
CURRICULUM VITAE
STEPHEN B. BAINES

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Associate Professor
Department of Ecology and Evolution
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RESEARCH INTERESTS

Plankton ecology; wetland ecology; oceanography/limnology; ecological stoichiometry; nutrient cycles; trace element accumulation by organisms; food-web ecology; dissolved organic matter in aquatic ecosystems; coastal resilience; scientific communication.

EDUCATION

B.A., Biology/English, Drew University, 1985
Ph.D., Biology, Yale University, May 1993

THESIS TITLE

Extracellular release of dissolved organic matter and sinking as fates of planktonic primary production in lakes and oceans. co-advised by Michael L. Pace and Gene E. Likens.

ACADEMIC EXPERIENCE

Assoc. Prof., Ecology and Evolution, Stony Brook U., Stony Brook, Fall 2013-present
Assist. Prof., Ecology and Evolution, Stony Brook U., Stony Brook, Fall 2007-2013
Affiliated Faculty, SoMAS, Stony Brook U., Fall 2007 - present
Res. Assist. Prof., MSRC, Stony Brook U., Aug 2001-Summer 2007
Res. Sci., Marine Sciences Research Center, Stony Brook U., February 1998-Aug 2001
Assoc. Res., U. of Wisconsin, Center for Limnology/North Temperate Lakes Long Term Ecological Research site, June 1995-February 1998
Manager, McGill University field station at Lake Memphremagog, summers of 1993 and 1994.
Postdoctoral fellow, Groupe de Recherche Inter-universitaire en Limnologie, Jan 1993 - June 1995.
Visiting research fellow, Inst. of Limnology, U. of Uppsala, Sweden, June-October 1992.

CURRENT FUNDING

Using Hyperspectral Spectroradiometry to Estimate Nitrogen Removal in Wetlands. Stony Brook RF, SBU-BNL Seed Grant. PI with Shawn Serbin, Brookhaven National Laboratory. \$40,966. Aug 2018-Aug 2022.

PENDING FUNDING

Large-Scale CoPe: COPE-ADAPT- Coastal Planning for Equitable Adaptation and Population Transition. NSF. Senior Personnel. PI-Sarah Hamideh. \$13,338,071, 6/07/2022, 6/06/2027
Informing Management Goals by Identifying Multistressor-Induced Tipping Points in Coastal Ecosystems Under Anthropogenic Stress. NOAA. Lead PI. \$3,974,071. 1/01/2023 – 12/31/2026
FINESST: Hyperspectral Imaging to Detect Future Wetland Vulnerability and Ecosystem Services. NASA. Lead PI. \$146,860. 9/01/2022 – 8/31/2025

PAST FUNDING

- Understanding the role of picocyanobacteria in the marine silicate cycle. NSF. (PI, multi-institutional collaborative proposal with J. Collier-SoMAS, B.S. Twining- Bigelow, M.A., Brzezinski-UCSB, J.F. Krause - UCSB). \$747,977. 01/01/2012-12/31/2015.
- Quantifying the role of dissolved organic matter (DOM) as the missing source of energy to zebra mussel populations in the Hudson River Hudson River Foundation. (sole PI). \$158,818. 9/01/2011 – 11/31/2015
- Using plant traits to predict denitrification in wetland ecosystems (Hudson River Foundation Summer Fellowship for Mary Alldred, co-PI as advisor). \$16,000. 9/1/2011 - 8/31/2012.
- Using plant traits to predict how plant community changes will affect denitrification in wetlands. NY SeaGrant. (sole PI). \$149,608. 2/1/2012-1/31/2014.
- Effects of Fe:C ratios in food on marine copepod productivity and physiology. NSF. (PI, N.S. Fisher Co-PI). \$473,904. 04/01/2010 – 03/31/2014.
- Determining the elemental composition of natural plankton cells in the Eastern Equatorial Pacific using synchrotron x-ray fluorescence microscopy. NSF. (co-PI with B.S. Twining, N.S. Fisher (PI), C.J. Jacobsen, D.M. Nelson) \$466,312. 8/1/05-7/31/08.
- Transport, transformation and effects of selenium and carbon in the delta of the Sacramento - San Joaquin Rivers: implications for ecosystem restoration. USGS. (Co-PI with N.S. Fisher (PI), subcontracted part of a 16 PI multidisciplinary study). \$400,277. 9/1/01 - 06/14/05.
- Absorption of dissolved organic matter and trace metals by the zebra mussel, *Dreissena polymorpha*. Hudson River Foundation (Co-PI with N.S. Fisher (PI)). \$170,806. 5/1/00 - 04/30/04.
- A comparison of metal accumulation in arctic and temperate marine organisms. NSF. (Co-PI with N.S. Fisher (PI)). \$357,420. 5/01/00 - 4/30-2004.

HONORS AND AWARDS

- Woods Hole Postdoctoral Fellowship, March of 1995. (Offered but declined due to previous commitment to University of Wisconsin.)
- American Fisheries Society citation for most significant paper published in the Transactions of the American Fisheries Society, vol 121. 1993
- Poconos Comparative Lakes Program Grant, Lehigh University, 1989.
- Enders Fellowship Grant, Yale University, 1989
- Cary Fellow, Institute of Ecosystem Studies, Spring 1989
- University Fellow, Yale University, 1985-8
- Summa cum Laude, Drew University, 1985
- John G. Berg Memorial Prize in English, Drew University, 1985
- Phi Beta Kappa, Drew University chapter, 1985
- University Fellowship, Drew University, 1981-1985

PUBLICATIONS

(* = corresponding author, † = graduate student, ‡ = undergraduate student, § = high school student)

- (55) Herstoff, E.M., C.L. Meunier, M. Boersma, S.B. Baines. Are all copepods the same? Variation in copepod stoichiometry with taxonomy, ontogeny, latitude, and habitat. *Ecosphere*. *In print*.

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- (56) Twining, B.S., and **S.B. Baines**. 2022. Luxury iron uptake and storage in pennate diatoms from the equatorial Pacific Ocean. *Metallomics*. 14(7):mfac035. <https://doi.org/10.1093/mtomcs/mfac035>
- (54) Herstoff, E.M.[†], C. Muenier, M. Boersma, and **S.B. Baines**. 2021. Leveraging differences in multiple prey traits allows selective copepods to meet their threshold elemental ratios. *Limnology and Oceanography* 66(7): 2914-2922. <https://doi.org/10.1002/lno.11800>
- (53) Herstoff, E.M.[†], **S.B. Baines**, M. Boersma, C. Muenier. 2019. Does prey elemental stoichiometry influence copepod movement over ontogeny? *Limnology and Oceanography*. 64::2467-77. doi.org/10.1002/lno.11198
- (52) Moriceau, B., M Gehlen, PJ Tréguer, **SB Baines**, J Livage, L André. 2019. Biogeochemistry and genomics of silicification and silicifiers. *Frontiers in Marine Science*. 6:57 doi.org/10.3389/fmars.2019.00057
- (51) Ohnemus, D.C., J.W. Krause, M.A. Brzezinski, J.L. Collier, **S.B. Baines**. 2018. The chemical form of Si in marine *Synechococcus*. *Marine Chemistry* 206:44-51
- (50) Brzezinski, M.A., J.W. Krause, **S.B. Baines**, J.L. Collier, D.C. Ohnemus, B.S. Twining. 2017. Patterns and regulation of silicon accumulation in *Synechococcus* spp. *J. Phycol.* 53: 746-761. DOI: 10.1111/jpy.12545
- (49) Alldred, M.[†], A Liberti, **SB Baines**. 2017. Impact of salinity and nutrients on salt marsh stability. *Ecosphere* 8 (11):e02010
- (48) Krause, J.W., M.A. Brzezinski, **S.B. Baines**, J.L. Collier, B.S. Twining, and D.C. Ohnemus (2017). Picoplankton contribution to biogenic silica stocks and production rates in the SargassoSea, *Global Biogeochem. Cycles* 31:762–774, DOI:10.1002/2017GB005619
- (47) Ohnemus, D. C., S. Rauschenberg, J. W. Krause, M. A. Brzezinski, J. L. Collier, S. Geraci-Yee, **S. B. Baines**, and B. S. Twining. 2016. Silicon content of individual cells of *Synechococcus* from the North Atlantic Ocean. *Marine Chemistry* 187:16-24.
- (46) Alldred, M.[†], **S. B. Baines**, and S. Findlay. 2016. Effects of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. *PloS one* 11:e0149813.
- (45) **Baines, S. B.**, X. Chen[‡], S. Vogt, N. S. Fisher, B. S. Twining, and M. R. Landry. 2016. Microplankton trace element contents: implications for mineral limitation of mesozooplankton in an HNLC area. *Journal of Plankton Research* 38:256-270.
- (44) Alldred, M.[‡], and **S. B. Baines**. 2016. Effects of wetland plants on denitrification rates: a meta-analysis. *Ecological Applications* 26:676-685.
- (43) **Baines, S. B.**, X. Chen[‡], B. S. Twining, N. S. Fisher, and M. R. Landry. 2016. Factors affecting Fe and Zn contents. *Journal of Plankton Research* 38:331-347.
- (42) Graham, C.H.; A. Carnaval, C.D. Cadena, K. Zamudio, T. Roberts, J.L. Parra, C. McCain; R. Bowie, C. Moritz, **S.B. Baines**, C.J. Schneider, J. VanDerWal, C. Rahbek, K. Kozak, N.J. Sanders. 2014. The origin and maintenance of montane diversity: integrating evolutionary and ecological processes. *Ecography* 37:711-719.
- (41) Chen, Xi[‡], N.S. Fisher and **S.B. Baines***. 2014. Lack of stoichiometric homeostasis with respect to iron in the marine copepod, *Acartia tonsa*. *Limnology and Oceanography* 59:129-140.
- (40) J.-U. Kreft, C.M. Plugge, V. Grimm, C. Prats, J.H.J. Leveau, T. Banitz, **S. Baines**, J. Clark, A. Ros, I. Klapper, C. J. Topping, A.J. Field, A. Schuler, E. Litchman, F.L. Hellweger. (2013) Mighty small: Observing and modeling individual microbes becomes big science. *Proceedings of the National Academy of Sciences* 110:18027-18028.

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- (39) Twining, B.S., and **S.B. Baines**. 2013. The trace metal composition of marine phytoplankton. *Annual Review of Marine Science*. Published online Aug. 26, 2012. DOI: 10.1146/annurev-marine-121211-172322.
- (38) **Baines, S.B.**, B.S. Twining, M.A. Brzezinski, J.W. Krause, S. Vogt, D. Assael and H. McDaniel 2012. Significant silicon accumulation by marine picocyanobacteria. *Nature Geoscience* 5:886-891. DOI: 10.1038/NCEO1641
- (37) Twining, B.S., **S.B. Baines**, S. Vogt and D.M. Nelson. The role of diatoms in the biogeochemical cycling of nickel. 2012. *Global Biogeochemical Cycles*. 26:GB4001 DOI: 10.1029/2011GB004233
- (36) Vine D.M., C. Holzner, **S.B. Baines**, D. Pellicia, A. Berry, I. McNulty, S. Vogt, A.G. Peele, K.A. Nugent. 2012. Simultaneous X-ray fluorescence and ptychographic microscopy of *Cyclotella meneghiniana*. *Optics Express* 20:18287-18296. DOI: 10.1364/OE.20.018287
- (35) [†]Chen, Xi, **S.B. Baines** and N.S. Fisher. 2011. Can copepods be limited by the iron content of their food? *Limnology and Oceanography*. 56: 451-460. DOI: 10.4319/lo.2011.56.2.0451
- (34) **Baines, S.B.**, B.S. Twining, S. Vogt, W.M. Balch, N.S. Fisher, and D.M. Nelson. 2011. Elemental composition of Equatorial Pacific diatoms exposed to additions of silicic acid and iron. *Deep Sea Research II* 58(3-4):512-523. DOI: 10.1016/j.dsr2.2010.08.003
- (33) Twining, B.S., **S.B. Baines**, J.B. Bozard, S. Vogt, E.A. Walker, D.M. Nelson. 2011. Metal quotas of plankton in the equatorial Pacific Ocean. *Deep Sea Research II* 58(3-4):325-341. DOI:10.1016/j.dsr2.2010.08.018
- (32) Brzezinski, M.A., **Baines, S.B.**, Balch, W.M., Beuchere, C., Chai, F., Dugdale, D.G., Krause, J.W., Landry, M.R., Marchi, A., Measures, C.M., Nelson, D.M., Parker, A., Poulton, A., Selph, K.E., Strutton, P., Taylor, A.G., Twining, B.S., 2011. Co-limitation of diatoms by iron and silicic acid in the equatorial Pacific. *Deep Sea Research II* 58(3-4): 493-511. DOI:10.1016/j.dsr2.2010.08.005
- (31) **Baines, S.B.**, B.S. Twining, S. Vogt, M.A., Brzezinski, D.M. Nelson, N.S. Fisher. 2010. Causes and biogeochemical implications of regional differences in silicification of marine diatoms. *Global Biogeochemical Cycles* 24:GB4031. DOI:10.1029/2010GB003856
- (30) Krause, J.W., M.A. Brzezinski, M.R. Landry, **S.B. Baines**, D.M. Nelson, K.E. Selph, A.G. Taylor, and B.S. Twining. 2010. The impact of biogenic silica detritus and large diatoms on Si-cycling in the euphotic zone of the eastern equatorial Pacific. *Limnology and Oceanography*. 55(6):2608–2622. DOI:10.4319/lo2010.55.6.2608
- (29) Holzner, Christian, M. Feser, B Hornberger, S. Vogt, **S.B. Baines**, and C.J. Jacobsen. 2010 Reciprocity: Scanning Zernike Phase Contrast. *Nature Physics* 6:883–887 DOI: 10.1038/nphys1765
- (28) de Jonge, MD, Holzner, C. **Baines, S.B.**, Twining, B.S., Ignatyev, K., Diaz, J. Howard, D.L., Micelli, A., McNulty, I., Jacobsen, C. Vogt, S. 2010. Quantitative 3-D elemental nanotomography of *Cyclotella meneghiniana*. *Proceedings National Academy of Science*. 107:15676-15680. DOI: 10.1073/pnas.1001469107
- (27) Núñez-Milland, D. R., B. S. Twining, **S. B. Baines**, and S. Vogt. 2010. Quantification of phosphorus in individual phytoplankton cells using synchrotron x-ray fluorescence. *Journal of Synchrotron Radiation*. 17:560-566. DOI: 10.1107/S0909049510014020
- (26) Adrian, R., C. M. O'Reilly, H. Zagarese, **S. B. Baines**, D. O. Hessen, W. Keller, D. M. Livingstone, R. Sommaruga, D. Straile, E. Van Donk, G. A. Weyhenmeyer, and M. Winder. 2009. Lakes as sentinels of climate change. *Limnology and Oceanography* 54:2283-2297. doi: 10.4319/lo.2009.54.6_part_2.2283

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- (25) **Baines, S.B.** and Fisher, N.S. 2008. Modeling the effect of temperature on bioaccumulation of metals by a marine bioindicator organism, *Mytilus edulis*. (Environmental Science and Technology 42:3277-3282. DOI: 10.1021/es702336q
- (24) Twining, B.S., **S.B. Baines**, S. Vogt, and M. de Jonge. 2008. Exploring ocean biogeochemistry by single-cell microprobe analysis of protist elemental composition. Journal of Eukaryotic Microbiology 55:151-162. DOI: 10.1111/j.1550-7408.2008.00320.x
- (23) **Baines, S.B.**, N.S. Fisher, and J.J. Cole. 2007. Dissolved organic matter and persistence of the invasive zebra mussel (*Dreissena polymorpha*) under low food conditions. Limnology and Oceanography. 52:70-78.
- (22) Doblin, M.A., **S.B. Baines**, Cutter, L.S., and Cutter, G.A. 2006. Sources and biogeochemical cycling of particulate selenium in the San Francisco Bay estuary. Estuarine Coastal and Shelf Science. 67:861-694. doi: 10.1016/j.ecss.2006.01.007
- (21) **Baines, S.B.**, N.S. Fisher, and E.L. Kinney. 2006. Influence of temperature on uptake of dissolved metal by Arctic and temperate mussels. Marine Ecology - Progress Series 308:117-128. doi: 10.3354/meps308117
- (20) **Baines, S.B.**, N.S. Fisher, E.L. Kinney. 2005. Influence of temperature on dietary metal uptake in Arctic and temperate mussels. Marine Ecology - Progress Series 289:201-213. doi: 10.3354/meps289201.
- (19) **Baines, S. B.**, N.S. Fisher, and J.J. Cole. 2005. Uptake of dissolved organic matter (DOM) and its importance to metabolic requirements of the zebra mussel, *Dreissena polymorpha*. Limnology and Oceanography 50: 36-47.
- (18) Twining, B.S., **S.B. Baines**, N.S. Fisher, and M.R. Landry. 2004. Cellular iron contents of plankton during the Southern Ocean Iron Experiment (SOFeX). Deep-Sea Research I 51: 1827-1850.
- (17) Twining, B.S., **S.B. Baines**, and Nicholas S. Fisher. 2004. Element stoichiometries of individual plankton cells collected during the Southern Ocean Iron Experiment (SOFeX). Limnology and Oceanography 49: 2115-2128.
- (16) **Baines, S.B.**, N.S. Fisher, M.A. Doblin, G.A. Cutter, L. Cutter and B.E. Cole. 2004. Light dependence of selenium uptake by phytoplankton and implications for predicting selenium incorporation into food-webs. Limnology and Oceanography 49:566-578.
- (15) Twining, B.S., **S.B. Baines**, N.S. Fisher, J. Maser, S. Vogt, C. Jacobsen, A. Tovar-Sanchez, and S.A. Sañudo-Wilhelmy. 2003. Quantifying trace elements in individual aquatic protist cells with a synchrotron x-ray fluorescence microprobe. Analytical Chemistry 75:3806-3816. doi: 10.1021/ac034227z
- (14) Twining, B.S., **S.B. Baines**, N.S. Fisher, C. Jacobsen, and J. Maser 2003. Quantification and localization of metal within natural plankton cells using a synchrotron x-ray fluorescence microprobe. Journal de Physique IV 104:435-438. doi: 10.1051/jp4:20030117
- (13) **Baines, S.B.**, N.S. Fisher and R. Stewart. 2002. Assimilation and retention of selenium and other trace elements from crustacean food by juvenile striped bass (*Morone saxatilis*). Limnology and Oceanography 47: 646-655.
- (12) **Baines, S.B.**, N.S. Fisher, M.A. Doblin, and G.A. Cutter. 2001. Uptake of dissolved organic selenide by marine phytoplankton. Limnology and Oceanography 46: 1936-1944.
- (11) **Baines, S.B.** and N.S. Fisher. 2001. Interspecific differences in the bioconcentration of selenite by phytoplankton and their ecological implications. Marine Ecology-Progress Series 213:1-12. doi: 10.3354/meps213001

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- (10) Twining, B.S., **S.B. Baines**, and N.S. Fisher. 2001. Measurement of metal concentrations in marine nanoplankton cells using an X-ray fluorescence microprobe. *Rapp. Comm. Int. Mer. Medit.* 36: 169.
 - (9) **Baines, S.B.**, K.E. Webster, T.K. Kratz, S.R. Carpenter and J.J. Magnuson. 2000. Synchronous behavior of temperature calcium and chlorophyll in lakes of Northern Wisconsin. *Ecology* 81:815-825. doi: 10.1890/0012-9658(2000)081[0815:SBOTCA]2.0.CO;2
 - (8) Webster, K.E., P.A. Soranno, **S.B. Baines**, T.K. Kratz, C.J. Bowser, P.J. Dillon, P. Campbell, E.J. Fee, and R.E. Hecky. 1999. Structuring features of lake districts: geomorphic and landscape controls on lake chemical responses to drought. *Freshwater Biology* 43:499-515.
 - (7) Kratz, T.K., P.A. Soranno, **S.B. Baines**, B.J. Benson, J.J. Magnuson, T.M. Frost, and R.C. Lathrop. 1998. Interannual synchronous dynamics in north temperate lakes in Wisconsin, USA. Pages 273-287 In George, D.G., J. G. Jones, P. Puncochar, C. S. Reynolds, and D. W. Sutcliffe (eds.) *Management of Lakes and Reservoirs during Global Climate Change*. Kluwer Academic.
 - (6) **Baines, S.B.**, M.L. Pace, and D.M. Karl. 1994. Why does the relationship between sinking flux and planktonic primary production differ between lakes and the ocean? *Limnology and Oceanography* 38(2):213-226.
 - (5) **Baines, S.B.**, and M.L. Pace. 1994. Sinking fluxes across a trophic gradient: patterns and their implications for the fate of primary production. *Canadian Journal of Fisheries and Aquatic Sciences*. *Canadian Journal of Fisheries and Aquatic Science* 51(1):26-39.
 - (4) Meili, M., K. Konitzer, L. Braf, **S.B. Baines**, T. Anderson. Environmental radioactivity, radioecology, radiation effects. Vol.2 Proceedings.
 - (3) Pace, M.L., **S.B. Baines**, H. Cyr, and J.A. Downing. 1993. Relationships among early life history stages of *Morone americana* and *Morone saxatilis* from long-term monitoring of the Hudson River estuary. *Canadian Journal of Fisheries and Aquatic Science* 50:1976-1985.
 - (2) Cyr H., J.A. Downing, S. Lalonde, **S.B. Baines** and M.L. Pace, 1992. Sampling larval fish populations: choice of sample number and size. *Transactions of the American Fisheries Society* 121:356-368.
 - (1) **Baines, S.B.**, and M.L. Pace, 1991. The production of dissolved organic matter by phytoplankton and its importance to bacteria: patterns across marine and freshwater systems. *Limnology and Oceanography* 36:1078-90.

INVITED EXTRA-DEPARTMENTAL SEMINARS

(†= graduate student, ‡ = undergraduate student, §= high school student)

- (18) **Baines, S.B.** Phytoplankton community stoichiometry and biogeochemical cycles. Center for Macroecology and Evolution, University of Copenhagen, Copenhagen, Denmark. Dec. 7, 2011.
- (17) **Baines, S.B.** Phytoplankton community stoichiometry and biogeochemical cycles. Danish Technical University, National Institute of Aquatic Resources, Charlottenlund, Denmark. Dec. 6, 2011.
- (16) **Baines, S.B.** Linking organism traits and ecosystem function in aquatic environments: a trilogy. Department of Ecology and Evolution. Yale University. New Haven, CT, Sept. 28, 2011.

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- (15) **Baines, S.B.** Variation in stoichiometry of marine protists and biogeochemical cycles. Workshop for individual based approaches in microbial ecology. National Institute for Mathematical and Biological Synthesis, University of Tennessee, Knoxville, TN. June 2011.
 - (14) **Baines, S.B.** Users Science Seminar. Advanced Photon Source, Argonne National Lab. Argonne IL. Oct. 15, 2010.
 - (13) **Baines, S.B.** From microbes to the globe: elemental content of the plankton and marine biogeochemical cycles. Plenary talk for the National Synchrotron Light Source (NSLS) and Center for Functional Nanomaterials (CFN) Users' Meeting, Brookhaven National Lab. Brookhaven, NY. May 25, 2010.
 - (12) **Baines, S.B.** Dissolved organic matter subsidies and transformation of the Hudson River food web by the invasive zebra mussel. CUNY – Queens College, Department of Biology. New York, NY. Mar 10, 2010.
 - (11) **Baines, S.B.**, Twining, B.S. and Stefan Vogt. From microbes to the globe: elemental content of the plankton and global biogeochemical cycles. Workshop on Biological hierarchies and x-ray imaging. Argonne National Laboratory, Advanced Photon Source Users Meeting. Argonne, IL. May. 2009.
 - (10) **Baines, S.B.** Variability in elemental composition of marine microbes: biological causes and climatic consequences. Advanced Photon Source Renewal Meeting, Argonne National Laboratory. Argonne, IL. Nov 2008.
 - (9) **Baines, S.B.** Elemental stoichiometry of protists in Fe limited regions. Marine Sciences Research Center, Stony Brook University. Stony Brook, NY. Feb 14 2008.
 - (8) **Baines, S.B.**, B.S. Twining, S. Vogt. The elemental composition of the natural marine protists under Fe limitation: implications for control of atmospheric CO₂ by the ocean. Biological Applications of X-Ray Microprobes. Northwestern University, Chicago, IL. Nov 11-13 2007.
 - (7) **Baines, S.B.**, B.S. Twining, N.S. Fisher, S. Vogt, J.M. Mäser, and C. Jacobsen. Cellular stoichiometry to global elemental cycles: the effect of Fe addition on cellular stoichiometry of oceanic protists. Workshop for High Resolution X-ray analysis in Biological Systems: New Opportunities. Advanced Photon Source, Argonne National Laboratory. Argonne IL. Mar 2005.
 - (6) **Baines, S.B.**, B.S. Twining, N.S. Fisher, S. Vogt, J.M. Mäser, and C. Jacobsen. Opening the black box: trace element concentrations and distributions in free-living marine protists determined with a high spatial resolution x-ray fluorescence microprobe. Workshop on Biological Applications of X-ray Microscopy and Imaging: 12th Annual Users' Meeting for the Advanced Photon Source, Argonne National Lab. Argonne, IL. Apr 2003.
 - (5) **Baines, S.B.**, G. Lauster, S.R. Carpenter, and T.K. Kratz. Can correlates of particle aggregation predict apparent material sinking rates in lakes and oceans? American Society of Limnology and Oceanography meetings, Santa Fe, New Mexico. Feb 1997.
 - (4) **Baines, S.B.** Patterns of extracellular release and sinking of carbon along trophic gradients in lakes and the ocean: Implications for the fate of phytoplankton production. Uppsala University, Uppsala, Sweden. Oct 1992.
 - (3) **Baines, S.B.**, M.L. Pace, D. Karl. Why does the relationship between sedimentation and primary production differ between lakes and the ocean. American Society of Limnology and Oceanography meetings. Santa Fe, NM. Feb 1992.
 - (2) **Baines, S.B.** Sedimentation and the fate of primary production. McGill University, Dept. of Biology, Montreal, Canada. Oct 1991.

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- (1) **Baines, S.B.**, and M.L. Pace. Metalimnetic pigments drive sedimentation rates in lakes. American Society of Limnology and Oceanography meetings, Halifax, Nova Scotia, Jul 1991.

MANUSCRIPTS IN REVIEW

([†]= graduate student, [‡] = undergraduate student, [§]= high school student)

- Herstoff, E.M.[†], M. Umarani[†], M. Boersma, C.L. Meunier, **S.B. Baines**. Modeling copepod foraging in response to heterogeneous prey quality. *Limnology and Oceanography*.
- Nyer, S.C., R.E. Price, G. Heufelder, **S.B. Baines**, H.E. Walker, C.J. Gobler. Effects of planting density on nitrogen transformations, gas exchange and plant traits in constructed wetland mesocosms. *Ecological Engineering*.
- Twining, B.S., **S.B. Baines**. Luxury iron uptake and storage in pennate diatoms from the equatorial Pacific Ocean. *Metallomics*.
- M.S. Umarani[†], C.H. Graham, C.J. Melian, **S.B. Baines**. The effect of quantitative genetic processes on eco-evolutionary dynamics of competition. *Ecology Letters*.
- Xi Chen[†], **S.B. Baines**, N.S. Fisher, M.R. Landry. Iron limitation of a copepod common to HNLC regions. *Journal of Plankton Research*.

SEMINARS/ABSTRACTS AT SCIENTIFIC MEETINGS.

([†]= graduate student, [‡] = undergraduate student, [§]= high school student)

- (74) Dickran[†], S.S., C. Wilkinson[§], D. Pascucci[†], S. Serbin and **S. Baines**. Toward remote sensing of marsh vulnerability: using vegetation characteristics to indicate root biomass in coastal wetlands of Long Island. New England Estuarine Research Society and the Atlantic Estuarine Research Society. Apr. 2021.
- (73) Treguer, P.J., J. Sutton, **S.B. Baines**, M.A. Brzezinski, M.A. Charette, T.J. DeVries, S. Dutkiewicz, C. Ehler, J. Hawkings, A. Leynaert, S.M. Liu, N. Llopis Monferrer, M. Maldonado, S. Rahman, L. Ran, O. Rouxel. The silica cycle in the modern ocean. Ocean Sciences Meeting, Dec 2020.
- (72) Herstoff, E.M.[‡], **S.B. Baines**, C.L. Meunier and M. Boersma. Does prey stoichiometry influence copepod swimming behaviors across its ontogeny? Ecological Society of America Meetings, Portland, OR. Aug.6-11. 2018
- (71) Moley, P.[‡], M.K. Alldred[‡], J. Haviland[‡], H. Shah[‡], J. Desmond[‡] and **S.B. Baines**. Plant traits affect seasonal and spatial variation in denitrification in coastal marshes. Ecological Society of America Meetings, Portland, OR. Aug.6-11. 2018
- (70) Moley, P.[‡], M.K. Alldred[‡], J. Haviland[‡], J. Desmond[‡], R. Reigle[‡], H. Shah[‡], and **S.B. Baines**. Plant growth and seasonal denitrification in wetlands (poster). New England Estuarine Research Society. Groton, CT. Mar. 17 2017. Poster Presentation. ***Winner of 3 x 3 Poster Award**
- (69) Moley, P.[‡], M.K. Alldred[‡], J. Haviland[‡], J. Desmond[‡], R. Reigle[‡], H. Shah[‡], and **S.B. Baines**. Plant growth and seasonal denitrification in wetlands (poster). New York Marine Sciences Consortium. Bronx, NY. Poster Presentation. Oct. 22 2016. ***Winner of Best Student Poster Award**
- (68) Macolino, C.[§], M.K. Alldred[‡], and **S.B. Baines**. The nitrogen cycle in restored marshes of different age in Jamaica Bay, NY (poster). New York Marine Sciences Consortium. Bronx, NY. Poster Presentation. 22 October 2016.

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- (67) Alldred, M.K.[‡], S. Velkovsky[‡], and S.B. Baines. Using plant traits to predict denitrification potential in salt marsh ecosystems. Ecological Society of America Meeting. Fort Lauderdale, FL. Aug. 11 2016.
- (66) Herstoff, E. M.[‡], M. Boersma, C. L. Meunier, **S. B. Baines**. Does prey stoichiometry influence copepod swimming behaviors across its ontogeny? Ocean Sciences Meeting, Honolulu. Feb. 26 – Mar. 3, 2016.
- (65) **Baines, S.B.**, B.S. Twining, J.W. Krause, J.L. Collier, M.A. Brzezinski. Role of *Synechococcus* to biogenic silica cycling in the North Atlantic (poster). Ocean Sciences Meeting, New Orleans. Feb. 21-26 2016.
- (64) Collier, J.L, M.A. Brzezinski, **S.B. Baines**, J.W. Krause, D. Ohnemus, B.S. Twining. searching for potential silicon-associated genes in cyanobacteria. Ocean Sciences Meeting, New Orleans. Feb. 21-26 2016.
- (63) Boiteau, R., D. Repeta, J.N. Fitzsimmons, C. Parker, B.S. Twining, **S.B. Baines**. Revealing sources and chemical identity of iron ligands across the California Current System (Poster). Ocean Sciences Meeting, New Orleans. Feb. 21-26 2016.
- (62) Ohnemus, D.C., S. Rauschenberg, J.W. Krause, M.A. Brzezinski, **S.B. Baines**, J.L. Collier, B.S. Twining. Accumulation and speciation of Si by *Synechococcus* examined by single-cell synchrotron x-ray fluorescence and bulk x-ray spectroscopy (Poster). Ocean Sciences Meeting, New Orleans. Feb 2016.
- (61) Krause, J.W., M.A. Brzezinski, **S.B. Baines**, J. Collier, D. Ohnemus, B.S. Twining. Picoplankton contribution to biogenic silica stocks and production rates in the Sargasso Sea. Ocean Sciences Meeting, New Orleans. Feb 2016.
- (60) **Baines, S.B.**, B.S. Twining, X. Chen[‡], K. Doyle[‡], N. Fisher, M.R. Landry. Expanding stoichiometry: trace metals in marine plankton. Conference on Biological Stoichiometry. Trent University, Peterborough, Ontario, June 24-26 2015.
- (59) Herstoff, E.M.[‡], and **S.B. Baines** Comparing and contrasting the elemental requirements of aquatic crustaceans and protozoans, and implications for food webs and biogeochemical cycling (Poster). Conference on Biological Stoichiometry. Trent University, Peterborough, Ontario, June 24-26 2015.
- (58) Velkovsky, S.M.[‡], S.B. **Baines**. An estimate of the Fe pool in copepods based on ETS reaction rates (Poster). Conference on Biological Stoichiometry. Trent University, Peterborough, Ontario, June 24-26 2015.
- (57) Alldred, M.K.[‡], Stephen B. Baines, and Stuart Findlay. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes (invited poster). Gordon Research Conference: Unifying Ecology across Scales. University of New England, Biddeford, ME. Invited Poster Presentation. July 23 2014.
- (56) Alldred, M.K.[‡], Stephen B. Baines, and Stuart Findlay. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Joint Aquatic Sciences Meeting. Portland, OR. May 20 2014

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- (55) Krause, J.W., M.A. Brzezinski, E.M. Lachenmyer, I.A. Marquez, **S.B. Baines**. Cellular silicon variability and uptake in cultured *Synechococcus*. American Society of Limnology and Oceanography. Honolulu, HI. Feb. 2014.
- (54) **Baines, S.B.**, M.R. Landry, S.L. Smith, B.S. Twining, X. Chen[‡]. Trace metal limitation of zooplankton in the Costa Rican Upwelling Dome. American Society of Limnology and Oceanography. Honolulu, HI. Feb. 2014.
- (53) Alldred, M.K.[‡], Stephen B. Baines, and Stuart Findlay. 6 November 2013. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Coastal and Estuarine Research Federation. San Diego, CA. Oral Presentation
- (52) Alldred, M.K.[‡], Stephen B. Baines, and Stuart Findlay. 18 June 2013. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Aquatic Ecosystem Health and Management Society International Conference. Victoria, British Columbia, Canada. Oral Presentation
- (51) Alldred, M.K.[‡], Stephen B. Baines, and Stuart Findlay. 24 April 2013. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Hudson River Science Symposium: The State of Hudson River Science. New Paltz, NY. Poster Presentation.
- (50) Marquez, I.A., J.W. Krause, M.A. Brzezinski, M.R. Medrano, **S.B. Baines**. *Synechococcus*: a major player in the ocean silicon cycle? American Society of Limnology and Oceanography. New Orleans, LA. Feb. 2013.
- (49) **Baines, S. B.**, X. Chen[‡], B.S. Twining, M.R. Landry. Potential for mineral limitation of zooplankton from an HNLC region (The Costa Rican Upwelling Dome) American Society of Limnology and Oceanography. New Orleans, LA. Feb. 2013.
- (48) **Baines, S.B.** Dissolved organic matter as a direct energetic subsidy to aquatic consumers. Ecological Society of America, Portland OR. Aug. 2012.
- (47) Alldred, M.K.[‡] and **S.B. Baines**. Effects of wetland plant communities on denitrification rates: A meta-analysis. Ecological Society of America, Portland OR. Aug. 2012.
- (46) Chen, X.[‡], **S. B. Baines**, N. S. Fisher. A vicious cycle: a non-homeostatic regulation of iron by a marine copepod. American Society of Limnology and Oceanography. San Juan, PR. Feb. 2011.
- (45) **Baines, S. B.**, B.S. Twining, M.A. Brzezinski, J.W. Krause. A surprising role for picocyanobacteria in the marine silicon cycle. American Society of Limnology and Oceanography. San Juan, PR. Feb. 2011.
- (43) **Baines, S.B.** Linking community and ecosystem dynamics through measurements of elemental composition of single plankton cells. Ecological Society of America, Pittsburgh, PA. Aug. 2010.
- (44) **Baines, S.B.** Ecosystem effects of dissolved organic subsidies to zebra mussels. American Society of Limnology and Oceanography. Sante Fe, NM. Jun. 2010.
- (42) Holzner, C., S. Vogt, B. Hornberger, C. Jacobsen, **S. B. Baines**, M. Feser. Scanning Zernike phase contrast implemented in a hard x-ray fluorescence microprobe. XRM 2010, 10th International conference on X-ray microscopy. Chicago, IL. Aug. 2010

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- (41) de Jonge, M.D., C. Holzner, D.L. Howard, D. Paterson, C.G. Ryan, R. Kirkham, G. Moorhead, **S.B. Baines**, K. Ignatyev, C. Jacobsen, S. Vogt. Recent progress in quantitative fast fluorescence tomography with a hard x-ray scanning fluorescence microprobe. XRM 2010, 10th International conference on X-ray microscopy. Chicago, IL. Aug. 2010
- (40) Chen, X.[‡], N.S. Fisher, **S.B. Baines**. Iron deficiency in food makes unhappy copepods. Ocean Sciences Meeting, American Society of Limnology and Oceanography/American Geophysical Union. Portland, OR. Feb. 2010.
- (39) Twining, B.S., **S.B. Baines**, S. Vogt, D.M. Nelson. Luxury iron uptake and storage in pennate diatoms from the Equatorial Pacific Ocean. Ocean Sciences Meeting, American Society of Limnology and Oceanography/American Geophysical Union. Portland, OR. Feb. 2010.
- (38) **Baines, S.B.**, B.S. Twining, M.A. Brzezinski, D. Nunez-Milland, D. Assael, S. Vogt, H. McDaniel, J. Krause, D.M. Nelson. A role for picocyanobacteria in the ocean's Si cycle. Ocean Sciences Meeting, American Society of Limnology and Oceanography/American Geophysical Union. Portland, OR. Feb. 2010.
- (37) Chen, X.[‡], N.S. Fisher, **S.B. Baines**. Can low Fe:C in food limit zooplankton productivity in the ocean? American Society of Limnology and Oceanography. Nice, France. Jan. 2009.
- (36) **Baines, S.B.**, B.S. Twining; M.A. Brzezinski; D.A. Nelson; N.S. Fisher. Interspecific differences in silicification of resident diatom species cause interregional differences in Si and C export. American Society of Limnology and Oceanography. Nice, France. Jan. 2009.
- (35) **Baines, S.B.** Predicting the effect of DOM subsidies on ecosystem transformation by zebra mussels. AGU Chapman Conference on Lakes as sentinels, integrators and regulators of climate change. Lake Tahoe, CA. Sep. 2008.
- (34) Twining, B.S., **S.B. Baines**, S. Vogt. Role of diatoms in nickel biogeochemistry in the Pacific Ocean. Ocean Sciences Meeting, American Geophysical Union/American Society of Limnology and Oceanography. Orlando, FL. Mar. 2008.
- (33) **Baines, S.B.**, B.S. Twining, S. Vogt. Are all diatoms the same? Variations in cellular stoichiometry of diatoms from two HNLC regions and their implications for Si, Fe and C export. Ocean Sciences Meeting, American Geophysical Union/American Society of Limnology and Oceanography. Orlando, FL. Mar. 2008.
- (32) **Baines, S. B.**, B.S. Twining, C. Vogel, X. Chen, N.S. Fisher. Do physiological cascades affect the response of phytoplankton trace element stoichiometries to nutrient limitation. American Society of Limnology and Oceanography/American Geophysical Union, Ocean Sciences Meeting. Sante Fe, NM. Feb. 2007.
- (31) Twining, B. S., **S.B. Baines**, C.A. Vogel. Phytoplankton trace metal quotas across nutrient gradients in the Equatorial Pacific Ocean. American Society of Limnology and Oceanography/American Geophysical Union, Ocean Sciences Meeting. Sante Fe, NM. Feb. 2007.

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- (30) Twining, B.S. and **S.B. Baines**. Response of plankton trace element quotas to iron gradients in the Equatorial Pacific ocean. American Society of Limnology and Oceanography/American Geophysical Union, Ocean Sciences Meeting. Honolulu, HI. Feb. 2006.
- (29) **Baines, S.B.**, C. Vogel, B.S. Twining, N.S. Fisher, and C.M. Measures. Fe:C uptake ratios in the Equatorial Pacific. American Society of Limnology and Oceanography/American Geophysical Union, Ocean Sciences Meeting. Honolulu, HI. Feb. 2006.
- (28) Twining, B.S., **S.B. Baines** and N.S. Fisher. Exploring stoichiometric responses of Southern Ocean plankton to iron fertilization using synchrotron-based x-ray fluorescence microscopy. 2005 International Ocean Research Conference, Paris, France. Jun. 2005.
- (27) Twining, B.S., **S.B. Baines** and N.S. Fisher. Stoichiometric responses of open ocean phytoplankton to Fe addition: expanding stoichiometry to include trace elements. American Society of Limnology and Oceanography, Salt Lake City, UT. Feb. 2005.
- (26) **Baines, S.B.**, B.S. Twining, N.S. Fisher, M. R. Landry. Dynamic stoichiometries in nanoplankton during the Southern Ocean Iron Experiment (SOFEx). American Society of Limnology and Oceanography, Honolulu, HI. Feb. 2004.
- (25) Twining, B. S., **S. B. Baines**, N.S. Fisher, M. R. Landry. Accumulation and remineralization of iron by plankton during the Southern Ocean Iron Experiment (SOFEX). American Society of Limnology and Oceanography, Honolulu, HI. Feb. 2004.
- (24) Twining, B. S., **S. B. Baines**, N.S. Fisher, M. R. Landry. Opening the “black box”: elemental stoichiometries of autotrophic and heterotrophic protists in the Southern Ocean. American Society of Limnology and Oceanography, Salt Lake City, UT. Feb. 2003.
- (23) **Baines, S.B.**, N.S. Fisher, L.S. Cutter, M.A. Doblin, and G.A. Cutter. Direct uptake of dissolved organic selenium by riverine phytoplankton inferred from selenite:C uptake ratios and Se:C in suspended particles. American Society of Limnology and Oceanography, Salt Lake City, UT. Feb. 2003.
- (22) **Baines, S.B.**, N.S. Fisher, L.S. Cutter, M.A. Doblin, and G.A. Cutter. Evidence for direct uptake of dissolved organic selenium by riverine phytoplankton for prediction of Se incorporation into food-webs. 2nd biennial Calfed Bay-Delta Program Science meeting. Sacramento, CA. Jan. 2003.
- (21) Twining, B.S., **S.B. Baines**, N.S. Fisher, M.R. Landry. (Poster) Fe:C ratios within the plankton community during the Southern Ocean Iron Experiment (SOFEX). American Geophysical Union, San Diego, CA. Dec. 2002.
- (20) **Baines, S.B.**, B.S. Twining, N.S. Fisher, J.M. Mäser, and C. Jacobsen. Trace element concentrations and stoichiometries in planktonic protists measured with an x-ray fluorescence microprobe. American Society of Limnology and Oceanography, Victoria, BC, Canada. Jul. 2002.
- (19) **Baines, S.B.**, N.S. Fisher and J.J. Cole. Utilization of natural dissolved organic carbon by the zebra mussel, *Dreissena polymorpha*. American Society of Limnology and Oceanography, Victoria, BC, Canada. Jul. 2002.

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- (18) Twining, B.S., **S.B. Baines**, N.S. Fisher, J. Maser and C.J. Jacobsen. (Poster). Quantification of trace metals in plankton using a synchrotron x-ray fluorescence microprobe. American Society of Limnology and Oceanography, Albuquerque, NM. Feb. 2001.
 - (17) Doblin, M.A., **S.B. Baines** and G.A. Cutter. Particulate selenium in the San Francisco Bay: concentrations and implications for foodweb accumulation. American Society of Limnology and Oceanography, Albuquerque, NM. Feb. 2001.
 - (16) **Baines, S.B.** and N.S. Fisher. Interspecific variability in bioaccumulation of Se by phytoplankton and its ecological implications. American Society of Limnology and Oceanography, Albuquerque, NM. Feb. 2001.
 - (15) Fisher, N.S., and **S.B. Baines**. Biokinetic and bioenergetic constraints on the Se, Zn, Cd, Ag and Am content of juvenile striped bass. American Society of Limnology and Oceanography, Albuquerque, NM. Feb. 2001.
 - (14) Twining, B.S., **S.B. Baines**, N.S. Fisher, J. Maser and C.J. Jacobsen. Measurement of trace element concentrations in marine and freshwater microbes using X-ray microscopy. Workshop on Biological Applications of X-Ray Microbeams, Argonne National Laboratory. Argonne, IL. May 2001.
 - (13) Twining, B.S., **S.B. Baines**, N.S. Fisher, J. Maser and C.J. Jacobsen. (Poster). Quantification of trace metals in plankton using a synchrotron x-ray fluorescence microprobe. Society for Environmental Toxicology and Chemistry Meetings, Nashville TN. Nov. 2000.
 - (12) **Baines, S.B.** and N.S. Fisher. Bioaccumulation of selenium by phytoplankton. 1st annual Calfed Bay-Delta Program Science meeting. Sacramento, CA. Oct. 2000.
 - (11) **Baines, S.B.** and N.S. Fisher. Assimilation of selenium from food by striped bass. 1st annual Calfed Bay-Delta Program Science meeting. Sacramento, CA. Oct. 2000.
 - (10) **Baines, S.B.**, N.S. Fisher, G. Cutter and M.A. Doblin. Uptake of dissolved selenium by phytoplankton: is organic selenium readily incorporated and do uptake rates differ among taxa? American society of Limnology and Oceanography, Santa Fe, NM. Feb. 1999.
 - (9) **Baines, S.B.**, K.E. Webster, P.A., T.K. Kratz, J. Magnuson and S.R. Carpenter. Determinants of synchrony in lake water quality and physical structure across a landscape. Ecological Society of America meetings, Albuquerque, NM. Aug. 1997.
 - (8) **Baines, S.B.**, K.E. Webster, P.A. Soranno, T.K. Kratz, and S.R. Carpenter. Prediction of inter-annual chlorophyll dynamics in northern Wisconsin using synchrony: a comparison of two long term data sets on water quality. Gordon Conference on Hydrobiogeology of Forested Watersheds. Colby College, NH. Aug. 1997.
 - (7) **Baines, S.B.**, A. Mazumder, and J. Kalff. Effects of food web, nutrient additions and sediment exposure on the carbon balance of experimental enclosures. American Society of Limnology and Oceanography meetings, Milwaukee, WI. Aug. 1996.
 - (6) **Baines, S.B.**, M. Meili, K. Konitzer, and J. Kalff. The potential importance of the vertical distribution of algae in determining the fate of primary production in lakes. American Society of Limnology and Oceanography meetings, Miami, FL. Aug. 1994.

- (5) **Baines, S.B.** The response of POC stable isotopic composition to manipulations of nutrients, food-webs and physical structure in limnocorrals: Implications for carbon cycling. The meetings of the Groupe de Recherche Interuniversitaire en Limnologie, l'Université de Québec a Montréal field station, Saint-Michel-des-Saints, Québec. Mar. 1994.
- (4) Pace, M.L., **S.B. Baines**, and H. Cyr. Novel patterns identified by comparing different types of ecosystems. American Society of Limnology and Oceanography meetings, Edmonton, Alberta. Jun. 1993.
- (3) **Baines, S.B.** Differences in the fate of primary production in lakes and oceans. Meeting of the Groupe de Recherche Interuniversitaire en Limnologie. Université de Montréal Field Station, St. Hippolyte, Québec. Feb 1993.
- (2) **Baines, S.B.**, and M.L. Pace. Photosynthetic dissolved organic carbon (PDOC): patterns of production across systems. American Society of Limnology and Oceanography meetings, Williamsburg, VA. Jun. 1990.
- (1) **Baines, S.B.** Sedimentation of algal pigments across lakes. Workshop of the Poconos Comparative Lakes Program. Lake Lacawac Sanctuary, Lake Ariel, PA. Oct 1989.

TEACHING EXPERIENCE

- Instructor: BIO386/ENS311, Ecosystem ecology and the global environment, Stony Brook University, Spring 2009-14.
- Co-instructor: BEE550, Principals of Ecology, Ecosystem module, Stony Brook University, Fall 2007 – 2014.
- Guest Lecturer: BIO386/ENS311, Ecosystem ecology and the global environment, Stony Brook University, Spring 2008.
- Guest lecturer: BIO 351, Ecology, Stony Brook University, Fall 2006, 2007, 2009, 2011.
- Instructor: Freshman Seminar in The Science and Society College of Stony Brook University: Vitamin or poison pill: Trace elements in aquatic environments. Spring 2005.
- Lecturer: Introduction to Oceanography, online course for the Electronic Extension Program at Stony Brook University, Fall 2004, Spring and Summer 2005, Fall, Spring and Summer 2006.
- Periodic lecturer on phytoplankton and primary production in Biological Oceanography core course, Marine Science Research Center, SUNY-Stony Brook. Spring, 2000.
- Co-organized seminar course in Estuarine Science with Dr. Gordon Taylor, Marine Science Research Center, SUNY-Stony Brook. Spring, 2000.
- Research Experiences for Undergraduates Mentor. Marine Science Research Center, Stony Brook. Summer 1999.
- Research experiences for undergraduates, co-ordinator of phytoplankton and protozoan ecology component, Marine Science Research Center, Stony Brook. Summer 1999.
- Primary production and biogeochemical cycles, graduate seminar in oceanography, visitor with Drs. Nicholas Fisher and Cindy Lee, Marine Science Research Center, Stony Brook, Spring 1999.
- Field Course in Ecology, Coordinator of stream decomposition component, with Dr. C. Craig, Yale University, 1988.
- Introductory Biology, teaching and laboratory assistant, with Dr. Keith Thompson, Yale University, 1987.

Ecology, teaching assistant and discussion section leader, with Dr. Leo Buss, Yale University, 1987.

Ecology, teaching assistant and discussion section leader, with Dr. C. Craig, Yale University, 1986.

Anatomy and Physiology, laboratory assistant, with Dr. Joy Phillips, Drew University, Spring 1985.

MENTORING

Students advised: Xi Chen, PhD, School of Marine and Atmospheric Sciences, (graduated Dec 2011; Mary Alldred, PhD, Ecology and Evolution, graduated May 2015; Stoycho Velkovsky, MA, E&E, graduated May 2016; Emily Herstoff, PhD, E&E, graduated May 2019; Mihir Umarani, E&E, graduated Sept. 2021; Sam Dickran, PhD, E&E; Rupert Ikeh, PhD, E&E.

Post-doctoral fellows advised: Katie Schneider

Committees for E&E: John Borelli, PhD; James P. Browne, PhD; Michael McCann, PhD; Omar Warsi, PhD; Megan Flenniken, PhD; Susan Natali, PhD, E&E, Bilgecan Sen; Alyssa Ligouri, PhD; Imogene Welles, PhD; Dedi Yang, PhD.

Committees for SoMAS: Yoonja Kang, PhD; Sheryl Bell, PhD; Teresa Mathews, PhD; Amanda Burson, M.S.; Abigail Tyrell, PhD.; Samantha Nyer (nee Roberts), PhD; Colin Bennit, MS.

Committees for Anthropology. Anastasia Iorga, PhD.

High school and undergraduates. Supervised 16 undergraduate and 12 high school independent studies from 1995 to the present.

Prizes won: Nicole Franco (Long Island Science and Engineering Fair (LISEF) special mention), Dylan Assael (Intel Semi-finalist, International Sustainable World Energy Engineering Environment Project (I-SWEEEP) finalist, LISEF area winner), Kaitlyn Wilkinson (Regeneron Semi-Finalist).

REVIEWING ACTIVITIES

Limnology and Oceanography, Marine Ecology-Progress Series, JGR-Oceans, Deep-Sea Research, Archiv für Hydrobiologie, Canadian Journal of Fisheries and Aquatic Sciences, Freshwater Biology, Ecography, Ecosystems, Hydrobiologia, Marine Biology, Aquatic Microbial Ecology, Journal of the North American Benthological Society, Aquatic Biology, PlosOne, Biogeosciences, Coasts and Estuaries, Journal of Plankton Research, Journal of the Marine Biological Association of the UK

EDITORIAL DUTY

Ecological Applications: Subject Matter Editor (2011-present)

DEPARTMENTAL SERVICE

Living Lecture Series Committee (2021-present)

By-Laws Revision Committee (2021 – present)

Code of Conduct Committee (2021-present)

Diversity Committee (2020 – present)

Turkana Basin Institute/E&E faculty search committee (2017-2019)

Graduate Program Director (2015-present)

Departmental Chair Search Committee (2013)

Undergraduate Biology Specialization Overhaul (2013-2014)

Hiring Cluster Proposal Group for Regional Climate Change, and Coastal Sustainability Clusters (Spring 2012)

Prelim Exam Committee (Spring 2011, Spring 2015)

Undergraduate Faculty Advisor for Biology, Ecology and Evolution and Environmental Science tracks (2010-2015)

Graduate Admissions Committee (2008, 2009, 2010, Spring 2015)

Member of Climate Change Group (2008 – 2012)

Departmental Retreat Follow-up Committee (2008)

Hiring Advisory Committee (2008)

UNIVERSITY SERVICE

CAS Diversity Convention, 2021

Institute for Partnerships in Innovation, Resilience, and Environmental Solutions (INSPIRES) Steering Committee. 2018-2020

CAS AA/EEO Area Committee (2008-2015)

Southampton Ecologist Search Committee (2007, 2008)

REPORTS NOT SUBJECT TO PEER-REVIEW

Allred, M.A. and S.B. Baines. 2011. Invasive-species removals and nitrogen-removal ecosystem services in freshwater tidal marshes. A Final Report to the Tibor T. Polgar Fellowship Program.

M.L. Pace, H. Cyr and S. Baines. 1992. Evaluation of utilities monitoring surveys for evidence of faunal decline in the upper Hudson River. pp 35-72 in *The Analysis of Hudson River Fish Populations from the Utilities Monitoring Program: A Final Report to the Hudson River Foundation.*

GENERAL SERVICE

Co-organizer of the Lake District Workshop which brought scientists from around the world to discuss how lake characteristics and dynamics may be structured spatially across landscapes. Feb 5-8, 1997. Trout Lake Station, Boulder Junction, Wisconsin.

Member of organization committee for Science and Policy Forum at McGill University entitled "Acid Rain: Did Science Make a Difference?," Mar. 2, 1994.

DIALOG (Dissertation Initiative in Limnology and Oceanography) selection committee member for the American Society of Limnology and Oceanography.

Periodic lecturer in the education program at the Institute of Ecosystem Studies, 1991-1992.