DIANA R. DI LEONARDO, P.G.

Geoscientist

Diana Di Leonardo is a Research Scientist with The Water Institute in the Applied Geosciences Department. She earned her BA in Geosciences from Hamilton College and her MS in Geology from Oregon State University. Her current work is focused on science to support decision making and stakeholder engagement across a range of topics in geology and geomorphology (e.g., Louisiana barrier islands, groundwater management, Mississippi River management).

Before coming to the Institute, Diana worked at Tulane University, researching and working on the Louisiana coast and working with a research group that builds lab scale delta models. Prior to arriving in Louisiana, Diana worked on the Oregon and Washington coasts for her master's research. She conducted hundreds of nearshore survey transects to track sandbar migration and demarcate flood maps. These rocky coast environments provide a fascinating contrast to Louisiana's marshes.

PROFESSIONAL EXPERIENCE

2018–Present: Research Scientist: Applied Geosciences, The Water Institute

2016–2019: Laboratory Supervisor, Tulane University

2013–2016: Laboratory Specialist, Tulane University

2010–2012: Graduate Teaching Assistant, Oregon State University

ORGANIZATION ROLE

Geoscientist

PROJECT ROLE / FOCUS AREAS

Coastal geology

Wetland and fluvial fieldwork

Big data science

EDUCATION

MS, Geology, Oregon State University, 2013

BS, Geosciences, Hamilton College, 2010

PROFESSIONAL MEMBERSHIP

American Shore and Beach Association

Professional Geologist, registered in Louisiana, #1298

SELECTED PROJECTS

Phase 2: Long Term Strategic Planning for Water Resources. *Capital Area Ground Water Conservation Commission. (Ongoing).* Project Manager, Geoscientist. The Capital Area Groundwater Conservation Commission will use the data and information provided by this project to make critical aquifer management decisions.

Louisiana Barrier Island System Management (BISM): Program Development. *Coastal Protection and Restoration Authority.* (*Ongoing).* Geoscientist. The goal of BISM is to implement a holistic, long-term approach to adaptively manage Louisiana's coastal systems by maintaining barrier island functions over the next 50 years. BISM is designed to use long-term monitoring data, breach management storm response strategies, regional sediment management, and environmental and societal needs to guide restoration decisions based on overall benefit.

SmartPort. *U.S. Economic Development Administration. (2021–2023).* Geoscientist, Coder. This project aims to develop tools for ports along the Mississippi River, including a shoaling forecast using crowd sourced data and machine-learning approaches.

Advancement of the Southeast Conservation Adaptation Strategy (SECAS) for Project Scale Planning: Chandeleur Islands Restoration. *U.S. Fish and Wildlife Service. (2020–2021).* Geoscientist. Developed an XBeach model of the Chandeleur Islands, LA, USA with the goals of (1) developing and evaluating metrics for characterizing the restoration and conservation value of barrier islands that could inform the application of the Southeast Conservation Adaptation Strategy (SECAS) Southeast Conservation Blueprint and (2) characterizing the geomorphic evolution and ecosystem value of the Chandeleur Islands with and without restoration action.

Port Fourchon: Coastal Evolution Management for a Resilient Working Coast. *National Fish and Wildlife Foundation, Partnership for Our Working Coast. (2019–2022).* Assistant Project Manager, Geologist. The Partnership for Our Working Coast is working to identify beneficial, nature-based solutions for dredge material to contribute to Louisiana's coastal sustainability efforts, protect coastal communities, and support America's Working Coast.

SELECTED PUBLICATIONS

1. Hemmerling, S. A., Haertling, A., Shao, W., Di Leonardo, D., Grismore, A., & Dausman, A. (2024). "You turn the tap on, the water's there, and you just think everything's fine": A mixed methods approach to understanding public perceptions of groundwater management in Baton Rouge, Louisiana, USA. Frontiers in Water, 6. https://doi.org/10.3389/frwa.2024.1289400
2. Di Leonardo, D., B. McMann, M. M. Baustian, M. C. Bregman, C. Esposito, I. Y. Georgiou, S. A. Hemmerling, H. Jung, and M. D. Miner. 2023. "A Community-Informed Transdisciplinary Approach to Beneficial Use of Sediment for Wetland Restoration in Louisiana, USA." Proceedings of Coastal Sediments Conference.
3. Hemmerling, Scott A., Christine Demyers, Jessica Parfait, Edwin Piñero, Melissa M Baustian, Martijn Bregman, Diana Di Leonardo, Christopher Esposito, Ioannis Y Georgiou, Audrey Grismore, Hoonshin Jung, Brett Mcmann, Michael D Miner. 2023. A Community-Informed Transdisciplinary Approach to Coastal Restoration Planning: Maximizing the Social and Ecological Co-Benefits of Wetland Creation in Port Fourchon, Louisiana, USA. Frontiers in Environmental Science. In press.
4. Beltran-Burgos, M., Esposito, C. R., Nepf, H. M., Baustian, M., & Di Leonardo, D. (2023). Vegetation-driven seasonal sediment dynamics in a freshwater marsh of the Mississippi River Delta. Journal of Geophysical Research: Biogeosciences, 128(4).
5. Esposito, C. R., Di Leonardo, D., Harlan, M., Straub, K. M. 2018. Sediment Storage Partitioning in Alluvial Stratigraphy: The Influence of Discharge Variability. Journal of Sedimentary Research, 88(6), 717–726. doi: 10.2110/jsr.2018.36
6. Di Leonardo, Diana and Ruggiero, Peter, 2015. Regional Scale Sandbar Variability: Observations from the Pacific Northwest. Continental Shelf Research (95), 74–88. http://dx.doi.org/10.1016/j.csr.2014.12.012