

# Helen K. White, Ph. D.

Haverford College, 370 Lancaster Ave., Haverford, PA 19041

Mobile: +1-617-901-0904

Email: hwhite@haverford.edu

## Education

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Ph.D. Chemical Oceanography, Massachusetts Institute of Technology (MIT) & Woods Hole Oceanographic Institution (WHOI), Woods Hole, MA (February 2006).

M.Chem. Master of Chemistry (1<sup>st</sup> Class Honors), Minor in American Studies, University of Sussex, United Kingdom (June 2000). Visiting Student at Reed College, Portland, OR (1998-1999).

## Academic Appointments

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2021-Present William H. and Johanna A. Harris Professor in Environmental Studies and Chemistry, Haverford College, PA

2016-2021 Associate Professor of Chemistry & Environmental Studies, Haverford College, PA

2009-2016 Assistant Professor of Chemistry & Environmental Studies, Haverford College, PA

2007-2009 Microbial Science Initiative Postdoctoral Fellow, Harvard University, Cambridge, MA

## Academic leadership positions at Haverford College

2021-Present Associate Provost for Curricular Development & Research

2021-Present Director of Howard Hughes Medical Institute (HHMI) Inclusive Excellence Program

2023-Present Implementation Lead for Haverford 2030 Strategic Plan

2019-2023 Strategic Planning Steering Committee member (elected by peers)

2017-2021 Director, Koshland Integrated Natural Sciences Center (KINSC)

2017-2020 Academic Council (appointments, promotion and tenure committee; elected by peers)

2018-2019 Chair of Haverford and Bryn Mawr Environmental Studies Department (inaugural year)

2011-2016 Director and founding member of the Environmental Studies Program

## Other academic appointments

2017-Present Guest Investigator in AOPE, Woods Hole Oceanographic Institution, Woods Hole, MA

2012-2013 Visiting Associate in Geobiology, California Institute of Technology, Pasadena, CA

2006-2007 Lecturer in the Department of Earth Sciences, Boston University, Boston, MA

2006-2007 Guest Investigator in MC&G, Woods Hole Oceanographic Institution, Woods Hole, MA

## Awards

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2017-22 Henry Dreyfus Teacher-Scholar Award (2017-2022)

2018 Climate Changed Ideas Competition overall winner for *Emerald Tutu* (team member and scientific advisor)

2016 Lindback Distinguished Teaching Award, Haverford College

2015 Innovation in Teaching Award, Haverford College

2007-2009 Harvard University Microbial Science Initiative Postdoctoral Fellowship

2005 Invited Participant, DISCO XIX Dissertations Symposium on Chemical Oceanography

2002 American Chemical Society Award of Excellence

2001-2002 WHOI Charles Davis Hollister Fellowship

2000 University of Sussex, Merck Chemistry Prize for graduating first in the class

## External Grants

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Howard Hughes Medical Institute, Inclusive Excellence 3 Grant (2022-28)

Howard Hughes Medical Institute, Inclusive Excellence 3 Learning Grant (2021-23)

National Academies of Sciences, Engineering & Medicine Gulf Research Program, Assessing the Use of Two Rapid Sensing Techniques to Determine Oil Content and Source of Persistent Oil in the Marine Environment (2018-20, Co-P.I. with A. Michel, WHOI)

**Agilent Applications and Core Technology University Research Grant**, Improving Honey Bee Survival: Using the exposome paradigm to Identify Biomarkers of Honey Bee Health, Disease, and Collapse (2016-17. Co-P.I. with A. Macherone, Agilent Technologies)

**National Academies of Sciences, Engineering & Medicine Gulf Research Program**, Early-Career Research Fellowship Award (2015-17)

**American Chemical Society Petroleum Research Foundation**, Exploring the Mechanisms of Organic Matter Degradation by Marine Fungi (2014-17)

**Gulf of Mexico Research Initiative**, Weathering of Petroleum and Dispersant Components in the Aftermath of the Deepwater Horizon Oil Spill (2012-15, Co-P.I. with E. Kujawinski, WHOI)

**National Science Foundation**, RAPID Collaborative Research: Acute response of benthic hardbottom communities to oil exposure in the deep Gulf of Mexico (2010-11)

**Peer-Reviewed Publications** (*names underlined signify undergraduate author*)

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1. Reddy, C.M., R.K. Nelson, U. Hanke, X. Cui, R. Summons, D. Valentine, R. Rodgers, M.L. Chacón-Patiño, S. Niles, C. Teixeira, L. Bezerra, R. Cavalcante, M. Soares, A. Oliveira, **H.K. White**, R. Swarthout, K. Lemkau, J. Radovic (2022) Synergy of Analytical Approaches Enables a Robust Assessment of the Brazil Mystery Oil Spill. *Energy & Fuels*  
<https://doi.org/10.1021/acs.energyfuels.2c00656>
2. H. Caballero-Gómez, **H.K. White**, M.J. O'Shea, R. Pepino, M. Howarth, R. Gieré (2022) Spatial Analysis and Lead-Risk Assessment of Philadelphia, USA. *GeoHealth* 6 (3) e2021GH000519  
<https://doi.org/10.1029/2021GH000519>
3. **White, H.K.**, A.E. Morrison, C. Dhoonmoon, H. Caballero-Gómez, M. Luu, C. Samuels, C.T. Marx, A.P.M. Michel (2020) Identification of persistent oil residues in Prince William Sound, Alaska using rapid spectroscopic techniques. *Marine Pollution Bulletin* 161: 111718  
<https://doi.org/10.1016/j.marpolbul.2020.111718>
4. Mayack, C., K. Carmichael, N. Phalen, Z. Khan, F. Hirche, G.I. Strangl, **H.K. White** (2020) Gas chromatography - mass spectrometry as a preferred method for quantification of insect hemolymph sugars. *Journal of Insect Physiology* 104115. <https://doi.org/10.1016/j.jinsphys.2020.104115>
5. Michel, A.P.M., A.E. Morrison, V. Preston, B.C. Colson, C.T. Marx, **H. K. White** (2020) Rapid Identification of Plastics via Spectroscopic Techniques and Classification Methods. *Environmental Science & Technology*. **54**: 10630-10637 <https://doi.org/10.1021/acs.est.0c02099>
6. Bullock, E.J., A.M. Schafsnitz, C.H. Wang, R.L. Broadrup, A. Macherone, C. Mayack, **H.K. White** (2020) Silicone wristbands as passive samplers in honey bee hives. *Veterinary Sciences*. **7**:86. <https://doi.org/10.3390/vetsci7030086>
7. Michel, A.P.M., A.E. Morrison, B.C. Colson, W.A. Pardis, X.A. Moya, C.C. Harb, **H.K. White** (2020) Quantum cascade laser-based reflectance spectroscopy: a robust approach for the classification of plastic type. *Optics Express*. **28**: 17741-17756. <https://doi.org/10.1364/OE.393231>
8. Kujawinski, E.B. C.M. Reddy, R.P. Rodgers, J. Thrash, D.L. Valentine, **H.K. White** (2020) The first decade of scientific insights from the Deepwater Horizon oil release. *Nature Reviews Earth & Environment* 1-14. <https://doi.org/10.1038/s43017-020-0046-x>
9. Liu, Y., **H.K. White**, R.L. Simister, D. Waite, S.L. Lyons, E.B. Kujawinski (2020) Probing the chemical transformation of seawater-soluble crude oil components during microbial oxidation. *ACS Earth and Space Chemistry*. **4**: 690-701. <https://doi.org/10.1021/acsearthspacechem.9b00316>
10. **White, H.K.**, C.T. Marx, D.L. Valentine, C. Sharpless, C. Aeppli, K.M. Gosselin, V. Kivenson, R.M. Liu, R.K. Nelson, S.P. Sylva, C.M. Reddy (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. <https://doi.org/10.1021/acsearthspacechem.9b00090>
11. Mayack, C., N. Phalen, K. Carmichael, **H.K. White**, F. Hirche, Y. Wang, G.I. Strangl, G.V. Amdam (2019) Appetite is correlated with octopamine and hemolymph sugar levels in forager honeybees. *Journal of Comparative Physiology A*. <https://doi.org/10.1007/s00359-019-01352-2>

12. Lemkau, K.L., C. Aeppli, C.A. Carmichael, C.M. Reddy, **H.K. White** (2019) Hurricane Isaac brings more than oil ashore: Characteristics of beach deposits following the Deepwater Horizon spill. *PLOS ONE*. **14**: e0213464. <https://doi.org/10.1371/journal.pone.0213464>
13. Broadrup, R.L., C. Mayack, S.J. Schick, E.J. Eppley, **H.K. White**, A. Macherone (2019) Honey Bee (*Apis mellifera*) Exposomes and Dysregulated Metabolic Pathways Associated with *Nosema ceranae* Infection. *PLOS ONE*. **14**: e0213249. <https://doi.org/10.1371/journal.pone.0213249>
14. Michel, A.P.M., A.E. Morrison, C.T. Marx, **H.K. White** (2019) Rapid Identification of Deepwater Horizon Oil Residues using X-Ray Fluorescence. *Environmental Science & Technology Letters*. **6**: 34-37. <https://doi.org/10.1021/acs.estlett.8b00589>
15. Morrison, A.E., C. Dhoonmoon, **H.K. White** (2018) Chemical characterization of natural and anthropogenic-derived oil residues on Gulf of Mexico beaches. *Marine Pollution Bulletin* **137**: 501-508. <https://doi.org/10.1016/j.marpolbul.2018.10.051>
16. Green, H.S., S.A. Fuller, A.W. Meyer, P.S. Joyce, C. Aeppli, R.K. Nelson, R.F. Swarthout, D.L. Valentine, **H.K. White**, C.M. Reddy (2018) Tar balls collected in the North Atlantic Ocean and Caribbean Sea from 1988 to 2016 have natural and anthropogenic origins. *Marine Pollution Bulletin* **137**: 352-359. <https://doi.org/10.1016/j.marpolbul.2018.10.030>
17. Ward, C.P., C.M. Sharpless, D.L. Valentine, D.P. French-McCay, C. Aeppli, **H.K. White**, R.P. Rodgers, K.M. Gosselin, R.K. Nelson, C.M. Reddy (2018) Partial photochemical oxidation was a dominant fate of Deepwater Horizon surface oil. *Environmental Science & Technology*. **52**: 1797-1805. <https://doi.org/10.1021/acs.est.7b05948>
18. Borowiak, C., V. Funari, j.m. ross, and **H.K. White** (2017) Troubled Waters: Tracing Globalization and Waste in the Delaware River. *PS: Political Science & Politics* **50**: 193-198. <https://doi.org/10.1017/S1049096516002420>
19. **White, H.K.**, C.H. Wang, P.L. Williams, D.M. Findley, A. M. Thurston, R.L. Simister, C. Aeppli, R.K. Nelson, C.M. Reddy (2016) Long-term weathering and continued oxidation of oil residues from the Deepwater Horizon oil spill. *Marine Pollution Bulletin* **113**: 380-386. <https://doi.org/10.1016/j.marpolbul.2016.10.029>
20. **White, H.K.**, R.N. Conmy, I.R. MacDonald, C.M. Reddy (2016) Methods of Oil Detection in response to the Deepwater Horizon oil spill. *Oceanography* **29**(3):76-87. <http://dx.doi.org/10.5670/oceanog.2016.72>
21. Buskey, E., **H.K. White**, and A. Esbaugh (2016) Impact of oil spills on marine life in the Gulf of Mexico: Effects on plankton, nekton, and deep-sea benthos. *Oceanography* **29**(3):174-181. <http://dx.doi.org/10.5670/oceanog.2016.81>
22. Simister, R.L., E.W. Antzis, **H.K. White** (2016) Examining the diversity of microbes in a deep-sea coral community impacted by the Deepwater Horizon oil spill. *Deep Sea Research Part II Special Issue, The Gulf of Mexico Ecosystem - Before, during, and After the Macondo Blowout* **129**: 157-166. <https://doi.org/10.1016/j.dsr2.2015.01.010>
23. Martin P., N.F. Goodkin, J.A. Stewart, G.L. Foster, E.L. Sikes, **H.K. White**, S. Hennige, J. Murray Roberts (2016) Deep-sea coral  $\delta^{13}\text{C}$ : A tool to reconstruct the difference between seawater pH and  $\delta^{11}\text{B}$ -derived calcifying fluid pH. *Geophysical Research Letters*, 10.1002/2015GL066494. 299-308
24. Simister, R.L., C.M. Poutasse, A.M. Thurston, J.L. Reeve, M.C. Baker, **H.K. White** (2015) Degradation of Oil by Fungi Isolated from Gulf of Mexico beaches. *Marine Pollution Bulletin* **100**: 327-333. <https://doi.org/10.1016/j.marpolbul.2015.08.029>
25. Langley, J.A. **H.K. White**, R.U. Palanivel, T. Shannon, and S.K. Chapman (2015). Marsh plants mediate the influence of nitrogen fertilization on the degradation of oil from the Deepwater Horizon oil spill. *Ecosphere*, 6 (7) art126. <https://doi.org/10.1890/ES14-00343.1>
26. **White, H.K.**, S.L. Lyons, S.J. Harrison, D.M. Findley, Y. Liu, E.B. Kujawinski (2014) Long-term persistence of dispersants following the Deepwater Horizon oil spill. *Environmental Science & Technology Letters* **1**: 295-299. <https://doi.org/10.1021/ez500168r>
27. Fisher, C.R., A.W.J. Demopoulos, E.E. Cordes, I. B. Baums, **H.K. White**, J. R. Bourque (2014) Coral Communities as Indicators of Ecosystem-Level Impacts of the Deepwater Horizon Spill. *Bioscience* **64**: 796-807. <https://doi.org/10.1093/biosci/biu129>

28. **White, H.K.**, L. Xu, P. Hartmann, J.G. Quinn, C.M. Reddy (2013) The unresolved complex mixture (UCM) in coastal environments is derived from fossil sources. *Environmental Science & Technology* **47**: 726-731. <https://doi.org/10.1021/es3042065>
29. **White, H.K.** et al. (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 Sciences* **109** (50) 20303-20308. <https://doi.org/10.1073/pnas.1118029109>
30. **White, H.K.** et al. (2012) Multiple lines of evidence link deep-water coral damage to Deepwater Horizon oil spill. *Proceedings of the National Academy of Sciences* **109**: (40) E2648. <https://doi.org/10.1073/pnas.1210413109>
31. Geselbracht, M.J., **H.K. White**, J.M. Blaine, M.J. Diaz, J.L. Hubbs, N.C.M. Adelstein, J.A. Kurzman (2010) New Solid Acids in the Triple-Layer Dion-Jacobson Layered Perovskite Family. *Materials Research Bulletin*. doi:10.1016/j.materresbull.2010.12.007
32. **White, H.K.**, C.E. Reimers, E.E. Cordes, G.F. Dilly and P.R. Girguis (2009) Quantitative population dynamics of microbial communities in plankton-fed microbial fuel cells. *The ISME Journal* **3**: 635-646. <https://doi.org/10.1038/ismej.2009.12>
33. **White, H.K.**, T.I. Eglinton and C.M. Reddy (2008) Radiocarbon-based assessment of fossil fuel-derived contaminant associations in sediments. *Environmental Science & Technology* **42**: 5428-5434. <https://doi.org/10.1021/es800478x>
34. Nielsen, M.E., C.E. Reimers, **H.K. White**, S. Sharma and P.R. Girguis. (2008) Sustainable energy from deep ocean cold seeps. *Energy & Environmental Science* **1**: 584-593. <https://doi.org/10.1039/B811899J>
35. **White, H.K.**, C.M. Reddy and T.I. Eglinton (2007) Relationships between carbon isotopic composition and mode of binding of natural organic matter in selected marine sediments. *Organic Geochemistry* **38**: 1824-1837. <https://doi.org/10.1016/j.orggeochem.2007.07.008>
36. Reimers, C.E., H.A. Stecher III, J.C. Westall, Y. Alleau, K. A. Howell, L. Soule, **H.K. White**, P.R. Girguis (2007) Substrate degradation kinetics, microbial diversity and the current efficiency of microbial fuel cells supplied with marine plankton. *Applied & Environmental Microbiology* **73**: 7029-7040. <https://doi.org/10.1128/AEM.01209-07>
37. **White, H.K.**, L. Xu, A. L. Lima, T.I. Eglinton and C.M. Reddy (2005) Abundance, composition, and vertical transport of PAHs in marsh sediments. *Environmental Science and Technology* **39**: 8273-8280. <https://doi.org/10.1021/es050475w>
38. **White, H.K.**, C.M. Reddy and T.I. Eglinton (2005) Isotopic constraints on the fate of petroleum residues sequestered in salt marsh sediments. *Environmental Science and Technology* **39**: 2545-2551. <https://doi.org/10.1021/es048675f>
39. Slater, G.F., **H.K. White**, T.I. Eglinton and C. M. Reddy (2005) Determination of microbial carbon sources in petroleum contaminated sediments using molecular radiocarbon analysis. *Environmental Science & Technology* **39**: 2552-2558. <https://pubs.acs.org/doi/abs/10.1021/es048669j>
40. Reddy, C.M., T.I. Eglinton, A.H. Hounshell, **H.K. White**, L. Xu, R.B. Gaines and G.S. Fryxinger (2002) Response to comment on "The West Falmouth oil spill after thirty years: The persistence of petroleum hydrocarbons in marsh sediments". *Environmental Science and Technology* **37**: 2021. <https://doi.org/10.1021/es030385w>
41. Reddy, C.M., T.I. Eglinton, A.H. Hounshell, **H.K. White**, L. Xu, R.B. Gaines and G.S. Fryxinger (2002) The West Falmouth oil spill after thirty years: The persistence of petroleum hydrocarbons in marsh sediments. *Environmental Science and Technology* **36**: 4754-4760. <https://doi.org/10.1021/es020656n>

#### Reports & book chapters

42. National Academies of Sciences, Engineering, and Medicine. 2022. *Oil in the Sea IV: Inputs, Fates, and Effects*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26410>
43. National Academies of Sciences, Engineering, and Medicine. 2020. *The Use of Dispersants in Marine Oil Spill Response*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25161>.

44. 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., and **H.K. White** (2016) Applications of Comprehensive Two-Dimensional Gas Chromatography (GC×GC) in Studying the Source, Transport, and Fate of Petroleum Hydrocarbons in the Environment. In *Standard Handbook of Oil Spill Forensics* Chapter 8; pp. 339-448; Stout, S.A. and Z. Wang (Eds). Elsevier.

#### **Published abstracts and technical notes**

45. **White, H.K.**, (2022) Benjamin Franklin Medal in Earth and Environmental Science presented to Sallie W. Chisholm, Ph. D. *Journal of the Franklin Institute*, 359(18), pp.10308-10312.
46. Michel, A.P.M., Morrison, A.E., B.C. Colson, C.T. Marx, **H.K. White** (2019) Comparison of Laboratory Analytical Techniques for the Rapid Identification of Marine Plastics. OCEANS 2019, Marseille, France.
47. Schick, S.J., R.L. Broadrup, C. Mayack **H.K. White**, A. Macherone (2018) Integrating GC/TOF Exposome Profiling and Genetic Disease Screening to Provide a Holistic Perspective on Honey Bee Health. *Application note. American Laboratory* 346882.
48. Macherone, A., R.L. Broadrup, C. Mayack **H.K. White** (2017) Association of *Nosema ceranae* Infection with Honey Bee (*Apis mellifera*) Exposome Profiles and Affected Biological Pathways. *Application note. Agilent Technologies, Inc. www.agilent.com/chem*
49. Reimers, C.E., H.A. Stecher III, **H.K. White**, P.R. Girguis (2007) Examining the efficiency and biogeochemistry of plankton-fed microbial fuel cells. *Abstracts of papers of the American Chemical Society*: 052-FUEL Part 2.
50. Reddy, C.M., R.K. Nelson, L. Xu, E.E. Peacock, **H.K. White**, T.I. Eglinton, G.F. Slater, J.D. Warren, R.B. Gaines, G.S. Frysinger (2004) The West Falmouth oil spill: A geochemical update after 35 years. *Geochimica et cosmochimica acta* **68** (11): A457-A457 Suppl. S, JUN.
51. **White, H.K.**, L. Xu, A. L. Lima, T.I. Eglinton and C.M. Reddy (2002) Post-depositional transport and fate of PAHs 30 years after the West Falmouth oil spill. *Abstracts of papers of the American Chemical Society*: U519-U519 016-ENVR Part 1.
52. Reddy C.M., T.I. Eglinton, **H.K. White**, J.M. Hayes (2001) Tracing the fate of organic contaminants in the environment using natural radiocarbon abundance. *Abstracts of papers of the American Chemical Society* **222**: U422-U422 24-ENVR Part 1.

#### **Pedagogy publications and correspondence**

53. Cook-Sather, A., **H.K. White**, T. Aramburu, C. Samuels, P. Wynkoop (2020) Moving toward Greater Equity and Inclusion in STEM through Pedagogical Partnership. White, K., Beach, A., Finkelstein, N., Henderson, C., Simkins, S., Slakey, L., Stains, M., Weaver, G., & Whitehead, L. (Eds.). *Transforming Institutions: Accelerating Systemic Change in Higher Education*. Pressbooks. <http://openbooks.library.umass.edu/ascenti2020/>
54. **White, H.K.** and P. Wynkoop (2019) Pink Bagels and Persistence, *Teaching and Learning Together in Higher Education*: **28**, <https://repository.brynmawr.edu/tlthe/vol11/iss28/6>
55. **White, H.K.** (2015) Confronting Change, Essay written for *Sea Change* art exhibition by artist Zoe Strauss at the Cantor Fitzgerald Gallery, Haverford College, PA.

#### **Field Experience**

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##### **Research cruises**

- Auklet Charter: Prince William Sound, AK (07/25/18-07/31/18) Collection of oil residues from shorelines impacted by the 1989 Exxon Valdez oil spill and the 1964 Alaska Earthquake.
- R/V Atlantis & D.S.V Alvin: Gulf of Mexico (04/27/14-05/16/14) Collection of sediments, corals and sponges in the vicinity of natural oil seeps.
- R/V Atlantis & D.S.V Alvin: Gulf of Mexico (12/06/10-12/14/10) Investigating the response of benthic hard bottom communities to oil exposure in the deep Gulf of Mexico.
- R/V Point Lobos: Monterey Canyon, CA (02/28/07) Collection of sediment microbial fuel cell.

- R/V Atlantis & D.S.V Alvin: Juan de Fuca Ridge (08/23/06-09/11/06) Recovered & sampled microbial incubators & osmosamplers from vents.
- R/V Clifford Barnes: Seattle, WA to Seattle, WA (08/01/03-08/08/03) Collection of sediment freeze cores and water samples.
- R/V New Horizon: Redwood City, CA to San Diego, CA (05/27/01-06/10/01) Collection of various sediment cores (box, gravity, multi) and water samples.

### **Field research**

- Art and the Environment in the Setō Inland Sea, Japan (08/19 and 08/23).
- Monteverde, Costa Rica (07/16/23-07/26/23). Observation and analysis of chemical compounds associated with paper wasp nests.
- Pensacola, FL to Grand Isle, LA (06/12/12-06/15/12, 06/26/12-06/29/12, 07/17/12-07/20/12, 07/09/13-07/12/13, 01/25/14-01/26/14, 04/25/14-04/26/14, 06/10/14-06/13/14, 06/16/15-06/19/15, 09/12/15, 05/15/16-05/16/16, 06/19/17-06/23/17, 02/03/18-02/04/18, 06/04/18-06/08/18, 06/20/22-06/22/22) Collection of oil from Gulf of Mexico beaches impacted by the *Deepwater Horizon* oil spill.
- Delaware Bay, from Bowers Beach, DE to Assateague Island, MD (10/24/20, 10/29/20-10/30/20, 11/14/20-11/15/20, 1/16/21-1/18/21, 3/17/21-3/20/21, 05/24/21-05/25/21, 10/02/21-10/03/21) Collection of oil residues from the October 2020 mystery oil spill in the Delaware Bay.
- Mumbai, India (01/10/19-01/17/19, 12/12/19-12/14/19) Collection of oil residues and plastics from coastlines of Mumbai.
- Delaware River, NJ (06/10, 10/10, 02/14) Collection of sediment cores.
- St. Jones River, DE (03/10, 03/15, 06/15, 07/15) Collection of sediment cores.
- Dhaka, Bangladesh (03/08) Deployment of a microbial fuel cell coupled to a biogas biodigester.
- Sippewissett Marsh and Cedar Swamp, MA (07/03) Sampling of microbial mats and collection of environmental samples for microbial analyses.
- Pawtuxet River, RI (02/03) Collection of sediment cores.
- West Falmouth Harbor, MA (11/04, 06/04, 11/03, 03/01) Collection of sediment cores and nutrient porewater profiling.

### **Selected Professional Activities**

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#### **Haverford College Service & Engagement**

##### ***Pedagogy & Faculty Engagement***

- Office of Academic Resources (OAR) Advisory Committee (2023-present)
- Hurford Center for Arts and Humanities seminar group participant, "Technology and Justice: Mediating Communities" (2023-2024)
- Faculty advisor to student-led peer mentorship program for first-year students from historically underrepresented backgrounds taking introductory science courses (2020-2022)
- Environmental Studies Department Student and Faculty Working Group on Retention (2021)
- Hurford Humanities Center Working Group on Faculty Hiring (2018-2019)
- Participant in Teaching and Learning Institute Pedagogy Seminars with Students as Learners and Teachers (SaLT) program (Fall 2009, Spring 2010, Spring 2019); Lumina Seminar - *Toward Greater Equity, Inclusion, and Belonging Within and Beyond Our Classrooms* (Spring 2019); Curricular Development Seminar - *Navigation/Transformation* (Fall 2019).

##### ***Environmental Studies & Campus Sustainability***

- Co-founder and faculty consultant for the Haverfarm, an initiative developed with Environmental Studies students to create an on-campus agricultural space and greenhouse to encourage environmental awareness, community involvement, and multidisciplinary learning (2013-present)
- Council on Sustainability and Social Responsibility Executive Committee (2015-2016, 2018-19)

- Creator and Organizer of the annual Tri-College Environmental Studies Conference, a one-day conference for undergraduate students from Haverford, Bryn Mawr and Swarthmore Colleges to explore work related to earth systems, human societies, and the environment (2014-2017, 2019)
- Collaborator for the Haverford College Public Policy Forum for students and alumni to discuss research and careers in public policy with an emphasis on environmental policy initiatives. (2014-2019, panel moderator 2018, 2019)
- Site visits to review off-campus study programs and semesters related to Environmental Sciences, Ecology and Environmental Studies including MBL SES in Woods Hole, MA (2013), SIT programs in Quito, Ecuador (2015), and CIEE programs in Monteverde, Costa Rica (2016).

**Staff Search Committees:** Director of Budget and Planning (2023), Executive Assistant to the Provost (2023), Assistant Provost & Executive Director of Academic Administration (2022), Provost (2019-2020), President of the College (2018), Haverfarm Fellow (2014, 2016, 2018, 2022), Haverford Chemistry Department Instrument specialist (2011, 2016).

**Faculty Search Committees:** Bi-College Environmental Humanities interim faculty (2021), Bi-College Environmental Humanities tenure-track faculty (2017), Bi-College Environmental Social Sciences tenure-track faculty (2017), Tri-College Environmental Studies GIS postdoctoral fellow (2014), Haverford Anthropology & Environmental Studies tenure-track faculty (2009 and 2014), Haverford Biology & Environmental Studies tenure-track faculty (2010).

### External Service & Engagement

- External Reviewer: Berry College Department of Environmental Science and Studies (2022), Wesleyan University College of the Environment (2023), Boston College Department of Earth and Environmental Sciences (2024).
- Member of The Franklin Institute Committee on Science and the Arts, Earth & Environmental Science Cluster (2014-2023).
- Member of the National Academies of Sciences, Engineering & Medicine Consensus Study Committee on Oil in the Sea (2020-2022).
- Member of the National Academies of Sciences, Engineering & Medicine Consensus Study Committee on the Evaluation of the Use of Chemical Dispersants in Oil Spill Response (2017-2019).
- Conference session chair and co-organizer for *Impacts from the Deepwater Horizon Spill on Deep-Sea Ecosystems: Detection, Causes, and Fate of the Fauna*, Gulf of Mexico Oil Spill & Ecosystem Science Conference, Houston, TX (2015), and *Perspectives on Restoration for the Gulf of Mexico: From Coastal Habitats to the Deep Sea*, ASLO Meeting, New Orleans, LA (2013).
- Grant reviewing for National Academies of Sciences (Gulf Research Program), National Science Foundation Division of Ocean Sciences (including reviews for Biological Oceanography, Chemical Oceanography, Marine Geology and Geophysics), the NSF Climate Change Education Partnership (CCEP; panelist), and Sea Grant.
- Ad hoc manuscript reviewer for Analytical Methods, Antonie van Leeuwenhoek, Biogeosciences, Botanica Marina, Deep Sea Research, Earth & Planetary Science Letters, Environmental Chemistry, Environmental Microbiology Reports, Environmental Research Letters, Environmental Pollution, Environmental Science: Process and Impacts, Environmental Science and Technology, Environmental Science and Technology Letters, Estuaries and Coasts, Frontiers in Marine Science, Fuel, Journal of Applied Microbiology, Journal of Environmental Research and Public Health, Journal of Geophysical Research – Oceans and Marine Chemistry, Journal of Hazardous Materials, Journal of Marine Science and Engineering, Marine Chemistry, Marine Pollution Bulletin, Nature Communications, Nature Geoscience, Organic Geochemistry, Radiocarbon, Science.

### Outreach Activities

- Judge for Tri-College Hackathon, a 48-hour event for students to design and build web and mobile apps and other projects that aim to address a social or environmental problem (2015).

- Collaborator and participant in the mobile media workshop tracing waste in the Delaware River led by Artist-in-Residence jesikah maria ross in collaboration with local PA community organizations (2014).
- Scientific advisor to Haverford's Interdisciplinary Documentary Media Fellows Hilary Brashear '14, Dan Fries '15, Gebby Keny '14, and Sarah Moses '16 on the documentary film "Wake", a collaboration with Filmmaker Vicky Funari and Gulf coast non-profit organizations (2014).
- Engaged students, scholars, artists, local activists, and community partners in "Troubled Waters", a project that explored waste in the Delaware River <http://troubledwaters2014.tumblr.com> (2014).
- Radio interview for *Distillations*, an award-winning science podcast from the Chemical Heritage Foundation: Episode 141: Disaster Recovery (2012).
- Collaboration with Future farmers on the public art project *Soil Kitchen*. This work addressed issues of urban sustainability through an understanding of soil chemistry and food (2011).
- Curriculum development for the Mentoring And Student Teaching (MAST) program for Philadelphia area high school and middle school students at Haverford College (2009-2011).
- Interviews and response to student questions as part of coverage of NSF RAPID cruise to the Gulf of Mexico on the Woods Hole Oceanographic Dive and Discover website (2010).

### Professional Talks

*\* denotes invited talk, presenter is highlighted in bold, names underlined signify undergraduate author*

1. **White, H.K.\*** (2024) Scientific Insights from the *Deepwater Horizon* release. Contributed talk as part of *Shared Challenges and Opportunities in Aging and Disaster Management: Potential for U.S.-Cuba Scientific Collaboration* meeting co-organized by AAAS and the Cuban Academy of Sciences, held at the Museum of Havana City, Havana, Cuba.
2. **White, H.K.** (2023) Oil Legacies of the Petroleum Industry. Lecture for Energy Afterlives 360, Department of Geology, Bryn Mawr College.
3. **White, H.K.** (2021) The Use of Dispersants in Marine Oil Spill Response. International Oil Spill Conference (IOSC), Virtual Meeting.
4. **White, H.K.\*** (2021) Stuck with Oil: Environmental Responses to the Legacies of the Petroleum Industry. Inaugural lecture for The William H. and Johanna A. Harris Professorship in Environmental Studies and Chemistry, Haverford College.
5. **White, H.K.\*** and E. Kerns (2021) Intertidal PlastiCity. Inhabited Sea Public Seminar held online.
6. **White, H.K.\*** (2020) Petrochemical collections from Mumbai. Inhabited Sea Virtual Workshop.
7. **White, H.K.\*** (2020) Exploring the unknown impacts of humans on the oceans. Distinguished Visiting Scientist program, Friends' Central School, PA.
8. **Reddy, C.M., D.L. Valentine, C. Love, K. Kivenson, H.K. White** (2019) Cyanobacteria production of alkanes: An intersection of basic and applied science. Goldschmidt Conference, Barcelona. Spain.
9. **White, H.K.\*** (2019) A sea of petrochemicals. Inhabited Sea Workshop, Tata Institute of Social Sciences, Mumbai, India.
10. **White, H.K.\*** (2019) Developing techniques for rapid characterization of oil residues in the marine environment. Biodiversity, Earth & Environmental Science Research Seminar, Drexel University, Philadelphia, PA.
11. **White, H.K.\*** (2019) Linking chemical analysis with genomics to gain insight into the biochemistry of oil degradation. Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA.
12. **White, H.K.** (2019) Beyond Arctic Haze. Aboard the L'Austral Arctic Expedition of Spitsbergen and Svalbard.
13. **White, H.K.** (2019) The History of Oil in the Arctic. Aboard the L'Austral Arctic Expedition of Spitsbergen and Svalbard.
14. Marx C.T., D.L. Valentine, C.M. Reddy, H.K. White (2018) Examining Inputs of Biogenic and Oil-Derived Hydrocarbons in Surface Waters After the Deepwater Horizon Oil Spill. Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA.
15. **White, H. K.\*** (2018) The qualities of the sea. Inhabited Sea Meeting, Program in Climate Studies, Indian Institute of Technology, Mumbai, India.



16. **White, H.K.\*** (2018) Responding to oil spills. Haverford Lawyers of Delaware, hosted by Judge Andrea Rocanelli of the Delaware Superior Court, Wilmington, DE.
17. **White, H.K.\*** (2017) Long-term weathering of oil residues in the marine environment. Seminar, Earth and Environmental Sciences Seminar, Lehigh University, Bethlehem, PA.
18. **White, H.K.\*** (2017) Fungal biodegradation of weathered oil residues in the marine environment. Seminar, Earth Observatory of Singapore, Nanyang Technological University, Singapore.
19. **White, H. K.,** C. Borowiak, V. Funari, j.m. ross (2017) Troubled Waters: Tracing Globalization and Waste in the Delaware River. Association for the Sciences of Limnology and Oceanography Meeting, Honolulu, HI.
20. **Reddy, C.M.,** K.M. Gosselin, R.K. Nelson, S. P. Sylva, C. Aepli, C.M. Sharpless, D.L. Valentine, C.T. Marx, H.K. White (2017) A Biogenic Input of Heptadecane in Surface Waters Prior to and during the Anthropocene. Goldschmidt Conference, Paris, France.
21. **White, H.K.\*** (2016) Investigating the oxidation of oil residues in the marine environment. Chemistry Seminar, Youngstown State University, Youngstown, OH.
22. **Liu, Y.,** R.L. Simister, S.L. Lyons, D. Waite, H.K. White, and E.B. Kujawinski (2016) New metabolic insights into the microbial degradation of seawater-soluble crude oil components. Ocean Sciences Meeting, New Orleans, LA.
23. **White, H.K.\*** (2015) Examining oil and dispersant mixtures in the marine environment. Chemistry Colloquium, Swarthmore College, Swarthmore, PA.
24. **White, H.K.\*** and E.B. Kujawinski (2015) Polar petroleum compounds and their degradation by microbes. Gulf of Mexico Research Initiative Research Webinar.
25. **White, H.K.\*** (2015) Investigating the long-term fate of oil and dispersant chemicals in the environment. Geoscience Colloquium, University of Pennsylvania, Philadelphia, PA.
26. **Liu, Y.,** H.K. White, R.L. Simister, S.L. Lyons, and E.B. Kujawinski (2015) Microbial Degradation Of Polar Crude Oil Components - A Metabolomics Approach. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Houston, TX.
27. **Simister, R.L.,** Y. Liu, S.L. Lyons, E.B. Kujawinski and H.K. White (2015) Using Comparative Metagenomics to Analyze Microbial Degradation of Polar Crude Oil Components. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Houston, TX.
28. **White, H.K.,\*** Z. Strauss, M. Schwartz (2015) Sea Change, Gallery talk, Cantor Fitzgerald Gallery, Haverford College, Haverford PA.
29. **White, H.K.\*** (2014) Examining the persistence of oil and dispersant compounds following the Deepwater Horizon Oil Spill. Chemistry Colloquium, Department of Chemistry, Bryn Mawr, PA.
30. **White, H.K.\*** (2014) The Unnatural History of Oil. Geosciences Colloquium, Department of Geosciences, Pennsylvania State University, State College, PA.
31. **White, H.K.\*** (2014) Adding to Our Chemical World. Chemistry Colloquium, Haverford College, Haverford, PA.
32. **Chapman, S.K.\*** H. White, C. Curran, and J.A. Langley (2014). Marsh plants mediate the influence of nitrogen fertilization on the degradation of oil from the Deepwater Horizon oil spill. Joint Aquatic Sciences Meeting, Portland, OR.
33. **White, H.K.\*** (2013) Exploring the impacts of the *Deepwater Horizon* oil spill on seafloor communities in the Gulf of Mexico. College of Earth, Ocean and Environment, University of Delaware, Lewes, DE.
34. **White, H.K.\*** (2013) Natural and anthropogenic carbon cycling in oil spills. Department of Biology, Villanova University, PA.
35. **White, H.K.\*** (2013) The Unnatural History of Molecules. D3 talk, invited by President Daniel H. Weiss, Haverford College, PA.
36. **White, H.K.\*** (2013) Examining the long-term fate of oil in the marine environment. Tri-College Environmental Studies Workshop, Swarthmore College, Swarthmore, PA.
37. **White, H.K.,** C.M. Reddy (2013) Geochemical Insights into remediation efforts in the Gulf of Mexico. American Society of Limnology and Oceanography Meeting, New Orleans, LA.
38. **White, H.K.** (2013) Examining the Deepwater Horizon Oil Spill - Where Did All the Oil Go?

Quadrangle Science Lecture Series, Haverford, PA.

39. **White, H.K.,\*** Willis, E.L. (2012) Examining the microbial response to oil in Gulf of Mexico deepwater environments. Geosciences and Environmental Studies department seminar, Williams College, MA.
40. **White, H.K.\*** (2011) Examining the impacts of oil on seafloor communities. Deepwater Horizon Oil Spill Principal Investigator Workshop. National Science and Technology Council Sub-committee on Ocean Science & Technology. St. Petersburg, FL.
41. **White, H.K.,\*** R.K. Nelson, C.M. Reddy (2011) Petroleum hydrocarbon analysis of coral communities following the Deepwater Horizon disaster. Institute of Marine and Coastal Sciences, Rutgers, NJ.
42. **White, H.K.** (2011) Investigating the fate of oil in the deep sea. Frontiers of Discovery Lecture. Association for Women in Science at 40. Chemical Heritage Foundation, Philadelphia, PA.
43. **White, H.K.,\*** M. Baenziger, J. Muse. (2011) Field Guide, Gallery talk, Cantor Fitzgerald Gallery, Haverford College, Haverford PA.
44. **White, H.K.\*** (2010) The persistence of oil in the marine environment. Department of Chemistry, Reed College, OR.
45. **White, H.K.\*** (2010) Isotopic Constraints on the origin and fate of natural & anthropogenic organic compounds in marine sediments. Hong Kong University, Hong Kong.
46. **White, H.K.** (2010) Health of the World's Oceans. Lecture for McGill University, Montreal, Canada.
47. **White, H.K.\*** (2008) Investigating the long-term persistence of oil spilled in the marine environment. Haverford College, PA.
48. **White, H.K.,** C.E. Reimers, C.E., H.A. Stecher III, P.R. Girguis (2008) Examining the ecology of plankton-fed microbial fuel cells at different whole cell potentials. American Geophysical Union Ocean Sciences Meeting, Orlando, FL.
49. **White, H.K.\*** (2007) Anodic bacterial community similarity in different ocean-deployed microbial fuel cells. Harvard University, MA.
50. **White, H.K.,\*** P.R. Girguis (2007) Examining the diversity of electricity generating microbes: New options for sustainability. Ramapo College, Mahwah, NJ.
51. **White, H.K.,** Reimers, C.E., H.A. Stecher III, P.R. Girguis (2007) Examining the efficiency and biogeochemistry of plankton-fed microbial fuel cells. ACS Fall National Meeting, Boston, MA.
52. **White, H.K.,\*** T.I. Eglinton, C. M. Reddy (2006) Isotopic constraints on the sources of organic compounds in marine sediments. Boston University, Department of Earth Sciences, Boston, MA.
53. **White, H.K.,\*** T.I. Eglinton, C. M. Reddy (2006) Isotopic constraints on the provenance of individual biomarkers in salt marsh sediments. Massachusetts Institute of Technology, Chemical Oceanography Seminar Series, Cambridge, MA.
54. **White, H.K.,\*** T.I. Eglinton, C. M. Reddy (2006) Isotopic constraints on the origin and fate of natural & anthropogenic organic compounds in salt marsh sediments. Massachusetts Institute of Technology, Department of Civil and Environmental Engineering, Cambridge, MA.
55. **White, H.K.,** G.F. Slater, T.I. Eglinton, C. M. Reddy (2006) Constraints on the origin and fate of natural & anthropogenic organic compounds in salt marsh sediments from  $^{14}\text{C}$  analysis. American Geophysical Union Ocean Sciences Meeting, Honolulu, HI.
56. **White, H.K.** (2006) Isotopic constraints on the sources and associations of natural and anthropogenic organic compounds in marine sediments. DISCO XIX, Waikaloa, HI.
57. **White, H.K.,** C. M. Reddy, T.I. Eglinton (2003) Radiocarbon as an inverse tracer of fossil fuel-derived contaminants in sediments. European Meeting in Environmental Chemistry, Plymouth, UK.
58. **White, H.K.,** T.I. Eglinton, C. M. Reddy (2002) Post-depositional transport and fate of PAHs thirty years after the West Falmouth oil spill. ACS Fall National Meeting, Boston, MA.

#### **Talks related to Policy, Pedagogy, and Experiential Learning**

59. Angrand, G., B. Cuzzolina, R. Hoang, **H.K. White** (2023). Leveraging Student Knowledge for Curricular Change. HHMI LCC1 Meeting: Building Connections, Capacity, and Reflections, Rochester, NY.
60. **White, H.K.,** S. Friedler, T. Young, A. Hochman. (2020) What does racial justice have to do with my

- major? With a focus on history and action in STEM. Teach-In, Haverford College, Haverford, PA.
61. **White, H.K.\*** (2020) Early Career Research Fellow Alumni Panel, Gulf Research Program Division, The National Academies of Sciences, Engineering, and Medicine. Washington, D.C.
  62. **White, H.K.\*** (2019) Conceptualizing STEM disciplines. A panel discussion as part of The Alliance to Advance Liberal Arts Colleges (AALAC) meeting, Carleton College, MN.
  63. **White, H.K.\*** (2018) Presenter and Moderator for Environmental Policy Panel at the fourth annual Public Policy Forum, Haverford College, Haverford, PA.
  64. **White, H.K.\*** and D. Gross (2018) Envisioning “What is data science?” for students. A webinar given as part of the Liberal Arts Collaborative for Digital Innovation (LACOL) consortium.
  65. **White, H.K.,\*** V. Funari (2017) Science, Information and Transdisciplinary Engaged Inquiry Panel Presentation and Discussion, Haverford College, Haverford, PA.
  66. **White, H.K.\*** (2015) Talk for *Monument Lab: Creative Speculations for Philadelphia*, a public art and urban research project curated by Ken Lum, Paul Farber and A. Will Borwon. Philadelphia, PA.
  67. **White, H.K.\*** (2014) Balancing Disciplines and Dimensions in the Capstone Courses. Tri-College Environmental Studies Workshop, Bryn Mawr College, Bryn Mawr, PA.
  68. **White, H.K.\*** (2014) Challenges and Solutions for Women in Marine Science, Invited panelist at the first workshop of the Society for Women in Marine Science (SWMS), WHOI, Woods Hole, MA.
  69. **White, H.K.\*** (2013) Venturing beyond the Haverbubble with experiential learning. Presentation and panel discussion as part of the Inauguration of 14<sup>th</sup> President Daniel H. Weiss, Haverford College, PA.
  70. **White, H.K.\*** (2011) Environmental Science Research at Haverford College. Conversations with Haverford alumni in New York, NY.
  71. **White, H.K.\*** (2011) Environmental Chemistry – Lessons from the past and predictions for the future. Conversations with Haverford alumni in Houston, TX, Dallas, TX and San Francisco, CA.
  72. **White, H.K.\*** (2010) Engaging students in environmental science research at Haverford College. Presentation and panel discussion as part of Family and Friends Weekend, Haverford College, PA.

### **Selected Poster Presentations**

*(presenter is highlighted in bold, names underlined signify undergraduate author)*

73. **Bercow, D.,** A. Wood, C.M. Reddy, R.K. Nelson, H.K. White (2022) Chemical analysis of oiled field samples collected from the 2020 Delaware Bay Mystery Oil Spill. Ocean Sciences Meeting (virtual).
74. **Kerns E.,** H.K. White (2022) Anthropogenic contamination in United States nearshore waters: Impacts of urbanization and coastal flooding over the last 20 years. Ocean Sciences Meeting (virtual).
75. **Uyeda K.,** S. Youngs, C. Anderson, D. Grzenda, A.E. Morrison, H.K. White, A.P. Michel (2022) Examining the relationship between weathering and the accumulation of metals on macroplastic debris collected from coastal environments. Ocean Sciences Meeting (virtual).
76. **Dhoonmoon, C.,** M. Luu, C. Samuels, H.K. White (2019) Rapid characterization of oil residues in the environment by Fourier-transform infrared spectroscopy. American Chemical Society National Meeting, Orlando, FL.
77. **Bullock, E.B.,** A. Schafsnitz, R.L. Broadrup, A. Macherone, C. Mayack, H.K. White (2019) Investigating the utility of silicone bands as passive samplers to monitor the health of honey bee hives. American Chemical Society National Meeting, Orlando, FL.
78. **Morrison, A.E.,** B.C. Colson, C.T. Marx, C. Dhoonmoon, C.N. Anderson, J. Batterton, H.K. White, A.P.M. Michel (2019) Investigating Methods for the Rapid Identification of Marine Plastics. Association for the Sciences of Limnology and Oceanography Meeting, San Juan, Puerto Rico.
79. **Schick, S.J.,** R.L. Broadrup, C. Mayack, H.K. White, A. Macherone (2018) Providing a Holistic Perspective on Honey Bee Health by Integrating Disease Screening and GC-QTOF Exposome Profiling. University Research Fair, Agilent Technologies, Santa Clara, CA.
80. **Morrison, A.E.,** A. Michel, C.P. Ward, H.K. White (2018) Development of Methods to Rapidly Identify and Characterize Oil Residues in the Coastal Environment. Ocean Sciences Meeting, Portland, OR.
81. **Morrison, A.E.,** H.K. White (2018) Investigating Multiple Inputs of Oil Residues to Gulf of Mexico

- beaches. Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA.
82. **White, H. K., C. Wang, M. Wenny** (2017) Microplastics in the Delaware River Watershed. Association for the Sciences of Limnology and Oceanography Meeting, Honolulu, HI.
  83. **Geng, Z., O.P. Janson, M.C. Baker, H.K. White** (2017) Degradation of oil by fungi isolated from weathered oil residues. Association for the Sciences of Limnology and Oceanography Meeting, Honolulu, HI.
  84. **Janson, O.P., Z. Geng, M.C. Baker, H.K. White** (2017) Examining the diversity of a microbial community grown on weathered oil. Association for the Sciences of Limnology and Oceanography Meeting, Honolulu, HI.
  85. **Green, H.S.** S.A. Fuller, A.W. Meyer, P. Joyce, C. Aepli, R.K. Nelson, K.M. Gosselin, R.F. Swarthout, H.K. White, D. L. Valentine, and C.M. Reddy (2016) Tar balls collected in the North Atlantic over the past two decades vary substantially. American Geophysical Union Fall Meeting, San Francisco, CA.
  86. **White, H.K., Y. Liu, R.L. Simister, S.L. Lyons, D. Waite, E.B. Kujawinski** (2016) Metagenomic analysis of the microbial degradation of polar oil compounds. Ocean Sciences Meeting, New Orleans, LA.
  87. **Boehman, B., S.L. Lyons, Z. Geng, H.K. White** (2016) Determining the presence of dipropylene glycol n-butyl ether (DPnB) in sediments and sands contaminated by the Deepwater Horizon (DWH) oil spill. Ocean Sciences Meeting, New Orleans, LA.
  88. **Thurston, A., O. Janson, H.K. White** (2016) Exploring the lipid profiles of three marine fungi. Ocean Sciences Meeting, New Orleans, LA.
  89. **Weathers, N., K. Rowlett, A.E. Morrison, Z. Geng, H.K. White** (2016) Examining the association of DDX compounds to sedimentary organic matter. Ocean Sciences Meeting, New Orleans, LA.
  90. **Rowlett, K., N. Weathers, A.E. Morrison, Z. Geng, H.K. White** (2016) Persistence and Bioavailability of DDT in a Coastal Salt Marsh. Ocean Sciences Meeting, New Orleans, LA.
  91. **Longnecker, K., Y. Liu, H.K. White, E.B. Kujawinski** (2015) Composition of Metabolites Produced by a Coastal Microbial Community in the Presence of Oil. 11<sup>th</sup> International Conference of the Metabolomics Society, San Francisco, CA.
  92. **Poutasse, C.M., R.L. Simister, H.K. White** (2015) Exploring the Environmental Controls on the Degradation of Oil by Marine Fungi. 249th American Chemical Society National Meeting, Denver, CO.
  93. **Lyons, S.L., H.K. White** (2015) Examining the desorption of oil from surface residual oil balls. 249th American Chemical Society National Meeting, Denver, CO.
  94. **Wang, C. and H.K. White** (2015) Examining Weathered Oil In Surface Residual Oil Balls From 2012-2014. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Houston, TX.
  95. **Simister, R.L., E.L. Willis, H.K. White** (2014) Diversity of oil-degrading microbes and petroleum-hydrocarbon genes in deep-sea environments impacted by the Deepwater Horizon oil spill. Ocean Sciences Meeting, Honolulu, HI.
  96. **White, H.K., J. Reeve, R.L. Simister** (2014) Oil degradation by Ascomycetes fungi. Ocean Sciences Meeting, Honolulu, HI.
  97. **White, H.K. and E.B. Kujawinski** (2014) Investigating the fate of Petroleum and Dispersants in the Aftermath of the Deepwater Horizon Oil Spill. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL.
  98. **Simister, R.L., J. Reeve, H.K. White** (2014) Examining the degradation of oil by fungi isolated from oil-soaked sand patties. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL.
  99. **Williams, P.L., C. Londergan, H.K. White** (2014) Examining the mechanisms of oil degradation with infrared spectroscopy and two-dimensional correlation analysis. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL.
  100. **Lyons, S.L., Harrison, S.J., Liu, Y.L., Kujawinski, E.B., H.K. White** (2014) Extraction and Quantification of DOSS from Deep Sea Sediments. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL.
  101. **Findley, D.M., Williams, P.L., H.K. White** (2014) Using Hopane and Sterane Biomarker Ratios to

- Determine the Origin of Oil Residues in the Gulf of Mexico. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL.
102. **Lemkau, K.L.,** C.M. Reddy, H.K. White (2013) The impact of Hurricane Isaac (2012) on the delivery of oiled materials from the Deepwater Horizon oil spill to Gulf Coast beaches. Deep-C Consortium "All-Hands" Meeting, Tallahassee, FL.
  103. **White, H.K.** and E.B. Kujawinski (2013) Weathering of Petroleum and Dispersant Components in the Aftermath of the Deepwater Horizon Oil Spill. Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL.
  104. **Lyons, S.L.,** Harrison, S.J., Kujawinski, E.B., H.K. White (2013) Isolation and Quantification of DOSS from Deep Sea Sediments. Eastern Analytical Symposium, Somerset, NJ.
  105. **Williams, P.L.,** H.K. White (2013) Examining the heterogeneity of oil in sand patties from the Gulf of Mexico. Eastern Analytical Symposium, Somerset, NJ.
  106. **Poutasse, C.M.,** H.K. White (2013) Quantification of PAHs in Vietnamese *Porites* Coral. Eastern Analytical Symposium, Somerset, NJ.
  107. **Willis, E.L.,** H.K. White (2013) Examining the diversity of petroleum hydrocarbon-degrading genes in Gulf of Mexico deep-sea sediments. Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA.
  108. **Williams, P.L.,** H.K. White (2013) Exploring the heterogeneity of oil in sand patties from the Gulf of Mexico. Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA.
  109. **Sheline, C.R.,** H.K. White (2013) Investigating the impact of oil on *Lophelia Pertusa* (Scleractinia). Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA.
  110. **Lemkau, K.L.,** H.K. White, C.M. Reddy (2013) Characterization of oiled materials collected before and after Hurricane Isaac at Fort Morgan, AL. Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA.
  111. **White, H.K.,** E.L. Willis (2012) Examining the influence of oil composition on the diversity of microbes in Gulf of Mexico deepwater environments. Gordon Research Conference in Organic Geochemistry, Holderness, NH.
  112. **Willis, E.L.,** H.K. White (2011) Abundance and diversity of oil degrading microbes in the Gulf of Mexico. Regional Microbiology Educators 8th Annual Student Research Symposium, Swarthmore, PA.
  113. **White, H.K.,** S.J. Choyke (2010) Examining the distribution of organic contaminants in different sediment size fractions. 6<sup>th</sup> International Conference on Marine Pollution & Ecotoxicology. Hong Kong.
  114. **White, H.K.,** C.E. Reimers, M.E. Nielsen, S. Sharma, P.R. Girguis (2008) Assessing power production and microbial ecology of environmental marine microbial fuel cells. American Society of Microbiology Annual Meeting. Boston, MA.
  115. **White, H.K.,** C.E. Reimers, H.A. Stecher III, P.R. Girguis (2007) Examining the ecology of plankton-fed microbial fuel cells. American Society of Microbiology. Toronto, Canada.
  116. **White, H.K.,** C. M. Reddy, T.I. Eglinton (2005) Relationships between the radiocarbon age and modes of association of natural organic matter in coastal sediments. 22nd International Meeting on Organic Geochemistry, Seville, Spain.
  117. **White, H.K.,** T.I. Eglinton, C. M. Reddy (2004) Relationships Between the Radiocarbon Age and Modes of Association of Organic Matter in Environmental Matrices. Gordon Research Conference in Organic Geochemistry, Holderness, NH.
  118. **White, H.K.,** C. M. Reddy, T.I. Eglinton (2004) Radiocarbon as an inverse tracer of fossil fuel-derived contaminants in sediments. AGU Ocean Sciences Meeting, Portland, OR.
  119. **White, H.K.,** T.I. Eglinton, C. M. Reddy (2002) Radiocarbon as an inverse tracer of petroleum residues in sediments. Gordon Research Conference in Organic Geochemistry, Holderness, NH.
  120. **White, H.K.,** T.I. Eglinton, C. M. Reddy (2001) Radiocarbon as a tracer of petroleum residues in Wild Harbor sediments. North Atlantic Society of Environmental Toxicology and Chemistry, Plymouth, MA

## Teaching and Advising Experience

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### Selected Courses at Haverford College

CHEM 100	General Chemistry, lecture and laboratory	2009
CHEM 112	Chemical Dynamics	2010-11, 2018
CHEM 268	Research Tutorial in Environmental Chemistry	2010-present
CHEM 368	Research Tutorial in Environmental Chemistry	2009-present
CHEM 302	Laboratory in Chemical Structure and Reactivity	2010, 2012, 2014-16
CHEM 310	Seminar in the Social Relevance of Chemistry	2021-24
CHEM 358	Environmental Chemistry – Industry & Environment	2019
CHEM 358	Environmental Chemistry – Oil in the Sea	2018
CHEM 358	Environmental Chemistry – Biogeochemistry	2010, 2012
CHEM 358	Environmental Chemistry – Unnatural Disasters	2012, 2015
CHEM 358	Environmental Chemistry – Organic Geochemistry	2015
ENVS 150	Introduction to Oceanography	2014, 2020
ENVS 101	Case Studies in Environmental Issues	2011, 2017, 2019, 2020
ENVS 397	Senior Seminar in Environmental Studies	2013-15
ICPR 110	Belonging and Becoming at Haverford College	2020, 2021

### Selected Courses Taught at Other Institutions

Harvard University, Experimental Research in the Life Sciences (teaching assistant) 2007-2009

Harvard University, Windows to the Invisible World workshop (lab instructor) 2008

Boston University, Marine Biogeochemistry (graduate and undergraduate level) 2006

Boston University, Oceanography (undergraduate level) 2006

### External Graduate Advising and Thesis Committees

- Katherine Fiocca, Ph.D. in Biology, Drexel University, thesis committee advisor, 2018-2021.
- Jagoš Radović, Ph. D. in Analytical Chemistry and Environmental Pollution, University of Barcelona, Spain, thesis external examiner, 2014.
- Nagissa Mahmoudi Ph. D. in Geography & Earth Sciences, McMaster University, Ontario, Canada, thesis external examiner, 2013.

### Research Mentoring at Haverford College

#### *Postdoctoral and Guest Investigators*

<b>2013-15</b>	Rachel Simister (2 years; Postdoctoral Fellow)
<b>2014</b>	Andrew Margolskee (Oratory Preparatory School teacher, 1 year)
<b>2012</b>	Ben McGovern (Villanova University Masters student, 1 year)

#### *Undergraduate students (listed by graduation year)*

<b>2025</b>	Sidney Chen (2 years)
<b>2024</b>	Erin Albright (2 years), David Betz (1 year), Gigi Chen (3 years), Evan Daniels (2 years), Margaret Martin (2 years), Ali Nurkhaidarov (1 year), Isabel Thornberry (3 years)
<b>2023</b>	Dalia Bercow (2 year), Sabine Blumenthal (1 year), Anthony Carrillo (1 year), Finley Medina (4 years), Ashley Scheffler (1 year), Caroline Smith (1 year), Aviva Soll (1 year), Kaila Uyeda (1 year), Lucas Voit (1 year), Annemarie Wood (2 years), Clarice Xu (1 year)
<b>2022</b>	luigie alequín (2 years), Andre Martin (2 years), Ellie Kerns (3 years), Matthew Donahue (1 year)
<b>2021</b>	Johanna Batterton (4 years), Kelsey Chai (2 year), Hasibe Caballero-Gomez (3 years), Abe Doroshov (2 years), Camille Samuels (3 years)
<b>2020</b>	Christine Anderson (3 years), Michelle Luu (3 years), Sara Matsumura (3 years), Charles Marx (Beckman Scholar; 4 years), Shivani Parikh (1 year)
<b>2019</b>	Emma Bullock (3 years), Charvanaa Dhoonmoon (2 years)

- 2018** Liana Alves (1 year), Raina Fitzpatrick (1 year), Zexi Geng (3 years), Owen Janson (Beckman Scholar; 3 years), Alexandra Morrison (3 years)
- 2017** Miranda Baker (4 years), Sherlande Edouard (2 years), Chloe Wang (4 years)
- 2016** Brenna Boehmann (2 years), Katie Rowlett (2 years), Alana Thurston (3 years), Nora Weathers (2 years)
- 2015** Clayton Bloszies (2 years), David (Max) Findley (3 years), Shelby Lyons (3 years), Carolyn Poutasse (3 years).
- 2014** Jennifer Reeve (3 years), Patrick Williams (3 years), Zachary Rosenthal (1 year), Martin Richard (2 years)
- 2013** Sarah Harrison (3 years), Catherine Sheline (3 years), Misha Sims (1 year), Elizabeth Willis Antzis (3 years), Bruce Willis (1 year)
- 2012** Jenine Abbassi (1 year), Elizabeth Coward (3 years), Ingrid Pancoast (2 years), Lindsay Ryan (1 year), Brian Suh (1 year), Sascha Patel (Bryn Mawr College, 1 year), Reena Palanivel (Villanova University, 1 year)
- 2011** Alissa Aron (1 year), Oriana Chegwiddden (2 years), Erin Reviea (Bryn Mawr College, 1 year)
- 2010** Sarah Choyke (1 year), Casper Hu (1 year)

#### **Senior Thesis Projects Supervised at Haverford College (by graduation year)**

- 2024** Erin Albright “Chemical Defense Compounds of Neotropical Wasps”.  
Gigi Chen “Examining the presence of Phthalates in Environmental Plastic Debris”.  
Margaret Martin “Examining the Persistence of Oil from the 2010 Deepwater Horizon Oil Spill”.  
Ali Nurkhaidarov “Investigating the Delaware Bay Mystery Oil Spill”.  
Isabel Thornberry “Spatial and Temporal Dynamics of the Eastern Tropical North Pacific Oxygen Minimum Zone”.
- 2023** Dalia Bercow “Investigating the Chemical Communication Between Tropical Eusocial Wasps (*Leipomeles*) and Army Ants (*Eciton*)”.  
Aviva Soll “Application of environmental DNA and geochemistry for assessment of acid mine drainage remediation efficacy in New Philadelphia, Pennsylvania”.  
Nathan Torres “The Economic and Environmental Consequences of Metals in Plastics”.  
Annemarie Wood “The Influence of Biofouling on the Degradation of Marine Plastic Debris: How does the Accumulation of Organisms on Plastic Affect its Fate?”
- 2022** Matthew Donahue “Investigating the Risks of U.S. Coastal Flooding and Nonpoint Source Pollution”.  
Ellie Kerns “Anthropogenic Contamination in US Nearshore Waters: Analysis of Coastal Flooding Concerns and Nonpoint Pollution Risk Factors”.
- 2021** Johanna Batterton “Identification of Cuticular Hydrocarbons in the Paper Wasp Species *Mischocyttarus pallidipectus*”.  
Hasibe Caballero-Gomez “A Spatial Analysis and Lead Risk Assessment of Philadelphia”.  
Kelsey Chai “Carbon Isotope Analysis on Pacific Herring in the Prince William Sound, Alaska”.  
Abe Doroshov “Qualitative and Quantitative Analyses of Commercial Weapons-Grade Pepper Sprays”.
- 2020** Christine Anderson “Quantifying the Heavy Metal Content of Global Beached Plastic Samples via Attenuated Total Reflectance Infrared Spectroscopy and X-Ray Fluorescence”.  
Sara Matsumura “Microplastic Fiber Research Review: Case Study Identifying Microplastics and Fibers in New Bedford Harbor”.  
Shivani Parikh “Understanding the relationship between environmental and social determinants of chronic respiratory disease and its role in the development of digital health” Co-advised with Prof. Anna West (Health Studies & Anthropology).
- 2019** Emma Bullock “The Utility of Silicone Wristbands as Passive Samplers in Honeybee Hives”.  
Charvanaa Dhoonmoon “Rapid Characterization of Oil Residues in the Environment by Fourier-Transform Infrared Spectroscopy”.

- 2018** Kaiwei Wang “Analytical Approaches for Analyzing Microplastics in the Marine Environment”.  
Raina Fitzpatrick “Interactions between sodium fluxes and nitrogen cycles, and their effects on subalpine ecosystem function and micronutrient levels in soils”.  
Zexi Geng “Oil degradation by marine fungi”.  
Owen Janson “Using Meta-Omic approaches to investigate microbial communities exposed to oil-derived hydrocarbons”.  
Alexandra Morrison “Rapid identification and characterization of oil residues in the coastal marine environment”.
- 2017** Miranda Baker “Characterization, identification and incubation of fungi isolated from weathered oil samples”.  
Alexis Schafsnitz “Development of a passive silicone sorbent to monitor biomarkers indicative of honey bee health”.  
Chloe Wang “Methods for untargeted analysis of chemicals related to honey bee health.”
- 2016** Brenna Boehman “Examining dispersant compounds in samples contaminated by the *Deepwater Horizon* oil spill”.  
Katie Rowlett “Persistence and Bioavailability of DDT in an Estuarine Environment”.  
Alana Thurston “Exploring Lipid Profiles of Marine Fungi”.  
Nora Weathers “Examining the Association of DDX Compounds to Sediment Matter”.
- 2015** Clayton Bloszies “Investigating the presence of chlorinated fatty acids in the San Francisco Bay”.  
David (Max) Findley “Novel isotope analysis of DDX compounds in and estuarine environment”.  
Shelby Lyons “Examining the desorption of oil from persistent surface residual balls (SRBs)”  
Carolyn Poutasse “Ascomycota in action: Exploring the environmental controls on the degradation of oil by marine fungi”.
- 2014** Jennifer Reeve “Investigating the fungal degradation of crude oil”.  
Patrick Williams “Spill it: Measuring oxidative change in oil via Fourier transform infrared spectroscopy”.
- 2013** Sarah Harrison “Investigating the dynamic range of weathered oil and chemical dispersant in the Environment”.  
Catherine Sheline “Investigating the impact of oil on the deep-water coral *Lophelia pertusa* (Scleractinia)”.  
Elizabeth Willis Antzis “Examining the diversity of petroleum-hydrocarbon genes in Gulf of Mexico deep-sea sediments and coral flocculent material”.
- 2012** Jenine Abbassi “Petroleum hydrocarbon analysis of deep-sea Gulf of Mexico sediments”.  
Elizabeth Coward “Petroleum hydrocarbon analysis of Gulf of Mexico sediment meiofauna”.  
Ingrid Pancoast “Active learning in an alternative energy introductory chemistry laboratory”.  
Lindsay Ryan “Petroleum hydrocarbon analysis of subfractions from sediments impacted by the Gulf of Mexico oil spill”.
- 2011** Alissa Aron “Examination of macromolecular organic matter in the atmosphere”.  
Oriana Chegwiddden “Persistence of Oil in Delaware River sediments”.
- 2010** Sarah Choyke “Partitioning and distribution of hydrophobic organic contaminants in marine and freshwater sediments”.  
Casper Hu “Ruthenium Tetroxide oxidation of contaminated sediments”.

*Number of off-campus presentations by undergraduate students in research group: 36 (updated 03/24)*  
*Number of on-campus presentations by undergraduate students in research group: 106 (updated 03/24)*