

ACADEMIC CV

Thomas O. Herrington, Ph.D.

Urban Coast Institute
Monmouth University
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PROFILE

Dr. Thomas Herrington is the associate director of the Urban Coast Institute at Monmouth University and serves as the New Jersey Sea Grant Consortium Resilient Communities and Economies Specialist. Dr. Herrington has 30 years of experience in coastal resilience and hazard mitigation research, including the monitoring and analysis of coastal system changes to storm surge and wave impacts, and the analysis of Nature and Nature Based Features for ecosystem restoration and community resilience. Tom is a past *pro-bono* scientist with the American Geophysical Union Thriving Earth Exchange, where he worked with coastal community members on the co-production of actionable science to address climate change driven increases in nuisance tidal flooding. Prior to joining Monmouth, Dr. Herrington was the director of the ocean engineering graduate program at Stevens Institute of Technology and the director of the New Jersey Coastal Protection Technical Assistance Service, where he developed and evaluated coastal protection systems for New Jersey. He has authored or coauthored over 100 journal, outreach and technical publications in the field of coastal and ocean engineering. Tom presently co-coordinates the New Jersey Coastal Resilience Collaborative and is a research team member of a NSF funded research coordination network focused on future climate change-driven coastal population displacement. Dr. Herrington serves on the Board of Directors of the American Shore & Beach Preservation Association, the Jersey Shore Partnership, and the New Jersey Sea Grant Consortium.

EDUCATIONAL QUALIFICATIONS

- 1996 Stevens Institute of Technology, Ph.D. in Ocean Engineering
- 1992 Stevens Institute of Technology, M.E. in Ocean Engineering
- 1989 Stevens Institute of Technology, B.E. in Civil Engineering

APPOINTMENTS

- 2017- Associate Director, Urban Coast Institute, Monmouth University
- 2017- New Jersey Sea Grant Resilient Coastal Communities Specialist

PRIOR APPOINTMENTS

- 2015-2017, Research Professor, Stevens Institute of Technology
- 2012-2017, Affiliated Faculty, Center for Innovation in Engineering and Science Education, Stevens Institute of Technology, Hoboken, NJ
- 2007-2017, Program Director, Ocean Engineering, Stevens Institute of Technology

2006-2017, Assistant Director, Center for Maritime Systems, Stevens Institute of Technology
2002-2017, Director, NJ Coastal Protection Technical Assistance Service, Stevens-NJDEP
2000-2017, Director, Stevens - New Jersey Sea Cooperative Extension, NOAA Sea Grant
College Program
2012-2015, Research Associate Professor, Stevens Institute of Technology
2005-2012, Associate Professor, Stevens Institute of Technology
2002-2005, Graduate Professor, Stevens Institute of Technology
1996-2002, Research Assistant Professor, Stevens Institute of Technology
1996-2002, Assistant Director, NJ Coastal Protection Technical Assistance Service, Stevens-
NJDEP
1993-1996, Research Engineer, Davidson Laboratory, Stevens Institute of Technology
1992-1993, Coastal Engineer, T&M Associates, Middletown, NJ

AFFILIATIONS AND CERTIFICATIONS

American Academy of Underwater Scientist
American Geophysical Union
American Shore & Beach Preservation Association
Coast, Oceans, Ports and Rivers Institute of ASCE
US Coastal Research Program
NSF Nearshore Extreme Events Reconnaissance (NEER) Association
Vice President, Northeast Shore & Beach Preservation Association (NSBPA)
NSF NHERI RAPID Certified
TWIC & SWAC Credentialed
Divemaster

BOARD & EDITORIAL SERVICE

Board of Director Service

Member, American Shore & Beach Preservation Association
Member, Jersey Shore Partnership
Member, New Jersey Sea Grant Consortium
Member, Urban Coast Institute, Monmouth University 2016 - 2017
Member, WebCampus, Stevens Institute of Technology 2002 - 2009

Editor and Editorial Board Membership

Editor in Chief, Journal of Marine Environmental Engineering, 2021-
Member, Shore & Beach, 2015 –
Member, Journal of Marine Environmental Engineering, 2017 - 2021

BOOKS, MANUALS, CHAPTERS, EDITED JOURNALS AND PROCEEDINGS

Guest Editor with M. Matella, J. Rosati and T. MacDonald: *Shore and Beach*, Vol. 86, No. 3. A
dedicated issue: Long-term Coastal Adaptation.
Guest Editor: *Shore and Beach*, Vol. 84, No. 3. A dedicated issue: Learning the Lessons of
Sandy.
Coastal Hazards and Mitigation Techniques in Blue Dunes: Climate Change by Design, edited by
J.M. Keenan and C. Weisz, Columbia University Press, NY, NY, 2017.

Urban Beaches: Balancing Public Rights and Private Development, edited by Lesley Ewing, Thomas Herrington and Orville Magoon, *Proceedings of the NSBPA 4th Annual Conference*, October 24-26, Stevens Institute of Technology, Hoboken, NJ. ASCE, Reston Va., 91 pp., 2003.

Manual for Coastal Hazard Mitigation, New Jersey Sea Grant College Program, NJSJG-03-0511, March 2003.

RECENT PUBLICATIONS

- Mohan, R. and T. Herrington (2021). Coastal Resiliency Considerations for America's Four Coasts: Preparing for 2100. *J. of Marine Env. Eng.* 10(4), 319-330.
- Gorton, A.M., T.O. Herrington, and E.R. Smith (2018). Investigation of Scour Adjacent to Submerged Geotextiles used for Shore Protection, *J. of Marine Env. Eng.* Vol.10, No. 2, pp. 71-83.
- Walling, K., T.O. Herrington, and J.K. Miller (2016). Hurricane Sandy damage comparison: Oceanfront houses protected by a beach and dune system with vs. without a rock seawall, *Shore and Beach*, Vol. 84, No. 3, pp. 20-25.
- Georgas, N., A. Blumberg, T. Herrington, T. Wakeman, F. Saleh, D. Runnels, A. Jordi, K. Ying, L. Yin, V. Ramaswamy, A. Yakubovskiy, O. Lopez, J. McNally, J. Schulte, and Y. Wang, (2016). The Stevens Flood Advisory System: Operational H³E Flood Forecasts for the Greater New York/New Jersey Metropolitan Region," *Int. J. of Safety and Security Eng.*, Vol. 6, No. 3, 648-662, doi:10.2495/SAFE-V6-N3-648-662, 1-8
- Blumberg, A.F., N. Georgas, L. Yin, T.O. Herrington, and P. Orton, (2015). Street Scale Modeling of Storm Surge Inundation along the New Jersey Hudson River Waterfront, *J. Atmos. Oceanic Technol.*, Vol. 32, pp. 1486-1497, doi.org/10.1175/JTECH-D-14-00213.1
- Lopez-Feliciano, O.L., T.O. Herrington, and J.K. Miller (2015). A Morphology Change Study using CMS in a Groin Field during Hurricane Sandy, *Shore & Beach* Vol. 83, No. 2

TEACHING ACTIVITIES

Monmouth University

PH 270	Physical Oceanography
SC 233	Climate Science: Understanding Our Changing Climate
SC 270	Oceanography

Stevens Institute of Technology

BME 342	Transport in Biological Systems (2017)
CE 342	Fluid Mechanics (2007 – 2016)
CE 342L	Fluid Mechanics Laboratory (2005-2007)
CE 576	Multi-hazard Engineering
CE 578	Coastal and Floodplain Engineering
CE/OE 591	Introduction to Dynamic Meteorology
CE/OE 591WS	Introduction to Dynamic Meteorology (WebCT online platform)
OE 501	Oceanography
OE 503	Seminar in Ocean Engineering
OE 527	Laboratory in Naval Architecture

OE 535	Ocean Measurements and Analysis
OE 589	Coastal Engineering
OE 616	Sediment Transport
OE 647	Advanced Hydrodynamics Laboratory
SEF 531	Fundamental Principles of Earth Science

PHD STUDENTS

Dr. Elizabeth Livermont, Department of Civil, Environmental and Ocean Engineering, Stevens Institute of Technology, Jan. 2011 – May 2017. “A Correction for the Direction-finding (Seasoned) HF Radar System for Capturing Two-dimensional Spatial Wave Characteristics.”

Dr. Andrew Bak, Department of Civil, Environmental and Ocean Engineering, Stevens Institute of Technology, Aug. 2010 – May 2015. “A Study of a Finned Buoy Designed for Coastal Protection” [currently a research scientist, US Army Corps of Engineers Field Research Facility, Duck, NC]

Dr. Andrew Rella, Department of Civil, Environmental and Ocean Engineering, Stevens Institute of Technology, May 2011 – May 2014. “Evaluating the Effectiveness of Downwelling Surface Water to Encourage the Development of Oyster Habitat in the Hudson-Raritan Estuary.” [currently at ECONCRETE]

Dr. Alicia Mahon, Department of Civil, Environmental and Ocean Engineering, Stevens Institute of Technology, May 2009 – May 2012. “Investigation of the Mechanisms Responsible for Morphological Change in the Vicinity of Submerged Geotextiles for Shore Protection.” [currently at Pacific Northwest National Laboratory, Richland, WA]

Dr. Ton Kaewchalermtong (co-advisor with Dr. Thomas H. Wakeman), Department of Civil, Environmental and Ocean Engineering, Stevens Institute of Technology, Aug 1999 – May 2009. “Application of a Value-based Model for Quantifying Container Vulnerability at a Marine Terminal in the Port of New York and New Jersey.” [currently a Lecturer at Chulachomkalao Royal Military Academy, Nahkon Nayok Province, Thailand]

Dr. Harry C. Friebel, Department of Civil, Environmental and Ocean Engineering, Stevens Institute of Technology, Aug 1999 – May 2005. “Wind stress on Wave Form in the Surf Zone.” [currently a Senior R&D Engineer, US Army Corps of Engineers, Hydrology, Hydraulics & Coastal Section, Philadelphia District Office]

SYNERGISTIC ACTIVITIES

Scientific Partner in an American Geophysical Union Thriving Earth Exchange Project that developed community monitoring methods to monitor nuisance flood events in a coastal community; Developed methods for the co-production of actionable community science focused on environmental change in New Jersey coastal communities through the New Jersey Sea Grant program; Reviewed citizen shoreline monitoring techniques for Measuring Success: Monitoring Natural and Nature-Based Shoreline Features in New York State as a member of the Project Advisory Committee Member; Member of the Mid-Atlantic Regional Association Coastal Ocean Observing System of IOOS; NHERI Intensive Training on RAPID Reconnaissance Equipment in Seattle, WA, July 23-27, 2019; Designed, deployed and operated real-time coastal and estuarine water level, current, and wave monitoring systems in the NY Metropolitan Region; Advisor, “Blue Dunes-The Future of Coastal Protection” Design Finalist, Rebuild by Design Competition, U.S. Department of Housing and Urban Development, 2013-2014.