Jon K. Miller

Ph.D. University of Florida, 2004

EDUCATION

University of Florida – Gainesville, FL (August 1999 – December 2004)

M.S. and Ph.D. in Coastal Engineering (2001, 2004)

- 1. Miller, J. K., 2001. *Development of Erosional Indices and a Shoreline Change Rate Equation for Application to Extreme Event Impacts*. M.S. Thesis, Department of Coastal and Oceanographic Engineering, University of Florida, 2001.
- 2. Miller, J.K., 2004. Shoreline Response to Variations in Waves and Water Levels: An Engineering Scale Approach. Ph.D. Thesis, Department of Civil and Coastal Engineering, University of Florida, 2004.

Honors

- 1. Fulbright Post-Graduate Fellowship (2003-2004)
- 2. National Defense Science and Engineering Graduate Fellowship (2001-2003)

University of Queensland – St. Lucia, QLD (August 2003 – August 2004)

Fulbright Post-Graduate Fellow (2003)

Stevens Institute of Technology - Hoboken, NJ (August 1994 – May 1999)

B.E. in Civil Engineering, with high honors (1999)

Honors

- 1. Edwin A. Stevens Scholar
- 2. Scholar of Excellence
- 3. Tau Beta Pi
- 4. Kappa Theta Epsilon
- 5. Chi Epsilon

APPOINTMENTS

Stevens Institute of Technology – Hoboken, NJ (February 2005 - Present)

Research Professor (September 2025 - Present)

Research Associate Professor (September 2015 – September 2025)

Research Assistant Professor (September 2005 – September 2015)

Conducts research on coastal processes, storms, structures, and observation systems, with the aim of identifying practical applications which can be translated into useable products for the NJ Coastal Protection Technical Assistance Service and NJ Sea Grant Coastal Processes Specialists among others. Current research focuses on increased storm activity along the NJ

coast and the development of a storm erosion index based on physical principles, and the application of living shorelines in the Northeast. Classes taught include: OE620 – Design of Marine Structures, OE616 – Sediment Transport, OE589 – Coastal Engineering, OE585 – Littoral Processes, OE580 – Surfzone Hydrodynamics, OE 522 – Design of Living Shorelines, OE520 – Wave Mechanics, CE578 – Coastal and Floodplain Engineering, CE381 – Civil Engineering Measurements, E126 – Mechanics of Solids.

Director NJ Coastal Protection Technical Assistance Service (May 2017 - Present)

Assistant Director NJ Coastal Protection Technical Assistance Service (October 2007 - April 2017) The NJ CPTAS is a technical resource created for the people of NJ by an act of the New Jersey State Legislature in 1992. NJ CPTAS serves as the primary consultant to the state of New Jersey for shore protection works along both the ocean and bay coastlines. Recent projects have included an analysis of the beach and dune systems at Ocean City, Long Beach Island, Manasquan, Bay Head, Long Branch, and Monmouth Beach, NJ, as well as the development of the DUCKS surveying system.

NJ Sea Grant Coastal Processes Specialist (February 2005 - Present)

Conducts education and outreach through NJ Sea Grant with the aim of translating cutting-edge coastal science into products which can be used by the coastal stakeholder community. Over 5,000 coastal stakeholders have been engaged through public presentations on topics such as rip currents, coastal storms, shore protection, living shorelines and sea level rise. Responsibilities include compiling the annual State of the Shore Report, attending education and outreach events such as Ocean Fun Days, and organizing workshops and conferences.

CONSULTING EXPERIENCE

SCAPE – New York, NY (August 2020 – February 2021)

Independent Consultant

Provided consulting services for the living shoreline components of the Henry Hudson Fjord Trail. Determined the type and extent of survey needed to identify appropriate shoreline stabilization options. Commented on proposed designs and suggested design alternatives that balanced the engineering and ecological needs of the site.

Woods Hole Group – Cape Cod, MA (January 2017 – March 2017)

Independent Consultant

Provided independent consulting services to the Village of North Haven, Long Island, NY. Evaluated proposed traditional coastal engineering and living shoreline options for stabilizing a steep eroding bluff. Testified on the appropriateness of proposed designs before the town council.

Langan Engineering - Elmwood Park, NJ (December 1997 - August 1999)

Assistant Staff Engineer

Major projects included Colgate Waterfront Redevelopment, Kings County Hospital Expansion, Prudential Center (Newark) Preliminary Site Investigation, and Christopher Columbus Homes Demolition. Field experience included inspection of geotechnical site work, participation in topographic, layout, and utility surveys, pier inspection, and supervision of demolition activities at several major urban housing developments. Design experience included grading and drainage design, site plan development, earthwork analysis, cost estimating, and the development of specifications for the restoration of a historical landmark structure.

Vollmer Associates, LLP – New York, NY (September 1996–January 1997)

Co-operative education intern

Major projects included the Grand Central Parkway/Long Island Expressway interchange improvement and the National Tennis Center lighting improvement. Performed a variety of tasks including earthwork analysis, roadway cross-section design, and cost-estimate analysis.

SCHOLARSHIP

* Denotes Graduate Students

** Denotes Undergraduate Students

EDITORIAL ACTIVITY

- 1. Miller, J.K (Ed.), Herrington, T. (Ed.), Barone, D., and McKenna, K. (Ed.), 2023. *Superstorm Sandy [Dedicated Issue]*. Shore and Beach, 91(4) 92(1).
- 2. Miller, J.K (Ed.), Webb, B. (Ed.), and Watts I. (Ed.), 2021. *Observations and Lessons Learned from Recent Strom Events [Dedicated Issue]*. Shore and Beach, 89(2).
- 3. Editorial Board, Shore and Beach, American Shore and Beach Preservation Association, 2012-Present.

BOOK CHAPTERS

 Rella, A.*, Miller, J.K., and Hauser, E. An Overview of the Living Shorelines Initiative in New York and New Jersey. Living Shorelines the Science and Management of Nature-Based Coastal Protection. Ed. D.M. Bilkovic, M.M. Mitchell, J.D. Toft, and M.K. LaPeyre. Boca Raton: CRC Press, 2017. 65-86. Print.

PEER REVIEWED JOURNAL ARTICLES

 Shinn, J., Bredes, A.*, Bushek, D., Kerr, L., Kreeger, D., McCulloch, D., Miller, J.K., Moody, J., Rothermel, E., Zito-Livingston, A., 2024. Seven Years of Monitoring the Development of an Oyster Reef Living Shoreline. Estuaries and Coasts Special Issue: Functional Assessments of Living Shorelines, (2025) 48:11.

https://doi.org/10.1007/s12237-024-01437-5

- 2. Zuck, N.*, Brown, D.*, Kerr, L., Janssen, M., and Miller, J.K., 2024. *Evolution of Theoretical Surf Quality Following Beach Nourishment Equilibration*. Submitted to Journal of Coastal Research.
- Bredes, A.L.*, Tso, G.*, Gittman, R., Narayan, S., Tomiczek, T., Miller, J.K., and Morris, R.L., 2024. A 20-year Systematic Review of Wave Dissipation by Soft and Hybrid Naturebased Solutions (NbS). Ecological Engineering, 209. <u>https://doi.org/10.1016/j.ecoleng.2024.107418</u>.
- Gannon, K.M.*, Janssen, M. S., and Miller, J.K., 2024. Influence of Structure Characteristics on Wave Transmission and Shoreline Response at a Low-crested Segmented Breakwater in Little Egg Harbor Township, NJ. Shore and Beach, 91(2), 31-42.
- 5. Day, I.J.*, Janssen, M.S., Maclachlan, H.**, Fanning, A.*, and Miller, J.K., 2024. *Quantifying the Influence of Profile Variability on Dune Impacts During Hurricane Sandy*. Shore and Beach, 92(1), 27-38.
- 6. Jamous, M.*, Marsooli, R., and Miller, J.K., 2023. *Physics-based Modeling of Climate Change Impact on Hurricane-induced Coastal Erosion Hazards*. Npj Climate and Atmospheric Science, 6 (1). <u>https://doi.org/10.1038/s41612-023-00416-0</u>
- Zuck, N.*, Kerr, L., and Miller, J.K., 2023. Automated Technique for Identification of Prominent Nearshore Sandbars. Coasts, 3 (2), 145-159. <u>https://doi.org/10.3390/coasts3020009</u>.
- 8. Fanning, A.*, Janssen, M.*, Lemke, L.*, and Miller, J.K., 2024. *Methodology and Data for Quantifying Storm Erosion Potential Considering Sea Level Rise*. Elsevier Data in Brief, 55. <u>https://doi.org/10.1016/j.dib.2024.110685</u>
- Fanning, A.*, Janssen, M.*, Lemke, L.*, and Miller, J.K., 2024. Projected Storm Erosion Potential for Historical Storms Along the New Jersey Coast Considering IPCC's Sea Level Rise Scenarios. Submitted to Journal of Waterways, Ports, Coasts and Ocean Engineering.
- 10. Lemke, L.*, and Miller, J.K., 2022. Assessment of dune vulnerability to major storms in New Jersey, USA. Submitted to Coastal Engineering.
- Bredes, A.*, Miller, J. K., Kerr, L., Gannon, K*., and Day, I.*, 2023. Developing Guidance for the Application of Natural and Nature Based Features (NNBF) on Developed Shores: A Case Study from New Jersey, USA. Regional Studies in Marine Science, 62 (2023) 102959.

https://doi.org/10.1016/j.rsma.2023.102959.

- Bredes, A.*, Miller, J.K., Kerr, L., and Brown, D.R.*, 2022. Observations of Wave Height Amplification Behind an Oyster Castle Breakwater System in a High-Energy Environment: Gandys Beach, NJ. Frontiers in Built Environment, 8:884795. https://doi.org/10.3389/fbuil.2022.884795.
- 13. Janssen, M.* and Miller, J.K., 2022. *The Dune Engineering Demand Parameter and Applications to Forecasting Dune Impacts*. Journal of Marine Science and Engineering, 10, 234. https://doi.org/10.3390/jmse10020234.

- 14. Lemke, L.*, and Miller, J.K., 2021. *Role of Storm Erosion Potential and Beach Morphology in Controlling Dune Erosion*. Journal of Marine Science and Engineering, 9, 1428. https://doi.org/10.3390/jmse9121428.
- Marsooli, R., Jamous, M.*, and Miller, J.K., 2021. Climate Change Impacts on Wind Waves Generated by Major Tropical Cyclones off the Coast of New Jersey, USA. Frontiers in Built Environment, Coastal and Offshore Engineering, 7:774084. https://doi.org/10.3389/fbuil.2021.774084.
- Janssen, M.*, Lemke, L.*, Miller, J.K., and Douglas, W.S., 2022. Fortescue Inlet: Offshore Deposition Basins for Navigation Channel Management in Small Craft Inlets. Journal of Waterways, Ports, Coasts and Ocean Engineering, 148(2). https://doi.org/10.1061/(ASCE)WW.1943-5460.0000689.
- Zimmerman, T.*, and Miller, J.K., 2021. UAS-SfM Approach to Evaluate the Near-term Morphological Response of a Beach Nourishment to Traditional and Notched Groins in Deal, NJ, USA. Coastal Engineering, Vol 170, pp 1-16. https://doi.org/10.1016/j.coastaleng.2021.103997.
- 18. Miller, J., Webb, B., and Watts, I., 2021. *Observations and Lessons Learned from Recent Storm Events.* Shore and Beach, Vol. 89 (2), pp 2,40.
- 19. Lemke, L.*, Janssen, M.*, and Miller, J.K., 2020. *Mitigation of Channel Shoaling at a Sheltered Inlet Subject to Flood Gate Operations*. Journal of Marine Science and Engineering, Vol. 8(865), pp 1-25. http://dx.doi.org/10.3390/jmse8110865.
- 20. Zimmerman, T.*, Jansen, K.*, and Miller, J.K., 2020. *Analysis of UAS Flight Altitude and Ground Control Point Parameters on DEM Accuracy along a Complex, Developed Coastline*. Remote Sensing, 12(2305), pp 1-16. http://dx.doi.org/10.3390/rs12142305.
- 21. Lemke, L.*, and Miller, J.K., 2020. Evaluation of Storms through the Lens of Erosion Potential along the New Jersey USA Coast. Coastal Engineering, Vol. 158, pp 1-14. <u>https://doi.org/10.1016/j.coastaleng.2020.103699</u>
- 22. Janssen, M.*, Lemke, L.*, and Miller, J.K., 2019. *Application of Storm Erosion Index (SEI) to Parameterize Spatial Storm Intensity and Impacts from Hurricane Michael.* Shore and Beach, Vol. 87(4), 41-50.
- 23. Almarshed, B.*, Figlus, J., Miller, J.K., and Ir. Verhaged, H.J., 2020. *Innovative Coastal Protection through Hybrid Design: Combining Sand Dunes and Hard Coastal Defenses*. Journal of Coastal Research, Vol. 36(1), 174-188.
- 24. Morris, R.L., Heery, E.C., Lau, E., Loke, L.H., Strain, E.M., Airoldi, L., Alexander, K.A., Bishop, M.J., Coleman, R.A., Cordell, J.R., Dong, Y., Firth, L.B., Hawkins, S.J., Heath, T., Lee, J.S.Y, Miller, J.K., Perkol-Finkel, S., Rella, A., Steinberg, P.D., Takeuchi, I., Toft, J.D., and Leung, K.M.Y, 2019. *Design Options, Implementation Issues and Evaluating Success of Ecologically-Engineered Shorelines.* Oceanography and Marine Biology: An Annual Review 57, 137-196.
- 25. Wilson, K., Thomson, G., Roberts Briggs, T., Elko, N., and Miller, J., 2017. Beach Nourishment Profile Equilibration: What to Expect after Sand is Placed on a Beach (ASBPA White Paper). Shore and Beach, 85(2), 49-51.

- 26. Bakhatyar, R., Orton, P.M., Marsooli, R., and Miller, J.K., 2017. *Rapid Wave Modeling of Severe Historical Extratropical Cyclones off the Northeastern United States.* Ocean Engineering, Vol. 159: 315-332.
- 27. Lemke, L.* and Miller, J.K., 2017. EOF Analysis of Shoreline and Beach Slope Variability at a Feeder Beach Constructed within a Groin Field at Long Branch, New Jersey. Coastal Engineering, Vol. 121: 14-25.
- 28. Walling, K.*, Herrington, T.O., and Miller, J.K., 2016. Hurricane Sandy Damage Comparison: Oceanfront Houses Protected by a Beach and Dune System with versus without a Seawall. Shore and Beach, Hurricane Sandy Special Issue, Vol. 84(3): 35-42.
- 29. Lopez-Feliciano, O.L.*, Herrington, T.O., and Miller, J.K., 2015. A Morphology Change Study Using the CMS in a Groin Field during Hurricane Sandy. Shore and Beach, Vol. 83(2):19-27.
- 30. Miller, J.K., Lopez, O.*, Wehof, J.**, Bak, S.*, 2012. A Comparison of the Impacts of Hurricane Irene and the "Friday the 13th" Northeaster in New Jersey. Shore and Beach, Vol. 80(2): 47-56.
- 31. Herrington, T.O. and Miller, J.K., 2010. A Comparison of Methods Used to Calculate Northeaster Damage Potential. Shore and Beach, Vol. 78(2): 20-25.
- 32. Miller, J.K. and Dean, R.G., 2007. Shoreline Variability via Empirical Orthogonal Function Analysis: Part I Temporal and Spatial Characteristics. Coastal Engineering, Vol. 54(2): 111-131.
- 33. Miller, J.K. and Dean, R.G., 2007. Shoreline Variability via Empirical Orthogonal Function Analysis: Part II Relationship to Nearshore Conditions. Coastal Engineering, Vol. 54(2): 133-150.
- 34. Miller, J.K and R.G. Dean, 2004. A Simple New Shoreline Change Model. Coastal Engineering, Vol. 51: 531-556.

NON-REFEREED CONFERENCE PROCEEDINGS

- 1. Lemke, L.*, and J.K. Miller, 2018. *Development of a Storm Erosion Climatology for the New Jersey Coast, U.S.* Proc. of the 36th International Conference on Coastal Engineering, Baltimore, MD.
- 2. Miller, J.K., Lemke, L.*, Livermont, E.*, and C. LaPann-Johannessen*, 2015. *Application of EOF Analysis to the Evolution of a Feeder Beach Constructed Within a Groin Field*. Proc. of Coastal Sediments 2015, San Diego, CA.
- Nederhoff, C.M.*, Lodder, Q.J., Boers, M., Den Bieman, J.P., and J.K. Miller, 2015. Modeling the Effects of Hard Structures on Dune Erosion and Overwash. Proc. of Coastal Sediments 2015, San Diego, CA
- 4. Livermont, E.*, Miller, J.K., and T.O. Herrington, 2015. *Trends and Changes in the NDBC Wave Records of the U.S. East Coast.* Proceedings of the 11th IEEE Conference on Currents, Waves, and Turbulence Measurement, St. Petersburg, FL.
- 5. Livermont, E.*, Miller, J.K., Herrington, T., and C. LaPann-Johannessen*, 2015. *A Comparison of the Offshore and Nearshore Wave Climate of the Mid-Atlantic Bight.* Proc. of the 25th International Ocean and Polar Engineering Conference, Kona, HI.

- 6. Miller, J.K., and A. Rella^{*}, 2015. *The Performance of Ecologically Enhanced Urban Shorelines in NYC during Superstorm Sandy*. Proc. of Coastal Structures/Solutions to Coastal Disasters 2015, Boston, MA.
- 7. LaPann-Johannessen, C.*, and Miller, J.K., 2015. *Application of an Equilibrium Shoreline Model to the New Jersey Coast.* Proc. of Coastal Structures/Solutions to Coastal Disasters 2015, Boston, MA.
- 8. Walling, K.R.*, Herrington, T.O., and Miller, J.K., 2015. Comparison of the Damage Mechanisms to Oceanfront Structures Protected by a Beach and Dune System with vs. without a Rock Seawall during Hurricane Sandy. Proc. of Coastal Structures/Solutions to Coastal Disasters 2015, Boston, MA.
- 9. Livermont, E.*, Miller, J.K., and Herrington, T.O., 2015. *Trends and Changes in the NDBC Wave Records of the U.S. East Coast.* Proc. of Waves 2015, Key West, FL.
- 10. Livermont, E.*, Miller, J.K., and Herrington, T.O., 2015. *Modifying and Implementing an Inversion Algorithm for Waves from a Broad-Beam HF Radar Network.* Proc. of the 14th International Workshop on Wave Hindcasting and Forecasting and 5th Coastal Hazard Symposium, Key West, FL.
- 11. Janssen, M.*, Miller, J.K., and Herrington, T.O., 2015. *Evaluation of Techniques for the Calculation of Protective Benefits of Dune Systems to Coastal Hazards.* Proc. of the 14th International Workshop on Wave Hindcasting and Forecasting and 5th Coastal Hazard Symposium, Key West, FL.
- 12. Wehof, J.*, Miller, J.K., and J. Engle, 2014. *Application of the Storm Erosion Index (SEI)* to Three Unique Storms. Proc. of the 34th ICCE, Seoul, S. Korea.
- 13. Lemke, L.*, and J.K. Miller, 2014. EOF Analysis of Shoreline Changes Following an Alternative Beachfill Within a Groin Field. Proc. of the 34th ICCE, Seoul, S. Korea.
- 14. Walling, K.*, Miller, J.K., and T.O. Herrington, 2014. *Comparison of Hurricane Sandy Impacts in Three NJ Coastal Communities.* Proc. of the 34th ICCE, Seoul, S. Korea.
- 15. Miller, J.K., 2010. Assessment of Alternative Beachfill Placement on Surfing Resources. Proc. of the 32nd ICCE, Shanghai, China, pp. 1-15.
- 16. Miller, J.K. (editor), 2008. Proceeding of Chronic Risk of Global Climate Change to Urban Coasts and Economies, Stevens Institute of Technology / NJ Sea Grant.
- 17. Miller, J.K., 2008. A Predictive Index for Wave and Storm Surge Induced Erosion. Proc. of the 31st International Conference on Coastal Engineering, Hamburg, Germany.
- 18. Herrington, T.O., Mahon, A.**, Hires, R.I., and Miller, J.K., 2008. *A Comparison of Methods Used to Calculate Extreme Water Levels.* Proc. of Solutions to Coastal Disasters 2008, Turtle Bay, HI, pp. 198-209.
- 19. Miller, J.K., and Livermont, E.**, 2008. *An Index for Predicting Storm Erosion Due to Increased Waves and Water Levels.* Proc. of Solutions to Coastal Disasters 2008, Turtle Bay, HI, pp. 561-572.
- 20. Miller, J.K. and R.G Dean, 2006. *An Engineering Scale Model for Predicting the Shoreline Response to Variations in Waves and Water Levels.* Proc. of the 7th International Conference on Hydroscience and Engineering, Philadelphia, Pennsylvania.

- 21. Miller, J.K. and R.G Dean, 2006. *An Engineering Scale Model for Predicting the Shoreline Response to Variations in Waves and Water Levels.* Proc. of the 30th International Conference on Coastal Engineering, San Diego, California.
- 22. Herrington, T.O., Miller, J.K., and R.G Dean, 2006. *Characteristic Shoreline Change Patterns Identified Using EOF Analysis.* Proc. of the 30th International Conference on Coastal Engineering, San Diego, California.
- 23. Miller, J.K. and R.G. Dean, 2004. *A Simple New Shoreline Evolution Model*. Proc. of the 29th International Conference on Coastal Engineering, Lisbon, Portugal: 2009-2022.
- 24. Miller, J.K, and R. G. Dean, 2003. *Implications of Longshore Variability in Shoreline Change Modeling.* Proc. of the International Conference on Coastal Sediments 2003.

TECHNICAL REPORTS

- 1. Miller, J.K., 2024. *The Relevance of Beach Width to Storm Damage Reduction.*, Stevens Institute of Technology, Davidson Laboratory, SIT-DL-24-9-3024, Hoboken, NJ.
- Miller, J.K., Janssen, M., and Day, I.*, 2024. North Wildwood 7th Ave. Beach Access Shoreline Impact Analysis. Stevens Institute of Technology, Davidson Laboratory, SIT-DL-24-9-3027, Hoboken, NJ.
- Cerafice, T.**, Kerr, L., Janssen, M., and Miller, J.K., 2024. New Jersey Beach Sediment Size Analysis. Stevens Institute of Technology, Davidson Laboratory, SIT-DL-24-9-3026, Hoboken, NJ.
- 4. Miller, J.K., Kerr, L., Gannon, K.*, Day, I.*, and Bredes, A.*, 2024. *Recommendations for Determining the Appropriate Level of Assessment for Living Shorelines Projects*. Stevens Institute of Technology, Davidson Laboratory, SIT-DL-24-9-3023, Hoboken, NJ.
- 5. Miller, J.K., Kerr, L., Gannon, K.*, Day, I.*, and Bredes, A.*, 2024. *Living Shorelines Lessons Learned Additional Site Assessment Report.* Stevens Institute of Technology, Davidson Laboratory, SIT-DL-24-9-3021, Hoboken, NJ.
- Miller, J.K., Kerr, L., Bredes, A.*, and Gannon, K.*, 2024. Living Shorelines Engineering Guidelines, 2024 Update. Stevens Institute of Technology, Davidson Laboratory, SIT-DL-24-9-3025, Hoboken, NJ. <u>https://doi.org/10.13140/RG.2.2.13319.10404</u>
- 7. Miller, J.K., Kerr, L., Gannon, K.*, Day, I.*, and Bredes, A.*, 2024. *Living Shorelines Lessons Learned Site Assessment Report.* Stevens Institute of Technology, Davidson Laboratory, SIT-DL-24-9-3020, Hoboken, NJ.
- 8. Miller, J.K., Kerr, L., Zuck, N.*, and Bredes, A.*, 2024. *Page's Point Site Characterization and Living Shoreline Conceptual Design v2*. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-24-9-3028, Hoboken, NJ.
- 9. Miller, J.K., Kerr, L., Day, I.*, and Gannon, K.*, 2023. *Beneficial Reuse of Dredged Material Technology Applications*. The Nature Conservancy/Stevens Institute of Technology, Hoboken, NJ.
- 10. Miller, J.K., Kerr, L., and Bredes, A.*, 2023. Wave Measurement Standard Operating Procedure. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-23-9-DRAFT, Hoboken, NJ.

- 11. Kerr, L., Gannon, K.*, Herrington, T., Tolin, C.* and Miller, J.K., 2023. *Project Development Guidance for Using Dredged Sediment to Restore Salt Marshes: Case Studies and Lessons Learned from the Mid-Atlantic Region*. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-23-9-DRAFT, Hoboken, NJ.
- Miller, J.K., and Janssen, M., 2023. North Wildwood Risk Assessment: Rapid Assessment Spring 2023. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-23-9-3017, Hoboken, NJ.
- Miller, J.K., Kerr, L., Bredes, A.*, Gannon, K.*, and Day, I.*, 2023. Gandys Beach Living Shoreline Project: Documentation and Findings from Wave Attenuation Monitoring. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-23-9-3016, Hoboken, NJ.
- 14. Miller, J.K., Kerr, L., and Bredes, A.*, 2022. *Living Shorelines Engineering Guidelines 2022 Update*. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-22-9-3013, Hoboken, NJ.
- 15. Miller, J.K., Kerr, L., Bredes, A.*, and Rella, A., 2022. *Ecoshorelines on Developed Coasts Guidance and Best Practices*. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-22-9-3012, Hoboken, NJ.
- Zuck, N*., Kerr, L., and Miller, J.K., 2022. South End of Long Branch 2020 Renourishment: Monitoring Report 1. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-22-9-3011, Hoboken, NJ.
- Fanning, A.**, Janssen, M.*, and Miller, J.K., 2022. Evaluation of Storm Severity Based on the Storm Erosion Index along the New Jersey Atlantic Coast Following the "Mother's Day" 2022 Nor'easter. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-22-9-3010, Hoboken, NJ.
- Fanning, A.**, Janssen, M.*, and Miller, J.K., 2022. Evaluation of Storm Severity Based on the Storm Erosion Index along the New Jersey Atlantic Coast Following "Winter Storm Izzy". Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-22-9-3009, Hoboken, NJ.
- Miller, J.K., and Lemke, L.*, 2021. Evaluation of Storm Severity Based on the Storm Erosion Index along the New Jersey Atlantic Coast Following "Winter Storm Orlena" (January 31 – February 2, 2021 Nor'easter). Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-21-9-CV6, Hoboken, NJ.
- 20. Miller, J.K., 2021. *North Wildwood Proposed Cross-section Review*. Stevens Institute of Technology, Davidson Laboratory, SIT-DL-21-9-CV7, Hoboken, NJ.
- 21. Miller, J.K., 2021. *Review of: Engineering Evaluation Impacts of Seawall Construction Prepared by Watermen LLC*. Stevens Institute of Technology, Davidson Laboratory, SIT-DL-21-9-DRAFT, Hoboken, NJ.
- 22. Kerr, L., Brown, D.*, and Miller, J.K., 2020. *Cost and Effectiveness Analysis of Select New Jersey Living Shorelines Projects*. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-20-9-CV5, Hoboken, NJ.

- 23. Miller, J.K., Lemke, L.*, and Janssen, M.*, 2020. *Fortescue Inlet Sediment Management Study*. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-20-9-CV4, Hoboken, NJ.
- 24. Miller, J.K., Lemke, L.*, and Janssen, M.*, 2020. *Keansburg Inlet Sediment Management Study*. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-20-9-CV3, Hoboken, NJ.
- 25. Kerr, L., Zuck, N.*, and Miller, J.K., 2020. *Wave Analysis for Mystic Beach and Parkertown Beaches, Little Egg Harbor Township.* Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-20-9-CV2, Hoboken, NJ.
- 26. Kerr, L.*, Miller, J.K., and Brown, D.*, 2020. *Gandy's Beach Living Shoreline Project, Wave Attenuation Monitoring Interim Report.* Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-20-9-CV1, Hoboken, NJ.
- 27. Kopp, R.E., C. Andrews, A. Broccoli, A. Garner, D. Kreeger, R. Leichenko, N. Lin, C. Little, J.A. Miller, J.K. Miller, K.G. Miller, R. Moss, P. Orton, A. Parris, D. Robinson, W. Sweet, J. Walker, C.P. Weaver, K. White, M. Campo, M. Kaplan, J. Herb, and Auermuller, L., 2019. New Jersey's Rising Seas and Changing Coastal Storms: Report of the 2019 Science and Technical Advisory Panel. Rutgers, The State University of New Jersey. Prepared for the New Jersey Department of Environmental Protection. Trenton, New Jersey.
- 28. Miller, J.K., 2019. *North Wildwood Stone Size and Scour Reanalysis*. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-19-9-2995, Hoboken, NJ.
- 29. Miller, J.K. and M. Janssen*, 2019. *Review of: Critical Evaluation of Federal Storm Damage Reduction Project Effectiveness and Necessity Relative to Existing Berm and Dune Protection, Prepared by Waterman LLC, Block 179.03 Lot 5.04.* Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-19-9-2991, Hoboken, NJ.
- 30. Kerr, L., Williams, A., Zimmerman, T.*, and J.K Miller, 2019. The *Cost and Effectiveness* of *Living Shorelines in New Jersey (Interim Report 1)*. Stevens Institute of Technology, Davidson Laboratory, TR SIT-DL-19-9-2988.
- 31. Miller, J.K.* and M. Janssen*, 2018. Review of: Critical Evaluation of Federal Storm Damage Reduction Project Effectiveness and Necessity Relative to Existing Berm and Dune Protection, Prepared by Waterman LLC, Block 179.03 Lot 5.09. Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-19-9-2989, Hoboken, NJ.
- 32. Kerr, L., Zimmerman, T.*, and J.K. Miller, 2019. *Wave Muffler Physical Model Test.* Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-19-9-2987, Hoboken, NJ.
- 33. Kerr, L., Zimmerman, T.*, and J.K. Miller, 2019. *Lincoln Harbor Wave Attenuation Study*. Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-19-9-2986, Hoboken, NJ.
- 34. Miller, J.K. and M. Janssen*, 2018. Review of: Critical Evaluation of Federal Storm Damage Reduction Project Effectiveness and Necessity Relative to Existing Berm and Dune Protection, Prepared by Waterman LLC, Block 179.03 Lots 5.06 & 5.08. Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-18-9-2976, Hoboken, NJ.

- 35. Miller, J.K. and M. Janssen*, 2018. *Review of: Critical Evaluation of Federal Storm Damage Reduction Project Effectiveness and Necessity Relative to Existing Berm and Dune Protection, Prepared by Waterman LLC, Block 179.03 Lot 5.07.* Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-18-9-2983, Hoboken, NJ.
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- 38. Miller, J.K. and M. Janssen*, 2018. *Analysis of Currents and Waves in the Vicinity of Amherst Cut and Shelter Island, Margate, NJ*. Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-18-9-2970, Hoboken, NJ.
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- 47. Rella, A.*, Miller, J.K., and A. Williams, 2016. *Living Shoreline Site Conditions and Conceptual Design for Maurice River Township, NJ*. Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-16-9-2958, Hoboken, NJ.

- 48. Rella, A.*, Miller, J.K., and A. Williams, 2016. *Living Shoreline Site Conditions and Conceptual Design Foot of De Normandie Ave., Borough of Fair Haven, NJ.* Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-16-9-2957, Hoboken, NJ.
- 49. Miller, J.K., Wehof, J.*, and L. Lemke*, 2016. *Hermine Update to "Evaluation of Storm Severity along the Florida Gulf Coast in the Wake of Tropical Storm Debby and Hurricane Isaac*". Stevens Institute of Technology, Davidson Laboratory TR SIT-DL-16-9-2963, Hoboken, NJ.
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- 57. Miller, J.K.*, 2015. Evaluation of Storm Severity Based on the Storm Erosion Index along the Atlantic Coasts of North Carolina and South Carolina. Stevens Institute of Technology, Davidson Laboratory TR- 2954, Hoboken, NJ.
- 58. Miller, J.K., and Herrington, T.O., 2015. *Ocean Gate Beach Prisms Performance Analysis*. Stevens institute of Technology, Davidson Laboratory TR SIT-DL-14-9-2941, Hoboken, NJ.
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- 67. Hopson, E.*, Rella, A.J.*, and Miller, J.K., 2015. *Forensic Analysis: Hunt's Point Landing, Bronx, NY*. In association with and published by the Hudson River Sustainable Shorelines Project, Staatsburg, NY.
- 68. Hopson, E.*, Rella, A.J.*, and Miller, J.K., 2015. *Forensic Analysis: Oak Point, Bronx, NY*. In association with and published by the Hudson River Sustainable Shorelines Project, Staatsburg, NY.
- 69. Hopson, E.*, Rella, A.J.*, and Miller, J.K., 2015. *Forensic Analysis: Village of Irvington, Irvington, NY*. In association with and published by the Hudson River Sustainable Shorelines Project, Staatsburg, NY.
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- 78. Miller, J.K., and J. Wehof*, 2013. Evaluation of Storm Severity Based on the Storm Erosion Index along the Southeast Atlantic Coast of Florida in the Wake of Hurricane Sandy. Technical Report Prepared for the Jacksonville District of the US Army Corps of Engineers, Hoboken, NJ.
- 79. Rella, A.*, J.K. Miller, 2012. A Comparative Cost Analysis of Ten Shore Protection Approaches at Three Sites Under Two Sea Level Rise Scenarios. In association with and published by Stevens Institute of Technology for the Hudson River Sustainable Shorelines Project, Hoboken, NJ.
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- 81. Miller, J.K., and J. Wehof*, 2012. *Evaluation of Storm Severity along the Florida Gulf Coast in the Wake of Tropical Storm Debby and Hurricane Isaac*. Technical Report Prepared for the Jacksonville District of the US Army Corps of Engineers, Hoboken, NJ.
- 82. Miller, J.K., O. Lopez*, and R. Kline**. *Investigation of Coastal Engineering Alternatives at Several South American Submarine Cable Landing Sites: Final Report*. Davidson Laboratory Technical Report SIT-DL-11-9-2905, Hoboken, NJ.
- 83. Pierson, J.*, A. Rella*, J. Pinckney**, C. Pico**, J.K. Miller, and T.O. Herrington, 2012. *Final Report: Existing Conditions and Shoreline Stabilization Alternatives, Pt. Pleasant, NJ.*NJ Coastal Protection Technical Assistance Service, Davidson Laboratory Report, SIT-DL-11-9-2894, Hoboken, NJ.
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- 86. Miller, J.K., A. Mahon*, and T.O. Herrington, 2011. Long Branch Alternative Fill Placement Monitoring Report 2: Morphology February 9, 2009 to December 9, 2009. Coastal Protection Technical Assistance Service, Davidson Laboratory SIT-DL-11-9-2889, Hoboken, NJ.
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- 89. Miller, J.K., L. Lemke^{*}, and T.O. Herrington, 2011. *Monmouth Beach Post Nourishment Interim Report 1*. NJ Coastal Protection Technical Assistance Service, Davidson Laboratory Report, Technical Report, Hoboken, NJ.
- 90. Herrington, T.O., and J.K. Miller, 2010. *Analysis of the Present Vulnerability of Harvey Cedars, NJ to Catastrophic Coastal Storm Surge and Damage*. Coastal Protection Technical Assistance Service, Davidson Laboratory, Technical Report, Hoboken, NJ.
- 91. Rella, A.J.*, and J. Miller, 2010. Engineered Approaches for Limiting Erosion Along Sheltered Shorelines: A Review of Existing Methods. In association with and published by the Hudson River Sustainable Shorelines Project, Staatsburg, NY.
- 92. Rowe, P., Tirrito, J., Frizzera, D., Wood, I.L., MacDonald, T., Leckner, M., and Miller, J., 2010. *NJ Coastal Community Resilience Demonstration Project*. New Jersey Sea Grant Publication NJSG-10-787, Fort Hancock, NJ.
- 93. Miller, J.K., A. Mahon*, and T.O. Herrington, 2009. *Development of the Stevens Dynamic Underwater and Coastal Kinematic Surveying (DUCKS) System*. Coastal Protection Technical Assistance Service, Davidson Laboratory TR-2878, Hoboken, NJ.
- 94. Miller, J.K., A. Mahon*, and T.O. Herrington, 2009. *Long Branch Alternative Fill Placement Monitoring Report 1 February 9, 2009 to May 12, 2009*. Coastal Protection Technical Assistance Service, Davidson Laboratory TR-2879, Hoboken, NJ.
- 95. Livermont, E.*, J.K. Miller, and T.O. Herrington, 2009. *Analysis of the Protective Capacity of the Manasquan Beach and Dune System Based on SBEACH Simulations*. Coastal Protection Technical Assistance Service, Davidson Laboratory, TR-DL-09-9-2873, Hoboken, NJ.
- 96. Herrington, T.O., and J.K. Miller, 2007. *A Comparison of the Present Day Vulnerability of Sea Bright Considering Nourished and Non-Nourished Scenarios*. Coastal Protection Technical Assistance Service, Davidson Laboratory, Technical Report, Hoboken, NJ.
- 97. Herrington, T.O. and J.K. Miller, 2007. *The Establishment, Growth, and Evolution of Coastal Dunes in New Jersey and its Relation to The Present Storm Protection Level Provided by the Dune Field in Ocean City, NJ.* Coastal Protection Technical Assistance Service, Davidson Laboratory Technical Report SIT-04-09-2851, Hoboken, NJ.
- 98. Miller, J.K. and T.O. Herrington, 2006. *Analysis of Present Protection Level Afforded by the Beach Fronting Long Beach Island.* Coastal Protection Technical Assistance Service, Davidson Laboratory Technical Report SIT-04-09-2850, Hoboken, NJ.
- 99. Miller, J.K. and T.O. Herrington, 2006. *Existing Conditions and Bayshore Stabilization Alternatives, Seaside Park, NJ*. Coastal Protection Technical Assistance Service, Davidson Laboratory, Technical Report SIT-DL-05-9-2862, Hoboken, NJ.
- 100. Herrington, T.O., R.I. Hires, and J.K. Miller, 2006. Analysis of the Present Vulnerability of Long Beach Island, New Jersey to Catastrophic Coastal Storm Surge and Damage. Coastal Protection Technical Assistance Service, Davidson Laboratory Technical Report SIT-04-09-2849, Hoboken, NJ.

- 101. Miller, J.K. and T.O. Herrington, 2005. *Analysis of the Beach Protection Level Afforded by the Beach Fronting Long Beach Island*. Coastal Protection Technical Assistance Service, Davidson Laboratory, Technical Report, Hoboken, NJ.
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PUBLISHED DATA SETS

1. Fanning, A.*, Janssen, M., Lemke, L., and Miller, J.K., 2023. *Influence of Sea Level Rise on Storm Erosion Potential in New Jersey.* Mendeley Data, V1. <u>https://doi.org/10.17632/8ffns74x74.1</u>

SELECT INVITED PRESENTATIONS

- 1. Coastal Processes 101. June 2023, NJDEP Short Course, Toms River, NJ (invited).
- 2. Living Shoreline Design Process in New Jersey. June 2023, Sustainability Research and Innovation Congress 2023, Panama City, Panama (invited presentation).
- 3. An engineering perspective on the design of living/eco shorelines in a changing climate. Jan 2022, Hong Kong University, Hong Kong, HK (invited lecture - virtual).
- 4. Eco-Shoreline "Success" a Matter of Perspective. May 2018, Hong Kong University, Hong Kong, HK (keynote).
- 5. Successes and Failures of Coastal Green Infrastructure in New York and New Jersey. November 2016, Hong Kong University, Hong Kong, HK (keynote).

TESTIMONY PROVIDED

- Expert Witness State of New Jersey Department of Environmental Protection vs. Midway Beach Condominium Association – July 2024 – Toms River, NJ.
- 2. Rebuttal Witness State of New Jersey Department of Environmental Protection vs. Ocean Ventures as Bay Pointe Dunes, Inc. – September 2018 – Toms River, NJ.
- 3. The Value of Shore Protection State Senate Environment and Energy Committee and State Assembly Environment and Solid Waste Committee March 2013 Trenton, NJ.
- 4. The Value of Shore Protection State Senate Budget and Appropriations Committee February 2013 Toms River, NJ.
- 5. The Value of Shore Protection Seaside Heights Mayor and Town Council February 2013 Seaside Heights, NJ.
- 6. The Value of Shore Protection Borough of Bay Head Town Council November 2012 Bay Head, NJ.

SELECT MEDIA APPEARANCES

- 1. NJ Monthly July 2022.
- 2. RipCur Rip Current App The Weather Channel June 2012.

ADVISING

POSTDOCTORAL STUDENTS

- 1. Dr. Matthew Janssen (2022 2024) Dr. Janssen works on developing dune damage criteria using fragility curves.
- 2. Dr. Amy Williams (2015 2019) Dr. Williams has assisted in developing the living shorelines program at Stevens and has assisted on education and outreach opportunities through the NJ Sea Grant Consortium.
- 3. Dr Andrew Rella (2014 2016) Dr. Rella worked on living shorelines projects through several NERRS Science Collaborative, TNC, and NJDEP grants.

DOCTORAL STUDENTS

- 1. Pouya Darestani Farehani (expected 2027) Thesis Topic TBD
- 2. Tam Trinh (expected 2025 Committee Member) Thesis Topic Undetermined
- 3. Zhoobin Rahimi (expected 2025 Committee Member) Thesis Topic Undetermined
- 4. Maria Venolia (expected 2025 Committee Member) Thesis Topic Undetermined
- 5. Erfan Amini (expected 2025 Committee Member) Thesis Topic Undetermined
- 6. Ian Day (expected 2026) Thesis Topic Undetermined
- 7. Amy Bredes (expected 2025) Thesis Topic Undetermined
- 8. Aspa Kokro (expected 2024 Committee Member) Thesis Topic Undetermined.
- 9. Nicole Zuck (expected 2024) Influence of Sand Bars on Beach Nourishment Evolution.
- 10. Mohammad Jamous (2023 Co-Advisor) Assessing the Impact of Hurricane Climatology Change and Sea Level Rise on Extreme Wave Hazards Using Physics-Based Models – Current Position: Staff Engineer Mott MacDonald
- 11. Ziyu Chen (2022 Committee Member) The Estuary Physical Impacts and Closure Management of Storm Surge Barriers Under Climate Change - Current Position: Post-doc Stevens.
- 12. Christopher Lehman (2022 External Committee Member/Reader) Regional Scale Forecasting for Coastal Hazard Early Warning Systems.
- 13. Sunhawach Na nagara (2022 Committee Member) *Retrofitting Stormwater Best Management Practices for Stormwater Pollution Reduction* – Current Position: Post-doc Stevens
- 14. Matthew Janssen (2022) *Risk-based Assessment of Coastal Defense Projects: Quantifying Hazard, Vulnerability, and Parametric Design Applications* – Current Position: Research Assistant Professor Stevens.
- 15. Laura Lemke (2021) Hybrid Approach for Evaluating the Erosion Potential of Storms -Current Position: Catastrophe Risk Research Analyst Guy Carpenter.
- 16. Venkatsundar Ramaswamy (2018 Committee Member) Uncertainty and Decision Making in Hydrologic Prediction Systems - Current Position: Engineer Jupiter Intelligence
- 17. Elizabeth Livermont (2017 Coadvisor with Thomas Herrington) A Correction for the Direction-Finding (Seasonde) HF Radar System for Capturing Two-Dimensional Spatial Wave Characteristics.

- 18.Ke Qu (2017 External Committee Member/Reader) Computational Study of Hydrodynamic Impact by Extreme Surge and Wave on Coastal Structure.
- 19. Spicer Bak (2015 Coadvisor with Thomas Herrington) A Study of Finned Buoy Design for Coastal Protection - Current Position: Research Engineer US Army Corps of Engineers Field Research Facility
- 20. Andrew Rella (2014 Coadvisor with Thomas Herrington) Evaluating the Effectiveness of Downwelling Surface Water to Encourage the Development of Oyster Habitat in the Hudson-Raritan Estuary - Current Position: Technical Director of Business Development ECOncrete
- 21. Alicia Gorton (2013 Coadvisor with Thomas Herrington) Investigation of the Mechanisms Responsible for Morphological Change in the Vicinity of Submerged Geotextiles for Shore Protection - Current Position: Contractor Pacific Northwest National Laboratory

MASTERS STUDENTS

- 1. Ian Day (2024). Informing Nature Based Engineering of Coastal Dunes by Comparing Natural and Managed Beach Resilience Advisor.
- 2. Katherine Gannon (2024). Breakwater Wave Attenuation and Beach Fill Evolution Analysis: Graveling Point Beach, Little Egg Harbor Township, New Jersey - Advisor.
- 3. Audrey Fanning (2022). Evaluation of New Jersey's Future Storm Erosion Climate with a Focus on High-Frequency Events Advisor.
- 4. Keliang Pan (2021). Multiple Data-driven Methods for Evaluating Storm-induced Beach Erosion – Advisor.
- 5. Daniel Rosenberger (2021). Benefits of Vegetation for Mitigating Wave Loads on a Vertical Seawall Reader.
- 6. DanaRose Brown (2020). An Evaluation of the Short-Term Impacts of Beach Nourishment on Surfability in Long Branch, New Jersey Advisor.
- 7. Taylor Zimmerman (2020). Application of UAS SfM for Evaluating Highly Three-Dimensional Beach Morphology Generated by a Groin Field in Deal, NJ – Advisor.
- 8. Jebediah Tango (2019). 3D Printing in the Marine Industry, to Use for Underway Replenishment Reader.
- 9. Nan Ying (expected 2019). TBD Reader
- 10. Adam Sisson (2019). A Reanalysis of the Equilibrium Beach Profile Relationship Advisor.
- 11. Pranav Sharma (2018). Statistical Analyses of Shoreline Changes Adjacent to Groins in Monmouth County, NJ Advisor.
- 12. Karine Jansen (2018). Analysis of Photogrammetric Mapping Using Low-Cost Unmanned Aerial Vehicles in Coastal Areas – Advisor.
- 13. Alexa Daly (2018). Environmental Studies for Renewable Energy on Porto Santo Island -Reader.
- 14. Fanglin Zhang (2016). Comparison of Three Overtopping Discharge Calculation Methods by Calculating Seawall Overtopping in Bay Head Using SBEACH Output – Reader.

- 15. Giorgi Bocharov (2016). Multivariate Analysis of Structural Damage to Residential Buildings during Hurricane Sandy Using SBEACH - Reader.
- 16. Matt Janssen (2016). A Hindcast of Observed Damages during Hurricane Sandy Using 1D Numerical Models - Advisor.
- 17. Christian LaPann-Johannessen (2015). *Application of an Equilibrium Shoreline Model to the New Jersey Coast* Advisor.
- 18. Katlin Walling (2015). Comparison of the Damage Mechanisms to Oceanfront Structures Protected by a Beach and Dune System with and without a Rock Seawall during Hurricane Sandy - Advisor.
- 19. Grace Python (2014). Decision Making Guidelines to Enhance Port Resilience to Flood Events - Reader.
- 20. Omar Lopez-Feliciano (2014). Implementation of CMS High Resolution Model to Study Morphology Change in a Groin Field during Hurricane Sandy - Reader.
- 21. Erin Hopson (2014). Discrepancies in Water Levels Where a Tide Gauge is Located on the End of a Pier Reader.
- 22. Laura Lemke (2014). Evolution of an Alternative Beach Fill Placement in the Vicinity of a Groin Field Advisor.
- 23. Jenifer Wehof (2013). Application of the Storm Erosion Index (SEI) to Predict Erosion from Increased Waves and Water Levels - Advisor.
- 24. Lun Yin (2013). *Physical Analysis of a Wave Eductor* Reader.
- 25. Elizabeth Livermont (2010). Non-Parametric of the New Jersey Wave Climate from Offshore Buoy Data and with Applications of Backfilling Missing Data - Reader.
- 26. Andrew Rella (2010). Design of a Water Vapor Condenser to Extract Evaporated Water from the Ocean Surface in Order to Provide a Clean Water Supply Reader.

NON-THESIS MASTERS STUDENTS ADVISED

- 1. Ryan Wolseifer (2022)
- 2. Sarah Chan (2021)
- 3. Spencer Flash (2020)
- 4. Anastasia Van Ryck DeGroot (2019)
- 5. Emma Chick (2018)
- 6. Joydeep Chatterjee (2017)
- 7. Anthony Eble (2013)
- 8. Josh Steiner (2011)
- 9. Jon Pierson (2011)
- 10. Nathan Holliday (2011)
- 11. Victor Macarulla (2010)
- 12. William Jennings (2010)
- 13. Brandon Raymond (2010)
- 14. Dennis Giulliano (2010)

COASTAL ENGINEERING MINOR

- 1. Carina Ming (2024)
- 2. Sherry Da Silva Weng (2023)
- 3. Maryia Spirydonava (2020)
- 4. Sarah Chen (2020)
- 5. Johanna Pluymers (2019)

FUNDING (Total \$21,796,305)

- St. George's Thorofare Sediment Management Study (2025 NJDOT \$235,054 2 Yrs - CoPI)
- 2. Horseshoe Cove Marsh Loss Study (2025 NPS \$199,000 2yrs PI)
- NJ Sea Grant Coastal Processes/Resilience Specialist (2024 NJ Sea Grant \$240,000 - 4yrs - PI)
- Jeffreys Creek Living Shoreline (2024 Barnegat Bay Partnership \$67,110 18 mos PI)
- 5. Building a Climate Ready New Jersey (2024 NOAA/NJDEP \$1,000,000 5 yrs PI)
- 6. Stevens Extreme Event Coastal Preparedness and Response System (SEECPRS) (2024 NOAA \$900,000 CoPI)
- Creating a Pipeline of Shovel-Ready Salt Marsh Restoration (2024 TNC \$400,000 1 yr - PI)
- New Jersey Coastal Protection Technical Assistance Service (2024 NJDEP \$500,000 - 1yr - PI)
- New Jersey Coastal Protection Technical Assistance Service (2023 NJDEP \$500,000 - 1yr - PI)
- 10. NJ Living Shorelines Engineering Guidelines Update 3 (2023 NJDEP \$94,455 6 mos – PI)
- 11. Velodyne LiDAR System (2022 Stevens \$29,875 1yr CoI)
- 12. Wave Measurements at Shipyard Marina (2022 Shipyard Marna \$7,000 1yr PI)
- 13. New Jersey Coastal Protection Technical Assistance Service (2022 NJDEP \$500,000 - 1yr - PI)
- 14. NJ Sea Grant Coastal Processes/Resilience Specialist (2022 NJ Sea Grant \$120,000 - 2yrs - PI)
- 15. The Beneficial Use Learning Network: Webinar Facilitation, Project Framing Document, and Technical Guidance (2022 TNC \$100,000 1yr CoPI)
- 16. Evaluating the Influence of Water Level on Wave Attenuation of Natural and Nature Based Features in Low-High Energy Environments (2022 – US Coastal Research Program – \$284,861 - 3yr - PI)
- 17. Living Shorelines Lessons Learned (2022 NJDEP \$116,264 6mos PI)
- 18. New Jersey Coastal Resilience Research Consortium (2021 State of NJ \$60,000 1yr - PI)
- 19. NJ CRC Backbone Support (2021 NJDEP \$20,059 1yr CoPI)

- 20. New Jersey Coastal Protection Technical Assistance Service (2021 NJDEP \$500,000 1yr PI)
- 21. New Jersey Coastal Protection Technical Assistance Service (2020 NJDEP \$500,000 - 1yr - PI)
- 22. Observing and Forecasting the Populated Coast: Cross-Coastal Hazard Observations, Forecasts, and Citizen Science (2020 - MARACOOS - \$1,087,060 - 5yr - CoPI)
- 23. NJ CRC Backbone Support (2020 NJDEP \$16,143 1yr PI)
- 24. Wave Analysis for Mystic Beach and Parkertown Beach Little Egg Harbor Beach Replenishment Projects (2020 – T&M Associates - \$17,500 - 1yr - CoPI)
- 25. High Resolution Storm Surge Forecast for Port Authority of New York and New Jersey Critical Infrastructure Sites (2019 - Port Authority of NY/NJ - \$4,937,909 - 5 yrs - CoI)
- 26. NJDEP Resilience Planning Grant (2019 NJDEP \$74,986 1 yr PI)
- 27. Cattus Island Living Shorelines Project (2019 NJDEP \$135,000 4 yrs PI)
- 28. Wave Attenuation Monitoring of Gandy's Beach Living Shoreline (2019 The Nature Conservancy \$69,801 4yrs PI)
- 29. New Jersey Coastal Protection Technical Assistance Service (2019 NJDEP \$500,000 - 1yr - PI)
- 30. Bayonne Wetland Design (2019 Bayonne Golf Club \$60,900 1yr CoPI)
- 31. Update/Validate/Visualize Stevens NYHOPS Forecasts for ULCV and SULCV Navigation Guidance in the NY/NJ Harbor near Bergen Point, NJ (2018 – NJDOT - \$288,619 - 1yr -PI)
- 32. New Jersey Coastal Protection Technical Assistance Service (2018 NJDEP \$500,000 - 1yr - PI)
- 33. NJ Sea Grant Coastal Processes/Communities Specialist (2018 NJ Sea Grant \$240,000 4yrs PI)
- Living Shorelines Cost Effectiveness Study (2018 The Nature Conservancy \$50,574 -2yrs - PI)
- 35. New Jersey Coastal Protection Technical Assistance Service (2017 NJDEP \$500,000 - 1yr - PI)
- 36. Keansburg and Fortescue Inlets Sediment Management Study (2017 NJDOT \$279,200 2yrs CoPI)
- 37. Evaluation and Forecasting of Storm Impacts Based on the Storm Erosion Index Along the Mid-Atlantic Coast (2017 VA Sea Grant \$40,000 1yr PI)
- 38. New Jersey Coastal Protection Technical Assistance Service (2016 NJDEP \$500,000 - 1yr - CoPI)
- 39. Assessing Ecological and Physical Performance of Sustainable Shoreline Structures (2015 NERRS Science Collaborative \$139,948 3yrs PI)
- 40. Building Ecological Solutions for Coastal Communities (2015 NJDEP/NFWF \$240,000 - 2yrs - PI)
- 41. New Jersey Coastal Protection Technical Assistance Service (2015 NJDEP \$500,000 - 1yr - CoPI)

- 42. New Jersey Coastal Resilience Network (2014 The Nature Conservancy \$66,008 2yrs CoPI)
- 43.NJ Sea Grant Coastal Processes/Communities Specialist (2014 NJ Sea Grant \$375,000 4yrs PI)
- 44. Port Resilience: Overcoming Threats to Maritime Infrastructure and Operations from Climate Change (2014 UTRC \$50,000 1yr PI)
- 45. Development of A Bulkhead Enhancement (2014 HRNERRS \$22,319 1yr PI)
- 46. New Jersey Coastal Protection Technical Assistance Service (2014 NJDEP \$500,000 - 1yr - CoPI)
- 47. Development of Living Shorelines Engineering Guidance (2013 NJDEP \$136,013 1yr - PI)
- 48. Forensic Engineering Analysis of Hudson River Shorelines after Three Historic Storms (2013 - NERRS Science Collaborative - \$187,594 - 1yr - PI)
- 49. NJ Sea Grant Coastal Storm Awareness Program (2013 NJ Sea Grant \$47,050 2yrs - PI)
- 50. Sandy Rapid Response (2013 NJ Sea Grant \$17,118 1yr PI)
- 51. New Jersey Coastal Protection Technical Assistance Service (2013 NJDEP \$500,000 - 1yr - CoPI)
- 52. Lessons from Hurricane Sandy for Port Resilience (2012 UTRC \$50,000 1yr PI)
- 53. Rapid Collection of Water Level, Scour, and Structural Damage Data Due to Extreme Storm Surge for the Future Improvement of Structural Systems and Their Resistance to Natural Hazards (2012 - NSF - \$25,000 - 1yr - PI)
- 54. COAT Academic Support (2012 NJDEP \$15,252 1yr PI)
- 55. Investigation of Coastal Engineering Alternatives at Several South American Submarine Cable Landing Sites (2012 - TE SubCom - \$20,436 - 1yr - PI)
- 56. NJ Sea Grant Coastal Processes Specialist (2012 NJ Sea Grant \$100,000 2yrs PI)
- 57. NJ Sea Grant Coastal Communities Specialist (2012 NJ Sea Grant \$25,000 2yrs PI)
- 58. New Jersey Coastal Protection Technical Assistance Service (2012 NJDEP \$500,000 - 1yr - CoPI)
- 59. New Jersey Coastal Protection Technical Assistance Service (2011 NJDEP \$500,000 - 1yr - CoPI)
- 60. Sustainable Shorelines along the Hudson River Estuary: Promoting Resilient Shorelines and Ecosystem Services in an Era of Rapid Climate Change (2010 - HRNERR/NYDEC -\$283,197 - 2yrs - PI)
- 61. NJ Sea Grant Coastal Processes Specialist (2010 NJ Sea Grant \$100,000 2yrs PI)
- 62. NJ Sea Grant Coastal Communities Specialist (2010 NJ Sea Grant \$25,000 2yrs PI)
- 63. New Jersey Coastal Protection Technical Assistance Service (2010 NJDEP \$500,000 - 1yr - CoPI)
- 64. Evaluation of Sheltered Shoreline Stabilization Alternatives (2009 HRNERR/NYDEC -\$75,000 - 3yrs - PI)
- 65. New Jersey Coastal Protection Technical Assistance Service (2009 NJDEP \$500,000 - 1yr - CoPI)

- 66. NJ Sea Grant Coastal Processes Specialist (2008 NJ Sea Grant \$100,000 2yrs PI)
- 67. NJ Sea Grant Coastal Communities Specialist (2008 NJ Sea Grant \$25,000 2yrs PI)
- 68. New Jersey Coastal Protection Technical Assistance Service (2008 NJDEP \$500,000 - 1yr - CoPI)

SERVICE

CAMPUS SERVICE

- 1. Member Stevens Sustainability Center Steering Committee (2024-Present)
- 2. Member OE TT Faculty Hiring Committee (2024)
- 3. Chair OE Research Professor Hiring Committee (2024)
- 4. Board of Trustees Institute Facilities Committee (2022-Present)
- 5. NACCESU Institutional Representative (2020-Present)
- 6. Faculty Advisor Stevens Student Chapter of ASBPA (2018-Present)
- 7. Faculty Advisor Stevens Student Chapter of COPRI (2018-Present)
- 8. Ocean Engineering Curriculum Committee (2016-Present)
- 9. Ocean Engineering Interim Program Director (2018)
- 10. Promotions Committee (2017-2018)
- 11. Academic Operations and Affairs Committee (2016-2018)
- 12. Stevens Honor Board Advisory Committee (2012-2014)
- 13. Stevens Athletics Advisory Board (2012-2018)
- 14. Stevens Athletics Hall of Fame Committee (2012-2018)
- 15. Women's Basketball Head Coach Search Committee (2010 & 2012)
- 16. Academic Appeals Committee (2008-2014, 2018)
- 17. Faculty Advisor Men's Basketball (2008-2018)
- 18. Middle States Self-Assessment Working Group 9 (2007-2008)
- 19. Men's Basketball Head Coach Search Committee (2006 & 2008)

PROFESSIONAL AFFILIATIONS

- 1. International Ecological Engineering Society
- 2. Nearshore Extreme Events Reconnaissance Association
- 3. Australian Fulbright Alumni Association
- 4. American Geophysical Union
- 5. American Society of Civil Engineers
- 6. American Shore and Beach Preservation Association
- 7. Jersey Shore Partnership
- 8. American Society for Engineering Education
- 9. Northeast Shore and Beach Preservation Association
- 10. Tau Beta Pi
- 11. Chi Epsilon
- 12. Kappa Theta Epsilon
- 13. PADI certified

PROFESSIONAL SERVICE

- 1. NJ Coastal Resilience Collaborative Board of Directors (2024-Present)
- 2. ASBPA Professional Mentor (2023-Present)
- 3. COPRI Impact of Vegetation on Wave Attenuation Manual of Practice Working Group (2023)
- 4. Sea Grant Coastal Hazards Specialist Workgroup (2008-Present)
- 5. Sea Grant Climate Change Network (2009-Present)
- 6. Marine Academy of Science and Technology Advisory Board (2011-Present)
- 7. ASBPA Board of Directors (2012-Present)
- 8. ASBPA Science and Technology Committee (2012-Present)
- 9. ASBPA Young Members Committee (2012-Present)
- 10. NJ Coastal Resilience Collaborative Leadership Committee (2016-2023)
- 11. American Shoreline Podcast Network Student and Young Professionals Podcast Co-Host (2021-Present)
- 12. Jersey Shore Partnership Board of Directors (2017-Present)
- 13. Shore and Beach Editorial Board (2017-Present)
- 14. NJ Living Shorelines Working Group (2017-Present)
- 15. US Coastal Research Program Decadal Visioning Workshop Planning Committee (2023-2024)
- 16. WEDG Update 3.0 Technical Advisory Committee (2022-2023)
- 17. Guest Editor Shore and Beach Vol. 89, No.2, Spring 2021, "Observations and Lessons Learned from Recent Storm Events" (2021)
- 18. RAE Living Shorelines Tech Transfer Workshop Steering Committee (2021)
- 19. USACE South Atlantic Coast Comprehensive Study Technical Oversight Committee (2019-2021)
- 20. NJ FRAMES (Fostering Regional Adaptation through Municipal Economic Scenarios) Advisory Committee (2018-2020)
- 21. Measuring Success: Monitoring Natural and Nature Based Shoreline Features in New York State – Hazard Mitigation and Structural Integrity Working Group (2018-2020)
- 22. Waterfront Edge Design Guidelines 2.0 Technical Working Group (2017-2018)
- 23. NJ Climate Adaptation Alliance Science and Technology Advisory Panel (2015-2016)
- 24. USACE Natural and Nature Based Features Working Group (2014-2016)
- 25. The Nature Conservancy Measures, Monitoring and Metrics Work Group (2014-2016)
- 26. New York City Green Infrastructure Research Plan Workgroup (2013-2015)
- 27. NJDEP Coastal Dune Technical Advisory Panel (2012)
- 28. FEMA Post-Sandy Mitigation Assessment Team (2012-2013)
- 29. FEMA Coastal Flood Study Technical Advisory Panel (2011-2016)
- 30. FEMA Coastal Flood Study Coastal Outreach and Advisory Team (2011-2016)
- 31. FEMA Academic Partners Committee (2011-2016)
- 32. NJDEP Living Shoreline Regulatory Rule Writing Committee (2011)
- 33. NJDEP Marine Event Response Planning Team (2011)

- 34. Ocean County Parks Shoreline Advisory Team (2011)
- 35. Hudson River Sustainable Shorelines Coordinating Team (2008-2018)
- 36. Reviewer for the following journals: Coastal Engineering, Ocean and Coastal Management, Waterways, Ports Coastal and Ocean Engineering, Shore and Beach, JGR – Earth Surface, JGR – Oceans, PLOS One, Ecological Engineering, Estuaries and Coasts, Frontiers in Built Environment (2005-Present)
- 37. Proposal review panel for: NSF (NHERI, MRI, GRFP), NOAA SARP, NERRS Science Collaborative, Sea Grant (DE, FL, GL, WI, TX, NY, MD) (2005-Present)

HONORS AND AWARDS

- 1. 2024 ASCE North Jersey Branch Educator of the Year
- 2. 2023 Robert G. Dean Coastal Academic Award
- 3. 2021 WEDG Associate
- 4. 2019 NJASLA Honor Award Landscape Planning and Analysis (Bayonne Bird Island Project)
- 5. 2019 ACEC-NJ Grand Honor Award, Non-Transportation Category (Berkeley Island County Park Living Shoreline)
- 6. 2017 NJSME Project of the Year Award (Brigantine Living Shoreline)
- 7. 2017 APA NJ chapter Excellence in Planning for Education and Engagement (Building Ecological Solutions for Coastal Hazards)
- 8. 2016 MIT Climate CoLab Adaptation Judges Choice Winner (Hudson River Sustainable Shorelines Project)
- 9. 2013 ASCE New Jersey Educator of the Year
- 10. 2011 Stevens Student Government Association Faculty Mentor Award
- 11. 2011 Girl Scouts of the Jersey Shore Good Neighbor Award
- 12.2011 ECAC Award of Appreciation
- 13. 2010 ASCE North Jersey Branch Educator of the Year
- 14.2003 Fulbright Postgraduate Fellow
- 15. 2000 National Defense Science and Engineering Graduate Fellow
- 16.1994 Scholar of Excellence
- 17.1994 Edwin A. Stevens Scholar