

S. Bradley Moran, Ph.D.

Dean, College of Fisheries and Ocean Sciences

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PROFESSIONAL APPOINTMENTS

- 2016 - Dean, College of Fisheries and Ocean Sciences, University of Alaska Fairbanks
- 2013 - 14 Assistant Director, Ocean Sciences, White House Office of Science and Technology Policy
- 2013 - 14 Acting Director, National Ocean Council, White House Office of Science and Technology Policy
- 2013 - 14 Deputy Director, Ocean Science and Technology, National Ocean Council, White House Office of Science and Technology Policy
- 2012 - 15 Program Director, Division of Ocean Sciences, National Science Foundation
- 2009 - 11 Co-Director and Co-Principal Investigator, Rhode Island National Science Foundation Experimental Program to Stimulate Competitive Research
- 2008 - 10 Assistant Vice President for Research Administration, University of Rhode Island
- 2006 - 10 Adjunct Scientist, Bermuda Institute of Ocean Sciences
- 2003 - 15 Professor, Graduate School of Oceanography, University of Rhode Island
- 2003 - 06 Adjunct Faculty, University of Tennessee
- 1997 - 03 Associate Professor, Graduate School of Oceanography, University of Rhode Island
- 1993 - 97 Assistant Professor, Graduate School of Oceanography, University of Rhode Island
- 1991 - 93 Postdoctoral Scholar, Woods Hole Oceanographic Institution

EDUCATION

- 1990 Ph.D., Oceanography, Dalhousie University
- 1985 B.Sc., Chemistry, Inst. for Cooperative Education, Concordia University

PROFESSIONAL EXPERIENCE

Academia

Dean, College of Fisheries and Ocean Sciences, Univ. of Alaska Fairbanks 1/16 to present

- Responsible for providing vision, leadership, academic integrity and administrative direction for one of the largest research and academic organizations in the University of Alaska system and one of the most diverse colleges in both geographic reach and academic mission.
- Provide academic and scientific leadership for over 300 faculty, researchers, staff and students working at five locations across the state, as well as a diverse range of community based marine outreach programs.
- Foster a culture of academic excellence for approximately 110 graduate students in fisheries, oceanography and marine biology and a growing undergraduate degree program in fisheries and marine science.
- Manage an annual budget of approximately \$45M in support of the College's mission and major facilities, including operation of the Global Class ice-capable R/V *Sikuliaq*, Seward Marine Center, Lena Point Fisheries Facility, and the NOAA co-managed Kasitsna Bay Laboratory.
- Engage external stakeholders, including state and federal agencies, industry, non-governmental groups and culturally diverse communities, and secure resources to advance a broad range of research and education programs in support of Alaska's freshwater and maritime resources and economy.

Co-Director and Co-PI, Rhode Island NSF EPSCoR Program 7/09 - 11/11

- Led the scientific development and management of the \$20M National Science Foundation Experimental Program to Stimulate Competitive Research (EPSCoR) award (2010-2015).
- Provided scientific leadership to increase Rhode Island's competitiveness in research, education, and workforce development.

Assistant Vice President for Research Administration, Univ. of Rhode Island 6/08 - 7/10

- Managed approximately \$100M in external research grants and contracts to the University, with supervisor responsibility for 20 staff in the Offices of Sponsored Projects, Research Compliance, and Research Development.
- Responsible for providing leadership to over 700 faculty, researchers, and staff as part of the University research enterprise.
- Implemented new operational efficiencies in the Research Office, during which external research grants and contracts increased by ~60% (\$64M to \$102M, FY2008-10).

- Conceived and led the Green the Knowledge District project and secured private and public support for the 2011 IBM Smarter Cities Challenge Award to the City of Providence.
- Led the strategic planning of energy and environment initiatives as Co-Chair of the Energy Efficiency Working Group of the Green Economy Network for the Rhode Island Economic Development Council.

Professor of Oceanography, University of Rhode Island

12/93 - 12/15

- Over 20 years experience leading a wide range of research projects related to ocean science, including carbon dynamics, Arctic oceanography, coastal groundwater transport, and environmental radioactivity.
- Major advisor to 14 Ph.D. and M.S. students and 4 postdoctoral investigators.
- Envisioned and implemented the nation's first Masters of Business Administration-Masters of Oceanography dual degree, the Blue MBA, obtaining unanimous faculty approval, endorsement from multiple private and public stakeholders, and increasing graduate student tuition revenue to the Graduate School of Oceanography.

Government

White House Office of Science and Technology Policy

Assistant Director, Ocean Sciences

8/13 - 8/14

- Advised officials in the White House executive branch on ocean science and technology policy, plans, programs, and budgets of the federal government. Advanced new U.S. Government initiatives focused on the ocean economy, illegal fishing, ocean acidification, and ocean contamination monitoring.
- Coordinated 27 federal agencies, departments, and offices with state, local and tribal governments to ensure an effective and integrated approach to advance the environmental, economic, and national security interests of the United States.

Acting Director, National Ocean Council

11/13 - 6/14

- Led the implementation of President Obama's National Ocean Policy by coordinating Federal interagency ocean science, research and marine resource-related subcommittees, policies, and budgets.
- Facilitated interactions among professional societies, academe, industry, and non-governmental partners to ensure that a broad range of views and expertise were applied to address the nation's greatest challenges related to the oceans, coasts, and the Great Lakes.

National Science Foundation

Program Director, Chemical Oceanography Program (IPA-rotator)

1/12 - 1/15

- Managed approximately \$30M annual budget as part of the Chemical Oceanography Program of the Division of Ocean Sciences.
- Coordinated basic research and education programs and collaborated with other Programs within the Foundation and other Federal agencies and organizations.
- Decision authority for funding research proposals in the Chemical Oceanography Program, and coordination of merit review, panel selection, and panel activities; represented the Division of Ocean Sciences in the GEO EarthCube Program.

PROFESSIONAL SERVICE

- 2023 - 25 Member, 2025-2035 Decadal Survey of Ocean Sciences for the National Science Foundation Committee, The National Academies of Sciences, Engineering and Medicine, Washington, D.C.
- 2021 - 23 Board Chair and Trustee, Consortium for Ocean Leadership, Washington, D.C.
- 2020 - 21 Member, Ocean Decade U.S. Committee, The National Academies of Sciences, Engineering and Medicine, Washington, D.C.
- 2019 - 21 Member, U.S. National Committee for the Scientific Committee on Oceanic Research, The National Academies of Sciences, Engineering and Medicine, Washington, D.C.
- 2019 - 21 Member, Advisory Board, Alaska Ocean Cluster, Anchorage, AK.
- 2019 - Founding Director, UAF Alaska Blue Economy Center, Fairbanks, AK.
- 2018 - Treasurer, Consortium for Ocean Leadership, Washington, D.C.
- 2017 - 20 Member, Executive Board, Cooperative Institute for Alaska Research, University of Alaska Fairbanks, AK
- 2016 - Member, Board of Directors, Alaska Sea Life Center, Seward, AK.
- 2016 - Member, Board of Directors, North Pacific Research Board, Anchorage, AK (Governor of Alaska nomination; U.S. Secretary of Commerce appointment).
- 2016 - Member, Ocean Studies Board, The National Academies of Sciences, Engineering and Medicine, Washington, D.C.
- 2016 - Trustee, Consortium for Ocean Leadership, Washington, D.C.
- 2016 - Member, Board of Governors, Alaska Ocean Observing System, Anchorage, AK
- 2016 - Board Member, Pollock Conservation Cooperative Research Center, Seattle, WA
- 2013 - 14 Co-Chair, National Science and Technology Council Subcommittee on Ocean Science and Technology
- 2013 - 14 Co-Chair, Ocean Science and Technology Interagency Policy Committee, National Ocean Council
- 2013 - 14 Member, Steering Committee, National Ocean Council
- 2013 - 14 Member, Science Advisory Board, Strategic Environmental Research and Defense Program, Federal Advisory Committee, Department of Defense
- 2012 Chair, National Science Foundation sponsored International Workshop on Radium and Radon in Aquatic Systems

- 2011 Panelist, National Science Foundation Major Research Instrumentation Program
- 2010 - 12 Co-Chair, Energy and Environment Collaboratory, Rhode Island Ocean State Consortium for Advanced Resources
- 2010 - 12 Member, Senior Advisory Council, Rhode Island Sea Grant Program
- 2010 - 11 Member, Steering Committee, Rhode Island NSF Experimental Program to Stimulate Competitive Research
- 2010 - 11 Co-Director, Regional Earth Systems Center, University of Rhode Island
- 2010 Panelist, Green Economy Network, Rhode Island Economic Development Council
- 2010 Chair, Forum on Intellectual Property and Research Advancement, University of Rhode Island Graduate School of Oceanography
- 2009 - 10 Co-Chair, Energy Efficiency Working Group, Rhode Island Green Economy Network, State Economic Development Council
- 2009 Moderator, Green Economy Panel, Providence Business Expo
- 2008 Panelist, National Science Foundation Chemical Oceanography Program
- 2003 Panelist, National Oceanic and Atmospheric Administration Ocean Exploration Program
- 2002 Panelist, National Science Foundation Integrated Carbon Cycle Program
- 1999 Panelist, National Science Foundation Office of Polar Programs
- 1998 Panelist, National Science Foundation Chemical Oceanography Program

EDITORSHIPS

- 2014 - Editorial Board, *Journal of Marine Science and Engineering*
- 2013 - 21 Editor, *Journal of Geophysical Research–Oceans*
- 2013 Guest Editor, *Marine Chemistry*, special issue on Ra and Rn in aquatic systems
- 2010 - 21 Editorial Board, *Journal of Marine Research*
- 2007 - Editorial Advisory Board, *CLEAN – Soil, Air, Water*

INTERNATIONAL APPOINTMENTS

- 2020 - Vice President, Scientific Committee on Oceanic Research
- 2009 Expert Lecturer, International Atomic Energy Agency, Jakarta, Indonesia
- 2008 Expert Lecturer, International Atomic Energy Agency, Mumbai, India
- 2007 Expert Lecturer, International Atomic Energy Agency, Monaco
- 2007 Visiting Scientist, Alfred-Wegener Institute, Bremerhaven, Germany
- 2005 Visiting Scientist, Bermuda Institute of Ocean Sciences, Bermuda
- 2003 Visiting Scientist, Hellenic Center for Marine Research, Anavyssos, Greece
- 2003 Visiting Scientist, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Lerici, Italy

AWARDS AND FELLOWSHIPS

- 2014 Award of Excellence, White House Office of Science and Technology Policy
- 2013 Partnership in Conservation Award, U.S. Department of Interior
- 1997 Exceptional Salary Increase, University of Rhode Island
- 1996 Office of Naval Research Young Investigator Award

- 1991 - 92 Woods Hole Oceanographic Institution Postdoctoral Scholarship
- 1990 - 92 NSERC of Canada Postdoctoral Fellowship
- 1985 - 90 Dalhousie University Graduate Fellowship

CITIZENSHIP AND SECURITY CLEARANCE

- 2013 - 14 U.S. Secret Service Top Secret security clearance
- 1997 Citizen of the United States of America (Naturalized; Canadian citizen by birth)

PEER-REVIEWED PUBLICATIONS

Total of 120 peer-reviewed journal publications and book chapters

- 2022 Boothman, W.S., L. Coiro and S.B.Moran, Field validation of molybdenum accumulation in sediments as an indicator of hypoxic water conditions. *Estuaries and Coasts* (in review).
- 2022 Chevis, D.A., S.R. Hemming, E.T. Rasbury, J. Tang, D.J. Burdidge, R.P. Kelly, S.B. Moran and K.H. Johannesson, Influence of submarine groundwater discharge on the neodymium isotopic signature of the Pettaquamscutt river estuary, Rhode Island, USA. *Frontiers in Earth Science* (in review).
- 2020 Valk, O., M.M. Rutgers van der Loeff, W. Geibert, S. Gdaniec, S.B. Moran, K. Lepore, R.L. Edwards, Y. Lu, V. Puigcorbe, N. Casacabuerta, R. Paffraft, W. Smethie and M. Roy-Barman, Decrease in ^{230}Th in the Amundsen Basin since 2007: far-field effect of increased scavenging on the shelf? *Ocean Science* 16, 221-234, doi.org/10.5194/os-16-221-2020.
- 2019 Grenier, M., R. Francois, M. Soon, M.M. Rutgers van der Loeff, X. Yu, O. Valk, C. Not, S.B. Moran, R.L. Edwards, Y. Lu, K. Lepore and S.E. Allen, Changes in circulation and particle scavenging in the Amerasian basin of the Arctic Ocean over the last three decades inferred from the water column distribution of geochemical tracers. *Journal of Geophysical Research–Oceans*, 124, doi.org/10.1029/2019JC015265.
- 2018 Valk, O., M.M. Rutgers van der Loeff, W. Geibert, S. Gdaniec, M.J.A. Rijkenberg, S.B. Moran, K. Lepore, R.L. Edwards, Y. Lu and V.P. Lacueva, Importance of hydrothermal vents in scavenging removal ^{230}Th in the Nansen Basin. *Geophysical Research Letters* 45 (19): 10,539-10,548. doi.org/10.1029/2018GL079829.
- 2018 Hayes, C.T., R. Anderson, H. Cheng, T.M. Conway, R.L. Edwards, M.Q. Fleisher, K.-F. Huang, S.G. John, W.M. Landing, S.H. Little, Y. Li, P.L. Morton, S.B. Moran, L.F. Robinson, R.U. Shelly, A.M. Shiller, X. Zheng, Replacement times of a spectrum of elements in the North Atlantic based on thorium supply. *Global Biogeochemical Cycles* 32. doi.org/10.1029/2017GB005839.

- 2017 Konar, B. L. Frisch and S.B. Moran, Development of best practices for scientific research vessel operations in a changing Arctic: a case study for R/V *Sikuliaq*. *Marine Policy* 86, 182-189.
- 2017 Loose, B., R.P. Kelly, A. Bigdeli, W. Williams, R. Krishfield, M.M. Rutgers van der Loeff and S.B. Moran, Does wind speed predict air-sea gas transfer in the sea ice zone? A synthesis of radon deficit profiles from the Arctic. *Journal of Geophysical Research–Oceans* 122, doi:10.1002/2016JC012460.
- 2016 Liu, C.L., L. Zhai, S.I. Zeeman, L.B. Eisner, J. Gann, C.W. Mordy, S.B. Moran, and M.W. Lomas. Seasonal and geographic variations in modeled primary production and phytoplankton losses from the mixed layer between warm years and cold years on the eastern Bering Sea shelf. *Deep-Sea Research II* 134, 141-156.
- 2016 Anderson, R.F., H. Cheng, R.L. Edwards, M.Q. Fleisher, C.T. Hayes, K.-F. Huang, D. Kadko, P.J. Lam, W.M. Landing, Y. Lao, Y. Lu, C.I. Measures, P.L. Morton, S.B. Moran, D. Ohnemos, L.F. Robinson, R.U. Shelley. How well can we quantify dust deposition to the ocean? *Philosophical Transactions of the Royal Society, Part A*, 374 (2081), doi: 10.1098/rsta.2015.0285.
- 2015 Mackinson, B.L., S.B. Moran, M.L. Lomas, G.M. Stewart and R.P. Kelly. Estimates of micro-, nano- and picoplankton contributions to export production in the northeast Pacific. *Biogeosciences* 12, 3429-3446.
- 2015 Chevis, D.A, K.H. Johannesson, D.J. Burdige, J. Tang, S.B. Moran and R.P. Kelly, Submarine groundwater discharge of rare earth elements to a tidally-mixed estuary in southern Rhode Island. *Chemical Geology* 397, 128-142.
- 2015 Carey, J.C, S.B. Moran, R.P. Kelly, A.S. Kolker and R.W. Fulweiler. The declining role of organic matter in peaty New England salt marshes. *Estuaries and Coasts* doi: 10.1007/s12237-015-9971-1, 1-14.
- 2015 Hayes, C.T., R.F. Anderson, M.Q. Fleisher, S.M. Vivancos, P.J. Lam, D.C. Ohnemos, K.-F. Huang, R.F. Robinson, Y. Lu, H. Cheng, R.L. Edwards, S.B. Moran. Intensity of Th and Pa scavenging partitioned by particle chemistry in the North Atlantic Ocean. *Marine Chemistry* 170, 49-60.
- 2015 Hayes, C.T., R.F. Anderson, M.Q. Fleisher, K.-F. Huang, L.F. Robinson, Y. Lu, H. Cheng, R.L. Edwards, S.B. Moran, ²³⁰Th and ²³¹Pa on GEOTRACES GA03, the U.S. GEOTRACES North Atlantic Transect, and implications for modern and paleoceanographic chemical fluxes. *Deep-Sea Research II*, 116, 29-41.
- 2015 Smith, J.N., R. Brown, B. Williams, M. Robert, R. Nelson, S.B. Moran, Arrival of the Fukushima radioactivity plume in North American continental waters. *Proceedings of the National Academy of Sciences*, 112(5), 1310-1315.

- 2015 Smith, J.N., R. Brown, B. Williams, M. Robert, R. Nelson, S.B. Moran, Ocean current transport of Fukushima radioactivity to North America. *Canadian Meteorological and Oceanographic Society Bulletin*, 43(2), 51-56.
- 2014 Baumann, M.S., S.B. Moran, M.W. Lomas, R.P. Kelly, D.W. Bell and J.W. Krause, Diatom control of the autotrophic community and particle export in the eastern Bering Sea during the recent cold years (2008-2010). *Journal of Marine Research* 72(6), 405-444.
- 2014 Gómez-Guzmán, J.M. P. Cámara-Mor, T. Suzuki, J.M. López-Gutiérrez, J.L. Más, P. Masqué, S.B. Moran and J.N. Smith. New insights on the role of sea ice in intercepting atmospheric pollutants using ^{129}I . *Marine Pollution Bulletin* 89, 180-190.
- 2014 Cross, J.N., J.T Mathis, M.W. Lomas, S.B. Moran, M.A. Baumann, D.H. Shull, C.W. Mordy, N.R. Bates, P.J. Staben, J.M. Grebmeier, Integrated assessment of the carbon budget in the Southeastern Bering Sea. *Deep-Sea Research II* 109, 112-124.
- 2014 Choi, H.Y., G.M. Stewart, M.W. Lomas, R.P. Kelly, S.B. Moran, Linking the distribution of ^{210}Po and ^{210}Pb with plankton community along Line P, Northeast Subarctic Pacific. *Journal of Environmental Radioactivity* 138, 390-401.
- 2014 Smith, J.N., P.A. Yeats, S.E. Knowlton, and S.B. Moran, Comparison of $^{234}\text{Th}/^{238}\text{U}$ and mass balance models for estimating metal removal fluxes in the Gulf of Maine and Scotian Shelf. *Continental Shelf Research* 77, 107-117.
- 2014 Wigand, C., C. Roman, E. Davey, M.H. Stolt, R.L. Johnson, A. Hanson, E.B. Watson, S.B. Moran, D.R. Cahoon, J.C. Lynch, and P. Rafferty, Below the disappearing marshes of an urban estuary: historic nitrogen trends and soil structure. *Ecological Applications* 24(4), 633-649.
- 2014 Moran S.B., S.L. Stachelhaus, R.P. Kelly, and M.J. Brush, Submarine groundwater discharge as a source of total inorganic nitrogen and phosphorus to coastal ponds of southern Rhode Island. *Estuaries and Coasts* 37(1), 104-118.
- 2013 Baumann, M.S., S.B. Moran, M.W. Lomas, R.P. Kelly and D.W. Bell, Seasonal decoupling of particulate organic carbon export and net primary production in relation to sea-ice extent at the shelf break of the eastern Bering Sea: implications for off-shelf carbon export. *Journal of Geophysical Research–Oceans* 118, 5504-5522 doi:10.1002/jgrc.20366.
- 2013 Baumann, M.S., S.B. Moran, R.P. Kelly, M.W. Lomas and D. Schull, ^{234}Th balance and implications for seasonal particle retention in the eastern Bering Sea. *Deep-Sea Research II* 94, 7-21.

- 2013 Esch, M.E.S., D.H. Shull, A.H. Devol, and S.B. Moran, Regional patterns of bioturbation iron and manganese reduction in the sediments of the southeastern Bering Sea. *Deep-Sea Research II* 94, 80-94.
- 2012 Anderson, R.F., M.Q. Fleisher, L.F. Robinson, R.L. Edwards, J.A. Hoff, S.B. Moran, M.M. Rutgers van der Loeff, A.L. Thomas, M. Roy-Barman, and R. Francois, GEOTRACES intercalibration of ^{230}Th , ^{232}Th , ^{231}Pa , and prospects for ^{10}Be . *Limnology and Oceanography* 10, 179-213.
- 2012 Maiti, K., K.O. Buesseler, S.M. Pike, C. Benitez-Nelson, P. Cai, W., Chen, J.K. Cochran, M. Dai, F. Dehairs, B. Gasser, R.P. Kelly, P. Masque, L. Miller, J.-C. Miquel, S.B. Moran, P. Morris, , F. Piene, F. Planchon, A.R. Renfro, M.M. Rutgers van der Loeff, P.S. Santschi, R. Turnewitsch, J.T Waples, C. Xu, Total and particulate thorium-234 results from GEOTRACES intercalibration cruises. *Limnology and Oceanography-Methods* 10, 631-644.
- 2012 M.M. Rutgers van der Loeff, P. Cai, I. Stimac, D. Bauch, C. Hanfland, T. Roeske, and S.B. Moran, Shelf-basin exchange times of Arctic surface waters estimated from $^{228}\text{Th}/^{228}\text{Ra}$ disequilibrium. *Journal of Geophysical Research–Oceans* 117, C03024, doi:10.1029/2011JC007478.
- 2012 Stachelhaus, S.L., S.B. Moran, and R.P. Kelly, An evaluation of the efficacy of radium isotopes as tracers of submarine groundwater discharge to southern Rhode Island's coastal ponds. *Marine Chemistry* 130-131, 49-61.
- 2012 Stachelhaus, S.L., S.B. Moran, D. Ullman, and R.P. Kelly, Cross-shelf mixing and mid-shelf front dynamics in the Mid-Atlantic Bight evaluated using the radium quartet. *Journal of Marine Research* 70(1), 141-172.
- 2012 Stachelhaus, S.L. and S.B. Moran, A simple differential diffusion model to account for the discrepancy between ^{223}Ra and ^{224}Ra -based eddy diffusivities. *Journal of Geophysical Research–Oceans* 117, C03004, doi:10.1029/2011JC007500.
- 2012 Moran, S.B., M.W. Lomas, R.P. Kelly, K. Iken, R. Gradinger and J.T. Mathis, Seasonal succession of net primary productivity, particulate organic carbon export, and autotrophic community composition in the eastern Bering Sea. *Deep-Sea Research II* 65-70, 84-97.
- 2012 Lomas, M.W., S.B. Moran, J.R. Casey, D.H. Bell, M. Tiahlo, J. Whitefield, R.P. Kelly, J. Mathis, N. Cokelet, Spatial and seasonal variability of primary production on the Eastern Bering Sea shelf. *Deep-Sea Research II* 65-70, 126-140.
- 2011 Lomas, M.L. and S.B. Moran, Evidence for aggregation and export of cyanobacteria and nano-eukaryotes from the Sargasso Sea euphotic zone. *Biogeosciences* 8, 203-216.

- 2011 Smith, J.N., F. McLaughlin, W.M. Smethie Jr., S.B. Moran and K. Lepore, ^{129}I , ^{137}Cs and CFC-11 tracer transit time distributions in the Arctic Ocean. *Journal of Geophysical Research-Oceans*, 116, C04024, doi:10.1029/2010JC006471.
- 2011 Stewart, G.M., S.B. Moran, M.L. Lomas, and R.P. Kelly, Direct comparison of ^{210}Po , ^{234}Th , and particle-size distributions and export fluxes at the Bermuda Atlantic Time-series Site. *Journal of Environmental Radioactivity*, 102, 479-489.
- 2010 Mathis, J.T., J.N. Cross, N.R. Bates, S.B. Moran, M.W. Lomas, and P.J. Staben, Seasonal distribution of dissolved inorganic carbon and net community production on the Bering Sea shelf. *Biogeosciences* 7, 1769-1787.
- 2010 Weinstein-Knowlton, S.E. and S.B. Moran, Stable Pb isotope ratios in aerosols, precipitation and size-fractionated particulate matter in the Gulf of Maine, Scotian Shelf and Labrador Sea. *Marine Pollution Bulletin* 10.1016/j.marpolbul.2010.02.005.
- 2010 Cai, P., M.M. Rutgers van der Loeff, I. Stimac, E.-M. Notig, K. Lepore and S.B. Moran, Low export flux of particulate organic carbon in the central Arctic Ocean as revealed by $^{234}\text{Th}/^{238}\text{U}$ disequilibrium. *Journal of Geophysical Research-Oceans* 115, C10037, doi:10.1029/2009JC005595.
- 2010 Stewart, G.M., S.B. Moran, and M.L. Lomas, Seasonal POC fluxes at BATS estimated from ^{210}Po deficits. *Deep-Sea Research I* 57(1), 113-124.
- 2009 Brew, H., S.B. Moran, M.W. Lomas and A.B. Burd, Plankton community structure, organic carbon and thorium-234 particle size-distributions, and particle export in the Sargasso Sea. *Journal of Marine Research* 67, 845-868.
- 2009 Boes, X., S.B. Moran, J. King, N. Catagay and A. Hubert-Ferrari, Records of large earthquakes in lake sediments along the North Anatolian Fault, Turkey. *Journal of Paleolimnology* DOI 10.1007/s10933-009-9376-x.
- 2009 Lepore, K., S.B., Moran, A.B. Burd, G. Jackson, J.N. Smith, M.L. Lomas, R.P. Kelly, H. Kaberi, S. Stavrakakis and G. Asimakopoulou, Sediment trap and in-situ pump size-fractionated POC/ ^{234}Th ratios in the Mediterranean Sea and North Atlantic: implications for POC export. *Deep-Sea Research I* 56, 599-613.
- 2009 Lepore, K., S.B. Moran and J.N. Smith, ^{210}Pb as a tracer of shelf-basin transport and sediment focusing in the Chukchi Sea. *Deep-Sea Research II* 56(3), 599-613.
- 2008 Hung, C.-C., S.B. Moran, J.K. Cochran, L. Guo and P.H. Santschi, Comment on "How accurate are ^{234}Th measurements in seawater based on the MnO_2 -impregnated cartridge technique?" by Pinghe Cai et al. *Geochemistry-Geophysics-Geosystems* 9, doi:10.1029/2007/GC001770.

- 2008 Hougham, A.L. S.B. Moran, J.P. Masterson and R.P. Kelly, Seasonal changes in submarine groundwater discharge to coastal salt ponds estimated using ^{226}Ra and ^{228}Ra as tracers. *Marine Chemistry* 109, 268-278.
- 2008 Lalande, C., S.B. Moran, P. Wassmann, J.M. Grebmeier, L.W. Cooper, ^{234}Th -derived particulate organic carbon fluxes in the northern Barents Sea with comparison to drifting sediment trap fluxes. *Journal of Marine Systems* 73, 103-113.
- 2007 Burd, A.B., G.A., Jackson and S.B. Moran, The role of the particle size spectrum in estimating POC fluxes from $^{234}\text{Th}/^{238}\text{U}$ disequilibrium. *Deep-Sea Research I* 54, 897-918.
- 2007 Lepore, K. and S.B. Moran, ^{234}Th and ^{228}Th as tracers of particle aggregation and disaggregation in the Chukchi Sea. *Deep-Sea Research I* 54, 919-938.
- 2007 Hougham, A.L. and S.B. Moran, Water mass ages of coastal ponds estimated using ^{223}Ra and ^{224}Ra as tracers. *Marine Chemistry* 105, 194-207.
- 2007 Lepore, K., S.B. Moran, J.M. Grebmeier, L.W. Cooper, C. Lalande, W. Maslowski, N.R. Bates, D.A. Hansell, J. Mathis and R.P. Kelly, Seasonal and interannual changes in POC export and deposition in the Chukchi Sea. *Journal of Geophysical Research, Oceans* 112, C10024, doi:10.1029/2006JC003555.
- 2007 Lalande, C., K. Lepore, J.M. Grebmeier, L.W. Cooper, S.B. Moran, Export fluxes of particulate organic carbon in the Chukchi Sea: A comparative study using $^{234}\text{Th}/^{238}\text{U}$ disequilibria and drifting sediment traps. *Marine Chemistry* 103, 185-196.
- 2006 Bates, N.R., S.B. Moran, D.A. Hansell, J. Mathis, An increasing CO_2 sink in the Arctic Ocean due to sea-ice loss. *Geophysical Research Letters* 33, L23609, doi:10.1029/2006GL027028.
- 2006 Speicher, E.A., S.B. Moran, A.B. Burd, R. Delfanti, H. Kaberi, R.P. Kelly, C. Papucci, J.N. Smith, S. Stavrakakis, L. Toricelli and V. Zervakis, Particulate organic carbon export fluxes and size-fractionated $\text{POC}/^{234}\text{Th}$ ratios in the Ligurian, Tyrrhenian and Aegean Seas. *Deep-Sea Research I* 53(11), 1810-1830.
- 2006 Hall, I.R., S.B. Moran, R. Zahn, P.R. Knutz, C.-C. Shen and R.L. Edwards, Accelerated draw-down of meridional overturning in the late-glacial Atlantic triggered by transient pre-H event freshwater perturbation. *Geophysical Research Letters* 33, L16616, doi:10.1029/2006GL026239.
- 2006 Santschi, P.H., J.W. Murray, M. Baskaran, C.R. Benitez-Nelson, L.D. Guo, C.-C. Hung, C. Lamborg, S.B. Moran, U. Passow and M. Roy-Barman, Thorium speciation in seawater. *Marine Chemistry* 100, 250-268.
- 2006 Buesseler, K.O., C. Benitez-Nelson, S.B. Moran, A. Burd, M. Charette, J.K. Cochran, N. Fisher, S. Fowler, W. Gardner, L. Guo, O. Gustafsson, C. Lamborg, P. Masque, J.C. Miquel, U. Passow, P. Santschi, N. Savoye, G. Steward and T. Trull, Ratios of particulate

- carbon to thorium-234: what do they tell us and how can they be used to estimate sinking fluxes out of the upper ocean *Marine Chemistry* 100, 213-233.
- 2006 Smith, J.N., S.B. Moran, and E.A. Speicher, On the accuracy of upper ocean particulate organic carbon export fluxes estimated from $^{234}\text{Th}/^{238}\text{U}$ disequilibrium. *Deep-Sea Research I* 53, 860-868.
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- 1992 Moran, S.B., Moore R.M. and Westerlund S., Dissolved aluminum in the Weddell Sea. *Deep-Sea Research* 39, 537-547.
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- 1988 Moran, S.B. and Moore R.M., Temporal variations in dissolved and particulate aluminum during a spring bloom. *Estuarine, Coastal and Shelf Science* 27, 205-215.
- 1988 Moran, S.B. and Moore R.M., Evidence from mesocosm studies for biological removal of dissolved aluminum from sea water. *Nature* 335, 706-708.

PEER-REVIEWED BOOK CHAPTERS

- 2021 Moran, S.B., Workforce development and leadership training for the new blue economy. In: *Preparing the Workforce for the New Blue Economy: People, Products and Policies* (Eds. L. Hotelling and R. Spinrad), Elsevier, pp. 407-416.
- 2014 Mathis, J.T., Grebmeier, J.M., Hansell, D.A., Hopcroft, R.R., Kirchman, D.L., Lee, S.H., Moran, S.B., Bates, N.R., VanLaningham, S., Cross, J.N., and Cai W.-J., Carbon biogeochemistry of the Western Arctic: primary production, carbon export and the controls on ocean acidification. In: *The Pacific Arctic Region: Ecosystem Status and*

Trends in a Rapidly Changing Environment, Grebmeier, J.M., and Maslowski, W., (eds.), Springer Science+Business Media, Dordrecht, pp. 223-268.

- 2009 Moran, S.B., M.M. Higgins, D.E. Rosen, Educating future business leaders in the strategic management of global change opportunities: The Blue MBA. In *Management Education for Global Sustainability*, (Eds. C. Wankel and J.A.F. Stoner), Information Age Publishing, pp. 227-241.
- 2003 Wassmann, P., E. Bauerfeind, M. Fortier, M. Fukuchi, B. Hargrave, S.B. Moran, T. Noji, E.-M. Nöthig, K. Olli, R. Peinert, H. Sasaki, V. P. Shevchenko, Particulate organic carbon flux to the Arctic Ocean sea floor. In: *The Organic Carbon Cycle in the Arctic Ocean* (Eds. R. Stein and R.W. Macdonald), Springer-Verlag, Heidelberg-Berlin-New York, pp 102-138.
- 1996 Ellis, K.M., Nelson R.P., Smith J.N. and Moran S.B., Artificial radionuclides in the Arctic Ocean. In *The 1994 Arctic Ocean Section: The First Scientific Crossing of the Arctic Ocean* (Eds. W. Tucker and D. Cate). CRREL Special Report 96-23, U.S. Army Cold Regions Research and Engineering Laboratory, Hanover, NH.
- 1996 Moran, S.B., Ellis K.M., Nelson R.P. and Smith J.N., Thorium isotopes as tracers of scavenging and particle cycling in the Arctic Ocean. In *The 1994 Arctic Ocean Section: The First Scientific Crossing of the Arctic Ocean* (Eds. W. Tucker and D. Cate). CRREL Special Report 96-23, U.S. Army Cold Regions Research and Engineering Laboratory, Hanover, NH, pp. 29-31.
- 1995 Ellis, K.M., Smith J.N., Nelson R.P., Kilius L., MacDonald R.W., Carmack E., and Moran S.B., Distribution of artificial radionuclides in the Arctic Ocean from the 1994 Arctic Ocean Section. In *Environmental Radioactivity in the Arctic*. Scientific Committee of the International Conference on Environmental Radioactivity in the Arctic (Eds. P. Strand and A. Cooke), pp. 204-207.
- 1995 Moran, S.B., Cochran J.K., Fisher N.S. and Kilius L.R., ¹²⁹I in the Ob River. In *Environmental Radioactivity in the Arctic*. Scientific Committee of the International Conference on Environmental Radioactivity in the Arctic (Eds. P. Strand and A. Cooke), pp. 75-78.
- 1991 Moran, S.B., The application of cross-flow filtration to the collection of colloids and their associated metals in seawater. In: *Marine Particles: Analysis and Characterization* (Eds. D.C. Hurd and D.W. Spencer), Geophysical Monograph 63, American Geophysical Union, Washington, D.C., pp. 275-280.

POPULAR ARTICLES, EDITORIALS, AND TECHNICAL REPORTS

- 2022 Mayer, L.A., M.R. Abbott, C. Arnosti, C. Benitez-Nelson, A. Boyd, A. Brett, T.S. Chance, D. Costa, J.R. Delany, A. Doerr, S. Glenn, P. Heimbach, M. Isakson, L. Jenkins, S. Knight, N. Knowlton, A. MacDonald, J. McGlade, T.J. Miller, S.B Moran, R.M Perry,

- J. Sanchirico, M.J. Spalding, L.D. Talley, R.S. Winokur and G.C. Young. Committee on Cross-Cutting Themes for U.S. Contributions to the Ocean Decade. A Consensus Study Report of the National Academies of Sciences, Engineering and Medicine. *The National Academies Press*, Washington, DC.
- 2021 Sternberg. J.C., J.H. Edmondson and S.B. Moran. Towards ocean-centric climate adaptation in the Arctic. *Wilson Center*, December 2021.
- 2020 Moran, S.B. A merger will help meet Alaska's fisheries, ocean sciences needs. Community Perspective, *Fairbanks News Miner*, June 15, 2020.
- 2017 Moran, S.B. and J. Cladouhos. Alaska stands to gain by boosting its blue economy. Commentary, *Alaska Dispatch News*, September 18, 2017.
- 2017 Moran, S.B. and J. Cladouhos. Building the Alaska blue economy. *Alaska Journal of Commerce*. Op-ed, September 15, 2017.
- 2014 Moran, S.B., Strengthening America's ocean economy: the National Ocean Policy. *Sea Technology*, Op-ed 55(1), 24-25.
- 2014 Moran, S.B., M.L. Lomas, M.S. Baumann, R.P. Kelly, and C.L. Liu. The impact of changes in sea ice extent in the eastern Bering Sea. *Bering Sea Program Magazine*.
- 2013 Moran, S.B. and H. Dulaiova, Editorial: Radium and radon tracers in aquatic systems: an update. *Marine Chemistry, Special Issue, Radium and Radon Tracers in Aquatic Systems*, 156, 1-2.
- 2012 Moran, S.B., Radium and radon tracers in aquatic systems: Fourth international Ra-Rn workshop, Narragansett, RI, USA. *Eos*, 93 (40). 389.
- 2010 Paolino, J.R. Jr. and S.B. Moran, The next Mayor should think "Green" to reduce energy costs, attract business, and create jobs. Op-ed. *RIFuture.org*, March 31, 2010.
- 2010 Paolino, J.R. Jr. and S.B. Moran, Next mayor should go green. Op-ed. *Providence Journal*. April 22, 2010.
- 2010 A Roadmap for Advancing the Green Economy in Rhode Island, Version 1.0 – A Working Draft. Rhode Island Economic Development Corporation. Contributing author. February 9, 2010.
- 2009 Levy, K. and S.B. Moran, Ocean-to-Plate: Development of a Johnson and Wales/University of Rhode Island Joint Initiative on Sustainable Seafood. Final Report submitted to the Greater Providence Chamber of Commerce, October 16, 2009.

- 2008 Moran, S.B., URI's energy future: cutting costs, carbon and global change. Report submitted to American University and Colleges Presidents Climate Commitment (ACUPCC), December, 2008.
- 2008 Moran, S.B., Educating future business leaders in the strategic management of global change opportunities. *CLEAN* 36(3), 249.
- 2008 Moran, S.B., National Geographic Visual Atlas of the World. Description of World Oceans. *National Geographic Society*. pp. 38-39.
- 2008 Moran, S.B., "Green" economy sets URI, and R.I., on right path. *Providence Business News*, Opinion, October 20, 2008.
- 2008 Moran, S.B., URI is working to make RI greener. Business Commentary, *Providence Journal*, November 30, 2008.
- 2007 Masterson, J.P., J.R. Sorenson, J.R. Stone, S.B. Moran and A.L. Hougham, Hydrogeology and simulated ground-water flow in the Salt Pond Region of the southern Rhode Island. U.S. Geological Survey, Scientific Investigations Report 2006-5271, 56 pp.
- 2002 Smith, J.N., E.P. Jones and S.B. Moran, ¹²⁹I ventilation ages in the Labrador Sea. Department of Fisheries and Oceans, Bedford Institute of Oceanography, Internal Report.
- 2000 Moran, S.B. and J.N. Smith, Plutonium in the Russian Arctic: or, how we learned to love the bomb. *Maritimes* (42)2, 3-5.
- 2000 Arctic Science Journeys Radio "Russian Arctic Pollution", Transcript of radio broadcast interview discussing radioactive contamination in the Russian Arctic Ocean (www.uaf.edu/seagrant/NewsMedia/00ASJ/12.14.00_RussianPollution).
- 1997 Moran, S.B., On top of the world: Arctic Ocean explorations. *Maritimes* 39(2), 11-14.

INVITED LECTURES AND PANEL PRESENTATIONS

- 2021 Testimony, "UAF College of Fisheries and Ocean Sciences: Building Alaska's Blue Economy". Alaska House Finance Committee, Juneau, AK, March 12, 2021.
- 2019 Invited presentation, "R/V *Sikuliaq* Operations", 8th Symposium on the Impact of an Ice-Diminishing Arctic on Naval and Maritime Operations. Washington, DC, July 17-18, 2019.
- 2019 Keynote presentation "The UAF Alaska Blue Economy Center", Alaska Domain Awareness Center (ADAC) Arctic-Focused Medium-and-Long-Term-Environment (MaLTE) Workshop: Arctic Futures and Opportunities for Arctic Security via a "Blue Economy" connection". Utqiagvik, AK, June 25-26, 2019.

- 2019 Testimony, “UAF College of Fisheries and Ocean Sciences: Building Alaska’s Blue Economy”. Alaska House Fisheries Committee, Juneau, AK, March 5, 2019.
- 2019 Testimony, “UAF College of Fisheries and Ocean Sciences: Building Alaska’s Blue Economy”. Alaska House Resources Committee, Juneau, AK, March 4, 2019.
- 2019 Testimony, “UAF College of Fisheries and Ocean Sciences: Building Alaska’s Blue Economy”. Alaska Senate Resources Committee, Juneau, AK, March 4, 2019.
- 2018 Plenary Presentation, “Using R/V *Sikuliaq* as a broader impacts platform”. Arctic Researchers and Informal Science Education (ARISE) Workshop, University of Rhode Island, October 11, 2018.
- 2018 Presentation: “UAF College of Fisheries and Ocean Sciences: opportunities for research collaboration”. Sandia National Laboratory, Albuquerque, NM, August 16, 2018.
- 2018 Panelist: “Alaska Industry”, Alaska National Lab Day, University of Alaska Fairbanks, Fairbanks, AK, May 30, 2018.
- 2018 Moderator, “Case Study: Interagency Partnering and Coordination”. Consortium for Ocean Leadership Public Policy Forum, Washington, DC, March 7, 2018.
- 2018 Testimony, “UAF College of Fisheries and Ocean Sciences”. Alaska House Fisheries Committee, Juneau, AK, February 22, 2018.
- 2018 Panelist, “Ocean Cluster Panel”. Juneau Economic Development Council Innovation Summit, Juneau, February 22, 2018.
- 2018 Lecture, “UAF College of Fisheries and Ocean Sciences: Opportunities for Collaboration”. Alfred Wegener Institute, Bremerhaven, Germany, February 8, 2018.
- 2018 Presentation, “R/V *Sikuliaq* Operations”. Arctic Research Icebreaker Consortium (ARICE) Kick-Off Meeting and 1st ARICE General Assembly, German Maritime Museum, Bremerhaven, Germany, February 6, 2018.
- 2017 Moderator, “Building Alaska’s Blue Economy”, OCEANS ‘17 Conference. Anchorage, AK, September 18-21, 2017.
- 2017 Panelist, “Importance and Challenges of Conducting Research at Sea on Ships”, OCEANS ‘17 Conference. Anchorage, AK, September 18-21, 2017.
- 2017 Invited presentation, “R/V *Sikuliaq* Operations”, 7th Symposium on the Impact of an Ice-Diminishing Arctic on Naval and Maritime Operations. Washington, DC, July 18-20, 2017.
- 2017 Adventures of *Sikuliaq*: Living and Working on a Research Ship, Discover Alaska Lecture Series, Fairbanks, AK, June 21, 2017.

- 2016 Moderator, Ocean Industry Forum, Consortium for Ocean Leadership, Washington, DC, October 26, 2016.
- 2016 Moderator, Ocean Sciences Educators Retreat, Baton Rouge, LA, October 5-6, 2016.
- 2016 Keynote Talk, Perspectives on Ocean Sciences, Policy and Lessons Learned, Early Career Arctic Policy Workshop, Arctic Summit Science Week, Fairbanks, AK, March 14, 2016.
- 2015 Presentation, “Arrival of Fukushima radioactivity offshore North America”, School of Coastal and Marine Systems Science, Coastal Carolina University, Conway, SC, April 23, 2015.
- 2014 Panelist, “Technological Development and Innovation in the Blue Economy”, Perspectives on the Blue Economy: U.S.-China Development Concepts, Innovations, and Implications, China Maritime Studies Institute, Naval War College, Newport, RI, December 11-12, 2014.
- 2014 Presentation, “Arrival of Fukushima radioactivity offshore North America”, Chesapeake Biological Laboratory, University of Maryland, Solomons, MD, November 24, 2014.
- 2014 Panelist, The National Ocean Policy, Marine Spatial Planning, and Sustainable Ocean Development, 6th Annual Blue Tech & Blue Economy Summit, The Maritime Alliance Foundation, San Diego, CA November 12, 2014.
- 2014 Moderator “Ocean Economy: Impact of Ocean R&D on the Economy”, Ocean Studies Board of the National Research Council, Fall Meeting, National Academy of Sciences Beckman Center, Irvine, CA, October 1, 2014.
- 2014 Evidence of Fukushima radioactivity in North American waters. 102nd Meeting of the U.S. Arctic Research Commission, Anchorage, AK, September 14-15, 2014.
- 2014 Panelist, U.S. Government roundtable “Ocean Acidification: Understanding the Problem and Policy Responses”. Foreign Affairs Institute, Department of State. Arlington, VA, August 21, 2014.
- 2014 Session organizer “Ocean Science and Policy”, President’s Council of Advisors on Science and Technology (PCAST). National Academy of Science, Washington, DC, July 11, 2014.
- 2014 Session co-organizer and key staffer for Dr. John P. Holdren, Science Advisor to the President, “Ocean Health and Science”. U.S. Secretary of State John Kerry “Our Ocean” Conference, Department of State, Washington, DC, June 16, 17, 2014.
- 2014 Administration policy on climate and oceans. Sea Level Rise Workshop, Scripps Institution of Oceanography, La Jolla, CA, May 7-8, 2014.

- 2014 Strengthening America's ocean economy. Consortium for Ocean Leadership Trustee and Board Members Meeting, Washington, DC, March 13, 2014.
- 2014 Implementing the National Ocean Policy: An Update. Coastal States Organization Members Meeting, Washington, DC, March 4, 2014.
- 2014 Strengthening America's ocean economy. National Association of Marine Laboratories Members Meeting, Washington, DC, March 3, 2014.
- 2014 Update on implementation of the National Ocean Policy. Sport Fishing and Boating Partnership Council Winter 2014 Meeting, Washington, DC, February 25, 2014.
- 2014 The National Ocean Policy: an update. National Ocean Policy Coalition Annual Members Meeting, Washington, DC, January 29, 2014.
- 2013 Panelist, Ocean Community Strategy Roundtable, Aspen Wye River, MD, December 10, 2013.
- 2013 The National Ocean Policy: An Update. Ocean Research Advisory Panel, Arlington, VA, December 3, 2013.
- 2013 Particle transport, carbon cycling, and plankton community structure in the Bering Sea shelf: implications for off-shelf carbon export. University of Southern California, Los Angeles, CA, April 26, 2013.
- 2013 Panelist, Council on Ocean Affairs, Science and Technology, California State University, Long Beach, CA, April 25, 2013.
- 2011 Radionuclide tracers of ocean processes. Department of Chemistry, University of Montana, Missoula, MT, October 17, 2011.
- 2011 Seasonal succession of lower trophic level carbon partitioning in the eastern Bering Sea. Physical Sciences Department, Rhode Island College, Providence, RI, April 15, 2011.
- 2011 Panelist, Early Career Workshop, ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico, February 13-18, 2011.
- 2011 Sea ice control of lower trophic carbon partitioning in the eastern Bering Sea. Department of Marine Sciences Seminar, University of Connecticut, Avery Point, January 28, 2011.
- 2010 Microalgae: a sustainable resource and research opportunity for URI. Department of Cell and Molecular Biology, University of Rhode Island, September 24, 2010.
- 2010 Seasonal changes in primary production, phytoplankton community composition, and export during the Bering Sea Ecosystem Study. Ocean Carbon and Biogeochemistry summer workshop, Scripps Seaside Forum, La Jolla, CA, July 19-22, 2010.

- 2010 Overview of marine algal biofuel development. DAAD Alumni Seminar “Microalgae – Sustainable Resource for Energy and Chemical Feedstock Production – Scientific Aspects and Industrial Applications”, Technische Universität Braunschweig, Germany, June 28 - July 3, 2010.
- 2010 Panelist, Energy Efficiency, Rhode Island Green Economy Network (RIGEN) Presentation, Crowne Plaza Hotel, Warwick, RI, February 9, 2010.
- 2009 IAEA/RCA Regional Training Course on application of nuclear and stable isotope tracers to determine the fate and behavior of nuclear contaminants in marine systems. Jakarta, Indonesia. May 11-23, 2009.
- 2009 Moderator, Green economy: future opportunities and barriers to success. Providence Business Expo 2009, Rhode Island Convention Center, Providence, RI, May 5, 2009.
- 2008 Green industry workforce challenge = university + corporate opportunities. Association of Energy Services Professionals (AESP) – Northeast Energy Efficiency Council (NEEC) Green Industry Workforce Development Panel. Marlborough, MA, October 16, 2008.
- 2008 Panelist, IBM Global Innovation Outlook “Deep Dive” on Water and the Oceans, San Diego, September 2008.
- 2008 URI’s energy future: cutting costs, carbon, and global change. URI Research Seminar, September 26, 2008.
- 2008 URI’s energy future: cutting costs, carbon, and global change. URI Council of Deans, September 3, 2008.
- 2008 IAEA/RCA Regional Training Course on application of radionuclide tracers to determine the fate and behavior of nuclear contaminants in marine systems. Mumbai, India, May 27- June 7, 2008.
- 2008 Educating future business leaders in the strategic management of global change opportunities. Global U8 Consortium, Workshop, Kingston, RI, May 2, 2008.
- 2007 Field and modeling studies of POC export in the upper ocean: the *p*-ratio and implications for ²³⁴Th-derived POC export. AWI, Bremerhaven, Germany, May 7, 2007.
- 2007 Field and modeling studies of POC export in the upper ocean: the *p*-ratio and implications for ²³⁴Th-derived POC export. IAEA-MEL, Monaco, May 3, 2007.
- 2007 Overview of field and laboratory methods used for marine geochemical studies at URI-GSO. AWI, Bremerhaven, Germany, April 5, 2007.
- 2005 The *p*-ratio: a new diagnostic for evaluating the accuracy of ²³⁴Th-derived POC export flux. Bermuda Biological Station for Research, Inc., October 20, 2005.

- 2004 Geochemical and geophysical techniques for studying coastal groundwater in Rhode Island. University of Athens, Athens, GA, November 12, 2004.
- 2004 Theoretical conditions for determining POC flux from $^{234}\text{Th}/^{238}\text{U}$ disequilibria. WHOI, Woods Hole, MA, August 16, 2004.
- 2004 On top of the World: Arctic Ocean exploration. Naval War College, Newport, RI, August 3, 2004.
- 2004 Geochemical and geophysical techniques for studying coastal groundwater in Rhode Island. Brown University, Providence, RI, May 13, 2004.
- 2004 Size and speed matter: estimating upper ocean POC flux using $^{234}\text{Th}/^{238}\text{U}$ disequilibria. MIT, Cambridge, MA, April 30, 2004.
- 2003 How accurate are upper ocean POC export fluxes estimated from $^{234}\text{Th}/^{238}\text{U}$ disequilibrium? ENEA, La Spezia, Italy, October 28, 2003.
- 2003 How accurate are upper ocean POC export fluxes estimated from $^{234}\text{Th}/^{238}\text{U}$ disequilibrium? National Centre for Marine Research, Athens, Greece, September 24, 2003.
- 2003 Radionuclide tracers of marine processes. National Centre for Marine Research, Athens, Greece, September 23, 2003.
- 2003 Radionuclide tracers of marine processes. Graduate School of Oceanography Inaugural Talk, September 18, 2003.
- 2003 Upper ocean export of particulate organic carbon. Department of Marine Sciences, University of Connecticut, April 25, 2003.
- 2002 Radium tracers of groundwater supply and coastal water residence times. Sea Grant Annual Science Symposium on the Shallow Marine Ecosystems of Southern Rhode Island. Part One: Hydrology, nutrient and bacteria dynamics. Coastal Institute, URI, December 9, 2002.
- 2002 ^{231}Pa and ^{230}Th in the Atlantic Ocean: constraints on deep water age and boundary scavenging. Graduate School of Oceanography, URI, March 8, 2002.
- 2002 Use of radium isotopes in groundwater to estimate nitrogen loads to coastal waters. Nitrogen Loading Workshop, New England Interstate Water Pollution Control Commission, Lowell, MA, January 18, 2002.
- 2001 ^{231}Pa and ^{230}Th in the Atlantic Ocean: implications for deep water age, particle flux, and boundary scavenging. Department of Geology, Boston University, Boston, MA, November 29, 2001.

- 2000 Radioactive clocks in the sea. New England Association of Chemistry Teachers (NEACT) Conference. Roger Williams University, August 7, 2000.
- 1998 Th-230 and Pa-231: tracers of particle flux and ventilation in the Atlantic. Universite de Quebec a Montreal, Montreal, P.Q., Canada, April 22, 1998.
- 1997 Thorium scavenging and carbon fluxes in the central Arctic Ocean. Department of Oceanography, Texas A&M University, College Station, TX, April 27, 1997.
- 1996 Natural and artificial radionuclides as tracers of shelf-basin interactions in the Arctic Ocean. Harvard University, Cambridge, MA, April 1996.
- 1995 Advances in the use of Th isotopes as tracers of oceanic scavenging and particle cycling. Bedford Institute of Oceanography, Dartmouth, N.S., Canada, October 1995.
- 1994 Oceanic trace metal scavenging and colloid dynamics. Department of Earth, Atmospheric and Planetary Sciences, M.I.T., Cambridge, MA, March 1994.
- 1994 Oceanic trace metal scavenging and colloid dynamics. Chemistry Department, University of Rhode Island, March 1994.
- 1993 Oceanic particle dynamics: application of U-Th isotopes and implications for the role of colloids in the marine carbon cycle. Department of Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution, Woods Hole, MA, April 1993.
- 1993 Oceanic particle dynamics: application of U-Th isotopes and implications for the role of colloids in the marine carbon cycle. Chesapeake Biological Laboratory, University of Maryland, Solomons, MD, March 1993.
- 1992 Chair, Marine Geochemistry and Radioactive Isotopes session, AGU Fall Meeting, 1992.
- 1992 Size-fractionated ^{234}Th in oceanic waters: implications for the role of colloids in reactive metal scavenging. Parsons Laboratory, MIT, Cambridge, MA, November 1992.
- 1992 Oceanic particle dynamics: application of U-Th isotopes and implications for the role of colloids in the marine carbon cycle. Marine Laboratory, Duke University, Beaufort, NC, May 1992.
- 1992 Oceanic particle dynamics: application of U-Th isotopes and implications for the role of colloids in the marine carbon cycle. Virginia Institute of Marine Science, College of William and Mary, Gloucester Point, VA, March 1992.
- 1992 Oceanic particle dynamics: application of U-Th isotopes and implications for the role of colloids in the marine carbon cycle. Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, January 1992.

- 1991 Oceanic particle dynamics: application of U-Th isotopes and implications for the role of colloids in the marine carbon cycle. Institute of Marine and Coastal Science, Rutgers University, New Brunswick, NJ, September 1991.
- 1991 $^{234}\text{Th}/^{238}\text{U}$ disequilibria among dissolved, colloidal and particulate forms in oceanic waters: implications for the role of colloids in reactive metal transport. University of Massachusetts, Boston, MA, June 1991.
- 1990 Marine scavenging and colloids. Institute of Marine Sciences, University of Southern California at Santa Cruz, Santa Cruz, CA. December 1990.
- 1990 On the marine geochemistry of aluminum. Department of Oceanography, University of Hawaii, Honolulu, HI, November 1990.
- 1989 On the marine geochemistry of aluminum. Department of Earth, Atmospheric and Planetary Sciences, MIT, Cambridge, MA, July, 1989

PROFESSIONAL MEETING PRESENTATIONS AND ABSTRACTS

- Over 100 professional presentations and abstracts that address a variety of audiences and topics, including ocean science research, education, and partnership opportunities. Details available on request.

RESEARCH FUNDING RECORD

\$83.1M total grants and contracts. Funds awarded as PI/co-PI listed below (\$53.9M)

- 2021 Mid-scale RI-2: Re-envisioning the Seward Marine Center – the nation’s gateway to Arctic and sub-arctic systems, \$93,994,854, National Science Foundation (co-PI); invited/pending.
- 2020 Blue Pipeline: Building a technology fueled ocean economy in Alaska. US Economic Development Administration, \$600,000 (\$121,464 to UAF), 2020-2023.
- 2018 University of Alaska Fairbanks/*Sikuliaq* Ship Operations 2018-2022. National Science Foundation, Division of Ocean Sciences, \$33,450,285.
- 2018 Arctic Research Icebreaker Consortium (ARICE): a strategy for meeting the needs of marine based research in the Arctic. European Union Horizon 2020 Research and Innovation Framework Programme. \$7,075,944 (\$555,741 to UAF/CFOS), 2018-2021.
- 2018 Quantitative fisheries faculty support at University of Alaska Fairbanks College of Fisheries and Ocean Sciences. National Oceanic and Atmospheric Administration Quantitative Ecology and Socioeconomics Training (QUEST) Program. \$1,100,000, FY2018-2024 (on assumption).

- 2017 President's Professorship in Quantitative Fisheries and Ecosystems. University of Alaska. \$794,891 (awardee in CFOS Dean capacity), 2017-2022.
- 2012 Using opportunistic radon measurements to estimate gas transfer velocity in partial sea ice cover. National Science Foundation, Office of Polar Programs, \$388,269, 2012-2014.
- 2012 4th International Radium-Radon Workshop, National Science Foundation, Chemical Oceanography Program, \$25,000, 2012.
- 2011 Impact of sea ice on bottom-up and top-down controls of carbon and energy flows in the eastern Bering Sea. National Science Foundation, Office of Polar Programs, \$114,460, 2011-2013.
- 2010 University of Rhode Island Regional Earth System Center, Department of Energy, \$728,439, 2010-2011.
- 2010 Quantification of dissolved Ti in open ocean sea water. National Science Foundation, Chemical Oceanography Program, \$39,280, 2010-2011.
- 2010 Infrastructure to advance life sciences in the ocean state, National Science Foundation, Experimental Program to Stimulate Competitive Research, \$10,507,711, 2010-2015.
- 2009 Catalyzing a research, education, and innovative workforce. National Science Foundation, Experimental Program to Stimulate Competitive Research, \$1,312,500, 2009-2010.
- 2009 Testing linkages between plankton community structure and export of C, Po, and Th in the subarctic NE Pacific: field and lab studies. National Science Foundation, Office of Polar Programs, \$360,079, 2009-2012.
- 2009 U.S. GEOTRACES North Atlantic section: analysis of ²³⁰Th, ²³¹Pa. National Science Foundation, Chemical Oceanography Program, \$196,013, 2009-2011.
- 2009 Ocean to Plate: Development of a Johnson & Wales University – University of Rhode Island Joint Initiative on Sustainable Seafood. Greater Providence Chamber of Commerce, \$20,000, 2009.
- 2009 Green Economy Panel at 2009 Providence Business EXPO. Greater Providence Chamber of Commerce, \$2,500, 2009.
- 2008 GEOTRACES intercalibration of ²³⁰Th, ²³¹Pa, ¹⁰Be, REE, Nd isotopes and selected man-made radionuclides. National Science Foundation, Chemical Oceanography Program, \$88,300, 2008-2010.

- 2008 Seasonal changes in microbial contaminant sources related to groundwater quality and physical circulation in southern Rhode Island coastal ponds. National Oceanic and Atmospheric Administration, Rhode Island Sea Grant Program, \$211,505, 2008-2010.
- 2008 Carbon export in the eastern Bering Sea water column. North Pacific Research Board, \$20,000, 2007-2008.
- 2007 Determining the present and future ocean carbon dynamics in the Chukchi Sea and Pan-Arctic Ocean: a contribution to Shelf-Basin Interactions (SBI) Phase III. National Science Foundation, Office of Polar Programs, \$122,718, 2007-2009.
- 2007 The impact of changes in sea ice extent on primary production, phytoplankton community structure, and export in the eastern Bering Sea. National Science Foundation, Office of Polar Programs, \$418,951, 2007-2011.
- 2006 Observations of the structure and dynamics of mid-shelf fronts. National Science Foundation, Physical Oceanography Program, \$90,422 2006-2009.
- 2006 Integrated numerical modeling and field observations of groundwater flow in southern Rhode Island and implications for nutrient loading in coastal lagoons: phase II. National Oceanic and Atmospheric Administration, Rhode Island Sea Grant Program, \$125,449, 2006-2008.
- 2004 Hydrogeologic characterization and groundwater flow patterns in southern Rhode Island and implications for coastal lagoons: numerical simulations and field observations. National Oceanic and Atmospheric Administration, Rhode Island Sea Grant Program, \$199,463, 2004-2006.
- 2003 Field and modeling studies of the magnitude and variability of ^{234}Th -based estimates of POC export flux and remineralization in the upper ocean. National Science Foundation, Chemical Oceanography Program, \$494,645, 2003-2007.
- 2003 Constraints on Seasonal and Interannual Groundwater Nutrient Input and Biogeochemical Cycling within the Subsurface Land-Sea Interface. National Oceanic and Atmospheric Administration, Rhode Island Sea Grant Program, \$85,686, 2003-2004.
- 2002 Assay toxicity of chlorine dioxide to ballast water flora and fauna. EcoChlor, Inc. \$73,554, 2002.
- 2002 Supplement: Carbon cycling in the Chukchi and Beaufort Seas—field and modeling studies. National Science Foundation, Office of Polar Programs, \$25,835, 2002-2003.
- 2001 Carbon Cycling in the Chukchi and Beaufort Seas—field and modeling studies. National Science Foundation, Office of Polar Programs, \$565,611 URI, 2001-2006.

- 2001 Application of ^{223}Ra , ^{224}Ra , ^{226}Ra and ^{228}Ra to studies of groundwater input and coastal mixing process in southern Rhode Island. National Oceanic and Atmospheric Administration, Rhode Island Sea Grant Program, \$163,146, 2001-2003.
- 2000 Constraining water mass age and particle flux in the Arctic Ocean using Pa-231 and Th-230 as tracers. National Science Foundation, Office of Polar Programs, \$170,115, 200-2002.
- 1999 Application of Ra-223 as a tracer of groundwater in southern Rhode Island watersheds. United States Geologic Survey-University of Rhode Island Water Resource Center, \$23,500, 1999-2000.
- 1998 ^{230}Th and ^{231}Pa : tracers of particle flux and ventilation in the Atlantic. National Science Foundation, Chemical Oceanography Program, \$299,832, 1998-2001.
- 1998 Seasonal study of groundwater input to Rhode Island coastal ponds using radium isotopes as tracers. National Oceanic and Atmospheric Administration, Rhode Island Sea Grant Program, \$177,728, 1998-2001.
- 1996 Investigation of submarine groundwater discharge to Rhode Island coastal waters using natural radionuclide tracers. National Oceanic and Atmospheric Administration, Rhode Island Sea Grant Program, \$79,257, 1997-1998.
- 1996 Thorium isotopes as tracers of scavenging and particle dynamics in high latitudes. Office of Naval Research Young Investigator Award, \$323,500, 1996-1999.
- 1995 Plutonium mass spectrometry analyses. Office of Naval Research \$6,000, 1995-1996.
- 1995 ^{230}Th and ^{232}Th analysis of samples from Arctic Ocean Section-1994. National Science Foundation, Chemical Oceanography Program, \$45,483, 1995-1996.
- 1995 Radionuclide studies in the western Arctic Ocean. Office of Naval Research, \$20,000, 1995-1996.
- 1995 Nitrogen and trace metal contaminants in the Gulf of Maine: an atmosphere-water column-sediment study of contaminant transfer cycling. National Oceanic and Atmospheric Administration, Gulf of Maine Regional Marine Research Program, \$99,128, 1995-1997.
- 1995 Transport and fate of artificial radionuclide contaminants in the Ob River estuarine system. Office of Naval research, \$56,334, 1995-1997.
- 1994 Acquisition of an inductively coupled plasma mass spectrometer. National Science Foundation, \$199,056, 1994-1997.

- 1994 Geochemical transport of trace metals and organic contaminants via particle settling in the Gulf of Maine. National Oceanic and Atmospheric Administration, Gulf of Maine Regional Marine Research Program, \$205,808, 1994-1997.
- 1994 Sources, fate and transport of radionuclides in the Arctic Ocean. Office of Naval Research, \$64,683, 1994-1995.
- 1994 Transport and fate of radionuclides in the Ob River estuarine system. Office of Naval Research, \$83,333, 1994-1995.
- 1994 Natural and artificial radionuclides as tracers of particle cycling and circulation times scales in the Arctic Ocean. National Science Foundation, Office of Polar Programs, \$49,927, 1994-1995.
- 1993 Cycling of particle-reactive trace metals and organic pollutants in the Gulf of Maine. National Oceanic and Atmospheric Administration, \$33,201, 1993-1996.
- 1993 Transformation rates and fate of organic carbon in continental shelf waters. Department of Energy, \$17,145, 1993-1995.
- 1993 The application of in-situ cross-flow filtration and thermal Ionization mass spectrometry to the study of oceanic particle dynamics. National Science Foundation, Chemical Oceanography Program, \$63,741, 1993-1996.
- 1992 The role of colloids in metal transport in coastal waters. National Oceanic and Atmospheric Administration, Massachusetts Sea Grant Program, \$27,635, 1992-1993.
- 1991 A study of colloids and their associated metals in coastal waters. National Oceanic and Atmospheric Administration, Massachusetts Sea Grant Program, \$1,800, 1991-1992.
- 1991 A study of colloids and their associated metals in coastal waters. Woods Hole Oceanographic Institution, Coastal Research Center, \$7,200, 1991-1992.

RESEARCH CRUISE PARTICIPATION

- Participant in 69 research cruises (over 1000 days at sea and more than 600 days in the Arctic Ocean and adjacent seas) aboard 20 different research vessels originating from Canada, USA, Russia, Greece, Italy, and Germany. Details available on request.

POSTDOCTORAL FELLOW AND GRADUATE STUDENT ADVISING

Post-doctoral Fellows (current position):

- Dr. Xavier Boes, 2007 - 2008 (Fulbright Fellow; University of Bordeaux)
- Dr. Kate Lepore, 2006 - 2008 (Research Associate, Smith College, MA)
- Dr. Sarah Weinstein, 2003 - 2004 (Associate Professor, Rhode Island College, RI)

- Dr. Henrietta N. Edmonds, 1996 - 1998 (Lead Program Director, Chemical Oceanography Program, National Science Foundation)

Graduate Student Advising (current position):

- Brendan L. Mackinson, M.S. 2014. Major Professor (Instructor, Phillips Academy, Andover, MA)
- Matthew S. Baumann, Ph.D. 2013. Major Professor (Project Associate, Industrial Economics, Cambridge, MA)
- Scott Stachelhaus, Ph.D. 2011. Major Professor (Faculty, St. Georges School, Newport, RI)
- Haley Brew, M.S. 2008. Major Professor (High School Teacher, Sandwich, MA)
- Andrea Hougham, M.S. 2006. Major Professor (Ph.D. Univ. South Carolina)
- Kate Hagstrom, Ph.D. 2006. Major Professor (Research Associate, Smith College, MA)
- Elly Speicher, M.S. 2005. Major Professor (Research Associate, Slippery Rock University, PA)
- Sarah Weinstein. Ph.D. 2003. Major Professor (Associate Professor, Rhode Island College, Providence, RI)
- Ozge Kocabayoglu, M.O., Oceanography, 2002.
- Roger P. Kelly. M.S. 2001. Major Professor (Marine Research Associate III, URI)
- Margaret K. Scott. M.S. 1998. Major Professor (Scientist, GZA Environmental, Inc., MA)
- Steven M. Pike. M.S. 1998. Major Professor (Research Associate, WHOI, MA)
- Matthew A. Charette. Ph.D. 1998. Major Professor (Senior Scientist, WHOI, MA)
- Jennifer Greenamoyer. M.S. 1995. Major Professor (Senior Government Relations Coordinator, American Institute of Physics, Washington, DC)

ADDITIONAL UNIVERSITY SERVICE

The University of Alaska Fairbanks

- 2020 - 21 UAF Operations Support Team for COVID-19 mitigation
- 2016 - 19 Member, Leadership Team, Fisheries, Seafood and Maritime Initiative
- 2016 - Member, Provost's Deans and Directors Council
- 2016 - Member, Research Planning Group, Vice Chancellor for Research
- 2016 - 17 Member, Arctic Research Initiatives, Vice Chancellor for Research

The University of Rhode Island

- 2015 Member, Faculty Senate
- 2015 Member, Dean's Advisory Committee
- 2011 Member, Faculty Senate
- 2010 - 11 Co-Director, Regional Earth Systems Center
- 2010 Chair, Forum on Intellectual Property and Research Advancement
- 2010 - 11 Member, Faculty Search Committee, Marine Chemist
- 2009 - 11 Member, University Computing Sakai Advisory Group
- 2009 Program Advisor, Green Students Partnership
- 2009 Co-organizer, ARRA Research Opportunities Brown Bag Workshops
- 2009 Co-organizer, Provost Student Sustainability Fund
- 2009 Session Facilitator, Provost Academic Summit
- 2008 Chair, Search Committee, Director of Sponsored Programs Research
- 2008 - 10 Member, University Conflict of Interest Committee

2009 Member, University Council for Research
 2008 Panelist, Presidents University Global U8 Consortium Workshop
 2007 - 08 Member, Faculty Search Committee, Marine Chemist
 2007 - Chair and Program Coordinator, MBA-MO Dual Degree
 2007 - 11 Member, Presidents Council on Sustainability
 2005 - 07 Member, Marine and Endeavor Replacement Committee
 2004 - 05 Member, Faculty Search Committee; ADVANCE Program
 2004 - 05 Member, Graduate School of Oceanography Promotion and Tenure Committee
 2004 Member, Faculty Search Committee; Marine Robotics
 2003 - 04 Member, Faculty Search Committee; Marine Geochemist
 2003 - Member, University Radiation Safety Committee
 2000 - 02 Member, Student Admissions and Review Committee
 2000 - Director, CHN Analytical Facility
 1998 - 00 Member, Faculty Search Committee; Stable Isotope Geochemist
 1996 - 98 Member, Educational and Policy Committee
 1995 - 97 Member, *Maritimes* Advisory Committee
 1994 Presenter, Media Briefing, "Radioactive Waste in the Russian Arctic"
 1994 - 98 Chair, Maritime Committee