

Michael S. Bruno, ScD, PE, F. ASCE

Professional Experience

University of Hawaii at Manoa

January, 2016 to present

Vice Chancellor for Research

Responsible for the planning, direction, initiation, development and coordination of research programs of the University of Hawaii at Manoa. Chief policy advisor to the Chancellor in areas related to research. Responsible for the development of governing policies, the conduct of program planning and assessment, the formulation of research goals and objectives, and the allocation of internal resources. All Deans and Directors of major research units report to the Vice Chancellor for Research.

Stevens Institute of Technology

August 1989 to December, 2015

Dean, School of Engineering and Science (2007 to December, 2015)

Responsible for strategic planning, operations, budget, faculty hiring and mentoring, external relations, science and engineering curricula improvement, assessment and accreditation. Annual budget approximately \$70 million including externally sponsored research; 200 faculty and professional staff.

Director, DHS National Center of Excellence in Maritime Security (2008 to present)

Consortium of six U.S. universities. Responsible for scientific research direction, educational programs, coordination with DHS and other federal agencies, maritime and offshore industries; budgeting.

Director, Center for Maritime Systems and the Davidson Laboratory (1989 to 2007)

Responsible for strategic planning, technical direction, budgeting, business development, human resources; annual budget of approximately \$10 million. Scientific staff of more than 50.

Professor, Department of Civil, Environmental and Ocean Engineering (1989 to present)

Director, Stevens Scholars Program; Coordinator, Ocean Engineering Program

Director, New Jersey Coastal Protection Technical Assistance Service (1992 to 2007)

Responsible for all aspects of the Service, which provides technical advice to State and local government officials on matters related to shore protection, as well as public outreach and education pertaining to coastal processes, weather/climate issues, and water quality issues.

New Jersey Institute of Technology

August 1986 to July 1989

Assistant Professor

Massachusetts Institute of Technology

June 1982 to July 1986

Cambridge, Massachusetts

Research Assistant

State of New Jersey

August 1981 to June 1982

Department of Environmental Protection

Principal Engineer

E d u c a t i o n

Massachusetts Institute of Technology/
Woods Hole Oceanographic Institution Joint Program
Cambridge, Massachusetts
Doctor of Science - 1986 - Oceanographic Engineering

University of California at Berkeley
Berkeley, California
Master of Science - 1981 – Civil Engineering

New Jersey Institute of Technology
Newark, New Jersey
Bachelor of Science - 1980 – Civil Engineering

P r o f e s s i o n a l A c t i v i t i e s / A c c o m p l i s h m e n t s

Member, **Naval Research Advisory Committee** (2009-present)

Member, Advisory Council, **Lloyd's Register Foundation** (2015-present)

Member and Vice-Chair, **Ocean Research Advisory Panel** (2010-2014)

Chair, **Marine Board of the National Academies** (2005-2012)

Visiting Professor, Dept of Mechanical Engineering, **University of London** (2004-present)

Secretary General, Pan American Federation of Coastal and Ocean Engineers (1990-present)

Editor-in-Chief, Journal of Marine Environmental Engineering (1993-present)

Chair, Workshop Committee, **Group on Earth Observations** Coastal Zone Community of Practice, "Observing System Support for Decision-Making in the Coastal Zone: Managing and Mitigating the Impacts of Human Activities and Natural Hazards in the Coastal Zone" (2006-present)

Member, Board of Directors, **Mid-Atlantic Regional Association Coastal Ocean Observing System** (2008-present)

Member, **Transportation Research Board** Committee on Marine Environment (2006-2010)

Member, **American Meteorological Society** Committee on Coastal Environment (2007–2012)

Member, **Defense Science Board** Summer Study on Homeland Security (2003-2004)

Member, Board of Trustees, New Jersey Marine Sciences Consortium (2006–2012)

Member, **National Research Council** Committee on Oil Spill Countermeasures (1995-1997)

R e g i s t r a t i o n s

Registered Professional Engineer in the State of New Jersey

SCUBA Instructor (PADI and NAUI)

A w a r d s

Fulbright Scholar, 1996 (appointment at Aristotle University of Thessaloniki, Greece)
Office of Naval Research Young Investigator Award, 1991
Denny Medal, 2007, The Institute of Marine Engineering, Science & Technology, London.
Fellow, ASCE, 2006
President's Leadership Award, 2006, Stevens Institute of Technology
Outstanding Service Award, American Society of Civil Engineers, 1988
Fellow, Explorers Club, 2002
Member, Cosmos Club, 2003
James Robbins Award for excellence in teaching, N.J. Inst. of Tech. 1986 – 1987
Honorary Member, Mexican Academy of Sciences

P a t e n t s

M. Bruno, A. Sutin, 5 others, "Passive Acoustic Underwater Intruder Detection System", April, 2012.

P u b l i c a t i o n s

Books

1. Bruno, M.S. 2015. Foresight Review of Resilience Engineering, Designing for the Expected and Unexpected. Lloyd's Register Foundation. Report Series: No 2015.2. London. 54 pp.
2. Lindstrom, E., R. Spinrad, Z. Willis, D. Martin, D. Hernandez, C. Wilson, H. Seim, M. Bruno, D. Legler, B. Hauptman. 2013. U.S. Integrated Ocean Observing System (IOOS) 2012. 96 pp.
3. Wilkens, R., T. Gemelas, and M. Bruno (co-editors). 2011. "Maritime Domain Awareness and Resilience Applications for Homeland Security". J. Marine Technology Society, Vol. 45, No 3.
4. Bruno, M.S. and R.I. Hires, 2006. "Oceanography", chapter in Encyclopedia of Environmental Science and Engineering, Fifth Edition, 790-801, Taylor and Francis.
5. Bruno, M.S. 2005. "Physical Models", chapter in Encyclopedia of Coastal Science. M. L. Schwartz ed., 769-771. Springer.
6. Bruno, M.S. 2001. "Physical Modeling", chapter in Encyclopedia of Coastal Science, M. Schwartz, ed., Kluwer.
7. Englehardt, R. and Bruno, M.S. (co-editors). 1998. Oil Spill Countermeasures. International Union of Pure and Applied Chemistry, Research Triangle Park, North Carolina.
8. Bruno, M.S., 1992. "Oceanography", chapter in Encyclopedia of Environmental Sciences and Engineering, Third Edition, 801-812, Gordon and Breach.

Refereed Publications

1. Bruno, M.S. 2015. "Resilience Engineering: A Report on the Needs of the Stakeholder Communities and the Prospects for Responsive Educational Programs", Proceedings 2015 International Conference on Interactive Collaborative Learning, IEEE.
2. Rogowski, P., R. Stolkin, and M. Bruno. 2012. "Optimization of the Spatial Distribution of Oceanographic Sensors in a Highly Variable Estuarine Environment", J. Marine Environmental Engrg. Vol. 9, No 3, 211-224.

3. Bruno, M.S., A. Sutin, K. W. Chung, A. Sedunov, N. Sedunov, H. Salloum, H. Graber, and P. Mallas. 2011. "Satellite Imaging and Passive Acoustics in Layered Approach for Small Boat Detection and Classification", *J. Marine Technology Society*, Vol. 45, No 3, 77-87.
4. Chung, K.W., A. Sutin, A. Sedunov, and M. Bruno. 2011. "DEMON Acoustic Ship Signature Measurements in an Urban Harbor," *Advances in Acoustics and Vibration*, vol. 2011, 13 pp.
5. Chung, K.W., A. Sutin, A. Sedunov, and M. Bruno. 2011. "Cross-correlation method for measuring ship acoustic signatures", *Proceedings, 160th Meeting Acoustical Society of America*, 11, 1-12.
6. Messaros, R. and M.S. Bruno. 2010. "A Laboratory Investigation of Bedform Geometry under Regular and Irregular Surface Gravity Waves", *Journal of Coastal Research*, 27, 94-103.
7. Sutin, A., B. Bunin, A. Sedunov, N. Sedunov, M. Tsionsky, M. Bruno. 2010. "Stevens Passive Acoustic System for Underwater Surveillance", *Proceedings, Waterside Security Conference, IEEE*, 6 pp.
8. Bruno, M.S., K.W. Chung, H. Graber, A. Sutin, P. Mallas, H. Salloum, A. Sedunov, N. Sedunov. 2010. "Concurrent Use of Satellite Imaging and Passive Acoustics for Maritime Domain Awareness", *Proceedings, Waterside Security Conference. IEEE*, 8 pp.
9. Bruno, M.S. 2010. "Bringing Resiliency to Maritime Transportation", *Journal Sea Technology*, Volume 51, Issue 11, 1-7, *Compass*.
10. Blumberg, A.F., N. Georgas, T. O. Herrington, and M. S. Bruno. 2010. "How Good is Good? Establishing Performance Goals for Marine Forecast Systems", *Proceedings Ninth Conference on Coastal Atmospheric and Oceanic Prediction and Processes and 17th Conference on Air Sea Interaction, American Meteorological Society*, September, 2010.
11. Georgas N., A.F. Blumberg, M.S. Bruno, and D.S. Runnels. 2009. "Marine forecasting for the New York urban waters and harbor approaches: the design and automation of NYHOPS", *Journal 3rd International Conference on Experiments/Process/System Modelling/Simulation & Optimization*. Volume 1, 345-352.
12. Bunin, B., A. Sutin, M. Bruno. 2007. "Maritime Security Laboratory for Maritime Security Research", *Optics and Photonics in Global Homeland Security, Proceedings SPIE, The International Society for Optical Engineering*, Vol 6540, 1-8.
13. Herrington, T.O., A.F. Blumberg and M. S. Bruno. 2007. "The urban ocean observatory – Urban ocean observations and forecasting in the New York Harbor", *Proceedings Seventh Conference on Coastal Atmospheric and Oceanic Prediction and Processes, Seventh Symposium on the Urban Environment, American Meteorological Society*, September, 2007.
14. Stolkin, R., A Sutin, S Radhakrishnan, M Bruno, B Fullerton, A Ekimov, M Raftery. 2006. "Feature based passive acoustic detection of a diver", *Proceedings Defense and Security Symposium, SPIE-The International Society for Optical Engineering*.
15. Stolkin, R., A Sutin, S Radhakrishnan, M Bruno, B Fullerton, A Ekimov, M Raftery. 2006. "Feature based passive acoustic detection of underwater threats", *Proceedings Defense and Security Symposium, SPIE-The International Society for Optical Engineering*, Vol 6204, 1-10.
16. Bruno, M.S., A.F. Blumberg and T.O. Herrington. 2006. "The Urban Ocean Observatory - Coastal Ocean Observations and Forecasting in the New York Bight", *Journal of Marine Science and Environment*, No C4, *IMarEST*, 1-9.
17. Roarty, H and M.S. Bruno. 2006. "Laboratory Measurements of Bed Load Sediment Transport Dynamics", *Journal of Waterway, Port, Coastal, & Ocean Engineering, ASCE*, Vol 132, No 3, 199-211.

18. Fan, S., A. F. Blumberg, M. S. Bruno, D. Kruger, and B. Fullerton. 2006. "The Skill of an Urban Ocean Forecast System", *Estuarine and Coastal Modeling*, ASCE, 720-731.
19. Blumberg, A.F., S. Fan, T. Herrington, M. Bruno, A. M. Cope, Q. Ahsan, and H. Li. 2005. "A Coastal Wave Forecasting System for New Jersey and Long Island Waters", *Proceedings Sixth Conference on Coastal Atmospheric and Oceanic Prediction and Processes*, 85th American Meteorological Society Annual Meeting, January, 2005, 1-7.
20. Bruno, M.S., B. J. Fullerton, R. Datla, and P. Rogowski. (2004). "Field and Laboratory Investigation of High-Speed Ferry Wake Impacts in New York Harbor", *High Speed Performance Vehicles*, 277- 286. Springer.
21. Bruno, M.S. and A.F. Blumberg. 2004. "An Ocean Observatory for the Maritime Community – Real-time Assessments and Forecasts of the New York Harbor Marine Environment", *Sea Technology*, August. Compass Publications.
22. Rankin, K.L., M.S. Bruno, and T.O. Herrington. 2004. "Nearshore Currents and Sediment Transport Measured at Notched Groins", *J. Coastal Res.*, No 33, 237-254.
23. Rankin, K.L., T.O. Herrington, M.S. Bruno, P. B. Burke, and A.M. Pence. 2004. "Cross-shore Distribution of Alongshore Currents and Sediment Fluxes in the Vicinity of Notched Groins", *J. Coastal Res.*, No 33, 255-268.
24. Kaluarachchi, I., M. Bruno, Q. Ahsan, A. Blumberg, and H. Li. 2003. "Estimating the Volume and Salt Fluxes Through the Arthur Kill and the Kill Van Kull". *World Water & Environmental Resources Congress 2003*: pp. 1-10. ASCE.
25. Bruno, M.S., K.L. Rankin, T.O. Herrington, and N. Kraus. 2002. "Re-engineering Existing Coastal Structures: Guidelines and Impacts", *Coastlines, Structures and Breakwaters*, Institute of Civil Engineers, London.
26. Nordstrom, K.F., N.L. Jackson, M.S. Bruno, and H.A. deButts. 2001. "Municipal Initiatives for Managing Dunes in Coastal Residential Areas", *Geomorphology*.
27. Bruno, M.S., O. G. Nwogu, K.L. Rankin, and T. O. Herrington, 2001. "Real-Time Coastal Monitoring and Forecasting System : Preliminary Results", *International Conference on Coastal Engineering*, Vol 1, 283-291, ASCE.
28. Herrington, T.O., M S. Bruno, and K. L. Rankin. 2000. "The New Jersey Coastal Monitoring Network: A Real-Time Coastal Observation System", *Journal of Marine Environmental Engineering*, 6, 1, 69-82, Gordon and Breach.
29. Jackson, N.L., K.F. Nordstrom, M.S. Bruno, and V.L. Spaulding, 2000. "Classification of Spatial and Temporal Changes to a Developed Barrier Island", in *Geomorphology, Human Activity and Global Environmental Change*, 269-283, O. Slaymaker Ed, John Wiley & Sons.
30. Bruno, M.S., K.L. Rankin, and T.O. Herrington. 1999. Coastal Wave Measurement and Forecast System : Preliminary Results and Model Selection, *Estuarine and Coastal Modeling*, 899-914. ASCE.
31. Roarty, H. J. and M.S. Bruno, 1999. "Measurement of Suspended Sediment Concentration in the Laboratory through Photographic Techniques", *Coastal Sediments*, Volume 1, 163-178, ASCE.
32. Cadmus, K. A. and M.S. Bruno, 1999. "Influence of Tidal Water Surface Fluctuations on Beach Profile Evolution", *Coastal Sediments*, Volume 1, 437-446, ASCE.
33. Herrington, T.O., Rankin, K.L., and M.S. Bruno, 1999. "Design and Implementation of a Real-Time Coastal Monitoring Network", *Proceedings, 1999 National Conference on Beach Preservation Technology*, St. Petersburg, Florida, 95-111.

34. Bruno, M.S., M. Yavary, and T.O. Herrington, 1998. "The Influence of a Stabilized Inlet on Adjacent Shorelines: Manasquan, New Jersey", *Shore & Beach*, Vol. 66, No. 2, 19-25.
35. Herrington, T.O., M. S. Bruno, M. Yavary, and K. L. Rankin, 1998. "Nearshore Coastal Processes Adjacent to a Tidal Inlet", *International Conference on Coastal Engineering*, Volume 3, 3331-3344, ASCE.
36. Rankin, K.L., M.S. Bruno, and R. I. Hires, 1998. "Development and Implementation of a Shear Plate for the Direct Measurement of Bottom Shear Stress in Moveable Bed Environments", *International Conference on Coastal Engineering*, Volume 3, 2628-2639, ASCE.
37. Herrington, T.O., and M.S. Bruno, 1998. "Observations of Structure Induced Scour Adjacent to Submerged Narrow - Crested Breakwaters", *Coastlines, Structures and Breakwaters*, Institution of Civil Engineers, 106-118.
38. Herrington, T.O., and M.S. Bruno, 1998. "Determination of the Relative Magnitudes of Nearshore Physical Forcing Terms for use in Hydrodynamic Models which Utilize Inverse Methods", *Estuarine and Coastal Modeling*, ASCE.
39. Bruno, M.S., Herrington, T.O., Rankin, K.L. and K.E. Ketteridge, 1997. "Artificial Reefs and Other Emerging Technologies: Prospects for Success", *Proceedings, Coastal Zone 97*, Boston.
40. Bruno, M.S. and R.L. Van Dyck, 1997. "Experimental Study of Containment Boom Behavior in Waves", *J. Marine Technology*, Vol. 34, 24-30, SNAME.
41. Herrington, T.O. and M.S. Bruno. 1997. "Empirical Techniques for A Priori Parameter Estimation". *Estuarine and Coastal Modeling*, ASCE.
42. Bruno, M.S., T.O. Herrington, and K.L. Rankin, 1996. "The Use of Artificial Reefs in Erosion Control: Results of the New Jersey Pilot Reef Project", *Proceedings, Ninth Conference on Beach Preservation Technology*, St. Petersburg, Fla. January 25, 1996, 239-254.
43. Waters, J.K. and M.S. Bruno, 1995. "Internal Wave Generation by Ice Floes Moving in Stratified Water: Results from a Laboratory Study", *J. Geophysical Research*, 100, 13635-13639.
44. Ahsan, A.K.M., Bruno, M.S., Oey, L.Y., and R.I. Hires, 1994. "Wind-Driven Dispersion in New Jersey Coastal Waters", *Journal of Hydraulics*, Vol. 120, 1264-1273, ASCE.
45. Bruno, M.S., 1993. "Laboratory Testing of an Artificial Reef Erosion Control Device", *Proceedings, Coastal Zone*, Vol. 2, 2147-2158, ASCE.
46. Cho, W.C. and M.S. Bruno, 1992. "Breaking Wave Generation in the Laboratory", *J. Korean Society of Coastal and Ocean Engineers*, Vol. 4, 178-186.
47. Bruno, M.S., 1992. "Quantifying Sea Ice Drag through Laboratory Experiments", *Proceedings, Eleventh Intl. Conf. on Offshore Mechanics and Arctic Engineering*, 5-10, ASME.
48. Ahsan, A.K.M. and M.S. Bruno, 1992. "A Three-Dimensional Eulerian-Lagrangian Transport Model", *Estuarine and Coastal Modeling*, 1-12, ASCE.
49. Bruno, M.S., 1991. "The Effect of Internal Waves on Sea Ice Drift", *Proceedings, Tenth Intl. Conf. on Offshore Mechanics and Arctic Engineering*, 137-141, ASME.
50. Bruno, M.S., 1991. "A Note on the Determination of Sea Ice Concentration", *J. Offshore Mech. and Arctic Engineering*, 113, 88-90, ASME.
51. Bruno, M.S., M. Muntisov, and H.B. Fischer, 1990. "The Effect of Buoyancy on Transverse Mixing in Streams", *Journal of Hydraulics*, 116, 1484-1494, ASCE.

52. Bruno, M.S., 1990. "Field Measurements of Ice Drag Coefficients", *Proceedings, Ninth Intl. Conference on Offshore Mechanics and Arctic Engineering*, ASME, 155-159.
53. Ahsan, A.K.M. and M.S. Bruno, 1989. "Three-Dimensional Modeling of Pollutant Transport in Coastal Waters", *Estuarine and Coastal Modeling*, 462-471, ASCE.
54. Bruno, M.S., 1989. "An Eulerian-Lagrangian Model for the Prediction of Ice Hazards in Shallow Waters", *Proceedings, Eighth Intl. Conference on Offshore Mechanics and Arctic Engineering*, The Hague, The Netherlands, Vol. 4, 229-234, ASME.
55. Bruno, M.S., O.S. Madsen, 1989. "Coupled Circulation and Ice Floe Movement Model for Partially Ice-Covered Continental Shelves", *J. Geophysical Research*, 94, 2065-2078.
56. Madsen, O.S., and M.S. Bruno, 1987. "A Methodology for the Determination of Drag Coefficients for Ice Floes", *J. Offshore Mech. and Arctic Engineering*, 109, 381-387, ASME.
57. Madsen, O.S., and M.S. Bruno, 1986. "A Methodology for the Determination of Drag Coefficients for Ice Floes", *Proceedings, Fifth Intl. Conference on Offshore Mechanics and Arctic Engineering*, Tokyo, Vol. 4, 410-417, ASME.

Other Major Publications

1. Pullen, J. and M. Bruno. 2014. "The Center for Secure and Resilient Maritime Commerce: A DHS National Center of Excellence in Maritime Security", *Cases on Research and Knowledge Discovery: Homeland Security Centers of Excellence*, 2 (10.4018/978-1-4666-5946-9).
2. Glenn, S., D. Aragon, L. Bowers, M. Crowley, R. Dunk, C. Evans, C. Haldeman, E. Handel, T. Haskins, J. Kerfoot, J. Kohut, J. Levin, T. Miles, L. Palamara, H. Roarty, O. Schofield, G. Seroka, M. Smith, N. Strandkov, J. Wilkin, Y. Xu, J. Zavala-Garay, C. Thoroughgood, G. Kuska, B. Lipphardt, M. Oliver, M. Shatley, W. Brown, A. Gongopadhyay, C. Jakubiak, A. Schmidt, E. Howlett, D. Ullman, J. O'Donnell, T. Fake, N. Georgas, A. Blumberg, M. Bruno, T. Herrington, W. Boicourt, T. Wazniak, T. J. Titlow, R. Toll, L. Atkinson, T. Updyke, N. Verona, H. Seim, M. Muglia. 2013. "Process-driven improvements to hurricane intensity and storm surge forecasts in the mid-atlantic bight: Lessons learned from hurricanes irene and sandy". *OCEANS-Bergen*. 2013. MTS/IEEE, 1-9, IEEE.
3. Bruno, M.S. et. al. 2012. *Marine Corps Capabilities for Countering Precision Weapon Threats*. Naval Research Advisory Committee Report. 52 pp.
4. Bruno, M.S. 2011. *Center for Secure and Resilient Maritime Commerce, Year 3 Report*. Department of Homeland Security, Office of University Programs, Science and Technology Directorate. 221 pp.
5. Bruno, M.S. 2010. *Center for Secure and Resilient Maritime Commerce, Year 2 Report*. Department of Homeland Security, Office of University Programs, Science and Technology Directorate. 173 pp.
6. Sommerer, J. et. al. 2010. *Status and Future of the Naval R&D Establishment*. Naval Research Advisory Committee Report. 139 pp.
7. Bruno, M.S. 2009. *Center for Secure and Resilient Maritime Commerce, Year 1 Report*. Department of Homeland Security, Office of University Programs, Science and Technology Directorate. 128 pp.
8. Bruno, M.S. 2008. "A Center for Secure and Resilient Maritime Commerce on the Hudson", *Journal Marine Technology and SNAME News*, Volume 45, Issue 3. SNAME.

9. Rankin, K.L. and M.S. Bruno. 2005. Wave Transformation and Nearshore Currents in the Vicinity of a Wide-Crested Submerged Reef. Proceedings, National Conference on Beach Preservation Technology, Destin, Florida.
10. Pence, A.M. M.S. Bruno, A.F. Blumberg, N. Dimou, K.L. Rankin. 2005. "Hydrodynamics governing contaminant transport in the Newark Bay complex". Proceedings of the Third International Conference on Remediation of Contaminated Sediments. Battelle Press.
11. Greig, A., M.S. Bruno and J.L. Waters. 2004. "Comparison of Naval Architecture Programs at U.K. and U.S. Institutions. Proceedings, ASEE Conference, June 21, 2004.
12. Bruno, M.S., Fullerton, B. and R. Datla. 2004. "Results of the New York Harbor High-Speed Ferry Wake Project." Proceedings, National Harbor Operations Committee Conference, Ft. Lauderdale, February 24, 2004.
13. Bruno, M.S., Herrington, T.O., and K.L. Rankin. 2001. Coastal Engineering Analysis of the Atlantic Ocean Shoreline of the Village of Ocean Beach, County of Suffolk, New York, prepared for the Village of Ocean Beach, N.Y.
14. Bruno, M.S. 2003. "The New York Harbor Observation System." Proceedings, National Harbor Operations Committee Conference, New York, April 7, 2003.
15. Herrington, T.O., K.L. Rankin, M.S. Bruno. 2002. "Frequency of sediment suspension events in Newark Bay", Proceedings of the International Conference, Protection and Restoration of the Environment VI, Skiathos, Greece, 371-378.
16. Bruno, M.S., B. Fullerton, and R. Datla. 2002. "Ferry Wake Wash in New York Harbor." Report prepared for New Jersey Department of Transportation. Report SIT-DL-02-9-2812, October, 2002.
17. Herrington, T.O., K.L. Rankin, and M.S. Bruno. 2002. "The New Jersey Coastal Monitoring Network." New Jersey Sea Grant Extension Program Bulletin, No. 15.
18. Bruno, M.S., K.L. Rankin, F. McDonough, and R. Chant. 2001. "Monitoring of Hydrodynamics, Sediment Transport, and Water Quality in the Port of New York/ New Jersey." Proceedings, Marine Transportation System Research and Technology Coordination Conference, Washington, D.C., November 14-16, 2001.
19. Allee, King, Rosen & Fleming Inc., Moffatt & Nichol, Engineers, and M.S. Bruno. 2000. Town of Southampton Atlantic Ocean Shoreline, Draft Generic Environmental Impact Statement, prepared for Town of Southampton, New York.
20. Bruno, M.S., Herrington, T.O. and K.L. Rankin. 1999. Coastal Engineering Analysis of the Shoreline of the Village of Ocean Beach, Fire Island, New York, prepared for the Village of Ocean Beach, N.Y.
21. Bruno, M.S. and K.L. Rankin, 1999. "Application of Simple Shoreline Evolution Concepts : Analysis of A Dynamic Coastline". *Proceedings, Coastal Ocean Processes Symposium, Woods Hole Oceanographic Institution.*
22. Herrington, T.O., M.S. Bruno, and R.I. Hires. 1998. Newport Marine Terminal, Hydrodynamic and Sedimentation Analysis of Long Wharf, prepared for Louis Berger & Associates, Inc.
23. Bruno, M.S., Rankin, K.L., and T.O. Herrington, 1998. "Natural and Anthropogenic Factors Influencing Shoreline Change", *Proceedings, Marine Technology Society, Baltimore.*

24. Bruno, M.S., 1998. "Technological Improvements and Beachfill Design : Coastal Engineering in the Information Age", *Proceedings, American Littoral Society Meeting*, Sandy Hook, New Jersey.
25. Herrington, T.O., M.S. Bruno, and K.E. Ketteridge, 1997. "Monitoring Study of the Beachsaver Reef at Cape May Point, New Jersey", Report SIT-DL-96-9-2751, submitted to the Borough of Cape May Point, N.J., Stevens Institute of Technology.
26. Bruno, M.S. 1996. "Ocean Engineering Research Activities in the Country of Greece", report prepared for the Office of Naval Research, Europe, London.
27. Bruno, M.S. 1996. "Field Investigation and Sediment Transport Analysis of the Manasquan, New Jersey Shoreline", Report SIT-DL-9-96-2740, submitted to U.S. Army Corps of Engineers, Stevens Institute of Technology.
28. Bruno, M.S., T.O. Herrington, K.L. Rankin, and K.E. Ketteridge, 1996. "Monitoring Study of the Beachsaver Reef at Avalon, New Jersey, Report SIT-DL-9-96-2739, submitted to the Borough of Avalon, N.J., Stevens Institute of Technology.
29. Bruno, M.S. 1996. "Laboratory Study of the Dispersion Characteristics of Orimulsion", Report SIT-DL-95-9-2734, submitted to Roy F. Weston, Inc., Stevens Institute of Technology.
30. Bruno, M.S. 1995. "Future Prospects for Erosion Control Technology", Marine and Estuarine Shallow Water Science and Management Conference, abstract published April 3, 1995, USEPA.
31. Bruno, M.S. and R.B. Abel, 1995. "Engineering New Jersey's Shoreline", *Proceedings, International Symposium on Coastal Ocean Space Utilization*, Yokohama, Japan, National Science Foundation.
32. Van Dyck, R.L., and M.S. Bruno, 1995. "Effect of Waves on Containment Boom Response, *Proceedings, International Oil Spill Conference*, San Diego.
33. Bruno, M.S. and R. Datla, 1995. "Scale Model Test of the Demi-Tek Rotating Reef Erosion Control Device", Report SIT-DL-95-9-2720, submitted to Demi-Tek, Inc., Stevens Institute of Technology.
34. Bruno, M.S. 1994. "Results of Shoreline Monitoring Program, Manasquan, New Jersey", Report SIT-DL-95-9-2717, submitted to the Borough of Manasquan, New Jersey, Stevens Institute of Technology.
35. Bruno, M.S., 1994. "Physical Model Study of MOTO Wave Energy Extraction System", Report SIT-DL-94-9-2710, submitted to Greenworld Group, New York, N.Y., Stevens Institute of Technology.
36. Bruno, M.S. and T.O. Herrington, 1994, "Monitoring Study of the Beachsaver Reef at Avalon, New Jersey", Report SIT-DL-94-9-2709, submitted to the Borough of Avalon, New Jersey, Stevens Institute of Technology.
37. Waters, J.K., Bruno, M.S., Herrington, T.O., and K.L. Rankin, 1993. "A Laboratory Investigation of Sea Ice Dynamics in a Stratified Waterbody", Report SIT-DL-93-9-2695, submitted to Office of Naval Research, Stevens Institute of Technology.
38. Bruno, M.S., 1992. "Laboratory Study of an Artificial Reef Beach Erosion Control Device", *Trans. Pan American Federation of Coastal and Ocean Engineers*.
39. Bruno, M.S., 1992. "Three-Dimensional Modeling of Pollutant Transport in Surface Waters", Report SIT-DL-92-9-2680, submitted to U.S. Geological Survey, Stevens Institute of Technology.

40. Bruno, M.S., T.G. McKee, and W.M. Clark, 1992. "Laboratory Study of an Artificial Reef Beach Erosion Mitigation Device", Report SIT-DL-92-9-2676, Stevens Institute of Technology.
41. Bruno, M.S., 1992. "Beach Erosion and Retaining Wall Deterioration at Spring Lake and Belmar, New Jersey, Report SIT-DL-91-11-2667, Stevens Institute of Technology.
42. Martin, J.P., J.R. Weggel, M.S. Bruno, and S. Halsey, 1991. "The Use of High Fly Ash Concrete for Marine Structures", *Trans. American Coal Ash Association*, Washington,DC, 54, 1-15.
43. Bruno, M.S., 1991. "Beach Erosion - Shoreline Evolution Modeling: A Case Study", Proceedings, Pan American Federation of Engineering Societies, Washington, D.C., 213-221, ASCE.
44. Bruno, M.S., 1991. "Modeling-State of the Art", in Proceedings, Southern New Jersey Coastal Modeling Workshop, U.S. Army Corps of Engineers.
45. Bruno, M.S., McKee, T.G. and R.I. Hires, 1991. "Combined Hydraulic - Water Quality Model for the Arthur Kill Waterway, Report submitted to New York City Dept. of Sanitation.
46. Bruno, M.S., S. Leatherman and H. Bokuniewicz, 1991. "Sand Transport at the East Hampton Groins". Marine Sciences Research Center, SUNY Stony Brook.
47. Bruno, M.S. and T.O. Herrington, 1990. "Concrete Artificial Reefs and the Potential for Coal Fly Ash Utilization". Report SIT-DL-90-9-2652, Stevens Institute of Technology.
48. Bruno, M.S., 1989. "An Eulerian-Lagrangian Model for the Prediction of Ice Hazards in Shallow Coastal Waters". Report SIT-DL-89-9-2640 submitted to National Science Foundation, Stevens Institute of Technology.
49. Bruno, M.S., 1988. "The Feasibility of Sand-Bypassing for the Alleviation of Beach Erosion at Manasquan and Shark River, New Jersey", report prepared for the New Jersey Department of Environmental Protection, Division of Coastal Resources, New Jersey Institute of Technology.
50. Bruno, M.S., 1986. "A Coupled Hydrodynamic and Ice Floe Movement Model", Report MIT/WHOI 86-23, Woods Hole Oceanographic Institution.
51. Bruno, M.S. and M. Muntisov, 1981. "Buoyancy-Driven Transverse Mixing in Streams", Report UCG/HEL 82/01, Univ. of California at Berkeley.

Presentations

Numerous presentations at national and international meetings, **more than 200 invited**.

Thesis Supervisor

PhD – Richard Sheryl, New Technology for Uncontaminated and Pressure-Controlled Deep-Sea Sampler. May, 2009.

PhD – Peter Rogowski, A Technique for Optimizing the Placement of Oceanographic Sensors with Example Case Studies for the New York Harbor Region. May, 2009.

PhD – Srikanth Syamsundar, Conceptual Design of a Dynamically Reconfigurable Controller for a Multi-Role Surface Ship. May, 2006.

PhD – Soma Maraju, Performance Analysis of High Speed Vessels using Artificial Neural Networks. December, 2005.

PhD - Roy C. Messaros, A Laboratory Investigation of Bedform Geometry under Regular and Irregular Surface Gravity Waves. May, 2003.

PhD – Ms. Kathryn Ketteridge, Laboratory Study of Suspended Sediment Transport under Waves. September, 2001.

PhD – Mr. Xiao Li, A Hydrodynamic and Sediment Transport Model for Nearshore Coastal Regions. August, 2001.

PhD – Mr. Hugh Roarty, A Photographic Technique for the Measurement of Bedload Sediment Transport. April, 2001.

PhD. - Mr. Thomas Herrington, Analysis of Dominant Forcings in the Vicinity of a Tidal Inlet and Submerged Artificial Reef. June, 1996.

PhD. - Mr. Raju Datla, Interaction Between Submerged Turbulence and Surface Waves. June, 1996.

PhD. - Ms. Jennifer Waters, The Generation of Internal Waves by Sea Ice. May, 1995.

PhD. - Mr. A.K.M. Quamrul Ahsan, Three-Dimensional Modeling of Coastal Pollution Transport. January, 1993.

PhD. - Mr. Won Cho, Experimental Investigation of Surface Wave Instabilities. May, 1992.

MS – Ms Imali Kaluarachchi, Estimating the Volume and Salt Fluxes through the Arthur Kill and the Kill Van Kull. 2003.

MS - Mr. Steven Boenig, The Use of GENESIS in modeling complex shoreline dynamics. 2002.

MS – Mr. Jungu Kang, Sound Propagation in the East Sea. 1998.

MS - Mr. Sigmund Rutkowski, The Generation of Hurricane Waveforms in a Wave Tank Using Spectral Analysis. 1998.

MS - Mr. Kenneth Cadmus, The Influence of the Tide on Beach Profile Evolution. 1998.

MS - Mr. Hugh Roarty, A Photographic Technique for the Measurement of Suspended Sediment Transport. 1998.

MS – Ms. Susan Ming, Use of SBEACH Software in the Analysis of Southern California Beaches. 1997.

MS - Mr. Walter McKenna, The Effect of Man-Made Structures on Shoreline Changes at Atlantic City, New Jersey. 1997.

MS - Mr. Sherif Hassan, The Effect of a Shore-Parallel Reef on Mixing Rates in the Nearshore Region. 1996.

MS - Mr. Jun Yang, Laboratory Study of Wave Forces on a Submerged Stone Breakwater. 1996.

MS - Ms. Katherine Ketteridge, Laboratory Study of the Influence of Sand Permeability on Cross-Shore Transport. 1996.

MS - Mr. Jesse Falsone, Following Sea Behavior of America's Cup Class Sailboat. 1994.

MS - Ms. Jennifer Waters, Laboratory Investigation of Sea Ice Dynamics. 1993.

MS - Mr. Thomas Herrington, Hydrodynamic Analysis of Artificial Reefs. 1992.

MS - Mr. Christopher Obropta, Sediment Transport Along Northern New Jersey. 1988.

Funding

More than \$70 million as either Principal Investigator or Co-Principal Investigator.

Partial List:

DHS

The National Center of Excellence in Maritime Security – \$22 million (2008–2019)

DARPA

(with A. Blumberg). “Rapid Bottom Topography Mapping and Navigation in Remote and Poorly-Sampled Ocean Environments”. \$3.05 million (2006-2009)

Office of Naval Research

National Center: The Innovative Design and Control of Small Ships - \$15 million (2002-2015)

The New York Harbor Observation System - \$ 3.5 million (2003-2007)

Maritime Security - \$14 million (2003-2007)

Ice-Water Resistance Force for Ice Floes - \$141,000 (1994-1997)

Influence of Internal Waves on Sea Ice Motion - \$106,000 (1992-1995)

Research Instrumentation Grant - \$74,000 (1993-1994)

Young Investigator Award (Internal Wave Generation by Ice) - \$223,000 (1991-1994)

National Science Foundation

Pan American Advanced Studies Institute (PASI): Toward a Sustained Operational River-to-Shelf Observation & Prediction System for the Amazon - \$100,000 (2012)

Arctic Ocean Ice Movement Modeling in Support of Early Warning System - \$54,000 (1989)

U.S. Department of Education

Improvement of Post-Secondary Science Education - \$480,000 (2002-2003)

Ocean-Based Science and Mathematics Education - \$500,000 (2001-2002)

U.S. Department of Transportation

Waterfront Portion of the Center for Maritime Systems - \$1 million, 2002

U.S. Army Corps of Engineers

Impact on Shoreline of the Modification of Coastal Structures - \$60,000 (1998-2000)

Manasquan Inlet Study - \$19,000 (1996-1997)

Water Quality Modeling for the Passaic River Flood Tunnel Project - \$171,000 (1994-1996)

National Oceanic and Atmospheric Administration

Sea Grant Coastal Specialist - \$150,000 (1999-2005)

Influence of Human Factors on Shoreline Changes - \$55,000 (1995-1998)

Reduction of Pollution in Marinas - \$85,000 (1994-1996)

The Impact on Water Quality of Combined Sewer Overflows - \$70,000 (1994-1995)

U.S. Coast Guard

Oil Spill Boom Behavior in Waves - \$85,000 (1993-1995)

U.S. Geological Survey

Three-Dimensional Model of Pollutant Transport - \$66,000 (1990-1993)

State of New Jersey

Coastal Protection Technical Assistance Service - \$11,500,000 (1993-2015)

New Jersey Toxics Reduction Workplan - \$580,000 (1999-2002)

Coastal Monitoring Network - \$175,000 (1997-1998)

Artificial Reef Program - \$280,000 (1994-1998)

City of New York

Circulation and Water Quality Study of Fresh Kills Landfill - \$160,000 (1990-1993)