**CURRICULUM VITA**

## Christopher Lee Osburn

Associate Professor

Dept. of Marine, Earth, and Atmospheric Sciences

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### **Education**

2000, Ph.D., Environmental Science, Lehigh University (Advisor: Dr. Donald P. Morris)

# 1995, B.A., Geological Sciences, Indiana University

1991, B.S., Public Affairs, Indiana University

## *Professional Experience*

2014 – present Associate Professor, Dept. of Marine, Earth, and Atmospheric Sciences, North Carolina State University

2008 – 2014 Assistant Professor, Dept. of Marine, Earth, and Atmospheric Sciences, North Carolina State University

2003 – 2008 Research Chemist, US Naval Research Laboratory

2000 – 2003 National Research Council Postdoctoral Fellow, US Naval Research Laboratory

## *Research Interests*

* Flux and biogeochemistry of organic matter in aquatic ecosystems studied via optical (absorption and fluorescence spectroscopy) and chemical (stable and radioisotopes, lignin) properties
* Photodegradation and microbial degradation of organic matter

***Scientific Cruises***

Chesapeake Bay (8 cruises 2000-2006, aboard R/V Cape Henlopen and R/V Hugh Sharp; 2 as Chief Scientist)

San Francisco Bay (2 cruises 2002 and 2003, aboard R/V Point Sur)

Puget Sound (2 cruises 2005 and 2006, aboard R/V Barnes)

Baltic Sea (2007, aboard R/V Gunnar Thorsen)

Mackenzie River estuary (2004, aboard CCGS Nahidik)

Gulf of Mexico (2000, aboard R/V Seward Johnson and 2007 and 2011, aboard R/V Pelican)

Charleston Harbor (4 cruises, aboard R/V *Cape Hatteras*)

***Teaching Experience***

Earth System Chemistry (undergraduate)

Coastal Environments Field Course (undergraduate)

River and Estuarine Biogeochemistry (undergraduate/graduate)

Organic Geochemistry (graduate)

Optical Oceanography (undergraduate/graduate)

## *Pending, Current and Prior Funding*

1. CURRENT “Acquisition of Unmanned Surface Vehicle for High-Resolution Mapping of the Shallow Seabed and Water Column”, NSF-FSML, Co-PI, 07/15/2015-06/14/2016, $349,700 (funding for USV only)
2. CURRENT “Collaborative Research: Planktonic Sources of Chromophoric Dissolved Organic Matter in Seawater,” NSF-Chemical Oceanography, PI, 05/01/2015-04/30/2018, $568,892
3. CURRENT “Linking Carbon Exchange Between Coastal Wetland and Shelf Environments: A Case Study in the Barataria Bay, Northern Gulf of Mexico, NASA-Ocean Biology and Biogeochemistry, PI, 06/01/2014-05/31/2017, $903,253
4. PRIOR “Biogeochemical Control of TNT Metabolism by Natural Microbial Assemblages Among Coastal Ecosystems”, NRL/Strategic Environmental Remediation and Development Program, PI, 03/01/2013-02/28/2016, $165,705
5. PRIOR “Identifying and Quantifying Biologically-Available Sources of Organic Nitrogen in the Neuse River Basin, NC,” (NC Dept. of Environment and Natural Resources/EPA), PI, $302,000, 3/1/2012-5/31/2015.
6. CURRENT “Water-carbon Links in a Tropical Forest: How Interbasin Groundwater Flow Affects Carbon Fluxes and Ecosystem Carbon Budgets” (Dept of Energy), Co-PI, $768,331, 9/15/2011-9/14/2015. (Extended through 09/01/2016).
7. PRIOR “Assessment of the Potential Association of Stream Bank Erosion and Sedimentation with the Distribution and Abundance of Unionids in Streams at Fort Bragg, North Carolina.”, USGS/DOI, Co-PI (Jay Levine, PI), 8/7/2012-6/30/2014, $89,623
8. PRIOR “Investigation of Factors Contributing to the Decline in the Nutritional Health of Alasmidonta raveneliana in the Little Tennessee River, Franklin, North Carolina”, NCDOT, Co-PI (Jay Levine, PI), 01/01/2013 through 12/31/2014, $191,199
9. PRIOR “Facilities Enhancements for the CVM Freshwater Mussel Barn to Support Captive Propagation of Freshwater Mussels”, US Fish & Wildlife Service, Co-PI (Jay Levine, PI), 07/15/2009 through 10/30/2015, $105,000
10. PRIOR “A Fluorescence-based Model of Microbial Production of Dissolved Organic Matter from Particulate Organic Matter in a Tidal Marsh,” NCSU FRPD, PI, $4000, 7/1/2011—6/30/2012.
11. PRIOR “TNT Incorporation and Mineralization by the Natural Microbial Assemblage at Frontal Boundaries Between Water Masses and in the Underlying Sediments in Coastal Ecosystems,” US Naval Research Laboratory, PI, $71,996, 3/18/2011—2/29/2012.
12. PRIOR “Quantification of Nutrient and Organic matter Fluxes in a Restored Tidal Marsh,” NCSU-Sea Grant, Co-PI, $20,000, 4/15/2011—1/31/2011.
13. PRIOR “Geospatial Synthesis of Chromophoric Dissolved Organic Matter Distribution in the Gulf of Mexico for Water Clarity Decision Making”, NASA, PI, $424,208, 7/30/2009 – 12/31/2011.
14. PRIOR “Legacy Sediments and Stream Water Quality: Estimating Volume, Nutrient Content, and Stream Bank Erosion in 303(d)-Impaired Waterways of the North Carolina Piedmont,” NCSU Water Resources Research Institute, Co-PI, $50,000. 5/1/2010 to 4/30/2011.
15. PRIOR “Fluorescence Spectroscopy Applied to the Solid Phase: New Insights Into Sediment Biogeochemistry,” NCSU FRPD, PI, $4,000, 7/01/2009 – 6/30/2010.
16. PRIOR “Chemical Analysis of CDOM Sources in Danish Coastal Waters of the Baltic Sea-North Sea Mixing Zone,” Office of Naval Research, $75,162, 2008
17. PRIOR – “Quantitative and qualitative prediction of light absorption by colored dissolved organic matter in the coastal zone”, Office of Naval Research, Co-PI with Colin Stedmon (Danish NERI), $129,522 ($267,809 total), 2006-2008
18. PRIOR – “Thermodynamic Approach to Carbon Cycling in the Littorals,” Naval Research Laboratory Young Investigator Program, $183,550, 2005-2007
19. PRIOR - “The Role of Dissolved Organic Matter in Regulating Primary Production in Prairie Saline Lakes,” National Science Foundation, Co-PI with Jasmine Saros and Sherilyn Fritz, $75,000 ($250,000 total), 2003-2005.
20. PRIOR - “Cometabolism of PAHs, TNT and terrestrial organic matter (TOM) in coastal battlespace environments,” Office of Naval Research, Co-PI with M. Montgomery, $100,000 ($271,430 total), 2002-2004.
21. PRIOR - “Influence of terrestrial organic matter from the Mackenzie River on coastal battlespace optical properties in the Southeastern Beaufort Sea & Mackenzie Shelf,” Office of Naval Research, $83,870, 2003-2004.

***Peer Reviewed Publications (54) \* = student author***

1. Osburn, C. L., Handsel, L. T.\*, Peierls, B. L., and Paerl. H. W. (2016). Predicting Sources of Dissolved Organic Nitrogen to an Estuary From an Agro-Urban Coastal Watershed. *Environmental Science & Technology*. DOI: 10.1021/acs.est.6b00053
2. Ziervogel, K., Osburn, C., Brym, A.\*, Battles, J., Joye, S., D'souza, N., ... & Arnosti, C. (2016). Linking heterotrophic microbial activities with particle characteristics in waters of the Mississippi River Delta in the aftermath of Hurricane Isaac. Frontiers in Marine Science, 3, 8.
3. Osburn, C. L., Boyd, T. J., Montgomery, M. T., Coffin, R. B., Bianchi, T. S., & Paerl, H. W. (2015). Optical Proxies for Terrestrial Dissolved Organic Matter in Estuaries and Coastal Waters. *Frontiers in Marine Science*, *2*, 127. doi: 10.3389/fmars.2015.00127
4. Saros, J. E., Osburn, C. L., Northington, R. M., Birkel, S. D., Auger, J. D., Stedmon, C. A., & Anderson, N. J. (2015). Recent decrease in DOC concentrations in Arctic lakes of southwest Greenland. *Geophysical Research Letters*, *42*(16), 6703-6709.
5. Osburn, C. L., Mikan, M. P.\*, Etheridge, J. R., Burchell, Jr., M. R., & Birgand, F. (2015). Seasonal variation in the quality of dissolved and particulate organic matter exchanged between a salt marsh and its adjacent estuary. *Journal of Geophysical Research—Biogeosciences, 120*, 1430-1449.
6. Coffin, R. B., Osburn, C. L., Plummer, R. E., Smith, J. P., Rose, P. S., & Grabowski, K. S. (2015). Deep Sediment-Sourced Methane Contribution to Shallow Sediment Organic Carbon: Atwater Valley, Texas-Louisiana Shelf, Gulf of Mexico. *Energies*, *8*(3), 1561-1583.
7. De la Cruz, F. B., Dittmar, T., Niggemann, J., Osburn, C. L., & Barlaz, M. A. (2015). Evaluation of copper oxide oxidation for quantification of lignin in municipal solid waste. *Environmental Engineering Science*, *32*(6), 486-496.
8. Dixon\*, J.L., Osburn, C.L., Paerl, H.W., and Peierls, B. L. (2014). Seasonal changes in estuarine dissolved organic matter due to variable flushing time and wind-driven mixing events. *Estuarine Coastal and Shelf Science* 151, 210-220.
9. De la Cruz, F. B., Dittmar, T., Niggemann, J., Osburn, C. L., & Barlaz, M. A. (2015). Evaluation of Copper Oxide Oxidation for Quantification of Lignin in Municipal Solid Waste. *Environmental Engineering Science*.
10. Guo, W.D., Yang, L., Zhai, W., Chen, W., Osburn, C. L., Huan, X., & Li, Y. (2014). Runoff-mediated seasonal oscillation in the dynamics of dissolved organic matter in different branches of a large bifurcated estuary - the Changjiang Estuary. *Journal of Geophysical Research – Biogeosciences*, doi: 10.1002/2013JG002540
11. Bianchi, T. S., Osburn, C., Shields, M. R., Yvon-Lewis, S., Young, J., Guo, L., & Zhou, Z. (2014). Deepwater Horizon Oil in Gulf of Mexico Waters after 2 Years: Transformation into the Dissolved Organic Matter Pool. *Environmental science & technology*, *48*(16), 9288-9297.
12. Brym, A.\*, Paerl, H. W., Montgomery, M. T., Handsel\*, L. T., Ziervogel, K., & Osburn, C. L. (2014). Optical and chemical characterization of base-extracted particulate organic matter in coastal marine environments. *Marine Chemistry,* 162, 96-113.
13. Etheridge, J. R., Birgand, F., Osborne, J. A., Osburn, C. L., Burchell, Jr., M. R. & Irving, J. (2014). Using in situ ultraviolet-visual spectroscopy to measure nitrogen, carbon, phosphorus, and suspended solids concentrations at a high frequency in a brackish tidal marsh. *Limnology and Oceanography: Methods*, 12, 10-22.
14. Tehrani, N. C., D'Sa, E. J., Ko, D. S., Walker, N. D., Osburn, C. L., & Chen, R. F. (2013). Colored Dissolved Organic Matter Dynamics in the Northern Gulf of Mexico from Ocean Color and Numerical Model Results. *Journal of Coastal Research*, doi: [10.2112/JCOASTRES-D-13-00036.1](http://dx.doi.org/10.2112/JCOASTRES-D-13-00036.1)
15. Osburn, C. L., Stedmon, C., Spencer, R. G. M., & Stubbins, A. (2013). Linking optical and chemical properties of dissolved organic matter in natural waters. *Limnology and Oceanography Bulletin*, 22(3), 78-82.
16. Zhang, Y., Liu, X., Osburn, C. L., Wang, M., Qin, B., & Zhou, Y. (2013). Photobleaching Response of Different Sources of Chromophoric Dissolved Organic Matter Exposed to Natural Solar Radiation Using Absorption and Excitation–Emission Matrix Spectra. *PloS one*, 8(10), e77515.
17. Voli, M. T., Wegmann, K. W., Bohnenstiehl, D. R., Leithold, E., Osburn, C. L., & Polyakov, V. 2013. Fingerprinting the sources of suspended sediment delivery to a large municipal drinking water reservoir: Falls Lake, Neuse River, North Carolina, USA. *Journal of Soils and Sediments*, 13(10), 1692-1707.
18. Meskhidze, N., Petters, M. D., Tsigaridis, K., Bates, T., O'Dowd, C., Reid, J., Lewis, E. R., Gantt, B., Anguelova, M. D., Bhave, P. V., Bird, J., Callaghan, A. H., Ceburnis, D., Change, R., Clarke, A., de Leeu, G., Deane, G., DeMott, P. J., Elliot, S., Facchini, M. C., Fairall, C. W., Hawkins, L., Hu, Y., Hudson, J. G., Johnson, M. S., Kaku, K. C., Keene, W. C., Kieber, D. J., Long, M. S., Mårtensson, M., Modini, R. L., Osburn, C. L., Prather, K. A., Pszenny, A., Rinaldi, M., Russell, L. M., Salter, M., Sayer, A. M., Smirnov, A., Suda, S. R., Toth, T. D., Worsnop, D. R., Wozniak, A., and Zorn, S. R. 2013. Production mechanisms, number concentration, size distribution, chemical composition, and optical properties of sea spray aerosols. *Atmospheric Science Letters*. DOI: 10.1002/asl2.441
19. Levas, S. J., Grottoli, A. G., Hughes, A., Osburn, C. L., & Matsui, Y. 2013. Physiological and Biogeochemical Traits of Bleaching and Recovery in the Mounding Species of Coral Porites lobata: Implications for Resilience in Mounding Corals. *PloS one*, 8(5), e63267.
20. Genereux, D. P., Nagy, L. A., Osburn, C. L., and Oberbauer, S. F. 2013. A connection to deep groundwater alters ecosystem carbon fluxes and budgets: example from a Costa Rican rainforest. *Geophysical Research Letters*, doi: 10.1002/grl.50423
21. Tehrani, N. C., D'Sa, E. J., Osburn, C. L., Bianchi, T. S., and Schaeffer, B. A. 2013. Chromophoric Dissolved Organic Matter and Dissolved Organic Carbon from Sea-Viewing Wide Field-of-View Sensor (SeaWiFS), Moderate Resolution Imaging Spectroradiometer (MODIS) and MERIS Sensors: Case Study for the Northern Gulf of Mexico. *Remote Sensing*, 5(3), 1439-1464.
22. Montgomery, M.T., Coffin, R.B., Boyd, T.J., and Osburn, C.L. 2013. Incorporation and mineralization of TNT and other anthropogenic organics by natural microbial assemblages from a small, tropical estuary. *Environmental Pollution*, 174: 257-264. doi:10.1016/j.envpol.2012.11.036
23. Bianchi, T. S., Garcia-Tigreros, F., Yvon-Lewis, S. A., Shields, M., Mills, H. J., Butman, D., Osburn, C.L., Raymond, P.A., Shank, G.C., DiMarco, S.F., Walker, N., Reese, B.K., Mullins-Perry, R., Quigg, A., Aiken, G.R., and Grossman, E. L. 2013. Enhanced transfer of terrestrially derived carbon to the atmosphere in a flooding event. *Geophysical Research Letters*, 40(1), 116-122. doi: 10.1029/2012GL054145
24. Zhou, Z., Guo, L.D., Shiller, A.M., Lohrenz, S.E., Asper, V.L., and Osburn, C.L. 2012. Characterization of oil components from the Deepwater Horizon oil spill in the Gulf of Mexico using fluorescence EEM techniques. *Marine Chemistry*, 148, 10-21.
25. Osburn, C.L., Handsel, L.T.\*, Mikan, M.P.\*, Paerl, H.W., and Montgomery, M.T. 2012. Fluorescence tracking of dissolved and particulate organic matter quality in a river-dominated estuary. *Environmental Science and Technology* dx.doi.org/10.1021/es3007723
26. Ziervogel K., McKay L., Rhodes B., Osburn C.L., Dickson-Brown J.L.\*, Arnosti, C., and Teske, A. (2012), Microbial activities and dissolved organic matter dynamics in oil-contaminated surface seawater from the Deepwater Horizon oil spill site. *PLoS ONE* 7(4): e34816. doi:10.1371/journal.pone.0034816
27. Montgomery, M.T., Coffin, R.B., Boyd, T.J., Smith, J.P., Walker, S.E., and Osburn, C.L. (2011), 2,4,6-Trinitrotoluene mineralization and bacterial production rates of natural microbial assemblages from coastal sediments, *Environmental Pollution*, doi:10.1016/j.envpol.2011.07.018
28. Osburn, C. L. and Stedmon, C.A. (2011), Linking the chemical and optical properties of dissolved organic matter in the Baltic–North Sea transition zone to differentiate three allochthonous inputs. *Marine Chemistry*, doi:10.1016/j.marchem.2011.06.007
29. Osburn, C. L., Fritz, S.C., Wigdahl, C. and Saros, J.E. (2011), Dissolved organic matter composition and photoreactivity in prairie lakes of the US Great Plains. *Limnology and Oceanography* 10.4319/lo.2011.56.6.2371.
30. Tank, S.E., Lesack, L.F.W., Gareis, J.A.L., Osburn, C.L., and Hesslein, R.H. (2011), Multiple tracers demonstrate distinct sources of dissolved organic matter to lakes of the Mackenzie Delta, western Canadian Arctic. *Limnology and Oceanography* 56: 1297–1309.
31. Pohlman, J. W., J. E. Bauer, W. F. Waite, C. L. Osburn, and N. R. Chapman. (2011). Methane hydrate-bearing seeps as a source of aged dissolved organic carbon to the oceans. *Nature Geoscience* 4: 37-41.
32. Boyd, T. J., B. P. Barham, G. J. Hall, and C. L. Osburn. (2010). Variation in ultrafiltered and LMW organic matter fluorescence properties under simulated estuarine mixing transects: 1. Mixing alone. *Journal of Geophysical Research-Biogeosciences* 115: G00F13.
33. Boyd, T. J., B. P. Barham, G. J. Hall, B. S. Schumann, R. W. Paerl, and C. L. Osburn. (2010). Variation in ultrafiltered and LMW organic matter fluorescence properties under simulated estuarine mixing transects: 2. Mixing with photoexposure. Journal of Geophysical Research-Biogeosciences 115: G00F14.
34. Stedmon, C.A., Osburn, C.L., and Kragh, T. (2010). Tracing water mass mixing in the Baltic–North Sea transition zone using the optical properties of coloured dissolved organic matter. *Estuarine, Coastal, and Shelf Science*, 87: 156-162
35. Montgomery, M. T., Boyd, T. J., Osburn, C. L., and Smith, D. C. (2010) PAH mineralization and bacterial organotolerance in surface sediments of the Charleston Harbor estuary.  *Biodegradation* DOI 10.1007/s10532-009-9298-3.
36. Salm, C.R., Saros, J.E., Fritz, S.C., Osburn, C.L., Reineke, D.M., (2009). Phytoplankton productivity across prairie saline lakes of the Great Plains (USA): a step toward deciphering patterns through lake classification models. *Canadian Journal of Fisheries and Aquatic Sciences*, 66: 1435-1448.
37. Bouillon, S., Abril, G., Borges, A.V., Dehairs, F., Govers, G., Hughes, H.J., Merckx, R., Meysman, F.J.R., Nyunja, J., Osburn, C., and Middelburg, J.J. (2009). Distribution, origin and cycling of carbon in the Tana River (Kenya): a dry season basin-scale survey from headwaters to the delta. *Biogeosciences*, 6: 2475-2493.
38. Montgomery, M.T., Boyd, T.J., Osburn, C.L., Plummer, R.E., Masutani, S.M., and Coffin, R.B. (2009). Desalination technology waste streams: effect of pH and salinity on metabolism of marine microbial assemblages. *Desalination Journal*, 249(2):861-864.
39. Osburn, C.L., Retamal, L., and Vincent, W.F. (2009). Photoreactivity of chromophoric dissolved organic matter transported by the Mackenzie River to the Beaufort Sea. *Marine Chemistry*. doi: 10.1016/j.marchem.2009.05.003.
40. Osburn, C.L., O’Sullivan, D.W., and Boyd, T.J. (2009). Increases in the longwave photobleaching of chromophoric dissolved organic matter in coastal waters. *Limnology and Oceanography*. 54: 145-159.
41. Montgomery, M. T., Osburn, C. L., Furukawa, Y., Ziebis, W., Mahn, C., and Gieskes, J. M. (2008). Increased capacity for PAH mineralization in biologically-mixed estuarine sediments. *Environmental Monitoring and Assessment*, 12: 98-110.
42. Tzortziou, M., Neale, P.J., Osburn, C.L., Megonigal, P.J., Maie, N., and Jaffe, R. (2008) Tidal marshes as a source of optically and chemically distinctive colored dissolved organic matter in the Chesapeake Bay. *Limnology and Oceanography*, 53: 148-159.
43. Vallieres, C., Retamal, L., Ramlal, P., Osburn, C.L., and Vincent, W.F. (2008). Bacterial production and microbial food web structure in a large arctic river and the coastal Arctic Ocean. *Journal of Marine Systems*, 74: 756-773.
44. Osburn, C. L. and St-Jean, G. (2007) The use of wet chemical oxidation with high-amplification isotope ratio mass spectrometry to measure stable isotope values of dissolved organic carbon in seawater. *Limnology and Oceanography: Methods*, 5:296–308.
45. Retamal, L., Vincent, W.F., Martineau, C., and Osburn, C.L. (2007). Comparison of the optical properties of dissolved organic matter in two river-influenced coastal regions of the Canadian Arctic. *Estuarine, Coastal and Shelf Science*., doi:10.1016/j.ecss.2006.10.022.
46. Tzortziou, M., Osburn, C.L. and P. J. Neale. (2007) Photobleaching of dissolved organic material from a tidal marsh-estuarine system of the Chesapeake Bay. *Photochemistry and Photobiology*. 83: 782-792.
47. Boyd, T.J., Osburn, C.L., Johnson, K.J., Birgl, K.B., Coffin, R.B. (2006) Compound-specific isotope analysis coupled with multivariate statistics to source-apportion hydrocarbon mixtures. *Environmental Science and Technology*, 40 (6): 1916-1924.
48. Maloney, K. O., Morris, D. P., Moses, C. O., and Osburn, C. L. (2005). The role of iron and dissolved organic carbon in the absorbance of ultraviolet radiation in humic lake water. *Biogeochemistry*, 75: 393-407.
49. O’Sullivan, D. W., Neale, P. J., Coffin, R. B., Boyd, T. J., and Osburn, C. L. (2005) Photochemical production of hydrogen peroxide and methylhydroperoxide in coastal waters. *Marine Chemistry*, 97(1-2): 14-33.
50. Boyd, T. J. and Osburn, C. L. (2004). Changes in CDOM fluorescence from allochthonous and autochthonous sources during tidal mixing and bacterial degradation in two coastal estuaries, *Marine Chemistry*, 89:189-210.
51. Montgomery, M. T., Osburn, C. L**.**, Boyd, T. J., Smith, D. C., and Mueller, J. C. (2002). Seasonal succession of the PAH-mineralizing bacteria in creosote-impacted intertidal sediments. *Soil and Sediment Contamination* 11(3): 479.
52. Osburn, C. L., Morris, D. P., Moeller, R. E., and Thorn, K.A. (2001). Chemical and optical changes in freshwater dissolved organic matter exposed to solar radiation. *Biogeochemistry*, 54(3): 251-278.
53. Osburn, C. L., Zagarese, H. E., Morris, D. P., Hargreaves, B. R., and Cravero, W. (2001). Calculation of spectral weighting functions for the photobleaching of chromophoric dissolved organic matter in temperate lakes. *Limnology and Oceanography*, 46(6): 1455-1467.
54. Bralower, T.J., CoBabe, E.A., Clement, B., Sliter, W.V., Osburn, C. L., and Longoria, J. (1999). The record of global change in mid-Cretaceous (Barremian-Albian) sections from the Sierra Madre, Northeastern, Mexico. *Journal of Foraminiferal Research*, 29(4): 418-437.

***Book Chapters (5)***

1. Zhou, Z., Guo, L., & Osburn, C. L. (2015) Fluorescence EEMs and PARAFAC Techniques in the Analysis of Petroleum Components in the Water Column. In: T.J. McGenity et al. (eds.), Hydrocarbon and Lipid Microbiology Protocols, Springer Protocols Handbooks. DOI 10.1007/8623\_2015\_137, Springer-Verlag Berlin Heidelberg.
2. Osburn, C.L, Del Vecchio, R.D., & Boyd, T.J. (2014) Physicochemical Effects on Organic Matter Fluorescence in Natural Waters, Chapter 7, In: Fluorescence Applications in Aquatic Science. Coble, P.J., Lead, J.R., Baker, A., and Reynolds, D. (Eds.), Cambridge University Press.
3. Montgomery, M. T., Boyd, T. J., Smith, J. P., Walker, S. E., & Osburn, C. L. (2011). 2, 4, 6-Trinitrotoluene mineralization and incorporation by natural bacterial assemblages in coastal ecosystems", Chappell, MA & Price, CL & George, RD. In *Environmental Chemistry of Explosives and Propellant Compounds in Soils and Marine Systems: Distributed Source Characterization and Remedial Technologies, ACS Symposium Series, vol* (Vol. 1069, pp. 171-184).
4. Boyd T.J., Smith D.C., Apple J.K., Hamdan L.J., Osburn C.L., & Montgomery M.T. (2008). Evaluating PAH biodegradation relative to bacterial carbon demand in coastal ecosystems: Are PAHs truly recalcitrant? In: Dijk T, editor. Microbial Ecology Research Trends. Hauppauge, NY: NOVA Science Publishers Inc; pp. 1–38.
5. Osburn, C.L. & Morris, D.P. (2003) Photochemistry of chromophoric dissolved organic matter in natural waters, Chapter 6, In: UV Effects in Aquatic Organisms and Ecosystems. Hebling, E.W. and Zagarese, H.E. (Eds.), The Royal Society of Chemistry.

***Formal Reports (6)***

1. Giordano, B. C., Montgomery, M. T., Osburn, C. L., & Lindsay, C. (2014). Measurement of Nitroaromatic Explosives by Micellar Electrokinetic Chromatography in Waters Collected Along a Tropical Estuary (No. NRL/MR/6110--14-9504). NAVAL RESEARCH LAB WASHINGTON DC.
2. Montgomery, M. T., Boyd, T. J., Coffin, R. B., Drake, L. A., Hansen, L. T., & Osburn, C. L. (2014). TNT Degradation by Natural Microbial Assemblages at Frontal Boundaries Between Water Masses in Coastal Ecosystems (ER-2124 Interim Report) (No. NRL/MR/6110--14-9552). NAVAL RESEARCH LAB WASHINGTON DC CHEMICAL DYNAMICS AND DIAGNOSTICS BRANCH.
3. Montgomery, M. T., Coffin, R. B., Boyd, T. J., & Osburn, C. L. (2012). TNT biodegradation by natural microbial assemblages at estuarine frontal boundaries (No. NRL/MR/6110--12-9390). NAVAL RESEARCH LAB WASHINGTON DC CHEMICAL DYNAMICS AND DIAGNOSTICS BRANCH.
4. Walker, S. W., Osburn, C. L., Boyd, T. J., Hamdan, L. J., Coffin, R. B., Montgomery, M. T., Smith, J. P., Li, Q., Moneil, F. & Hawari, J. (2006). Mineralization of 2, 4, 6-Trinitrotoleune (TNT) in Coastal Waters and Sediments. Naval Research Laboratory Formal Report, NRL/FR/6114--06-10135.
5. Montgomery, M.T. and Osburn, C.L. (2004). Bacterial metabolism, aromatic biodegradation, and lignin biogeochemistry in sediment cores from Pearl Harbor, Hawai’i. Naval Research Laboratory Formal Report, NRL/FR/6114--04-10,077.
6. Montgomery, M.T. and Osburn, C.L. (2003). Depth profile of bacterial metabolism and PAH biodegradation in bioturbated and unbioturbated marine sediments, Naval Research Laboratory Formal Report, NRL/FR/6114—03-10.057.

***Select Papers Presented since 2004 (\*= Student)***

1. Arellano, A., Bianchi, T. S., Osburn, C. L., D’Sa, E. J., Joshi, I., Oviedo-Vargas, D., Ko, D. S., & Ward, N. D. (2016). CT54A-0255: Assessing Bulk Carbon and Biomarkers in Two Contrasting Bays: Blackwater River-Dominated and Particle-Dominated. Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
2. Atar, J. N.\*, Barnett, E. L.\*, Montgomery, M. T., Boyd, T. J., Coffin, R. B., Osburn, C. L., & Handsel, L. T.\* (2016). CT54A-0254: Dynamics of Fluorescent Organic Matter Compared between Three Contrasting Estuarine Environments. Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
3. Boyd, T. J., Anastasiou, C. J., Thao, P. T. P., Reid, J. S., & Osburn, C. L. (2016). CT54A-0265: Coastal water optical properties from four Southeast Asian coastal environments ranging from relatively pristine to heavily impacted. Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
4. Coffin, R. B., Osburn, C. L., and Smith, J. P. (2016). EC24A-1069: Application of Unmanned Aircraft System Instrumentation to Study Coastal Geochemistry. Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
5. Hounshell, A. G.\*, Peierls, B. L., Paerl, H. W., Osburn, C. L., and Abare, B. (2016). CT54A-0252: Using Fluorescence to Determine the Fate and Bio-reactivity of Dissolved and Particulate Organic Nitrogen in the Neuse River Estuary, North Carolina, USA. Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
6. Joshi, I., D’Sa, E. J., Osburn, C. L., Bianchi, T. S., Ko, D. S., Oviedo-Vargas, D., Kinsey, J. D., Arellano, A., & Ward, N. D. (2016). CT54A-0262: Assessing CDOM from VIIRS satellite ocean color data in an estuarine environment – initial results from Apalachicola Bay. Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
7. Kinsey, J. D., Schnetzer, A., Bianchi, T. S., Ziervogel, K., Lampe, R. H.\*, and Osburn, C. L. (2016). CT54A-0251: Autochthonous Optical Signals in CDOM from Phytoplankton Culture and Open Ocean Observations. Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
8. Ko, D., D’Sa, E. J., Osburn, C. L., Bianchi, T. S., Joshi, I., Oviedo-Vargas, D., Arellano, A., & Ward, N. D. (2016). PO44B-3141: Study of Circulation in the Apalachicola Bay and the Surrounding Wetland Applying Triple-Nested Models Downscaling from Global Ocean to Estuary, Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
9. Osburn, C. L., Montgomery, M. T., Boyd, T. J., Bianchi, T. S., Coffin, R. B., & Paerl, H. W. (2016). CT54A-0263: Optical Proxies for Dissolved Organic Matter in Estuaries and Coastal Waters. Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
10. Oviedo-Vargas, D., Osburn, C. L., Bianchi, T. S., D’Sa, E. J., Ko, D. S., Ward. N. D., Arellano, A., Joshi, I., & Kinsey, J. (2016). CT54A-0253: Examining the relative contribution of ‘blue carbon’ to coastal shelf environments via optical properties of dissolved and base-extracted particulate organic matter. Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
11. Peierls, B. L., Hounshell, A. G., Osburn, C. L., & Paerl, H. W. (2016). EC41B-07: Bioavailability of Riverine Dissolved Organic Matter in an Estuarine System: Evidence of the Priming Effect? Ocean Sciences Meeting, New Orleans, LA, 21-26 Feb 2016.
12. Ward, N. D., Bianchi, N. D., Osburn, C. L., D’Sa, E. J., Ko, D. S., Joshi, I., Arellano, A., Kinsey, J. D., & Oviedo-Vargas, D. (2016). EC14B-0970: Methane and carbon dioxide exchange in two Gulf of Mexico coastal wetland environments—Apalachicola and Barataria bays.
13. Barnett, E. L.\*, Oviedo-Vargas, D., Osburn, C. L., Genereux, D. P., Oberbauer, S. F., & Dierck, D. (2015). The Influence of Regional Groundwater on the Dissolved Organic Matter in Costa Rican Streams. AGU Fall Meeting Abstract #FM15-B11G-0517.
14. Hounshell, A. G.\*, Peierls, B. L., Osburn, C. L., & Paerl, H. W. (2015). Sources and fate of bioavailable dissolved organic nitrogen in the Neuse River Estuary, North Carolina. AGU Fall Meeting Abstract #FM15-B13E-0655.
15. Osburn, C.L., Mikan, M. P\*, Etheridge, J. R., and Birgand, F. (2015). Seasonal Variation in the Quality of Dissolved and Particulate Organic Matter Exchanged Between a Salt Marsh and Its Adjacent Estuary. AGU Fall Meeting Abstract #FM15-B13E-0656.
16. Oviedo-Vargas, D., Dierck, D., Genereux, D. P., Oberbauer, S. F., & Osburn, C. L. (2015). Regional Groundwater Discharge Drives High Carbon Dioxide Emissions from a Lowland Tropical Rainforest Stream. AGU Fall Meeting Abstract #FM15-B51F-0491.
17. Osburn, C. L., Giles, M. E., & Underwood, G. J. C. (2014). Chromophoric Dissolved Organic Matter in Southwestern Greenland Lakes. In *AGU Fall Meeting Abstracts* (Vol. 1, p. 0551).
18. Northington, R., Osburn, C. L., Anderson, N. J., & Saros, J. E. (2014). Patterns and Changes in Dissolved Organic Carbon (DOC) across Lakes in Southwestern Greenland. In *AGU Fall Meeting Abstracts* (Vol. 1, p. 01).
19. Oberbauer, S. F., Genereux, D. P., Osburn, C. L., Dierick, D., & Oviedo Vargas, D. (2014). Availability Of Deep Groundwater-Derived CO2 For Plant Uptake In A Costa Rican Rainforest. In *AGU Fall Meeting Abstracts* (Vol. 1, p. 0611).
20. Dempsey, C. M.; Morris, D. P.; Osburn, C. L.; Peters, S. C.; Pazzaglia, F. J.; BIOLABILTY: ASSESSING CHANGES TO DOM SPECTRAL PROPERTIES DURING SEASONAL STORM EVENTS (Abstract ID: 13867). Joint Aquatic Sciences Meeting, Portland, OR, 18-23 May 2014.
21. Handsel, L. T.\*; Paerl, H.; Osburn, C. L.; IDENTIFYING POTENTIAL URBAN SOURCES OF ORGANIC CARBON AND NITROGEN IN A NORTH CAROLINA RIVER BASIN USING ORGANIC MATTER FLUORESCENCE AND STATISTICAL MODELING (Abstract ID: 15114). Joint Aquatic Sciences Meeting, Portland, OR, 18-23 May 2014.
22. Oviedo-Vargas, D.; Genereux, D. P.; Osburn, C. L.; Oberbauer, S. F.; CONTRIBUTION OF STREAM CO2 AND METHANE EMISSIONS TO CARBON BUDGETS IN LOW-LAND TROPICAL WATERSHEDS WITH AND WITHOUT CONNECTIONS TO CARBON-RICH DEEP GROUNDWATER (Abstract ID:14921). Joint Aquatic Sciences Meeting, Portland, OR, 18-23 May 2014.
23. Guo, W.; Yang, L.; Zhai, W.; Chen, W.; Osburn, C. L.; RUNOFF-MEDIATED SEASONAL OSCILLATION IN THE DYNAMICS OF DISSOLVED ORGANIC MATTER IN DIFFERENT BRANCHES OF A LARGE BIFURCATED ESTUARY (Abstract ID: 16514); Ocean Sciences Meeting, ASLO, Honolulu, HI, 23-38 Feb 2014.
24. Peierls, B., Paerl, H.W., Osburn, C.L. Old black water, keep on rollin': The fate of riverine dissolved organic nitrogen in the Neuse River Estuary. Talk A10, 2014 WRRI meeting, Raleigh, NC, 19-20 Mar 2014.
25. Handsel\*, L.T., Paerl, H.W., and Osburn, C.L. Identifying Potential Sources of Organic Nitrogen using Organic Matter Fluorescence and Statistical Modeling in an Eastern North Carolina River Basin. Presented at 2014 WRRI meeting, Raleigh, NC, 19-20 Mar 2014.
26. Genereux, D.P.; Osburn, C.L.; Nagy, L.; Oberbauer, S.F.; Rojas-Jiménez\*, L.D. Connection to deep groundwater alters ecosystem carbon fluxes and budgets: an example from a Costa Rican rainforest (Invited). H14E-01. Fall AGU meeting, San Francisco, CA, 07-13 Dec 2013.
27. O'Connor, J\*.; Showers, W.J.; Osburn, C.L.; DeMaster, D.J. Monitoring Nitrate, Chlorophyll, and CDOM Cycling in a Reservoir using In Situ Mapping Techniques. H13H-1468. Fall AGU meeting, San Francisco, CA, 07-13 Dec 2013.
28. Osburn, C.L. Using Chemometrics to Model Organic Nitrogen Fluxes and Sources in the Neuse River Basin. Presented at 2013 WRRI Conference, Raleigh, NC, 21 Mar.
29. Dixon, J.L.\*, Osburn, C.L., and Paerl, H.W. Dissolved Organic Matter (DOM) Dynamics in a Shallow, Coastal Plain Estuary: Neuse River, North Carolina. Presented at 2013 WRRI Conference, Raleigh, NC, 21 Mar.
30. Tucker, K.\* and Osburn, C.L. Quality of Organic Matter in Sediment Pore Waters of the Neuse River Estuary. Presented at 2013 WRRI Conference, Raleigh, NC, 20 Mar.
31. Osburn, C. L., Paerl, H. W., and Handsel, L. T.\*, FLUORESCENCE TRACKING OF PARTICULATE AND DISSOLVED ORGANIC MATTER QUALITY IN A RIVER-DOMINATED ESTUARY (Abstract ID: 10625); Presented at 2013 Aquatic Sciences Meeting, ASLO, New Orleans, LA, 17-22 Feb.
32. Montgomery, M. T., Coffin, R. B., Boyd, T. J., and Osburn, C. L.; DEGRADATION OF AROMATIC ORGANIC COMPOUNDS BY NATURAL BACTERIAL ASSEMBLAGES AT ESTUARINE FRONTAL BOUNDARIES. (Abstract ID: 10414); Presented at 2013 Aquatic Sciences Meeting, ASLO, New Orleans, LA, 17-22 Feb.
33. Handsel, L. T\*., Paerl, H. W., and Osburn, C. L. TRACKING AND IDENTIFYING POTENTIAL SOURCES OF ORGANIC NITROGEN USING FLUORESCENCE AND STATISTICAL MODELING IN AN EASTERN NORTH CAROLINA RIVER BASIN (Abstract ID: 10666); Presented at 2013 Aquatic Sciences Meeting, ASLO, New Orleans, LA, 17-22 Feb.
34. Dempsey, C. M., Morris, D. P., Pazzaglia, F. J., Osburn, C. L., Raymond, P. A., and Peters, S. C. STUDYING THE AGE AND BIOLABILITY OF ORGANIC CARBON IN STREAMS AND SOILS WITHIN THREE HEADWATER CATHMENTS (Abstract ID: 11294); Presented at 2013 Aquatic Sciences Meeting, ASLO, New Orleans, LA, 17-22 Feb.
35. Brym, A. J.\*, Ziervogel, K., Paerl, H. W., Montgomery , M. T., and Osburn, C. L. CHARACTERIZATION OF PARTICULATE ORGANIC MATTER IN THREE ESTUARIES USING PARALLEL FACTOR ANALYSIS (PARAFAC) (Abstract ID: 11428); Presented at 2013 Aquatic Sciences Meeting, ASLO, New Orleans, LA, 17-22 Feb.
36. Osburn, C.L. 2012. Calibrating optical and chemical proxies for terrestrial dissolved organic matter in estuaries and coastal waters. Abtract 10264 presented at 2012 Ocean Sciences Meeting, Salt Lake City, UT, 20-24 Feb.
37. Schroth, A. W., Crusius, J., Campbell, R. W., Kroeger, K. D., Osburn, C. L., and Hoyer , I. R. Seasonal fluctuatuion and estuarine removal of riverine iron fluxes to the Gulf of Alaska. Abstract 11364 presented at 2012 Ocean Sciences Meeting, Salt Lake City, UT, 20-24 Feb.
38. Gurley, J.W.\*, Showers, W.J., Osburn, C.L., and Levine, J.F. 2011. Assessing the dynamics of fluvial nitrate over short stream reaches in watersheds impacted by agricultural pollution. Abstract H43F-1280 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
39. Osburn, C.L. 2011. Dissolved and particulate organic matter fluorescence in coastal river systems in relation to land use and carbon transfer (Invited). Abstract B31J-06 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
40. Mikan M.P.\*, Osburn, C.L., and Birgand, F. 2011. Chromophoric dissolved and particulate organic matter cycling through a tidally-influenced, restored marsh ecosystem in eastern North Carolina. 4th IWA Specialty Conference on Natural Organic Matter, Costa Mesa, CA, 27-29 Jul.
41. Dickson-Brown, J.L.\*, and Osburn, C.L., 2011. Optical Analysis of Chromophoric Dissolved Organic Matter as a Tracer of Organic Matter in the Neuse River Estuary, Eastern North Carolina. 4th IWA Specialty Conference on Natural Organic Matter, Costa Mesa, CA, 27-29 Jul.
42. Osburn, C.L. 2011. DOM Composition and Photoreactivity in Prairie Lakes of the U.S. Great Plains, 4th IWA Specialty Conference on Natural Organic Matter, Costa Mesa, CA, 27-29 Jul.
43. Dickson-Brown, J.L.\*, and Osburn, C.L., 2011. Optical Analysis of Chromophoric Dissolved Organic Matter as a Tracer of Organic Matter in the Neuse River Estuary, Eastern North Carolina. 11th International Estuarine Biogeochemistry Symposium, Atlantic Beach, NC, 15-19 May.
44. Mikan M.P.\*, Osburn, C.L., and Birgand, F. 2011. Chromophoric dissolved and particulate organic matter cycling through a tidally-influenced, restored marsh ecosystem in eastern North Carolina. 11th International Estuarine Biogeochemistry Symposium, Atlantic Beach, NC, 15-19 May.
45. Osburn, C.L. 2011. Crude oil fluorescence signals in marine dissolved organic matter. 11th International Estuarine Biogeochemistry Symposium, Atlantic Beach, NC, 15-19 May.
46. Ziervogel, K., Osburn, C.L., Dickson-Brown, J.L.\*, Arnosti, C., and Teske A. 2011. Rapid formation of oil aggregates affects dissolved organic matter dynamics and microbial growth and activities in oil contaminated surface water from the Deepwater Horizon oil spill site. 11th International Estuarine Biogeochemistry Symposium, Atlantic Beach, NC, 15-19 May.
47. Mikan, M.P.\*, Osburn, C.L., and Birgand, F. 2011. Chromophoric Dissolved and Particulate Organic Matter Cycling Through a Tidally Influenced Restored Marsh Ecosystem in Eastern North Carolina. Presentation at 2011 WRRI Annual Conference and NCWRA Symposium, Raleigh, NC, 22-23 Mar.
48. Osburn, C.L. and Wegmann, K. 2011. How much nitrogen do legacy sediments contribute to streams? Presentation at 2011 WRRI Annual Conference and NCWRA Symposium, Raleigh, NC, 22-23 Mar.
49. Wegmann, K., Lewis, R., Osburn, C.L., Peszlen, I., Starek, M., and Mitasova, H. 2011. Legacy sediments and stream water quality: Estimating volume and stream bank erosion in 303(d)-impaired waterways of the North Carolina Piedmont. Presentation at 2011 WRRI Annual Conference and NCWRA Symposium, Raleigh, NC, 22-23 Mar.
50. Montgomery MT, Coffin RB, Boyd TJ, Smith JP, Walker SE, and CL Osburn. 2011. 2,4,6-Trinitrotoluene mineralization and bacterial production amongst natural microbial assemblages in coastal sediments. 6th International Conference on Remediation of Contaminated Sediments. New Orleans, LA, 7-10 February.
51. Osburn, C.L., Bianchi, T.S., Chen, R.F., Coble, P.G., and D’Sa, E.J. 2011. A geospatial database of CDOM for the Northern Gulf of Mexico: Progress on a data rescue and community database activity, 3rd North American Carbon Program All-Investigator Meeting, New Orleans, LA, 31 January-04 February (Poster W-220).
52. Dickson-Brown, J.L.\*, Paerl, H.W., and Osburn, C.L. 2010. Optical analysis of chromophoric dissolved organic matter as a tracer of organic material in the Neuse River Estuary, Eastern North Carolina. Abstract B13D-0507 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 December.
53. Schroth, A.W., Crusius, J., Kroeger, K.D., Hoyer, I.R., and Osburn, C.L. 2010. Temporal and Spatial Variability in the Partitioning and Flux of Riverine Iron Delivered to the Gulf of Alaska, Abstract OS51A-1267 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.
54. Osburn, C.L. 2010. Building a Database for a Coastal Carbon Synthesis Project. Ocean Carbon and Biogeochemistry Coastal Synthesis Workshop, San Francisco, CA, 11-12 December.
55. Osburn, C.L., Bianchi, T.S., Chen, R.F., Coble, P.G., and D’Sa, E.J. 2010. Geospatial database synthesis activity for chromophoric dissolved organic matter (CDOM) in the Northern Gulf of Mexico. Abstract C045A-06 presented at 2010 Ocean Sciences Meeting, Portland, OR, 22-26 Feb.
56. Grottoli, A.G., Hughes, A., Pease, T.K., and Osburn, C.L. 2010. The effect of bleaching on dissolved organic carbon (DOC) production in three species of Hawaiian corals. Abstract IT14E-04 presented at 2010 Ocean Sciences Meeting, Portland, OR, 22-26 Feb.
57. Pohlman, J.W., Bauer, J.E., Waite, W.F., Osburn, C.L., Keesee, E.E., and Chapman, R. 2010. Methane Hydrate-bearing Seeps as a Source of Aged Dissolved Organic Matter to the Oceans. Abstract C044A-03 presented at 2010 Ocean Sciences Meeting, Portland, OR, 22-26 Feb.
58. Pohlman, J.P, Kim, J., Heuer, V., and Osburn, C.L. 2009. Availability Of Dissolved Organic Carbon (DOC) In The Northern Cascadia Margin Gas Hydrate System: Results From IODP Expedition 311. *Eos Trans. AGU, 90*(52), Fall Meet. Suppl., Abstract OS31A-1190
59. Osburn, C.L. 2008. The Effects of Salinity on the Fluorescence and Photoreactivity of Dissolved Organic Matter in Coastal Environments. 2008 Chapman Conference on Organic Matter Fluorescence, American Geophysical Union, Birmingham, UK, 20-23 October (INVITED).
60. Osburn, C.L. and C. A. Stedmon. 2008. Resolving optical and chemical measurements of terrestrial DOM flux in the North Sea-Baltic Sea mixing zone. ASLO/AGU/TOS/ERF Ocean Sciences Meeting. Orlando, FL, 2-9 March.
61. Stedmon, C.A and C.L. Osburn. 2008. Spectral light absorption by CDOM in the North Sea-Baltic Sea mixing zone: Modelling seasonality and dependency on water mass mixing. ASLO/AGU/TOS/ERF Ocean Sciences Meeting. Orlando, FL, 2-9 March.
62. Osburn, CL and Boyd, TJ. 2007. “Optical and Geochemical Measurements Used to Identify Dissolved Organic Matter Sources in the Chesapeake Bay.” 10th International Symposium on Wetland Biogeochemistry, Annapolis, MD, April 1-4.
63. Montgomery, M. T. , Osburn, C. L., Walker, S. E., Boyd, T. J., Mueller, J. G., Li, Q. X., Paerl, H. W., Monteil-Rivera, F., and J. Hawari. 2007. “Biodegradation of 2,4,6-Trinitrotoluene (TNT) in coastal waters and sediments. Presentation at the 17th Annual AEHS Meeting and West Coast Conference on Soils, Sediments, and Water.” San Diego, 19-22 March.
64. Tzortziou, M, Neale, P, J, and Osburn, C. L., 2007. “Photochemical degradation of dissolved organic material from a tidal marsh-estuarine system: Measurements and spectral photobleaching modeling,” ASLO Aquatic Sciences Meeting, 4-9 February, Santa Fe, NM.
65. Neale, P. J., Tzortziou, M., Osburn, C. L. 2007. “A simple spectral model for solar photobleaching of marsh and estuarine colored dissolved organic matter (CDOM),” ASLO Aquatic Sciences Meeting, 4-9 February, Santa Fe, NM.
66. Maness, S. J., T. F. Donato, C. L. Osburn, W. J. Rhea Jr., L. J. Hamdan, and S. E. Walker. 2005. Spectral deconvolution of water column features from hyperspectral remote sensing data images, ACS National Meeting, Washington, DC, August 28-September 1.
67. Osburn, C. L., Hamdan, L. J., Fritz, S. C., and Saros, J. E. 2005. Variation in geochemistry and optics of DOM in prairie saline lakes. ASLO Aquatic Sciences Meeting, February 20-25. NOTE: Organized and chaired session.
68. Osburn, C. L., Stedmon, C. A. and Vincent, W. F. 2004. The conservative and non-conservative properties of DOM in the Beaufort Sea. AGU Fall Meeting, San Francisco, CA, December 13-17.
69. Osburn, C.L., O’Sullivan, D. W., and Vincent, W. F. Transport and Photochemical Degradation of CDOM in the Mackenzie River-Delta System. ASLO-TOS Ocean Research Conference, Honolulu, HI, February 2004.

***Recent Invited Talks***

* “Linking carbon exchange between coastal wetlands and their adjacent estuaries,” University of North Carolina-Chapel Hill Dept. of Geology, 10 SEP 2015.
* “Using fluorescence to measure fluxes of dissolved and particulate organic matter in a salt marsh”, Florida International University, Department of Chemistry, 19 SEP 2014.
* “Optical and chemical characterization of base-extracted particulate organic matter in coastal marine environments”, University of Florida, Department of Geological Science, 12 MAR 2014
* “Fluorescence Tracking of Particulate and Dissolved Organic Matter Quality in a River-Dominated Estuary”, LTER Dissolved Organic Matter Workshop, INSTAAR, Boulder, CO, 02 MAY 2013.
* “Using Fluorescence to Model Sources of Organic Nitrogen to the Neuse River Estuary,” MEAS, NC State University, 01 APR 2013.
* “Dissolved and Particulate Organic Matter Fluorescence in Coastal River Systems in Relation to Land Use and Carbon Transfer,” Dept. of Soil Science, NC State University, 25 JAN 2012.
* “Dissolved and Particulate Organic Matter Fluorescence in Coastal River Systems in Relation to Land Use and Carbon Transfer,” Dept. of Earth and Environmental Sciences, Lehigh University, 11 NOV 2011.
* “Resolving Sources of Dissolved Organic Matter in the Baltic-North Sea Transition Zone” Dept. of Marine Sciences, UNC-CH, 22 SEP 2010
* “Resolving Sources of Dissolved Organic Matter in the Baltic-North Sea Transition Zone” CMAST, NCSU, 22 APR 2010
* “Photochemical Reactivity of Riverine (C)DOM in the Beaufort Sea, Western Canadian Arctic?” East Carolina University, 16 APR 2010
* “Photobiogeochemical Cycling of Dissolved Organic Matter in Coastal Waters” Invited lecture, UNCW Dept. of Chemistry and Biochemistry, Wilmington, NC, 23 OCT 2009
* “Chasing terrestrial DOM in the coastal ocean: Do optical and chemical measurements tell us the same thing about its flux and biogeochemistry?” Invited Lecture, UNC-IMS, 10 APR 2009

## *Service (Committees, Editorships, Reviewing for Journals and Funding Agencies)*

* Member, 2017 North American Carbon Program (NACP) Principle Investigators Meeting
* Guest Editor, Frontiers in Marine Science, Topic: Linking Optical and Chemical Properties of Dissolved Organic Matter in Natural Waters
* Associate Editor, *Estuarine Coastal and Shelf Science* (2014-present)
* *Limnology and Oceanography, Limnology and Oceanography: Methods, Marine Chemistry, Geophysical Research Letters, Geochimica et Comsochimica Acta, Science of the Total Environment, Estuaries and Coasts, Biogeosciences, Progress in Oceanography, Global Biogeochemical Cycles, Estuarine Coastal Shelf Science, Aquatic Sciences, Water Research, Environmental Science & Technology, Analytical Chemistry, Organic Geochemistry, Journal of Geophysical Research, Biogeochemistry, Chemosphere*
* National Science Foundation (Chemical Oceanography, Major Research Instrumentation, Ecosystems, Office of Polar Programs)
* NSF Panelist, Arctic Natural Sciences
* NASA Panelist, Terrestrial Ecosystems
* Minnesota Sea Grant, Austrian Science Foundation (FWF), Canada Foundation for Innovation (CFI)

***Students Advised***

* Laura Nagy (M.S. 2011; co-advisor)
* Molly Mikan (M.S. 2012)
* Adeline Brym (M.S. 2013)
* Luis Daniel Rojas-Jimenez (M.S. 2014)
* Lauren Handsel (M.S. May 2015)
* Sarah Ellen Johnston (M.S., Aug 2015)
* Richard Taylor (Ph.D candidate; co-advisor)
* Jennifer Dickson-Brown (Ph.D. Dec 2014)
* Emily Barnett (M.S., expected July 2016)
* Jessica Atar (M.S., current)
* Cindy Lebrasse (M.S., current)

***Postdocs Advised***

* Dr. Joanna D. Kinsey (current)
* Dr. Diana Oviedo-Vargas (current)