

CURRICULUM VITAE

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EDUCATION:

- B.Sc.** Chemistry (minor in mathematics), Rhode Island College, Providence, RI, 1992
Ph.D. Chemical Oceanography, Graduate School of Oceanography, University of Rhode Island, Kingston, RI, 1997
Executive Certificate. Management and Leadership, Sloan School of Management, Massachusetts Institute of Technology, 2010
Certificate. *Leadership in the 21st Century: Chaos, Conflict, and Courage*, Kennedy School of Government, Harvard University, 2008

PROFESSIONAL EXPERIENCE:

- Chemist, ULTRA Scientific, North Kingstown, RI, 1992
- Environmental Chemist, CEIMIC Corporation, Narragansett, RI, Mar. 1993 to June 1994
- Research graduate 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, UC 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 Oct 2010
- Manager, WHOI Small Boats Fleet, 2008 to 2014
- Director, Coastal Ocean Institute, WHOI, Aug. 2008 to March 2015
- Senior Scientist, Dept. of Marine Chemistry and Geochemistry, WHOI, Oct. 2010 to present

GRADUATE ADVISOR: Professor James G. Quinn, University of Rhode Island
POST-DOCTORATE ADVISOR: Dr. Timothy I. Eglinton, Woods Hole Oceanographic Institution, (now at ETH-Switzerland)

INTERESTS:

- Chemical oceanography
- Marine pollution
- Marine natural products
- Communicating science and how science works

AWARDS AND HONORS:

2018 American Geophysical Union's Ambassador Award
2018 Fellow, American Geophysical Union

- 2016 First runner-up for top manuscript (Environment technology) published in *Environmental Science and Technology* (Gros *et al.* 2016)
- 2016 Stanley Watson Chair in Oceanography at WHOI
- 2014 Fellow, The Geochemical Society
- 2014 C.C. Patterson Award; awarded internationally for leading an innovative breakthrough of fundamental significance in environmental geochemistry, particularly in service to society
- 2013 R.A. Glenn Award; awarded to the most innovative and interesting paper in fuel science
- 2011 Best Paper for *Marine Pollution*. Moret Férguson *et al.* 2010
<https://www.sciencedirect.com/science/article/pii/S0025326X12000987?via%3Dihub>
- 2011 University of Rhode Island Distinguished Achievement Award
- 2011 Kavli Fellow
- 2010 Kavli Fellow
- 2009 Kavli Fellow; awarded by the US National Academy of Sciences; 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 Rhode Island College Athletic Alumnus award
- 2006 Fellow, Aldo Leopold Leadership Program (trains academic environmental scientists to communicate effectively to non-scientists)
- 2003 Office of Naval Research Young Investigator Program awardee
- 1998 Rhode Island College Alumni Honor Roll award
- 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 (Governor of Rhode Island) Award; 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)
- Guest lecturer for *Elements of Modern Oceanography*, MIT/WHOI Joint Program (Fall 2016)
- 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 (Summer 2008, Fall 2010; Fall 2013; Fall 2017)
- Co-instructor (with Lonny Lippsett), *Communicating Science - A workshop for WHOI postdocs*, WHOI post-doctoral association (Short course, Spring 2009)
- Advised or co-advised Ph.D. students: Ana Lima (2004 w/Tim Eglinton); Helen White (2005 w/Tim Eglinton); Desiree Plata (2009 w/Phil Gschwend); Kristin Pangallo (2009); and Karin Lemkau (2012)

- Chair, Eoghan Reeves; Ph.D. defense (2010)
- Chair, Elizabeth Halliday; Ph.D. defense (2012)
- Thesis committee for Ph.D. students: Amy Marie Accardi (2003), Kristen Whalen (2008), Eric Montie (2006), Laura Hmelo (2010), and Alexandra Patricia Teaciuc (2015)

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, 05/10-08/10)
- Jonas Gros, École Polytechnique Fédérale de Lausanne, Switzerland (Guest Student, 03/12-06/12)
- Jagos Radovic, Institute of Environmental Diagnosis and Water Studies (Guest student, 05/12-8/12)
- Andrew Beir, Buckingham Browne & Nichols School (volunteer, 06/10-08/10)
- Bryan James, New Canaan High School, CT (volunteer, 06/11-08/11)
- Blake Hallisey, Greenwich High School, CT (volunteer, 08/11-08/11)
- Thomas Rugh, Cal State San Luis Obispo, CA (volunteer, 06/14-08/14)
- Charlotte Main, Southampton, UK (Guest student, 09/12-12/12)
- Benjamin Freiberg, Skidmore College (Guest student, 06/13-07/13; 06/14-08/14)
- Michael McNulty, Boston College (Guest student, 07/13-08/13; 06/14-08/14)
- Ferdinand Oberle, MARUM (Guest student, 06/13-08/13)
- Hector Koolen, Campinas University, Brazil (Guest student, 05/14 to 11/14)
- Andre Henrique, Federal University of Ceara, Brazil (Guest student, 03/15 to 09/15)
- Hilary Green, UNC Chapel Hill (Guest student, 06/16-08/16)
- Connor Love, UC Santa Barbara (Guest student, 05/17 to 08/17)
- Rose Rossell, Appalachian State (Guest student, 05/17 to 06/17)
- Eleanor Arrington, UC Santa Barbara (Guest student, 05/17 to 06/17)
- Cassia Armstrong, Trinity College (Guest student, 06/17 to 08/17)
- Julia Jackson, Dartmouth College (Guest student, 01/17 to 4/17)
- Mohmaded El-Waracky, McMaster College (06/18 to 07/18)
- Brian Forst, Harvard University (volunteer, 07/13-08/13)
- Connor Love, UC Santa Barbara (volunteer, 07/18-present)
- Chalique Umasangaji, University of Aix-Marseilles (Fulbright Fellow, 9/16-12/16)
- Ana Lima, MIT/WHOI Ph.D. student (Co-advisor, Defended March 12, 2004)
- Helen White, MIT/WHOI Ph.D. student (Co-advisor, Defended December 15, 2005)
- Desiree Plata, MIT/WHOI Ph.D. student (Co-advisor, Defended April 24, 2009)
- Kristin Pangallo, MIT/WHOI Ph.D. student (Advisor, Defended July 10, 2009)
- Karin Lemkau, MIT/WHOI Ph.D. student (Advisor, Defended April 12, 2012)

- Anna Walsh, MIT/WHOI Ph.D. student (Co-Advisor; 09/18-present)
- Gregory F. Slater, Post-doctoral scholar/investigator (9/01 to 9/03)
- Emma L. Teuten, Post-doctoral investigator (7/03 to 11/05)
- J. Samuel Arey, Post-doctoral investigator (11/04 to 8/05)
- G. Todd Ventura, Post-doctoral investigator (10/06 to 12/08)
- Ananya Sen Gupta, Post-doctoral investigator (1/11 to 01/12)
- Karin L. Lemkau, Post-doctoral investigator (7/12 to 02/13)
- Christoph Aeppli, Post-doctoral investigator (6/11 to 11/13)
- Robert F. Swarthout, Post-doctoral investigator (04/14-7/30/15)
- Collin P. Ward, Post-doctoral investigator (08/16-05/18)
- Ulrich Hanke, Post-doctoral investigator (02/18-08/19)
- Ulrich Hanke (co-advised with Mark Kurz), Post-doctoral investigator (09/19 to 12/2020)
- Michael G. Mazzotta (co-advising with Collin Ward), Post-doctoral investigator (03/20 to present)
- Taylor Nelson (co-advising with Collin Ward), Post-doctoral investigator (07/20 to present)

PARTICIPATION IN EDUCATION ELSEWHERE:

- Mentored undergraduates in their special projects 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)
- Guest lecturer for *Science News Writing*, Boston University's Science Journalism graduate program (Fall 2010)
- Guest lecturer for *Marine Biogeochemistry*, Boston University (Spring 2011)
- Guest lecturer for *Natural Products*, Western Washington University (Spring 2011)
- Guest lecturer for *Topics in Energy*, US Naval War College, Newport, RI (Spring 2011)
- Guest lecturer for *Marine Pollution*, US Coast Guard Academy, New London, CT (Fall 2011, 2012, Spring 2014, 2015, 2016; 2017; 2018)
- Guest lecturer for *Concepts in Contemporary Science*, Berklee College of Music, Boston, MA (Spring 2012)
- Guest lecturer for *Energy and the Ocean Environment*, Sea Education Association, Falmouth, MA (Spring 2012, 2013, 2014)
- Guest lecturer for general science class, St. Philomena School, Portsmouth, RI (Spring 2012)
- Guest lecturer for *Translating Science*, Wesleyan University, Middletown, CT (Spring 2013)
- Guest lecturer for NOAA's "Science of Oil Spills" course, NOAA, Falmouth, MA (Fall 2013)
- Guest lecturer for *Molecular Science: Theory and Methods*, Worcester Polytechnic Institute, Worcester, MA (Fall 2014)
- Guest lecturer for NOAA's "Science of Oil Spills" course (via webinar from WHOI to Seattle, WA), Falmouth, MA (Spring 2016)

- Guest lecturer for Marine Biological Laboratory's *Semester in Science*, Woods Hole, MA (Fall 2019)
- Served on the Ph.D. committees outside of WHOI: Penny Higgins (Univ. 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); Andrew Wozniak (Virginia Institute of Marine Sciences); Jonas Gros (EPFL); Birgit Nabbefeld (outside reader, Curtin University); Konstantinos Kotzakoulakis (examiner, Macquarie University)

PROFESSIONAL RESPONSIBILITIES:

- Reviewed manuscripts for *Analytical Chemistry*; *Analytical and Bioanalytical Chemistry*; *Applied Energy*; *Applied and Environmental Microbiology*; *BioScience*; *CLEAN-Soil, Air, and Water*; *Environmental Forensics*; *Environmental Science and Technology*; *Estuaries*; *Geochim. Cosmochim. Acta*, *JGR Atmospheres*; *JGR Biogeosciences*; *Journal of the American Oil Chemists' Society*; *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*; *Science, 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?* University of Massachusetts, Dartmouth. Feb. 16, 2001
- 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
- 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

- Organizer 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*, 2008-2011
- 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, March 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
- 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 President's 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
- Briefed the President's National Commission on the BP *Deepwater Horizon* oil spill and offshore drilling. Washington, DC, August 19, 2010
- Academic liaison at the Unified Area Command of the *Deepwater Horizon* Disaster, New Orleans, LA, September 2010
- Panelist in *Sense about Science*, "Standing up for Science media workshop" Cambridge, MA, October 2010
- Panelist for the Consortium for Ocean Leadership's Marine Geoscience Leadership Symposium, "Science informing policy: Gulf Oil Spill", Washington, DC, April 21, 2011
- Moderator in "*Oil Spill Tracking Technology*", Gulf Oil Spill SETAC meeting, Pensacola, FL, April 26, 2011
- Briefed Congressman Keating (MA) on basic science, alternative fuels, and oil spills, Washington, DC, May 11, 2011
- Panelist in "*Deepwater Horizon* panel; oil weathering and fate", SETAC meeting, Boston, MA, November 15, 2011
- Chair, Organizing committee for the *Kavli Frontiers of Science Symposium*, 2011
- Briefed Congresswoman Castor (FL) and Congressman Markey (MA) on restoring the Gulf of Mexico, Washington, DC, December 6, 2011
- Briefed Congressman Keating (MA) on restoring the Gulf of Mexico, Washington, DC, December 13, 2011

- Briefed former Congressman Taylor (Miss) on restoring the Gulf of Mexico, Bay St. Louis, June 21, 2012
- Dissertations in Chemical Oceanography (DISCO), invited alumnus, Kauai, Hawaii, October 7-11, 2012
- Briefed the Honorable Jane Lubchenco, Director of NOAA, on the *Deepwater Horizon* oil spill, Silver Spring, MD, November 12, 2012
- Briefed Deputy staff director of the House Natural Resources committee on current activities at the *Deepwater Horizon* site, Washington, DC, November 16, 2012
- Briefed Senator Kerry's (MA) office on Arctic oil spills, Washington, DC, November 16, 2012
- Briefed Congressman Keating's (MA) office on oil spills, Washington, DC, November 16, 2012
- Briefed majority staff of the House Appropriations Commerce-Science-Justice Subcommittee on oil spills, Washington, DC, November 28, 2012
- Briefed minority staff of the House Appropriations Commerce-Science-Justice Subcommittee on oil spills, Washington, DC, November 28, 2012
- Session chair for "*Chemical methods for comprehensive oil spill analysis*", Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA, January 22, 2013
- Reviewed NAS report, *Effects of the Deepwater Horizon Mississippi Canyon-252 Oil Spill in the Gulf of Mexico*
- Briefed US Senator Jack Reed's (RI) staff on the progress of the *Deepwater Horizon* disaster Washington, DC, February 6, 2013
- Met with US Senator Begich's (AK) staff to update about oil spills in the Arctic, Washington, DC, March 14, 2013
- Met with US Senator Murkowski's (AK) staff to discuss about oil spills in the Arctic, Washington, DC, March 14, 2013
- Provided written testimony, as per request, by Senator Begich (Alaska) for a hearing held by the Senate Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard on "Arctic offshore petroleum drilling season and maritime safety", March 27, 2013
- Presented oral and written testimony to the Rhode Island Senate Committee on environmental and agriculture on plastic legislation. Providence, RI, April 3, 2013
- Session organizer for "*Beyond n-alkanes and PAHs: What have we learned about petroleum geochemistry since the Deepwater Horizon?*", American Chemical Society national meeting, New Orleans, LA, April 10, 2013
- Briefed National Academy of Science Gulf Program Advisory Group via teleconference, October 2, 2013
- Session organizer for "*Fate and transport of oil spill residues and their impacts on nearshore coastal environments*" Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL, January 28, 2014
- Panelist for 16th Annual Northeastern Student Chemistry Research Conference and Career Symposium, Boston University, Boston, MA, April 13, 2014
- Workshop leader and panelist, "Microplastics and human health" workshop, National Academy of Science, Washington, DC, April 22, 2014
- Briefed staffers from House Science, Space and Technology Committee, Research and Technology Subcommittee on *Deepwater Horizon* disaster, Washington, D.C., August 27, 2014
- Briefed staffers from House Transportation and Infrastructure Committee, Coast Guard subcommittee, Washington, DC, August 27, 2014
- Member of the NOAA SAB Restoration Science Program Advisory Working Group, 2014 to 2017.
- Testified on the lessons learned on the 5th anniversary of the *Deepwater Horizon* disaster for the Senate Committee on Science, Commerce, and Technology, Washington, DC, April 20, 2015
- Board member National Academy of Science Gulf Studies Board, 2015-2017
- Co-led "Participation of academia in oil spills" for the USCG Sector Southeastern New England PREP 2016 Cape and Buzzards Bay Response Workshop, New Bedford, MA, March 11, 2016

- Discussion member of “Scene 2” in Eve Ensler’s *In the Body of the World*, American Repertory Theater, Cambridge, MA, May 28, 2016
- Discussion leader for *The Anthropocene*, Organic Geochemistry Gordon Conference, Holderness School, Holderness, NH, July 28, 2016
- Organizing committee for COME ABOARD! Chemical Oceanography Meeting: A Bottom-up Approach to Research Directions, University of Hawaii, Honolulu, HI, October 14 to 16, 2016.
- Session co-chair, “*Integrating Science into Response*”, International Oil Spill Conference, Long Beach, CA, May 16, 2017
- Worked as a scientific liaison to state, Federal, and local officials as well as the community on the 2018 Woods Hole “*Ocean King*” oil spill
- Hosted and co-organized a “Town Hall” community update on the “*Ocean King*” spill; January 25, 2018
- Organizer and session chair for the George Olah Award Ceremony at the American Chemical Society meeting, New Orleans, LA, March 21, 2017
- Provided analytical assistance and report to NOAA and US Coast Guard for oil sheen event at the Woods Hole Steamship Authority, November 19, 2018
- Briefed staff from US Congresswomen Katherine Clark (MA) and Eddie Bernice Johnson (TX; Chair of the House Science Committee), Woods Hole, June 25, 2019
- Briefed staffers for the Inspector General of the EPA on best practices in plastic research, Woods Hole, February 26, 2020
- Provided over 300 interviews to the print media, radio, and television on environmental science in the past several years
- Editorial board for *Environmental Forensics*, 2001-present
- Editorial board for *Marine Environmental Research*, 2003-2007
- Editorial board for *Environmental Research Letters*, 2014-2015
- American Chemical Society Expert, 2016-present

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.

HOS Sweetwater (August 2011) Sampling sediments in the Gulf of Mexico.

R/V Atlantis (September 2011) Sampling of water and sediments off the coast of California.

R/V Atlantis (June 2015; co-Chief Scientist) Sampling of naturally seeped oil in the Gulf of Mexico (DSV *Alvin* dives #4792 and 4797).

Additional fieldwork

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.

Gulf coast (LA, MI, AL, and FA; 2010 to present) >25 visits following the *Deepwater Horizon* (beach surveys, small boats, and overflights).

Pearl Harbor, HI (July/August 2018) Collection of oil residues around the USS *Arizona* Memorial.

Santa Barbara, CA (September 2018) ROV surveys around Platform Holly.

Santa Barbara, CA (July 2019) Kayak-based sampling along coastal Santa Barbara

In addition, I have participated in many one-day cruises for the collection of water, sediments, and biota in Narrow River, Narragansett Bay, New Bedford Harbor, Buzzards Bay, Woods Hole, coastal California, and in a variety of local rivers and lakes in New England.

In the news (100s of interviews, below Oct. 2019 to present)

1. “Ein Schreckensfund auf Kaliforniens Meeresboden” (A Horror Find on California’s Seabed), Neue Zürcher Zeitung, May 3, 2021
2. “Over 25,000 DDT-Tainted Barrels Are Discovered on Seafloor Off California”, NY Times, 4/28/2021.
3. “There Are Massive Chemical Dumps in The Gulf”, HuffPost, 4/22/21.
4. “Mauritius oil spill: questions mount over ship fuel safety”, Climate Change News, 2/19/21.
5. “Five famous environmental disasters where humans and nature healed together”, Popular Science, 2/16/21.
6. “Bleached Halloween pumpkin post sparks vitriolic, misinformed backlash”, SNOPEs, 11/13/20.
7. “Should You DIY Home Cleaning Supplies to Kill COVID-19 and Flu Viruses?”, Every-dayhealth.com, 10/13/20.
8. “Next week, foam containers for carryout food will be banned throughout Maryland. Not everyone is happy.” Baltimore Sun, 9/25/20.
9. “What did we learn from the Deepwater Horizon disaster?” C&EN, 9/13/20.
10. “Don’t use Brakleen to clean everything in your shop”, Road and Track, 7/29/20.
11. “As if Yemen needed more woes, a decrepit oil tanker threatens disaster”, NY Times, 7/17/20.
12. “Scientists discover a new material for cleaning up oil spills”, NPR, 7/16/20.
13. “Those plastic stats are trash”, WBUR (Boston NPR), 7/3/20.
14. “Canadian Arctic awash in microplastics”, Globe and Mail, 6/20/20.
15. “Deepwater Horizon: What we learned from worst oil spill ever.” Christian Science Monitor, 6/10/20.
16. “PepsiCo pulls contentious BVO from Mountain Dew but it isn’t a flame retardant”, USA Today, 5/28/20.
17. “Deepwater Horizon disaster fueled a Gulf science bonanza”, WIRED, 4/22/20.
18. “LEGO Bricks May Survive in the Oceans for 1,300 Years”, Newsweek, 3/17/20.
19. “Keystone pipeline spills 9,120 barrels of oil in Dakota Wetlands”, EOS, 11/8/19.
20. “Thousands of barrels of oil are contaminating Brazil’s pristine coastline”, *Washington Post*, 10/22/19.
21. “In the sea, not all plastic lasts forever”, NY Times, 10/11/19.

PUBLICATIONS

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 an *, †, and ‡, respectively.

Submitted

199. Nelson, T. †, Reddy, C., Ward, C. (2021). Product formulation controls the impact of biofouling on consumer plastic photochemical fate in the ocean. Submitted to *Environmental Science & Technology*.
198. Hanke, U.M. †, Gagnon, A.R., Reddy, C.M., Lardie Gaylord, M.C., Cruz, A.J., Galy, V., Hansman, R., Kurz, M.D., NOSAMS Laboratory (2020). Sequential thermal analysis of complex organic mixtures: procedural standards and advanced cleaning of CO₂ yields. Submitted to *Radiocarbon*.
197. Ventura, G.T., Bentley, J., Dalzell, C., Walters, C., Peters, C., Mennito, A., Nelson, R., Seewald, J., Reddy, C.M., Sievert, S. (2020). Archaeal lipid diversity, alteration, and preservation at Cathedral Hill, Guaymas Basin, Gulf of California. Submitted to *Geochimica Cosmochimica Acta*.

Published

196. O'Neil, G.W., Gale, A.C., Nelson, R.K., Dhaliwal, H., Reddy, C.M. (2021). Unusual Shorter-Chain C₃₅ and C₃₆ Alkenones from Commercially Grown *Isochrysis* sp. Microalgae. *Journal of the American Oil Chemists' Society*. Published online March 24, 2021, <https://doi.org/10.1002/aocs.12481>.
195. Dalzell, C.J., Ventura, G.T., Walters, C.C., Nelson, R.K., Reddy, C.M., Seewald, J.S., Sievert, S.M. (2020). Hydrocarbon transformations in sediments from the Cathedral Hill hydrothermal vent complex at Guaymas Basin, Gulf of California – Achemometric study of shallow seep architecture. *Organic Geochemistry*. **152** (2021) 104173 <https://doi.org/10.1016/j.orggeochem.2020.104173>
194. Bryant, W.L., Camilli, R., Fisher, G.B., Overton, E.B., Reddy, C.M., Reible, D., Swarthout, R.F. and Valentine, D.L. (2020). Harnessing a decade of data to inform future decisions: Insights into the ongoing hydrocarbon release at Taylor Energy's Mississippi Canyon Block 20 (MC20) site. *Marine Pollution Bulletin*. **155**: 110056.
193. Love, C.R. †, Arrington, E.C., Gosselin, K.M., Reddy, C.M., Van Mooy, B.A.S., Nelson, R.K., Valentine, D.L. (2020). Microbial production and consumption of hydrocarbons in the global ocean. *Nature Microbiology*. **6**, 489–49
192. Ward, C.P., Reddy, C.M. (2020), We need better data about the environmental persistence of plastic goods. *PNAS*, **117**, 14618-14621.
191. Xu, L., Roberts, M.L., Elder, K.L., Kurz, M.D., McNichol, A.P., Reddy, C.M., Ward, C.P. and Hanke, U.M. (2020). Radiocarbon in dissolved organic carbon By UV oxidation: Procedures and blank characterization at NOSAMS. *Radiocarbon*. Volume 63 63(1), 357 -374.
190. Cheng, F., Tompsett, G.A., Alvarez, D.V.F., Romo, C.I., McKenna, A.M., Niles, S., Nelson, R.K., Reddy, C.M., Granados-Focil, S., Zhang, R., Timko, M. (2020). Metal oxide supported Ni-impregnated bifunctional catalysts for controlling char formation and maximizing energy recovery during catalytic hydrothermal liquefaction of food waste. *Sustainable Energy Fuels*, **5**, 941-955.
189. Landrigan, P.J., Stegeman, J.J., Fleming, L.E., Allemand, D., Anderson, D.M., Backer, L.C., Brucker-Davis, F., Chevalier, N., Corra, L., Czerucka, D., Dechraoui Bottein, MY, Demeneix, B., Depledge, M., Deheyn, D.D., Dorman, C.J., Fénichel, P., Fisher, S., Gaill, F., Galgani, F., Gaze, W.H., Giuliano, L., Grandjean, P., Hahn, M.E., Hamdoun, A., Hess, P., Judson, B., Laborde, A., McGlade, J., Mu, J., Mustapha, A., Neira, M., Noble, R.T., Pedrotti, M.L., Reddy, C., Rocklöv, J., Scharler, U.M., Shanmugam, H., Taghian, G., van de Water, J.A.J.M., Vezzulli, L., Weihe, P., Zeka, A., Raps, H., Rampal, P. (2020). Human health and ocean pollution. *Annals of Global Health* **86**, 1-64.

188. Kujawinski, E.B, Reddy, C.M., Rodgers, R.P., Thrash, J.C., Valentine, D.L., White, H.K. (2020). The first decade of scientific insights from the Deepwater Horizon oil release. *Nature Reviews Earth & Environment* **1**, 237–250.
187. Huynh, A., Maktabi, B., Reddy, C.M., O’Neil, G.W., Chandler, M., Baki, G. (2019). Evaluation of alkenones, a renewably sourced, plant-derived wax as a structuring agent for lipsticks. *International Journal of Cosmetic Science* **42**, 146-155.
186. McIntosh, K., Sarver, J., Mell, K., Terrero, D.J., Ashby, C.R., Reddy, C., O’Neil, G., Tiwari, A. (2020). Oral and dermal toxicity of alkenones in Sprague Dawley rats. *Frontiers in Bioscience, Landmark* **25**, 817-837.
185. Ward, C.P., Armstrong, C., Walsh, A. *, Jackson, J., Reddy, C.M. (2019). Sunlight converts polystyrene to carbon dioxide and dissolved organic carbon. *Environmental Science & Technology Letters* **6**, 679-674.
184. Hanke, U.M. †, Lima-Braun, A.L., Eglinton, T.I., Donnelly, J.P., Galy, V., Poussart, P., Hughen, K., McNichol, A.P., Xu, L., Reddy, C.M. (2019). Significance of perylene for source allocation of terrigenous organic matter in aquatic sediments. *Environmental Science and Technology* **53**, 8244-8251.
183. White, H.K., Marx, C.T., Valentine, D.L., Sharpless, C., Aeppli, C., Gosselin, K.M., Kivenson, V., Liu, R., Nelson, R. K., Sylva, S.P., Reddy, C.M. (2019). Examining inputs of biogenic and oil-derived hydrocarbons in surface waters following the Deepwater Horizon oil spill. *ACS Earth and Space Chemistry* **3**, 1329-1337.
182. Ward, C.P, Sharpless, C. M., Valentine, D.L, Aeppli, C., Sutherland, K.M., Wankel, S.D., Reddy, C.M. (2019). Oxygen isotopes ($\delta^{18}\text{O}$) trace photochemical hydrocarbon oxidation at the sea surface. *Geophysical Research Letters* **46**, 6745-6754.
181. Nelson, R.K. Gosselin, K.M., Hollander, D.J., Murawski, S.A., Gracia, A., Reddy, C.M., Radovic, J. (2019). Exploring the complexity of two iconic crude oil spills in the Gulf of Mexico (*Ixtoc I* and *Deepwater Horizon*) using comprehensive two-dimensional gas chromatography (GC \times GC). *Energy and Fuels* **33**, 3925-3933.
180. Kivenson, V., Lemkau, K.L., Pizarro, O.P., Yoerger, D.R., Kaiser, C., Nelson, R.K., Carmichael, C., Paul, B., Reddy, C.M., Valentine, D.L. (2019). Ocean dumping of containerized DDT waste was a sloppy process. *Environmental Science and Technology* **53**, 2971-2980.
179. Lemkau, K.L., Reddy, C.M., Carmichael, C.A., Aeppli, C., Swarthout, R.F., White, H.K. (2019). Hurricane *Isaac* brings more than oil ashore: Characteristics of beach deposits following the *Deepwater Horizon* spill. *PLoSone*. March 18, 2019. <https://doi.org/10.1371/journal.pone.0213464>.
178. Huynh, An, Abou-Dahech, M.S., Reddy, C.M., O’Neil, G.W., Chandler, M., Baki, G. (2019). Alkenones, a renewably sourced, biobased wax as an SPF booster for organic sunscreens. *Cosmetics*, **6**, 11.
177. Santos, F.R., Martins, D.A., Morais, P.C.V., Oliveira, A.H.B., Gama, A.F., Nascimento, R.F., Choi-Lima, K.F., Moreira, L.B., Abessa, A.M.S., Nelson, R.K., Reddy, C.M., Swarthout, R., Cavalcante, R.M. (2019). Influence of anthropogenic activities and risk assessment on protected mangrove forest using traditional and emerging molecular markers (Ceará Coast, Northeastern Brazil). *Science of the Total Environment* **656**, 877-888.
176. Lima, M.F.B., Fernandes, G.M., Oliveira, A.H.B., Morais, P.C.V., Elissandra, V.M., Santos, F.R., Nascimento, R.F., Swarthout, R.F., Nelson, R.K., Reddy, C.M., Cavalcante, R.M. (2019). Emerging and traditional organic markers: Baseline study showing the influence of untraditional anthropogenic activities on coastal zones with multiple activities (Ceará Coast, Northeastern Brazil). *Marine Pollution Bulletin* **139**, 256-262.

175. O'Neil, G., Yen, T., Leitch, M., Wilson, G., Brown, E., Rider, D., Reddy, C. (2019). Alkenones as renewable phase change materials. *Renewable Energy* **134**, 89-94.
174. Green, H.S. [†], Fuller, S.A., Meyer, A.W., Joyce, P.S., Aeppli, C., Nelson, R.K., Swarthout, R.F., Valentine, D. L., White, H.K., Reddy, C.M. (2018). Pelagic tar balls collected in the North Atlantic Ocean and Caribbean Sea from 1988 to 2016 originate from natural and anthropogenic sources. *Marine Pollution Bulletin* **137**, 352-359.
173. Forsythe, J., Kenyon-Roberts, S., O'Donnell, M., Betancourt, S., Masurek, N., Gisolf, A., Bennett, B., Nelson, R.K., Canas, J., Reddy, C.M., Peters, K.E., Zuo, J.Y., Mullins, O.C. (2018). Biodegradation and water washing in a spill-fill sequence of oilfields. *Fuel* **237**, 707-719.
172. McIntosh, K., Smith, A., Young, L.K., Leitch, M.A., Tiwari, A.K., Reddy, C.M., O'Neil, G. W., Liberatore, M.W., Chandler, M., Baki, G. (2018). Alkenones as a promising green alternative for waxes in cosmetics and personal care products. *Cosmetics* **5**, 34.
171. Fitzgerald, W., Engstrom, D., Hammerschmidt, C., Lamborg, C., Balcom, P., Lima-Braun, A., Bothner, M., Reddy, C.M. (2018). Global and local sources of mercury deposition in coastal New England reconstructed from a multi-proxy, high-resolution, estuarine sediment record. *Environmental Science and Technology* **52**, 7614-7620.
170. Aeppli, C., Swarthout, R. [†], O'Neil, G., Katz, S., Nabi, D., Ward, C. [†], Nelson, R., Sharpless, C., Reddy, C.M. (2018). How persistent and bioavailable are oxygenated *Deepwater Horizon* oil transformation products? *Environmental Science and Technology* **52**, 7250-7258.
169. Ward, C. [†], Armstrong, C. [†], Conmy, R., French-McKay, D., Reddy, C.M. (2018). Photochemical oxidation reduced the efficacy of aerial dispersants applied in response to the *Deepwater Horizon* oil spill. *Environmental Science and Technology Letters* **5**, 226-231. **Editor's choice.**
168. Chen, H., Nelson, R.K., Swarthout, R.F. [†], Shigenaka, G., de Oliveira, A.H.B. [†], Reddy, C.M., McKenna, A.M. (2018). Detailed compositional characterization of the 2014 Bangladesh furnace oil released into the World's largest mangrove forest. *Energy and Fuels* **32**, 3232-3242.
167. Ward, C. [†], Sharpless, C., Valentine, D., French-McKay, D., Aeppli, C., White, H., Rodgers, R., Gosselin, K., Nelson, R., Reddy, C. (2018). Partial photochemical oxidation was a dominant fate of *Deepwater Horizon* surface oil. *Environmental Science and Technology* **52**, 1797-1805.
166. Bostic, J.T., Aeppli, C., Swarthout, R.F. [†], Reddy, C.M., Ziolkowski, L. (2018). Ongoing biodegradation of *Deepwater Horizon* oil in beach sands: Insights from tracing fossil carbon into microbial biomass. *Marine Pollution Bulletin* **126**, 130-136.
165. Bagby, S.C., Reddy, C.M., Aeppli, C., Fisher, G.B., Valentine, D.L. (2017). Persistence and biodegradation of oil at the ocean floor following Deepwater Horizon. *Proceedings of the National Academy of Sciences* **114**, E9-E18
164. Hanke, U., Reddy, C.M., Braun, A.L.L., Coppola, A. I., Haghypour, N., McIntyre, C.P., Wacker, L., Xu, L., McNichol, A.P., Abiven, S., Schmidt, M.W.I., Eglinton, T.I. (2017). What on Earth have we been burning? Deciphering sedimentary records of pyrogenic carbon. *Environmental Science and Technology* **51**, 2972-12980.
163. Fassbender, A. and many others. (2017). Perspectives on chemical oceanography in the 21st century: Participants of the COME ABOARD meeting examine aspects of the field in the context of 40 years of DISCO. *Marine Chemistry* **196**, 181-190.
162. Gros, J. [†], Socolofsky, S.A., Dissanayake, A.L., Jun, I., Zhao, L., Boufadel, M.C., Reddy, C.M., Arey, J.S. (2017). Dynamic behavior of petroleum in the sea during the *Deepwater Horizon* accident. *Proceedings of the National Academy of Sciences* **114**, 10065-10070.

161. O'Neil, G., Williams, J., Craig, A., Nelson, R., Gosselin, K., Reddy, C. (2017). Alkenones as a renewable carbon feedstock: Accessing monomers, surfactants, and the Queen Bee substance by acrylate cross-metathesis. *Journal of American Oil Chemists' Society* **94**, 831-840.
160. Forsythe, J.C., Martin, R. De Santo, I., Tyndall, R. Arman, K. Pye, J., De Nicolais, N. Nelson, R.K., Pomerantz, A.E., Kenyon-Roberts, S., Zuo, J.Y., Reddy, C.M., Peters, K.E., Mullins, O.C. (2017). Integrating comprehensive two-dimensional gas chromatography and downhole fluid analysis to validate a spill-fill sequence of reservoirs with variations of biodegradation, water-washing and thermal maturity. *Fuel* **191**, 538–554.
159. O'Neil, G.W. Nelson, R.K., Wright, A., Reddy, C.M. (2016). A one-pot/single-analysis approach to substrate scope investigations using comprehensive two-dimensional gas chromatography (GC×GC). *Journal of Organic Chemistry* **81**, 3533–3541.
158. O'Neil, G.W., Williams, J. R., Knothe, G., Burlow, N.P., Reddy, C.M. (2016). Decolorization improves the fuel properties of algal biodiesel from *Isochrysis* sp. *Fuel* **170**, 229-234.
157. Damavandi, H.G., Sen Gupta, A. †, Nelson, R.K., Reddy, C.M. (2016). Interpreting comprehensive two-dimensional gas chromatography using peak topography maps with application to petroleum forensics. *Chemistry Central Journal* **10**: 75 (28 November 2016).
156. Tarr, M.A., Ray, P.Z., Overton, E.B., Olson, G.M., Adhikari, P.L., Reddy, C.M. (2016). Weathering of oil spilled in the marine environment. *Oceanography* **29**, 126-135.
155. White, H.K., Conmy, R., MacDonald, I.R., Reddy, C.M. (2016). Oil detection following the Gulf of Mexico Deepwater Horizon oil spill. *Oceanography* **29**, 76-87.
154. Hoelzer, K., Sumner, A., Karatum, O., Nelson, R.K., Drollette, B., O'Connor, M., D'Ambro, E., Getzinger, G., Ferguson, P.L., Reddy, C.M., Elsner, M. S, Plata, D. L. (2016). Indications of transformation products from hydraulic fracturing additives in shale gas wastewater. *Environmental Science and Technology* **50**, 8036-8048.
153. Beaudoin D.J., Carmichael C.A., Nelson R.K., Reddy C.M., Teske A.P., Edgcomb V.P. (2016). Impact of protists on a hydrocarbon-degrading bacterial community from deep-sea Gulf of Mexico sediments: A microcosm study. *Deep Sea Research* **129**, 350–359.
152. Gros, J. †, Reddy, C.M., Nelson, R.K., Socolofsky, S., Arey, J.S. (2016). Gas-liquid-water partitioning and fluid properties of petroleum mixtures under pressure: Implications for deep-sea blowouts. *Environmental Science and Technology* **50**, 7397–7408. **(Editor's choice selection)**.
151. Spaak, G., Nelson, R.K., Reddy, C. M., Scarlett, A.G., Chidlow, G. Grice, K. (2016). Advances on the separation of crocetane and phytane using GC-MS and GC×GC. *Organic Geochemistry* **98**, 176-182.
150. O'Neil, G.W., Williams, J. R., Wilson-Peltier, J., Knothe, G., Reddy, C.M. (2016). Experimental protocol for biodiesel production with isolation of alkenones as coproducts from commercial *Isochrysis* algal biomass. *Journal of Visualized Experiments* **112**, doi: 10.3791/54189.
149. Hanke, U.M., Eglinton, T.I., Braun, A.L.L., Reddy, C.M., Wiedemeier, D.B., Schmidt, M.W. (2016). Decoupled sedimentary records of combustion: Causes and Implications. *Geophysical Research Letters* 10.1002/2016GL069253.
148. O'Neil, G.W. Nelson, R.K., Wright, A., Reddy, C.M. (2016). A one-pot/single-analysis approach to substrate scope investigations using comprehensive two-dimensional gas chromatography (GC×GC). *Journal of Organic Chemistry* **81**, 3533–3541.
147. Oberle, F. †, Swarzenski, P.W., Reddy, C.M., Nelson, R.K., Baasch, B., Till, Hanebuth, H.J.J. (2016). Deciphering the lithological consequences of bottom trawling to sedimentary habitats on the shelf. *Journal of Marine Systems* **159**, 120-131.

146. O’Neil, G.W., Williams, J. R., Knothe, G., Burlow, N.P., Reddy, C.M. (2016). Decolorization improves the fuel properties of algal biodiesel from *Isochrysis* sp. *Fuel* **170**, 229-234.
145. Drozd, G., Worton, D., Aeppli, C., Reddy, C.M., Zhang, H., Variano, E., Goldstein, A. (2015). Using comprehensive chemical composition of oil to model evaporative weathering and predict ozone and potential secondary aerosol formation. *JGR Oceans* **120**, 7300-7315.
144. Drollette, B.D., Hoelzer, K., Warner, N.R., Darrah, T.H., Karatum, O., O’Connor, M.P., Nelson, R.K., Reddy, C.M., Vengosh, A., Jaskson, R.B., Elsner, M., Plata, D.L. (2015). Elevated levels of diesel range organic compounds in groundwater near Marcellus gas operations are derived from surface activities. *Proceedings of the National Academy of Sciences* **112**, 13184-13189.
143. Forsythe, J., Pomerantz, A., Seifert, D., Wang, K., Chen, Y., Zuo, J., Nelson, R., Reddy, C., Schimmelmann, A., Sauer, P., Peters, K., Mullins, O. (2015). Confirmation of equilibration of a heavy crude rim of a large Saudi Arabian oilfield using GC×GC and isotope analysis. *Energy and Fuels* **29**, 5666–5680
142. Bartha, A., De Nicolais, N., Sharma, V., Roy, S., Srivastava, R., Pomerantz, A., Sanclemente, M., Perez, W., Nelson, R.K., Reddy, C., Gros, J., Arey, J.S., Lelijveld, J., Dubey, S., Tortella, D., Hantschel, T., Peters, K., Mullins, O. (2015). Combined petroleum system modeling and GC×GC to improve understanding of the crude oil chemistry in the Llanos Basin, Colombia. *Energy and Fuels* **29**, 4755-4767.
141. O’Neil, G.W., Culler, A.R., Williams, J.R., Burlow, N.P., Gilbert, G.J., Carmichael, C.A., Nelson, R.K., Swarthout, R.F.[†], Reddy, C.M. (2015). Production of jet fuel range hydrocarbons as a co-product of algal biodiesel by butenolysis of long-chain alkenones. *Energy and Fuels* **29**, 922–930.
140. Koolen, H.F.[†], Swarthout, R.F.[†], Nelson, R.K., Chen, H., Krajewski, L.C., Aeppli, C., McKenna, A.M., Rodgers, R.P., Reddy, C.M. (2015). Unprecedented insights into the chemical complexity of coal tar from comprehensive two-dimensional gas chromatography mass spectroscopy and Fourier transform ion cyclotron resonance mass spectrometry. *Energy and Fuels* **29**, 641–648.
139. Valentine, D.L. Fisher, G.B., Bagby, S.C., Nelson, R.K., Reddy, C.M., Sylva, S.P., Woo, M. (2014). A fallout plume of submerged oil from the *Deepwater Horizon*. *Proceedings of the National Academy of Sciences* **111**, 15906–15911.
138. Gros, J.[†], Nabi, D., Wurz, B., Wick, L.Y., Brussard, C.P.D., Huisman, J., van der Meer, J.R., Reddy, C.M., Arey, J.S. (2014). The first day of an oil spill on the open sea: Early hydrocarbon mass transfer fluxes to air and water. *Environmental Science and Technology* **48**, 9400–9411.
137. Aeppli, C.[†], Nelson, R.K., Radović, J.R.[†], Carmichael, C.A., Reddy, C.M. (2014). Recalcitrance and degradation of petroleum biomarkers in *Deepwater Horizon* Oil upon abiotic and biotic natural weathering. *Environmental Science and Technology* **48**, 6726-6734.
136. Ruddy, B.M., Huettel, M., Kostka, J.E., Lobodin, V.V., Bythell, B.J., McKenna, A.M., Aeppli, C., Reddy, C.M., Nelson, R.K., Marshall, A.G., Rodgers, R. P. (2014). Targeted petroleomics: Analytical investigation of oxidation products of Macondo well Oil from Pensacola Beach. *Energy and Fuels* **28**, 4043–4050.
135. Timko, M.T., Schmois, E., Patwardhan, P., Kida, Y., Class, C., Green, W.H., Nelson, R.K., Reddy, C.M. (2014). Response of different types of sulfur compounds to oxidative desulfurization of jet fuel. *Energy and Fuels* **28**, 2977–2983.
134. O’Neil, G.W., Knothe, G., Williams, J.R., Burlow, N.P., Culler, N.P., Corliss, J.M., Carmichael, C.A., Reddy, C.M. (2014). Synthesis and analysis of an alkenone-free biodiesel from *Isochrysis* sp. *Energy and Fuels* **28**, 2677–2683.

133. McKenna, A.M., Williams, J.T., Aeppli, C.[†], Reddy, C.M., Valentine, D.L., Lemkau, K.L.[†], Kellermann, M.Y., Savory, J.J., Kaiser, N.K., Marshall, A.G., Rodgers, R.P. (2014). Unprecedented ultrahigh resolution FT-ICR mass spectrometry and parts-per-billion mass accuracy enable direct characterization of nickel and vanadyl porphyrins in petroleum from natural seeps. *Energy and Fuels* **28**, 2454–2464.
132. Lemkau, K.L.^{*}, McKenna, A.M., Podgorski, D., Rodgers, R., Reddy, C.M. (2014). Molecular evidence of heavy oil degradation following the M/V *Cosco Busan* spill: Insights from Fourier transform ion cyclotron resonance mass spectrometry. *Environmental Science and Technology* **48**, 3760-3767.
131. Gros, J.[†], Reddy, C.M., Aeppli, C.[†], Nelson, R.K., Carmichael, C.A. Arey, J.S. (2014). A new biodegradation index for weathered oils based on saturated hydrocarbons: Insights from the *Deepwater Horizon* disaster. *Environmental Science and Technology* **48**, 1628–1637.
130. Radovic, J.R.[†], Aeppli, C.[†], Nelson, R.K., Jimenez, N., Reddy, C.M., Bayona, J., Albaiges, J. (2014). Assessment of photochemical processes in marine oil spill fingerprinting. *Marine Pollution Bulletin* **79**, 268-277.
129. Chengli, C., Petro, D., Pomerantz, A. E., Nelson, R.K., Latifzai, A.S., Nouvelle, X., Zuo, J., Reddy, C.M., Mullins, O.C. (2014). New thermodynamic modeling of reservoir crude oil. *Fuel* **115**, 839-850.
128. Hall, G. J., Frysinger, G. S., Aeppli, C.[†], Carmichael, C.A., Gros, J.[†], Lemkau, K.L.[†], Nelson, R.K., Reddy, C. M. (2013). Oxygenated weathering products of *Deepwater Horizon* oil come from surprising precursors. *Marine Pollution Bulletin* **75**, 140-149.
127. Corilo, Y.E., Podgorski, D.C., McKenna, A.M., Lemkau, K.L.^{*}, Reddy, C.M., Marshall, A.G., Rodgers, R.P. (2013) Oil spill source identification by principal component analysis of electrospray ionization Fourier transform ion cyclotron resonance mass spectra. *Analytical Chemistry* **85**, 9064-9069.
126. White, H.K., Xu, L., Hartmann, P., Quinn, J. G., Reddy, C.M. (2013). The unresolved complex mixture (UCM) of hydrocarbons in coastal environments is derived from the petroleum sources. *Environmental Science and Technology* **47**, 726–731.
125. Aeppli, C.[†], Reddy, C.M., Nelson, R.K., Kellermann, M., Valentine, D. (2013). Recurrent oil sheens at the *Deepwater Horizon* disaster site fingerprinted with synthetic hydrocarbon drilling fluids. *Environmental Science and Technology* **47**, 8211–8219.
124. McKenna, A.M., Nelson, R.K., Reddy, C.M., Savory, J.T., Kaiser, N.K., Fitzsimmons, J.E., Marshall, A.G., Rodgers, R.P. (2013). Expansion of the analytical window for oil spill characterization by ultrahigh resolution mass spectrometry: Beyond gas chromatography. *Environmental Science and Technology* **47**, 7530–7539.
123. Mills, C.[†], Slater, G.[†], Dias, R., Carr, S., Reddy, C., Schmidt, R., Mandernack, K. (2013). Microbial community structure and carbon cycling in soil overlying a coal-bed methane seep. *FEMS Microbiology Ecology* **84**, 474-494.
122. Plata, D.L.^{*}, Reddy, C.M., Gschwend, P.M. (2012). Thermogravimetry-mass spectrometry for carbon nanotube detection in complex mixtures: promise and limitations. *Environmental Science and Technology* **46**, 12254-12261.
121. Aeppli, C.[†], Carmichael, C.A., Nelson, R.K., Lemkau, K. L.[†], Graham, W.M., Redmond, M.C., Valentine, D. L., Reddy, C.M. (2012). Oil weathering after the *Deepwater Horizon* spill led to formation of oxygenated residues. *Environmental Science and Technology* **46**, 8799-8807.
120. Hoh, E., Dodder, N., Lehotay, S., Pangallo, K.^{*}, Reddy, C., Maruya, K. (2012). A non-targeted GC×GC/TOF-MS method and software for inventorying persistent and bioaccumulative contaminants in marine environments. *Environmental Science and Technology* **46**, 8001-8008.

119. Eiserbeck, C.[†], Nelson, R.K., Grice, K., Curiale, J., Reddy, C.M. (2012). Comprehensive study of applications and comparison of sophisticated chromatographic techniques including comprehensive two-dimensional gas chromatography for characterising higher plant biomarkers in a range of Tertiary oils and sediments. *Geochimica et Cosmochimica Acta* **87**, 299-322.
118. White, H.K., Hsing, P., Cho, W., Shank, T.M., Cordes, E.E., Quattrini, A., Nelson, R.K., Camilli, R., Demopoulos, A., German, C.R., Brooks, J.M., Roberts, H.H., Shedd, W., Reddy, C.M., Fisher, C.R. (2012). Impact of the *Deepwater Horizon* oil spill on a deep-water coral community in the Gulf of Mexico. *Proceedings of the National Academy of Science* **109**, 20303-20308.
117. O'Neil, G.W., Carmichael, C.A., Goepfert, T.J.[†], Fulton, J.M., Knothe, G., Lau, C.P.L., Lindell, S.R., Mohammady, G-E., Van Mooy, B.A.S., Reddy, C.M. (2012). Beyond FAMES: Expanding the renewable carbon profile with microalgal lipids from *Isochrysis* sp. *Energy and Fuels* **26**, 2434-2441.
116. Tcaciuc, A.P.[†], Nelson, R.K., Reddy, C.M., Gschwend, P.M. (2012). Estimating phospholipid membrane-water partition coefficients using comprehensive two-dimensional gas chromatography. *Environmental Science and Technology* **46**, 3449–3456.
115. Ventura, G.T.[†], Simoneit, B.R.T., Nelson, R.K., Reddy, C.M. (2012). The composition, origin, and fate of complex mixtures in the maltene fractions of hydrothermal petroleum assessed by comprehensive two-dimensional gas chromatography. *Organic Geochemistry* **45**, 48-65.
114. Mohammady, G-E., Rieken, C.W., Lindell, S.R., Reddy, C.M., Taha, H.M., Lau, C.P.L., Carmichael, C.A. (2012). Age of nitrogen deficient microalgal cells is a key factor for maximizing lipid content. *Research Journal of Phytochemistry* **6**, 42-53.
113. Pangallo, K.* , Poyton, M.F.[†], Reddy, C.M., Bolotin, J., Hofstetter, T.B. (2012). $\delta^{15}\text{N}$ enrichment suggests possible source for halogenated 1'-methyl-1, 2'-bipyrroles (MBPs). *Environmental Science and Technology* **46**, 2064–2070.
112. Zheng, M., Xu, L., Ding, X., Edgerton, E., Reddy, C.M. (2012). Modern and fossil contributions to polycyclic aromatic hydrocarbons in PM_{2.5} from North Birmingham, Alabama in the southeastern U.S. *Environmental Science and Technology* **46**, 1422-1429.
111. C.A, Graham, W.M, Linn, L.J, Lemkau, K.L.* , Nelson, R.K., Reddy, C.M. (2012). Identification of oil-covered honeycomb material found in the Gulf of Mexico following the *Deepwater Horizon* explosion. *Environmental Research Letters* **7** 015301.
110. Ryerson, T.B., Camilli, R., Kessler, J.D., Kujawinski, E. B., Reddy, C. M., Valentine, D. L., Atlas, E. L., Blake, D. R., de Gouw, J. A., S. Meinardi, S., Parrish, D. D., Peischl, J., Seewald, J. S., Warneke, C. (2012). Chemical composition measurements quantify *Deepwater Horizon* hydrocarbon emissions and distribution in the marine environment. *Proceedings of the National Academy of Science* **109**, 20246-20253.
109. Camilli, R., Di Iorio, D., Bowen, A., Reddy, C.M., Techet, A.H., Yoerger, D.R., Whitcomb, L.L., Seewald, J.S., Sylva, S.P., Fenwick, J. (2012). Acoustic measurement of the *Deepwater Horizon* Macondo well flow rate. *Proceedings of the National Academy of Science* **109**, 20235-20239.
108. Reddy, C.M., Arey, J.S., Seewald, J.S., Sylva, S.P., Lemkau, K.L.*, Nelson, R.K., Carmichael, C.A., McIntyre, C., Fenwick, J., Ventura, G.T., Van Mooy, B.A.S., Camilli, R. (2012). Composition and fate of gas and oil released to the water column during the *Deepwater Horizon* oil spill. *Proceedings of the National Academy of Science* **109**, 20229-20234.
107. Edwards, B.R., Reddy, C.M., Camilli, R., Carmichael, C.A., Longnecker, K.A., Van Mooy, B.A.S. (2011). Rapid microbial respiration of oil from the *Deepwater Horizon* spill in offshore surface waters of the Gulf of Mexico. *Environmental Research Letters* **6**, 035301

106. Eiserbeck, C.[†], Nelson, R.K., Grice, K., Curiale, J., Reddy, C.M. (2011). Separation of 18 α (H)-, 18 β (H)-oleanane and lupane by comprehensive two-dimensional gas chromatography. *Journal of Chromatography A* **1218**, 5549-5553.
105. Hirai, H., Takada, H., Ogata, Y., Yamashita, R., Mizukawa, K., Saha, M., Kwan, C., Moore, C., Gray, H., Laursen, D., Zettler, E.R., Farrington, J.W., Reddy, C.M., Peacock, E.E., Ward, M.W. (2011). Organic micropollutants in marine plastics debris from the open ocean and remote and urban beaches. *Marine Pollution Bulletin* **62**, 1683–1692.
104. Wardlaw, G.D.[†], Nelson, R.K., Reddy, C. M., Valentine, D.L. (2011). Biodegradation preference for isomers of alkylated naphthalenes and benzothiophenes in marine sediment contaminated with crude oil. *Organic Geochemistry* **42**, 630-639.
103. Carrizo, D., Unger, M., Holmstrand, H., Andersson, P., Gustafsson, O., Sylva, S., Reddy, C.M. (2011). Compound-specific bromine isotope composition of industrially synthesized and one natural organobromine substances. *Environmental Chemistry* **8**, 127–132.
102. Ventura, G.T.[†], Hall, G.J., Nelson, R.K. Frysinger, G.S., Raghuraman, B., Pomerantz, A.E., Mullins, O.C., Reddy, C.M. (2011) Analysis of petroleum compositional similarity using multiway principal components analysis (MPCA) with comprehensive two-dimensional gas chromatographic data. *J. Chromatography A*. **1218**, 2584-2592.
101. Guitart, C.[†], Slattery, M., Ankisetty, S., Radwan, M., Ross, S. J., Letcher, R.J., Reddy, C.M. (2010). Contemporary radiocarbon levels of oxygenated polybrominated diphenyl ethers (O-PBDEs) isolated in sponge-cyanobacteria associations. *Marine Pollution Bulletin* **62**, 631–636.
100. Juyal, P., McKenna, A.M., Yen, A., Rodgers, R.P., Reddy, C.M., Nelson, R.K., Andrews, A.B., Allenson, S.J., Mullins, O.C., Marshall, A.G. (2010). Analysis and identification of biomarkers and origin of color in a bright blue crude oil. *Energy and Fuels* **25**, 172–182.
99. Plata, D.L. *, Meshot, E.R., Reddy, C.M., Hart, A.J., Gschwend, P.M. (2010). Multiple alkynes react with ethylene to enhance carbon nanotube synthesis, suggesting polymerization-like formation mechanism. *ACS Nano* **4**, 7185–7192.
98. Nessim, G.D., Seita, M., Plata, D.L. *, O'Brien, K.P., Hart, A.J., Reddy, C.M., Gschwend, P.M., Thompson, C.V. (2010). Precursor gas chemistry determines the crystallinity of carbon nanotubes synthesized at low temperature. *Carbon* **49**, 804-810.
97. Leri, A., Hakala, J.A., Marcus, M., Lanzirotti, A, Reddy, C., Myneni, S. (2010). Stable organobromine in marine sediments: New evidence of biogeochemical Br cycling. *Global Biogeochem. Cycles* **24**, GB4017, doi:10.1029/2010GB003794.
96. Lemkau, K.L.*, Peacock, E.E., Nelson, R.K., Ventura, G.T.[†], Kovacs, J.L., Reddy, C.M. (2010). The M/V *Cosco Busan* spill: Source identification and short-term fate. *Marine Pollution Bulletin* **60**, 2123-2129.
95. 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*. *Science* **330**, 201-204.
94. 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. *Aquatic Toxicology* **100**, 238-245.
93. 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. *Marine Pollution Bulletin* **60**, 1873-1879. *Journal's best paper of the year*.

92. 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. *Science* **329**, 1185-1188.
91. 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). *Organic Geochemistry* **41**, 1026-1035.
90. 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.
89. 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.
88. 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). Combining biomarker and bulk compositional gradient analysis to assess reservoir connectivity. *Organic Geochemistry* **41**, 812-821.
87. 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.
86. 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.
85. Mohammady, G-E., Lindell, S.R., Reddy, C.M., Carmichael, C.A., Lau, C.P.L. (2009). Usage of post-secondary recovered sewage sludge for intracellular lipid accumulation to enhance biofuel yield of microalgae. *Egyptian Journal of Phycology* **10**, 99-107.
84. 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.
83. 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.
82. 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.
81. Montie, E.W.[†], 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.
80. Farwell, C.[†], 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.
79. 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.

78. 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.
77. 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.
76. Betancourt, S.S., Ventura, G.T.†, 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.
75. 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.
74. Wardlaw, G.†, Arey, J.S., Reddy, C.M., Nelson, R.K., Ventura, G.T.†, 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.
73. 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.
72. Culbertson, J.B.†, Valiela, I., Pickard, M., Reddy, Peacock. E.E.†, 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
71. Ventura, G.T.†, 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.
70. Culbertson, J.B.†, 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
69. 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.
68. 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.
67. Reddy, C.M., DeMello, J.A.†, Carmichael, C.A.†, 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.
66. 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.
65. 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.
64. 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.

63. Sylva, S.P., Ball, L., Nelson, R.K., and Reddy, C.M. (2007). Compound specific $^{81}\text{Br}/^{79}\text{Br}$ analysis by capillary gas chromatography multi-collector inductively coupled plasma mass spectrometry (GC-MC-ICPMS). *Rapid Communications in Mass Spectrometry* **21**, 3301-3305.
62. 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.
61. 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.
60. 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.
59. 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.
58. 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.
57. Culbertson, J.B.[†], Valiela, I., Peacock, E.E.[†], Reddy, C.M., Carter, A., and VanderKruik, R. (2007). Long-term biological effects of petroleum: Response of fiddler crabs to oil in salt marsh sediments. *Marine Pollution Bulletin* **54**, 955-962
56. Reddy, C.M., Nelson, R.K., Sylva, S.S., Xu, L., Peacock, E.E., Raghuraman, B. and Mullins, O.C. (2007). Using GC×GC-FID to identify and quantify olefin-based drilling fluids in crude oils. *J. of Chromatography A* **1148**, 100-107.
55. Zdenek, Z., Reddy, C.M., Teuten, E.L.[†], Xu, L., McNichol, A.P., and Gustafsson, Ö. (2007). Evaluation of gas chromatographic isotope fractionation and process contamination by carbon in compound-specific radiocarbon analysis. *Analytical Chemistry* **79**, 2042-2049.
54. Peacock, E.E.[†], Hampson, G.R., Nelson, R.K., Xu, L., Frysinger, G.S., Gaines, R.B., Farrington, J.W., Tripp, B.W., and Reddy, C.M. (2007). The 1974 spill of the *Bouchard 65* oil barge: Petroleum hydrocarbons persist in Winsor Cove salt marsh sediments. *Marine Pollution Bulletin* **54**, 214-225.
53. Teuten, E.L.[†] and Reddy, C. M. (2007). Halogenated organic compounds in archived whale oil: A pre-industrial record. *Environmental Pollution* **145**, 668-671.
52. Hill, T.M., Kennett, J.P., Valentine, D.L., Yang, Z., Reddy, C.M., Nelson, R.K., Behl, R.J., Robert, C., and Beaufort, L. (2006). Late Quaternary evidence for climatically driven hydrocarbon emissions. *Proceeding of the National Academy of Sciences.* **103**, 13570-13574.
51. Slater, G.F.[†], Nelson, R.K., Kile, B.M.[†], and Reddy, C.M. (2006). Characterizing biodegradation and microbial metabolic activity *in situ* using natural abundance, molecular-level ^{14}C analysis. *Organic Geochemistry* **37**, 981-989.
50. Slater, G.F.[†], Lippmann-Pipke, J., Moser, D.P., Reddy, C.M., Onstott, T.C., Lacrampe-Couloume, G., and Sherwood-Lollar, B. (2006). ^{14}C in Methane and DIC in the deep terrestrial subsurface: Implications for the timing of microbial methanogenesis. *Geomicrobiology Journal* **23**, 453-462
49. Teuten, E.L.[†], King, G.M., and Reddy, C.M. (2006). Natural ^{14}C in *Saccoglossus Bromophenolosus* compared to its surrounding sediments. *Marine Ecology Progress Series.* **324**, 167-172.
48. Teuten, E.L.[†], Saint-Louis, R., Pedler, B.E.[†], Xu, L., Pelletier, E. and Reddy, C.M. (2006). Expanding the range of brominated Q1 analogues. *Marine Pollution Bulletin* **52**, 578-582.

47. Teuten, E.L.[†], Pedler, B.E.[†], Hangsterfer, A.[†], and Reddy, C.M (2006). Identification of highly brominated analogues of Q1 in marine mammals. *Environmental Pollution* **144**, 336-344.
46. Stapleton, H.M., Dodder, N.G., Kucklick, J.R., Reddy, C.M., Schantz, M.M., Becker, P.R., Gulland, F., B.J. Porter, B.J., and S.A. Wise, S.A. (2006). Temporal trends in anthropogenic and naturally produced brominated compounds in California sea lions, 1993 to 2003. *Marine Pollution Bulletin* **52**, 522-531.
45. Matsuo, A.Y., Woodin, B., Reddy, C.M., Val, A.L., and Stegeman, J.J. (2006). Humic substances and crude oil induce cytochrome P450 1A expression in the Amazonian fish species *Colossoma macropomum* (Tambaqui). *Env. Sci. and Technol.* **40**, 2851-2858.
44. Nelson, R.K., Kile, B.S.[†], Plata, D.L.* , Sylva, S.P., Xu, L., Reddy, C.M., Gaines, R.B., Frysinger, G.S., and Reichenbach, S.E. (2006). Tracking the weathering of an oil spill with comprehensive two-dimensional gas chromatography *Environmental Forensics* **7**, 33–44.
43. Teuten, E.L.[†], Johnson, C.G., Mandalakis, M., Aplund, L., Gustafsson, O., Unger, M., Marsh, G., and Reddy, C.M. (2006). Spectral characterization of two bioaccumulated methoxylated polybrominated diphenyl ethers. *Chemosphere* **62**, 197-203.
42. Ohkouchi, N., Xu, L., Reddy, C.M., Montluçon, D., and Eglinton, T.I. (2005). Radiocarbon dating of alkenones from marine sediments: I. Isolation protocol. *Radiocarbon* **47**, 401-412.
41. Arey, J.S.[†], Nelson, R.K., Xu, L., and Reddy, C.M. (2005). Estimating partitioning properties for a complete set of diesel fuel hydrocarbons using comprehensive two-dimensional gas chromatography retention indices. *Analytical Chemistry* **77**, 7172-7182.
40. White, H.K.* , Xu, L., Lima, A.L.C.* , Eglinton, T.I., and Reddy, C.M. (2005). Abundance, composition, and vertical transport of PAHs in marsh sediments. *Env. Sci. and Technol.* **39**, 8273-8280.
39. Peacock, E.E., Nelson, R.K., Solow, A.R., Warren, J.D., Baker, J.L., and Reddy, C.M. (2005). The West Falmouth oil spill: 100 kg of oil persists in marsh sediments. *Environmental Forensics* **6**, 273-281.
38. Lima, A.L.* , Farrington, J.W., and Reddy, C.M. (2005). Combustion-derived polycyclic aromatic hydrocarbons in the environment – A review. *Environmental Forensics* **6**, 109-131.
37. Lima, A.L.* , Bergquist, B.A., Boyle, E.A., Reuer, M.K., Reddy, C.M. and Eglinton, T.I. (2005). High-resolution historical records from Pettaquamscutt River basin sediments. 2. Pb isotopes reveal potential new stratigraphic marker. *Geochimica Cosmochimica Acta* **69**, 1813-1824.
36. Lima, A.L.* , Hubeny, J.B., Reddy, C.M., King, J.W., Hughen, K.A., and Eglinton, T.I. (2005). High-resolution historical records from Pettaquamscutt River basin sediments. 1. Chronology and record of ¹³⁷Cs released by the Chernobyl accident. *Geochimica Cosmochimica Acta* **69**, 1803-1812.
35. Mandalakis, M., Gustafsson, O., Alsberg, T., Reddy, C., Xu, L., Klanova, J., Holoubek, I., and Stephanou, E. (2005). Contribution of biomass burning to polycyclic aromatic hydrocarbons in European background aerosols. *Env. Sci. and Technol.* **39**, 2976-2982.
34. White, H.K.* , Reddy, C.M., Eglinton, T.I. (2005). Isotopic constraints on the fate of petroleum residues sequestered in salt marsh sediments. *Env. Sci. and Technol.* **39**, 2545-2551.
33. Slater, G.F.[†], White, H.K.* , Eglinton, T.I, and Reddy C.M. (2005). Determination of microbial carbon sources in petroleum contaminated sediments using molecular ¹⁴C analysis. *Env. Sci. and Technol.* **39**, 2552-2558.
32. Walker, S.E.[†], Dickhut, R.M., Chisholm-Brause, C., Sylva, S., and Reddy, C.M. (2005). Molecular and isotopic identification of PAH sources in a highly industrialized urban estuary. *Organic Geochemistry* **36**, 619-632.

31. Teuten, E.L.[†], Xu, L., and Reddy, C.M. (2005). Two abundant bioaccumulated halogenated compounds are natural products. *Science* **307**, 917-920.
30. Tittlemier, S.A., Braekvelt, E., Halldorson, T., Reddy, C.M., and Norstrom, R.J. (2004). Vapour pressures, aqueous solubilities, Henry's Law constants, and octanol/water partition coefficients of a series of Mixed Halogenated Dimethyl Bipyroles. *Chemosphere* **57**, 1373-1381.
29. Mandalakis, M., Gustafsson, O., Reddy, C.M., and Xu, L. (2004). Radiocarbon apportionment of fossil versus biofuel combustion sources of polycyclic aromatic hydrocarbons in the Stockholm metropolitan area. *Env. Sci. and Technol.* **38**, 5344-5349.
28. Reddy, C.M., Xu, L., O'Neil, G.W.[†], Nelson, R.K., Eglinton, T.I., Faulkner, D.J., Norstrom, R., Ross, P.S., Tittlemier, S.A. (2004). Radiocarbon evidence for a naturally-produced, bioaccumulating halogenated organic compound. *Env. Sci. and Technol.* **38**, 1992-1997.
27. Drenzek, N.J.[†], Eglinton, T.I., Wirsén, C.O., Sturchio, N.C., Heraty, L.J., Sowers, K.R., Wu, Q., May, H.D., and Reddy, C.M. (2004). Invariant chlorine isotopic signatures during microbial PCB reductive dechlorination. *Environmental Pollution* **128**, 445-448.
26. Johnson, C.G., Frysinger, G.S., Nelson, R.K., Gaines, R.B., Ohkouchi, N., Reddy, C.M., and Eglinton, T.I. (2003). Innovative methods for determining alkenone unsaturation ratios. *Marine Chemistry* **83**, 5-22.
25. Reddy, C.M., Xu, L., and O'Connor, R. (2003). Using radiocarbon to apportion sources of polycyclic aromatic hydrocarbons in household soot. *Environmental Forensics* **4**, 191-197.
24. Stojanovic G., Hughey, S.[†], Reddy, C.M., Palic, R., Alagic, S., and Misic, M. (2003). A comparative analysis of the alkanes of Yaka, Prilep, Otlja tobaccos. *Biochemical Systematics and Ecology* **31**, 1215-1218.
23. Tittlemier, S.A., Kennedy, S.W., Hahn, M.E., Reddy, C.M. and Norstrom, R.J. (2003). Naturally-produced halogenated dimethyl bipyroles bind to the aryl hydrocarbon receptor and induce cytochrome P4501A and porphyrin accumulation in chicken embryo hepatocytes. *Env. Tox. Chem.* **22**, 1622-1631.
22. Frysinger, G.S., Gaines, R.B., Xu, L., Reddy, C.M. (2003). Resolving the unresolved complex mixture in petroleum-contaminated sediments. *Env. Sci. and Technol.* **37**, 1653-1662.
21. Stojanovic G., Palic R., Tarr, C.H.[†], Reddy, C.M., and Marinkovic, O. (2003). n-Alkanes and fatty acids of *Hypericum perforatum*, *Hypericum maculatum* and *Hypericum olympicum*. *Biochemical Systematics and Ecology* **31**, 223-226.
20. Lima, A.L.C.* , Eglinton, T.I., and Reddy, C.M. (2003.) A high-resolution record of pyrogenic polycyclic aromatic hydrocarbon deposition during the 20th century. *Env. Sci. & Technol.* **37**, 53-61.
19. Reddy, C.M., Xu, L., Drenzek, N.D.[†], Sturchio, N.C., Heraty, L.J., Kimblin, C., and Butler, A. (2002). A chlorine isotope effect for enzyme-catalyzed chlorination. *Journal of the American Chemical Society.* **124**, 14526-14527.
18. Reddy, C.M., Eglinton, T.I., Hounshell, A.[†], White, H.K.* , Xu, L., Gaines, R.B., and Frysinger, G.S. (2002). The West Falmouth oil spill after thirty years: The persistence of petroleum hydrocarbons in marsh sediments. *Env. Sci. and Technol.* **36**, 4754-4760.
17. Eglinton, T.I., Eglinton, G., Dupont, L., Montlucon, D., Sholkovitz, E. and Reddy, C.M. (2002). Composition, age, provenance of organic matter in N.W. African dust over the Atlantic Ocean. *Geochemistry, Geophysics, and Geosystems* **3(8)**, 2001GC000269.
16. Currie, L.A., Benner, B. A., Kessler, J.D., Klinedinst, D. B., Klouda, G.A., Marolf, J.V., Slater, J. F., Wise, S. A., Cachier, H., Cary, R., Chow, J.C., Watson, J., Druffel, E. R. M., Masiello, C. A., Eglinton, T.I., Pearson, A., Reddy, C.M., Gustafsson, O., Hartmann, P. C., Quinn, J. G., Hedges,

- J.I., Prentice, K. M., Kirchstetter, T.W., Novakow, T., Puxbaum, H. and Schmid, H. (2002). A Critical evaluation of interlaboratory data on total, elemental, and isotopic carbon in the carbonaceous particle reference material, NIST SRM 1649a. *Journal of Research of the National Institute of Standards and Technology* **107**, 279-298.
15. Fryisinger, G.S., Gaines, R.B., and Reddy, C.M. (2002). GC×GC: A new analytical tool for environmental forensics. *Environmental Forensics* **3** 27-34.
 14. Reddy C.M., Drenzek N.J.[†], Eglinton T.I., Heraty L.J., Sturchio N.C., Shiner V.J. (2002). Stable chlorine intramolecular kinetic isotope effects from the abiotic dehydrochlorination of DDT. *Environmental Science and Pollution Research* **9**, 183-186.
 13. Reddy, C.M., Xu, L., Eglinton, T.I., Boon, J.P., and D. J. Faulkner (2002). Radiocarbon content of synthetic and natural semi-volatile halogenated organic compounds. *Environmental Pollution* **120**, 163-168.
 12. Reddy, C.M., Pearson, A., Xu, L., McNichol, A.P., Benner, B.A., Wise, S.A., Klouda, G., Currie, L.A., and Eglinton, T.I. (2002). Radiocarbon as a tool to apportion sources of polycyclic aromatic hydrocarbons and black carbon in environmental samples. *Env. Sci. and Technol.* **36**, 1774-1782.
 11. Drenzek, N.J.[†], Eglinton, T.I., Heraty, L.J., Sturchio, N.C., Shiner, V.J. and Reddy, C.M. (2002). Stable chlorine and carbon isotopic compositions of selected semi-volatile organochlorine compounds. *Organic Geochemistry* **33**, 437-444.
 10. Gustafsson, O., Bucheli, T.D., Kululska, M., Andersson, C., Largeau, C., Rouzard, J.N., Reddy, C.M. and Eglinton, T.I. (2001). Evaluation of a protocol for the quantification of black carbon in sediments, soils, and aquatic sediments. *Global Biogeochem. Cycles.* **15**, 881-890.
 9. Drenzek, N.J.[†], Eglinton, T.I., Wirsén, C.O., May, H.D., Qingzhong Wu, Q., Sowers, K.R. and Reddy, C.M. (2001). The absence and application of stable carbon isotopic fractionation during the reductive dechlorination of polychlorinated biphenyls. *Env. Sci. and Technol.* **35**, 3310-3313.
 8. Xu L., Reddy C.M., Farrington J.W., Fryisinger, G.S., Gaines, R.B., Johnson, C.G., Nelson, R.K., and Eglinton T.I. (2001). Identification of a novel alkenone in Black Sea sediments. *Organic Geochemistry* **32**, 633-645.
 7. Reddy, C.M. and J.G. Quinn (2001). The *North Cape* oil spill - The fate of hydrocarbons in Point Judith Pond and Rhode Island coastal waters. *Marine Env. Res.* **52**, 445-461.
 6. Reddy C.M., Eglinton T.I., Palic R., Benitez-Nelson B.C., Stojanovic G., Palic I., Djordjevic S. and Eglinton G. (2000). Even carbon number predominance of plant wax *n*-alkanes: a correction. *Organic Geochemistry* **31**, 331-336.
 5. Reddy C.M., Heraty L.J., Holt B.D., Sturchio N.C., Eglinton T.I., Drenzek, N.D.[†], Xu, L., Lake J.L. and Maruya K.A. (2000). Stable chlorine isotopic compositions of Aroclors and Aroclor-contaminated sediments. *Env. Sci. and Technol.* **34**, 2866-2870.
 4. Reddy C.M., Quinn, J.G. and King, J. (2000) Free and bound benzotriazoles in marine and freshwater sediments. *Env. Sci. and Technol.* **34**, 973-979.
 3. Collins, D. Kadelski, S., Lonardo, R., Peterson, B., Reddy, C., Marzacco, C., Halpern, A., and Nassiri, F. (1999). The effects of micelles on electron-transfer and proton-transfer fluorescence quenching reactions. *Recent Res. Devel. Photochem. and Photobiol.* **3**, 77-89.
 2. Reddy, C.M. and J.G. Quinn (1999). GC-MS analysis of total petroleum hydrocarbons and polycyclic aromatic hydrocarbons after the *North Cape* oil spill. *Marine Pollution Bulletin* **38**, 126-135.
 1. Reddy, C.M. and J.G. Quinn (1997). Environmental chemistry of benzothiazoles derived from rubber. *Env. Sci. and Technol.* **31**, 2847-2853.

PEER-REVIEWED BOOK CHAPTERS

1. O'Neil, G.W., Knothe, G., Reddy, C.M. (2019). Jet biofuels from algae. Biofuels from algae. In *Biomass, Biofuels and Biochemicals*, 2ndEd. pp. 359-395; Chapter 15. (Eds. Pandey, A. et al.) Elsevier.
2. Swarthout, R.F.[†], Arey, J.S., Gros, J., Nelson, R.K., Reddy, C.M., Valentine, D.L. (2016). Comprehensive two-dimensional gas chromatography to assess petroleum product weathering. In *Hydrocarbon and Lipid Microbiology Protocols, Volume 3: Chemical and Physical Analysis of Hydrocarbons and Petroleum*. pp. 129-149; McGenity, T.J., Timmis, K.N., and Nogales, B. (Eds.) Springer, Berlin.
3. Nelson, R.K., Aeppli, C., Arey, J.S., Chen, H., de Oliveira, A.[†], Eiserbeck, C., Frysinger, G.S., Gaines, R.B., Grice, K., Gros, J., Hall, G.J., Koolen, H.H.F.[†], Lemkau, K.L.L., McKenna, A., Reddy, C.M., Rodgers, R.P., Swarthout, R.F.[†], Valentine, D.L. White, H.K. (2016). Applications of comprehensive two-dimensional gas chromatography (GC×GC) in studying the source, transport, and fate of petroleum hydrocarbons in the environment. In *Oil Spill Fingerprinting and Source Identification* Chapter 8; pp. 339-448; Wang, Z. and Stout, S. (Eds). Elsevier.
4. Eiserbeck, C.[†], Nelson, R.K., Reddy, C.M., Grice, K. (2014). Advances in comprehensive two-dimensional gas chromatography (GC×GC). In *Principles and Practice of Analytical Techniques in Geosciences*, Chapter 12; pp. 325-364; Grice, K. (Ed). Royal Society of Chemistry.
5. 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.
6. Gaines, R.B., Frysinger, G.S., Reddy, C.M., and Nelson, R.K. (2006). Oil spill source identification by comprehensive two-dimensional gas chromatography (GC×GC). In *Oil Spill Fingerprinting and Source Identification*, Chapter 5; pp. 169-206; Wang, Z. and Stout, S. (eds). Elsevier.

PEER-REVIEWED PROCEEDINGS AND CONFERENCE PAPERS

1. Damavandi, H.G., Sen Gupta, A., Nelson, R.K., Reddy, C.M. (2017). Signal variability and data compression considerations for petroleum forensics in two-dimensional gas chromatography. OCEANS17 MTS/IEEE Aberdeen, Scotland.
2. Forsythe, J. C., De Santo, I., Martin, R., Tyndall, R., Arman, K., Pye, J., O'Donnell, M., Kenyon-Roberts, S., Nelson, R.K., Reddy, C.M., Pomerantz, A.E., Canas, J.A., Zuo, J.Y., Peters, K.E., Mullins, O.C. (2017). Reservoir implications of a spill-fill sequence of reservoir charge coupled with viscosity and asphaltene gradients from a combination of water washing and biodegradation. 2017 SPE Annual Technical Conference and Exhibition. San Antonio, Texas. SPE-187044.
3. Kukulya, A. L, Bellingham, J. G., Kaeli, J.W., Reddy, C.M., Godin, M.A., Conmy, R.A. (2016). Development of a propeller driven long range autonomous underwater vehicle (LRAUV) for under-ice mapping of oil spills and environmental hazards: An Arctic Domain Center of Awareness project (ADAC). Autonomous Underwater Vehicles (AUV), 2016 IEEE/OES. pp. 95 – 100.
4. Socolofky, S.A., Dissanayake, A.L., Jun, I., Gros, J., Arey, J.S., Reddy, C.M. Texas A&M Oilspill Calculator (TAMOC) modeling suite for subsea spills. In *Proceedings of the Thirty-Eighth AMOP Technical Seminar*; Environment Canada: Ottawa, 2015; pp. 153-168.
5. H. G. Damavandi, A. S. Gupta, C. Reddy, and R. Nelson, Oil-spill forensics using two-dimensional gas chromatography: Differentiating highly correlated petroleum sources using peak manifold clusters. In *Signals, Systems and Computers, 2015 49th Asilomar Conference on*. IEEE, 2015, pp. 1589–1592.

6. Aeppli, C. †, Nelson, R.K., Carmichael, C.A., Valentine, D.L., Reddy, C.M. (2014). Biotic and abiotic oil degradation after the *Deepwater Horizon* disaster leads to formation of recalcitrant oxygenated hydrocarbons: New insights using GC×GC. 2014 International Oil Spill Conference Proceedings. pp. 1087-1098.
7. McKenna, A.M., Williams, J.T., Putman, J.C., Aeppli, C. †, Reddy, C.M., Valentine, D.L., Lemkau, K.T., Kellerman, M.Y., Savory, J.T., Kaiser, N.K., Marshall, A.G., Rodgers, R.P. (2014). Biodegradation at the seafloor: Ultrahigh resolution FT-ICR mass spectral characterization of natural petroleum seeps. 2014 International Oil Spill Conference Proceedings. pp. 2083-2097.

PATENTS

1. United States Patent. 7,805,979. Reddy, C.M. et al. High accuracy contamination estimation in hydrocarbon samples using GC×GC. (October 5, 2010).
2. United States Patent. 8,535,906 B2. Reddy, C.M. Biofuel manufacturing methods and systems incorporating radiocarbon analysis techniques. (September 17, 2013).
3. United States Patent. 8,545,791 B2. Plata, D.L. et al. Alkyne-assisted nanostructure growth (October 1, 2013).
4. United States Patent. 8,838,393. Sen Gupta, A., Reddy, C.M., and Nelson, R.K. Systems and methods for topographic analysis. (September 16, 2014).
5. United States Patent. 9,394,174. Plata, D.L. et al. Alkyne-assisted nanostructure growth. (July 19, 2016).
6. United States Patent. 9,879,288. Lindell, S., Reddy, C.M., O'Neil, G.W. Use of marine algae for producing polymers. (January 30, 2018).
7. United States Patent. 9,970,034. Reddy, C.M., O'Neil, G.W. Lindell, S. Use of marine algae for co-producing alkenones, alkenones derivatives, and co-products. (May 15, 2018).
8. United States Patent. 10,208,321. Reddy, C.M., O'Neil, G.W. Use of marine algae for co-producing alkenones, alkenones derivatives, and co-products. (February 19, 2019).

REPORTS

1. Irvine, G.V., D.H. Mann, M.G. Carls, L. Holland, C. Reddy, R.K. Nelson, and C. Aeppli. (2014). *Lingering oil on boulder-armored beaches in the Gulf of Alaska 23 years after the Exxon Valdez oil spill*, Exxon Valdez Oil Spill Restoration Project Final Report (Restoration Project 11100112), U.S. Geological Survey, Alaska Science Center, Anchorage, Alaska.
2. Murray, J.A., Sander, L.C., Wise, S.A. and C. Reddy. (2016). *Gulf of Mexico Research Initiative 2014/2015 Hydrocarbon Intercalibration Experiment: Description and Results for SRM 2779 Gulf of Mexico Crude Oil and Candidate SRM 2777 Weathered Gulf of Mexico Crude Oil*. NIST Internal Report 8123. National Institute of Standards and Technology, Gaithersburg, MD. Available at <http://dx.doi.org/10.6028/NIST.IR.8123>

PUBLISHED MANUSCRIPTS, COMMENTARIES, LETTERS, REVIEWS, ESSAYS, and EDITORIALS (NOT PEER REVIEWED):

1. Reddy, C.M. Don't assume the worst about the Mauritius oil spill (2020). CNN, posted online August 23.
2. Reddy, C.M. A dangerous leak of diesel fuel in the Arctic (2020). CNN, posted online June 9.
3. Ward, C.W., Reddy, C.M., Overton, E.B. Why Sunlight matters for marine oil spills (2020) EOS, posted online April 28.

4. Reddy, C.M. Lessons from Deepwater Horizon for coronavirus (2020) *Boston Globe*, posted online on March 31.
5. Hanke, U. †, Ward, C.P., Reddy, C.M. Leveraging the lessons learned from black carbon research to study plastics in the environment. (2019) Scientific Viewpoint. *Environmental Science & Technology* **53**, 6599-6600.
6. Reddy, C.M. *Acceptance response to AGU Ambassador Award*. EOS, 100, <https://doi.org/10.1029/2019EO113287>. Published on 07 January 2019.
7. Reddy, C.M., Ward, C.P. Reassessing guidelines for oil spill cleanups: Sunlight plays a key role overlooked role in the fate of oil in the ocean. *Oceanus*, published online on April 25, 2018.
8. Reddy, C.M., Arey, J.S. Did dispersants help responders breathe easier? *Oceanus*, published online on August 28, 2017.
9. Reddy, C.M. To ban or not to ban plastic bags? That's not the best question. *Huffington Post*, published online on March 28, 2017.
10. Reddy, C.M., Valentine, D.L. Scientists should be active but apolitical. *Huffington Post*, published online on January 2, 2017.
11. Reddy, C.M., Valentine, D.L. (2016) Where did *Deepwater Horizon* oil go? Did dispersants help microbes break down oil? *Oceanus*, published online on December 23, 2016.
12. Reddy, C.M., Valentine, D.L., and Ziebold, J. Academia and the military can be valuable partners. *EOS* 97, doi: 10.1029/2016EO062795, published online on November 10, 2016.
13. Reddy, C.M. (2016). Carbon cycle: A hump in ocean–air exchange (*News and Views*). *Nature Geoscience* **9**, 415-416.
14. Reddy, C.M., O'Neil, G.W. A faster way to better reactions. *Oceanus*, published online on May 13, 2016.
15. Reddy, C.M. (2016). Acceptance of the 2014 C.C. Patterson Award. *Geochim. Cosmochim. Acta*. **172**, 461-462.
16. Valentine, D.L., Reddy, C.M. (2015) Latent hydrocarbons from cyanobacteria (*Commentary*). *Proceedings of the Natural Academy of Sciences* **112**, 13434–13435.
17. Reddy, C.M. (2015) Lessons learned from a first-time dad (and scientist). (Blog post) *Huffington Post*, posted online on June 12.
18. Reddy, C.M. (2015) Five years after oil spill, how bad is the Gulf of Mexico today? (Opinion), *Boston Globe*, published online on April 20.
19. Reddy, C.M. (2015) The significance of one email: How prepared are we for the next major oil spill? (Blog post) *Huffington Post*, posted online on April 20.
20. Reddy, C.M. (2015) Costs more than environmental when fuel spills. (My View), *Cape Cod Times* April 6 edition.
21. Reddy, C.M. (2015) Celebrating the dynamic between Spock and Captain Kirk. (Blog post) *Huffington Post*, posted online on March 2.
22. Reddy, C.M. (2015) To dump or not to dump? (Opinion) *Providence Journal*, February 18 edition.
23. Reddy, C.M., O'Neil, G.W. (2015). Jet fuel from algae? *Oceanus*, published online on January 28.
24. Reddy, C.M., Valentine, D.L. (2014). Frightening tool to fight oil spills? (Opinion), *CNN* website, posted December 26.
25. Reddy, C.M., Valentine, D.L. (2014.) Where did *Deepwater Horizon* oil go? *Oceanus*, published online on October 27.

26. Reddy, C.M. In research pacts with industry, scientists guided by principle. (Letter to the editor). *Boston Globe*. June 1, 2014.
27. Nelson, R.K., Carmichael, C.A., Reddy, C.M., Aeppli, C., Kellerman, M.Y., Valentine, D.L. (2013). GC×GC Forensic analysis of oil sheens at the Deepwater Horizon disaster site helps pinpoint the source of oil leakage. *LCGC North America: The application notebook*, 31, 18-19.
28. Camilli, R., Bowen, A., Reddy, C.M., Seewald, J.S., Yoerger, D.R. (2012). When scientific research and legal practice collide, (Policy forum) *Science* 337, 1608-1609.
29. White, H.K., Hsing, P., Cho, W., Shank, T.M., Cordes, E.E., Quattrini, A., Nelson, R.K., Camilli, R., Demopoulos, A., German, C.R., Brooks, J.M., Roberts, H.H., Shedd, W., Reddy, C.M., Fisher, C.R. (2012). Reply to Boehm and Carragher: Multiple lines of evidence link deep-water coral damage to *Deepwater Horizon* oil spill. *Proceedings of the National Academy of Sciences*, 109 (40) E2648.
30. Reddy, C.M., Camilli, R. (2012). Science out of context, (Opinion) *Boston Globe*, June 3 edition.
31. Reddy, C.M. (2012). How science failed during the Gulf oil disaster, (Op-Ed), WIRED magazine, posted April 20.
32. Reddy, C.M. (2012). What scientists under pressure can learn from Spock, (Opinion), WIRED magazine, posted January 19.
33. Reddy, C.M. (2011). Much patience needed on Gulf spill effects, (Op-Ed), *Providence Journal Bulletin*, April 20 edition.
34. Reddy, C.M. (2011). When science and media mix, (Editorial), *Science* 332, 13.
35. Reddy, C. M. (2011). The messy and human world of science, (Opinion), *CNN* website, posted January 31.
36. Reddy, C.M. (2010). Dude, you are speaking Romulan. *EOS*, p.384, vol. 91, No. 2, October 19 issue.
37. Reddy, C.M. (2010). The joys of making a difference in science. *The Chronicle of Higher Education*, October 11 issue.
38. Reddy, C.M. (2010). How reporters mangled science on Gulf oil spill. (Opinion), *CNN* website, posted August 25.
39. Reddy, C.M. (2010). Why Mother Nature needs a hand. (Op-Ed), *Providence Journal Bulletin*, May 29 edition.
40. Reddy, C.M. (2010). What if carbon dioxide were as black as oil? (Opinion), *CNN* website, posted May 28.
41. Reddy, C.M. (2010). Local oil spills inform Gulf response. (My View), *Cape Cod Times*, May 13 edition.
42. Reddy, C.M. (2010). A different kind of battle in the Gulf. (Op-Ed), *Boston Globe*, May 6 edition.
43. Reddy, C.M. (2010). Earth Day spinning all year long. (My View), *Cape Cod Times*, April 22 edition.
44. Yoder, J.A., Greene, C.H., Reddy, C.M. (2010). Green energy from the blue ocean. (Essay), *Journal of Environmental Investing*, 1, 80-83.
45. Reddy, C.M. (2010). Real ocean problems. (Op-Ed), *Providence Journal Bulletin*, March 8 edition.
46. Reddy, C.M. (2009). Biofuel challenges. (Letter to the Editor), *Providence Journal Bulletin*, November 22.
47. Reddy, C.M. (2009). Comment on "Occurrence and Concentrations of Benzotriazole UV Stabilizers in Marine Organisms and Sediments from the Ariake Sea, Japan". *Env. Sci. and Technol.* 43, 7998.
48. Reddy, C.M. (2009). Class is in session on jury duty. (My View), *Cape Cod Times*, September 1 edition.

49. Reddy, C.M. (2009). While oil gently seeps from the seafloor. *Oceanus*, published online May 14, 2009.
50. Reddy, C.M. (2009). Let's not forget *Exxon Valdez*. (Op-Ed), *Boston Globe*, March 24 edition.
51. Reddy, C.M. (2009). Scientist citizens. (Editorial), *Science* 323, 1405.
52. Reddy, C.M. (2009). Science fiction? (Letter to the Editor), *New York Times*, February 1 edition.
53. Lamborg, C., Reddy, C. (2009). Piven case reinforces mercury warnings. (Op-Ed), *Boston Globe*, January 26 edition.
54. Reddy, C.M. (2009). Obama's choice of scientists shows respect for science. (Op-Ed), *Providence Journal Bulletin*, January 7 edition.
55. Reddy, C.M. (2008). When *Quick and Dirty* should not be quick and dirty. (Editorial), *Sea Technology*, August issue.
56. Reddy, C.M. (2008). Practical steps to a cleaner bay. (My View), *Cape Cod Times* August 5, 2008 edition.
57. Reddy, C.M. (2008.) Recycling comes to Middletown. (Op-Ed), *Providence Journal Bulletin* June 15 edition.
58. Reddy, C.M. (2008). Biofuels for jet travel. (Letter to the Editor), *New York Times* May 18 edition.
59. Reddy, C.M. (2008). A cautionary tale about evaluating analytical methods to assess contamination after oil spills. (Correspondence), *Marine Pollution Bulletin* 56, 1380.
60. Reddy, C.M. (2008). Ways to be 'green' on St. Patrick's Day. (Op-Ed), *Providence Journal Bulletin*, March 17 edition.
61. Reddy, C.M. (2008). Eco-engineering is premature. (Op-Ed), *Providence Journal Bulletin*, February 24 edition.
62. Reddy, C.M. (2007). All oil spills are not the same. (Op-Ed), *Providence Journal Bulletin*, December 18 edition.
63. Dessler A., Reddy, C. (2007). Prof. Lindzen is wrong. *Providence Journal Bulletin*, December 17 edition.
64. Reddy, C.M. (2007). Would spills of bunker fuel alternatives be even worse? (Open Forum), *San Francisco Chronicle*, December 14 edition.
65. Reddy, C.M. (2007). Here's an idea: Use greed to go green. (Op-Ed), *Providence Journal Bulletin*, October 19 edition.
66. Reddy, C.M., Hahn, M. (2007). Risks versus benefits of eating salmon. (Op-Ed), *Providence Journal Bulletin*, August 12 edition.
67. Reddy, C.M. (2007). State must act on lesson of Bouchard. (My View), *Cape Cod Times*, April 27 edition.
68. Reddy, C.M. (2007). Still toxic after all these years. *Oceanus*, 45 (3), 26-29.
69. Reddy, C.M. (2007). A closer look at biodiesel's potential. (Op-Ed), *Providence Journal Bulletin*, April 19 edition.
70. Reddy, C.M. (2007) The growing menace of chemical warfare. (Op-Ed), *Providence Journal Bulletin*, April 1 edition.
71. Dessler A., Reddy, C. (2007). Disregard inaccurate view on climate. (Guest view), *Newport Daily News*, March 16 edition.
72. Reddy, C.M. (2006). Fix the Earth before revisiting moon. (Op-Ed), *Providence Journal Bulletin*, December 14 edition.

73. Reddy, C.M. (2006). Science fantasy: TV is clueless about the real thing. (Op-Ed), *Seattle Post Intelligencer*, September 13 edition.
74. Reddy, C.M. (2005). Reducing the risk of fire safety. *Providence Journal Bulletin*, August 3 edition.
75. Reddy, C.M. (2005). A sluggish response to a smoldering problem, *Environmental Forensics* 6, 103-104.
76. Reddy, C.M. (2004). Oil in our coastal backyard. *Oceanus* 43(1), 50-55.
77. Reddy, C.M., Eglinton, T.I., Hounshell, A., White, H.K., Xu, L., Gaines, R.B., and Frysinger, G.S. (2003). Response to comment on “The West Falmouth oil spill after thirty years: the persistence of petroleum hydrocarbons in marsh sediments”, *Env. Sci. and Technol.* 37, 2021-2022.
78. Reddy, C.M. (2002). Book review of *Chlorine in the Environment* by Stringer and Johnson for *Environmental Science and Pollution Research* 9, 356-357.

PRESENTATIONS/POSTERS (presenter is underlined; since 2018):

(a) At WHOI

1. Reddy, C.M. Not normal and mutated; Science in a time of crisis, Department of Marine Chemistry and Geochemistry seminar series, May 5, 2020, Presentation.
2. Reddy, C.M. *Lessons from the Deepwater Horizon; 10 years later*, Hosted by WHOI communications and development, April 20, 2020. Presentation. (Invited; webinar).
3. Hahn, M. and Reddy, C.M.*Halogenated Marine Natural Products: A Potential Risk to Human Health? Woods Hole Sea Grant, March 6, 2020. Presentation.
4. Reddy, C.M. *Swimming outside of the Ivory Tower*. WHOI Academic Programs Office. August 29, 2018. Woods Hole (Presentation). Invited.
5. Reddy, C.M. *Plastics in the marine environmental: Myth vs Reality*. American Chemical Society visitors. August 23, 2018. Woods Hole (Presentation). Invited.
6. Reddy, C.M. *Marine microplastics: How can an oceanographic and ocean engineering perspective advance our understanding?* Visit from his Serene Highness Albert II, Sovereign Prince of Monaco. July 9, 2018. Woods Hole (Presentation). Invited.
7. Reddy, C.M. *An elevator speech is not going to bring you to the penthouse*. Department of Marine Chemistry and Geochemistry seminar. June 9, 2018. Woods Hole (Presentation). Invited.

(b) Elsewhere

1. Reddy, C.M. and R.P. Rodgers. Advance geochemical analysis of the 2019 Brazilian oil spill. April 23, 2021. (virtual presentation).
2. MullerDahlberg, F., Sen Gupta, A., Nelson, R.K., Lemkau, K., Arrington, E., Kivenson, V., Valentine, D., Reddy, C. Comparing the Results of Peak Topography Mapping Across Different Compound Groups for Fingerprinting the Refugio Oil Spill. *eCF Paper Id: 200702-001, Global Oceans Conference & Exposition – Singapore, October 5-14, 2020 (presentation – virtual)*.
3. Reddy, C.M. Watching for plastics and oil spills. Global Ocean Watch OceanSITES - Optimal Approaches for 2030. September 16, 2020. (virtual presentation and invited).
4. Reddy, C.M. *Good news and Bad news: Pollution in Narragansett Bay*, Masonic Grand Lodge of Rhode Island, May 18, 2020 Presentation. (Invited; webinar).

5. Reddy, C.M. Plastics in the environment: Separating myth from reality. Massachusetts College of Liberal Arts, Green Living Seminar Series; North Adams, MA, January 30, 2020. Presentation. (Invited)
6. Reddy, C.M., Radović, J.R., Nelson, R.K., Frysinger, G., Hall, G., Sanders, R., Pawlowski, S. *Environmental forensics of oil leaking from the USS Arizona*. 53rd Annual Conference on Historical and Underwater Archaeology, Boston, MA, January 11, 2020. Presentation.
7. Reddy, C.M., Ward, C.P. *Navigating the science of plastics in uncertain seas*. MIT Water Summit, Massachusetts Institute of Technology, Cambridge, MA, November 21, 2019. Presentation and panelist (Invited).
8. Reddy, C.M. *Navigating policy, media, and the public: Oil spills, fisherman, and Anthony Bourdain*. Sea Education Association, Woods Hole, MA, October 2, 2019. Presentation (Invited).
9. Reddy, C.M. *Navigating policy, media, and the public: Oil spills, fisherman, and Anthony Bourdain*. Leading Voices in Public Health seminar series. Eastern Tennessee State University, Johnston City, Tennessee, September 19, 2019. Presentation (Invited).
10. Reddy, C.M., Valentine, D., Love, C., Kivenson, K., White, H., *Cyanobacteria production of alkanes: An intersection of basic and applied science*. Goldschmidt Conference, Barcelona, Spain, August 21, 2019. Presentation (Invited keynote).
11. Nelson, R.K., Reddy, C.M., Radović, J.R. *The second largest oil spill in the Gulf of Mexico (That you may or may not have heard of or remember); Exploring the complexity of Ixtoc I crude oil using GC×GC-HRT*. North American Chemical Residue Workshop (NACRW). Naples, FL. July 23, 2019. Presentation.
12. Nelson, R.K., Kivenson, V., Lemkau, K.L., Pizarro, O., Yoerger, D.R., Kaiser, C., Carmichael, C., Paul, B.G., Reddy, C.M., Valentine, D.L. *Analysis of ocean dump site samples for single class persistent organic pollutants (POPs) using comprehensive gas chromatography coupled with high resolution mass spectrometry*. North American Chemical Residue Workshop (NACRW). Naples, FL. July 22, 2109. Presentation.
13. Reddy, C.M., *Navigating policy, media, and the lay public*, Gordon Research Conference seminar, Holderness, NH, July 14, 2019. Presentation (Invited keynote).
14. Walsh A., Ward C., Armstrong C., Jackson J., Reddy C. *Rapid and complete photochemical oxidation of polystyrene in the ocean*. Ocean Outlook meeting, Bergen, Norway, May 8, 2019. Poster.
15. Ward, C.P., Sutherland, K., Wankel, S, Reddy, C. *Stable oxygen isotopes as a novel, sensitive tracer of hydrocarbon oxidation on the sunlit sea surface*, American Chemical Society meeting, Orlando, Florida, March 31, 2019. Presentation.
16. Reddy, C.M., Hahn, M. *Mother Nature's DDT and PCBs*. Ocean Health and human health workshop, Principality of Monaco, March 27, 2019. (Presentation) Invited.
17. Ward, C.P., Reddy, C.M. *Impacts of weathering on carbon and polymer degradation*, Eastman Chemical lecture series, Eastman Chemicals, Kingsport, TN. March 7, 2019. (Presentation). Invited.
18. Reddy, C.M. *Swimming outside of the Ivory Tower*. Guest lecture, Sea Education Association, Woods Hole, MA. February 13, 2019. (Oral). Invited.
19. C.P., Ward, Reddy, C.M. (2019) *Stable oxygen isotopes as a novel, sensitive tracer of petroleum hydrocarbon oxidation at the sunlit sea surface*. Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA. February 6, 2019. (Poster).