

## ANN G. DUNLEA

Department of Marine Chemistry and Geochemistry • Woods Hole Oceanographic Institution  
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### EDUCATION

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- Ph.D., Earth Sciences**, Boston University Sept. 2016  
Dissertation: *Biogeochemistry and geochemical paleoceanography of the South Pacific Gyre*  
Adviser: Richard W. Murray
- B.S., Environmental Sciences**, University of Rochester May 2010  
Thesis: *Groundwater Age Determination on Nantucket, MA using  $^3\text{H}/^3\text{He}$  and  $^4\text{He}$  Dating Techniques*  
Adviser: Robert J. Poreda

### PROFESSIONAL APPOINTMENTS

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- Assistant Scientist**, Woods Hole Oceanographic Institution 2019 – Present
- Postdoctoral Research Investigator**, Woods Hole Oceanographic Institution 2018 – 2019
- Postdoctoral Research Scholar**, Woods Hole Oceanographic Institution 2016 – 2018
- Graduate Research Assistant**, Boston University 2010 – 2016
- Undergraduate Research Assistant**, University of Rochester 2009 – 2010

### HONORS AND AWARDS

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- Ocean and Climate Change Institute Postdoctoral Scholarship, *WHOI* 2016 – 2018
- Director's Award for Outstanding Teaching in the Marine Semester, *Boston University* 2014
- Dean's Fellowship, *Boston University* 2010 - 2011
  - Offered annually to top entering graduate student
- High Distinction and High Honors in Research, *University of Rochester* 2010

### PEER-REVIEWED PUBLICATIONS

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19. **Dunlea, A. G.**, L. A. Tegler, B. Peucker-Ehrenbrink, A. D. Anbar, S. J. Romaniello, T. J. Horner, (2021) Pelagic clays as archives of marine iron-isotope chemistry. *Chemical Geology*, 575, 12020. doi: 10.1016/j.chemgeo.2021.120201
  - First and second authors contributed equally.
18. Sauvage, J. F., A. Flinders, A. J. Spivack, R. Pockalny, **A. G. Dunlea**, C. H. Anderson, D. C. Smith, R. W. Murray, S. D'Hondt (2021) The contribution of water radiolysis to marine sedimentary life. *Nature Communications*, 12, 1297. <https://doi.org/10.1038/s41467-021-21218-z>
17. **Dunlea, A. G.**, L. Giosan, Y. Huang (2020) Pliocene expansion of C<sub>4</sub> vegetation in the core monsoon zone on the Indian Peninsula. *Climates of the Past*, 16, 1-14. doi: 10.5194/cp-16-1-2020
16. **Dunlea A. G.**, R. W. Murray, R. Tada, C. A. Alvarez-Zarikian, C. H. Anderson, A. Gilli, L. Giosan, T. Gorgas, R. Hennekam, T. Irino, M. Murayama, L. C. Peterson, G-J. Reichart, A. Seki, H. Zheng, M. Ziegler (2020) Inter-comparison of XRF core scanning results from 7 labs and approaches to practical calibration. *Geochemistry, Geophysics, Geosystems*, 21, e2020GC009248, doi: 10.1029/2020GC009248
15. Anderson, C. H., R. W. Murray, **A. G. Dunlea**, L. Giosan, C. W. Kinsley, D. McGee, and R. Tada (2019) Eolian delivery to Ulleung Basin, Korea (Japan Sea) during development of the East Asian

Monsoon through the last 12 Ma. *Geological Magazine*, doi: 10.1017/S001675681900013X

14. Giosan, L., W. Orsi, M. Coolen, **A. G. Dunlea**, K. Thirumalai, S. E. Munoz, P. Clift, J. Donnelly, V. Galy, D. Fuller (2018) Neoglacial Climate Anomalies and the Harappan Metamorphosis. *Climate of the Past*, 14, 1669-1686. doi: 10.5194/cp-14-1669-2018
13. **Dunlea, A. G.**, R. P. Scudder, R. W. Murray (2018) Marine Sediment. In White W.M. (eds) *Encyclopedia of Geochemistry*. Encyclopedia of Earth Sciences Series. Springer, Cham. doi: 10.1007/978-3-319-39312-4\_105
12. Anderson, C. H., R. W. Murray, **A. G. Dunlea**, L. Giosan, C. W. Kinsley, D. McGee, and R. Tada (2018) Climatically driven changes in the supply of terrigenous sediment to the East China Sea. *Geochemistry, Geophysics, Geosystems*, 19, 2463-2477. doi: 10.1029/2017GC007339
11. Tada, R., T. Irino, K. Ikehara, A. Karasuda, S. Sugisaki, C. Xuan, T. Sagawa, T. Itaki, Y. Kubota, S. Lu, A. Seki, R. W. Murray, C. A. Alvarez Zarikian; W. T. Anderson, M. Bassetti, B. J. Brace, S. C. Clemens, M. H. da Costa Gurgel, G. R. Dickens, **A. G. Dunlea**, S. J. Gallagher, L. Giosan, A. C. G. Henderson, A. E. Holbourn, C. W. Kinsley, G. Soo Lee, K. E. Lee, J. Lofi, C. I.C.D. Lopes, M. Saavedra Pellitero, L. C. Peterson, R. K. Singh, S. Toucanne, S. Wan, H. Zheng, M. Ziegler (2018) High-resolution and -precision correlation of dark and light layers in the Quaternary hemipelagic sediments of the Japan Sea recovered during IODP Expedition 346. *Progress in Earth and Planetary Science*, 5, 19. doi: 10.1186/s40645-018-0167-8
  - Awarded most cited paper at *Progress in Earth and Planetary Science* in 2020
10. **Dunlea, A. G.**, R. W. Murray, D. P. Santiago Ramos, and J. A. Higgins (2017) Cenozoic global cooling and increased seawater Mg/Ca via reduced reverse weathering. *Nature Communications*, 8, 844. doi:10.1038/s41467-017-00853-5
9. De Vleeschouwer, D., **A. G. Dunlea**, G. Auer, C. H. Anderson, H. Brumsack, A. de Loach, M. C. Gurnis, Y. Huh, T. Ishiwa, K. Jang, M. A. Kominz, C. März, B. Schnetger, R. W. Murray, H. Pälike, and Expedition 356 shipboard scientists (2016) Quantifying K, U and Th concentrations of marine sediments using shipboard natural gamma radiation spectra measured on *RV JOIDES Resolution*. *Geochemistry, Geophysics, Geosystems*, 18, doi:10.1002/2016GC006715
  - Top 20 most downloaded paper in *Geochemistry, Geophysics, Geosystems* in 2017-2018
8. Lyle, M., R. A. Pockalny, P. J. Polissar, J. Lynch-Stieglitz, C. Ravelo, S. Bova, **A. G. Dunlea**, H. Ford, J. Herzberg, S. Hovan, A. Jacobel, C. King Wertman, A. Maloney, R. W. Murray, J. Shackford Wilson, K. Wejnert, R. Xie (2016) Dynamic carbonate sedimentation on the Northern Line Islands Ridge, Palmyra Basin. *Marine Geology*, 379, 194-207. doi: 10.1016/j.margeo.2016.06.005
7. Dzaugis, M. E., A. J. Spivack, **A. G. Dunlea**, R. W. Murray, S. D'Hondt (2016) Radiolytic hydrogen production in the seafloor basaltic aquifer. *Frontiers in Microbiology*, 7, doi: 10.3389/fmicb.2016.00076
6. Adhikari, R. R., C. Glombitza, J. C. Nickel, C. H. Anderson, **A. G. Dunlea**, A. J. Spivack, R. W. Murray, S. D'Hondt (2016) Hydrogen utilization potential in subsurface sediment. *Frontiers in Microbiology*, 7, doi: 10.3389/fmicb.2016.00008
5. **Dunlea, A. G.**, and R. W. Murray (2015) Optimization of end-members used in multiple linear regression geochemical mixing models. *Geochemistry, Geophysics, Geosystems*, 16, 4021-4027. doi: 10.1002/2015GC006132
4. **Dunlea, A. G.**, R. W. Murray, J. Sauvage, R. A. Pockalny, A. J. Spivack, R. N. Harris, and S. D'Hondt (2015) Cobalt-based age models of pelagic clay in the South Pacific Gyre. *Geochemistry, Geophysics, Geosystems*, 16, 2694-2710. doi: 10.1002/2015GC005892

3. **Dunlea, A. G.**, R. W. Murray, J. Sauvage, A. J. Spivack, R. N. Harris, and S. D'Hondt (2015) Dust, volcanic ash, and the evolution of the South Pacific Gyre through the Cenozoic. *Paleoceanography*, 30, 1078-1099. doi: 10.1002/2015PA002829
2. Lynch-Stieglitz, J., P. J. Polissar, A. Jacobel, S. Hovan, R. A. Pockalny, M. Lyle, R. W. Murray, C. Ravelo, S. Bova, V. Castro, **A. G. Dunlea**, H. Ford, J. Herzberg, C. King, A. Maloney, J. Shackford, K. Wejnert, R. Xie (2015) Glacial-Interglacial Changes in Central Tropical Pacific Surface Seawater Property Gradients. *Paleoceanography*, 30, 423-438. doi: 10.1002/2014PA002746
1. **Dunlea, A. G.**, R. W. Murray, R. N. Harris, M. A. Vasiliev, H. Evans, A. J. Spivack, and S. D'Hondt (2013) Assessment and use of NGR instrumentation on the *JOIDES Resolution* to quantify U, Th, and K concentrations in marine sediment. *Scientific Drilling*, 15, 57-63. doi:10.2204/iodp.sd.15.05.2013

#### **OTHER PUBLICATIONS**

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4. Wolfgang, K., A. Holbourn, J. Schönfeld, K. Lindhorst, S. Gallagher, M. Keep, A. Sadekov, **A. G. Dunlea**, S. Clemens, R. Wilkens, M. Sarnthein, T. Leutert, P. Zhang, D. Maicher, R. Manceau, A. Dillon, J. L. Gonzalez, S. Fabian, J. McCaffrey, K. Kochhann, J. Lübbers, J. Jöhnck, J. Hingst, K. Parplies, M. Koppe, S. Steffen, J. Schultz, S. Heinrich, T. Averages, F. Evers (2018) Cruise report Sonne 257, WACHEIO - Western Australian Climate History from Eastern Indian Ocean Sediment Archives, Darwin - Fremantle, May 12, 2017 - June 04, 2017. *Institut für Geowissenschaften, Christian-Albrechts-Universität zu Kiel*, 260 pp, doi: 10.2312/cr\_so257
3. McKay, R., N. Exon, D. Mueller, K. Gohl, M. Gurnis, A. Shevenell, S. Henrys, F. Inagaki, D. Pandey, J. Whiteside, T. van de Flierdt, T. Naish, V. Heuer, Y. Morono, M. Coffin, M. Godard, L. Wallace, S. Kodaira, G. Dickens, **A. G. Dunlea**, M. Ikehara, J. Collot, B. Dugan, L. McNeill, I. Pecher, M. Jutzeler, L. Stott, B. Opdyke, S. Naik, R. Hackney, P. Bijl, U. Wortmann, G. Uenzelmann-Neben (2018) Developing community-based scientific priorities and new drilling proposals in the Southern Indian and Southwest Pacific oceans. *Scientific Drilling*, 24, 61-70. doi: 10.5194/sd-24-61-2018<sup>11 SEP</sup>
2. Tada, R., R. W. Murray, C. A. Alvarez Zarikian, and the **Expedition 346 Scientists** (2015) *Proceedings of the Integrated Ocean Drilling Program*, 346, College Station, TX, doi:10.2204/iodp.proc.346.2015
1. **Expedition 346 Scientists** (2013) Asian Monsoon: onset and evolution of millennial-scale variability of Asian monsoon and its possible relation with Himalaya and Tibetan Plateau uplift. *Integrated Ocean Drilling Program Preliminary Reports*, 346, doi:10.2204/iodp.pr.346.2014

#### **MEDIA APPEARANCES AND FEATURES**

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- “The Battle Below.” *Full Measure with Sharyl Attkisson*. Broadcast online and on national television networks CBS, ABC, FOX, NBC, CW, MyTV (estimated 43 million households). Dec. 28, 2020 and Jan. 3, 2021. <http://fullmeasure.news/news/cover-story/the-battle-below-12-28-2020>
- Lubofsky, E. (2020) “Secrets in the Dust: Scientists mine ancient dust from the ocean’s loneliest spot.” <https://www.who.edu/news-insights/content/secrets-in-the-dust/>
- Concannon, C. (2020) “This is Science: Expedition 378.” OAR 105.4 FM Dunedin, New Zealand. Episode 5. <https://oar.org.nz/this-is-science-expedition-378/>

**EXTERNAL FUNDING**

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| “Constraining the oxic marine sink of novel metal isotope proxies to underpin paleoceanographic reconstructions” P.I. Nielsen, Andersen, <b>Dunlea</b> ; <i>NSF GEO-NERC</i>   | 2020-2022   |
| Post-Expedition Activity Award Expedition 378, <i>USSSP/IODP</i> , <b>\$15,000</b>   | 2020        |
| Participation on IODP Expedition 378, <i>USSSP/IODP</i> , 3 months of salary   | 2020        |
| “The Southern Ocean’s Iron Cycle through the Cenozoic”<br>P.I. <b>Dunlea</b> (lead), Horner, Peucker-Ehrenbrink; <i>NSF MGG</i> ; <b>\$415,531</b>   | 2019-2021   |
| “Collaborative Research: Reconstructing Interactions between the East Asian Monsoon and Westerly at Multiple Timescales Based on Wind Supplied Dust and Fluvial Inputs to Continental Margin Sediments” <i>NSF-EAR</i> ; P.I. R.W. Murray (Boston Univ.) sub-award to <b>Dunlea \$51,195</b> | 2019        |
| “Land-Ocean Interactions Across the Indian Ocean” Meeting Travel Award, <i>LDEO/USSSP/IODP</i>   | 2017        |
| Australasian IODP Regional Planning Workshop Travel Award, <i>LDEO/USSSP/IODP</i>  | 2017        |
| Ocean and Climate Change Institute Postdoctoral Scholarship, <i>WHOI \$94,000</i>  | 2016 – 2018 |
| Expedition 353 Sampling Party in Kochi, Japan Travel Award, <i>COL</i>   | 2016        |
| IODP Expedition 346 Second Post-cruise Meeting Travel Award, <i>COL</i>  | 2016        |
| Urbino Summer School in Paleoclimatology Scholarship, <i>NSF/USSSP</i>   | 2015        |
| North Atlantic R/V <i>Knorr</i> Expedition Travel Award, <i>Univ. Rhode Island/NSF</i>   | 2014        |
| 346 Post-Expedition Research Award, <i>COL/IODP \$15,000</i>   | 2014        |
| Expedition 346 Sampling Party in Kochi, Japan Travel Award, <i>COL</i>   | 2014        |
| IODP Expedition 346 First Post-cruise Meeting Travel Award, <i>COL</i>   | 2014        |
| Participation on IODP Expedition 346, <i>USSSP/IODP \$10,287</i>   | 2013        |
| Line Islands Research Cruise Travel Award, <i>Georgia Tech./NSF</i>  | 2013        |
| Dean’s Fellowship, <i>Boston University \$29,200</i>   | 2010 – 2011 |

**TEACHING AND MENTORING EXPERIENCE**

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*Woods Hole Oceanographic Institution*

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| <b>Committee Member for Thesis Proposal Defense</b> (Jessica S. Dabrowski, 2019; Logan Tegler, 2020) |             |
| <b>Committee Member for Thesis Defense</b> (Jessica S. Dabrowski, Masters 2020)                      |             |
| <b>Summer Student Fellow Adviser</b> (Isabel Schaal)   | Summer 2020 |
| <b>Co-Professor</b> , Geodynamics Seminar  | Spring 2020 |
| <b>Guest Lecturer</b> , Marine Sediment  | Spring 2019 |
| <b>Guest Lecturer</b> , Geological Oceanography (Course 12.710)                                      | Fall 2017   |
| <b>Laboratory Mentor</b> , Co-supervised undergraduate summer fellow research (Logan Tegler)         | 2017        |

*Boston University*

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| <b>Guest Lecturer</b> , Marine Biogeochemistry (ES423)                         | Spring 2015 |
| <b>Instructor</b> , Paleoclimatology and Paleoceanography (ES351, 22 students) | Fall 2015   |
| <b>Guest Lecturer</b> , Marine Geology (ES640)                                 | 2013 - 2015 |

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| <b>Laboratory Mentor</b> , Co-advised senior thesis research (Michelle Hulewicz)  | 2013 - 2014 |
| <b>Teaching Assistant</b> , Advanced Topics in Marine Geosciences (ES535, 8 students)   | Fall 2013   |
| <b>Teaching Assistant</b> , Oceanography of Stellwagen Bank (ES557, 10 students)<br>Undergraduate students sampled seawater from NOAA's <i>R/V Auk</i> ,<br>analyzed nutrient contents in lab, and completed independent research projects. | Fall 2012   |
| <b>Teaching Assistant</b> , History of the Earth (ES302, 19 students)   | Spring 2012 |
| <b>Laboratory Mentor</b> , Trained and supervised 3 undergraduate research assistants   | 2011 - 2014 |
| <b>Teaching Assistant</b> , Introduction to Oceanography (ES144, 159 students)  | Fall 2011   |
| <i>University of Rochester</i>  |             |
| <b>Teaching Assistant</b> , Physical and Chemical Hydrology (EES217, 12 students)   | Spring 2010 |
| <b>Teaching Assistant</b> , Chemistry of Global Change (EES218, 15 students)  | Fall 2009   |

### OCEANOGRAPHIC EXPEDITIONS AND TRAINING (235 DAYS AT SEA)

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|---|-------------------|
| <b>Geochemist</b> . <i>Maersk Launcher</i> ,  | Oct.– Dec. 2020   |
| <ul style="list-style-type: none"> <li>DeepGreen Campaign 5a Environmental Baseline Assessment. 50 days at sea.</li> </ul>  |                   |
| <b>Offshore Survival Training</b> . <i>Maritime Institute</i> , San Diego, CA.  | Oct. 2020         |
| <ul style="list-style-type: none"> <li>Personal Survival Techniques (TRAINRL-363); Personal Safety &amp; Social Responsibility (TRAINRL-359); First Aid &amp; CPR (TRAINRL-197); Basic Fire Fighting (TRANRL-53)</li> </ul> |                   |
| <b>Inorganic Chemist</b> . <i>R/V JOIDES Resolution</i> ,   | Jan.– Feb. 2020   |
| <ul style="list-style-type: none"> <li>IODP Expedition 378, South Pacific Paleogene Climate. 35 days at sea.</li> </ul>   |                   |
| <b>Shipboard Scientist</b> . <i>R/V SONNE</i> ,   | May – June 2017   |
| <ul style="list-style-type: none"> <li>SO257 Western Australian Climate History from East Indian Ocean Sediment. 24 days at sea.</li> </ul>   |                   |
| <b>MST Specialist</b> . <i>R/V Knorr</i> ,  | Oct. – Dec. 2014  |
| <ul style="list-style-type: none"> <li>KN223 Researcher Ridge. 40 days at sea.</li> </ul>   |                   |
| <b>Inorganic Chemist</b> . <i>R/V JOIDES Resolution</i> ,   | Aug. – Sept. 2013 |
| <ul style="list-style-type: none"> <li>IODP Exp. 346, East Asian Monsoon. 60 days at sea.</li> </ul>  |                   |
| <b>Shipboard Scientist</b> . <i>R/V Marcus Langseth</i> ,   | May 2012          |
| <ul style="list-style-type: none"> <li>MGL12-08 Line Islands Ridge Paleoceanography. 26 days at sea.</li> </ul>   |                   |

### PROFESSIONAL SERVICES

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| <b>Co-Organizer</b> , Marine Chemistry & Geochemistry Seminar, Woods Hole Ocean. Inst.  | 2020-2021    |
| <b>Adviser</b> , Joint Program Academic Advising Committee, Woods Hole Ocean. Inst.   | 2020-2022    |
| <b>Chair</b> , Review Committee for the Ruth & Paul Fye Best Student Paper Award  | 2020         |
| <b>Participant</b> , Geochemistry/Microbiology Lab Working Group,<br>International Ocean Discovery Program (IODP)- <i>JOIDES Resolution</i> Science Operator (JRSO)   | 2018-2020    |
| <b>External Reviewer</b> , <i>Geology</i> ; <i>Nature Scientific Reports</i> ; <i>Chemical Geology</i> ;<br><i>Geochemistry</i> , <i>Geophysics</i> , <i>Geosystems</i> ; <i>Paleoceanography and Paleoclimatology</i> ;<br><i>Journal of The Royal Society of Western Australia</i> ; <i>Near Surface Geophysics</i> ; <i>Earth</i> ,<br><i>Planets &amp; Space</i> ; <i>Environmental Geochemistry and Health</i> ; <i>Progress in Earth and</i><br><i>Planetary Science</i> ; <i>Geochimica et Cosmochimica Acta</i> ; <i>Global Biogeochemical</i><br><i>Cycles</i> ; <i>Earth and Planetary Science Letters</i> ; <i>Nature</i> ; <i>Nature Communications</i> | 2016-Present |

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| <b>External Reviewer</b> , <i>American Chemical Society (ACS) Petroleum Research Fund;</i><br><i>NSF- MGG; NSF-P2C2</i>   | 2016-Present |
| <b>Session Co-Chair</b> , “Authigenic Processes in Marine Sediment: Influence on Seawater Composition and the Paleoceanographic Record.” AGU Annual Fall Meeting, San Francisco, CA | Dec. 2016    |
| <b>Session Co-Chair</b> , “Geochemistry and Microbiology of Oxidic and Suboxic Sediment.”<br>AGU Annual Fall Meeting, San Francisco, CA   | Dec. 2015    |

#### SCIENCE OUTREACH AND COMMUNITY SERVICES

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|---|-------------------|
| <b>Member</b> , Women’s Committee, Woods Hole Oceanographic Institution   | 2019-2021         |
| <b>Postdoc Representative</b> , Women’s Committee, Woods Hole Oceanographic Institution   | 2018-2019         |
| <b>Secretary</b> , Postdoctoral Association, Woods Hole Oceanographic Institution   | 2017-2018         |
| <b>Science Fair Judge</b> , Falmouth High School, Falmouth, MA  | 2021              |
| <b>Science Fair Judge</b> , Falmouth Academy Science Fair, Falmouth, MA   | 2017, 2018, 2021  |
| <b>Science Fair Judge</b> , Lawrence Middle School Science Fair, Falmouth, MA   | 2017              |
| <b>Panelist</b> , Graduate School Application Advice Panel for College Students, Woods Hole, MA                                 | 2016              |
| <b>Panelist</b> , Geochemistry Career Panel for High School Students, Boston Univ, Boston, MA                                   | 2015              |
| <b>Science Fair Judge</b> , Devotion Elementary School Science Fair, Brookline, MA  | 2015, 2016        |
| <b>IODP Outreach</b> , National Science Teachers Association Conference.<br>• Promoted awareness of IODP outreach opportunities | April 2014        |
| <b>Social Media Team</b> , IODP Expedition 346, Asian Monsoon.  | Aug. – Sept. 2013 |

#### MEETINGS AND WORKSHOPS

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| URGE: Unlearning Racism in Geosciences, WHOI Sustainability Pod                    | Spring 2021 |
| Educational Workshop on Implicit Bias, Instructor Kuheli Dutt                      | March 2021  |
| NEXT: Scientific Ocean Drilling Beyond 2023, Denver, CO                            | May 2019    |
| Asian Monsoon (Expedition 346) Mini-Workshop, WHOI, Woods Hole, MA                 | Dec. 2018   |
| Northeastern Geobiology Symposium, WHOI, Woods Hole, MA                            | Apr. 2018   |
| “Land-ocean interactions across the Indian Ocean” USSSP Workshop, Narragansett, RI | July 2017   |
| IODP Australasian Regional Planning Workshop, Sydney, Australia                    | June 2017   |
| Northeastern Geobiology Symposium, Univ. Connecticut, Storrs, CT                   | Mar. 2017   |
| Northeastern Geobiology Symposium, Harvard Univ., Cambridge, MA                    | Apr. 2016   |
| IODP Expedition 346 second post-cruise meeting, Melbourne, Australia               | Jan. 2016   |
| Urbino Summer School in Paleoclimatology, Urbino, Italy                            | July 2015   |
| IODP Expedition 346 editorial meeting, College Station, TX                         | Jan. 2014   |
| IODP Expedition 329 second post-cruise meeting, Kona, HI                           | Nov. 2012   |

#### INVITED TALKS

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19. GEOMAR Helmholtz Center for Ocean Research Kiel, Paleoclimatology and Geochemistry Seminar Series, Kiel, Germany. 2021
18. Session V53B – Hydrovolcanic, Submarine, and Subglacial Eruptions: Exploring Hydrosphere-

- Volcano Interactions III. AGU Annual Fall Meeting, San Francisco, CA. 2019
17. Gordan Research Conference, Chemical Oceanography, Holderness, NH. 2019
16. Massachusetts Institute of Technology, Chemical Oceanography and Geology, Geochemistry, and Geobiology Seminar (COG3), Cambridge, MA. 2019
15. Woods Hole Oceanographic Institution, Marine Chem, & Geochem., Woods Hole, MA 2019
14. Royal Netherlands Institute for Sea Research, Dept. Ocean Systems, Texel, Netherlands. 2019
13. Iowa State University, Department of Geological and Atmospheric Sciences, Ames IA. 2019
12. University of Minnesota, Department of Earth Sciences, Minneapolis, MN. 2019
11. University of Hawaii, Department of Oceanography, Honolulu, HI. 2019
10. University of Southern California, Department of Earth Sciences, Los Angeles, CA. 2018
9. University of South Florida, College of Marine Sciences, St. Petersburg, FL. 2018
8. Session 08b – Asian Paleomonsoon and Low-Latitude Paleoclimate. Goldschmidt Conference. Boston, MA 2018
7. Lamont-Doherty Earth Observatory, Geochemistry Seminar, Palisades, NY. 2018
6. University of Massachusetts-Amherst, Department of Geosciences, Amherst, MA. 2018
5. Woods Hole Oceanographic Institution, Geology & Geophysics, Woods Hole, MA. 2017
4. Rutgers University, Department of Marine and Coastal Sciences, New Brunswick, NJ. 2017
3. University of Tokyo, Department of Earth and Planetary Science, Tokyo, Japan. 2016
2. University of New Hampshire, Department of Earth Sciences, Durham, NH. 2015
1. University of Rhode Island, Graduate School of Oceanography, Narragansett, RI. 2013

#### **ABSTRACTS AND PRESENTATIONS**

\*asterisk denotes student advisee

42. \*Schaal I.V., E. Paris, T. J. Horner, A. G. Dunlea (2020) Source-to-sink metal cycling between seawater, sediment, and nodules in the South Pacific. AGU Annual Fall Meeting, Virtual.
41. Mori F., A. G. Dunlea, T. Irino, T. Terada, R. W. Murray, R. Tada, and Y. Morono (2020) Microbial community structure of dark and light layers in the Quaternary hemipelagic sediments of the Japan Sea. AGU Annual Fall Meeting, Virtual.
40. Sauvage J., A. F. Flinders, A. J. Spivack, R. A. Pockalny, **A. G. Dunlea**, C. H. Anderson, D. C. Smith, R. W. Murray, and S. D'Hondt (2019) The Contribution of Water Radiolysis to marine Sedimentary Life. AGU Annual Fall Meeting, San Francisco, CA.
39. Kinsley, C. W., D. McGee, C. H. Anderson, **A. G. Dunlea**, R. W. Murray, L. Giosan, R. Tada (2019) Westerly Jet-Asian Monsoon Coupling Reconstructed Using Radiogenic Neodymium Isotopes in Eolian Dust from Japan Sea Sediments. AGU Annual Fall Meeting, San Francisco, CA.
38. **Dunlea A. G.**, C. H. Anderson, R. W. Murray, R. Tada, C. A. Alvarez-Zarikian, L. Giosan, T. Gorgas, H. Zheng, L. Peterson, M. Ziegler, and Expedition 346 Scientists (2018) Inter-lab XRF scanning comparison and calibration. Asian Monsoon (Expedition 346) Mini-Workshop. Woods Hole Oceanographic Institution, Woods Hole, MA.
37. Anderson, C. H., **A. G. Dunlea**, R. W. Murray, L. Giosan, C. W. Kinsley, D. McGee, and R. Tada (2018) Reconstructing the East Asian Monsoon from Provenance of Marine Sediment in the Ulleung Basin. AGU Annual Fall Meeting, Washington D.C.

36. Giosan, L., W. D. Orsi, M. Coolen, C. Wutchter, **A. G. Dunlea**, K. Thirumalai, S. E. Munoz, P. D. Clift, J. P. Donnelly, V. Galy, D. Q. Fuller (2018) Neoglacial Climate Anomalies and the Indus Civilization's Metamorphosis. AGU Annual Fall Meeting, Washington D.C.
35. **Dunlea, A. G.** (2018) The role of sediment-seawater interactions in global element budgets and long-term climate. Woods Hole Oceanographic Institution, Marine Chemistry & Geochemistry, Woods Hole, MA. (oral)
34. **Dunlea, A. G.**, L. Giosan, Y. Huang (2018) A 6 million-year biomarker record of monsoon rains and vegetation on the Indian Peninsula. Goldschmidt Conference. Boston, MA.
33. Kinsley, C. W., D. McGee, C. H. Anderson, **A. G. Dunlea**, R. W. Murray, L. Giosan, R. Tada (2018) Isolating the eolian component of Japan Sea sediments (IODP Site U1430) for radiogenic isotope provenance studies. Goldschmidt Conference. Boston, MA.
32. Anderson, C. H., R. W. Murray, **A. G. Dunlea**, L. Giosan, C. W. Kinsley, D. McGee, R. Tada (2018) Resolving the provenance of marine sediment in the Ulleung Basin to reconstruct the East Asian Monsoon. Goldschmidt Conference. Boston, MA.
31. \*Tegler, L., **A. G. Dunlea**, S. Romaniello, A. Anbar, T. Horner (2018) More clear than mud: Dating deep-sea clays with osmium isotopes to unravel seawater metal cycling through the Cenozoic. Ocean Sciences Meeting, Portland, OR.
30. **Dunlea, A. G.**, R. W. Murray, D. P. Santiago Ramos, and J. A. Higgins (2018) Reorganization of biogenic Si burial decreased reverse weathering, increased seawater Mg/Ca, and cooled Earth over the past 65 million years. Ocean Sciences Meeting, Portland, OR. (oral)
29. Anderson, C. H., **A. G. Dunlea**, R. W. Murray, R. Tada, C. A. Alvarez-Zarikian and Expedition 346 Scientists (2017) Reconstructing eolian delivery to the Ulleung Basin (IODP Site U1430) over the past 12 Myr. AGU Annual Fall Meeting, New Orleans, LA.
28. Anderson, C. H., R. P. Scudder, **A. G. Dunlea**, R. W. Murray (2017) Geochemical unmixing of multiple sources of aluminosilicates in marine sediment cores with multivariate statistics. Goldschmidt Conference, Paris, France.
27. De Vleeschouwer, D., **A. G. Dunlea**, G. Auer, C. H. Anderson, H. Brumsack, A. de Loac, M. C. Gurnis, Y. Huh, T. Ishiwa, K. Jang, M. A. Kominz, C. März, B. Schnetger, R. W. Murray, H. Pälike, and IODP Expedition 356 shipboard scientists (2017) Quantifying K, U and Th contents of marine sediments using shipboard natural gamma radiation spectra measured on DV JOIDES Resolution. EGU General Assembly, Vienna, Austria.
26. **Dunlea, A. G.**, L. Giosan, Y. Huang, (2017) Sediment provenance and leaf wax  $\delta^{13}\text{C}$  and  $\delta\text{D}$  at Site U1445 in the Bay of Bengal to track the Indian Monsoon 0-6 Ma. USSP Workshop "Land-ocean interactions across the Indian Ocean: toward regional integration of recent drilling results," Narragansett, RI. (oral)
25. Santiago Ramos, D. P., **A. G. Dunlea**, and J. A. Higgins (2016) Paired measurements of K and Mg isotopes and clay authigenesis in marine sediments. AGU Annual Fall Meeting, San Francisco, CA.
24. **Dunlea, A. G.**, R. W. Murray, D. P. Santiago Ramos, and J. A. Higgins, (2016) Deep sea authigenic clays as a sink for seawater Mg through the Cenozoic. AGU Annual Fall Meeting, San Francisco, CA. (poster)
23. Anderson, C. H., **A. G. Dunlea**, R. W. Murray, R. Tada, C. A. Alvarez-Zarikian and Expedition 346 Scientists (2016) Provenance of Continental Margin Sediments in the East China Sea, Results from IODP Expedition 346. AGU Annual Fall Meeting, San Francisco, CA.
22. Anderson, C. H., **A. G. Dunlea**, R. W. Murray, C. W. Kinsley, D. McGee, L. Giosan, H. Zheng, R.



- Tada, C. A. Alvarez-Zarikian and Expedition 346 Scientists (2016) Tracking monsoon related provenance changes in the Japan Sea/East Sea/East China Sea. IODP Expedition 346 Second Post-cruise meeting, Melbourne, Australia.
21. Kinsley, C. W., I. Tal, D. McGee, L. Giosan, C. H. Anderson, **A. G. Dunlea**, R. W. Murray (2016) Initial results for Pb, Nd, and Sr isotopes for provenance work on bulk terrigenous fraction from Site U1430. IODP Expedition 346 Second Post-cruise meeting, Melbourne, Australia.
  20. **Dunlea A. G.**, C. H. Anderson, R. W. Murray, R. Tada, C. A. Alvarez-Zarikian, L. Giosan, T. Gorgas, H. Zheng, L. Peterson, M. Ziegler, and Expedition 346 Scientists (2016) International inter-lab, inter-instrument XRF scanning comparison and calibration. IODP Expedition 346 Second Post-cruise meeting, Melbourne, Australia. (oral)
  19. McKinley C. C., **A. G. Dunlea**, R. W. Murray, D. J. Thomas (2015) Down Core Fidelity of Authigenic Oxyhydroxides Coatings: Tracing Paleogene Water Mass Evolution. AGU Annual Fall Meeting, San Francisco, CA.
  18. Dzaugis M. E., A. J. Spivack, **A. G. Dunlea**, R. W. Murray, S. D'Hondt (2015) Radiolytic hydrogen production in the South Pacific Gyre subseafloor basaltic aquifer. AGU Annual Fall Meeting, San Francisco, CA.
  17. Sauvage J., A. J. Spivack, **A. G. Dunlea**, R. W. Murray, and S. D'Hondt (2015) Sedimentary Catalysis of Radiolytic H<sub>2</sub> Production, and Implications for Subseafloor Life. AGU Annual Fall Meeting, San Francisco, CA.
  16. **Dunlea, A. G.**, R. W. Murray, J. Sauvage, A. J. Spivack, R. N. Harris, S. D'Hondt, and J. A. Higgins, (2015) Dust, Volcanic Ash, and the Evolution of the South Pacific Gyre. AGU Annual Fall Meeting, San Francisco, CA. (poster)
  15. Anderson C. H., **A. G. Dunlea**, R. W. Murray, C. W. Kinsley, D. McGee, L. Giosan, H. Zheng, R. Tada, C.A. Alvarez-Zarikian (2014) Tracking Monsoon Related Provenance Changes in Continental Margin Sediments of the East China Sea: Preliminary Results from IODP Expedition 346. AGU Annual Fall Meeting, San Francisco, CA.
  14. Sauvage J., D. Graham, A. J. Spivack, **A. G. Dunlea**, R. W. Murray, and S. D'Hondt (2014) Boosting subsurface life: is subseafloor sediment a natural catalyst for radiolytic hydrogen production?. AGU Annual Fall Meeting, San Francisco, CA.
    - **Selected as “Outstanding Student Presentation”, Fall 2014, AGU Meeting.**
  13. Ireland T.J., R. P. Scudder, **A. G. Dunlea**, C. H. Anderson, R. W. Murray (2014) Assessing the Accuracy and Precision of Inorganic Geochemical Data Produced through Flux Fusion and Acid Digestion: Multiple (60+) Comprehensive Analyses of BHVO-2 and the Development of Improved “Accepted” Values. AGU Annual Fall Meeting, San Francisco, CA.
  12. **Dunlea A. G.**, R. W. Murray, J. Sauvage, A. J. Spivack, R. N. Harris, and S. D'Hondt, (2014) Paleooceanography in Pelagic Clay of the South Pacific Gyre. AGU Annual Fall Meeting, San Francisco, CA. (poster)
  11. Dickens, G., C. W. Kinsley, **A. G. Dunlea**, W. Anderson, M. Gurgel, K. Lee, R. W. Murray, R. Tada, C. A. Alvarez-Zarikian, and Expedition 346 Scientific Party (2014) Carbon and sulfur cycling in shallowly buried sediment of the Japan Sea/East Sea. Japan Geoscience Union Annual Meeting, Yokohama, Japan. Invited.
  10. Murray R. W., R. P. Scudder, **A. G. Dunlea**, K. Ikehara, T. Irino, R. Tada, C. A. Alvarez-Zarikian, J. C. Schindlbeck, S. Kutterolf, and Expedition 346 Scientific Party (2014) The “missing volcanic record” captured by dispersed ash in sediment of the Japan Sea/East Sea and NW Pacific Ocean. Japan Geoscience Union Annual Meeting, Yokohama, Japan. Invited.

9. Dzaugis M. E., A. J. Spivack, **A. G. Dunlea**, R. W. Murray, K. A. Kelley, S. D'Hondt (2013) Radiolytic hydrogen production in basaltic basement of the South Pacific Gyre. AGU Annual Fall Meeting, San Francisco, CA.
8. **Dunlea A. G.**, R. W. Murray, J. Sauvage, A. J. Spivack, R. N. Harris, and S. D'Hondt, (2013) Cenozoic sedimentation rates and provenance variations in the South Pacific Gyre. AGU Annual Fall Meeting, San Francisco, CA. (poster)
7. Lee K. E., W. T. Anderson, G. Dickens, **A. G. Dunlea**, M. Gurgel, C. W. Kinsley, R. Tada, R.W. Murray, C.A. Alvarez-Zarikian, and the Expedition 346 Science Party (2013) Shipboard geochemistry program of IODP Expedition 346. Geol. Society of Korea Annual Meeting.
6. Sauvage J., A. J. Spivack, **A. G. Dunlea**, R. W. Murray, R. A. Pockalny, S. D'Hondt, and Expedition 329 Shipboard Scientific Party (2013) Radiolysis and life in deep seafloor sediment of the South Pacific Gyre. 23rd V. M. Goldschmidt Conference, Florence, Italy.
5. Sauvage J., A. J. Spivack, **A. G. Dunlea**, R. W. Murray, D.C. Smith, and S. D'Hondt (2012) A deep radiolytically fueled ecosystem in the seafloor South Pacific Gyre. AGU Annual Fall Meeting, San Francisco, CA.
4. **Dunlea A. G.**, R. W. Murray, J. Sauvage, A. J. Spivack, R. N. Harris, and S. D'Hondt, (2012) Geochemically tracking provenance changes in marine sediments from the South Pacific Gyre throughout the Cenozoic. AGU Annual Fall Meeting, San Francisco, CA. (oral)
3. Sauvage J., A. J. Spivack, **A. G. Dunlea**, R. W. Murray, D. C. Smith, and S. D'Hondt (2012) Radiolysis and life in deep seafloor sediment of the South Pacific Gyre. IODP Expedition 329 Second Post-cruise meeting, Kona, HI.
2. **Dunlea A. G.**, R. W. Murray, J. Sauvage, A. J. Spivack, R. N. Harris, and S. D'Hondt, (2012) Origins and alterations of South Pacific Gyre sediment: quantifying provenance throughout the Cenozoic. IODP Expedition 329 Second Post-cruise meeting, Kona, HI. (oral)
1. **Dunlea, A. G.**, R.W. Murray, R. N. Harris, M.A. Vasilyev, H. Evans, S. D'Hondt, and A.J. Spivack, (2012) Enhanced calibration of a new natural gamma radiation technique for quantifying U, Th, K concentrations in marine sediments. 22<sup>nd</sup> V.M. Goldschmidt Conference, Montreal, Canada. (oral)