

CURRICULUM VITAE

SHANNON LEIGH MCCALLISTER

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EDUCATION

1996-2002 Ph.D. Marine Science, College of William and Mary, School of Marine Science, Gloucester Point, Virginia. Drs. Jim Bauer and Hugh Ducklow co-major professors

1989-1993 B.A. Biology; B.A. Environmental Sciences, University of Virginia, Charlottesville

POSTDOCTORAL TRAINING

2005-2006 Postdoctoral Research Associate, Institute of Marine and Coastal Sciences Fellow, Rutgers University. Lee Kerkhof and Sybil Seitzinger co-postdoctoral advisors.

2003-2005 Postdoctoral Research Associate, University of Quebec at Montreal. Dr. Paul del Giorgio postdoctoral advisor

PROFESSIONAL POSITIONS

2013- **Associate Professor** Department of Biology and Environmental Studies, Virginia Commonwealth University, Richmond, Virginia.

2007-2013 **Assistant Professor**, Department of Biology and Environmental Studies, Virginia Commonwealth University, Richmond, Virginia.

1994-1996 **Senior Lab Specialist**, Environmental Health Sciences Department, School of Public Health, Johns Hopkins University, Baltimore, Maryland.

1993-1994 **Biologist II**, Microbiological Associates, Rockville, Maryland.

FELLOWSHIPS, AWARDS and HONORS

2012-2013 **VCU Currents of Change Award**, Richmond, VA

2008 **ASLO Student Best Poster Award**-Newfoundland, Canada.

2008 **Visiting Fellowship**, Bell W. Baruch Institute for Marine and Coastal Sciences.

2008 **VCU 40 Acts of Caring**, ECO-Monitoring

2006 **Raymond L. Lindeman Award Recipient**, American Society of Limnology and Oceanography.

2005-2006 **Postdoctoral Research Fellow**, Rutgers University.

- 2005** **VIMS Best Student Paper PhD** Assessing the Sources and Ages of Organic Matter Supporting Estuarine Bacterial Production: A Novel Multiple Isotope ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$, $\Delta^{14}\text{C}$) Approach. *Limnology and Oceanography* 49: 1687-1702.
- 2003** **Matthew Fontaine Maury Award** for Outstanding Achievements in Interdisciplinary Marine Sciences. Virginia Institute of Marine Sciences.
- 2002** **Antarctic Medal of Honor**
- 2000** **Hudson River Foundation Graduate Fellowship.** Comparison of DOM Cycling Between the Tidal Freshwater Hudson and York Rivers: An Evaluation of the Fractions, Sources and Ages of DOM Fueling Bacterial Production.

PUBLICATIONS (Refereed)

Corresponding Author; *Graduate student; #Undergraduate student; @High School student

Journal Articles

In Preparation

McCallister S.L. and Gonsior, M. New Perspectives on “Old” Marine Carbon. *L&O Letters*, planned submission May 2022.

Long E.*, **McCallister S.L.**, Zinnert J.C. Coastal shrub expansion enhances productivity and leaching of soil carbon and nitrogen into groundwater. *Global Change Biology*, planned submission summer 2022

McCallister, S.L. Ecosystem Self-Priming. In revision.

McCallister, S.L. and Dunlap T. Consequences of terrestrial “greening” of inland waters. Revise and Resubmit *L&O Letters*.

Faunce K., McGarvey, D and **S. L. McCallister.** Significance of human activities on fluvial organic carbon age. TBD.

Published, In Press and Submitted

Gonsior, M., Powers, L., Lahm, M., and **McCallister, S.L.** New Perspectives on the Marine Carbon Cycle: The Marine Dissolved Organic Matter Reactivity Continuum. *Environmental Science and Technology*. In review, submitted 12/27/21.

Allen, T.; Behr, J.; Bukvic, A.; Calder, R.S.D.; Caruson, K.; Connor, C.; D’Elia, C.; Dismukes, D.; Ersing, R.; Franklin, R.; Goldstein, J.; Goodall, J.; Hemmerling, S.; Irish, J.; Lazarus, S.; Loftis, D.; Luther, M.; **McCallister, L.**; McGlathery, K.; Mitchell, M.; Moore, W.; Nichols, C.R.; Nunez, K.; Reidenbach, M.; Shortridge, J.; Weisberg, R.; Weiss, R.; Wright, L.D.; Xia, M.; Xu, K.; Young, D.; Zarillo, G.; Zinnert, J.C. 2021. Anticipating and Adapting to the Future Impacts of Climate Change on the Health, Security and Welfare of Low Elevation Coastal Zone (LE CZ) Communities in Southeastern USA. *J. Mar. Sci. Eng.* 9: 1196. <https://doi.org/10.3390/jmse9111196>

- McCallister, S.L.**, Ishikawa, N.F. and D.N. Kothawala. 2018. Biogeochemical tools for characterizing organic carbon in inland aquatic ecosystems. *Limnology and Oceanography Letters*. 3: 444-457.
- Bercovici, S.K.**, Koch, B.P., Lechtenfeld, O.J., **McCallister, S.L.**, Schmitt-Kopplin, P. and D.A. Hansell. 2018. Aging and molecular changes of dissolved organic matter between two deep oceanic end-members. *Global Biogeochemical Cycles*. 32: 1449-1456.
- Najjar, R.G., Herrmann, M., Alexander, R., Boyer, E.W., Burdige, D. J., Butman, D., Cai, W. – J., Canuel, E.A., Chen, R.F., Friedrichs, M.A.M., Feagin, R.A., Griffith, P.C., Hinson, A.L., Holmquist, J.R., Hu, X., Kemp, W.M., Kroeger, K.D., Mannino, A., **McCallister, S.L.**, McGillis, W.R., Mulholland, M.R., Pilskaln, C.H., Salisbury, J., Signorini, S.R., St-Laurent, P., Tian, H., Tzortziou, M., Vlahos, P., Wang, Z.A. and R.C. Zimmerman. 2018. Carbon budget of tidal wetlands, estuaries and shelf waters of eastern North America. *Global Biogeochemical Cycles*. 32: 389-416.
- Sikder, A.M.**, T. Hossain, M.H. Khan, M.A. Hasan, M. Fakhruzzaman, D. Pestov, J.B. Turner, **S.L. McCallister**, B. Erikson and K.M. Elahi. 2017. An assessment of the ash and dust from the handmade gold jewelry manufacturing workshops in Bangladesh. *Environmental Monitoring and Assessment*. 189(6):279. doi: 10.1007/s10661-017-5978-3.
- Ksionzek, K.B., Lechtenfeld, O.J., **McCallister, S.L.**, Schmitt-Kopplin, P., Geuer, J.K., Geibert, W. and **B.P. Koch**. 2016. Dissolved organic sulfur in the ocean: Biogeochemistry of a petagram inventory. *Science*. 354: 456-459.
- Guillemette, F.**, **McCallister, S.L.** and P.A. del Giorgio. 2016. Selective consumption and metabolic allocation of terrestrial and algal carbon determine allochthony in lake bacteria. *The ISME Journal* 10, 1373-1382; doi:10.1038/ismej.2015.21.
- Herrmann, M.**, R.G. Najjar, W.M. Kemp, R.B. Alexander, E.W. Boyer, W. Cai, P.C. Griffith, K.D. Kroeger, **S.L. McCallister** and R.A. Smith. 2015. Net ecosystem production and organic carbon balance of U.S. East Coast estuaries: A synthesis approach. *Global Biogeochemical Cycles*. 29: 96-111. 10.1002/2013GB004736
- Yamashita, Y., **S.L. McCallister**, B.P. Koch, M. Gonsior and **R. Jaffe**. 2015. Dynamics of dissolved organic matter in fjord ecosystems: Contributions of terrestrial dissolved organic matter in the deep layer. *Estuarine, Coastal and Shelf Science*. 159: 37-49.
- Berrier, D.J.[#], M.L. Rawls^{*}, **S.L. McCallister** and R.B. Franklin. 2014. Influence of substrate quality and moisture availability on microbial communities and litter decomposition. *Open Journal of Ecology*. 4: 421-433.
- Keily, E.[#], A.M. Sikder, J.B.M. Turner, J. Suh[#], D. Boehling[#] and **S.L. McCallister**. 2014. Fossil shell color and trace element concentration as indicators of the paleoenvironments of the Piney Point formation at the Pamunkey River, Virginia Coastal Plain. *Online Journal of Earth Sciences*. 8: 1-12.

- Lechtenfeld, O.J., G. Kattner, R. Flerus, **S.L. McCallister**, P. Schmitt-Kopplin and Koch, B.P. 2014. Molecular transformation and degradation of refractory dissolved organic matter in the Atlantic and Southern Ocean. *Geochimica et Cosmochimica Acta*. 126: 321-337.
- Guillemette, F., **S.L. McCallister** and P.A. del Giorgio. 2013. Differentiating the degradation dynamics of algal and terrestrial carbon within complex natural dissolved organic carbon in temperate lakes. *Journal of Geophysical Research-Biogeosciences*. 118: 963-973.
- McCallister, S.L.** and P.A. del Giorgio. 2012. Evidence for the respiration of ancient terrestrial organic C in northern temperate lakes and streams. *Proceedings of National Academy of Science* 109: 16963-16968.
- Zigah, P.K., E.C. Minor, J.P. Werne and **S.L. McCallister**. 2012. An isotopic ($\Delta^{14}\text{C}$, $\delta^{13}\text{C}$, and $\delta^{15}\text{N}$) investigation of particulate organic matter and zooplankton biomass in Lake Superior and across a size-gradient of aquatic systems. *Biogeosciences* 9: 3663-3678.
- Flerus, R., O.J. Lechtenfeld, B.P. Koch, and **S.L. McCallister**, P. Schmitt-Kopplin, R. Benner, K. Kaiser, and G. Kattner. 2012. A molecular perspective on the ageing of marine dissolved organic matter. *Biogeosciences* 9: 1935–1955.
- Friedline, C.J., R.B. Franklin, **S.L. McCallister** and M.C. Rivera. 2012. Bacterial assemblages of the eastern Atlantic Ocean reveal both vertical and latitudinal biogeographic signatures. *Biogeosciences* 9: 2177–2193.
- Zigah, P.K., E.C. Minor, J.P. Werne, and **S.L. McCallister**. 2011. Radiocarbon and stable carbon isotopic insights into provenance and cycling of carbon in Lake Superior. *Limnology and Oceanography* 56: 867-886.
- Tranvik, L.J., J.A. Downing, J.B. Cotner, S.A. Loiselle, R.G. Striegl, T.J. Ballatore, P. Dillon, K. Finlay, K. Fortino, L.B. Knoll, P.L. Kortelainen, T. Kutser, S. Larsen, I. Laurion, D.M. Leech, **S.L. McCallister**, D.M. McKnight, J.M. Melack, E. Overholt, J.A. Porter, Y. Prairie, W.H. Renwick, F. Roland, B.S. Sherman, D.W. Schindler, S. Sobek, A. Tremblay, M.J. Vanni, A.M. Verschoor, E. von Wachenfeldt, and G.A. Weyhenmeyer. 2009. Lakes and Reservoirs as Regulators of Carbon Cycling and Climate. *Limnology and Oceanography* 54: 2298-2314.
- McCallister, S.L.**, and P.A. del Giorgio. 2008. Direct measurement of the $\delta^{13}\text{C}$ signature of carbon respired by bacteria in lakes: Linkages to potential C sources, ecosystem baseline metabolism and CO_2 fluxes. *Limnology and Oceanography* 53: 1204-1216.
- McCallister, S.L.**, F. Guillemette, and P.A. del Giorgio. 2006c. A system to quantitatively recover bacterioplankton respiratory CO_2 for isotopic analysis to trace sources and ages of organic matter consumed in freshwaters. *Limnology and Oceanography Methods* 4: 406-415.
- McCallister, S.L.**, J.E. Bauer, H.W. Ducklow, and E.A. Canuel. 2006b. Sources of estuarine dissolved and particulate organic matter: a multi-tracer approach. *Organic Geochemistry* 37: 454-468.
- McCallister, S.L.**, J.E. Bauer, and E.A. Canuel. 2006a. Bioreactivity of estuarine dissolved organic matter: a combined geochemical and microbiological approach. *Limnology and Oceanography* 51: 94-100.

McCallister, S.L., J.E. Bauer, J. Kelly[@], and H.W. Ducklow. 2005. Effects of sunlight on decomposition of estuarine dissolved C, N, and P and bacterial metabolism. *Aquatic Microbial Ecology* 40: 25-35.

McCallister, S.L., J.E. Bauer, J. Cherrier, and H.W. Ducklow. 2004. Assessing the sources and ages of organic matter supporting estuarine bacterial production: A multiple-isotope ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$, $\Delta^{14}\text{C}$) approach. *Limnology and Oceanography* 49: 1687-1702.

Book Chapters

Ducklow, H.W. and **McCallister, S.L.** 2004. CO₂ Exchange and the Metabolic Balance of the Global Continental Ocean. In- The Sea Volume 13, The Global Coastal Ocean: Multiscale Interdisciplinary Processes. Editors: Allan R. Robinson, James McCarthy and Brain J. Rothschild. New York: John Wiley & Sons. pp. 269-315.

PUBLICATIONS (Non-Refereed)

Kemp, M. (co-lead), **S.L. McCallister (co-lead)**, I. Anderson, M. Brush, E. Canuel, E. Hall^{*}, M. Hermann, K. Kroeger, R. Najjar, M. Tzortziou and R. Zimmerman. 2012. Fluxes in estuaries. In: R.G. Najjar, M.A.M. Friedrichs, W.-J. Cai (Editors), Report of the U.S. East Coast Carbon Synthesis Workshop, January 19-20, Ocean Carbon Biogeochemistry Program and North American Carbon Program, pp. 7-9.

K.Kroeger (lead), I. Anderson, S. Baldwin, W. Brooks, M. Brush, W.-J. Cai, E. Canuel, M. Casso, R. Chen, A. Green, **S.L. McCallister**, M. Kemp, C. Schaaf, M. Tzortziou and R. Zimmerman. 2012. Fluxes in tidal wetlands. In: R.G. Najjar, M.A.M. Friedrichs, W.-J. Cai (Editors), Report of the U.S. East Coast Carbon Synthesis Workshop, January 19-20, Ocean Carbon Biogeochemistry Program and North American Carbon Program, pp. 5-7.

Koch, B., R. Flerus, G. Kattner, O. Lechtenfeld, L. Zhang, Z. Zhu, I. Suryaputra, D. Podgorski, N. Hertkorn, P. Schmitt-Kopplin, B. Gasparovic, M. Gonsior, **S.L. McCallister**, A. Jenkins^{*}, A. Stuart^{*}, D. Peterke, N. Sucharit. 2008. Sources and short-term molecular changes of dissolved organic matter in the Atlantic surface Ocean: Impact of climatic zones. Expedition Programme No. 81 RV Polarstern. pp 6-7.

FUNDING HISTORY

Summary statistics: \$1.9 million awarded since start of faculty position
\$1.3 million awarded since start of faculty position (VCU portion only)

EXTERNAL

Key: Lead indicates PI for the VCU portion

Funded Grants

Research

National Science Foundation, Division of Environmental Biology. *“Impact of salt water intrusion on C storage in temperate tidal freshwater wetlands: Assessing the amount, age, and fate of mobilized.”* PIs-**S.L. McCallister** and S. Neubauer. 01/01/2012-12/31/2014 (Total \$799,420; \$491,335-McCallister).

National Science Foundation, Chemical Oceanography *“Collaborative Research: How Important is “Old” Carbon in the Lake Superior Carbon Cycle? A Radiocarbon Investigation.”* PIs-E.C. Minor, J. Werne, and **S.L. McCallister**. 9/1/2008-8/31/2011 (Total \$660,618; \$183,190-McCallister).

National Science Foundation, Division of Environmental Biology *“Research Initiation Grant: Bacterial Respiration of Terrestrial Carbon in Freshwater Systems: Implications for the terrestrial C Budget.”* PI- **S.L. McCallister**. 09/15/2008- 09/14/2010 (\$174,975-McCallister).

MBL- International Census of Marine Microbes, awarded for 454 Sequencing services by MBL. *“Application of 454 technology to the characterization of microbial diversity along climatic zones of the Atlantic”*, PIs- **R.B. Franklin**, **S.L., McCallister** and L.S. Ozaki. (approx. value-\$24,000)

Virginia Energy Coastal Resource Consortium, *“Assessment of algal lipids in James River phytoplankton.”* Co-PIs - P. Bukaveckas and **S.L. McCallister**. 09/01/2008-12/31/2009; (Total \$60,074).

Alfred-Wegner-Institute für Polar- und Meeresforschung, Proposal for a research project on R/V Polarstern: Coordinated proposal of the DOM group. *“Sources and short-term molecular changes of dissolved organic matter in the Atlantic Surface Ocean: Impact of climatic zones.”* ANT-XXV/1 Bremerhaven to Punta Arenas 11/4/2008-12/2/2008. co-PI.

Virginia Sea Grant *“Linking Spatial Distribution in Submerged Aquatic Vegetation with CO₂ Flux.”* PI- **S.L. McCallister** 10/01/2007-01/10/2008; (\$9,994-McCallister).

National Science Foundation, Office of International Science and Engineering, *International Planning Visit: Radiocarbon Measurements of Organic Carbon in Doubtful Sound, NZ.* PI- **S.L. McCallister**. 09/15/2006-09/15/2007; (\$14,200-McCallister).

National Science Foundation, DEB, Doctoral Dissertation Improvement Grant, 2000.

Teaching/Outreach Education

Dominion Power. *“Carbon Awareness Partnership- (CAP)”* PIs **A. Wright**, R. Cooper, E. Hall and **S.L. McCallister**. 08/01/2012- 09/01/2013 (Total \$40,000).

Dominion Power. *“Carbon Awareness Partnership- (CAP)”* PIs **A. Wright**, E. Hall and **S.L. McCallister**. 09/01/2013- 08/31/2014 (Total \$40,000).

INTERNAL

Funded Grants

VCU-Council for Community Engagement. ECO-Monitoring: Ecological, Connections, Observations and Monitoring. PIs- A. Wright, C. Viverette, C. Fox, E. Crawford, **S.L. McCallister**, E. Carpenter, J. Ware. 06/01/07-8/31/08. (\$20,000).

VCU- Presidential Research Incentive Program. Climate Change Impacts in Boreal Regions: The radiocarbon age and magnitude of soil CO₂ efflux. PI- **S.L. McCallister**. 01/01/11-05/31/12. (\$50,000).

Student Rice Center Grants

- 2012** R. Cooper. Innovative mesocosm design to investigate the impacts of ocean acidification on carbon cycling in coastal waters. **\$1,492 Awarded.**
- 2012** A. Yaguchi and A. Pepperl. Developing a water distribution system to deliver potable water to a large indigenous village in Bolivia: A proof of concept design. **\$2,000 Awarded.**
- 2011** S. Gifford. Changes in phytoplankton communities with rising CO₂ in freshwater and saltwater ecosystems: A method development study. **\$1,000 Awarded.**
- 2011** J. Wales and E. Hall. Developing and deploying a direct method to measure CO₂ fluxes in the James River watershed. **\$2,000 Awarded.**
- 2009** A. Taylor. Unlocking the spatial biogeochemical processes influencing microbial community structure along a fresh to saltwater continuum. **\$1,000 Awarded.**
- 2009** A. Stuart. Lability of potential allochthonous and autochthonous dissolved organic carbon sources to the James River in high and low nutrient treatments. **\$1,000 Awarded.**
- 2009** M. Rawls. An evaluation of bacterial and fungal colonization of organic matter (OM) and their relative contributions to decomposition rates along a soil moisture gradient. **\$1,000 Awarded.**
- 2009** L.M. Koren. Desorption of soil organic carbon at the VCU Rice Center: Analysis of the amount and lability. **\$1,000 Awarded.**
- 2008** A. Stuart. A multidisciplinary approach assessing the biological fate and transport of allochthonous and autochthonous dissolved organic carbon along an SAV-dominated region of a sub-tributary of the James River. **\$1,000 Awarded.**

PRESENTATIONS AND PUBLISHED ABSTRACTS

*Graduate student; #Undergraduate student; @High School student

- 2014** McGhee, K.[#], M. Ebeling[#], J. Rodriguez-Gomez[#], J. Fuchs[#], L. Evancoe[#], E. Hall^{*}, A. Wright and **S.L. McCallister**. Carbon Characterization & DOC Consumption In 3 Environments: A Forested Mesocosm, A Sun Exposed Mesocosm, and a Vernal Pool. Rice Center Symposium. May 9, 2014. Richmond, Va. [Poster, presented by McGhee].
- 2014** Fuchs, J. [#], L. Evancoe[#], E. Hall^{*}, A. Wright and **S.L. McCallister**. Do You Know What You're Throwing Away? Potential For Carbon Dioxide And Energy Mitigation Via Recycling. Rice Center Symposium. May 9, 2014. Richmond, VA. [Poster, presented by Fuchs].
- 2014** Gaffeny, M. [#], K. Deans[#], E. Hall^{*}, T. Dunlap^{*}, A. Wright, C. Gough, and **S.L. McCallister**. Forest Carbon Sequestration and Offset Potential at VCU's Rice Center. Rice Center Symposium. May 9, 2014. Richmond, VA. [Poster, presented by Deans].

- 2014** McKenna, S.[#], E. Ferguson[#], E. Hall^{*}, L. Koren^{*}, A. Wright and **S.L. McCallister**. Dissolved Organic Carbon (DOC) Consumption in Inland Waters at the VCU Rice Center. Rice Center Symposium. May 9, 2014. Richmond, VA. [Poster, presented by McKenna].
- 2014** Herrmann, M, R.G. Najjar, W.M. Kemp, R.B. Alexander, E.W. Boyer, W. Cai, P.C. Griffith, **S.L. McCallister** and R.A. Smith. Net ecosystem production and organic carbon balance of U.S. East Coast estuaries: A synthesis approach. Ocean Sciences February 23-28, 2014. Honolulu, HI. [Oral, presented by Najjar].
- 2013** Hall, E.^{*}, L. Koren^{*}, R. Faison^{*}, A. Wright and **S.L. McCallister**. Carbon Awareness Partnership (CAP): A Multi-tiered Carbon Cycling Education Program. Virginia Academy of Science Teachers Conference, Norfolk VA. [Oral, presented by Hall]
- 2013** Hall, E.^{*}, L. Koren^{*}, R. Faison^{*}, A. Wright and **S.L. McCallister**. Carbon Awareness Partnership (CAP): A Multi-tiered Carbon Cycling Education Program. North American Association for Environmental Education Conference, Baltimore MD. [Oral, presented by Hall]
- 2013** Neubauer, S. and **S.L. McCallister**. Saltwater intrusion effects on soil carbon cycling across a diversity of tidal freshwater wetlands. Society of Wetland Scientists. Duluth, MN June 2-7, 2013. [Oral, presented by Neubauer].
- 2013** Kim, H.[#], L. Vance[#], R. Tamesgen, R.[#] Cooper^{*}, L. Koren^{*}, E. Hall^{*}, A. Wright and **S.L. McCallister**. Dissolved organic carbon (DOC) consumption by bacteria in various aquatic environments at the VCU Rice Center. VCU Graduate Research Symposium, Richmond, VA. May 17, 2013. [Poster, presented by Cooper].
- 2013** Benjamin, A.[#], E. Hannah[#], L. Evancoe[#], M. Davis[#], E. Hall, R. Cooper^{*}, L. Koren^{*}, A. Wright and **S.L. McCallister**. The characterization and lability of dissolved organic carbon (DOC) in two environmentally varied mesocosms and a vernal pool at the VCU Rice Center. VCU Graduate Research Symposium, Richmond, VA. May 17, 2013. [Poster, presented by Koren].
- 2013** Tucker, A.N.^{*} and **S.L. McCallister**. Global synthesis of the radiocarbon age of particulate and dissolved organic carbon exported from aquatic systems. American Society of Limnology and Oceanography, New Orleans, LA, February 17-22, 2013. [Oral, presented by Tucker].
- 2013** Dunlap, T.M.^{*} and **S.L. McCallister**. A multiproxy approach to assess the microbial processing of dissolved organic matter of the York River Estuary, VA: Implications for the coastal ocean. American Society of Limnology and Oceanography, New Orleans, LA, February 17-22, 2013. [Poster, presented by Dunlap].
- 2013** Koch, B.P., O.J. Lechtenfeld, R. Flerus, **S.L. McCallister**, P. Schmitt-Kopplin, K. Kaiser, R. Benner and G. Kattner. A molecular perspective on the ageing of marine dissolved organic matter. American Society of Limnology and Oceanography, New Orleans, LA, February 17-22, 2013. [Oral, presented by Koch].

- 2013** Koren, L.M*., E.C. Minor and **S.L. McCallister**. Temporal variability in Lake Superior metabolism: Coupling in-situ pCO₂, DI¹³C and oxygen-18 isotopic measurements. American Society of Limnology and Oceanography, New Orleans, LA , February 17-22, 2013. [Oral, presented by Koch].
- 2013** **McCallister, S.L.** and P.A. del Giorgio. Evidence for the respiration of ancient terrestrial organic C in northern temperate lakes: Implications for the terrestrial budget. American Society of Limnology and Oceanography, New Orleans, LA , February 17-22, 2013. [Oral, presented by Koch].
- 2013** Frost, D.# and **S.L. McCallister**. Pollen as a terrestrial carbon subsidy to riverine and coastal systems. . American Society of Limnology and Oceanography, New Orleans, LA , February 17-22, 2013. [Poster, presented by Frost].
- 2013** Najjar, R., M. Friedrichs, W. Cai, D. Butman, K. Kroeger, M. Kemp, M. Herrmann, **S.L. McCallister**, Z. Wang, S. Signorini, C. Pilskaln, D. Burdige, P. Vlahos, R. Vaillancourt, H. Tian, M.A. Tzortziou. The carbon budget for coastal waters of the eastern United States. 4th NACP All-Investigators Meeting. February 4-7, 2013. [Oral, presented by Najjar].
- 2013** Herrmann, M., R.G. Najjar, W.M. Kemp, **S.L. McCallister** and E. Hall*. Net ecosystem production of U.S. east coast estuaries. 4th NACP All-Investigators Meeting. February 4-7, 2013. [Oral, presented by Herrmann].
- 2012** Herrmann, M., R.G. Najjar, W.M. Kemp, **S.L. McCallister** and E. Hall*. Net ecosystem production of U.S. east coast estuaries. Annual Summer Ocean Carbon Biogeochemistry Meeting, Woods Hole, MA July 16-20, 2012. [Poster, presented by Herrmann].
- 2012** Guillemette, F, **S.L. McCallister** and P.A. del Giorgio. Selective consumption and differential allocation to biomass and respiration of algal versus terrestrially-derived C in freshwater bacterioplankton. American Society of Limnology and Oceanography, Japan July 8-13, 2012 Japan. [Oral, presented by Guillemette].
- 2012** Gifford, S.* and **S.L. McCallister**. A high CO₂ world: method development investigating alterations in phytoplankton communities on a regional scale. VCU Graduate Research Symposium, Richmond, VA. May 11, 2012. [Poster, presented by Gifford].
- 2012** Hall, E.* , R. Faison* , A. Corey, A.# Wright, H. Houtz, and **S.L. McCallister**. Assessing carbon processing differences in environmentally varied aquatic mesocosms: results from the carbon awareness partnership (CAP) program at the VCU Rice Center. VCU Graduate Research Symposium, Richmond, VA. May 11, 2012. [Poster, presented by Hall].
- 2012** Cooper, R. D.* , **S.L. McCallister**, and A. Johns#. Innovative Mesocosm Design to Investigate the Impacts of Ocean Acidification on Carbon Cycling in Coastal Waters. VCU

- Graduate Research Symposium, Richmond, VA. May 11, 2012. [Poster, presented by Cooper].
- 2012** Koren, L.M. *, **S.L. McCallister**, S.C. Neubauer, Y. Yamashita, and R. Jaffé. Microbial carbon processing in tidal freshwater wetland soils and the impending impacts from saltwater intrusion. Mid Atlantic Ecological Society of America, Blacksburg, VA. April 14-15, 2012. [Oral, presented by Koren].
- 2012** Hall, E. *, R. Faison *, A. Corey[#], A. Wright, H. Houtz and **S.L. McCallister**. Carbon Awareness Partnership. Mid Atlantic Ecological Society of America, Blacksburg, VA. April 14-15, 2012. [Oral, presented by Hall].
- 2012** Cooper, R. D. *, **S.L. McCallister**, and A. Johns[#]. Innovative Mesocosm Design to Investigate the Impacts of Ocean Acidification on Carbon Cycling in Coastal Waters. Mid-Atlantic Ecology Society of America, Blacksburg, VA, USA. April 14-15, 2012. [Poster, presented by Cooper].
- 2012** Hall, E. *, R. Faison *, A. Corey[#], A. Wright, H. Houtz, and **S.L. McCallister**. Assessing carbon processing differences in environmentally varied aquatic mesocosms: results from the carbon awareness partnership (CAP) program at the VCU Rice Center. Mid-Atlantic Ecology Society of America, Blacksburg, VA, USA. April 14-15, 2012. [Poster, presented by Hall].
- 2012** Hall, E. *, Sobczak W. and **S.L. McCallister**. Factors controlling dissolved organic matter lability and ecological fate in the East Branch Swift River. Ocean Science Meeting, Salt Lake City, UT. February 20-24, 2012. [Oral, presented by Hall].
- 2012** Tucker, A.N.* and **S.L. McCallister**. Metabolic fate of soil derived dissolved organic carbon in the high- latitude Kongsfjord System. Ocean Science Meeting, Salt Lake City, UT. February 20-24, 2012. [Poster, presented by Tucker].
- 2012** Cooper, R.D.* , **S.L. McCallister**, A. Johns[#]. Innovative Mesocosm Design to Investigate the Impacts of Ocean Acidification on Carbon Cycling in Coastal Waters. Ocean Science Meeting, Salt Lake City, UT. February 20-24, 2012. [Poster, presented by Cooper].
- 2011** Gifford, S.* and **S.L. McCallister**. A high CO₂ world: method development investigating alterations in phytoplankton communities on a regional scale. Coastal and Estuarine Research Federation, Daytona, FL. November 6-10, 2011 [Oral, presented by Gifford].
- 2011** Cooper, R.D.* and **S.L. McCallister**. Ocean Acidification: Understanding Ocean Carbon Cycling and the Biological Pump in a High CO₂ World. Acidification in Marine Environments, Tromso, Norway. September 27, 2011. [Poster, presented by Cooper].

- 2011 McCallister, S.L.**, and E. Hall*. Organic matter sources and transformations along a headwater stream-river-continuum. Fourth International Water Association Specialty Conference on Natural Organic Matter, Costa Mesa, CA. July 26-29, 2011. [Oral, presented by McCallister].
- 2011** Koren, L.M.* , **S.L. McCallister**, R.B. Franklin, B. Koch, and G. Kattner. Linking microbial communities and environmental controls in the Atlantic Ocean: Reconsidering ecological biogeography. American Society of Limnology and Oceanography Aquatic Sciences Meeting, San Juan, Puerto Rico. February 13-18, 2011.[Oral, presented by Koren].
- 2010** Koch, B.P., R. Flerus, Ph Schmitt-Kopplin, O. Lectenfeld, A. Bracher, W.J. Cooper, S. Frka, B. Gašparović, M. Gonsior, N. Hertkorn, R. Jaffe, A. Jenkins, J. Kuss, R.J. Lara, M. Lucio, **S.L. McCallister**, S.B. Neogi, D. Peterke, C. Pohl, R. Roettgers, G. Rohardt, B.B. Schmitt, A. Stuart, A. Theis, Y. Wu, M. Witt, Z. Xie, Y. Yamashita, L. Zhang, Z. Zhu, and G. Kattner. Molecular biogeochemical provinces in the Atlantic Surface Ocean. American Geophysical Union, San Francisco, CA, December 13-17, 2010. [Oral, presented by Koch].
- 2010** Hall, E.* , **S.L. McCallister**, and W. Sobczak. Carbon sources and microbial processing along a fluvial network from a headwater stream in Harvard Forest to the Quabbin Reservoir. Joint ASLO & NABS. Sante Fe, New Mexico, June 6-11, 2010. [Poster, presented by Hall].
- 2010** Berrier, D.J., M.S. Rawls* , **S.L. McCallister**, and R.B. Franklin. An evaluation of bacterial and fungal contributions to litter decomposition along a soil moisture gradient. VCU Rice Center Research Symposium, Richmond, VA [Poster, presented by Berrier].
- 2010** Hall, E.* and **S.L. McCallister**. Carbon sources and microbial processing along a fluvial network from a headwater stream in Harvard Forest to the Quabbin Reservoir. Harvard Forest Symposium, March.
- 2010** Koren, L.M.*. and **S.L. McCallister**. Fate of organic carbon in aquatic systems- results from the James River watershed. Second Annual Rice Center Symposium, Richmond, Virginia. May 14, 2010. [Poster, presented by Koren].
- 2010** Berrier, D.J., M.S. Rawl* , **S.L. McCallister**, and R.B. Franklin. An evaluation of bacterial and fungal contributions to litter decomposition along a soil moisture gradient. Annual Meeting of the Mid-Atlantic Chapter of the Ecological Society of America, Fredricksburg, VA. [Poster, presented by Berrier].
- 2009** Minor, E.C., **S.L. McCallister** and P. Zigah. How Important is Old Carbon in Lake Superior? American Society of Limnology and Oceanography, Nice, France, January 25-30, 2009. [Oral, presented by McCalliser].
- 2009** Fraser-Ferrare, C.A., **S.L. McCallister**, M. Gonsior, B. Koch, W.J. Cooper, J.E. Corredor, J.M. Morrell, L. McGuinness, and L.J. Kerkhof, L.J. Patterns in active microbes under dynamic conditions. American Society of Limnology and Oceanography, Nice, France, January 25-30, 2009 (**invited**). [Oral, presented by Fraser-Ferrare].

- 2009** Stuart, A.T. *, J.D. Larkum, and **S.L. McCallister**. Fate of autochthonous and allochthonous dissolved organic carbon in a temperate coastal plain estuary. American Society of Limnology and Oceanography, Nice, France, January 25-30, 2009. [Poster, presented by Stuart].
- 2009** Koren, L.M. *, **S.L. McCallister**, S.C. Neubauer, Y. Yamashita, and R. Jaffe. Influence of salinity variations on the desorption and lability of soil organic carbon associated with a tidal freshwater wetland. American Society of Limnology and Oceanography, Nice, France, January 25-30, 2009. [Poster, presented by Koren].
- 2009** Rawls *, M.A., D.J. Berrier#, **S.L. McCallister**, and R.B. Franklin. Bacterial and fungal colonization of organic matter in a freshwater wetland: monitoring community succession and diversity along a soil moisture gradient. 94th Annual Ecological Society of America Meeting, Albuquerque, NM. [Poster, presented by Rawls].
- 2009** Zigah, P.K., E.C. Minor, J.P. Werne, and **S.L. McCallister**. Sources and cycling of carbon in Lake Superior: insights from $\Delta^{14}\text{C}$. IAGLR: Bridging Ecosystems and Environmental Health across our Great Lakes, Toledo, Ohio, May 18-22. [Oral, presented by Zigah].
- 2009** Franklin, R.B., **S.L. McCallister**, and M.C. Rivera. Reconsidering biogeography and environmental controls on microbial communities and biogeochemical cycles in the Atlantic Ocean. International Census of Marine Microbes 454 Users Group Meeting, Woods Hole, MA. [Poster, presented by Franklin].
- 2009** Koren, L.M. *, **S.L. McCallister**, S.C. Neubauer, Y. Yamashita, R. Jaffé. Impacts of saltwater intrusion on soil organic carbon desorption and microbial carbon consumption in tidal freshwater soils. Society of Wetlands Scientists Annual Meeting. Madison, Wisconsin, June 23, 2009. [Oral, presented by Koren].
- 2009** Minor, E.C., P. Zigah, and **S.L. McCallister**. How important is old carbon in Lake Superior? Preliminary results from radiocarbon analysis. Chemical Oceanography in a Changing World. Savannah, GA. [Poster, presented by Minor].
- 2009** Koren, L.M. *, **S.L. McCallister**, S.C. Neubauer, Y. Yamashita, and R. Jaffé.. Influence of salinity variations on the desorption and lability of soil organic carbon associated with a tidal freshwater wetland. Virginia Water Research Conference, Richmond, Virginia. October 16, 2009. [Poster, presented by Koren].
- 2008** Stuart, A.T. *, J.A. DeAlteris, and **S.L. McCallister**. A Multidisciplinary Approach Assessing the Biological Fate and Transport of Allochthonous and Autochthonous DOC along a tributary of the Chesapeake Bay. American Society of Limnology and Oceanography Summer Meeting, St. Johns, Newfoundland, Canada, June 8-13, 2008. **Award Recipient – Best Student Poster**. [Poster, presented by Stuart].
- 2007** **McCallister, S.L.** and P.A. del Giorgio. The Source and Age of Carbon Respired in Freshwaters. American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, February 4-9, 2007. [Oral, presented by McCallister].
- 2007** **McCallister, S.L.**, F. Guillemette, and P.A. del Giorgio. Cellular Regulation of Ecosystem Metabolism and CO_2 fluxes. SIL 2007, Montreal, QC, Canada.
- 2006** **McCallister, S.L.** Tracing the Flow of Carbon from Terrestrial and Aquatic Sources to Bacterial Metabolism. American Society of Limnology and Oceanography Summer

- Meeting, Victoria, Canada, June 4-9, 2006. (**Invited Lindeman Award Talk, McCallister**)
- 2005 McCallister, S.L.**, F. Guillemette, and P.A. del Giorgio. Sources and ages of organic matter fueling bacterial respiration in lakes and rivers. American Society of Limnology and Oceanography Summer Meeting, Santiago, Spain June 19-24, 2005. [Oral, presented by McCallister].
- 2005 Ducklow, H.W.** and **S.L. McCallister**. Continental shelves as a minor sink for atmospheric CO₂. The Oceanography Society, Paris, France (**Invited**). [Oral, presented by McCallister].
- 2005 McCallister, S.L.**, F. Guillemette, and P.A. del Giorgio. A novel method to measure the isotopic ($\delta^{13}\text{C}$, $\Delta^{14}\text{C}$) signature of organic matter respired by aquatic bacteria in freshwater systems. Respiration Workshop 2005, Vigo, Spain. [Oral, presented by McCallister].
- 2005 McCallister, S.L.**, F. Guillemette, and P.A. del Giorgio. A novel method to measure the isotopic signature of respired bacterial CO₂ in aquatic systems. Society of Canadian Limnology. Windsor, Ontario, January. [Oral, presented by McCallister].
- 2004 Bauer, J.E.**, P.A. Raymond, **S.L. McCallister**, N. Caraco and J.J. Cole. Factors controlling the ages, character, reactivity, and associated scales of variability of organic carbon transported by rivers to the ocean. *Geochimica et Cosmochimica Acta* **68**: A424-A424.
- 2004 McCallister, S.L.**, J.E. Bauer, J.E. Cherrier, and H.W. Ducklow. Assessing sources and ages of organic matter supplying riverine and estuarine bacterial production: A multiple isotope ($\Delta^{14}\text{C}$, $\delta^{13}\text{C}$, $\delta^{15}\text{N}$) approach. AGU 2004 Joint Assembly, Montreal, Quebec. [Oral, presented by McCallister]
- 2003 Ducklow, H.W.** and **S.L. McCallister**. Dissolved organic matter, sources, composition and cycling. Chesapeake Community Model Program. November (**invited**). [Oral, presented by Ducklow].
- 2003 Pollard, C.J.**, J.E. Bauer, and **S.L. McCallister**. Concurrent fluxes of DOC, DON and DOP in a coastal plain estuary: Implications for export of carbon and nutrients to the temperate coastal ocean. Estuarine Research Federation Symposium, Seattle WA, September. [Oral, presented by McCallister].
- 2003 Lever, J.R.**, **S.L. McCallister**, S.A. Chapman, P.A. Rauseo, R.L. Allmon, W.B. Mathews and U. Scheffel. In vitro and in vivo binding of (3h) naltrindole and n1'-methyl, ethyl, propyl and benzyl congeners to Delta opioid receptors. *Society for Neuroscience*. Abstract No. 802.1.
- 2003 McCallister, S.L.**, J.E. Bauer, E.A. Canuel, J.E. Cherrier, and H.W. Ducklow. Comparison of the Sources and Reactivity of Organic Matter within a Temperate Estuary Using a Multi-Tracer Approach. Estuarine Research Federation Symposium, Seattle WA, September. (**invited**) [Oral, presented by McCallister].
- 2002 McCallister, S.L.**, H.W. Ducklow, and D.A. Hansell. Distribution, Bacterial Utilization and Transport of Dissolved Organic Matter in the Far North Atlantic, May 2001. American Society of Limnology and Oceanography Ocean Sciences Meeting, Honolulu, HI, February 11-15. [Oral, presented by McCallister].

- 2001 McCallister, S.L.**, E.A. Canuel, J.E. Bauer, and H.W. Ducklow. A Lipid Biomarker Approach to Assessing Differences in Sources and Reactivity of Estuarine Particulate and Dissolved Organic Matter. Estuarine Research Federation Symposium, St Petersburg FL, November. [Poster, presented by McCallister].
- 2001 McCallister, S.L.** and H.W. Ducklow. Biogeochemical Transformations in Continental Shelf Seas and the Land-Ocean Margin. IOC COASTS 2001 Symposium; Paris, France, August (**invited**). [Oral, presented by McCallister].
- 2001 McCallister, S.L.**, E.A. Canuel, J.E. Bauer, and H.W. Ducklow. Fluctuations in organic matter composition along the estuarine gradient: A biomarker approach to understanding sources and reactivities of POM and DOM. American Society of Limnology and Oceanography Aquatic Sciences, Albuquerque, NM. [Oral, presented by McCallister].
- 2000 McCallister, S. L.**, J.E. Bauer, and H.W. Ducklow. Synergistic decomposition along an estuarine gradient: the impact of photochemistry on DOC, DON and DOP availability. American Society of Limnology and Oceanography Summer Meeting, Copenhagen, Denmark, June 4-9, 2000. [Oral, presented by McCallister].
- 1999 McCallister, S. L.**, J.E. Bauer, and H.W. Ducklow. Bioavailability of dissolved organic matter in the York River Estuary: An enzymatic and stoichiometric approach. American Society of Limnology and Oceanography Aquatic Sciences, Santa Fe, NM, February 1-5, 1999. [Oral, presented by McCallister].
- 1998 Mathews, W.B.**, C.M. Kinter, J. Palma, R.V. Daniels, H.T. Ravert, U. Scheffel, **S.L. McCallister**, S.A. Chapman, P.A. Finley, R.F. Dannals, Lever JR. N1'-([F-18] fluorethyl)naltrindole ([F-18]FetNTI): A radioligand for positron emission tomographic studies of delta opioid receptors. *Journal of Nuclear Medicine*, **39**: 21P-21P.

INVITED RESEARCH TALKS

- 2009** Cary Institute of Ecosystem Studies (Host: Stuart Findlay)
- 2008** Bell W. Baruch Institute for Marine and Coastal Sciences (Host: Scott Neubauer)
- 2008** University of Virginia, Department of Environmental Studies (Host: Mike Pace).
- 2008** Florida International University, Everglades Restoration Conference (Host: R. Jaffe)
- 2007** Stroud Water Research Center (Host: Lou Kaplan)
- 2007** University of Rhode Island, Graduate School of Oceanography (Host: Rainer Lohmann)
- 2007** University of Richmond, Department of Biology (Host: John Warrick)
- 2006** Bigelow Laboratory for Ocean Science (Host: Barney Balch)
- 2006** University of Quebec at Montreal, GRIL (Host: Yves Prairie)
- 2006** University of North Carolina, Wilmington (Host: Alina Szmant)
- 2006** Virginia Commonwealth University (Host: Bonnie Brown and Paul Bukaveckas)
- 2005** Kent State, Department of Biological Sciences (Host: James Blank)
- 2005** Lawrence Livermore National Lab (Host: Tom Guilderson)

2005 McGill University, Department of Biology (Host: Neil Price)

2002 University of Quebec at Montreal, GRIL (Host: Paul del Giorgio)

2002 Naval Research Lab (Host: Tom Boyd)

2002 University of Georgia, Department of Marine Sciences (Host: Tim Hollibaugh)

RESEARCH CRUISE EXPERIENCE

August 2019 R/V Atlantic Explorer sampling cruise Sargasso Sea (M. Gonsior Chief Scientist) (6 days)

August 2013 R/V Melville sampling cruise Gulf of Alaska (D. Hansell Chief Scientist) (21 days)

August 2009 R/V Heron sampling cruises on Lake Superior (Co-Chief Scientists, S.L McCallister and P. Zigah). (11 Days)

October-December 2008 North Atlantic Meridional Transect, R/V Polarstern (G. Kattner, B. Koch; co-Chief Scientist) (28 Days)-invited US participant.

September 2008 R/V Heron sampling cruises on Lake Superior (E. Minor Chief Scientist) (4 Days)

June-July 2007 New Zealand Fjords R/V Polaris (New Zealand, C. Savage Chief Scientist) (15 Days)

December 2002-February 2003 Antarctic Peninsula (LTER cruise) R/V Gould (R. Ross, Chief Scientist) (42 Days)

May 2001 North Atlantic Ocean R/V DISCOVERY (UK; J. Allen, Chief Scientist) (30 Days)

August 1998 Station M Pacific Ocean. R/V New Horizon (J Bauer, Chief Scientist) (6 Days)

SYNERGISTIC AND EDUCATIONAL ACTIVITIES

Courses Taught

BIOL 307 Aquatic Ecology (3 credit) *Course had not been taught for some years. I designed all new lectures and taught the course.*

ENVS/GEOG 411 Introduction to Oceanography (3 credit) *Course was previously taught. I designed all new lectures and taught the course.*

BIOL 475 CAPSTONE: The Global Water Crisis (1 credit) *Self designed and taught.*

BIOL 491 Carbon Awareness Partnership Learning (3 credits) *Designed and taught primarily by my graduate students Rachel Cooper (now graduated) and Eric Hall based on their knowledge acquired in my laboratory. The course is co-listed Anne Wright (P) and S. Leigh McCallister. The course is the basis for Eric's Ph.D. dissertation. I am providing several lectures and will meet with student's individually to advise about potential career choices.*

BIOL 591 Marine and Aquatic Microbiology (3 credit) *Co-designed and co-taught with Dr. Franklin.*

GRAD 606 Internship in Professional Teaching (3 credits) *Co-designed by Cooper and McCallister. Evaluation and mentorship, McCallister.*

BIOL 691 Biogeochemistry (3 credit) *Self designed and taught.*
BIOL/ENVS 691 Biogeochemical Techniques in Ecology (3 credits) *Self designed and taught.*
BIOL 693 Biogeochemical Techniques: Data Analysis (1 credit) *Self designed and taught.*
BIOL 693 Advanced Oceanography (1 credit) *Self designed and taught.*
BIOL 693 Marine Organic Geochemistry (1 credit) *Self designed and taught.*
BIOL 693 Stable Isotopes in Ecology (1 credit) *Self designed and taught. Post-doc Joanna Kraus participated in a portion of lectures and discussion.*
ENVS 492 Undergraduate Independent Study (1-4 credits)
CHEM 492 Undergraduate Independent Study (1-4 credits)
BIOL 492 Undergraduate Independent Study (1-4 credits)
BIOL 692 Graduate Independent Study (1-4 credits)

SERVICE TO THE UNIVERSITY, COMMUNITY AND PROFESSION

Biology Department Service

Third Year Review Derek Johnson (2014)
HEETF Committee (2013-)
M.S. Graduate Committee (2007-2012)
Search Committee Forest Ecologist (2008)
ad hoc Space Assessment Committee (2008)

School of Life Sciences Service

Life Sciences Search Committee Energy Economist (2011)
Rice Center Research Committee (2007-2009)
Environmental Analysis Lab Oversight Committee (2007-2009)

University Service

Host, VCU Center for Integrative Mediterranean Studies, Richmond, VA (April, 2008)
Representative, VCU Center for Integrative Mediterranean Studies, Messina, Italy (May, 2007)
University Council (2012-2014)

Community Service

Carbon Awareness Partnership Teacher Workshops (20 teachers) 2012
Carbon Awareness Partnership Middle and High School Student Workshops 2012
Church Hill Academy Ecological Outreach Program 2008-2010
ECO-Monitoring: Ecology, Chemistry, Observation and Mentoring 2007-2008
Guest Lecturer *Friends Primary School* (7-8 yr old), Montréal, QC Canada 2005
Participant, Virginia Junior Academy of Science, Research Mentor, 2002-2003
Participant, Gloucester High School Independent Study, Research Mentor 2001-2002
Participant, Female Initiatives into Research, Science and Technology Program, 2001

Professional Service

Federal Research Panel Participant

NSF-DEB Ecosystems Virtual Panel Reviewer September 2021
NSF-DEB Ecosystems Pre-proposal Panel Reviewer April 2014
NSF-DEB- Ecosystems Proposal Panel Reviewer November 2012

NSF-DEB- Ecosystems Pre-proposal Panel Reviewer March 2011
NSF- Office of Polar Programs Panel Reviewer- Antarctic Ecosystems and Organisms 2007

Proposal Reviewer

NSF Chemical Oceanography (8)
NSF-CAREER (1)
NSF Biological Oceanography (3)
NSF Office of Polar Programs-Arctic (2)
NSF Office of Polar Programs- Antarctic Ecosystems and Organisms (2)
NSF-Low Temperature Geochemistry (3)
DOE-NICCR (1)
South Carolina-NOAA- National Estuarine Research Reserve System (6)
Virginia-NOAA-National Estuarine Research Reserve System (2)

Workshop Participation

Microbial C Pump- ASLO Emerging Topics, San Juan, Puerto Rico. Feb. 19-20, 2011. *Invited participant.*
Coastal Synthesis Workshop, San Francisco, CA. Dec. 11-12, 2010. *Invited participant. Contributed to two working groups, C synthesis for Atlantic Coast and Great Lakes.*
Ocean Carbon and Biogeochemistry Workshop, Woods Hole, MA. July 2008. *Invited participant. Rapporteur for Biological Pump Breakout Group.*
Evolution of Oxygenic Photoautotrophs, New Brunswick, NJ. February 2006. *Invited participant.*
Teaching Geosciences Workshop, Sponsored by NSF, State College, PA July 2005. *Invited participant.*
Respiration and Planktonic Food Webs Workshop, Vigo Spain July 2005. *Invited participant.*
New Investigators Workshop, Sponsored by NSF Polar Programs, Washington DC. 2002. *Invited participant.*

Meeting Session Chair

IWA 2011 Moderator, Session I, Track B. *Molecular Characterization*. Fourth International Water Association Specialty Conference on Natural Organic Matter. July 26-29, 2011 Costa Mesa, CA.
ASLO 2007 Santa Fe, *Dissolved Organic Matter Quality: Linking Environmental Dynamics to Molecular Structure*; Session Co-Chairs (R. Jaffe, B. Cooper, T. Dittmar, S.L. McCallister).
SIL 2007 Montreal, Role of Allochthonous OC in the Ecological Function of Lakes: A Cellular to an Ecosystem Perspective; Session Co-Chairs (P.A. del Giorgio and S.L. McCallister).

Professional Society Service

American Society of Limnology and Oceanography – Meeting Committee (2011-)
American Society of Limnology and Oceanography – Lindeman Award Committee (2007-2010)

Invited Workshop Participant to Provide Written Recommendations or Publications

2nd International Enzymes in the Environment RCN Workshop, Fort Collins, CO May 2012. *Invited participant.*
NSF-NASA Coastal Carbon Synthesis Workshop, Virginia Institute of Marine Science, VA. January 2012. *Co-Lead Estuaries Group. Contributor Marsh Group. Significant literature review prior to the meeting and co-lead the Estuaries and Marsh break out groups and co-*

wrote the reports from these sections. This is an ongoing effort and my Ph.D. student Eric Hall is actively involved in the GIS mapping of the wetland coverage and estuarine delineation.

Acidification in aquatic environments: Workshop on acidification in aquatic environments: What can marine science learn from limnological studies of acid rain? Tromso, Norway; Sept 2011. *Invited participant.*

Molecular Biology of Biogeochemistry Workshop, Los Angeles, CA. Nov. 8-10, 2010. *Invited participant.*

Lakes and Impoundments as Regulators of Carbon Cycling and Climate Change (Sept. 2008) *Limnology and Oceanography-Special Issue. Invited participant, Rapporteur for Climate Change Breakout Group.*

NSF Sweden-US Workshop: Determining Research Priorities for NSF-OPP funded ODEN cruise work (Feb 2008). *Invited participant, Project Feasibility Breakout Group.*

RECOVER MAP/CERC –Dissolved Organic Matter Fate and Effects in Florida Bay: A Workshop for Information Synthesis and Evaluation of the Influence of Everglades Restoration (Jan 2008). *Invited participant, significant literature review prior to workshop, Lead for DOC Bioavailability Breakout Group.*

EPA-STAC/WERF -Effluent Organic Nitrogen workshop-Establishing a Research Agenda for Assessing the Bioavailability of Wastewater-Derived Organic Nitrogen in Treatment Systems and Receiving Waters (Oct. 2007). *Invited participant, Rapporteur DON Bioavailability Breakout Group.*

Journal Reviewer

Review Editor: *Frontiers in Aquatic Microbiology* 2010-present (1)

Review Editor: *Aquatic Microbial Ecology* 2006-present (5)

Biogeosciences (3)

Biogeochemistry (4)

Deep Sea Research (1)

Ecology (1)

Ecosystems (2)

Estuaries (1)

Estuarine, Coastal and Shelf Science (1)

Estuaries and Coasts (1)

Limnology and Oceanography (6)

Limnology and Oceanography (Methods) (1)

Marine Chemistry (3)

Microbial Ecology (1)

Marine Ecology Progress Series (1)

STUDENT ADVISOR

Ph.D.

Lindsey Koren Ph.D. Candidate, Integrative Life Sciences.

Dissertation Title: "*Understanding the age and source of dissolved organic carbon supporting bacterial metabolism in Lake Superior.*"

Enrolled: August 2009; Anticipated Graduation: May 2015.

Eric Hall Ph.D. Candidate, Integrative Life Sciences.
Dissertation Title: TBD.
Enrolled: August 2011; Anticipated Graduation: May 2015.

Masters

Lindsey Koren MS-Biology. Enrolled: August 2007; Graduated: May 2009.
Thesis title: *"Influence of Salinity Variations on the Desorption and Lability of Soil Organic Carbon associated with Tidal Freshwater Marshes."*

Anne Stuart MS-Env. Studies. Enrolled: August 2007; Graduated: August 2009.
Thesis title: *"Elemental composition and nutrient effect on the uptake and metabolism of dissolved organic carbon by bacteria from a temperate river."*

Morgan Rawls MS-Biology. Enrolled: August 2007; Graduated: August 2009.
Thesis title: *"An evaluation of bacterial and fungal contributions to organic matter decomposition along a soil moisture gradient."*

Susie Gifford MS-Biology. Enrolled: August 2009; Graduated: May 2011.
Thesis title: *"Changes in phytoplankton communities with rising CO₂ in freshwater and saltwater ecosystems: A method development study."*

Eric Hall MS-Biology. Enrolled: August 2009; Graduated: August 2011.
Thesis title: *"Factors controlling dissolved organic carbon lability and ecological fate in the East Branch Swift River, Massachusetts."*

Rachel Cooper MS-Biology. Enrolled: August 2010; Graduated: August 2012.
Thesis title: *Ocean acidification: Understanding the coastal carbon pump in a high CO₂ world.*
Also in press paper resulting from participation in Freshwater Acidification Workshop: **Garrard, S. et al. "Ocean Acidification: The next generation- A postgraduate perspective of research priorities." Accepted-Marine Biology in 2012.**

Ashley Tucker MS-Env. Studies. Enrolled: August 2010; Graduated: May 2014. Thesis title: *A latitudinal assessment of the radiocarbon age of riverine dissolved and particulate organic matter.*

Thomas Dunlap MS-Biology. Enrolled August 2012. Anticipated Graduation Summer 2014.
Thesis title: *TBD.*

Alyssa Anderson MS-Biology. Enrolled August 2012. Anticipated Graduation Summer 2014.
Thesis title: *TBD.*

Undergraduates (Independent Study and Volunteers)

Chris Weaver (Independent Study, Fall 2007)

Nicole Humbert (Independent Study, Spring 2008)

David Berrier (Volunteer 2009-2010)

Adam Francis (Independent Study Spring 2009)

Charles Cole (Volunteer Spring 2010, Summer Intern at LLNL 2010; Indep.Study Fall 2010)

LeAnne Seal (Independent Study Summer 2010 and Fall 2010)
Arianna Jones (HHMI 2010 summer undergrad; Independent Study, Fall 2010)
Kaelyn Considine (Independent Study, Summer 2010)
Elizabeth Sisson (Independent Study, Fall 2010)
Taylor Johnson (Independent Study, Spring 2011)
Johnny Wales (Volunteer Summer 2010; Independent Study, Fall 2010; Spring 2011)
Ashley Tucker (Volunteer, Summer 2010)
Adeeb Barqawi (Volunteer, Spring 2010)
Jajangir Syed (Volunteer, Spring 2010)
Jasmine Wall (Volunteer, Spring 2010)
Christopher Tuck (Independent Study, Spring 2011)
Mary Jenkins (Summer Volunteer 2010; Independent Study, Spring 2011)
Hyder Hussain (Volunteer, Spring 2010 ; Independent Study, Fall 2011)
Joseph Wiener (Independent Study, Summer 2011)
Thomas Dunlap (Independent Study, Fall 2011)
April Corey (Independent Study Fall 2011 and Spring 2012)
Charles Mateer (Volunteer, Spring 2012)
Jonathan J Suh (Volunteer, Summer 2012)
Jessica A Krusie (Volunteer, Summer 2012)
Daniel E Boehling (Volunteer, Summer 2012)
Rachel B Whitmer (Volunteer, Summer 2012)
Marvin Ordonez (Volunteer, Summer 2012; Independent Study Fall 2012)
Daniel Frost (Volunteer, Summer 2012; Independent Study Fall 2012, Lab Assistant Summer 2013)
Daniel Boehling (Independent Study Fall 2012)
Elizabeth Keily (Independent Study, Spring 2013)
Amanda Cherry (CNU) (Lab Assistant Summer 2013)
Morgan McCabe (USC) (Lab Assistant Summer 2013)
Jeffery Fuchs (Independent Study Spring 2014)
Luke Evancoe (Independent Study Spring 2014)
Daulton Sink (Volunteer, 2013-2014)
Mrignayni Venkatesan (Volunteer, 2013-2014)
Timothy Jones (Independent Study Summer 2014)
Sarah McCalla (Cornell) (Independent Study Summer 2014)

STUDENT COMMITTEE MEMBER

VCU

PhD.

Colleen Higgins (*Ph.D., ILS 2011*)
Jaclyn Vick (*Ph.D., ILS 2011*)
Ember Morrissey (*Ph.D., ILS 2013*)
Joe Wood (*Ph.D., ILS 2014*)

Masters

Elizabeth Rielly (*M.S.-ENVS 2008*)
Julie Frank (*M.S.-BIOL 2008*)

Spencer Bissett (*M.S. BIOL 2008*)
Laura Berry (*M.S.-ENVS 2009*)
Maureen Dougherty (*M.S. ENVS 2009*)
Talia Fletcher (*M.S.-BIOL 2009*)
Brent Lederer (*M.S.-BIOL 2009*)
Alaina Hart (*M.S.-BIOL 2009*)
Amy Jenkins (*M.S.-BIOL 2010*)
Anne Schlegel (*M.S.-BIOL 2011*)
William Isenberg (*M.S.-ENVS 2012*)
Aaron Porter (*M.S.-ENVS 2011*)
William MacDonald Lee (*M.S.-ENVS 2012*)
Jaimie Gillespie (*M.S.- BIOL 2013*)

External Committee Member

Carrie Fraser, Ph.D. 2009 (Institute for Marine and Coastal Science, Rutgers University; Advisor Dr. Lee Kerkhof)

Hadley McIntosh, M.S. 2013 (Virginia Institute of Marine Science; Advisor Dr. Elizabeth Canuel)

External Examiner

Rebecca McCleod, Ph.D. 2008 (Department of Marine Science, University of Otago)

Jerome Comte, Ph.D. 2009 (University of Quebec at Montreal)

Robert Panetta, Ph.D. 2009 (Department of Chemistry, Concordia University)

Alexandre Ouellet, Ph.D. 2010 (Department of Chemistry, Concordia University)