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Managing Director, Crustal Ocean Biosphere Research Accelerator (COBRA)

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EDUCATION AND PROFESSIONAL TRAINING

2014 **Certificate in Research Administration. University of Southern California.**

2011 **Certificate in Project Management. University of Southern California.**

2006 **Ph.D. University of Georgia.** Department of Marine Sciences.

1998 **B.A. University of Virginia.** Department of Environmental Sciences.

SOFTWARE, MULTIMEDIA, AND LANGUAGE SKILLS

Proficient in Mac and PC, Microsoft Office, Google Workspace, Zoom, Qualtrics, Adobe Creative Cloud (Acrobat/Illustrator/Photoshop/Dreamweaver), WordPress, HTML coding, Mailchimp, Slack, social media, and spoken Mandarin Chinese.

ADMINISTRATIVE AND COMMUNICATION EXPERIENCE

2023- **Program Manager.** Microbial Greenhouse Gas Consumption Research Center.
University of Southern California. Los Angeles, CA.

Managing the USC research and engineering center with the goal of identifying, growing, and optimizing new microbes capable of efficient conversion of greenhouse gases to innocuous waste products.

2021- **Managing Director.** Crustal Ocean Biosphere Research Accelerator (COBRA).
Bigelow Laboratory for Ocean Sciences. East Boothbay, ME.

Managing the operations of the NSF AccelNet to accelerate research of the deep sea to inform decision making.

2010-2023 **Managing Director.** Center for Dark Energy Biosphere Investigations (C-DEBI).
University of Southern California. Los Angeles, CA.

Managed the operations of the NSF Science and Technology Center on the deep marine seafloor biosphere, specifically:

- Developed and coordinated operating, strategic planning and reporting documents under the Center Director
- Supervised Center staff (~5) and acted as liaison between project PIs, USC administration and Center community
- Budgeted C-DEBI programs and activities (NSF grant \$47.6M / 10 years)
- Developed procedures for and administered research and education grants and postdoctoral and graduate student fellowships (>100)
- Organized multi-institutional meetings and workshops
- Created and developed communications strategies (~1000 affiliates)

2009-2015 **Project Manager.** DEBI Deep Biosphere Research Coordination Network.
University of Southern California. Los Angeles, CA.

Managed the NSF Research Coordination Network project on the deep marine seafloor biosphere

2009 **Freelance Editor.** International Science Editing.
Compuscript Limited. Shannon, County Clare, Ireland.

- 2005-2008 **Postdoctoral Research Associate.** Institute of Marine and Coastal Sciences. Rutgers, The State University of New Jersey. New Brunswick, NJ.
- Managed the [NSF Research Coordination Network](#) project on denitrification
 - Trained scientific and managerial participants from developing countries and countries with economies in transition in the use of spatially explicit, global GIS models of nutrient transport by rivers to coastal systems as part of a UNESCO-Intergovernmental Oceanographic Commission project (two week series in January and September 2006)
- 2004-2005 **Teaching Assistant.** Department of Marine Sciences.
1998-1999 University of Georgia. Athens, GA.

RESEARCH EXPERIENCE AND SELECTED PUBLICATIONS

- 2005-2008 **Postdoctoral Research Associate.** Rutgers, The State University of New Jersey. Institute of Marine and Coastal Sciences. New Brunswick, NJ. *Advisor: Sybil Seitzinger.*
- 2003-2004 **EPA Graduate Student Fellow.** Environmental Protection Agency. National Network for Environmental Management Studies. Athens, GA. *Advisor: Richard Zepp.*
- 1999-2000 **University of Georgia Graduate Student Fellow.** University of Georgia. Department of Marine Sciences. Athens, GA. *Advisor: Samantha Joye.*
- 1999 **Georgia Sea Grant Coastal Management Graduate Student Intern.** University of Georgia. Department of Marine Sciences. Athens, GA. *Advisor: Samantha Joye.*
- 1997 **NSF Research Experiences for Undergraduates Intern.** Marine Biological Laboratory. Boston University Marine Program. Woods Hole, MA. *Advisors: Ivan Valiela and Samantha Joye.*

1. Rotjan, R. D., Bell, K. L. C., Huber, J. A., Wheat, C. G., Fisher, A. T., **Sylvan, R. L.**, McManus, J., Bigham, K. T., Cambronero-Solano, S., Cordier, T., Goode, S., Leonard, J., Murdock, S., Paula, F. S., Ponsoni, L., Roa-Varón, A., Seabrook, S., Schomberg, R., Van Audenhaege, L., and Orcutt, B. N. 2023. COBRA Master Class: Providing deep-sea expedition leadership training to accelerate early career advancement. *Frontiers in Marine Science (Ocean Observation: Community Case Study)* 10. [\[link\]](#)
2. **Lee, R. Y.**, Seitzinger, S., and Mayorga, E. 2016. Land-based nutrient loading to LMEs: A global watershed perspective on magnitudes and sources. *Environmental Development* 17:220-229. [\[link\]](#)
 - Reprinted in 2020. *Ocean Sustainability: Assessing and Managing the World's Large Marine Ecosystems*. Eds. Sherman, K., and Peterson, B. Scientific Committee on Problems of the Environment (SCOPE) 73. [\[link\]](#)
3. Scharler, U. M., Ulanowicz, R. E., Fogel, M. L., Wooller, M. J., Jacobson-Meyers, M. E., Lovelock, C., Feller, I. C., Frischer, M., **Lee, R.**, McKee, K., Romero, I. C., Schmit, J. P., and Shearer, C. 2015. Variable nutrient stoichiometry (C:N:P) across trophic levels determines community and ecosystem properties in an oligotrophic mangrove system. *Oecologia* 179(3):863-876. [\[link\]](#)
4. Shank, G. C., Zepp, R. G., Vahatalo, A., **Lee, R.**, Bartels, E. 2010. Photobleaching kinetics of chromophoric dissolved organic matter derived from mangrove leaf litter and floating *Sargassum* colonies. *Marine Chemistry* 119:162-171. **2012 EPA Scientific and Technological Achievement Award, Level III.** [\[link\]](#)
5. United Nations Educational, Scientific and Cultural Organization (UNESCO). 2008. Filling Gaps in LME Nitrogen Loadings Forecast for 64 LMEs. GEF/LME global project Promoting Ecosystem-based Approaches to Fisheries Conservation and Large Marine Ecosystems. Eds. Seitzinger, S. Sherman, K., and **Lee, R.** Intergovernmental Oceanographic Commission Technical Series 79. [\[link\]](#)
6. **Lee, R. Y.**, and Joye, S. B. 2006. Seasonal patterns of nitrogen fixation and denitrification in oceanic mangrove habitats. *Marine Ecology Progress Series* 307:127-141. [\[link\]](#)