newsletter of Coastal Ocean Processes* 22:5-6.
- Reinfelder, J.R., G. Stenchikov, and L.A. Totten (2006) Emissions and Atmospheric Transport of PCBs and Hg from Stabilized Harbor Sediments. Report to the New Jersey Marine Sciences Consortium and New Jersey Department of Transportation Office of Maritime Resources.
- Glenn, S.M., R. Chant, J. Kohut, J. Reinfelder, O. Schofield, J. McDonnell (2006) Opening a Window to the Sea: The Potential of the Ocean Observatories for Education. OCEANS 2006 MTS/IEEE: Revolutionizing Marine Science and Technology. Conference Proceedings, Online publication; ISBN:1-4244-0115-1; DOI: 10.1109/OCEANS.2006.306808, <http://ieeexplore.ieee.org/iel5/4098824/4098825/04098963.pdf>. Permanently archived.
- Frazer, T.K., O. Schofield, M.A. Moline, S.M. Glenn, J. Kohut, R.J. Chant, S.R. Keller, M. Oliver, J.R. Reinfelder, M. Zhou, and R.F. Chen. 2006. Coastal Ocean Observatories Enable Biological Investigations in a Buoyant Plume. OCEANS 2006 MTS/IEEE: Revolutionizing Marine Science and Technology. Conference Proceedings, Online

- publication; ISBN:1-4244-0115-1; DOI: 10.1109/OCEANS.2006.306827,
<http://ieeexplore.ieee.org/iel5/4098824/4098825/04098982.pdf>. Permanently archived.
- Reinfelder, J. R. and L.A. Totten (2006) Mercury in the Delaware River Estuary: Past and Present. Report to the Delaware River Basin Commission.
- Chant, R., Paul Bissett, Robert Chen, Thomas Frazer, Bernie Gardner, Scott Glenn, Robert Houghton, Mark Moline, John Reinfelder, Oscar Schofield, John Wilkin and Meng Zhou (2005) Lagrangian Transport and Transformation Experiment (LaTTE). Newsletter of Coastal Ocean Processes 20:3.
- Chant, R., Paul Bissett, Robert Chen, Thomas Frazer, Bernie Gardner, Scott Glenn, Robert Houghton, Mark Moline, John Reinfelder, Oscar Schofield, John Wilkin and Meng Zhou (2005) Wind-forced and spring/neap variability in a buoyant river plume: Observations from a coastal observing system. Newsletter of Coastal Ocean Processes 19:4.
- Reilly, T.J., Walker, C.E., Baehr, A.L., Schrock, R.M. and J.R. Reinfelder (2005) Occurrence of diatoms in lakeside wells in northern New Jersey as an indicator of the effect of surface water on ground-water quality. U.S. Geological Survey Scientific Investigations Report 2005-5263, 13 pp.
- Chant, R., Paul Bissett, Robert Chen, Thomas Frazer, Bernie Gardner, Scott Glenn, Robert Houghton, Mark Moline, John Reinfelder, Oscar Schofield, John Wilkin and Meng Zhou (2005) Lagrangian Transport and Transformation Experiment: 2004 Field Effort. Newsletter of Coastal Ocean Processes 18:5-7.
- Reinfelder, J.R., L.A. Totten, and S.J. Eisenreich (2004) The New Jersey Atmospheric Deposition Network (NJADN). Final report to the New Jersey Department of Environmental Protection.
- Korfiatis, G.P., R.I. Hires, J.R. Reinfelder, L.A. Totten, and S.J. Eisenreich (2003) Monitoring of PCB and Hg Air Emissions in Sites Receiving Stabilized Harbor Sediment. Report to the New Jersey Marine Sciences Consortium and New Jersey Department of Transportation Office of Maritime Resources.
- Eisenreich, S.J. and J.R. Reinfelder (2002) The Bioaccumulation of PCBs and Other SOCs in Phytoplankton via Air-Water Exchange in the NY/NJ Hudson River Harbor Estuary. Report to the Hudson River Foundation.
- Reinfelder, J.R. (2002) Atmospheric cycling of mercury in New Jersey. New Jersey Flows, New Jersey Water Resources Research Institute, 3:2.
- Schaefer, J.K., J.R. Reinfelder, and T. Barkay (2002) The role of bacteria in controlling methylmercury accumulation in New Jersey waters. New Jersey Flows, New Jersey Water Resources Research Institute, 3:1,7.
- Reinfelder, J.R. (2000) Atmospheric deposition of mercury to the New York-New Jersey harbor estuary and watershed. In: M.P. Weinstein, K.E. Kosko, and L.S. Young, eds., Proceedings – The Significance of Atmospheric Pollutant Loading to the New York-New Jersey Harbor Estuary and Watershed (April 13, 2000), NJSO-00-443. New Jersey Marine Sciences Consortium and New Jersey Department of Environmental Protection. pp. 5-7.

Book Chapters

- Serfes, M.E., G.C. Herman, S.E. Spayd, and J. Reinfelder (2010) Sources, mobilization and transport of arsenic in groundwater in the Passaic and Lockatong Formations of the Newark Basin, New Jersey, In: Contributions to the Geology and Hydrogeology of the

Newark Basin, G.C. Herman and M.E. Serfes, eds. N.J. Geological Survey Bulletin 77, pp. E1-E40.

Fisher, N.S. and J.R. Reinfelder (1995) The trophic transfer of metals in marine systems. In: Metal Speciation and Bioavailability in Aquatic Systems, A. Tessier and D.R. Turner, eds., Wiley.

Articles Highlighting Research

- Branan, N. (2009) Sunlight mobilizes mercury in wetlands. Earth magazine (American Geological Institute), 22 December 2009. In reference to Smith and Reinfelder, 2009.
- Betts, K.S. (2005) More sources of mercury in the environment – Landfill created with stabilized contaminated sediments emits more mercury than expected. Environ. Sci. Technol. (Science News), September 28, 2005, http://pubs.acs.org/subscribe/journals/esthag-w/2005/sep/science/kb_sourceHg.html. In reference to Goodrow et al., 2005.
- Minorsky, P.V. (2002) Kranz Anatomy. A Sine Qua Non for C₄ Photosynthesis? Plant Phys. 128:334-335. In reference to Reinfelder et al., 2000 and other related papers.
- Riebesell, U. (2000) Photosynthesis: Carbon fix for a diatom, Nature (News and Views), 407 959-960. In reference to Reinfelder et al., 2000.

Grants–Teaching

Chemical Equilibrium Modeling Software for Aquatic Chemistry. P.I.: John Reinfelder, Cook College, \$1,250, 8/1/99.

Instrumentation to Support the Revision of Analytical Chemistry for Today's Students: Aqueous Systems with Environmental Significance. P.I.: Greg Herzog; Co-P.I.s: John Reinfelder and others, NSF, \$100,000, 7/1/99 - 6/30/02.

Grants–Programmatic

Current:

Interdisciplinary graduate education in environmental science and engineering. P.I.s: D. Gimenez, J.R. Reinfelder, D. Fennell. Dept of Education-GAANN, \$390,000, 7/15/10 - 7/14/15.

Grants–Research

Current:

Impacts of Iron Biogeochemical Cycling on Bioavailability of Cd in Subtropical Paddy Soils. P.I.s: Fangbai Li (Chinese Academy of Sciences), W. Huang, J.R. Reinfelder. Chinese Natural Science Foundation. 7/15/14 – 7/14/17.

Mercury in Hackensack Estuary Sediments. P.I. J.R. Reinfelder. United States Fish and Wildlife Service, \$70,285, 9/15/14 – 9/30/16.

Microbial oxidation of Hg(0): Its effect on Hg stable isotope fractionation and methylmercury production. P.I.s: T. Barkay, N. Yee, J.R. Reinfelder, T. Johnson (University of Illinois Urbana-Champaign). DOE Office of Biological & Environmental Research: Subsurface Biogeochemical Research (SBR), \$1,154,949, 09/1/11 – 8/31/15.

Pending:

Production and lower trophic level bioaccumulation of methylmercury in the coastal marine ecosystem of the West Antarctic Peninsula. P.I.s: J.R. Reinfelder, T. Barkay, J.K. Schaefer, D.K. Steinberg (William & Mary). NSF-Antarctic Organisms and Ecosystems (Polar Programs), \$689,422, 12/15/15 – 12/14/18.

Trace metal requirements and stress responses in diverse anaerobic microorganisms. P.I.s J. Schaefer, J.R. Reinfelder. NSF Integrative Organismal Systems (BIO), 1/1/2016 – 12/31/2018.

Completed:

Mass dependent and independent mercury isotope fractionation during microbial methylation and redox transformations of mercury in natural waters. P.I.s: J.R. Reinfelder, T. Barkay, J.D. Blum (University of Michigan). NSF-EAR (Geobiology & Low Temperature Geochemistry), \$397,756, 6/1/10 - 5/31/14.

Delineation of a potential gaseous elemental mercury emissions source in northeastern New Jersey. PI: J.R. Reinfelder. NJDEP, \$48,125, 06/30/11-06/29/12.

Regulation of the C₄-CCM in Marine Diatoms by CO₂, Light and Nutrients. P.I.s: J.R. Reinfelder, K.D. Bidle (IMCS), A.J. Milligan (Oregon State). NSF-Biological Oceanography, \$434,860, 8/15/05 - 8/31/10.

Microbial Arsenic Mobilization from Newark Basin Shale. P.I.s: J.R. Reinfelder, L.Y. Young. NSF-BioGeoSciences, \$445,397, 10/15/04 - 10/31/09.

Mercury isotope fractionation during microbial and abiotic redox transformations. P.I.s: Tamar Barkay, Joel D Blum, Bjorn Klaue, John Reinfelder. NSF-BioGeosciences. \$226,846, 01/01/05 - 8/31/09.

Lagrangian studies of the transport, transformation, and biological impact of nutrients and contaminant metals in a buoyant plume: A process study in an operational ocean observatory. P.I.s: Robert Chant, John Reinfelder, Scott Glenn, Oscar Schofield, John Wilkin. NSF-Coastal Ocean Program, \$2,241,125, 2/28/03 - 02/27/09.

Mercury Emissions from Meadowlands Sediments and Vegetation to the Atmosphere. P.I. John R. Reinfelder, Co-P.I.: Stephen Peters (Lehigh University). NJDEP, \$51,097, 6/14/05 - 1/15/08.

Emissions and Atmospheric Transport of PCBs and Hg From Stabilized Harbor Sediments. P.I.s: J.R. Reinfelder, G. Stenchikov, L.A. Totten (Rutgers), George Korfiatis, Richard Hires, (Center for Env. Eng., Stevens Inst. of Technol.), New Jersey Marine Sciences Consortium, New Jersey Office of Maritime Resources, \$353,268, 4/03/03 - 4/02/05.

Biocomplexity: The Evolution and Radiation of Eucaryotic Phytoplankton Taxa (Ereupt). P.I.: Paul Falkowski (IMCS, Rutgers); Collaborators: John Reinfelder, others, NSF, \$4,000,000 (Reinfelder: \$13,750), 10/15/00 - 10/14/05.

Delaware River Estuary Air, Water and Sediment Field Study: 2001-2003. P.I.s: L.A. Totten, J.R. Reinfelder, S.J. Eisenreich, Delaware River Basin Commission, \$316,680, 10/1/01 - 4/01/05.

Monitoring Wet Mercury Deposition in Warren County, New Jersey. P.I.: John R. Reinfelder, Enviroplan Consulting, \$36,526, 10/1/02 - 9/30/05.

Photosynthetic C₄ Carbon Fixation Across Marine Phytoplankton Taxa and in Natural Phytoplankton Communities. P.I.: John Reinfelder, CEBIC (NSF-EMSI), P.I.: F. Morel (Princeton), \$25,000, 12/15/03 - 12/14/04.

Factors Controlling Mercury Contamination in Berry's Creek and Downstream Ecosystems. P.I.s: Tamar Barkay (Dept. of Microbiology, Rutgers), John Reinfelder, Meadowlands Environmental Research Institute, \$63,602, 01/01/02 - 12/31/03.

New Jersey Atmospheric Deposition and Research Network. P.I.: Steve Eisenreich (Dept. of Env. Sci, Rutgers); Co-P.I.: John Reinfelder, NJ DEP, U.S. E.P.A., \$748,338, 07/01/98 - 01/31/04.

PCB and Hg Emissions from Stabilized Harbor Sediments. P.I.s: George Korfiatis (Center for Env. Eng., Stevens Inst. of Technol.), Steve Eisenreich (Dept. of Env. Sci, Rutgers), John Reinfelder, New Jersey Office of Maritime Resources, \$224,000, 10/15/00 - 6/30/03.

The Ecology of C₄ Photosynthesis in Marine Diatoms. P.I.: John Reinfelder, Seed grant from CEBIC (NSF-EMSI), P.I.: F. Morel (Princeton), \$35,000, 10/1/00 - 9/30/01.

The Bioaccumulation of PCBs and other SOCs in Phytoplankton via Air-Water Exchange in the NY/NJ Hudson River Harbor Estuary. P.I.: Steven Eisenreich (Dept. of Env. Sci, Rutgers); Co-P.I.: John Reinfelder, Hudson River Foundation, \$171,919, 7/01/99 - 12/31/01.

The Role of Metallothioneins in Marine Trophic Transfer of Metals. P.I.s: John Reinfelder, François Morel (Dept. of Geosciences, Princeton), New Jersey SeaGrant, \$119,920 (Reinfelder Budget: \$62,233), 3/15/00 - 3/14/02.

Plankton Community Composition and Environmental Contaminant Research. P.I.: John Reinfelder, Rutgers University Research Council, \$1,900, 7/1/00 - 5/1/01.

Factors Controlling Methylmercury Degradation in Pine Barren Lakes and the Meadowlands. P.I.s Tamar Barkay (Dept. of Microbiology, Rutgers), John Reinfelder, NJ Water Resources Research Institute, \$30,000, 3/1/01 - 2/28/02.

Phosphoenolpyruvate Carboxylase and an Alternative HCO₃⁻ Utilization Mechanism in Zn-Limited Marine Diatoms. P.I.: John Reinfelder, Seed grant from CEBIC (NSF-EMSI), P.I.: F. Morel (Princeton), \$34,000, 1/1/99 - 6/30/00.

Conference Presentations

- Janssen, S., M.W. Johnson, T. Barkay, J.D. Blum, and J.R. Reinfelder, "Mercury stable isotopic composition of monomethylmercury in estuarine sediments and pure cultures of mercury methylating bacteria," American Geophysical Union, Fall Meeting, San Francisco, CA, December 2014.
- Janssen, S. and J.R. Reinfelder, "Tracking sources of mercury in fish from the Hackensack River estuary, New Jersey, USA using mercury stable isotopes," Passaic River Symposium VI, Montclair, New Jersey, October 2014.
- Reinfelder, J.R., Kritee, L. Motta, "Photomicrobial reduction and dark oxidation of mercury in marine surface waters," the 24th V.M. Goldschmidt Conference, Sacramento, CA, June 2014.
- Sontag, P.T., D. Steinberg, W. Fraser, J.R. Reinfelder, "Accumulation of mercury in krill and penguins along the West Antarctic Peninsula," the 24th V.M. Goldschmidt Conference, Sacramento, CA, June 2014.
- Ndu, U., T. Barkay, J.R. Reinfelder, "The effects of thiol complexation, and Mer transport proteins on the bioavailability of methylmercury in Hg-resistant bacteria," Eleventh International Conference on Mercury as a Global Pollutant, Edinburgh, Scotland, UK, July-August 2013.
- Motta, L.C., Kritee, M. Tsui, T. Barkay, J.D. Blum, J.R. Reinfelder, "Effects of pH, dissolved oxygen, and wavelength of light on mercury stable isotope fractionation during photochemical reduction of organically complexed Hg," Eleventh International Conference on Mercury as a Global Pollutant, Edinburgh, Scotland, UK, July-August 2013.
- Kritee, L.C. Motta, M. Tsui, T. Barkay, J.D. Blum, J.R. Reinfelder, "Mass independent stable isotope fractionation of mercury during intra- and extracellular algal transformations of inorganic and organic mercury," Eleventh International Conference on Mercury as a Global Pollutant, Edinburgh, Scotland, UK, July-August 2013.
- Colombo, M., Juyoung Ha, John Reinfelder, Tamar Barkay, Nathan Yee, "Oxidation of Hg(0) to Hg(II) by metabolically diverse anaerobic bacteria," Eleventh International Conference on Mercury as a Global Pollutant, Edinburgh, Scotland, UK, July-August 2013.
- Janssen, S., M. Tsui, T. Barkay, J.D. Blum, J.R. Reinfelder, "Mercury stable isotopic composition of inorganic mercury and monomethylmercury in sediments from a contaminated estuary," Eleventh International Conference on Mercury as a Global Pollutant, Edinburgh, Scotland, UK, July-August 2013.
- Kustka, A.B., J.R. Reinfelder, K.D. Bidle, A.J. Milligan, "The metabolic response of two marine diatoms to low CO₂ includes C₄-assisted photosynthesis and shifts in carbohydrate metabolism," The Molecular Life of Diatoms, Paris, France, June 2013.
- Janssen, S., M. Tsui, J. Blum, J.R. Reinfelder, "Seasonal and spatial trends of mercury and its stable isotopes in sediment of the Hackensack River, NJ. Hudson-Delaware Chapter of the Society of Environmental Toxicology and Chemistry Annual Meeting, Edison, NJ, May 2013.
- Sontag, P., J.R. Reinfelder, "Bioavailability of methylmercury in marine waters: Effects of thiol complexation and nutrient limitation. Hudson-Delaware Chapter of the Society of Environmental Toxicology and Chemistry Annual Meeting, Edison, NJ, May 2013.
- Kustka, A.B., Reinfelder, J.R., Gates, C., New, A.M., Bidle, K.D., Milligan, A.J., "The metabolic response of diatoms to low CO₂ includes C₄-assisted photosynthesis and

- recovery of photorespiratory products: implications for bloom sustenance," ASLO Aquatic Sciences Meeting, New Orleans, LA, February 2013.
- Colombo, M. J. Ha, J. Reinfelder, T. Barkay, N. Yee, "Microbial production of methylmercury from Hg(0)," the 22nd V.M. Goldschmidt Conference, Montreal, Canada, June 2012.
- Reinfelder, J.R., "Carbon dioxide regulation of nitrogen and phosphorus in four species of marine phytoplankton," TOS-ASLO-AGU Ocean Sciences Meeting, Salt Lake City, UT, February 2012.
- Colombo, M., T. Barkay, J.R. Reinfelder, N. Yee, "Microbial uptake and methylation of dissolved elemental mercury," the 21st V.M. Goldschmidt Conference, Prague, Czech Republic, August 2011.
- Reinfelder, J.R. and L.M. Smith, "Mercury volatilization from wetlands sediments," Geological Society of America Northeastern/Southeastern Combined Meeting, Baltimore, MD, March 2010.
- Reinfelder, J.R., "Carbon dioxide regulated nutrient demand in marine diatoms," the 19th V.M. Goldschmidt Conference, Davos, Switzerland, June 2009.
- Zhu, W. and J.R. Reinfelder, "Microbial Colonization of Iron Sulfide in a Black Shale Aquifer," American Society for Microbiology's 109th General Meeting, Philadelphia, PA, May 2009.
- Reinfelder, J.R. "Nitrogen cost of the diatom CO₂ concentrating mechanism," AGU-ASLO Ocean Sciences Meeting, Orlando, FL, March 2008.
- Chen, R.F., Cai, W.J., Chant, R., Gardner, G.B., Huang, W., Reinfelder, J., Schofield, O., "Carbon cycling in the Hudson River plume," AGU-ASLO Ocean Sciences Meeting, Orlando, FL, March 2008.
- Wright, D.D., Frazer, T.K., Moline, M., Schofield, O., Reinfelder, J.R., "Trophic transfer of trace metals in a buoyant river plume," AGU-ASLO Ocean Sciences Meeting, Orlando, FL, March 2008.
- Frazer, T.K., Chant, R.J., Glenn, S.M., Jacoby, C.A., Keller, S.R., Moline, M.A., Reinfelder, J.R., Schofield, O., Wright, D.D., Yost, J., "Phytoplankton and zooplankton dynamics in a buoyant river plume," AGU-ASLO Ocean Sciences Meeting, Orlando, FL, March 2008.
- Kustka, A.B., Bidle, K.D., Reinfelder, J.R., "Molecular evidence for C₄-type C fixation in diatoms," AGU-ASLO Ocean Sciences Meeting, Orlando, FL, March 2008.
- Crespo-Medina, M., Chatziefthimiou, A., Bloom, N., Reinfelder, J., Vetriani, C., Barkay, T., "Interactions of chemosynthetic bacteria with mercury at deep-sea hydrothermal vents," AGU-ASLO Ocean Sciences Meeting, Orlando, FL, March 2008.
- Smith, L.M. and J.R. Reinfelder, "In Situ Micrometeorological Mercury Fluxes From Tidally-Exposed Wetland Sediments," American Geophysical Union, Fall Meeting, San Francisco, December 2007.
- Rhine, E., K.M. Onosios, M.E. Serfes, J.R. Reinfelder, W. Shu, L.Y. Young, "Can Environmental Microbes Mobilize and Oxidize Arsenic from Shale into Groundwater?" American Geophysical Union, Fall Meeting, San Francisco, December 2007.
- Zhu, W., E.D. Rhine, L.Y. Young, M.E. Serfes, J.R. Reinfelder, "Sulfide-driven arsenic solubilization from arsenopyrite and pyritic black shale," American Geophysical Union, Fall Meeting, San Francisco, December 2007.
- Ellickson, K.M., A. Jimonet, and J.R. Reinfelder, "Total and Labile Trace Metal (Pb, Cu, Cd and Cr) Concentrations in Berry's Creek Estuary, Meadowlands, New Jersey, USA," Society

- of Environmental Toxicology and Chemistry's 28th Annual Meeting, Milwaukee, WI, November 2007.
- Wright D.D., T.K. Frazer, S.R. Keller, F. Reig, and J.R. Reinfelder, "Trace Metals in Zooplankton from the Hudson River Plume," Center for Environmental BioInorganic Chemistry Annual Meeting, Princeton University, Princeton, NJ, June, 2007.
- Smith, L. and J.R. Reinfelder, "Light-Driven Mercury Volatilization from Tidally-Exposed Wetland Sediments of Hudson River Tributaries," Center for Environmental BioInorganic Chemistry Annual Meeting, Princeton University, Princeton, NJ, June, 2007.
- Zhu, W. and J.R. Reinfelder, "Sulfide-driven arsenic solubilization from arsenopyrite and pyritic black shale," Center for Environmental BioInorganic Chemistry Annual Meeting, Princeton University, Princeton, NJ, June, 2007.
- Reinfelder, J.R., D.D. Wright, T.K. Frazer, M.A. Moline, and O. Schofield, "Trace metal accumulation in zooplankton of the Hudson River buoyant plume," American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, 2007.
- Jost, J.M., M.A. Moline, T.K. Frazer, O. Schofield, J.R. Reinfelder, J.A. Connolly, and C. Boland, "Phytoplankton community structure and dynamics within a buoyant river plume," American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, 2007.
- Chant, R.J., J.R. Reinfelder, T.K. Frazer, R. Houghton, S.M. Glenn, O. Schofield, J. Wilkin, R. Chen, R.F. and M. Zhou. "Circulation and mixing of the Hudson River outflow: Implications for the transport and transformation of terrestrial material into the coastal ocean," American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, 2007.
- Smith, L. and J.R. Reinfelder, "Light-driven mercury volatilization from tidally-exposed wetland sediments of Hudson River tributaries." Eighth International Conference on Mercury as a Global Pollutant, Madison, WI, August 2006.
- Wright, D.D. and J.R. Reinfelder, "Mercury transport and cycling in the Hudson River estuary and bouyant plume." Eighth International Conference on Mercury as a Global Pollutant, Madison, WI, August 2006.
- Crespo-Medina, M., N. Bloom, A. Chatziefthimiou, J.R. Reinfelder, C. Vetriani, and T. Barkay, "Interactions of chemosynthetic bacteria with mercury at deep-sea hydrothermal vents." Eighth International Conference on Mercury as a Global Pollutant, Madison, WI, August 2006.
- Reinfelder, J.R., D.D. Wright, and L. Smith, "Production, oxidation, and volatilization of dissolved gaseous mercury in the Hudson River buoyant plume." AGU-ASLO Ocean Sciences Meeting, Honolulu, HI, February 2006.
- Wright, D.D., D.J. Loeffler, and J.R. Reinfelder, "The distribution and speciation of trace metals in the Hudson River plume." AGU-ASLO Ocean Sciences Meeting, Honolulu, HI, February 2006.
- Milligan, A.J., J. Moore and J.R. Reinfelder, "The C₄ -CO₂ concentrating mechanism of diatoms." AGU-ASLO Ocean Sciences Meeting, Honolulu, HI, February 2006.
- Reinfelder, J.R. and D. Wright, "Speciation and transport of mercury and other trace metals in the Hudson River buoyant plume." Estuarine Research Federation Biennial Conference, Norfolk, VA, October 2005.

- Rhine, E.D., M.E. Serfes, J.R. Reinfelder and L.Y. Young, "Microbial enhancement of arsenic mobilization from Newark Basin shale." The Joint International Symposia for Subsurface Microbiology and Environmental Biogeochemistry, Jackson Hole, WY, August 2005.
- Frazer, T.K., M.A. Moline, O. Schofield, J.R. Reinfelder, S.M. Glenn, R.J. Chant, R.W. Houghton, R.F. Chen, M. Zhou, W.P. Bissett, and J.L. Wilkin, "Phytoplankton production, micro-zooplankton grazing and metals in a buoyant river plume." American Society of Limnology and Oceanography Summer Meeting, Santiago de Compostela, Spain, June 2005.
- Frazer, T.K., M.A. Moline, O. Schofield, J.R. Reinfelder, S.M. Glenn, R.J. Chant, R.W. Houghton, R.F. Chen, M. Zhou, W.P. Bissett, and J.L. Wilkin, "Phytoplankton, zooplankton and metals in a buoyant river plume." The Oceanography Society, International Ocean Research Conference, Paris, France, June 2005.
- Wright, D., K. Ellickson, J. Moore, and J.R. Reinfelder, "Trace metals and nutrients in the Hudson River buoyant plume." American Geophysical Union, Fall Meeting, San Francisco, December 2004.
- Reinfelder, J.R., A.J. Milligan, and F.M.M. Morel, "The role of the C₄ pathway in carbon accumulation and fixation in marine diatoms." Fifth International Symposium on Inorganic Carbon Utilization by Aquatic Photosynthetic Organisms, St Sauveur, Quebec, August 2004.
- Schaefer, J. K., J. Yagi, T. Cardona-Marek, K. Ellickson, S. Tel-Or, J. Reinfelder, and T. Barkay, "The role of the bacterial enzyme, organomercurial lyase, in controlling methylmercury accumulation in mercury contaminated natural waters." 7th International Conference on Mercury as a Global Pollutant, Ljubljana, Slovenia, June 2004.
- Reinfelder, J.R., A.J. Milligan, and F.M.M. Morel, "C₄ photosynthesis in marine diatoms." Aquatic photosynthesis workshop, Rutgers, New Brunswick, NJ, December 2003.
- Ellickson, K.M., Zhuang, Y., Turpin, B.J., Eisenreich, S.J., Totten, L.A. Reinfelder, J.R. "Source identification of mercury and other trace metals in New Jersey fine particulate matter (PM_{2.5}) and rain." Society of Environmental Toxicology and Chemistry's 24th Annual Meeting, Austin, TX, November 2003.
- Cardona-Marek, T., K.M. Ellickson, L.A. Totten, and J.R. Reinfelder, "Mercury Cycling in the Estuarine Zones of the Delaware River." Society of Environmental Toxicology and Chemistry's 24th Annual Meeting, Austin, TX, November 2003.
- Zhuang Y., Ellickson, K.M., Eisenreich, S.J., Totten, L.A. Reinfelder, J.R. "Atmospheric deposition and impacts of trace metals and mercury in the New Jersey Atmospheric Deposition Network (NJADN)." Society of Environmental Toxicology and Chemistry's 24th Annual Meeting, Austin, TX, November 2003.
- Schaefer, J., T. Cardona-Merek, K. Ellickson, J. Yagi, T. Barkay, J. Reinfelder, "Mercury Contamination in Berrys Creek and Downstream Ecosystem." Meadowlands Environmental Research Institute Symposium, Lyndhurst, NJ, October 2003.
- Totten, L. J. R. Reinfelder, C. Gigliotti, D. Van Ry, J. Dachs, J. Girona, J. Offenber, Y. Koelliker, M. Panangadan, S. Yan, Y. Zhuang, S. Goodrow, K. Ellickson, R. Gioia, S. Eisenreich, "Atmospheric Deposition of Organic and Inorganic Contaminants to the New Jersey Meadowlands." Meadowlands Environmental Research Institute Symposium, Lyndhurst, NJ, October 2003.
- Cardona, T. and J. R. Reinfelder "Mercury Cycling in the Delaware River Estuary," 88th New Jersey Water Environment Association Meeting, Atlantic City, NJ, May 2003.

- Antonietta Quigg, T.Y. Ho, Z.V. Finkel, A.J. Irwin, J.R. Reinfelder, O. Schofield, F.M.M. Morel, and P.G. Falkowski, "An extended Redfield ratio for trace metals in marine phytoplankton." American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, February 2003.
- Koelliker, I., C. Gigliotti, and J.R. Reinfelder, "Phosphorus in New Jersey Atmospheric Deposition Network (NJADN) Precipitation." New Jersey Center for Environmental Indicators, Science and Technical Program Areas, New Brunswick, NJ, November 2002.
- Goodrow, S. M. and J. R. Reinfelder, "The Release of Mercury Vapor from Land-Applied, Stabilized Harbor Sediments," 34th Mid-Atlantic Industrial & Hazardous Waste Conference, New Brunswick, NJ, September 2002.
- Schaefer, J.K., J. R. Reinfelder, J. Yagi, S. Tel-Or, T. Cardona, K. Ellickson, and T. Barkay, "The Potential Role of Bacterial Activities in Controlling Methylmercury Accumulation in Freshwater Ecosystems in New Jersey," 34th Mid-Atlantic Industrial & Hazardous Waste Conference, New Brunswick, NJ, September 2002.
- Reinfelder, J.R., Y. Zhuang, C. Gigliotti, L. Totten, and S.J. Eisenreich, "Sources and Deposition of Mercury in New Jersey Rain and Fine Aerosols," American Society of Limnology and Oceanography Summer Meeting, Victoria, British Columbia, June 2002.
- Zhuang, Y. and J.R. Reinfelder, "Phytoplankton Bioavailability of Copper in Urban Rain," American Society of Limnology and Oceanography Summer Meeting, Victoria, British Columbia, June, 2002.
- Schaefer, J.K., J. R. Reinfelder, J. Yagi, S. Tel-Or, and T. Barkay, "The Potential Role of mediated Resistance in Controlling Methylmercury Accumulation in Freshwater Ecosystems in New Jersey," American Society of Microbiology 102nd General Meeting, Salt Lake City, UT, May 2002.
- Fan, C.-W., S.J. Eisenreich, and J.R. Reinfelder, "Phenanthrene accumulation kinetics in coastal marine diatoms," Society of Environmental Toxicology and Chemistry, Annual Meeting, Baltimore, MD, November, 2001.
- Reinfelder, J.R., "Intracellular compartmentalization of trace metals in marine phytoplankton: cellular regulation and trophic transfer," Society of Environmental Toxicology and Chemistry, Annual Meeting, Baltimore, MD, November, 2001.
- Reinfelder, J.R., Y. Zhuang, and S.J. Eisenreich, "Atmospheric deposition of mercury and source tracers in New Jersey: Results from the NJ Atmospheric Deposition Network (NJADN)," Society of Environmental Toxicology and Chemistry, Annual Meeting, Baltimore, MD.
- Yan, S., J. Dachs, S.J. Eisenreich, J.R. Reinfelder, and C.-W. Fan, "Bioaccumulation of PCBs in Phytoplankton via Ai-Water Exchange in the New York-New Jersey Estuary," Society of Environmental Toxicology and Chemistry, Annual Meeting, Baltimore, MD, November, 2001.
- Zhuang, Y., S.J. Eisenreich, and J.R. Reinfelder, "Trace metal Deposition in the New Jersey Atmospheric Deposition Network (NJADN) and NJ Coastal Waters," Society of Environmental Toxicology and Chemistry, Annual Meeting, Baltimore, MD, November, 2001.
- Reinfelder, J.R., "C₄ photosynthesis in marine diatoms," Center for Environmental BioInorganic Chemistry Annual Meeting, Princeton University, Princeton, New Jersey, June, 2001.
- Chang, S.I. and J.R. Reinfelder, "Bioaccumulation of copper in marine copepods," Center for Environmental BioInorganic Chemistry Annual Meeting, Princeton University, Princeton, NJ, June, 2001.

- Fan, C.-W. and J.R. Reinfelder, "Kinetics of phenanthrene accumulation in coastal marine diatoms," Center for Environmental BioInorganic Chemistry Annual Meeting, Princeton University, Princeton, NJ, June, 2001.
- Herzog, G., T. Chase Jr., J.R. Reinfelder, R. Sherrell, and O. Schofield, "Analyzing Sea Water: A Laboratory Course in Analytical Chemistry for Second-Year Students," 27th Annual Conference of the Federation of Analytical Chemistry and Spectroscopy Societies, Nashville, TN, September, 2000.
- Reinfelder, J.R., "Evidence for C₄ metabolism in a marine diatom," Center for Environmental BioInorganic Chemistry Annual Meeting, Princeton University, Princeton, NJ, June, 2000.
- Chang, S.I. and J.R. Reinfelder, "Bioaccumulation, subcellular distribution, and trophic transfer of Cu in a coastal marine diatom," Gordon Research Conference, Environmental Sciences: Water, Plymouth, NH, June, 2000.
- Reinfelder, J.R., Y. Zhuang, and S.J. Eisenreich, "Wet and Dry Deposition of Mercury and Other Trace Metals to the NY/NJ Harbor Estuary and Watershed," American Geophysical Union, Spring Meeting, Washington D.C. 2000.
- Reinfelder, J.R. and F.M.M. Morel, "Phosphoenolpyruvate carboxylase and an alternative carbon assimilation pathway in a marine diatom," Center for Environmental BioInorganic Chemistry Annual Meeting, Princeton University, Princeton, NJ, June, 1999.
- Chang, S.I. and J.R. Reinfelder, "Speciation and microalgal bioavailability of inorganic silver," American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, 1999.
- Reinfelder, J.R. and F.M.M. Morel, "Phosphoenolpyruvate carboxylase and a C₄ carbon pump in marine diatoms," American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, 1999.
- Tortell, P.D., J.R. Reinfelder, and F.M.M. Morel, "Bicarbonate utilization in coastal diatom blooms," AGU-ASLO Ocean Sciences Meeting, San Diego, CA, 1998.
- Keller, K., J.R. Reinfelder, and F.M.M. Morel, "Differences among the global air-sea flux of carbon dioxide and its tracers," American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, 1997.
- Reinfelder, J.R. and F.M.M. Morel, "Increased activity of the C₄ enzyme phosphoenolpyruvate carboxylase in the marine diatom *Thalassiosira weissflogii* grown under low concentrations of CO₂ and Zn," American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, 1997.
- Tortell, P.D., J.R. Reinfelder, and F.M.M. Morel, "Inorganic carbon utilization in the centric diatom *Thalassiosira weissflogii*," American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, 1997.
- Reinfelder, J.R. P.D. Tortell, and F.M.M. Morel, "C₄ photosynthesis in marine diatoms," Third International Symposium on Inorganic Carbon Utilization by Aquatic Photosynthetic Organisms, Vancouver, British Columbia, 1997.
- Tortell, P.D., J.R. Reinfelder, and F.M.M. Morel, "Field evidence for bicarbonate utilization in the oceans," Third International Symposium on Inorganic Carbon Utilization by Aquatic Photosynthetic Organisms, Vancouver, British Columbia, 1997.
- Reinfelder, J.R. and F.M.M. Morel, "Closing in on the mechanism of Zn-modulated inorganic carbon accumulation in a marine diatom," AGU-ASLO Ocean Sciences Meeting, San Diego, CA, 1996.

- Reinfelder, J.R., F.M.M. Morel, and S.B. Roberts, "The role of zinc in inorganic carbon utilization in marine phytoplankton," AGU-ASLO Ocean Sciences Meeting, San Diego, CA, 1994.
- Mason, R.P., Reinfelder, J.R., F.M.M. Morel, " Bioaccumulation of mercury and methylmercury," American Society of Limnology and Oceanography Annual Meeting, Edmonton, Alberta, Canada, 1993.
- Reinfelder, J.R. and N.S. Fisher, "Assimilation efficiencies and turnover rates of trace elements ingested by adult oysters (*Crassostrea virginica*) and hard clams (*Mercenaria mercenaria*)," American Society of Limnology and Oceanography Annual Meeting, Edmonton, Alberta, Canada, 1993.
- Reinfelder, J.R., "The fate of elements ingested by marine planktivores," Dissertations Symposium on Chemical Oceanography XI, Honolulu, HI, 1993.
- Reinfelder, J.R. and N.S. Fisher, "The assimilation of elements ingested by planktonic bivalve larvae," 11th International Estuarine Research Conference, San Francisco, CA, 1991.
- Reinfelder, J.R. and N.S. Fisher, "Selenium assimilation in two marine herbivores," International Conference on Metals in Soils, Waters, Plants and Animals, Orlando, FL, 1990.

Invited Talks – Outside of Rutgers

- Department of Chemistry and Environmental Science, New Jersey Institute of Technology, April 29, 2014.
- Sustainability Seminar Series, Department of Earth and Environmental Studies, Montclair State University, November 12, 2013.
- Department of Earth and Environmental Sciences, Rutgers-Newark, April 18, 2012
- First International Conference on the Molecular Life of Diatoms, Georgia Institute of Technology, June 9, 2011.
- Earth and Environmental Sciences Department, Lehigh University, April 1, 2011.
- Lamont-Doherty Earth Observatory (Biology and Paleo Environment Division), Columbia University, March 13, 2009.
- American Society for Microbiology's 108th General Meeting, Boston, MA, June 2, 2008
- Department of Fisheries and Aquatic Sciences, University of Florida, March 21, 2008
- Department of Marine Sciences, University of Connecticut, March 9, 2007
- Meadowlands Environmental Research Institute, March 10, 2006
- Department of Civil and Environmental Engineering, University of Delaware, March 18, 2004
- Department of Geosciences, Princeton University, March, 2003
- CO₂ Fixation & Metabolism in Green Plants, Gordon Research Conference, August 13, 2002
- Marine Science Research Center, SUNY Stony Brook, March 17, 2000
- Department of Biological Sciences, Dartmouth College, February 4, 2000
- Chesapeake Biological Laboratory, University of Maryland, March 6, 1998
- College of Marine Studies, University of Delaware, October 28, 1997
- Department of Biology, East Carolina University, April 19, 1996
- INRS-Eau, University de Quebec, March 15, 1995
- Department of Biological Oceanography, WHOI, November 5, 1993

Invited Talks – Inside Rutgers

- Microbiology at Rutgers, Third Annual Mini-Symposium, January 30, 2009
- Department of Biochemistry and Microbiology, Rutgers University, April 25, 2008

Rutgers Energy Institute, May 24, 2007
Department of Geological Sciences, Rutgers University, October 1, 2003
New Jersey Center for Environmental Indicators, Rutgers University, May 17, 2000.
Department of Environmental Sciences, Rutgers University, February 25, 1997
Environmental and Occupational Health Sciences Institute, Rutgers, November 15, 1996

Other Presentations

"Tracking a Potential Gaseous Elemental Mercury Emissions Source in Northeastern New Jersey," New Jersey Department of Environmental Protection, April 3, 2014.
"Trace Metals, Nutrients, and Mercury in the New Jersey Atmospheric Deposition Network (NJADN)," New Jersey Department of Environmental Protection, September 23, 2004.
"Monitoring of PCB and Hg Air Emissions in Sites Receiving Stabilized Harbor Sediment," New Jersey Sea Grant Program Assessment, May 17, 2004.
"Results from the New Jersey Atmospheric Deposition Network (NJADN)," New Jersey Department of Environmental Protection, May 20, 2002.

Synergistic Activities

Proposal Review Panel, Division of Polar Programs, National Science Foundation, 2014.
Rutgers 4-H Samsung Summer Science Program, New Jersey Agricultural Experiment Station, Rutgers. STEM roundtable discussion and lab tour leader, July, 2013, 2014.
Ocean Sciences Meeting, Salt Lake City, Utah, February, 2012. Co-organized special session: "The Biological Basis and Geochemical Consequences of Non-Redfield N:P Ratios in the Ocean."
Research Internships in Ocean Sciences (RIOS), Institute of Marine and Coastal Sciences, Rutgers. Program speaker, June 2010.
Rutgers School of Environmental and Biological Sciences Research Poster Contest judge, April 2010.
Geological Society of America Northeastern/Southeastern Combined Meeting, Baltimore, MD, March 2010. Co-convener of session: "Mercury in the Environment: From Maine to Florida."
AGU-ASLO Ocean Sciences Meeting, Orlando, Florida, March, 2008. Organized general session: "Biological Oceanography, Marine Biology."
American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, New Mexico, February, 2007. Organized special session: "River Plume Dynamics and Biogeochemistry."
New Jersey Department of Environmental Protection's Watershed Management Review Committee to review watershed management strategies and the total maximum daily load (TMDL) process, 2001-2006, 2008-present.
Co-lead an educational excursion on the Hudson River for 50 high school students and four high school science teachers from the Liberty Science Center's Partners in Science mentoring program and the Weston Scholars mentoring program, May 20, 2006.
Workshop on Linking Elements of the Integrated Ocean Observing System (IOOS) with the planned National Water Quality Monitoring Network, Rutgers University, September 19-21, 2005. Participant in Coastal Ocean subgroup.
Hudson River Foundation, Long Range Planning Workshop: Chemical Contaminants, July, 2005.

Reviewer and program presenter for the Junior Science and Humanities Symposium, DOD-sponsored program for talented, underrepresented high school students, 2004.

American Society of Limnology and Oceanography, Summer Meeting, Victoria, British Columbia, 2002. Organized special session, "Speciation, Bioavailability and Ecological Impacts of Atmospheric Trace Metal Deposition."

Workshop on Total Maximum Daily Loads in the Hudson-Delaware Region (SETAC, Hudson-Delaware Chapter, NJ DOT Office of Maritime Resources), Trenton, New Jersey, September 13, 2002. Gave talk, "The use of atmospheric deposition data in TMDLs."

Barnegat Bay Watershed and Estuary Foundation's Annual Conflict Resolution Seminar, Toms River, New Jersey, May 15, 2002. Gave talk, "Atmospheric Deposition of Organic and Trace Metal Pollutants to New Jersey Watersheds and Estuaries."

Coastal/Estuarine Research Agenda (NJ Department of Environmental Protection), Trenton, New Jersey, June 8, 2001. Contributed to the prioritization of research needs in the Water Quality and Processes section.

"Scientific Perspectives on Mercury Management in the Hudson-Delaware Region," SETAC, Hudson-Delaware Chapter workshop, Monmouth University, West Long Branch, New Jersey, September 29, 2000. Gave talk, "Wet Deposition of Mercury to Surface Waters in the Hudson-Delaware Region" and sat on panel for afternoon Q & A.

"The Significance of Atmospheric Pollutant Loading to the New York-New Jersey Harbor Estuary and Watershed," New Jersey Marine Sciences Consortium workshop, Monmouth University, West Long Branch, New Jersey, April 13, 2000. Gave talk, "Atmospheric Pollutant Loading: Current State of Knowledge, Data Gaps, and Information Needs (Mercury)" and sat on panel for afternoon Q & A.

Contaminant Assessment and Reduction Project (CARP) Mercury Workshop, NY Department of Environmental Conservation, NJ Department of Environmental Protection, Hudson River Foundation, New York, NY, December 4, 1998. Candidate was a member of the panel that reviewed sampling, analysis, and modeling concerns for CARP's mercury monitoring program in the NY/NJ Harbor Estuary.

Paradigms of Metal Bioaccumulation in Aquatic Ecosystems, Berkeley, California, November, 1997. Sponsored by the Wisconsin Department of Natural Resources and the Electric Power Research Institute. Co-Chair of the Trophic Transfer section.

Student Advising

Undergraduate:

- Academic advisor for Environmental Science majors
- Faculty Advisor for the Undergraduate Environmental Science and Engineering Club (2000-present)
- Research advisor for Nicole Guzman (Environmental Sciences-Reich Scholar), Avery Lee (Chemistry-Aresty Fellow), Jianhan Wang (Env. Sci.), Shuai Luo (Env. Sci.), Kevin Sung (Chemistry-Aresty Fellow), Alyssa Devincentis (Env. Sci.), Brittany Karas (Env. Sci.), Laura Motta (Chemistry-Helyar House Scholar), Nicholas Wright (Biology Rutgers-Aresty Fellow), Rumman M. Hossain (Biomolecular Eng., Stony Brook), Timothy Blockus (Env. Sci., Middlesex), Frank Reig (Env. Sci.), Anna Solovyeva (Biology), Kathleen Kang (BEE), Logan Yu (Cooper Union), Rebecca Spaul (Env. Sci.), David Loeffler (Env. Sci.), Ben Smolinski (Env. Sci.), Jennifer Quiñones González (Chemistry, University of Puerto Rico, Humacao), Jennifer Kos (Env. Sci.), James Moore

(Env. Sci.), Aurelie Jimonet (Chemistry), Karan Bhandari (BRE), Sandra Goodrow (Env. Sci.), Elizabeth Krupka (Env. Sci.), Brian Rath (Biology), Jill McCarthy (Env. Sci.), Jacqueline Paritte (Biology), Asiya Ali (Chemistry)

Graduate:

- Advisor (all are for the Graduate Program in Environmental Science except where noted): Ryan Hupfer (M.S., Geological Sciences); Sarah Janssen (Ph.D. program), Philip Sontag (Ph.D. program), Wenyi Zhu (Ph.D. 2010, current position: post-doc Wofford College, South Carolina), Derek Wright (Ph.D. 2008, current position : Assistant Professor, Lake Superior State University, Michigan), Lora Smith (Ph.D. 2008, current position: US EPA Region II, New York), Tamara Cardona (Ph.D. 2005, current position: Alaska Department of Environmental Conservation, Fairbanks), Yan Zhuang (Ph.D. 2004, current position: WESTAT Research Corp.), Sandra Goodrow (M.S. 2003, TetraTech), Dan Salvito (Ph.D. 2003, current position: Research Institute for Fragrance Materials), Cheng-Wei Fan (Ph.D. 2002, current position: Department of Earth and Environmental Sciences, National Chung Cheng University, Taiwan), Sung Il Chang (Ph.D., 2001, Current position: Lonza, Alpharetta, Georgia).
- Co-advisor: Rachel Jablonka (M.S., 1998, Current position: Project Officer, U.S. E.P.A. Region II, New York.)
- Thesis/Dissertation committees: Timothy Reilly (Ph.D. Earth and Planetary Sciences), Pami Mukherjee (Ph.D. Earth and Environmental Sciences, Rutgers-Newark), Huajun Zhen (Ph.D. 2014, Environmental Sciences), Jeff Kirkland (Ph.D. 2014, Environmental Sciences), Angela Bellantoni (Ph.D. 2014, Environmental Sciences), Matt Colombo (Ph.D., 2013, Environmental Sciences), Katie Harazin (M.S. 2013, Marine Sciences), Josh Butler (Ph.D. 2013, Environmental Sciences), Sophia Johnson (Ph.D. 2013, Environmental Sciences), Adam Mumford (Ph.D. 2012, Environmental Sciences), Joanne Theisen (M.S. 2012, Environmental Sciences), Sean Bugel (Ph.D. 2011, Environmental Sciences), Riqing Yu (Ph.D. 2011, Environmental Sciences), Gerald Rustic (M.S. 2011, Environmental Sciences), Archil Zarnadze (Ph.D. 2010, Environmental Sciences), Andy Sandy (Ph.D. 2010, Environmental Sciences), Brian Gaas (Ph.D. 2010, Oceanography), Dawn Cacia (M.S. 2010, Environmental Sciences), Erin Gallagher (Ph.D. 2010, Environmental Sciences), Michele LaVigne (Ph.D. 2010, Oceanography), Katye Altieri (Ph.D. 2009, Oceanography), Sandra Goodrow (Ph.D. 2009, Environmental Sciences), Melitza Crespo-Medina (Ph.D. 2009, Microbiology and Molecular Biosciences), Songyan Du (Ph.D. 2008, Environmental Sciences), Ellen Fyock (M.S. 2008, Environmental Sciences), James Moore (M.S. 2008, Environmental Sciences), Kritee (Ph.D. 2008, Microbiology and Molecular Biosciences), Qaiser Tarique (Ph.D. 2008, Ecology and Evolution), Samriti Sharma (Ph.D. 2007, Environmental Science), Yongcheng Ji (Ph.D. 2006, Oceanography), Ann Marie Carlton (Ph.D. 2006, Environmental Sciences), Felisa Wolfe-Simon (Ph.D. 2006, Oceanography), Amy Rowe (Ph.D. 2006, Environmental Sciences), Andrea Polidori (Ph.D. 2005, Environmental Sciences), Eleni Anagnostou (M.S. 2005, Environmental Sciences), Jeffra Schaefer (Ph.D. 2005, Microbiology and Molecular Biosciences), Michael Serfes (Ph.D. 2005, Geological Sciences), Zoe Finkel (Ph.D. 2005, Oceanography), Cynthia Liutkus (Ph.D. 2005, Geological Sciences), Scott Mittman, Ph.D. 2004, Environmental Sciences), Cari Gigliotti (Ph.D. 2003, Environmental Science), Rosalinda Gioia (M.S. 2003,

Environmental Science), Shu Yan (M.S. 2003, Environmental Science), Joe Grzymiski (Ph.D. Oceanography, 2002), Daryl Van Ry (M.S. 2002), Dan Deocampo (Ph.D. 2001, Geological Sciences), Kristie Ellickson (Ph.D. 2001, Environmental Science), Jay Cullen (Ph.D. 2001, Oceanography), Tsung-Hung Li (Ph.D. 2000, Environmental Science), Karen Birdsall (M.S. 1999, Environmental Science), Debra Linton (Ph.D. 1999, Oceanography).

- External examiner: Katie Gosnell (University of Connecticut, Ph.D. 2014); Ashley New (Rutgers-Newark, Ph.D. 2013); Jian Guo (University of British Columbia, Ph.D. 2012), Adam Pimenta (University of Delaware, M.S. 2011), Graham Peers (McGill University, Ph.D. 2005), Marie-Noële Croteau (University of Québec, Ph.D. 2002)

Postdoctoral Scholars: Udonna Ndu (2012-2014); K. Kritee (2010-2012); Adam Kustka (2007-2008); Danielle Rhine (2004-2006); Kristie Ellickson (2002-2004)

Awards

Outstanding Undergraduate Advisor Award, School of Environmental and Biological Sciences, Rutgers University, May, 2007.

Research Excellence Award, School of Environmental and Biological Sciences, Rutgers University, May, 2005.

The Pritchard Award, School of Marine and Atmospheric Sciences, Stony Brook University, December, 1993.

The Lindeman Award, Association for the Sciences of Limnology and Oceanography, June, 1993.

Rutgers Program and Institute Memberships

Graduate Program in Environmental Sciences

Graduate Program in Geological Sciences

Graduate Program in Microbial Biology

Graduate Program in Oceanography

Institute of Marine and Coastal Sciences

Memberships in Professional Societies

American Chemical Society

American Geophysical Union

Association for the Sciences of Limnology and Oceanography (member of the Patrick Award committee, 2013-present; past Chair of the Awards Committee; past member and Chair of the Lindeman Award subcommittee)

American Society for Microbiology

Society of Environmental Toxicology and Chemistry