

Curriculum Vitae

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DATE OF BIRTH: 22 May 1962

CITIZENSHIP: U.S.A

EDUCATION:

1987-1993 University of Delaware, Newark, DE; Ph.D. Oceanography, August 1993
1984-1987 College of William and Mary, Williamsburg, VA; M.A. Marine Science, December 1987
1982-1984 College of William and Mary, Williamsburg, VA; B.S. Geology (high honors), May 1984
1980-1981 Boston College, Chestnut Hill, MA

RESEARCH INTERESTS:

Trace metal geochemistry and speciation in natural waters; estuarine and marine geochemistry; sediment-water chemical exchange.

PROFESSIONAL EXPERIENCE:

1996-2002, assistant professor; **2001-present**, assistant chair; **2002-2007**, associate professor; and **2007-present**, professor, Department of Chemistry & Biochemistry, University of North Carolina Wilmington.
1997-2002, Adjunct assistant; and **2002-present**, adjunct associate professor, Department of Marine Sciences, University of North Carolina at Chapel Hill.
1993-1995, Postdoctoral research associate, Dept. of Oceanography and Dept. of Chemistry & Biochemistry, Old Dominion Univ., Norfolk, VA.
1987-1993, Graduate research assistant, Univ. of Delaware, College of Marine Studies.
1986-1987, Graduate research assistant, College of William and Mary, Virginia Institute of Marine Science, Gloucester Point, VA.
1985, Geologist, Virginia Division of Mineral Resources, Williamsburg, VA.
1984-1986, Laboratory instructor, Dept. of Geology, College of William and Mary, Williamsburg, VA.

PROFESSIONAL AFFILIATIONS:

American Geophysical Union (Ocean Sciences section)
American Chemical Society (Geochemistry Division)
American Society of Limnology and Oceanography

HONORS AND AWARDS:

High honors for undergraduate thesis in geology (1984). Sigma Gamma Epsilon geological honor society (1984). Honorable mention best paper, Mid-Atlantic Environmental Chemistry Workshop, Gloucester

Point, VA (1992). International Travel Award, Univ. of Delaware (1992). Invited participant, Dissertations Symposium in Chemical Oceanography, Honolulu, HI (1993). Frances Severance Award for best thesis or dissertation in the College of Marine Studies (CMS), Univ. of Delaware (1994). Academic Council Award for best thesis or dissertation in the Oceanography Program, CMS, Univ. of Delaware (1994). Member, UNCW Office of Sponsored Programs “Million Dollar Club” for grants received (2001). Strategic Environmental and Research Development Program compliance project of the year award (2003). UNCW Faculty Scholarship Award (2008). Post-tenure review exemplary rating (2006, 2011).

PUBLICATIONS (Student co-authors denoted by *):

Peer-reviewed articles

- Chudoba, E.A., Mallin, M.A., Cahoon, L.B., and Skrabal, S.A., 2013. Stimulation of fecal bacteria in ambient waters by experimental inputs of organic and inorganic phosphorus. In revision for *Water Research*.
- Southwell, M., Mead, R.N., *Luquire, C.M., *Barbera, A., Avery, G.B., Kieber, R.J., and Skrabal, S.A., 2011. Influence of organic matter source and diagenetic state on photochemical release of dissolved organic matter and nutrients from resuspendable estuarine sediments. *Marine Chemistry*, 126, 114-119.
- Kieber, R.J., *Pitt, J., Skrabal, S.A., and Wright, J.L.C., 2010. Photodegradation of the brevetoxin PbTx-2 in coastal seawater. *Limnology and Oceanography* 55, 2299-2304.
- Southwell, M.W., Kieber, R.J., Mead, R.N., Avery, G.B., Jr., and Skrabal, S.A., 2010. Effects of sunlight on the production of dissolved organic and inorganic nutrients from resuspended sediments. *Biogeochemistry* 98, 15-126.
- Kieber, R.J., *Parler, N.E., Skrabal, S.A., and Willey, J.D., 2009. Speciation and photochemistry of mercury in rainwater. *Journal of Atmospheric Chemistry* 60, 153-168.
- Mead, R.N., Morgan, J.B., Avery, G.B., Kieber, R.J., *Kirk, A.M., Skrabal, S.A., and Willey, J.D. 2009. Occurrence of the artificial sweetener sucralose in coastal and marine waters. *Marine Chemistry*, 116, 13-17.
- Willey, J.D., Inscore, M.T., Kieber, R.J., and Skrabal, S.A., 2009. Manganese in coastal rainwater: speciation, photochemistry and deposition to seawater. *Journal of Atmospheric Chemistry* 62: 31-43.
- Bouillon, R.-C., Kieber, R.J., Skrabal, S.A., and Wright, J.L.C., 2008. Photochemistry and identification of photodegradation products of the marine toxin domoic acid. *Marine Chemistry* 110, 18-27.
- Witt, M. L.I., Skrabal, S., Kieber, R., and Willey, J., 2007. Photochemistry of Cu complexed with chromophoric dissolved organic matter: Implications for Cu speciation in rainwater. *Journal of Atmospheric Chemistry* 58, 89-109.
- *Lail, E.M., Skrabal, S.A., Kieber, R.J., Bouillon, R.-C., and Wright, J.L.C., 2007. The role of particles on the biogeochemical cycling of domoic acid and its isomers in natural water matrices. *Harmful Algae* 6, 651-657.
- Witt, M., Skrabal, S., Kieber, R., and Willey, J., 2007. Copper complexation in coastal rainwater, southeastern USA. *Atmospheric Environment* 41, 3619-3630.
- Bouillon, R.-C., *Knierim, T.L., Kieber, R.J., Skrabal, S.A., and Wright, J.L.C., 2006. Photodegradation of the algal toxin domoic acid in natural water matrices. *Limnology and Oceanography* 51, 321-330.
- Kieber, R.J., Whitehead, R.F., and Skrabal, S.A., 2006. Photochemical production of dissolved organic carbon from resuspended sediments. *Limnology and Oceanography* 51, 2187-2195.

- *Shank, G.C., Whitehead, R.F., *Smith, M.L., Skrabal, S.A., and Kieber, R.J., 2006. Photodegradation of strong copper-complexing ligands in organic-rich estuarine waters. *Limnology and Oceanography* 51, 884-892.
- Skrabal, S.A., 2006. Dissolved titanium distributions in the Mid-Atlantic Bight. *Marine Chemistry*, 102, 218-229.
- Skrabal, S.A., *Lieseke, K.L., and Kieber, R.J., 2006. Dissolved zinc and zinc-complexing ligands in an organic-rich estuary: Benthic fluxes and comparison with copper speciation. *Marine Chemistry* 100, 108-123.
- Kieber, R.J., Skrabal, S.A., *Smith, B.J., and Willey, J.D., 2005. Organic complexation of Fe(II) and its impact on the redox cycling of iron in rain. *Environmental Science and Technology* 39, 1576-1583.
- Kieber, R.J., Skrabal, S.A., *Smith, C., and Willey, J.D., 2004. Redox speciation of copper in rainwater: Temporal variability and atmospheric deposition. *Environmental Science and Technology* 38, 3587-3594.
- *Shank, G.C., Skrabal, S.A., Whitehead, R.F., and Kieber, R.J., 2004. Strong copper complexation in an organic-rich estuary: The importance of allochthonous dissolved organic matter. *Marine Chemistry* 88, 21-39.
- *Shank, G.C., Skrabal, S.A., Whitehead, R.F., and Kieber, R.J., 2004. Fluxes of strong Cu-complexing ligands from sediments of an organic-rich estuary. *Estuarine, Coastal and Shelf Science* 60, 349-358.
- *Shank, G.C., Skrabal, S.A., Whitehead, R.F., Avery, G.B., and Kieber, R.J., 2004. River discharge of strong Cu-complexing ligands to South Atlantic Bight waters. *Marine Chemistry* 88, 41-51.
- Campbell, A.V., Kieber, R.J., Skrabal, S.A., Whitehead, R.F., and Wright, J.L.C., 2002. Transformation and photodegradation of domoic acid under natural sunlight. In: Harmful Algae 2002, Tenth International Conference on Harmful Algae (Steidinger, K.A., Landsberg, J.H., Tomas, C.M., and Vargo, G.A., Eds.). Paris: International Oceanographic Commission of UNESCO and Florida Fish and Wildlife Conservation Commission.
- *Ottenberg, C.M., *McDonald, F.C., Jr., *O'Donnell, E.T., Jr., Skrabal, S.A., and White, D.P., 2002. Copper(II) coordination to ligands immobilized on photoluminescent porous silicon. *Inorganic Chemistry* 41, 7151-7158.
- Skrabal, S.A. and *Terry, C.M., 2002. Distributions of dissolved titanium in porewaters of estuarine and coastal marine sediments. *Marine Chemistry* 77, 109-122.
- Kieber, R.J., Willey, J.D., *Williams, K.H., Skrabal, S.A., and Avery, Jr., G.B., 2001. Iron speciation in coastal rainwater: Concentration and deposition to seawater. *Marine Chemistry* 73, 83-95.
- Bruland, K.W., Rue, E.L., Donat, J.R., Skrabal, S.A., and Moffett, J.W., 2000. Intercomparison of voltammetric techniques to determine the chemical speciation of dissolved copper in a coastal seawater sample. *Analytica Chimica Acta* 405, 99-113.
- Skrabal, S.A., Donat, J.R., and Burdige, D.J., 2000. Pore water distributions of dissolved copper and copper-complexing ligands in estuarine sediments. *Geochimica et Cosmochimica Acta* 64, 1843-1857.
- Willey, J.D., Kieber, R.J., *Williams, K., *Crozier, J., Skrabal, S.A., and Avery, Jr., G.B., 2000. Temporal variability of iron speciation in coastal rainwater. *Journal of Atmospheric Chemistry* 37, 185-205.
- Willey, J.D., Avery, G.B., Jr., Manock, J.J., Skrabal, S.A., and Stehman, C.F., 1999. Chemical analysis of soils: An environmental chemistry laboratory for undergraduate science majors. *Journal of Chemical Education* 76, 1693-1694.
- Skrabal, S.A., Donat, J.R. and Burdige, D.J., 1997. Fluxes of copper-complexing ligands from estuarine sediments. *Limnology and Oceanography* 42, 992-996.

- Skrabal, S.A., 1995. Distributions of dissolved titanium in Chesapeake Bay and the Amazon River Estuary. *Geochimica et Cosmochimica Acta* 59, 2449-2458.
- Skrabal, S.A., 1994. Dissolved and particulate titanium in the Delaware Estuary, USA: comparisons with iron and implications for its flux to the ocean. In: Dyer, K.R. and Orth, R.J. (Eds.), *Changes in Fluxes in Estuaries: Implications from Science to Management*. ECSA22/ERF Symposium. Olsen and Olsen, Fredensborg, pp. 85-89.
- Skrabal, S.A., Ullman, W.J. and Luther, G.W., III, 1992. Estuarine distributions of dissolved titanium. *Marine Chemistry* 37, 83-103.
- Skrabal, S.A., 1991. Clay mineral distributions and source discrimination of upper Quaternary sediments, lower Chesapeake Bay, Virginia. *Estuaries* 14, 29-37.

Theses, book reviews, reports

- Skrabal, S.A., 2002. Determination of Cu ligands by voltammetry, p. 59-61. In: *Copper Chemistry, Toxicity, and Bioavailability and Its Relationship to Regulation in the Marine Environment*. Office of Naval Research Second Workshop Report (A. Zirino and P.F. Seligman, eds.). Technical Document 3140, SPAWAR Systems Center, San Diego, CA.
- Skrabal, S.A., 1993. Estuarine and marine geochemistry of titanium. Ph.D. dissertation, University of Delaware, Newark, DE, 178 p.
- Skrabal, S.A., 1987. Clay mineral distribution and source discrimination of Holocene sediments in lower Chesapeake Bay, Virginia. M.A. thesis, College of William and Mary, Williamsburg, VA, 88 p.
- Skrabal, S.A., 1984. Mineralogy of sediments of the Shirley Formation, York-James Peninsula, Virginia. B.S. honors thesis, Dept. of Geology, College of William and Mary, Williamsburg, VA, 35 p.
- Berquist, C.R., Jr., Fischler, C.F., Calliari, L., Dydak, S.M., Ozalpasan, H. and Skrabal, S.A., 1990. Heavy-mineral concentrations in sediments of the Virginia inner continental shelf. In: Berquist, C.R., Jr. (Ed.), *Heavy-Mineral Studies---Virginia Inner Continental Shelf*. Publication 103, Virginia Division of Mineral Resources, Charlottesville, VA, pp. 31-93.

PRESENTATIONS (Student co-authors denoted by *):

- Helms, J. R., *Wetterauer, A. M., *Dingess, E. C., Avery, G. B., Kieber, R. J., Mead, R. N., Skrabal, S. and Mopper, K., 2013. Light induced flocculation and dissolution of chromophoric organic matter in natural waters. American Society of Limnology and Oceanography Ocean Sciences Meeting, New Orleans, LA.
- Kieber, R. J., Avery, G. B., Helms, J. R., Mead, R. N., *Probst, E. E., and Skrabal, S. A., 2013. Photochemical transformations of the algal toxin PbTx-2 on resuspended sediments in coastal ecosystems. American Society of Limnology and Oceanography Ocean Sciences Meeting, New Orleans, LA.
- Mead, R. N., *Hartrey, L., Helms, J. R., Avery, G. B.; Kieber, R. J., and Skrabal, S. A., 2013. Photochemical mobilization of sediment bound microcystins from resuspended sediment. American Society of Limnology and Oceanography Ocean Sciences Meeting, New Orleans, LA.
- *Nguyen, J. C., Avery, G. B., Helms, J. R., Mead, R. N., Skrabal, S.A., Kieber, R. J., 2013. Photochemical release of amino acids from resuspended sediments. American Society of Limnology and Oceanography Ocean Sciences Meeting, New Orleans, LA.
- *Nguyen, J.C., Avery, G.B., Kieber, R.J., Skrabal, S.A., Mead, R.N., Helms, J.R. 2012. Photochemical release of free and combined amino acids from resuspended sediments. Southeastern Regional Meeting of the American Chemical Society, Raleigh, NC.

- *Probst, E.E., Avery, G.B., Kieber, R.J., Helms, J.R., Mead, R.N., Skrabal, S.A. 2012. Improved ionization for liquid chromatography mass spectrometry detection of the marine dinoflagellate-produced toxin PbTx-2 (*Karenia brevis*). Southeastern Regional Meeting of the American Chemical Society, Raleigh, NC.
- Skrabal, S.A., *Glinski, D., *Larson, L., *Wetterauer, A., Avery, G.B., Kieber, R.J., Mead, R.N. 2012. Photochemical fluxes from resuspended sediments as sources of dissolved copper and organic matter in riverine and coastal environments. Ocean Sciences Meeting, Salt Lake City, UT.
- *Wetterauer, A.M., Skrabal, S.A., Kieber, R.J., Avery, G.B., Mead, R.N. 2012. Copper photodissolution from resuspended estuarine sediments. Southeastern Regional Meeting of the American Chemical Society, Raleigh, NC.
- Kieber, R.J., Southwell, M., *Luquire, C.L., *Thompson, L., Skrabal, S.A., Avery, Jr., G.B., and Mead, R.N. 2011. Photochemical production of dissolved organic and inorganic nutrients from resuspended sediments. Goldschmidt Conference, Prague, CZ.
- Avery, G. B., *Thompson, L., Mead, R. N., Southwell, M., Kieber, R. J., Skrabal, S. A. 2011 Influence of sea level rise on the photolytic release of dissolved organic carbon from estuarine sediments. American Society of Limnology and Oceanography Aquatic Sciences Meeting, San Juan, PR.
- Kieber, R.J., Southwell, M., Skrabal, S. A., Avery, G. B., and Mead, R. N., 2011. Photochemical production of dissolved organic and inorganic nutrients from resuspended sediments. American Society of Limnology and Oceanography Aquatic Sciences Meeting, San Juan, PR.
- Mead, R. N., Southwell, M. S., *Luquire, C. M., Avery, G. B., Kieber, R. J., and Skrabal, S. A., 2011. Lipid molecular markers as tools to predicting the photochemical release of DOC from resuspended sediments. American Society of Limnology and Oceanography Aquatic Sciences Meeting, San Juan, PR.
- Skrabal, S. A., *Larson, L. A., *Thompson, L. E., Avery, G. B., Kieber, R. J., and Mead, R. N., 2011. Photochemical release of dissolved copper from resuspended sediments. American Society of Limnology and Oceanography Aquatic Sciences Meeting, San Juan, PR.
- Skrabal, S.A., Southwell, M., *Thompson, L., *Larson, L., Avery, G.B., Kieber, R.J., Mead, R.N., 2010. Photochemistry of resuspended estuarine sediments: Effects on dissolved organic and inorganic nutrients, and trace metals. *Eos Trans. AGU*, 91(26), Meeting of the Americas Supplement, Abstract B14A-07.
- Mead, R N., *Luquire, C.M., *Barbera, A., Avery, G.B., Kieber, R.J., Skrabal, S.A., Southwell, M., 2010. Characterization of sedimentary organic matter upon exposure of resuspended sediments to simulated sunlight: A bulk and molecular marker approach. *Eos Trans. AGU* 91(26), Ocean Sciences Meeting Supplement, Abstract IT15I-03.
- Skrabal, S. A., *Larson, L., Southwell, M., Avery, G.B., Kieber, R.J., and Mead, R.N. 2010. Behavior of metals after sunlight photolysis of resuspended estuarine sediments. *Eos Trans. AGU* 91(26), Ocean Sci. Meet. Suppl., Abstract IT15I-04.
- Southwell, M., Avery, G.B., Kieber, R.J., Mead, R.N., Skrabal, S.A., 2010. Spatial variability and organic matter source effects on elemental ratios of nutrient fluxes during photolysis of resuspended sediments. *Eos Trans. AGU* 91(26), Ocean Sci. Meet. Suppl., Abstract IT14D-03.
- Skrabal, S.A., Mead, R.N., *Burkhardt, B., *Collier, G., *McConnell, P., *DeFrancesco, C., and *Barbera, A., 2009. Trace metals and organic contaminants in tidal creek sediments, New Hanover County, NC. Duke/UNC Oceanographic Consortium, Beaufort, NC.
- Kieber, R. J., Southwell, M. W., Skrabal, S.A., Avery, G. B., and Mead, R. N., 2009. Photochemical production of dissolved organic and inorganic nutrients from resuspended sediments. American Society of Limnology and Oceanography Aquatic Sciences Meeting, Nice, France.

- Kieber, R. J., Southwell, M. W., Skrabal, S.A., Avery, G. B., and Mead, R. N., 2008. Photochemical production of DOC, DON, and inorganic nutrients from resuspended sediments. Duke/UNC Oceanographic Consortium, Beaufort, NC.
- Skrabal, S.A., 2009. Trace metals in the Cape Fear estuary. UNC Wilmington Department of Chemistry and Biochemistry, Wilmington, NC.
- Skrabal, S.A., *Smith, M., Kieber, R.J., and Whitehead, R.F., 2008. Photochemistry of suspended sediments: Effects on total dissolved Cu and Cu redox speciation. Duke/UNC Oceanographic Consortium, Beaufort, NC.
- Skrabal, S.A., 2008. Mercury in waters and sediments of the Cape Fear estuary: Distribution, behavior and possible response to climate change. NC Water Resources Research Institute Annual Symposium, Raleigh, NC.
- Skrabal, S.A., Kieber, R.J., and Whitehead, R.F., 2008. Photochemistry of suspended sediments: Effects on dissolved organic carbon and copper speciation. Ocean Sciences Meeting, Orlando, FL.
- *Zvalaren, S. D., Kieber, R. J., Skrabal, S. A., and Willey, J. D., 2008. Distribution of mercury species in the Cape Fear River estuary, North Carolina. Ocean Sciences Meeting, Orlando, FL.
- Willey, J. D., Skrabal, S. A., *Parler, N. E., and Kieber, R.J., 2007. Rainwater as a source of dissolved gaseous mercury (DGHg(0)) to seawater. American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM.
- Whitehead, R.F., Kieber, R.J., Willey, J.D., and Skrabal, S.A., 2006. Photochemical reactivity of chromophoric dissolved organic matter in rainwater. American Geophysical Union Ocean Research Conference, Honolulu, HI.
- Willey, J.D., Skrabal, S.A., *Parler, N.E., and Kieber, R.J., 2006. Redox speciation of mercury in coastal rainwater, Wilmington, NC. American Chemical Society National Meeting, Atlanta, GA.
- *Zvalaren, S.D., Willey, J.D., Skrabal, S.A., and Kieber, R.J., 2006. Distribution of mercury species in the Cape Fear River estuary, North Carolina. American Chemical Society National Meeting, Atlanta, GA.
- Bouillon, R-C., *Knierim, T.L., Kieber, R.J., Skrabal, S.A., *Lail, E., and Wright, J.L., 2005. Photochemistry of dissolved domoic acid in natural water matrices. 3rd Symposium on Harmful Algae in the U.S., Monterey, CA.
- Bouillon, R.C., *Knierim, T.L., Kieber, R.J., Skrabal, S.A. and Wright, J.L., 2005. Photodegradation of the algal toxin domoic acid in natural waters. American Chemical Society Pacificchem Meeting, Honolulu, HI.
- Kieber, R.J., Willey, J.D., Whitehead, R.F., Skrabal, S.A. and *Resetar, L., 2005. Photodegradation of chromophoric dissolved organic matter (CDOM) in rainwater and its influence on the redox chemistry of the troposphere. American Chemical Society Pacificchem meeting, Honolulu, HI.
- Kieber, R.J., Willey, J.D., Whitehead, R.F., Skrabal, S.A. and *Resetar, L., 2005. Organic complexation of Fe by CDOM in rainwater and its impact on iron speciation in seawater. American Society of Limnology and Oceanography, Santiago de Compostella, Spain.
- Kieber, R. J., Skrabal, S. A., Willey, J. D., and *Bradshaw, L., 2005. Nitrogen inputs into the Cape Fear River Estuary: A system-wide approach. 18th Biennial Conference of the Estuarine Research Federation, Norfolk, VA.
- *Bradshaw, L.C., Skrabal, S.A., Kieber, R.J., Willey, J.D., and Cahoon, L.B., 2004. Ammonium in the Cape Fear River Estuary: The Role of Particle-Water Interactions. American Society of Limnology and Oceanography Meeting, Savannah, GA.
- Kieber, R.J., *Bradshaw, L.C., *Long, M.S., Skrabal, S.A., and Willey, J.D., 2004. Increasing ammonium concentrations in the Cape Fear River estuary: Where is it coming from? American Society of Limnology and Oceanography/Oceanography Society Ocean Research Conference, Honolulu, HI.

- Skrabal, S.A., *Smith, M.L., Kieber, R.J., *Shank, G.C., and Whitehead, R.F., 2004. Dissolved copper in organic-rich estuarine waters: Interactions of light and suspended sediments in altering speciation. American Society of Limnology and Oceanography/Oceanography Society Ocean Research Conference, Honolulu, HI.
- Witt, M., Jickells, T.D., Kieber, R.J., Skrabal, S., and Willey, J., 2004. Organic complexation of copper in rain. American Society of Limnology and Oceanography, Savannah, GA.
- *Zvalaren, S.D., Willey, J.D., Skrabal, S.A., and Kieber, R.J., 2004. Mercury speciation in the organic-rich Cape Fear River, North Carolina, USA. American Society of Limnology and Oceanography, Savannah, GA.
- *Bradshaw, L., Skrabal, S.A., Kieber, R.J., and Willey, J.D., 2003. Ammonium in the Cape Fear River estuary: The role of sediment-water exchange. North Carolina Academy of Science 100th Annual Meeting, Wilmington, NC.
- *Bradshaw, L.C., Skrabal, S.A., Kieber, R.J., and Willey, J.D., 2003. Ammonium in the Cape Fear River estuary: The role of particle-water interactions. North Carolina Sea Grant project presentation, Raleigh, NC
- Skrabal, S.A., Kieber, R.J., Whitehead, R.F., *Shank, G.C., *Smith, M.L., and *Lieseke, K.L., 2003. Speciation, fluxes and cycling of dissolved copper and zinc in estuaries: The roles of sediment-water exchange and photochemical effects. Partners in Environmental Technology Technical Symposium and Workshop, Washington, DC.
- Skrabal, S.A., *Shank, G.C., Whitehead, R.F., Kieber, R.J., *MacGillivray, K.A., and *Lieseke, K.L., 2003. Copper and zinc complexing ligands in estuarine waters: The role of sediment-water exchange. 225th American Chemical Society National Meeting, New Orleans, LA.
- Whitehead, R.F., *Smith, M.L., Kieber, R.J., Skrabal, S.A., and *Shank, G.C., 2003. Photochemically initiated changes of DOC and copper speciation during sediment resuspension events. 225th American Chemical Society National Meeting, New Orleans, LA.
- Campbell, A.V., Kieber, R.J., Skrabal, S.A., Whitehead, R., and Wright, J.L.C., 2002. Transformation and photodegradation of domoic acid under natural sunlight. Tenth International Conference on Harmful Algae. St. Pete Beach, FL.
- *Shank, G.C., Skrabal, S.A., Whitehead, R.F., and Kieber, R.J., 2002. Mechanisms controlling strong copper-complexing ligands in the Cape Fear estuary, North Carolina. American Geophysical Union Ocean Sciences Meeting, Honolulu, HI.
- *Smith, M.L., Kieber, R.J., Skrabal, S.A., and Whitehead, R.F., 2002. Photochemically initiated changes in copper speciation during sediment resuspension events. 6th Annual UNCW Symposium on Chemistry and Biochemistry, Wilmington, NC.
- Whitehead, R.F., Skrabal, S.A., *Shank, G.C., and Kieber, R.J., 2002. The influence of copper speciation on the photobleaching of CDOM in the Cape Fear Estuary. 6th Annual UNCW Symposium on Chemistry and Biochemistry, Wilmington, NC.
- Kieber, R.J., Willey, J.D., and Skrabal, S.A., 2001. The effect of photochemical reactions on the lifetime of atmospherically deposited iron in seawater. 5th Annual UNCW Symposium on Chemistry and Biochemistry, Wilmington, NC.
- *McDonald, F.C., Jr., *Ottenberg, C.M., Skrabal, S.A., and White, D.P., 2001. Preorganized ligands on photoluminescent porous silicon. 53rd Southeast Regional Meeting of the American Chemical Society, Savannah, GA.

- *Ottenberg, C.M., *McDonald, F.C., Jr., Skrabal, S.A., and White, D.P. ,2001. Immobilization of ligands on photoluminescent porous silicon: A new series of preorganization. 53rd Southeast Regional Meeting of the American Chemical Society, Savannah, GA.
- Skrabal, S.A., 2001. Fluxes and cycling of dissolved copper and zinc in estuaries. Partners in Environmental Technology Technical Symposium and Workshop, Washington, DC (Invited).
- Skrabal, S.A., Kieber, R.J., Cooper, W.J., Whitehead, R.F., *Shank, G.C., *Smith, C., *Lieseke, K., *MacGillivray, K., and *Movasseghi, J., 2001. Dissolved copper and zinc in the Cape Fear estuary: Speciation, fluxes and photochemical reactions. Center for Marine Science, University of North Carolina at Wilmington.
- Skrabal, S.A., Kieber, R.J., and Willey, J.D., 2001. Redox-active trace metals in rainwater and surface waters: Speciation and photochemical effects. 5th Annual UNCW Symposium on Chemistry and Biochemistry, Wilmington, NC.
- Whitehead, R.F., *Shank, G.C., Skrabal, S.A., Kieber, R.J., and Cooper, W.J., 2001. Photochemical interactions with copper-complexing DOM in the Cape Fear Estuary, NC. American Society of Limnology and Oceanography Aquatic Sciences 2001 meeting, Albuquerque, NM.
- Kieber, R.J., Willey, J.D., and Skrabal, S.A., 2000. The effect of photochemical reactions on the lifetime of atmospherically deposited iron in seawater. American Chemical Society Pacificchem 2000 meeting, Honolulu, HI.
- *Shank, G.C. and Skrabal, S.A., 2000. Dissolved copper speciation in the Cape Fear Estuary, North Carolina. American Geophysical Union Ocean Sciences Meeting, San Antonio, TX.
- Skrabal, S.A. and *Terry, C.M., 2000. Porewater distributions of dissolved titanium in estuarine and coastal marine sediments. American Geophysical Union Ocean Sciences Meeting, San Antonio, TX.
- Skrabal, S.A., 2000. Copper ligands by voltammetry. 2nd Office of Naval Research Workshop on Chemistry, Toxicity, and Bioavailability of Copper and its Relationship to Regulation in the Marine Environment. Annapolis, MD.
- Skrabal, S.A., Kieber, R.J., and Willey, J.D., 2000. Redox-active trace metals in rainwater and surface waters: Speciation and photochemical effects. American Chemical Society Pacificchem 2000 meeting, Honolulu, HI.
- *O'Connell, C.W. and Skrabal, S.A., 1999. The geochemistry of silver and zinc in the Cape Fear Estuary. 3rd Annual UNCW Symposium on Chemistry and Biochemistry, Wilmington, NC.
- Skrabal, S.A., 1999. Trace metal studies in the Cape Fear estuary. 14th Annual Duke/UNC Oceanographic Consortium Annual Meeting, Beaufort, NC.
- *Terry, C.M. and Skrabal, S.A., 1999. The porewater geochemistry of dissolved titanium in estuarine and coastal sediments. 3rd Annual UNCW Symposium on Chemistry and Biochemistry, Wilmington, NC.
- *O'Connell, C.W. and Skrabal, S.A., 1998. The geochemistry of silver and zinc in the Cape Fear Estuary. 13th Annual Duke/UNC Oceanographic Consortium Annual Meeting, Beaufort, NC.
- Skrabal, S.A., Donat, J.R., and Burdige, D.J., 1998. Fluxes of strong copper-complexing ligands from estuarine sediments. 2nd Annual UNCW Symposium on Chemistry and Biochemistry, Wilmington, NC.
- Skrabal, S.A., Donat, J.R., and Burdige, D.J., 1998. Copper-complexing ligands in estuarine waters: The role of sediments. Gordon Conference on Chemical Oceanography, Barga, Italy.
- Skrabal, S.A., Donat, J.R. and Burdige, D.J., 1997. Fluxes of strong copper-complexing ligands from estuarine sediments: A source to the water column? American Chemical Society National Meeting, San Francisco, CA.
- Skrabal, S.A., 1997. Fluxes of metal-complexing ligands from estuarine sediments. 12th Annual Duke/UNC Oceanographic Consortium Annual Meeting, Beaufort, NC.

- Skrabal, S.A., Donat, J.R. and Burdige, D.J., 1996. The flux of copper-complexing ligands from Chesapeake Bay sediments. American Geophysical Union Ocean Sciences Meeting, San Diego, CA.
- Skrabal, S.A., 1996. The flux of copper-complexing ligands from estuarine sediments. 11th Annual Duke/UNC Oceanographic Consortium Annual Meeting, Beaufort, NC.
- Skrabal, S.A., Donat, J.R. and Burdige, D.J., 1995. Copper complexation in pore waters of Chesapeake Bay and the coastal Atlantic. American Chemical Society, Geochemistry Division Symposium, Anaheim, CA.
- Skrabal, S.A., Donat, J.R. and Burdige, D.J., 1995. The speciation of dissolved copper in pore waters and bottom waters of Chesapeake Bay: Implications for sediment-water exchange. Gordon Conference on Chemical Oceanography, Henniker, NH.
- Burdige, D.J., Skrabal, S.A. and Donat, J.R., 1994. The speciation of copper in bottom waters and pore waters of Chesapeake Bay: Implications for sediment-water exchange. American Geophysical Union Fall Meeting, San Francisco, CA.
- Skrabal, S.A., 1994. Dissolved titanium distributions in the northwest Atlantic Ocean. American Geophysical Union Fall Meeting, San Francisco, CA.
- Skrabal, S.A., 1993. The estuarine and marine geochemistry of titanium. Dissertations Symposium in Chemical Oceanography, Honolulu, HI.
- Skrabal, S.A., 1992. The estuarine geochemistry of titanium: comparisons with iron and implications for its flux to the ocean. Estuarine and Coastal Sciences Association/Estuarine Research Federation Joint Symposium, Plymouth, UK.
- Skrabal, S.A., 1992. The estuarine geochemistry of titanium. Mid-Atlantic Environmental Chemistry Workshop, Gloucester Point, VA.
- Skrabal, S.A., 1992. Distributions of dissolved titanium in Chesapeake Bay and the Amazon estuary. American Geophysical Union Fall Meeting, San Francisco, CA.
- Skrabal, S.A. 1991. Distribution of dissolved titanium in the Delaware Estuary. Gordon Conference on Chemical Oceanography, Meriden, NH.
- Skrabal, S.A., Luther, G.W., III and Ullman, W.J., 1990. Estuarine distribution of dissolved titanium. V.M. Goldschmidt Conference, Baltimore, MD.

OTHER PROFESSIONAL ACTIVITIES:

Reviewer of proposals for National Science Foundation; Sea Grant (California, Connecticut, Massachusetts, New York, Rhode Island, Texas); American Chemical Society Petroleum Research Fund; Cooperative Institute for Coastal and Estuarine Environmental Technology; Hudson River Foundation; and U.S. Civilian Research and Development Foundation. NSF proposal review panelist (Chemical Oceanography). Manuscript reviewer for *Analytica Chimica Acta*; *Atmospheric Environment*; *Environmental Science and Technology*; *Estuarine, Coastal and Shelf Science*; *Geochimica et Cosmochimica Acta*; *Geological Society of America Bulletin*; *Global Biogeochemical Cycles*; *Journal of Environmental Quality*; *Journal of Hazardous Materials*; *Journal of the North Carolina Academy of Science, Limnology and Oceanography*; *Marine Chemistry*; *Marine Drugs*; *Marine Environmental Research*; *Nature Geosciences*; *Photochemistry and Photobiology*; *Polish Journal of Environmental Studies*; *Science of the Total Environment*; *Southeastern Naturalist*; *Water, Air and Soil Pollution*; *Water Research*.

GRANTS OBTAINED:

Internal (UNCW)

UNCW Center for Marine Science, 2008-2009. *Trace Metal Analysis on a Wire: Development and Application of Microwire Electrodes for Geochemical Probing of Water and Sediments*, \$27,980.

Lower Cape Fear River Program (UNCW), 2008. *Persistent Indicators of Anthropogenic Inputs to Tidal Creeks in New Hanover County, NC*, \$1,500.

UNCW Center for Marine Science, 2004-2005 (with G. Brooks Avery, Jr.), *Probing Sediment Biogeochemistry in the Cape Fear Estuary Using Microelectrode-Based Voltammetry*, \$25,487.

UNCW Center for Marine Science, 2001-2002 (with D.P. White), *Design and Synthesis of Novel Ligands on Solid Supports for the Selective Removal of Metal Ions from Seawater*, \$30,671.

UNCW Center for Marine Science Research Summer Stipend, 1999, *Sediment-Water Exchange in the Lower Cape Fear Estuary: Effects of Metal Speciation on Water Quality and Benthic Biota*, \$5,000.

UNCW Center for Marine Science Research Summer Stipend, 1998, *The Speciation of Dissolved Copper and Zinc in the Cape Fear River Estuary*, \$4,500.

UNCW College of Arts and Sciences, Summer Research Initiative, 1997, *NSF CAREER Award Proposal Preparation*, \$3,000.

UNCW Center for Marine Science Research Summer Stipend, 1996, *Silver As a Tracer of Contaminant Sources in Estuarine and Coastal Waters of North Carolina*, \$4,314.

Charles L. Cahill Award for Faculty Research and Development, UNCW, 1996; *Dissolved Titanium, Aluminum, and Iron in the Fly River Estuary, Papua New Guinea: The Comparative Geochemistries of some Hydrolytic Trace Metals in a Rapidly Weathering Environment*, \$2,500.

UNCW Center for Marine Science Research Summer Stipend, 1996, *Porewater Sampling for Studies of the Geochemistry of Dissolved Titanium in Estuarine and Coastal Sediments*, \$4,056.

External

National Science Foundation, 2012-2015 (with R.N. Mead, G.B. Avery, Jr., and R.J. Kieber). *RUI: Photochemical transformations of algal toxins (PbTx-2, PbTx-3 and microcystin-LR) on resuspended sediments in coastal ecosystems*. \$678,515.

NCDENR, Marine Resources Fund, 2011-2013 (with R.N. Mead). *Heavy metal and organic contaminants in oysters and sediments in resource waters, southeastern North Carolina*, \$89,023.

Educational Foundation of America (subcontract from North Carolina Coastal Federation/Cape Fear River Watch), 2010-2011 (with R.N. Mead). *Metals and polycyclic aromatic hydrocarbons in sediments from the Northeast Cape Fear River, North Carolina*. \$28,598.

National Science Foundation (with G.B Avery, R.J. Kieber, and R.N. Mead), 2008-2011. *RUI: Photobiogeochemistry of resuspended sediments in coastal environments: Impacts on organic matter and trace metal cycling*. \$582,468.

North Carolina Sea Grant, 2007. *Persistent Indicators of Anthropogenic Inputs to Tidal Creeks in New Hanover County, NC*, \$1,500.

North Carolina Sea Grant (with R.J. Kieber and J.D. Willey), 2006. Supplemental Student Stipend Support for *Mercury in the Organic-Rich Cape Fear Estuary*, \$5,232.

North Carolina Sea Grant/NOAA (with R.J. Kieber and J.D. Willey), 2004-2006. *Mercury in the Organic-Rich Cape Fear Estuary*, \$101,067

National Science Foundation (with J.L.C. Wright and R.J. Keiber), 2003-2006. *RUI: Biogeochemical Cycling of Domoic Acid in Natural Waters: The Influence of Bioactive Trace Metal Complexation and Photochemistry*, \$485,083.

International Copper Association, 2003-2004. *Exploratory Research on Copper Speciation in Bioassay Samples from Three Estuaries*, \$20,875.

North Carolina Sea Grant/NOAA (with R.J. Kieber and J.D. Willey), 2002-2004. *Increasing Ammonium Concentrations in the Cape Fear River Estuary: Where is it Coming From?*, \$110,560.

National Science Foundation (with R.J. Kieber and J.D. Willey), 2001-2004. *RUI: Iron Speciation in Rainwater: The Influence of Organic Complexation, Photochemistry, and Redox-Active Trace Constituents*, \$414,776.

Strategic Environmental Research and Development Program (DOD, EPA, DOE) (with R.J. Kieber and W.J. Cooper), 2000-2003. *Speciation, Fluxes and Cycling of Dissolved Copper and Zinc in Estuaries: The Roles of Sediment-Water Exchange and Photochemical Effects*, \$501,000.

National Oceanic and Atmospheric Administration (with L. Cahoon (lead PI), F. Bingham, S. Emslie, and D. Lindquist), 1999-2001. *Coastal Ocean Monitoring in the South Atlantic Bight*, \$730,000.

North Carolina Sea Grant/NOAA (with R.J. Kieber), 1999-2002. *Sediment-Water Exchange in the Lower Cape Fear Estuary: Effects of Metal Speciation on Water Quality and Benthic Biota*, \$102,564.

North Carolina Sea Grant, 1997. *Silver as a Tracer of Contaminant Sources in Estuarine and Coastal Waters of North Carolina*, \$2,500.

COURSES TAUGHT:

General Chemistry I and II (lecture and laboratory); Quantitative Analysis (lecture and laboratory); Environmental Chemistry (lecture and laboratory); Introduction to Chemical Oceanography; Advanced Analytical Chemistry (electrochemical methods module). Guest lecturer for Forensic Chemistry; Oceans and Human Health; Advanced Topics in Cellular and Molecular Biology (Dept. of Biology and Marine Biology)

POSTDOCTORAL RESEARCHERS AND STUDENTS SUPERVISED OR CO-SUPERVISED:

Current: Lindsey Hartrey, Jennifer Nguyen, Emily Probst, Alan Roebuck, Laura Foley, Brent Dober, Coleman Corzine.

Completed: Dr. Melissa Southwell (PDA; currently at Flagler College); Dr. Melanie Witt (PDA; currently at Cambridge Univ.); Dr. René-Christian Bouillon (PDA); Dr. Robert F. Whitehead (PDA; currently research analyst at UNCW Center for Marine Science); G.C. Shank (Ph.D; currently assistant professor of marine science at University of Texas); S. Zvalaren (Ph.D.); N. Lancaster (M.S.); J. Vinson (M.S.); C. Terry (M.S.); C. O'Connell (M.S.); M. Tzannis (M.S.); C. Ottenberg (M.S.); K. Lieseke (M.S.); K. MacGillivray (M.S.); C. Smith (M.S.); M. Smith (M.S.); J. Smith (M.S.); T. Knierim (M.S.); L. Bradshaw (M.S.); N. Parler (M.S.); M. Inscore (M.S.); E. Lail (M.S.); J. Pitt (M.S.); G. Shaughnessy (M.S.); L. Larson (M.S.); L. Thompson (M.S.), Donna Glinski (M.S.), Alyssa Wettrauer (M.S.).

Past or present supervisor of 10 undergraduate honors students and ~37 undergraduates doing directed individual study or summer research.