

## CURRICULUM VITAE

### CHRISTOPHER MICHAEL REDDY

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### EDUCATION:

**B.Sc.** Chemistry, Rhode Island College, Providence, RI, 1992.

**Ph.D.** Chemical Oceanography, University of Rhode Island, Kingston, RI, 1997.

### PROFESSIONAL EXPERIENCE:

- Chemist, ULTRA Scientific, North Kingstown, RI, 1992.
- Environmental Chemist, CEIMIC Corporation, Narragansett, RI, Mar. 1993 to June 1994.
- Research Assistant, Chemical Oceanography, University of Rhode Island, June 1994 to Dec. 1997.
- Post-Doctoral Scholar and Investigator, Department of Marine Chemistry and Geochemistry, WHOI, Woods Hole, MA, Dec. 1997 to Feb. 2000.
- Assistant Scientist, Dept. of Marine Chemistry and Geochemistry, WHOI, Mar. 2000 to Jan. 2004.
- Visiting Scholar, Scripps Institution of Oceanography, San Diego, La Jolla, CA, Jan. 2003 to May 2003.
- Visiting Associate, Div. of Geologic and Planetary Sciences, California Institute of Technology, Pasadena, CA, Jan. to Mar. 2005.
- Adjunct Associate Professor of Biology, Boston University, Boston, MA, July 2006 to June 2008.
- Associate Scientist, Dept. of Marine Chemistry and Geochemistry, WHOI, Jan. 2004 to Oct. 2006
- Associate Scientist with tenure, Dept. of Marine Chemistry and Geochemistry, WHOI, Oct. 2006 to present.
- Director, Coastal Ocean Institute, WHOI, Aug. 2008 to present.

**GRADUATE ADVISOR:** Professor James G. Quinn, University of Rhode Island

**POST-DOCTORATE ADVISOR:** Dr. Timothy I. Eglinton, Woods Hole Oceanographic Institution

### RESEARCH INTERESTS:

- Marine pollution
- Marine natural products
- Marine-based biofuels

### AWARDS AND HONORS:

- 2009 Kavli Fellow. (Awarded by the US National Academy of Science; it is the Academy's premiere recognition for distinguished young scientists under 45 years of age).
- 2008 Fulbright Specialists Roster Candidate.
- 2008 The Henry L. and Grace Doherty Professor of Oceanography in the MIT/WHOI Joint Program
- 2007 First runner-up for top manuscript (Environment science) published in *Environmental Science and Technology* (Hofstetter *et al.* 2007).
- 2007 *Environmental Science and Technology* Excellence in Review Award.
- 2007 John B. Phillips Award. In honor of the inventor of comprehensive two-dimensional gas chromatography (GC×GC) for a paper viewed to have the most potential impact on the future of GC×GC (Arey *et al.* 2005).
- 2006 Aldo Leopold Leadership Fellow.
- 2003 Office of Naval Research Young Investigator Program awardee.
- 1998 "Save the Bay" Environmental Award for identifying a second more toxic oil after the *North Cape* oil spill, which led to an additional 1.5 million dollars added to the damage settlement.
- 1996 Honorable Lincoln Almond Award. (Governor of Rhode Island)-for scientific contribution during the *North Cape* oil spill.
- 1995 American Chemical Society's Outstanding Graduate Student Award in Environmental Chemistry.

1991 American Chemical Society's Outstanding Undergraduate Student Award in Analytical Chemistry.

#### **PARTICIPATION IN WHOI ACADEMIC PROGRAM:**

- Guest lecturer for *Marine Org. Geochemistry*, MIT/WHOI Joint Program (Spring 1999, 2001, 2003, 2005, 2007, 2009).
- Guest lecturer for *Marine Mammal Toxicology*, MIT/WHOI Joint Program (Winter 2004).
- Instructor (with Roger Francois), *Marine Geochemistry*, MIT/WHOI Joint Program (Fall 2002, 2003).
- Admissions committee for Department of Marine Chemistry and Geochemistry (2006, 2007, 2008)
- Pre-generals advisor for JP Students in Marine Chemistry and Geochemistry (Incoming classes of 2002, 2006)
- General exam coordinator (Spring 2007)
- Co-instructor (with Lonny Lippsett), *How not to write for peer-reviewed journals: Talking to everyone else*, MIT/WHOI Joint Program (Short course, summer 2008)
- Co-instructor (with Lonny Lippsett), *Communicating Science - A workshop for WHOI postdocs* WHOI post-doctoral association (Short course, spring 2009)
- Advised or co-advised PhD students: Ana Lima (2004 with Tim Eglinton); Helen White (2005 with Tim Eglinton); Desiree Plata (2009 with Phil Gschwend); and Kristin Pangallo (2009)
- Chair, Eoghan Reeve; PhD defense (2010)
- Currently advising Karin Lemkau
- Thesis committee for PhD students: Amy Marie Accardi (2003), Kristen Whalen (2008), Eric Montie (2006), Laura Hmelo (2010)
- Advised numerous summer student fellows, guest students, and high school science fair students.

#### **EDUCATION/ADVISING IN WHOI ACADEMIC PROGRAM:**

- Aubrey Hounshell, U. of Hawaii (Guest student, summer 2000).
- Carly Tarr, Bates College (Guest student, summer 2000).
- Nicholas Drenzek, RPI (Guest student; Summer Fellow, Summer 1999, 2000).
- Shannon Hughey, Rhode Island College (Guest student, 6/02-8/02).
- Desiree L. Plata, Union College (Summer Fellow, 6/02-8/02).
- Gregory O'Neil, Boston College (Guest student, 6/02-8/02).
- Brian Kile, Bates College (Summer Fellow, 6/03-8/03).
- Heather Bischel, UC Berkeley (Summer Fellow, 6/04-8/04)
- Byron E. Pedler, U. of New Hampshire (Summer Fellow, 6/05-8/05)
- Jared A. DeMello, U. of Conn. (Guest Student, 6/06 to 9/06)
- Emily E. Peacock, Boston University (Guest Student, 1/07 to 7/07; MS committee member)
- Matthew F. Poyton, Providence College (Guest Student, 6/07 to 9/07)
- Catherine A. Carmichael, Trinity College (Guest Student, 6/07 to 9/07)
- Meredith Praamsma, Hope College (Summer Fellow, 6/01 to 8/07)
- Jennifer Culbertson, Boston University (Guest Student, 10/06 to 6/07; PhD committee member)
- Abigail Kernan-Schloss, Kalamazoo College (Guest Student, 6/09-8/09)
- Ellen Murphy, Reed College (Guest Student, 7/09-8/09)
- Michael Barrett, Duke University (Guest Student, 05/10-)
- Ana Lima, MIT/WHOI PhD student (Co-advisor, Defended March 12, 2004)
- Helen White, MIT/WHOI PhD student (Co-advisor, Defended December 15, 2005)
- Desiree Plata, MIT/WHOI PhD student (Co-advisor, Defended April 24, 2009)

- Kristin Pangallo, MIT/WHOI PhD student (Advisor, Defended July 10, 2009)
- Karin Lemkau, MIT/WHOI PhD student (Advisor, present)
- Gregory Slater, Post-doctoral scholar (9/01-9/03)
- Emma L. Teuten, Post-doctoral investigator (7/03-11/05)
- J. Samuel Arey, Post-doctoral investigator (11/04-8/05)
- Alison Olcott, Post-doctoral scholar (with Tim Eglinton; 9/06-12/07)
- G. Todd Ventura, Post-doctoral investigator (10/06-12/08)

#### **PARTICIPATION IN EDUCATION ELSEWHERE:**

- Mentored undergraduates in special project in *Marine Pollution*, at Massachusetts Maritime Academy (1998, 1999, 2000, 2001).
- Guest lecturer for *Organic Biogeochemistry*, Scripps Institution of Oceanography (Spring 2003).
- Guest lecturer for *Environmental Oceanography*, Boston College (Winter 2004).
- Instructor for course *Environmental Monitoring*, at Massachusetts Maritime Academy (Sept. 2000 to June 2001).
- Co-instructor (with John Farrington) *Biogeochemistry of Organic Contaminants*, Short course at the Austral Summer Institute I, University of Concepcion, Chile (January 22 to 31, 2001).
- Guest lecturer for *Global Coastal Change*, Boston University (Fall 2005, 2006).
- Co-instructor of Internet-based course *GC×GC Systems, Informatics, and Applications: An advanced seminar on comprehensive two-dimensional gas chromatography*, with colleagues from U. of Nebraska and Spelman College (Winter semester 2006, 2007).
- Guest lecturer for *Experimental Methods*, Mount Holyoke College (Spring 2008, 2009).
- Guest lecturer for *Environmental Chemistry*, Massachusetts Maritime Academy (Spring 2008, 2009).
- Organized and taught with Karen Weintraub (Boston Globe) a one-day seminar entitled, *How to speak to the media* at MIT for post-docs (January 2009).
- Served on the Ph.D. committee outside of WHOI: Penny Higgins (U of Toronto); Shelby Walker (Virginia Institute of Marine Sciences); Rachel Adams (MIT); Xanat Flores (MIT); Jennifer Culbertson (Boston University); Emily Peacock (MS thesis, Boston University); Amy Kelly (MIT); and Andrew Wozniak (Virginia Institute of Marine Sciences); and Birgit Nabbefeld (outside reader, Curtin University).

#### **PROFESSIONAL RESPONSIBILITIES:**

- Reviewed manuscripts for *Analytical Chemistry*; *Analytical and Bioanalytical Chemistry*; *Applied Energy*; *Applied and Environmental Microbiology*; *Environmental Forensics*; *Environmental Science and Technology*; *Estuaries*; *Geochim. Cosmochim. Acta*, *JGR Atmospheres*, *JGR Biogeosciences*; *Journal of Chromatography A*; *Journal of Food and Agricultural Chemistry*; *Journal of Hazardous Materials*; *Limnology and Oceanography*; *Marine Chemistry*; *Marine Environmental Research*; *Marine Pollution Bulletin*; *Nature*; *Organic Geochemistry*; *Proceeding of the National Academy of Sciences*; *Soil and Sediment Contamination*; and *Water, Air & Soil Pollution*.
- Session chair at V.M. Goldschmidt Conference (Environmental geochemistry field studies), Aug. 26, 1999, Cambridge, MA.
- Grant reviewer for the Hudson River Foundation, Sea Grant, DOE, NOAA, PRF, and NSF.
- Moderator for, *Beyond Crisis Science and Emergency Legislation: What do we really know about oil spills?* Feb. 16, 2001. University of Massachusetts, Dartmouth.
- Organized *Biogeochemistry of Marine Organic Matter in the Contemporary Environment and Ancient sediments*, Div. of Geochemistry, American Chemical Society, Boston, MA. Aug. 19, 2001.
- Presided over *Biogeochemistry of Organic Contaminants in the Aquatic Ecosystems*, Division of Environmental Chemistry, American Chemical Society, Boston, MA. Aug. 18, 2001.
- Organized and presided over *Application of Forensic Chemistry in Environmental Investigations*, Pittsburgh Conference, Chicago, IL. Mar. 9, 2004.

- Testified on oil spills for Joint Committee on Natural Resources and Agriculture, State of Massachusetts, Boston, MA. May 25, 2004.
- Organizer of *International Society of Environmental Forensics: Theory, Applications and Case Studies*, N. Charleston, SC. Nov., 8-9 2004.
- Testified on oil spills for United States Coast Guard at Rulemaking hearings, New Bedford, MA. Nov. 16, 2004.
- Moderator of *International Society of Environmental Forensics: Petroleum Hydrocarbons, Analytical Techniques, and Case Studies*, Rio de Janeiro, Brazil. Nov. 22-23, 2004.
- Organized and moderated *Advances in Coastal BioGeoChemistry*, Woods Hole Oceanographic Institution, Woods Hole, MA. Nov. 8, 2005.
- Discussion leader for *The Interplay of Nature and Industry: Halogenated Organic Compounds in the Environment* at the Organic Geochemistry Gordon Conference, Holderness School, Plymouth, NH, Aug. 6 to 11, 2006.
- Advised offices of Senator Edward Kennedy (MA), Senator John Kerry (MA), and Representative William Delahunt (MA) on oil spills, Washington, DC. Sept. 12 to 13, 2006.
- Advised Massachusetts Dept. of Environmental Protection on alternatives fuels and lubricants, Boston, MA. Mar. 13, 2007.
- Completed *Leadership for the 21st Century: Chaos, Conflict and Courage* in the executive education program at Harvard's Kennedy School of Government, May 2007.
- Board of Trustees, *Salt Pond Areas Bird Sanctuaries*, Falmouth, MA (2007-Present).
- Board member, *Metcalf Institute for Marine and Environmental Reporting*, University of Rhode Island (2007-2010).
- Advised city, state, and federal officials following the *M/V Cosco Busan* oil spill in San Francisco Bay (Nov. 2007).
- Judged the Secretary of the Navy's environmental achievement awards (Feb. 2008).
- Organized and Session chair for *Changing Chemistry of Estuaries, Coasts, and the Ocean* Ocean Sciences Meeting, Orlando, FL Mar. 7, 2008.
- Advised Senator John Kerry (MA) on nanotechnology legislation (May 2008).
- Board member, *Coalition for Buzzards Bay* (2008-Present).
- Testified on oil inputs from ocean-going vessels for House Committee on Transportation and Infrastructure, Washington, DC, June 12, 2008.
- Led a half-day workshop on how to communicate with the lay public, media, and policymakers at the New England Estuarine Research society, Block Island, RI (Oct. 2008)
- Participant in *Research & Development Priorities: Oil Spill Workshop*, The Coastal Response Research Center, U. of New Hampshire (Mar. 2009)
- Panelist for *Careers in Science* for Woods Hole Partnership Educational Program (PEP), Woods Hole, MA (June 2009).
- Overseer for the Sea Education Association, Woods Hole, MA (2009-Present).
- Advised the President's Council on Environmental Quality on biofuel spills in the coastal environment, Washington, DC (July 2009).
- Reviewed *Literature Synthesis for North and Central Atlantic* for the Mineral Management Service (Sept. 2009).
- Participant in *Response to Liquid Asphalt Releases in Aquatic Environments*, The Coastal Response Research Center, U. of New Hampshire (Oct. 2009).
- Organized and Session chair (with Dr. Kara Lavender Law, Sea Education Association), *Plastic Debris in the Ocean: Quantifying the Problem and Investigating Its Impacts*, Ocean Sciences meeting, Portland, OR, Feb. 24, 2010.
- MIT's Sloan School of Management (Working towards an Executive Certificate in Management and Leadership,, completed courses include: *Managing Technical Professionals and Organizations* (Mar. 2010); *Transforming Your Leadership Strategy* (Apr. 2010).

- Panelist in *Standing up for Science session*, MIT Museum, Cambridge, MA (Apr. 2010).
- Member, Organizing committee for the *Kavli Frontiers of Science Symposium* (2010)
- Testified on dispersant usage following the Deepwater Horizon disaster for House subcommittee on Energy and Commerce, Washington, DC, June 10, 2010.
- Testified on NOAA's response following the Deepwater Horizon disaster for House subcommittee on Insular Affairs, Oceans, and Wildlife, Washington, DC, June 15, 2010.
- Panelist for the National Commission on the BP Deepwater Horizon oil spill and offshore drilling, New Orleans, LA, July 13, 2010.
- Briefed Lt. Governor Elizabeth Roberts (Rhode Island) and Emergency Management Council on oil spills, Warwick, RI, August 10, 2010.
- Provided over 150 interviews to the print media, radio, and television on environmental science in the past several years.
- Associate editor for *Environmental Forensics* (2001-2010).
- Editorial board for *Marine Environmental Research* (2003-2007)

## FIELD EXPERIENCE:

### *Cruises*

**R/V Endeavor (July 1994)** Collection of water samples in the northwest Atlantic Ocean.

**R/V Argo Maine (September 1995)** Collection of water samples and sediment traps in the Gulf of Maine.

**R/V Pelican (April 1997)** Collection of sediment cores in the Gulf of Mexico.

**R/V New Horizon (May to June 2001)** Collection of sediment cores and water samples along the California coastline.

**R/V Oceanus (April 2004; Chief Scientist)** Collection of sediment cores and water samples in the Gulf of Maine.

**R/V Cape Hatteras (August 2004; Chief Scientist)** Collection of sediment cores and water samples in the Gulf of Maine.

**R/V Atlantis (July 2007)** Collection of sediment as well as gas and oil samples at the Santa Barbara oil seeps via the DSV *Alvin* (dives #4322, 4328, and 4332).

**R/V Atlantis (September 2009)** Sampling of asphalt volcanoes off the coast of California via the DSV *Alvin* (dive #4544).

**R/V Endeavor (June 2010)** Investigating subsurface plumes in the Gulf of Mexico resulting from the Deepwater Horizon disaster.

In addition to these large-scales cruises, I have participated in many one-day cruises for the collection of water, sediments, and biota in Narragansett Bay, Buzzards Bay, coastal California, Gulf of Mexico, and in a variety of local rivers and lakes in New England.

### *Other*

**Siskiwit Lake, Isle Royale, Lake Superior (July 1998)** Collection of sediment cores

**Hudson River, Glen Falls, NY (July 1999)** Collection of sediment cores.

**Lowes Cove, Walpole, ME (April 2002, June 2002, July 2003)** Collection of benthic animals.

**San Francisco Bay (November 2007, December 2007, January 2008, March 2008, September 2008, June 2009)** Collection of oil-covered samples following the *Cosco Busan* spill.

Listed below are peer-reviewed publications that I have co-authored. I have annotated the names of other co-authors as follows: graduate students that I have advised or co-advised; post-docs I have advised; and graduate students, summer student fellows, guest students, and others that have worked in my laboratory with a \*\*, †, and †, respectively.

## PUBLICATIONS (PEER REVIEWED):

1. Mohammady, N.,G.,E., Rieken, C.W., Lindell, S., Reddy, C.M, Taha' H.M., Lau, C.P.L., Carmichael, C.A. (2010) Age of nitrogen deficient microalgal cells is a key factor for maximizing lipid content. Submitted to *International Journal of Green Energy*.
2. Lemkau, K.L. \*\*, Peacock, E.E., Nelson, R.K., Ventura, G.T.†, Kovecses, J.L., Reddy, C.M. (2010) The M/V *Cosco Busan* spill: Source identification and short-term fate. Submitted to *Marine Pollution Bulletin*.
3. Wardlaw, G.D.†, Reddy, C.M., Nelson, R.K., Valentine, D.L. (2010) Biodegradation preference for isomers of alkylated naphthalenes and benzothiophenes in marine sediment contaminated with crude oil. Submitted to *Organic Geochemistry*.
4. Jensen, B.A., Nelson, R.K., Reddy, C.M., Hahn, M. (2010) Developing tools for risk assessment in protected species: Relative potencies inferred from competitive binding of halogenated aromatic hydrocarbons to aryl hydrocarbon receptors from beluga (*Delphinapterus leucas*) and mouse. Accepted in *Aquatic Toxicology*.
5. Leri, A., Hakala, J.A., Marcus, M., Lanzirrotti, A, Reddy, C., Myneni, S. (2010) Stable organobromine in marine sediments: New evidence of biogeochemical Br cycling. Accepted in *Global Biogeochem. Cycles*.
6. Camilli, R., Reddy, C.M., Yoerger, D.R., Van Mooy, B.A.S., Jakuba, M.V., Kinsey, J.C. McIntyre, C.P., Sylva, S.P., Maloney, J.V. (2010) Tracking hydrocarbon plume transport and biodegradation at *Deepwater Horizon*. Published online in *Science*, doi: 10.1126/science.1195223
7. Moret-Ferguson, S., Lavender Law, K., Proskurowski, G., Murphy, E.K.†, Peacock, E.E., Reddy, C.M. (2010) The size, mass, and composition of plastic debris in the Western North Atlantic Ocean. Published online in *Marine Pollution Bulletin*, doi:10.1016/j.marpolbul.2010.07.020
8. Law Lavender, K., Moret-Ferguson, S., Maximenko, N.A., Proskurowski, G., Peacock, E.E., Hafner, J.H., Reddy, C.M. (2010) Well-defined plastic accumulation in North Atlantic gyre shows no increase in 22 years. Published online in *Science*, doi:10.1126/science.1192321.
9. Ventura, G.T.†, Raghuraman, B., Mullins, O.C., Nelson, R.K., Reddy, C.M. (2010) Chemical compound class oil fingerprinting techniques using comprehensive two-dimensional gas chromatography (GC×GC). Published online in *Organic Geochemistry*; doi:10.1016/j.orggeochem.2010.02.014.
10. Pangallo, K.C. \*\* and Reddy, C.M. (2010) Marine natural products, the halogenated 1'-methyl-1,2'-bipyrroles (MBPs), biomagnify in the Northwestern Atlantic. *Env. Sci. and Technol.* **44**, 5741-5747.
11. Montie, E.W.†, Letcher, R.J., Reddy, C.M., Moore, M.J., Rubinstein, B., Hahn, M.E. (2010) Brominated flame retardants and organochlorine contaminants in winter flounder, harp and hooded seals, and North Atlantic right whales from the Northwest Atlantic Ocean. *Marine Pollution Bulletin*, **60**, 1160-1169.
12. Pomerantz, A.E., Ventura, G.T.†, McKenna, A.M., Cañas, J.A., Auman, J., Koerner, K., Curry, D., Nelson, R.K., Reddy, C.M., Rodgers, R.P., Marshall, A.G., Peters, K.E., Mullins, O.C. (2010) The geochemical origin of a viscosity gradient in a petroleum reservoir. *Organic Geochemistry* **41**, 812-821.
13. Valentine, D.L., Reddy, C.M., Farwell, C., Hill, T. Pizarro, O., Yoerger, D., Camilli, R., Nelson, R.K. Peacock, E.E., Clarke, B.A., Roman, C.N., Soloway, M. (2010) Asphalt volcanoes as a potential source of methane to late Pleistocene coastal waters. *Nature Geosciences*, **3**, 345–348.
14. Peacock, E.E., Arey, J.S., DeMello, J.A.†, McNichol, A.P., Nelson, R.K. Reddy, C.M. (2010) Molecular and isotopic analysis of motor oil from a biodiesel-driven vehicle. *Energy and Fuels*, **24**, 1037-1042.
15. Plata, D.L.\*, Hart, A.J, Reddy, C.M., Gschwend, P.M. (2009) Early evaluation of potential environmental impacts of carbon nanotube synthesis by chemical vapor deposition. *Env. Sci. and Technol.* **43**, 8367–8373.
16. Camilli, R., Bingham, B., Reddy, C.M., Nelson, R.K. Duryea, N. (2009) Method for rapid localization of seafloor petroleum contamination using concurrent mass spectrometry and acoustic positioning. *Marine Pollution Bulletin* **58**, 1505-1513.

17. Xanat Flores-Cervantes, D., Reddy, C.M., Gschwend, P.M. (2009) Inferring black carbon concentrations in coastal seawater by observing pyrene fluorescence losses. *Env. Sci. and Technol.* **43**, 4864–4870.
18. Montie, E.W.<sup>†</sup>, Reddy, C.M., Gebbink, W.A., Touhey, K.E., Hahn, M.E., Letcher, R.J. (2009) Organohalogen contaminants and metabolites in cerebrospinal fluid and cerebellum gray matter in short-beaked common dolphins and Atlantic white-sided dolphins from the western North Atlantic. *Environmental Pollution* **157**, 2345-2358.
19. Farwell, C.<sup>†</sup>, Reddy, C.M., Peacock, E.E., Nelson, R.K., Washburn, L., Valentine, D.L. (2009) Weathering and the fallout plume of heavy oil from strong petroleum seeps near Coal Oil Point, CA. *Env. Sci. and Technol.* **43**, 3542–3548.
20. Ho, E., Lehotay, S., Mastovska, K., Ngo, H., Vetter, W., Pangallo, K.\* , Reddy, C. (2009) Capabilities of direct sample introduction - comprehensive two-dimensional gas chromatography – time-of-flight mass spectrometry to analyze organic chemicals of interest in fish oils. *Env. Sci. and Technol.* **43**, 3240–3247.
21. Xanat Flores-Cervantes, D., Plata, D.L.\* , MacFarlane, J.K, Reddy, C.M., Gschwend, P.M. (2009) Black carbon in the ocean: Inputs and cycling of highly recalcitrant organic carbon in the Gulf of Maine. *Marine Chemistry.* **113**, 172-181.
22. Ho, E., Pangallo, K.\* , Lehotay, S., Mastovska, K., Ngo, H., Reddy, C. and W. Vetter (2009). Simultaneous quantification of multiple classes of organohalogen compounds in fish oils with direct sample introduction-comprehensive two-dimensional gas chromatography and time-of-flight mass spectrometry. *Journal of Agricultural and Food Chemistry* **57**, 2653-2660.
23. Betancourt, S.S.; Ventura, G.T.<sup>†</sup>; Pomerantz, A.E.; Vilorio, O.; Dubost, F.X., Zuo, J.; Monson, G.; Bustamante, D.; Purcell, J.M.; Nelson, R.K.; Rodgers, R.P.; Reddy, C.M.; Marshall, A.G.; Mullins, O.C. (2009) Nanoaggregates of asphaltene in a reservoir crude oil. *Energy and Fuels*, **23**, 1178-1188.
24. Pangallo, K.C.\* , Reddy, C.M. (2009) Distribution patterns suggest biomagnification of halogenated 1'-methyl-1,2'-bipyrroles (MBPs). *Env. Sci. and Technol.* **43**, 122-127.
25. Wardlaw, G.<sup>†</sup>, Arey, J.S., Reddy, C.M., Nelson, R.K., Ventura, G.T.<sup>†</sup>, Valentine, D.L. (2008) Disentangling oil weathering at a marine seep using GC×GC: Broad metabolic specificity accompanies subsurface petroleum biodegradation. *Env. Sci. and Technol* **42**, 7166-7173.
26. White, H.K.\* , Reddy, C.M., Eglinton, T.I. (2008) Radiocarbon as an inverse tracer of fossil fuel-derived contaminants in sediments. *Env. Sci. and Technol.* **42**, 5428-5434.
27. Culbertson, J.B.<sup>†</sup>, Valiela, I., Pickard, M., Reddy, Peacock. E.E.<sup>†</sup>, Reddy, C.M. (2008). Response of salt marsh grass to residual petroleum spilled 38 years ago in Wild Harbor, MA. *Journal of Applied Ecology* **45**, 1284-1292
28. Ventura, G.T.<sup>†</sup>, Kenig, F., Reddy, C.M., Frysinger, G.S., Nelson, R.K., Van Mooy, B., and Gaines, R.B. (2008) Resolving the composition and formation of unresolved complex mixtures extracted from late Archean metasediments by comprehensive two-dimensional gas chromatography (GC×GC). *Organic Geochemistry* **39**, 846-867.
29. Reddy, C.M., Stegeman, J.J., and Hahn, M.E. (2008) Organic Pollutants: Presence and Effects in Humans and Marine Animals. In *Oceans and Human Health*, Chapter 7; pp. 121-144; Walsh, P.J., Smith, S.L., Solo-Gabriele, H., Gerwick, W.H. (eds). Elsevier.
30. Culbertson, J.B.<sup>†</sup>, Valiela, I., Olsen, Y., and Reddy, C.M. (2008) Effect of field exposure to 38-year old residual petroleum hydrocarbons on growth, condition index, and filtration rate of the ribbed mussel, *Geukensia demissa*. *Environmental Pollution* **154**, 312-319
31. Plata, D.L.\* , Gschwend, P.M., and Reddy, C.M. (2008) Industrially synthesized single-walled carbon nanotubes: Compositional data for users, environmental risk assessments, and source apportionment. *Nanotechnology* **19**, 185706.
32. Plata, D.L.\* , Sharpless, C.M., and Reddy, C.M. (2008) Photochemical degradation of polycyclic aromatic hydrocarbons in oil films. *Env. Sci. and Technol.* **42**, 2432-2438.
33. Reddy, C.M., DeMello, J.A.<sup>†</sup>, Carmichael, C.A.<sup>†</sup>, Peacock, E.E., Xu, L., and Arey, J.S. (2008) Determination of biodiesel blending percentages using natural abundance radiocarbon analysis: Testing the accuracy of retail biodiesel blends. *Env. Sci. and Technol.* **42**, 2476-2482.

34. Pangallo, K.\* , Nelson, R.K., Teuten, E.L.†, Pedler, B.E. †, and Reddy, C.M. (2008) Expanding the range of dehalogenated 1'-methyl-1,2'-bipyrroles (MBPs) using GC/ECNI-MS and GC×GC/TOF-MS. *Chemosphere* **71**, 1557-1565.
35. Mullins, O.C., Ventura, G.T.†, Nelson, R.K., Betancourt, S.S., Raghuraman, B., Reddy, C.M. (2008) Visible-near-infrared spectroscopy by downhole fluid analysis coupled with two dimensional gas chromatography to address oil reservoir complexity. *Energy and Fuels* **22**, 496-503.
36. White, H.K.\* , Reddy, C.M., and Eglinton, T.I. (2007) Relationships between carbon isotopic composition and mode of association of natural organic matter in marine sediments. *Organic Geochemistry*. **38**, 1824-1837.
37. Sylva, S.P, Ball, L., Nelson, R.K., and Reddy, C.M. (2007) Compound specific <sup>81</sup>Br/<sup>79</sup>Br analysis by capillary gas chromatography multi-collector inductively coupled plasma mass spectrometry (GC-MC-ICPMS). *Rapid Communications in Mass Spectrometry*. **21**, 3301-3305.
38. Ventura, G.T.†, Kenig, F., Reddy, C.M., Schieber, J., Frysinger, G.S., Nelson, R.K., Gaines, R.B., and Schaeffer, P. (2007) Molecular evidence of late Archean Archaea and the presence of a deep biosphere. *Proceeding of the National Academy of Sciences*. **104**, 14260-14265.
39. Arey, J.S. †, Nelson, R.K., Plata, D.L. \*, and Reddy, C.M. (2007) Disentangling oil weathering using GC×GC. Part 2. Mass transfer calculations. *Env. Sci. and Technol.* **41**, 5747 - 5755.
40. Arey, J.S. †, Nelson, R.K., and Reddy, C.M. (2007) Disentangling oil weathering using GC×GC. Part 1. Chromatogram analysis. *Env. Sci. and Technol.* **41**, 5738 - 5746.
41. Hofstetter, T.B.†, Reddy, C.M., Heraty, L.J., Berg, M., and Sturchio, N.C. (2007) Carbon and chlorine isotope effects during abiotic reductive dechlorination of polychlorinated ethanes. *Env. Sci. and Technol.* **41**, 4662-4668.
42. DeMello, J.A.†, Carmichael, C.A.†, Peacock, E.E., Nelson, R.K., Arey, J.S., and Reddy, C.M. (2007) Biodegradation and environmental behavior of biodiesel mixtures in the sea: An initial study. *Marine Pollution Bulletin*. **54**, 894-904.
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- NPR1. Reddy, C.M. (2010) Why Mother Nature needs a hand. (Op-Ed), *Providence Journal Bulletin*, May 29<sup>th</sup> edition.
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- NPR19. Reddy, C.M. (2008) Recycling comes to Middletown. (Op-Ed), *Providence Journal Bulletin* June 15<sup>th</sup> edition.
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- NPR22. Reddy, C.M. (2008) Ways to be ‘green’ on St. Patrick’s Day. (Op-Ed), *Providence Journal Bulletin*, March 17<sup>th</sup> edition.
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- NPR24. Reddy, C.M. (2007) All oil spills are not the same. (Op-Ed), *Providence Journal Bulletin*, December 18<sup>th</sup> edition.
- NPR25. Dessler A. and Reddy, C. (2007) Prof. Lindzen is wrong. *Providence Journal Bulletin*, December 17<sup>th</sup> edition.
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- NPR27. Reddy, C.M. (2007) Here’s an idea: Use greed to go green. (Op-Ed), *Providence Journal Bulletin*, October 19<sup>th</sup> edition.
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- NPR38. Reddy, C.M. (2004) Oil in our coastal backyard. *Oceanus* **43(1)**, 50-55.
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- NPR40. Reddy, C.M. (2002) Book review of *Chlorine in the Environment* by Stringer and Johnson for *Environmental Science and Pollution Research* **9**, 356-357.

## **RECENT PRESENTATIONS/POSTERS (presenter is underlined):**

### **(a) At WHOI**

1. Reddy, C.M. *Oil spills*. Naval Staff College Visit to WHOI. May 21, 2010. WHOI, Woods Hole, MA. (Presentation).
2. Reddy, C.M. *The Gulf of Mexico oil spill: Background and the media response*. Columbia School of Journalism visitors, April 30, 2010. WHOI, Woods Hole, MA (Presentation).
3. Reddy, C.M. *Marine-based biofuels: hype or hope?* New England Regional Journalist Workshop, April, 2 2010. WHOI, Woods Hole, MA (Presentation).
4. Reddy, C.M. *Marine-based biofuels: hype or hope?* Esty Environmental Group, March 30, 2010. WHOI, Woods Hole, MA (Presentation).
5. Reddy, C.M. *Marine-based biofuels: hype or hope?* Knight Science Journalism Fellows visit, October 9, 2009. WHOI, Woods Hole, MA (Presentation).
6. Reddy, C.M. *The discovery of extinct asphalt volcanoes on the southern California margin*, WHOI Exhibit Center Seminar Series, August 25, 2009. WHOI, Woods Hole, MA (presentation)
7. Reddy, C.M. and Lippsett, L. *How to tell people what you did this summer: Communicating science to non-scientists*. Summer Student Fellow program, June 29, 2009. Woods Hole, MA (Presentation).
8. Reddy, C.M. *Natural oil spills*. Visiting Chinese Maritime Students on exchange at Massachusetts Maritime Academy, May 29, 2009. WHOI, Woods Hole, MA (Presentation).
9. Reddy, C.M. *The future of fuels in naval vessels*. Naval Staff College Visit to WHOI. May 27, 2009. WHOI, Woods Hole, MA. (Presentation).
10. Reddy, C.M. *Plastics in the environment*. Massachusetts Science Teachers workshop, May 8, 2009. WHOI, Woods Hole, MA (Presentation).
11. Reddy, C.M. *Natural oil spills*. Columbia School of Journalism visitors, May 1, 2009. WHOI, Woods Hole, MA (Presentation).
12. Reddy, C.M. *The Santa Barbara oil seeps: An oil spill everyday*. Knight Science Journalism Fellows visit, October 10, 2008. WHOI, Woods Hole, MA (Presentation).
13. Reddy, C.M. *A new look at an old oil spill*. Naval Command College Visit. September, 19, 2009. WHOI, Woods Hole, MA (Presentation).
14. Reddy, C.M. *Coal, lead, Chernobyl and China: The chemical legacy of the Industrial Revolution* WHOI Ocean Science Journalism Fellowship Program. September 7, 2008. WHOI, Woods Hole, MA (Presentation).
15. Reddy, C.M. *Petroleum and alternative fuels*. Naval Staff College Visit to WHOI. May 23, 2008. WHOI, Woods Hole, MA. (Presentation).
16. Reddy, C.M. *Oil spills in the ocean*. WHOI Trustee’s meeting. May 16, 2008. WHOI, Woods Hole, MA. (Presentation)
17. Reddy, C.M. *The Santa Barbara Oil Seeps*. Visitors from Saint Margaret School, Buzzards Bay, MA. May 7, 2008. WHOI, Woods Hole, MA. (Presentation).

18. Reddy, C.M. *Natural oil spills in the sea*. WHOI Annual Volunteer Luncheon. September 17, 2007. WHOI, Woods Hole, MA. (Presentation).
19. Reddy, C.M. *Oil Spills, Natural and Unnatural*. WHOI Ocean Science Journalism Fellowship Program. September 14, 2007. WHOI, Woods Hole, MA (Presentation).
20. Reddy, C.M. *Petroleum in marine environment*. Naval Command College Visit to WHOI. August 31, 2007. WHOI, Woods Hole, MA. (Presentation).
21. Reddy, C.M. *Communicating science*. WHOI Summer Student Fellow Lecture Series. July 23, 2007. WHOI, Woods Hole, MA. (Presentation).
22. Reddy, C.M. *Petroleum in marine environment*. Naval Staff College Visit to WHOI. May 4, 2007. WHOI, Woods Hole, MA. (Presentation).
23. Reddy, C.M. *What's the deal with biodiesel? Environmental friend or foe?* Dept. of Marine Chemistry and Geochemistry Seminar Series. February 20, 2007. WHOI, Woods Hole, MA. (Presentation).
24. Reddy, C.M. *Investigating the fate of oil in the marine environment*. Presentation for visitors representing King Abdullah University of Science and Technology. January 25, 2007. WHOI, MA. (Presentation).
25. Reddy, C.M. *Radiocarbon and applications to alternative fuels*. 18<sup>th</sup> National Ocean Sciences AMS Policy Board Meeting, November 2, 2006. WHOI, Woods Hole, MA (Presentation).
26. Reddy, C.M. *Coal, Lead, and Chernobyl: The Chemical legacy of the Industrial Revolution in New England* Knight Science Journalism Fellows visit, October 12, 2006. WHOI, Woods Hole, MA (Presentation).
27. Reddy, C.M. *Novel views on the fate of petroleum hydrocarbons and alternative fuels in the marine environment*. ONR Site visit, September 25, 2006. WHOI, Woods Hole, MA (Presentation).
28. Reddy, C.M. *Oil spills in the marine environment* Naval Command College Visit to WHOI. August 25, 2006. WHOI, Woods Hole, MA. (Presentation).
29. Reddy, C.M. *Coal, lead, Chernobyl and China: The chemical legacy of the Industrial Revolution* WHOI Summer Student Fellow Lecture Series. July 31, 2006. WHOI, Woods Hole, MA. (Presentation).
30. Reddy, C.M. *Advances in chromatography and their application to understanding subsurface processes acting on petroleum* Schlumberger Doll Research Visit. March 7, 2006. WHOI, Woods Hole, MA. (Presentation).
31. Reddy, C.M. *Sources of halogenated organic compounds in the marine environment: Tales from the last voyage of the Charles W. Morgan* Dept. of Marine Chemistry and Geochemistry Seminar Series. December 6, 2005. WHOI, Woods Hole, MA. (Presentation).
32. Reddy, C.M. *Natural oil spills* FIRST LEGO League (FLL) Visit. November 15, 2005. WHOI, Woods Hole, MA. (Presentation).
33. Reddy, C.M. *Buzzards Bay oil spills; Using <sup>14</sup>C to study the biodegradation of petroleum hydrocarbons*. Sippican Philosophical Society (hosted by Karl Von Reden at NOSAMS). November 14, 2005. WHOI, Woods Hole, MA. (Presentation).
34. Reddy, C.M. *A quantitative model of water-washing and evaporation after the Bouchard 120 oil spill*. Special Symposium on Coastal Organic Biogeochemistry held in honor of John Farrington. November 8, 2005. WHOI, Woods Hole, MA. (Presentation).

**(b) Elsewhere**

1. Reddy, C.M. *Nature's equivalent to Dupont's, Monsanto's, and 3M's best stuff: Unusual chemicals found in the marine environment*. Department of Chemistry, University of Minnesota. April 22, 2010. Minneapolis, MN. (Presentation) Invited.
2. Reddy, C.M. *An introduction to GCxGC and applications to petroleum processes*. Department of Chemical Engineering, MIT, April 14, 2010. Invited.
3. Reddy, C.M. *Natural oil spills*. Robertson Elementary School, Warwick, RI, April 12, 2010. (Presentation). Invited.

4. Meshot, E., Plata, D.L., Reddy, C.M., Gschwend, P.M., Hart, A.J. *Efficient hydrocarbon precursors for rapid and clean carbon nanotube growth*. Materials Research Society's spring meeting. April 6, 2010. San Francisco, CA (Presentation).
5. Hoh, E., Lehotay, S.J., Pangallo, K.C., Reddy, C.M., *Untargeted analysis of organic contaminants in dolphin blubber using DSI-GC×GC/TOF-MS*. American Chemical Society. March 24, 2010, San Francisco, CA (Presentation).
6. Atolia, E., McKenna, A.M., Rodgers, R.P., Reddy, C.M., Nelson, R.K., Marshall, A.G. *3D graphical analysis of ultrahigh-resolution FT-ICR mass spectrometry data: Compositional comparison of a crude oil and associated production deposit*. American Chemical Society. March 21, 2010, San Francisco, CA (Poster).
7. Lavender Law, K., Moret-Ferguson, S., Reddy, C. M., Peacock, E.E., Maximenko, N.A. *A 22-year Record of Plastic Marine Debris in the Atlantic Ocean*. Ocean Sciences meeting, Portland, OR, February 24, 2010. (Presentation)
8. Moret-Ferguson, S., Lavender Law, K., Peacock, E.E., Proskurowski, G., Reddy, C.M. *Physical Characterization of Plastic Debris in the North Atlantic Ocean*. Ocean Sciences meeting, Portland, OR, February 24, 2010. (Presentation).
9. Takada, H., Hirai, H., Ogata, Y., Yuyama, M., Yamashita, R., Ochi, D., Watanuki, Y., Moore, C., Gray, H., Laursen, D., Zettler, E., Farrington, J.W., Reddy, C.M., Peacock, E.E., Ward, M. *Organic micropollutants in marine plastics and their potential transfer to seabirds*. Ocean Sciences meeting, Portland, OR, February 24, 2010. (Presentation)
10. Proskurowski, G., Lavender Law, K. Moret-Ferguson, S, Reddy, C.M. *The impact of wind stress on the concentration of plastic debris in the open ocean*. Ocean Sciences meeting, Portland, OR, February 24, 2010. (Poster)
11. Murphy, E., Reddy, C.M, Peacock, E.E., Moret-Ferguson, S., Lavender Law, K. *Establishing a robust characterization of beach plastics*. Ocean Sciences meeting, Portland, OR, February 24, 2010. (Poster)
12. Reddy, C.M. *Future fuels of naval vessels*. United States Naval War College Seminar Series, December 7, 2009, Newport, RI. (Presentation). Invited.
13. Hoh, E., Lehotay, S.J., Pangallo, K.C., Reddy, C.M. *Untargeted analysis of marine mammal exposure to multiple classes of manmade and naturally occurring halogenated organic chemicals*. SETAC North America 30<sup>th</sup> Annual Meeting November 20, 2009, New Orleans, LA. (Poster with abstract).
14. Reddy, C.M. *Disentangling oil weathering at a marine seep using GC×GC*. Eastern Analytical Symposium, November 18, 2009, Somerset, NJ. (Presentation with abstract). Invited.
15. Reddy, C.M. *Marine-based biofuels: hype or hope?* Kavli Frontiers of Science, November 13, 2009. National Academy Sciences, Irvine, CA (Poster with abstract). Invited
16. Reddy, C.M. *Marine-based biofuels: hype or hope?* Quaker Meeting House Science Series, November 8, 2009. North Falmouth, MA (Presentation). Invited
17. Reddy, C.M. *Nature's equivalent to Dupont's, Monsanto's, and 3M's best stuff: Unusual chemicals found in the marine environment*. University of Connecticut, Department of Marine Sciences. October 23, 2009. Avery Point, CT. (Presentation with abstract). Invited.
18. Reddy, C.M. *Algal-based biofuels*. 4<sup>th</sup> Annual Military Energy and Alternative Fuels Conference October 19, 2003, Alexandria, VA. (Presentation). Invited.
19. Ventura, G.T., Frysinger, G., Hall, G., Nelson, R., Raghuraman, B., Mullins, O., Reddy, C. *Analysis of petroleum compositional similarity using multiway principle components analysis (MPCA) of comprehensive two-dimensional gas chromatographic data*. International Meeting on Organic Geochemistry, Bremen, Germany, September 9, 2009. (Presentation with abstract).
20. Ventura, G.T., Simoniet, B., Nelson, R., Reddy, C. *Resolving the origin of unresolved complex mixtures in hydrothermal petroleum – novel methods for comprehensive two-dimensional gas chromatography*. International Meeting on Organic Geochemistry, Bremen, Germany, September 9, 2009. (Presentation with abstract).

21. Schubotz, F., Ventura, G.T., Nelson, R.K., Reddy, C.M., Hinrichs, K-U. *Deciphering mechanistic details of asphalt degradation and weathering at the ocean floor with GCxGC*. International Meeting on Organic Geochemistry, Bremen, Germany, September 8, 2009. (Presentation with abstract).
22. Reddy, C.M. *Organic compounds in marine animals: Contaminants or natural products*. American Chemical Society Meeting, Special session on the Chemistry of the Oceans for undergraduates, Washington, DC, August 16, 2009. (Presentation with abstract). Invited.
23. Schubotz, F., Ventura, G.T., Nelson, R.K., Knittel, K., Wegener, G., Wilhelm, T., Zabel, M., Kasten, S., Boetius, A., Reddy, C.M., Hinrichs, K.-U. *Structure and function of a cold seep nurtured by seepage of heavy oil*. Goldschmidt Conference, Davos, Switzerland, June 25, 2009. (Presentation with abstract). Invited.
24. Harris, Kate, Bosak, T., Nelson, R., Reddy, C., Casillas, L., Lugo, J. Biomarker lipid diversity as a function of growth conditions in *Rhodospirillum rubrum*, Goldschmidt Conference, Davos, Switzerland, June 24, 2009. (Poster with abstract).
25. Redman A., McGrath J., Arey J.S., Reddy C.M., Parkerton, T., Di Toro, D. *Relating ecotoxicity of weathered heavy fuel oil to chemical composition with PETROTOX*. SETAC Europe 19th Annual Meeting, Göteborg, Sweden June 1, 2009. (Poster with abstract).
26. Reddy, C.M. *Moving past pretty pictures: Analysis of petroleum hydrocarbons by GCxGC*. 6<sup>th</sup> GCxGC Conference, Portland, OR, May 18, 2009. (Presentation with abstract). Invited
27. Meshot, E.R., Plata, D.L., Reddy, C.M., Gschwend, P.M., Hart, A.J. *Co-optimizing carbon nanotube synthesis: control of diameter, structural quality, and growth kinetics along with simultaneous cost minimization*. American Physical Society meeting, Pittsburgh, PA, March 16, 2009. (Presentation with abstract).
28. Reddy, C.M. *Nature's equivalent to Dupont's, Monsanto's, and 3M's best stuff: Unusual chemicals found in the marine environment*. Marine and Atmospheric Research Center, Stonybrook University, NY, February 27, 2009. (Presentation). Invited.
29. Lavender, K., Moret, S., Hyrenbach, D., Reddy, C.M. *Plastic Debris in the Ocean and at SEA*. Sail Martha's Vineyard, Martha's Vineyard, MA, February 11, 2009. (Presentation)
30. Lemkau, K.L., Peacock, E.E., Nelson, R.K., Ventura, G.T., Kovacs, J., Reddy, C.M. *An Initial Look at a No. 6 Fuel Oil Spill: M/V Cosco Busan*. American Geophysical Union Meeting, December 19, 2008. San Francisco, CA. (Poster with abstract)
31. Wardlaw, G.D., Reddy, C.M., Nelson, R.K., Valentine, D.L. *Hydrocarbon specificity during aerobic oil biodegradation revealed in marine microcosms with the use of comprehensive two-dimensional gas chromatography*. American Geophysical Union Meeting, December 19, 2008. San Francisco, CA. (Poster with abstract)
32. Reddy, C.M., Nelson, R., Ventura, G., Arey, J.S., Wardlaw, G., Valentine, D. *Disentangling oil weathering at a marine seep using GCxGC: Applications form environmental forensics*. SETAC North America Annual Meeting, November 20, 2008. Tampa, FL. (Presentation with abstract). Invited. Attended.
33. Xu, L., Zheng, M., Ding, X., Reddy, C.M., Edgerton, E. *Carbon isotope analysis of individual organic compounds in the SEARCH study*. AAAR 27<sup>th</sup> Annual Conference. October 24, 2008. (Presentation with abstract).
34. Reddy, C.M., Ventura, G.T., Nelson, R.K., Betancourt, S., Lambertus, G., Mullins, O., Pomerantz, A., Raghuraman, B. *Advances in petroleum analysis via comprehensive two-dimensional gas chromatography*, Federation of Analytical Chemistry and Spectroscopy Society, Reno, NV, September 29, 2008. (Presentation with abstract).
35. Reddy, C.M. An initial update on the M/V Cosco Busan oil spill. Breakfast at George and Kate Rowe's home, San Francisco, CA, September 23, 2008. (Presentation). Attended
36. Lavender, K., Reddy, C.M. *Plastics in the ocean*. Sea Education Association trustee meeting, Woods Hole, MA, September 19, 2008. (Presentation). Attended.



37. Plata, D.L., Sharpless, C.M., Reddy, C.M. *Photochemical degradation of polycyclic aromatic hydrocarbons in oil films*. American Chemical Society National Meeting, Philadelphia, PA, August 19, 2008. (Presentation with abstract, best paper award).
38. Plata, D.L., Reddy, C.M., Gschwend, P.M. *Thermal stability of carbon nanotubes: Toward detection in environmental matrices*. American Chemical Society National Meeting, Philadelphia, PA, August 17, 2008. (Presentation with abstract).
39. Nelson, R.K., Summons, R., Hürlimann, M.D., Ventura, G.T., Reddy, C.M. Comprehensive Two-Dimensional Gas Chromatographic Analysis (GC×GC) of Biscadinanes in Crude Oil - A Comparison of Oils from the Ardjuna Basin, Northwest Java; The Seria Oil Field, Brunei; and Two Oils from South Texas, USA. Gordon Research Conference, Environmental Sciences: Water. Holderness School, Plymouth, NH, August 7, 2008. (Presentation with abstract). Invited.
40. Schubotz, F. Nelson, R.K., Ventura, G.T. Reddy, C.M., Henrichs, K.U. Comparative Analysis of Asphaltene-Rich Oils from the Campeche Knolls, Deciphered by Two-Dimensional Gas Chromatography. Gordon Research Conference, Environmental Sciences: Water. Holderness School, Plymouth, NH, August 7, 2008. (Presentation with abstract). Invited.
41. Ventura, G.T., Simoneit, B., Nelson, R.K. Reddy, C.M. Resolving the origin of unresolved complex mixtures in hydrothermal petroleum-novel methods for comprehensive two-dimensional gas chromatography. Gordon Research Conference, Environmental Sciences: Water. Holderness School, Plymouth, NH, August 5, 2008. (poster with abstract).
42. Strapoc, D., Picardal, F., Lin, Y., Henrichs, K.U., Schaperdoth, I., Macalady, J., Turich, C., Mastalerz, M., Schimmelmann, A., Wakeham, S., Reddy, C., Nelson, R.K., Holba, A. Bugs - Biodegradation - Gas A Geochemical Story Behind Ongoing CBM Generation in the Illinois Basin. Gordon Research Conference, Environmental Sciences: Water. Holderness School, Plymouth, NH, August 5, 2008. (poster with abstract).
43. Pangallo, K.C., Reddy, C.M. *Bioaccumulating halogenated organic compounds: natural vs. anthropogenic*. 37<sup>th</sup> Northeast Regional Meeting of the American Chemical Society, Burlington, VT, United States, July 1, 2008. (Presentation with abstract).
44. Flores-Cervantes, D.X. Reddy, C.M., Gschwend, P.M. *Pyrene fluorescence loss measurements of black carbon in seawater*. American Chemical Society Meeting, New Orleans, LA April 8, 2008. (Presentation with abstract).
45. Reddy, C.M., Pangallo, K. *Bioaccumulation of halogenated natural products*. Ocean Sciences Meeting, Orlando, FL March 7, 2008. (Presentation with abstract).
46. Pangallo, K., Reddy, C.M. *Not so conservative? Chlorine and bromine in chemical oceanography?* Ocean Sciences Meeting, Orlando, FL March 7, 2008. (Presentation with abstract).
47. Ventura, G.T., Reddy, C.M., Simoneit, B.R.T., Nelson, R.K. *Resolving the unresolved complex mixture of hydrothermal petroleum*. Ocean Sciences Meeting, Orlando, FL March 7, 2008. (Presentation with abstract).
48. Fitzgerald, W.F., Hammerschmidt, C.R., Engstrom, D.R., Lamborg, C.H., Balcom, P.H., Reddy, C.M. *Modern and historic mercury deposition: insights from dated lake sediments and a varved estuarine core*. Ocean Sciences Meeting, Orlando, FL March 7, 2008. (Presentation with abstract).
49. Reddy, C.M. *Studying an oil spill older than me*. Mount Holyoke College chemistry seminar series, March 4, 2008. South Hadley, MA. (Presentation) Invited.
50. Reddy, C.M. *Alternative fuels. Love Your Earth Day*. Dennis Yarmouth Regional High School. February 14, 2008. South Yarmouth, MA (Presentation) Invited.
51. Reddy, C.M., *Chemistry and weathering of the oil*. Cosco Busan Oil Spill Technical Workshop January 25, 2008. Oakland, CA (Presentation). Invited.
52. Ventura, G.T., Simoneit, B.R., Reddy, C.M., Nelson, R.K., *Resolving the unresolved complex mixtures of hydrothermal petroleum using comprehensive two dimensional gas chromatography-time of flight mass spectrometry*. American Geophysical Union Meeting, December 14, 2007. San Francisco, CA. (Poster with abstract).

53. Valentine, D.L., Reddy, C., Nelson, R.K., Ventura, G.T. *Discovery and description of extinct asphalt volcanoes along the Southern California Margin* American Geophysical Union Meeting, December 13, 2007. San Francisco, CA. (Presentation with abstract).
54. Vinhateiro, N., King, J., Robinson, R., Reddy, C. *Holocene stratigraphy and environmental history of a shallow water embayment in Narragansett Bay, RI*. Estuarine Research Federation, Providence, RI. November 7, 2007 (Poster with abstract).
55. Culbertson, J.B., Valiela, I., Pickart, M., Peacock, E., Reddy, C.M. *Response of salt marsh grass to residual petroleum spilled 38 years ago in Wild Harbor, MA*. Estuarine Research Federation, Providence, RI. November 5, 2007 (Presentation with abstract).
56. Ventura, G.T., Kenig, F., Reddy, C.M., Schieber, J., Nelson, R.K., Dinel, E., Frysinger, G.S. *Molecular evidence of Late Archean archaea and the presence of a subsurface hydrothermal biosphere*. Geological Society of America. October 30, 2007. Denver, CO. (Presentation with abstract). Invited.
57. Slater, G.F., Mills, C.T., Mandernack, K., Reddy, C.M. *Natural abundance  $^{14}\text{C}$  as a tool to constrain subsurface microbial methanogenesis and methanotrophy*. Geological Society of America. October 29, 2007. Denver, CO. (Presentation with abstract).
58. Plata, D. L., Gschwend, P.M., Reddy, C.M. *Coproducts of carbon nanotube synthesis: Emerging contaminants associated with the nanomaterial revolution*. 234<sup>th</sup> ACS National Meeting, Boston, MA, United States, August 22, 2007 (Poster with abstract).
59. Smith, K.J., Reddy, C. M., Hofstetter, T. *Halogenated methyl bipyroles in the Northwestern Atlantic Ocean*. 234<sup>th</sup> ACS National Meeting, Boston, MA, United States, August 22, 2007 (Poster with abstract).
60. Arey, J.S., Nelson, R.K., Reddy, C. M. *Disentangling oil weathering in the environment using GCxGC*. 234<sup>th</sup> ACS National Meeting, Boston, MA, August 20, 2007. (Presentation with abstract). Attended.
61. Gaines, R.B., Frysinger, G.S., Reddy, C.M., Nelson, R. K. *Comprehensive 2-D gas chromatography (GCxGC) in environmental forensics*. 234<sup>th</sup> ACS National Meeting, Boston, MA, August 20, 2007. (Presentation with abstract). Attended.
62. Gustafsson, O., Mandalakis, M., Zencak, Z., Reddy, C.M., Klanova, J., Holoubek, I., Stephanou, E.G., *Distinguishing natural and anthropogenic sources of aliphatic and aromatic hydrocarbons using natural abundance radiocarbon measurements*. 234<sup>th</sup> ACS National Meeting, Boston, MA, August 20, 2007. (Presentation with abstract). Attended.
63. Haddad, R., Reddy, C.M., Nelson, R.K., Xu, L. *Sources of polar organic matter in petroleum-contaminated groundwater: New insights into biogeochemical processes and fate and transport implications*. 234<sup>th</sup> ACS National Meeting, Boston, MA, August 20, 2007. (Presentation with abstract). Attended.
64. Reddy, C.M. *Long-term studies on a 40-year old oil spill*. 234<sup>th</sup> ACS National Meeting, Boston, MA, August 20, 2007. (Presentation with abstract). Invited. Attended.
65. Sylva, S.P., Ball, L., Nelson, R.K., Reddy, C.M. *Compound specific  $^{81}\text{Br}/^{79}\text{Br}$  analysis by capillary gas chromatography multicollector inductively coupled plasma mass spectrometry (GC-MC-ICPMS)*. 234<sup>th</sup> ACS National Meeting, Boston, MA, August 20, 2007. (Presentation with abstract). Attended.
66. Reddy, C.M. *An Environmental chemist's perspective on biodiesel*. Cape Cod Renewable Fuels Partnership Seminar series. April 27, 2007. Eastham, MA. (Presentation). Invited. Attended.
67. Valentine, D.L., Wardlaw, G.D., Franklin, S., Mau, S., Reddy, C.M., Nelson, R.K., Arey, J.S., *Biodegradation of hydrocarbons associated with subsurface reservoirs and natural seepage*. AAPG Annual Meeting, Long Beach, CA. April 3, 2007 (Presentation and abstract). Invited.
68. Reddy, C.M. *Radiocarbon and the last voyage of the whaling ship The Charles W. Morgan: Insights into the sources of halogenated organic compounds in the environment* Virginia Institute of Marine Science Seminar series. January 16, 2007. Gloucester Point, VA. (Presentation). Invited. Attended.
69. Kent, J.M. and Lippsett, L. *Electrons? Paper? Yes: lessons on building a hybrid publication*. American Geophysical Union Meeting, December 15, 2006. San Francisco, CA. (Presentation with

abstract). {Please note that I prepared and presented this talk after Jim Kent left WHOI. Jim and Lonny Lippsett did write the abstract}. Attended.

70. Reddy, C. M. *Who is my audience, what is my message, and know my reporters deadline: How to be more effective communicating with the media.* American Geophysical Union Meeting, December 14, 2006. San Francisco, CA. (Presentation with abstract). Attended.
71. Wardlaw, G. D., Reddy, C. M., Nelson, R. K., Ehrhardt, C. J., Valentine, D. L. (2006). *Petroleum oxidation in marine microcosms by natural microbial assemblages.* American Geophysical Union Meeting, December 12, 2006. San Francisco, CA. (Poster with abstract).
72. Ventura, G.T., Kenig, F., Reddy, C.M., Schieber, J., Nelson, R.K., Frysinger, G.S., Gaines, R.B., *Molecular fossil evidence of Archaea and a deep biosphere during the Late Archean.* American Geophysical Union Meeting, December 11, 2006. San Francisco, CA. (Presentation with abstract). Attended.
73. Reddy, C.M. *Studying the long-term fate of an acute dose of highly-reduced carbon into Buzzards Bay, MA* University of Connecticut, Department of Marine Sciences. December 1, 2006. Avery Point, CT. (Presentation). Invited. Attended.
74. Reddy, C.M. *Coal, Lead, and Chernobyl: The chemical legacy of the Industrial Revolution in New England.* 5<sup>th</sup> Annual Environmental Research Symposium, Bridgewater State College. November 11, 2006. Bridgewater, MA. (Presentation). Invited. Attended.
75. King, J.W., Heil, C., Hubeny, J.B., Lewis, C.F.M., Reddy, C.M. *Environmental magnetic studies in the Great Lakes watershed: Closed lake status for the Great Lakes from 9400-7700 CAL BP*, GSA Annual Meeting, October 23, 2006. (Presentation with abstract).
76. Reddy, C.M. *Biodiesel: Some initial results from its composition and environmental chemistry.* Environmental Engineering and Science Seminar Series, Stanford University, October 6, 2006. Stanford, CA. (Presentation). Invited. Attended.
77. Reddy, C.M. *Sources of halogenated organic compounds in the marine environment: Tales from the last voyage of the Charles W. Morgan* United States Coast Guard Academy Seminar Series. September 6, 2006. New London, CT. (Presentation). Invited. Attended.
78. Flores, D.X., Gschwend, P.M., Reddy, C.M. *Importance of black carbon measurements in seawater samples.* Gordon Research Conference, Environmental Sciences: Water Holderness School, Plymouth, NH, June 28, 2006. (Poster with abstract).
79. Plata, D.L., Reddy, C.M., Gschwend, P.M. *Detecting carbon nanotubes in environmental matrices.* Gordon Research Conference, Environmental Sciences: Water Holderness School, Plymouth, NH, June 27, 2006. (Poster with abstract).
80. Arey, J.S., Nelson, R.K., Nelson, R.K., Wardlaw, G.D., Valentine, D.L. Reddy, C.M. *Disentangling Evaporation and Water-washing Signatures in Weathered Oil Mixtures using Comprehensive Two-Dimensional Gas Chromatography (GCxGC)* Gordon Research Conference, Environmental Sciences: Water. Holderness School, Plymouth, NH, June 27, 2006. (Poster with abstract).
81. Wardlaw, G.D., Reddy, C.M., Nelson, R.K., Valentine, D. *Petroleum Weathering Associated with Hydrocarbon Migration and Seepage, a Case Study from the Santa Barbara Channel, CA*, University of California Toxic Substance Research and Teaching Program, San Diego, CA, April 28, 2006. (Poster with abstract).
82. Peacock, E.E., Reddy, C.M., Hampson, G. *The persistence of petroleum hydrocarbons in two Buzzards Bay salt marshes.* New England Estuarine Research Society, Hull, MA, April 7, 2006, (Presentation with abstract).
83. Flores, D.X., Gschwend, P.M., Reddy, C.M. *Assessing the presence of black carbon in coastal POC.* HUMIC SCIENCE & TECHNOLOGY IX, Northeastern University, Boston, MA, USA, March 22, 2006. (Presentation with abstract).
84. Frysinger, G.S., Gaines, R.B., Reddy, C.M., Nelson, R.K. *Exploring the Cyclic Hydrocarbon Composition of Environmental and Geological Samples.* The Pittsburgh Conference 2006, Orlando, FL, March 16, 2006 with abstract. (Presentation with abstract).

85. Reddy, C.M. *Four decades of research on the West Falmouth oil spill: A review.* Marine and Atmospheric Chemistry Seminar Series, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, March 3, 2006. (Presentation). Invited. Attended.
86. Slater, G.F., Nelson, R.K., Kile, B.M., Reddy, C.M., Eglinton, T.I. *Direct evidence of petroleum biodegradation from <sup>14</sup>C analysis of microbial lipids.* Ocean Sciences Meeting, Honolulu, HI, February 20, 2006. (Poster with abstract). Attended
87. Reddy, C.M., Teuten, E.L., Xu, L. *Molecular-level radiocarbon analysis of halogenated organic compounds.* Ocean Sciences Meeting, Honolulu, HI, February 20, 2006. (Poster with abstract). Attended
88. Hockaday, W.C., Purcell, J., Reddy, C.M., Gschwend, P.M., Hatcher, P.G. *Molecular-level characterization of coastal marine dissolved organic matter.* Ocean Sciences Meeting, Honolulu, HI, February 21, 2006. (Presentation with abstract). Attended
89. Lima, A.L., Reddy, C.M., Eglinton, T.I. *Apportioning sources of pyrogenic polycyclic aromatic hydrocarbons (PAHs) using radiocarbon measurements.* Ocean Sciences Meeting, Honolulu, HI, February 20, 2006. (Presentation with abstract). Attended.
90. White, H.K., Slater, G.F., Eglinton, T.I., Reddy, C.M. *Constraints on the origin and fate of natural and anthropogenic organic compounds in salt marsh sediments from radiocarbon analysis.* Ocean Sciences Meeting, Honolulu, HI, February 20, 2006. (Presentation with abstract). Attended
91. Drenzek, N., Poussart, P., Lima, A.L., Hughen, K., Reddy, C.M., Eglinton, T.I., *Investigating the temporal relationship between the synthesis and sediment incorporation of vascular plant biomarkers using molecular level <sup>14</sup>C analysis.* Ocean Sciences Meeting, Honolulu, HI, February 20, 2006. (Poster with abstract). Attended.
92. Gustafsson, O., Mandalakis, M., Elmquist, M., Zencak, Z., Reddy, C.M., *Radiocarbon-based studies of black carbon and molecular combustion markers in sediments and air.* Ocean Sciences Meeting, Honolulu, HI, February 20, 2006. (Presentation with abstract). Attended.
93. Wardlaw, G.D., Reddy, C.M., Nelson, R.K., Valentine, D. *Petroleum Weathering Associated with Hydrocarbon Migration and Seepage, a Case Study from the Santa Barbara Channel, CA,* American Geophysical Union meeting, San Francisco, CA, December 6, 2005. (Poster with abstract).
94. Teuten, E.L., Reddy, C.M. *Identification of bioaccumulated halogenated natural products.* SETAC North America 26<sup>th</sup> Annual Meeting, Baltimore, MD, November 17, 2005. (Presentation with abstract).
95. Culbertson, J.B., Valiela, I., Peacock, E.E., Reddy, C.M., Carter, A. *Behavioral effects on the salt marsh fiddler crab, Uca pugnax, chronically exposed to petroleum hydrocarbons.* SETAC North America 26<sup>th</sup> Annual Meeting, Baltimore, MD, November 16, 2005. (Presentation with abstract).
96. Brownawell, B., Dick, J., Li, X., McElroy, A., Reddy, C., Nelson, R., *Sources of petroleum hydrocarbons in sediments of the NY/NJ harbor complex.* SETAC North America 26<sup>th</sup> Annual Meeting, Baltimore, MD, November 15, 2005. (Presentation with abstract).
97. Arey, J.S., Nelson, R.K., Xu, L., Reddy, C.M. *Modeling the effects of water-washing and evaporation on petroleum hydrocarbon mixture composition using comprehensive two-dimensional gas chromatography.* SETAC North America 26<sup>th</sup> Annual Meeting, Baltimore, MD, November 15, 2005. (Presentation with abstract).
98. Reddy, C.M. *Halogenated organic compounds in the marine environment: natural or industrial?* Environmental Sciences Seminar, November 2, 2005, University of Massachusetts at Boston, Boston, MA. (Presentation). Invited. Attended.
99. Reddy, C.M. *The chemical legacy of the Industrial Revolution* Chemistry Seminar Series, University of Mary Washington, Fredericksburg, VA October 20, 2005. (Presentation). Invited. Attended.
100. Culbertson, J. B., Valiela, I., Peacock, E. E., Reddy, C., A. Carter. *Continued effects on the salt marsh fiddler crab, Uca pugnax, following long-term petroleum hydrocarbon exposure.* Estuarine Research Federation 18<sup>th</sup> biennial conference, October 18, 2005. (Presentation with abstract).

101. Reddy, C.M. *Halogenated organic compounds in the marine environment: natural or industrial?* Aquatic Science Seminar, October 5, 2005, Massachusetts Institute of Technology, Cambridge, MA. (Presentation). Invited. Attended.