

Nobuhisa Kobayashi

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*Center for Applied Coastal Research
Department of Civil and Environmental Engineering
University of Delaware
Newark, DE 19716
(302) 831-8044
FAX (302) 831-1228
nk@udel.edu*

*702 Springcreek Court
Newark, DE 19702-1124
(302) 453-0918*

Education

Massachusetts Institute of Technology	Ph.D.	1979	Hydrodynamics and Coastal Engineering
Kyoto University, Japan	MCE	1976	Civil Engineering
Kyoto University, Japan	BCE	1974	Civil Engineering

Professional Experience

September 1991 – Present: Professor, Department of Civil and Environmental Engineering, University of Delaware. Director (during 2001-2017) and Associate Director (during 1989-2001) of Center for Applied Coastal Research. Joint Appointment in Physical Ocean Science and Engineering Program, College of Marine and Earth Studies. Research interests and teaching subjects include Coastal Engineering, Sediment Transport Mechanics, Coastal Structures, Offshore Engineering, Transport and Mixing Processes, and Hydraulic Engineering.

September 1986 - August 1991: Associate Professor, Department of Civil Engineering, University of Delaware. Joint Appointment in the College of Marine Studies. Visiting Lecturer at Ogata Wave Observatory, Disaster Prevention Research Institute, Kyoto University, Japan during 1988-1991. Research interests and teaching subjects include Coastal Engineering, Sediment Transport Mechanics, Arctic Engineering, Offshore Engineering, Hydraulic Engineering, and Transport and Mixing Processes.

September 1981 - August 1986: Assistant Professor, Department of Civil Engineering, University of Delaware. Joint appointment in the College of Marine Studies since July

1984. Research interests and teaching subjects included Sediment Transport Mechanics, Coastal Engineering, Arctic Engineering, Hydraulic Engineering, Fluid Mechanics, Transport and Mixing Processes, and Surface Water Hydrology.

July 1979 - August 1981: Senior Consulting Engineer, Brian Watt Associates, Inc., Houston, Texas. Worked on oceanographic and ice criteria, erosion prediction, slope protection design and wave overtopping problems associated with offshore oil and gas exploration and production systems for the Arctic.

July 1978 - June 1979: Research Assistant, Ralph M. Parsons Laboratory for Water Resources and Hydrodynamics, Massachusetts Institute of Technology.

Honors

- ASCE Outstanding Reviewer 2013 in recognition of outstanding service as a reviewer for the Journal of Waterway, Port, Coastal and Ocean Engineering, American Society of Civil Engineers awarded in 2014.
- 2013 Honorary Certificate for Dedication to Teaching and High Contributions to Research and Technical Applications in the Field of Coastal and Ports Engineering awarded in the 6th International Short Course and Conference on Applied Coastal Research in Portugal.
- 2010 International Coastal Engineering Award established by the American Society of Civil Engineers in 1977.
- U.S. Army Corps of Engineer's Certificate of Appreciation for Patriotic Civilian Service for the Interagency Performance Evaluation Task Force following the aftermath of Hurricanes Katrina and Rita awarded in August, 2007
- First Visiting Distinguished Researcher of Port and Airport Research Institute, Japan since April, 2005.
- 2003 John G. Moffatt – Frank E. Nichol Harbor and Coastal Engineering Award established by the American Society of Civil Engineers in 1977
- Fellowship, Japan Society for the Promotion of Science in January 2001

Professional Activities

Membership in Professional Societies

Founding Member of the Coasts, Oceans, Ports and Rivers Institute, ASCE since 2000

Honorary Member of the Coastal Education and Research Foundation since 2001

Member of American Society of Civil Engineers

Professional Society Involvement

- Invited lecturer of 10-th International Short Course and Conference on Applied Coastal Research in Istanbul, Turkey in September 2023.
- Invited lecturer of 9-th International Short Course and Conference on Applied Coastal Research in Bari, Italy in September 2019
- One of four Editors in Chief, Journal of Coastal and Offshore Science and Engineering since September 2021.
- Chair of 36th International Conference on Coastal Engineering in Baltimore in 2018.
- Invited speaker of 35th International Conference on Coastal Engineering in Antalya, Turkey in November, 2016.
- External advisory committee member for Ph.D. program on coastal hydraulics, environmental hydraulics and hydrology involving 30 Ph.D. students in three institutions in Portugal and Switzerland during 2014 - 2022.
- Invited lecturer of 37th Ocean Engineering Conference in Taiwan in November 2015.
- Invited lecturer of 7th International Short Course and Conference on Applied Coastal Research held in Florence, Italy in September, 2015.
- Invited lecturer of 36th Ocean Engineering Conference in Taiwan in December 2014.
- Invited lecturer of 8th National Coastal Engineering symposium in Turkey in November 2014.
- Invited lecturer of 6th International Short Course and Conference on Applied Coastal Research held in Lisbon, Portugal in June 2013.
- Invited Keynote speaker of 35th Ocean Engineering Conference in Taiwan in November 2013.
- Invited Keynote speaker of 34th Ocean Engineering Conference in Taiwan in November 2012.
- COPRI Liaison to ASCE International Activities Committee (2012-2014).
- Invited Keynote speaker of 23rd Conference of Korean Society of Coastal and Ocean Engineers in May 2012.
- Co-Chair of Coastal Structures 2011 Conference in Japan.
- Invited speaker of 20th Anniversary Conference of Korean Society of Coastal and Ocean Engineers in November, 2009.
- Invited lecturer of 3rd International Short Conference on Applied Coastal Research held in Lecce, Italy in June, 2008.
- Invited speaker of 4th International Workshop on Coastal Disaster Prevention held in Yokohama, Japan in December, 2007.
- Chair of Coastal Structures Committee of Coasts, Oceans, Ports and Rivers Institute, ASCE during 2007 – 2015.
- Member of International Scientific Advisory Committee of Coastlab Conferences during 2006 – 2019.
- Associate Editor of Journal of Coastal Research since 2000.
- Co-Chair of Coastal Structures'07 Conference held in Venice, Italy in 2007.
- Invited lecturer of 2nd International Short Course and Workshop on Coastal Processes and Port Engineering held in Cosenza, Italy in June, 2006.

- Invited speaker of 2nd International Workshop on Coastal Disaster Prevention held in Tokyo, Japan in January 2006.
- Invited speaker of Japan-US Joint Seminar on Future Direction on Coastal Engineering at Port and Airport Research Institute, Japan in December, 2004.
- Co-Chair of Coastal Structures'03 Conference held in Portland, Oregon in August, 2003.
- Member of Awards Committee, Coasts, Oceans, Ports and Rivers Institute, ASCE (2002-2003) .
- Panel Reviewer of NSF CAREER Program for Fluid Dynamics and Hydraulics (October, 2001)
- Member of Waterway, Port, Coastal and Ocean Engineering Division Executive Committee, ASCE (1995-1999; Chair during 1997-1998).
- Member, Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE (1982-1999; Editor during 1992-1994).
- Member of Editorial Board of Journal of Coastal Research (1987-2000).
- Member of Coastal Engineering Research Council, ASCE (1995-1999).
- Member of Task Committee for Formation of Coasts, Oceans, Ports and Rivers Institute, ASCE (1999-2000).
- Member of Task Committee on Products, Services and Marketing for Formation of Environmental and Water Resources Institute, ASCE (1997-1998).
- Member of Awards Committee, Waterway, Port, Coastal and Ocean Engineering Division, ASCE (1996-1999).
- Co-Chair of Coastal Structures'99 Conference held in Spain in June 1999.
- Member of International Scientific Advisory Group for Conferences on Coastlines, Structures and Breakwaters, Institution of Civil Engineers, U.K. (1996-1998).
- Co-Chair of Task Committee on Forces on Inclined and Vertical Wall Structures, ASCE (1993-1995).
- Co-Chair of International Workshop on Coastal Hydrodynamics, Sediments, and Structures held at Pusan, Korea (November 1994).
- Member of Waves and Wave Forces Committee, ASCE (1987-1997).
- Member of Tidal Hydraulics Committee, ASCE (1984-1991; Chairman, 1986).
- Chairman of Task Committee on Sea Level Rise and Its Effects on Bays and Estuaries, ASCE (1987-1990).
- Member, Task Committee on Microcomputer Applications, ASCE (1988-1990).
- Reviewer of Journal of Hydraulic Engineering, ASCE, Journal of Geophysical Research, AGU, Journal of Fluid Mechanics, Journal of Coastal Engineering, Journal of Ocean Engineering, Journal of Cold Regions Science and Technology, Journal of Fluids and Structures, Continental Shelf Research, Marine Technology Society Journal, International Journal for Numerical Methods in Fluids, Journal of Engineering for the Maritime Environment, Journal of Ocean Engineering International, Coastal Engineering Journal, Measurement Science and Technology, Journal of Applied Ocean Research, Journal of Hydraulic Research, Journal of Offshore Mechanics and Arctic Engineering, KSCE Journal of Civil Engineering, National Science Foundation's Proposals, and National Sea Grant

- Program's Proposals, Marine Geology, Geomorphology, Geophysical Research Letter.
- Panel Reviewer of NSF Research Initiation Grants for Hydraulics, Hydrology and Water Resources Program (February 1985).
 - Organizer of Workshop on Rational Design of Mound Structures held at University of Delaware (March 1989); Co- Editor of Special Issue on Rational Design of Mound Structures published by Journal of Coastal Research in 1990.

Current Departmental Service

- Awards Committee
- Graduate Committee

Consulting

- Brian Watt Associates, Inc., Houston, Texas (October 1981 – December 1981)
- Sohio Construction Company, San Francisco, California (July 1982 – December 1982)
- Ralph M. Parsons Company, Pasadena, California (November 1985-December 1985)
- Coastal and Offshore Engineering and Research, Inc., Newark, Delaware (November 1985-March 1986)
- U.S. Environmental Protection Agency and Exxon Engineering and Research Company (June 1989)
- Rummel, Klepper & Kahl Consulting Engineers, Baltimore, (December 1992-April 1993)
- CTI Engineering Co., Ltd., Japan (November 1993-April 1994)
- W. F. Baird & Associates, Canada (December 1993-September 1995)
- Moffatt & Nichol Engineers, Baltimore (July 1995 – October 1995)
- Coastal and Hydraulic Laboratory, USAE Waterways Experiment Station (January 1998 – February 1998)
- Han-Padron Associates, New York (July 1999)
- Earth Tech, Milwaukee (October 2000)
- Duffield Associates, Wilmington (October 2001)
- Nishimatsu Construction Company, Japan (1989-2003)
- Delaware Department of Transportation (March 2004)
- Duffield Associates, Wilmington (June-November 2004)
- URS Corporation, Boca Raton, Florida (October 2004)
- U.S. Department of Justice (November-December 2010)
- Tainan Hydraulics Laboratory, Taiwan (2013-2017)
- Catholic Kwandong University, Korea (2013-2018)
- FUDO TETRA Corporation, Japan (1991-present)
- Alpha Hydraulic Engineering Consultant Co., Ltd., Japan (2006-present)

Publications

Editors of Book

1. Kobayashi, N. and Losada, M.A. (1990), Rational Design of Mound Structures, Special Issue No. 7, Journal of Coastal Research.
2. Kobayashi, N. and Demirbilek, Z. (1995), Wave Forces on Inclined and Vertical Wall Structures, American Society of Civil Engineers.
3. Takahashi, S., Isobe, M., Kobayashi, N. and Shimosako, K. (2013), Coastal Structures 2011, Volumes 1 and 2, World Scientific, Singapore.

Chapters in Books

1. Dexter, S.C., Dalrymple, R.A. and Kobayashi, N. (1988), "The Marine Environment," Materials for Marine Systems and Structures, edited by Hasson, D.F. and Crowe, C.R., Academic Press, 35-87.
2. Kobayashi, N. and Reimnitz, E. (1988), "Thermal and Mechanical Erosion of Slopes and Beaches," Arctic Coastal Processes and Slope Protection Design, edited by Chen, A. and Leidersdorf, C., ASCE, 46-62.
3. Kobayashi, N. (1995), "Numerical Models for Design of Inclined Structures," Wave Forces on Inclined and Vertical Wall Structures, edited by Kobayashi, N. and Demirbilek, Z., ASCE, 118-139.
4. Kobayashi, N. (1999), "Wave Runup and Overtopping on Beaches and Coastal Structures," Advances in Coastal and Ocean Engineering, World Scientific, 5, 95-154.
5. Kobayashi, N. (2003), "Numerical Modeling as a Design Tool for Coastal Structures," Advances in Coastal Structure Design, ASCE, 80-96.
6. Yamada, F., Kobayashi, N., and Kakinoki, T. (2006). "Quadratic Profile Approach for Morphological Changes on Intertidal Mudflat," Estuarine and Coastal Fine Sediment Dynamics, Elsevier, 385-405.
7. Kobayashi, N. (2009). "Efficient Wave and Current Models for Coastal Structures and Sediments," Nonlinear Wave Dynamics, edited by Lynett, P., World Scientific, 67-87.
8. Kobayashi, N., Payo, A., and Johnson, B.D. (2009). "Suspended Sand and Bedload Transport on Beaches." Handbook of Coastal and Ocean Engineering, World Scientific, Singapore, Chapter 28, 807-823.
9. Kobayashi, N., Payo, A., and Johnson, B.D. (2018). "Suspended Sand and Bedload Transport on Beaches." Chapter 41, Handbook of Coastal and Ocean Engineering, Expanded Edition, World Scientific, Volume II.

Articles in Professional Magazine

1. Kobayashi, N. (1993), "By Waves and Currents," July issue of Science Asahi, 67.
2. Kobayashi, N. (2014), "Disaster Mitigation Measures after Hurricane Katrina," Kowan, Ports and Harbors Association of Japan, Vol. 91, 22-23.

Refereed Journal Publications

1. Iwasa, Y. and Kobayashi, N. (1978), "Statistical Laws and Indices of Topological Structure of Channel Networks by Means of Magnitude Theory," *Journal of Japan Society of Civil Engineers*, 273, 35-46 (in Japanese).
2. Iwasa, Y. and Kobayashi, N. (1978), "Statistical Laws of Geomorphology of Drainage Basins Based on Magnitude and Their Relationship with Stream Order Theory," *Journal of Japan Society of Civil Engineers*, 273, 47-58 (in Japanese).
3. Kobayashi, N. (1982), "Sediment Transport on a Gentle Slope due to Waves," *Journal of Waterway, Port, Coastal and Ocean Division, ASCE*, 108(3), 254-271.
4. Kobayashi, N. and Reece, A.M. (1983), "Irregular Wave Overtopping on Gravel Islands," *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*, 109(4), 429-444. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1983\)109:4\(429\)](https://doi.org/10.1061/(ASCE)0733-950X(1983)109:4(429))
5. Kobayashi, N. (1985), Closure to "Irregular Wave Overtopping on Gravel Islands," *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*, 111(1), 147-150. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1985\)111:1\(147\)](https://doi.org/10.1061/(ASCE)0733-950X(1985)111:1(147))
6. Kobayashi, N. and Jacobs, B.K. (1985), "Riprap Stability Under Wave Action," *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*, 111(3), 552-566. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1985\)111:3\(552\)](https://doi.org/10.1061/(ASCE)0733-950X(1985)111:3(552))
7. Kobayashi, N. and Jacobs, B.K. (1985), "Stability of Armor Units on Composite Slope," *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*, 111(5), 880-894. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1985\)111:5\(880\)](https://doi.org/10.1061/(ASCE)0733-950X(1985)111:5(880))
8. Kobayashi, N. and Seo, S.N. (1985), "Fluid and Sediment Interaction Over a Plane Bed," *Journal of Hydraulic Engineering, ASCE*, 111(6), 903-921.
9. Kobayashi, N. and Madsen, O.S. (1985), "Turbulent Flows Over a Wavy Bed," *Journal of Geophysical Research*, 90(C4), 7323-7331.
10. Kobayashi, N. and Madsen, O.S. (1985), "Formation of Ripples in Erodible Channels," *Journal of Geophysical Research*, 90(C4), 7332-7340.
11. Kobayashi, N. (1985), "Formation of Thermoerosional Niches into Frozen Bluffs due to Storm Surges on the Beaufort Sea Coast," *Journal of Geophysical Research*, 90(C6), 11983-11988.
12. Kobayashi, N. and Aktan, D. (1986), "Thermoerosion of Frozen Sediment Under Wave Action," *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*, 112(1), 140-158. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1986\)112:1\(140\)](https://doi.org/10.1061/(ASCE)0733-950X(1986)112:1(140))
13. Kobayashi, N. (1986), Closure to "Riprap Stability Under Wave Action," *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*, 112(6), 673-681. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1986\)112:6\(673\)](https://doi.org/10.1061/(ASCE)0733-950X(1986)112:6(673))
14. Kobayashi, N. and Otta, A.K. (1987), "Hydraulic Stability Analysis of Armor Units," *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*, 113(2), 171-186. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1987\)113:2\(171\)](https://doi.org/10.1061/(ASCE)0733-950X(1987)113:2(171))
15. Kobayashi, N., Otta, A.K. and Roy, I. (1987), "Wave Reflection and Runup on Rough Slopes," *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*, 113(3), 282-298. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1987\)113:3\(282\)](https://doi.org/10.1061/(ASCE)0733-950X(1987)113:3(282))

16. Kobayashi, N. (1987), Closure to “Stability of Armor Units on Composite Slope,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 113(3), 305-307. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1987\)113:3\(305\)](https://doi.org/10.1061/(ASCE)0733-950X(1987)113:3(305))
17. Kobayashi, N. (1987), “Analytical Solution for Dune Erosion by Storms,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 113(4), 401-418. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1987\)113:4\(401\)](https://doi.org/10.1061/(ASCE)0733-950X(1987)113:4(401))
18. Kobayashi, N. and Frankenstein, S. (1987), “Wave Drift Force on Ice Floe,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 113(5), 476-492. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1987\)113:5\(476\)](https://doi.org/10.1061/(ASCE)0733-950X(1987)113:5(476))
19. Kobayashi, N. and Greenwald, J.H. (1988), “Waterline Oscillation and Riprap Movement,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 114(3), 281-296. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1988\)114:3\(281\)](https://doi.org/10.1061/(ASCE)0733-950X(1988)114:3(281))
20. Kobayashi, N. and Han, K. S. (1988), “Erosion at Bend of Gravel Causeway due to Waves,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 114(3), 297-314. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1988\)114:3\(297\)](https://doi.org/10.1061/(ASCE)0733-950X(1988)114:3(297))
21. Kobayashi, N. (1988), Closure to “Hydraulic Stability Analysis of Armor Units,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 114(3), 396-399. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1988\)114:3\(396\)](https://doi.org/10.1061/(ASCE)0733-950X(1988)114:3(396))
22. Kobayashi, N. (1988), “Review of Wave Transformation and Cross-Shore Sediment Transport Processes in Surf Zones,” *Journal of Coastal Research*, 4(3), 435-445.
23. Kobayashi, N. (1989), Closure to “Wave Reflection and Run-up on Rough Slopes,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 115(1), 143-148. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1989\)115:1\(143\)](https://doi.org/10.1061/(ASCE)0733-950X(1989)115:1(143))
24. Kobayashi, N., DeSilva, G.S. and Watson, K.D. (1989), “Wave Transformation and Swash Oscillation on Gentle and Steep Slopes,” *Journal of Geophysical Research*, 94(C1), 951-966.
25. Kobayashi, N. and Wurjanto, A. (1989), “Wave Overtopping on Coastal Structures,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 115(2), 235-251. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1989\)115:2\(235\)](https://doi.org/10.1061/(ASCE)0733-950X(1989)115:2(235))
26. Kobayashi, N. and Wurjanto, A. (1989). “Wave Transmission Over Submerged Breakwaters,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 115(5), 662-680. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1989\)115:5\(662\)](https://doi.org/10.1061/(ASCE)0733-950X(1989)115:5(662))
27. Kobayashi, N. (1989), Closure to “Erosion at Bend of Gravel Causeway due to Waves,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 115(5), 724-725. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1989\)115:5\(722\)](https://doi.org/10.1061/(ASCE)0733-950X(1989)115:5(722))
28. Kobayashi, N. and Wurjanto, A. (1990), “Numerical Model for Waves on Rough Permeable Slopes,” *Special Issue No. 7 on Rational Design of Mound Structures*, *Journal of Coastal Research*, 149-166.
29. Kobayashi, N., Wurjanto, A. and Cox, D. T. (1990), “Irregular Waves on Rough Permeable Slopes,” *Special Issue No. 7 on Rational Design of Mound Structures*, *Journal of Coastal Research*, 167-184.
30. Sakai, S. and Kobayashi, N. (1990), “Breaking Condition of Shoaling Waves on Opposing Current,” *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 116(2), 302-306. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1990\)116:2\(302\)](https://doi.org/10.1061/(ASCE)0733-950X(1990)116:2(302))

31. Kobayashi, N., Cox, D. T. and Wurjanto, A. (1990), "Irregular Wave Reflection and Runup on Rough Impermeable Slopes," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 116(6), 708-726.
[https://doi.org/10.1061/\(ASCE\)0733-950X\(1990\)116:6\(708\)](https://doi.org/10.1061/(ASCE)0733-950X(1990)116:6(708))
32. Kobayashi, N., Cox, D. T. and Wurjanto, A. (1991), "Permeability Effects on Irregular Wave Runup and Reflection," *Journal of Coastal Research*, 7(1), 127-136.
33. ASCE Task Committee on Sea Level Rise and Its Effects on Bays and Estuaries (1992), "Effects of Sea Level Rise on Bays and Estuaries," *Journal of Hydraulic Engineering*, ASCE, 118(1), 1-10 (Chair of this Task Committee).
34. Losada, M.A., Kobayashi, N. and Martin, F.L. (1992), "Armor Stability on Submerged Breakwaters," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 118(2), 207-212. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1992\)118:2\(207\)](https://doi.org/10.1061/(ASCE)0733-950X(1992)118:2(207))
35. Kobayashi, N. and Wurjanto, A. (1992), "Irregular Wave Setup and Run-up on Beaches," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 118(4), 368-386. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1992\)118:4\(368\)](https://doi.org/10.1061/(ASCE)0733-950X(1992)118:4(368))
36. Kobayashi, N., Raichle, A.W. and Asano, T. (1993), "Wave Attenuation by Vegetation," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 119(1), 30-48. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1993\)119:1\(30\)](https://doi.org/10.1061/(ASCE)0733-950X(1993)119:1(30))
37. Kobayashi, N. (1993), Closure to "Effects of Sea Level Rise on Bays and Estuaries," *Journal of Hydraulic Engineering*, ASCE, 119(5), 660.
38. Wurjanto, A. and Kobayashi, N. (1993), "Irregular Wave Reflection and Run-up on Permeable Slopes," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 119(5), 537-557. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1993\)119:5\(537\)](https://doi.org/10.1061/(ASCE)0733-950X(1993)119:5(537))
39. Mase, H. and Kobayashi, N. (1993), "Low-Frequency Swash Oscillation," *Journal of Japan Society of Civil Engineers*, 461(II-22), 49-57.
40. Bruun, P., Gravesen, H., Kobayashi, N. and Losada, M. (1993), "Discussion of Aspects of Report by Working Group 12 of PTC II of PIANC published as Supplement to Bulletin 78/79, Analysis of Rubble Mound Breakwaters," *Permanent International Association of Navigation Congress, Bulletin No. 81*, 61-67.
41. Kobayashi, N. and Raichle, A.W. (1994), "Irregular Wave Overtopping of Revetments in Surf Zones," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 120(1), 56-73. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1994\)120:1\(56\)](https://doi.org/10.1061/(ASCE)0733-950X(1994)120:1(56))
42. Kobayashi, N. and Karjadi, E.A. (1994), "Surf-Similarity Parameter for Breaking-Solitary Wave Runup," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 120(6), 645-650. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1994\)120:6\(645\)](https://doi.org/10.1061/(ASCE)0733-950X(1994)120:6(645))
43. Raubenheimer, B., Guza, R.T., Elgar, S. and Kobayashi, N. (1995), "Swash on a Gently Sloping Beach," *Journal of Geophysical Research*, 100(C5), 8751-8760.
44. Kobayashi, N., Tega, Y. and Hancock, M.W. (1996), "Wave Reflection and Overwash of Dunes," *Journal of Waterway, Port, Coastal and Ocean Engineering*,

- ASCE, 122(3), 150-153. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1996\)122:3\(150\)](https://doi.org/10.1061/(ASCE)0733-950X(1996)122:3(150))
45. Cox, D.T., Kobayashi, N. and Okayasu, A. (1996), "Bottom Shear Stress in the Surf Zone," *Journal of Geophysical Research*, 101(C6), 14337-14348.
 46. Kobayashi, N. and Karjadi, E.A. (1996), "Obliquely Incident Irregular Waves in Surf and Swash Zones," *Journal of Geophysical Research*, 101(C3), 6527-6542.
 47. Kobayashi, N., Karjadi, E.A. and Johnson, B.D. (1997), "**Dispersion Effects on Longshore Currents in Surf Zones**," *Journal of Waterway, Port, Coastal and OCEAN Engineering*, ASCE, 123(5), 240-248.
[https://doi.org/10.1061/\(ASCE\)0733-950X\(1997\)123:5\(240\)](https://doi.org/10.1061/(ASCE)0733-950X(1997)123:5(240))
 48. Baquerizo, A., Losada, M.A., Smith, J.K. and Kobayashi, N. (1997), "Cross-Shore Variation of Wave Reflection from Beaches," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 123(5), 274-279.
[https://doi.org/10.1061/\(ASCE\)0733-950X\(1997\)123:5\(274\)](https://doi.org/10.1061/(ASCE)0733-950X(1997)123:5(274))
 49. Cox, D.T. and Kobayashi, N. (1997), "A Kinematic Undertow Model with a Logarithmic Boundary Layer," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 123(6), 354-360. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1997\)123:6\(354\)](https://doi.org/10.1061/(ASCE)0733-950X(1997)123:6(354))
 50. Kang, H.Y., Kobayashi, N. and Ryu, C.R. (1997), "Tide, Swash Infiltration and Groundwater Behavior," *Korean Journal of Ocean Engineering and Technology*, 11(3), 153-162.
 51. Kobayashi, N., Herrman, M.N., Johnson, B.D. and Orzech, M.D. (1998). "Probabilistic Distribution of Surface Elevation in Surf and Swash Zones," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 124(3), 99-107. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1998\)124:3\(99\)](https://doi.org/10.1061/(ASCE)0733-950X(1998)124:3(99))
 52. Cox, D.T. and Kobayashi, N. (1998), "Application of a Undertow Model to Irregular Waves on Plane and Barred Beaches," *Journal of Coastal Research*, 14(4), 1314-1324.
 53. Melby, J.A. and Kobayashi, N. (1998). "Progression and Variability of Damage on Rubble Mound Breakwaters." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 124(6), 286-294. [https://doi.org/10.1061/\(ASCE\)0733-950X\(1998\)124:6\(286\)](https://doi.org/10.1061/(ASCE)0733-950X(1998)124:6(286))
 54. Kobayashi, N., Vidrine, J.C., Nairn, R.B. and Solomon, S.M. (1999), "Erosion of Frozen Cliffs due to Storm Surge on Beaufort Sea Coast," *Journal of Coastal Research*, 15(2), 332-344.
 55. Kobayashi, N. (1999). "Numerical Modeling of Wave Runup on Coastal Structures and Beaches," *Marine Technology Society Journal*, 33(3), 33-37.
 56. Kobayashi, N., Tomasicchio, G.R. and Brunone, B. (2000). "Partial Standing Waves on a Steep Slope," *Journal of Coastal Research*, 16(2), 379-384.
 57. Cox, D.T. and Kobayashi, N. (2000). "Identification of Intense, Intermittent Coherent Motions under Shoaling and Breaking Waves." *Journal of Geophysical Research*, 105(C6), 14223-14236.
 58. Melby, J.A. and Kobayashi, N. (2000). Closure to "Progression and Variability of Damage on Rubble Mound Breakwaters." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 126(5), 270-272.
[https://doi.org/10.1061/\(ASCE\)0733-950X\(2000\)126:5\(268\)](https://doi.org/10.1061/(ASCE)0733-950X(2000)126:5(268))

59. Kobayashi, N. and Karjadi, E.A. (2001). "Obliquely Incident Wave Reflection and Runup on Steep Rough Slope," *Journal of Coastal Research*, 17(4), 919-930.
60. Kobayashi, N. and Johnson, B.D. (2001). "Sand Suspension, Storage, Advection and Settling in Surf and Swash Zones," *Journal of Geophysical Research*, 106(C5), 9363-9376.
61. Kobayashi, N. and Tega, Y. (2002). "Sand Suspension and Transport on Equilibrium Beach," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 128(6), 238-248. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2002\)128:6\(238\)](https://doi.org/10.1061/(ASCE)0733-950X(2002)128:6(238))
62. Kobayashi, N., Pozueta, B. and Melby, J.A. (2003). "Performance of Coastal Structures against Sequences of Hurricanes," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 129(5), 219-228. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2003\)129:5\(219\)](https://doi.org/10.1061/(ASCE)0733-950X(2003)129:5(219))
63. Yamada, F. and Kobayashi, N. (2004). "Annual Variations of Tide Level and Mudflat Profile," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 130(3), 119-126. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2004\)130:3\(119\)](https://doi.org/10.1061/(ASCE)0733-950X(2004)130:3(119))
64. Kobayashi, N. and Lawrence, A.R. (2004). "Cross-shore Sediment Transport under Breaking Solitary Waves," *Journal of Geophysical Research*, 109, C03047, doi:10.1029/2003JC002084.
65. Fukumoto, T. and Kobayashi, N. (2005). "Bottom Stratification and Water Exchange in Enclosed Bay with Narrow Entrance," *Journal of Coastal Research*, 21(1), 135-145.
66. Kobayashi, N., Zhao, H. and Tega, Y. (2005). "Suspended Sand Transport in Surf Zones," *Journal of Geophysical Research*, 110, C12009, doi:10.1029/2004JC002853.
67. de los Santos, F.J., Kobayashi, N., Meigs, L.E. and Losada, M.A. (2005). "Irregular Wave Runup and Setup on Porous Structures," *Journal Ingenieria Civil*, 140, 75-83 (in Spanish).
68. Kobayashi, N., Meigs, L.E., Ota, T. and Melby, J.A. (2007). "Irregular Breaking Wave Transmission over Submerged Porous Breakwaters," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 133(2), 104-116. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2007\)133:2\(104\)](https://doi.org/10.1061/(ASCE)0733-950X(2007)133:2(104))
69. Kobayashi, N., Agarwal, A. and Johnson, B.D. (2007). "Longshore Current and Sediment Transport on Beaches," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 133(4), 296-304. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2007\)133:4\(296\)](https://doi.org/10.1061/(ASCE)0733-950X(2007)133:4(296))
70. Yamada, F. and Kobayashi, N. (2007). "Intertidal Multiple Sand Bars in a Low-Energy Environment," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 133(5), 343-351. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2007\)133:5\(343\)](https://doi.org/10.1061/(ASCE)0733-950X(2007)133:5(343))
71. Kobayashi, N. and de los Santos, F.J. (2007). "Irregular Wave Seepage and Overtopping of Permeable Slopes," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 133(4), 245-254. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2007\)133:4\(245\)](https://doi.org/10.1061/(ASCE)0733-950X(2007)133:4(245))

72. Puleo, J.A., Farhadzadeh, A. and Kobayashi, N. (2007). "Numerical Simulation of Swash Zone Fluid Accelerations," *Journal of Geophysical Research*, 112, C07007, doi:10.1029/2006JC004084.
73. Kobayashi, N., de los Santos, F.J. and Kearney, P.G. (2008). "Time-Averaged Probabilistic Model for Irregular Wave Runup on Permeable Slopes," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 134(2), 88-96. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2008\)134:2\(88\)](https://doi.org/10.1061/(ASCE)0733-950X(2008)134:2(88))
74. Kobayashi, N., Payo, A., and Schmied, L. (2008). "Cross-Shore Suspended Sand and Bedload Transport on Beaches," *Journal of Geophysical Research*, 113, C07001, doi:10.1029/2007JC004203.
75. Figlus, J. and Kobayashi, N. (2008). "Inverse Estimation of Sand Transport Rates on Nourished Delaware Beaches," *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 134(4), 218-225. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2008\)134:4\(218\)](https://doi.org/10.1061/(ASCE)0733-950X(2008)134:4(218))
76. Payo, A., Kobayashi, N., Muñoz-Pérez, J. and Yamada, F. (2008). "Scarping Predictability of Sandy Beach under Laboratory Conditions." *Journal Ciencias Marinas*, 34(1), 1-11 (in English and Spanish).
77. Yamada, F., Kobayashi, N., Sakanishi, Y. and Tamaki, A. (2009). "Phase Averaged Suspended Sediment Fluxes on Estuarine Intertidal Mudflat." *Journal of Coastal Research*, 25(2), 350-358.
78. Kobayashi, N., Buck, M., Payo, A. and Johnson, B.D. (2009). "Berm and Dune Erosion during a Storm." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 135(1), 1-10. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2009\)135:1\(1\)](https://doi.org/10.1061/(ASCE)0733-950X(2009)135:1(1))
79. Payo, A., Kobayashi, N. and Yamada, F. (2009). "Suspended Sand Transport along Pier Depression." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 135(5), 245-249. [https://doi.org/10.1061/\(ASCE\)0733-950X\(2009\)135:5\(245\)](https://doi.org/10.1061/(ASCE)0733-950X(2009)135:5(245))
80. Kobayashi, N., Farhadzadeh, A., Melby, J., Johnson, B. and Gravens, M. (2010). "Wave Overtopping of Levees and Overwash of Dunes." *Journal of Coastal Research*, 26(5), 888-900.
81. Kobayashi, N., Farhadzadeh, A. and Melby, J.A. (2010). "Wave Overtopping and Damage Progression of Stone Armor Layer." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 136(5), 257-265. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000047](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000047)
82. Kim, K., Seo, H., and Kobayashi, N. (2011). "Field Assessment of Seawater Exchange Breakwater." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 137(3),146-149. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000058](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000058)
83. Melby, J.A. and Kobayashi, N. (2011). "Stone Armor Damage Initiation and Progression Based on Maximum Wave Momentum Flux." *Journal of Coastal Research*, 27(1), 110-119.
84. Figlus, J., Kobayashi, N., Gralher, C. and Iranzo, V. (2011). "Wave Overtopping and Overwash of Dunes." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 137(1), 26-33. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000060](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000060)

85. Kobayashi, N., Hicks, B.S. and Figlus, J. (2011). "Evolution of Gravel Beach Profiles." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 137(5), 258-262. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000085](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000085)
86. Kim, K.-H., Yoo, H.-Y. and Kobayashi, N. (2011). "Mitigation of Beach Erosion after Coastal Road Construction." *Journal of Coastal Research*, 27(4), 645-651.
87. Lee, I., Park, S., Ryu, S. and Kobayashi, N. (2011). "Ecological Restoration Index for Evaluation of Artificial Salt Marsh." *Journal of Coastal Research*, 27(5), 959-965.
88. Farhadzadeh, A., Kobayashi, N. and Gravens, M.B. (2012). "Effects of Breaking Waves and External Current on Longshore Sediment Transport." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 138(3), 256-260. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000123](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000123)
89. Figlus, J., Kobayashi, N. and Gralher, C. (2012). "Onshore Migration of Emerged Ridge and Pondered Runnel." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 138(5), 331-338. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000139](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000139)
90. Yamada, F., Kobayashi, N., Shirakawa, Y., Watabe, Y., Sassa, S. and Tamaki, A. (2012). "Effects of Tide and River Discharge on Mud Transport on Intertidal Flat." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 138(2), 172-180. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000108](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000108)
91. Saitoh, T. and Kobayashi, N. (2012). "Wave Transformation and Sediment Transport on Sloping Beach in Front of Vertical Wall." *Journal of Coastal Research*, 28(2), 354-359.
92. Kobayashi, N. and Jung, H. (2012). "Beach Erosion and Recovery." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 138(6), 473-483.
93. López, M., Iglesias, G. and Kobayashi, N. (2012). "Long Period Oscillations and Tide Level in the Port of Ferrol." *Journal of Applied Ocean Research*, 38, 126-134.
94. Kobayashi, N., Pietropaolo, J.A. and Melby, J.A. (2013). "Wave Transformation and Runup on Dikes and Gentle Slopes." *Journal of Coastal Research*, 29(3), 615-623.
95. Kobayashi, N., Pietropaolo, J. and Melby, J.A. (2013). "Deformation of Reef Breakwaters and Wave Transmission." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 139(4), 336-340. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000180](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000180)
96. Kobayashi, N., Gralher, C. and Do, K. (2013). "Effects of Woody Plants on Dune Erosion and Overwash." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 139(6), 466-472. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000200](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000200)
97. Do, K., Kobayashi, N. and Suh, K.-D. (2014). "Erosion of Nourished Bethany Beach in Delaware, USA." *Coastal Engineering Journal*, 56(1), 1450004, 1-17.
98. Ayat, B. and Kobayashi, N. (2015). "Vertical Cylinder Density and Toppling Effects on Dune Erosion and Overwash." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 141(1), 04014026, 1-10. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000264](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000264)

99. Kobayashi, N. and Weitzner, H. (2015). "Erosion of Seaward Dike Slope by Wave Action." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 141(2), 04014034, 1-7. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000271](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000271)
100. Garcia, R. and Kobayashi, N. (2015). "Trunk and Head Damage of Low-Crested Breakwater." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 141(2), 04014037, 1-8. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000276](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000276)
101. Quan, R. and Kobayashi, N. (2015). "Pile Fence to Reduce Wave Overtopping and Overwash of Dunes." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 141(6), 04015005, 1-10. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000308](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000308)
102. Do, K., Kobayashi, N., Suh, K.-D. and Jin, J.-Y. (2016). "Wave Transformation and Sand Transport on a Macro Tidal Pocket Beach." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 142(1), 04015009, 1-8. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000309](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000309)
103. Kobayashi, N. (2016). "Coastal Sediment Transport Modeling for Engineering Applications." *Journal of Waterway, Port, Coastal, and Ocean Engineering*, ASCE, 142(6), 1-23. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000347](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000347)
104. Chávez Cárdenas, X. and Kobayashi, N. (2017). "Movement of Wooden Blocks on Ground and Pilings in Swash Zone." *Journal of Coastal Research*, SI(77), 7-18.
105. Chávez Cárdenas, X. and Kobayashi, N. (2017). "Cross-shore Damage Variation of Wooden Blocks in Swash Zone on Sand Beach." *Coastal Engineering Journal*, 59(1), 1750001, 1-22.
106. Kobayashi, N. and Zhu, T. (2017). "Bay Flooding through Tidal Inlet and by Wave Overtopping of Barrier Beach." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 143(5), 1-14. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000403](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000403)
107. Kobayashi, N. and Kim, H.D. (2017). "Rock Seawall in the Swash Zone to Reduce Wave Overtopping and Overwash of a Sand Beach." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 143(6), 1-11. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000416](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000416)
108. Kobayashi, N., Zhu, T., and Mallavarapu, S. (2018). "Equilibrium Beach Profile with Net Cross-Shore Sand Transport." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 144(6), 1-10. [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000469](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000469)
109. Lu, Y., Shi, F., Kobayashi, N., Malej, M., Zhu, T., and Feng, W. (2018). "Numerical Investigation of Excessive Surge Induced by Wave Overtopping in an Inlet-Bay System." *Coastal Engineering*, 140, 383-394.
110. Strazzella, M., Kobayashi, N. and Zhu, T. (2019). "Analysis and Prediction of Storm Water Levels in Delaware Inland Bays." *Shore & Beach*, 87(2), 1-7.
111. Yuksel, Z.T. and Kobayashi, N. (2020). "Comparison of Revetment and Sill in Reducing Shore Erosion and Wave Overtopping." *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 146(1), 1-9, [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000543](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000543).
112. Kobayashi, N. and Zhu, T. (2020). "Erosion by Wave Action of Consolidated Cohesive Bottom Containing Cohesionless Sediment." *Journal of Waterway, Port,*

113. Coastal and Ocean Engineering, 146(2), 1-8,
[https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000553](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000553).
114. Zhu, T. and Kobayashi, N. (2021). "Modeling of Soft Cliff Erosion by Oblique Breaking Waves during a Storm." *Journal of Waterway, Port, Coastal and Ocean Engineering*, 147(4),04021009,1-8.
115. Laksanalamai, L. and Kobayashi, N.(2021). "Evolution of a nourished sand beach under low wave energy in Thailand." *Shore & Beach*, 89(3),36-40.
116. Leone, E., Kobayashi, N., Francone, A., DeBartolo, S., Strafella, D., D'Alessandro, F. and Tomasicchio, G.R.(2021). "Use of nanosilica for increasing dune erosion resistance during a sea storm." *J. of Marine Science and Engineering*, 9,620,1-17.
117. Zhu, T. and Kobayashi, N. (2021). "Rock mound to reduce wave overwash and crest lowering of a sand barrier." *Coastal Engineering Journal*, 63(3),1-13.
118. Kwak, M.S. and Kobayashi, N. (2021). "Estimate of wave overtopping rate on vertical wall using FUNWAVE-TVD model." *J. of Korean Society of Coastal and Ocean Engineers*,33(6),257-264.
119. Yuksel, Z.T. and Kobayashi, N. (2022). "Numerical modeling of revetment and sill in reducing shore erosion." *Journal of Coastal and Offshore Science and Engineering*, 1(1), 8-18.
120. Wu, Y.T., Huang, K.W. and Kobayashi, N. (2022). "Runup of breaking solitary waves on rough uniform slopes." *Journal of Ocean Engineering*, 245, 110551.
121. Laksanalamai, J. and Kobayashi, N. (2022). "Performance of a nourished sand beach in the upper Gulf of Thailand." *Journal of Coastal and Offshore Science and Engineering*, 1(2), 46-54.
122. Miranda, P.S. and Kobayashi, N. (2022). "Numerical modeling of Intertidal mudflat profile evolution under waves and currents." *Coastal Engineering Journal*, 64(3), 406-427.
123. Leone, E. and Kobayashi, N., D'Alessandro, F. and Tomasicchio, G.R. (2022). "Prediction of consolidated sand dune erosion by waves." *Journal of Coastal and Offshore Science and Engineering*. 1(2), 56-70.
124. Strazzella, M. and Kobayashi, N. (2022). "Remaining capacity of low-crested rubble mounds damaged by breaking waves in surf zone." *Journal of Waterway, Port, Coastal and Ocean Engineering*, 147(4), 04022020, 1-15.

Reviewed Abstract Publications

1. Iwasa, Y. and Kobayashi, N. (1975), "Disaster and Geomorphology of River Basins," *Proceedings of 12th Symposium on Nature, Disaster, and Science*, Tokyo, Japan (in Japanese).
2. Kobayashi, N., Vivatrat, V., Madsen, O.S. and Boaz, I.B. (1981), "Erosion Prediction for Exploration and Production Structures in the Arctic," *OTC Paper 4114*, 13th Offshore Technology Conference, 1, 459-469.
3. Kobayashi, N. (1983), "Sediment and Fluid Interaction in Open Channels," *Proceedings of the Conference on Frontiers in Hydraulic Engineering*, ASCE, Cambridge, Massachusetts.
4. Kobayashi, N. and Jacobs, B.K. (1985), "Experimental Study on Sandbag Stability and Runup," *Coastal Zone '85*, ASCE, 2, 1612-1626.

5. Huang, C.P., McGeehin, M. and Kobayashi, N. (1985), "The Removal of Hg(II) from Water by Activated Carbon as Affected by Organic Substances," Research Session, American Water Works Association Annual Conference, Washington, D.C.
6. Kobayashi, N., Roy, I. and Otta, A.K. (1986), "Numerical Simulation of Wave Runup and Armor Stability," OTC Paper 5088, 18th Offshore Technology Conference, 1, 51-56.
7. Kobayashi, N. and Frankenstein, S. (1986), "Interaction of Waves with Ice Floes," 8th International Symposium on Ice, International Association for Hydraulic Research, 1, 101-112.
8. Kobayashi, N. and Greenwald, J.H. (1986), "Prediction of Wave Runup and Riprap Stability," Proceedings of 20th Coastal Engineering Conference, ASCE, III, 1958-1971.
9. Kobayashi, N. (1987), "Sedimentation of Summit North Marina Connected to C&D Canal," Proceedings of 1987 National Conference on Hydraulic Engineering, ASCE, 384-389.
10. Kobayashi, N. and Watson, K. D. (1987) "Wave Reflection and Runup on Smooth Slopes," Proceedings of Coastal Hydrodynamics, ASCE, 548-563.
11. Kobayashi, N. and DeSilva, G. S. (1987), "Motion of Sediment Particles in Swash Zone," Proceedings of Coastal Hydrodynamics, ASCE, 715-730.
12. Kobayashi, N., Strzelecki, M. S. and Wurjanto, A. (1988), "Swash Oscillation and Resulting Sediment Movement," Proceedings of 21st Coastal Engineering Conference, ASCE, 2, 1167-1181.
13. Wurjanto, A. and Kobayashi, N. (1989), "Wave Overtopping and Transmission over Breakwaters," Proceedings of PORTS '89, ASCE, 247-256.
14. Kobayashi, N. and Wurjanto, A. (1989), "Armor Stability on Rough Permeable Slopes of Marine Structures," Proceedings of 23rd Congress of International Association for Hydraulic Research, Ottawa, Canada, C, 407-414.
15. Sakai, S., Kobayashi, N. and Koike, I. (1989), "Extension of Goda's Formula for Waves Breaking on Opposing Current in Varying Depth," Proceeding of 36th Japanese Coastal Engineering Conference, JSCE, 56-59 (in Japanese).
16. Kobayashi, N. and Wurjanto, A. (1989), "Numerical Prediction of Hydrodynamic Forces and Sliding Motion of Dolos Units," Proceedings of Stresses in Concrete Armor Units, ASCE, 355-378.
17. Kobayashi, N., Wurjanto, A. and Cox, D. T. (1990), "Rock Slopes Under Irregular Wave Attack," Proceedings of 22nd Coastal Engineering Conference, ASCE, 2, 1306-1319.
18. Cox, D.T., Kobayashi, N. and Mase, H. (1991), "Effects of Fluid Accelerations on Sediment Transport in Surf Zones," Coastal Sediments '91, ASCE, 1, 447-461.
19. Wise, R.A., Kobayashi, N. and Wurjanto, A. (1991), "Cross-Shore Sediment Transport under Irregular Waves in Surf Zones," Coastal Sediments '91, ASCE, 1, 658-673.
20. Mase, H. and Kobayashi, N. (1991), "Transformation of Random Breaking Waves and Its Empirical Numerical Model Considering Surf Beat," Coastal Sediments '91, ASCE, 1, 688-702.

21. Kaku, S., Kobayashi, N. and Ryu, C.R. (1991), "Design Formulas for Hydraulic Stability of Rock Slopes under Irregular Wave Attack," Proceedings of 38th Japanese Coastal Engineering Conference, JSCE, 661-665 (in Japanese).
22. Asano, T., Deguchi, H., Mase, H. and Kobayashi, N. (1991), "Characteristics of Waves Propagating Over Swaying Seaweed," Proceedings of 38th Japanese Coastal Engineering Conference, JSCE, 26-30 (in Japanese).
23. Kobayashi, N. and Wurjanto, A. (1992), "Irregular Wave Interaction with Permeable Slopes," Proceedings of 23rd Coastal Engineering Conference, ASCE, 2, 1299-1312.
24. Cox, D.T., Kobayashi, N. and Wurjanto, A. (1992), "Irregular Wave Transformation Processes in Surf and Swash Zones," Proceedings of 23rd Coastal Engineering Conference, ASCE, 1, 156-169.
25. Smith, W.G., Kobayashi, N. and Kaku, S. (1992), "Profile Changes of Rock Slopes by Irregular Waves," Proceedings of 23rd Coastal Engineering Conference, ASCE, 2, 1559-1572.
26. Asano, T., Deguchi, H. and Kobayashi, N. (1992), "Interaction between Water Waves and Vegetation," Proceedings of 23rd Coastal Engineering Conference, ASCE, 3, 2710-2723.
27. Raichle, A.W. and Kobayashi, N. (1993), "Irregular Wave Overtopping over Coastal Structures," Proceedings of Hilton Head International Coastal Symposium, 1, 121-126.
28. Poff, M.T. and Kobayashi, N. (1993), "Effects of Toe Depth and Slope Roughness on Wave Overtopping," Proceedings of Hilton Head International Coastal Symposium, 1, 115-120.
29. Kobayashi, N. and Raichle, A.W. (1993), "Overtopping of Irregular Wave Groups on Coastal Structures," Proceedings of 25th Congress of International Association for Hydraulic Research, Tokyo, Japan, C, 174-181.
30. Cox, D.T., Kobayashi, N. and Kriebel, D.L. (1994), "Numerical Model Verification Using SUPERTANK Data in Surf and Swash Zones," Proceedings of Coastal Dynamics '94, ASCE, 248-262.
31. Kobayashi, N. (1994), "Breakwaters in USA and Canada and Review of Composite Breakwater Design," Proceedings of International Workshop on Wave Barriers in Deep Waters, Yokosuka, Japan, 184-197.
32. Karjadi, E.A. and Kobayashi, N. (1994), "Numerical Modelling of Solitary Wave Breaking, Runup and Reflection," International Symposium on Waves - Physical and Numerical Modelling, 1, 426-435.
33. Johnson B.D., Kobayashi, N. and Watson, K.D. (1994), "Flooding of Roadway between Bays due to Storm Surge and Tide," International Symposium on Waves-Physical and Numerical Modelling, 1, 476-485.
34. Kobayashi, N. and Karjadi, E.A. (1994), "Swash Dynamics under Obliquely Incident Waves," Proceedings of 24th Coastal Engineering Conference, ASCE, 2155-2169.
35. Hancock, M.W. and Kobayashi, N. (1994), "Wave Overtopping and Sediment Transport over Dunes," Proceedings of 24th Coastal Engineering Conference, ASCE, 2028-2042.

36. Cox, D.T., Kobayashi, N. and Okayasu, A. (1994), "Vertical Variations of Fluid Velocities and Shear Stress in Surf Zones," Proceedings of 24th Coastal Engineering Conference, ASCE, 98-112.
37. Lee, D., Chun, I. and Kobayashi, N. (1994), "Circular Channel Breakwater with Sea Water Exchange Capability," Proceedings of 24th Coastal Engineering Conference, ASCE, 1373-1387.
38. Kobayashi, N. (1994), "Numerical Modelling of Breaking Waves on Coastal Structures and Beaches," Proceedings of Int'l. Workshop on Coastal Hydrodynamics, Sediments and Structures, Pusan, Korea, 1-63.
39. Cox, D.T. and Kobayashi, N. (1995), "Bottom Shear Stress and Undertow Profile Measurements under Breaking Waves," Proceedings of 1995 Fall Meeting, American Geophysical Union, F293.
40. Kobayashi, N. and Tega, Y. (1996), "Numerical Prediction of Solitary Wave Runup on Vertical Walls by Finite-Amplitude Shallow-Water Model," Long-Wave Runup Models, H. Yeh, P. Liu and C. Synolakis, eds., World Scientific, 88-115.
41. Kudale, M.D. and Kobayashi, N. (1996), "Hydraulic Stability Analysis of Leeward Slopes of Overtopped Breakwaters," Proceedings of 25th Coastal Engineering Conference, ASCE, 1721-1734.
42. Cox, D.T. and Kobayashi, N. (1996), "Undertow Profiles in the Bottom Boundary Layer under Breaking Waves," Proceedings of 25th Coastal Engineering Conference, ASCE, 3194-3206.
43. Karjadi, E.A. and Kobayashi, N. (1996), "Time-Dependent Quasi-3D Modeling of Breaking Waves on Beaches," Proceedings of 25th Coastal Engineering Conference, ASCE, 233-246.
44. Johnson, B.D., Kobayashi, N. and Cox, D.T. (1996), "Formulation and Validation of Vertically Two-Dimensional Shallow-Water Wave Model," Proceedings of 25th Coastal Engineering Conference, ASCE, 551-564.
45. Vidrine, J.C., Kobayashi, N., Solomon, S.M. and Nairn, R.B. (1996), "Thermal Mechanical Erosion Modeling of Frozen Cliffs and Beaches," Book of Abstracts, 25th Coastal Engineering Conference, ASCE, 680-681.
46. Tega, Y. and Kobayashi, N. (1996), "Wave Overwash of Subaerial Dunes," Proceedings of 25th Coastal Engineering Conference, ASCE, 4148-4160.
47. Melby, J.A. and Kobayashi, N. (1996), "Incipient Motion of Breakwater Armor Units," Proceedings of 25th Coastal Engineering Conference, ASCE, 1803-1815.
48. Togawa, F., Fujikawa, Y. and Kobayashi, N. (1996), "Field Experiment for Sand Backpassing Project," Book of Abstracts, 25th Coastal Engineering Conference, ASCE, 716-717.
49. Kobayashi, N., Orzech, M.D., Johnson, B.D. and Herrman, M.N. (1997), "Probabilistic Modeling of Surf Zone and Swash Dynamics," Proceedings of Waves'97, ASCE, 107-121.
50. Orzech, M.D. and Kobayashi, N. (1997), "Random Wave Transformation and Sediment Transport across Barred and Terraced Sand Beaches," Proceedings of 1997 Fall Meeting, American Geophysical Union.
51. Nairn, R.B., Solomon, S., Kobayashi, N. and Vidrine, J. (1997), "Development and Testing of a Thermal-Mechanical Numerical Model for Predicting Arctic Shore

- Erosion Processes," Proceedings of 7th International Conference on Permafrost, Yellow Knife, Canada, 789-796.
52. Cox, D.T. and Kobayashi, N. (1998), "Coherent Motions in the Bottom Boundary Layer under Shoaling and Breaking Waves," Proceedings of 26th Coastal Engineering Conference, ASCE, 457-470.
 53. Johnson, B.D. and Kobayashi, N. (1998), "Nonlinear Time-Averaged Model in Surf and Swash Zones," Proceedings of 26th Coastal Engineering Conference, ASCE, 2785-2798.
 54. Karjadi, E.A. and Kobayashi, N. (1998), "Breaking Waves and Induced Currents around Coastal Structures," Proceedings of 26th Coastal Engineering Conference, ASCE, 408-421.
 55. Kennedy, D.L., Cox, D.T. and Kobayashi, N. (1998), "Application of a Kinematic Undertow Model to Irregular Waves on Barred Beaches and Reflective Coastal Structures," Proceedings of 26th Coastal Engineering Conference, ASCE, 311-324.
 56. Melby, J.A. and Kobayashi, N. (1998), "Damage Progression on Breakwaters," Proceedings of 26th Coastal Engineering Conference, ASCE, 1884-1897.
 57. Mori, N. and Kobayashi, N. (1998), "Nonlinear Distribution of Nearshore Free Surface and Velocity," Proceedings of 26th Coastal Engineering Conference, ASCE, 189-202.
 58. Orzech, M.D. and Kobayashi, N. (1998), "Equilibrium Terraced and Barred Beaches," Proceedings of 26th Coastal Engineering Conference, ASCE, 2736-2749.
 59. Lopez, C., Losada, M.A. and Kobayashi, N. (1998). "Stability of Mound Breakwaters: Dependence on Wave Reflection," Proceedings of 26th Coastal Engineering Conference, ASCE, 1833-1845.
 60. Tega, Y., Kobayashi, N. and Tada, A. (1998). "Wave Field Variations due to Irregular Wave and Current Interactions," Proceedings of 45th Japanese Coastal Engineering Conference, JSCE, 36-40.
 61. Tega, Y. and Kobayashi, N. (1999). "Numerical Modelling of Overwashed Dune Profiles," Proceedings of Coastal Sediments'99, ASCE, 2, 1355-1370.
 62. Tega, Y., Kobayashi, N. and Tada, A. (1999). "Initiation of Stone Movement on Low Rubble Mounds due to Combined Waves and Currents," Proceedings of 46th Japanese Coastal Engineering Conference, JSCE, 831-835.
 63. Tega, Y. and Kobayashi, N. (1999). "Stability of Near-Bed Rubble-Mound Structures under Irregular Waves and Currents," Proceedings of Coastal Structures'99, Balkema, Rotterdam, 713-720.
 64. Melby, J.A. and Kobayashi, N. (1999). "Damage Progression and Variability on Breakwater Trunks," Proceedings of Coastal Structures'99, Balkema, Rotterdam, 309-315.
 65. Kobayashi, N. (1999). "Future of Coastal Engineering and Structures," Proceedings of Coastal Structures'99, Balkema, Rotterdam, 1147-1154.
 66. Kobayashi, N., Johnson, B.D. and Karjadi, E.A. (2000). "Cross-Shore Sand Transport on Beaches," Proceedings of 27th Coastal Engineering Conference, ASCE, 3165-3178.
 67. Melby, J.A. and Kobayashi, N. (2000). "Wave-Induced Damage on Stone Armored Breakwaters and Jetties," Proceedings of 27th Coastal Engineering Conference, ASCE, 1571-1584.

68. Johnson, B.D. and Kobayashi, N. (2000). "Free Surface Statistics and Probabilities in Surf Zones on Beaches," Proceedings of 27th Coastal Engineering Conference, ASCE, 1022-1035.
69. Kearney, P.G. and Kobayashi, N. (2000). "Time-Averaged Probabilistic Model for Irregular Wave Runup on Coastal Structures," Proceedings of 27th Coastal Engineering Conference, ASCE, 2004-2017.
70. Tega, Y. and Kobayashi, N. (2000). "Dune Profile Evolution due to Overwash," Proceedings of 27th Coastal Engineering Conference, ASCE, 2634-2647.
71. Yamada, F., Kobayashi, N., Takikawa, K., Shirakihara, K. and Taniguchi, M. (2000). "Measurement of Spatial and Temporal Distributions of Suspended Mud Concentrations Using Video Images," Proceedings of 47th Japanese Coastal Engineering Conference, JSCE, 1356-1360.
72. Kobayashi, N. (2001). "Numerical Models for Coastal Hydrodynamics, Structures and Sediments," Proceedings of Int'l. Workshop on Advanced Design of Maritime Structures in the 21st Century, Yokosuka, Japan, 189-199.
73. Fukumoto, T., Hashimoto, T. and Kobayashi, N. (2001). "New Artificial Reef Breakwaters," Proceedings of Int'l. Workshop on Advanced Design of Maritime Structures in the 21st Century, Yokosuka, Japan, 243-250.
74. Giovannozzi, M.A., Kobayashi, N. and Johnson, B.D. (2001). "Wave Breaking and Sediment Suspension in Surf Zones," Proceedings of Waves'2001, ASCE, 1376-1385.
75. Kobayashi, N. and Tega, Y. (2001). "Time-Dependent Sediment Suspension and Transport under Irregular Breaking Waves," Proceedings of Waves'2001, ASCE, 1346-1355.
76. Giovannozzi, M.A. and Kobayashi, N. (2002). "Intermittent High Sand Concentrations Measured under Irregular Breaking Waves," Proceedings of 28th Coastal Engineering Conference, World Scientific, Singapore, 2528-2540.
77. Pozueta, B., Kobayashi, N. and Melby, J.A. (2002). "Monte Carlo Simulation of Cumulative Damage on Rubble Mound Breakwaters," Proceedings of 28th Coastal Engineering Conference, World Scientific, Singapore, 1498-1510.
78. Tega, Y. and Kobayashi, N. (2002). "Sediment Transport in Wave Uprush and Downrush on Swash Zones," Proceedings of 28th Coastal Engineering Conference, World Scientific, Singapore, 993-1005.
79. Kobayashi, N., Zhao, H., Pozueta, B. and Melby, J.A. (2003). "Virtual Performance of Rubble Mound Structures," Proceedings of Coastal Structures'2003, ASCE, 1-13.
80. Hosoi, H., Kobayashi, N. and Melby, J.A. (2003). "Wave Transmission and Force on Fabric Tube Breakwaters," Proceedings of Coastal Structures'2003, ASCE, 988-1000.
81. Pratt, J., Melby, J.A. and Kobayashi, N. (2003). "Damage Development on Stone Armored Jetties," Proceedings of Coastal Structures'2003, ASCE, 201-212.
82. Yamada, F., Kobayashi, N. and Kakinoki, T. (2003). "Dominant Causes of Morphological Changes on Intertidal Flats," Proceedings of 2nd Asian and Pacific Coasts Conference, Chiba, Japan.

83. Hosoi, H., Kobayashi, N. and Melby, J.A. (2003). "Wave Transmission and Tension Force on Nearshore Rapidly-Installed Breakwater," Proceedings of Annual Chubu District Conference of Japan Society of Civil Engineers, Japan, 1-2.
84. Yamada, F., Kobayashi, N. and Kakinoki, T. (2003). "Analysis of Seasonal Mudflat Profile Changes using Quadratic Profile Parameters," Proceedings of 50th Japanese Coastal Engineering Conference, JSCE, 551-555.
85. Hosoi, H., Kobayashi, N. and Melby, J.A. (2003). "Wave Transmission and Tension Force on Rapidly-Installed Breakwater," Proceedings of 50th Japanese Coastal Engineering Conference, JSCE, 726-730.
86. Yamada, F., Kobayashi, N., Kakinoki, T. and Nakamichi, M. (2003). "Quadratic Profile Approach for Profile Evolutions on Intertidal Mudflat," Proceedings of 7th International Conference on Nearshore and Estuarine Cohesive Sediment Transport.
87. Kobayashi, N. and Lawrence, A.R. (2003). "Cross-shore Sediment Transport under Breaking Solitary Waves," Conference on Coastal Engineering Today.
88. Ota, T., Kobayashi, N. and Kirby, J.T. (2004). "Wave and Current Interactions with Vegetation," Proceedings of 29th Coastal Engineering Conference, World Scientific, Singapore, 508-520.
89. Yamada, F., Kobayashi, N. and Kakinoki, T. (2004). "Seasonal Mudflat Profile Evolution," Proceedings of 29th Coastal Engineering Conference, World Scientific, Singapore, 2243-2255.
90. Tega, Y., Kobayashi, N., Giovannozzi, M.A. and Johnson, B.D. (2004). "Suspended Sand Concentrations in Surf Zones," Proceedings of 29th Coastal Engineering Conference, World Scientific, Singapore, 1754-1766.
91. Meigs, L.E., Kobayashi, N. and Melby, J.A. (2004). "Cobble Beaches and Revetments," Proceedings of 29th Coastal Engineering Conference, World Scientific, Singapore, 3865-3877.
92. Ota, T. and Kobayashi, N. (2004). "Hydraulic Characteristics of Artificial Seaweed under Waves and Currents," Proceedings of 51st Japanese Coastal Engineering Conference, JSCE, 666-670.
93. Lawrence, A. and Kobayashi, N. (2005). "Breaking of Positive and Negative Solitary Waves." Proceedings of Waves'2005, ASCE, Paper No. 68, 1-10.
94. De los Santos, F.J., Kobayashi, N., Meigs, L.E. and Losada, M.A. (2005). "Irregular Wave Runup on Porous Structures and Cobble Beaches." Proceedings of Waves'2005, ASCE, Paper No. 30, 1-10.
95. De los Santos, F.J., Kobayashi, N., Losada, M.A. and Kearney, P. (2005). "Runup on Permeable Structures under Irregular Breaking Waves." Proceedings of 2005 Spanish Conference on Coastal and Harbor Engineering, Barcelona, Spain.
96. Ota, T., Kobayashi, N. and Kimura, A. (2005). "Wave Transformation Computation over Deforming Artificial Reef." Proceedings of 52nd Japanese Coastal Engineering Conference, JSCE, 51-55.
97. Nakamichi, M., Yamada, F., Hokamura, T., Tamaki, A. and Kobayashi, N. (2005). "Accretion and Erosion Mechanisms of Tidal Flats due to Seasonal Tide Variations." Proceedings of 52nd Japanese Coastal Engineering Conference, JSCE, 526-530.

98. Yamada, F., Uehara, K., Nakamichi, M., Hokamura, T., Yuhi, M. and Kobayashi, N. (2005). "Generation and Seasonal Variations of Multiple Sand Bars on Intertidal Zone," Proceedings of 52nd Japanese Coastal Engineering Conference, JSCE, 496-500.
99. Kobayashi, N. (2006). "Coastal Disaster Mitigation in the U.S." Proceedings of 2nd International Workshop on Coastal Disaster Prevention, Tokyo, Japan, 188-194.
100. Kobayashi, N. (2006). "Time-Averaged Wave Models for Coastal Structures and Sediments." Proceedings of 2nd International Short Course and Workshop on Coastal Processes and Port Engineering, Cosenza, Italy, 61-75.
101. Yamada, F., Sakanishi, Y., Sotomura, T., Tamaki, A. and Kobayashi, N. (2006). "Mechanism of Sediment Transport on Intertidal Mudflat Using Tidal Phase Averaging." Proceedings of 53rd Japanese Coastal Engineering Conference, JSCE, 1-5.
102. Schmied, L.D., Kobayashi, N., Puleo, J.A., and Payo, A. (2006). "Cross-Shore Suspended Sand Transport on Beaches." Proceedings of 30th Coastal Engineering Conference, World Scientific, Singapore, 2511-2523.
103. Farhadzadeh, A., Puleo, J.A. and Kobayashi, N. (2006). "Fluid Acceleration in the Swash Zone." Proceedings of 30th Coastal Engineering Conference, World Scientific, Singapore, 874-886.
104. Agarwal, A., Kobayashi, N. and Johnson, B.D. (2006). "Longshore Suspended Sediment Transport in Surf and Swash Zones." Proceedings of 30th Coastal Engineering Conference, World Scientific, Singapore, 2498-2510.
105. Payo, A., Kobayashi, N. and Kim, K.H. (2006). "Beach Nourishment Strategies." Proceedings of 30th Coastal Engineering Conference, World Scientific, Singapore, 4129-4140.
106. Ota, T., Kobayashi, N. and Kimura, A. (2006). "Irregular Wave Transformation over Deforming Submerged Structures." Proceedings of 30th Coastal Engineering Conference, World Scientific, Singapore, 4945-4956.
107. Yamada, F. and Kobayashi, N. (2006). "Intertidal Multiple Sand Bars on Meso-Tidal Beach." Proceedings of 30th Coastal Engineering Conference, World Scientific, Singapore, 2617-2629.
108. de los Santos, F.J., Kobayashi, N. and Losada, M. (2006). "Irregular Wave Runup and Overtopping on Revetments and Cobble Beaches." Proceedings of 30th Coastal Engineering Conference, World Scientific, Singapore, 4667-4679.
109. Yamada, F., Sakanishi, Y., Yamaguchi, R., Kamohara, S., Anai, H., Kobayashi, N., Tamaki, A., and Tada, A. (2007). "Time-space Distribution of Suspended Sediment Transport Fluxes over Intertidal Mudflat Using Tidal Phase Averaging." Proceedings of 54th Japanese Coastal Engineering Conf., JSCE, 626-630.
110. Gencarelli, R., Johnson, B.D., Kobayashi, N., and Tomasicchio, G.R. (2007). "Dune Erosion and Breaching." Proceedings of Coastal Structures'2007, Venice, Italy, 502-513.
111. Ota, T., Matsumi, Y., Kobayashi, N. and Kimura, A. (2007). "Influence of Damage Progression on Performance of Rubble Mound Breakwaters." Proceedings of Coastal Structures'2007, Venice, Italy, 1806-1817.

112. Kobayashi, N., Farhadzadeh, A. and Melby, J.A. (2007). "Structures of Storm Surge Disaster Prevention." Proceedings of 4th International Workshop on Coastal Disaster Prevention, Yokohama, Japan, 41-49.
113. Shi, F., Johnson, B., and Kobayashi, N. (2008). "2DH Modeling of Waves, Currents and Sediment Transport at FRF during Hurricane Isabel." 2008 Ocean Sciences Meeting, American Geophysical Union.
114. Kobayashi, N., Figlus, J. and Buck, M. (2008). "Beach Nourishment and Dune Erosion." Proceedings of 3rd International Short Conference on Applied Coastal Research, Lecce, Italy, 71-98.
115. Gencarelli, R., Tomasicchio, G.R., Kobayashi, N., and Johnson, B. (2008). "Effects of Hurricane Isabel along the North Carolina Coastline: Beach Profile Evolution and Dune Erosion." Proceedings of 3rd International Short Conference on Applied Coastal Research, Lecce, Italy, 200-210.
116. Farhadzadeh, A., Kobayashi, N. and Melby, J.A. (2008). "Wave Overtopping and Overflow on Inclined Structures." Proceedings of 31st Coastal Engineering Conference, World Scientific, Singapore, 2996-3008.
117. Buck, M., Kobayashi, N., Payo, A. and Johnson, B. (2008). "Berm and Dune Erosion." Proceedings of 31st Coastal Engineering Conference, World Scientific, Singapore, 1749-1761.
118. Figlus, J. and Kobayashi, N. (2008). "Two-Line Model for Inverse Estimation of Cross-Shore and Longshore Transport Rates on Nourished Beaches." Proceedings of 31st Coastal Engineering Conference, World Scientific, Singapore, 2545-2556.
119. Payo, A., Kobayashi, N., Yamada, F. and Muñoz-Pérez, J.J. (2008). "Suspended Sediment Transport inside and outside Surf Zones." Proceedings of 31st Coastal Engineering Conference, World Scientific, Singapore, 1651-1663.
120. Gencarelli, R., Tomasicchio, G.R., Kobayashi, N. and Johnson, B. (2008). "Beach Profile Evolution and Dune Erosion due to the Impact of Hurricane Isabel." Proceedings of 31st Coastal Engineering Conference, World Scientific, Singapore, 1697-1709.
121. Yamada, F., Kobayashi, N., Sakanishi, Y., Shirakawa, Y. and Payo, A. (2008). "Suspended Sediment Fluxes due to Tides and Waves on Meso-Tidal Flat." Proceedings of 31st Coastal Engineering Conference, World Scientific, Singapore, 1990-2002.
122. Yamada, F., Sakanishi, Y., Shirakawa, Y., Anai, H., Hokamura, T., and Kobayashi, N. (2008). "Conceptual Model for Cross-shore Sediment Transport due to Tides and Waves over Intertidal Flat." Proceedings of 55th Japanese Coastal Engineering Conf., JSCE, 461-485.
123. Kobayashi, N. and Farhadzadeh, A. (2009). "Dune Erosion and Overwash." Proceedings of Coastal Dynamics 2009, Tokyo, Japan, Paper No. 81.
124. Johnson, B., Gravens, M., Wamsley, T. and Kobayashi, N. (2009). "A Predictive Model for Beach Profile Evolution." Proceedings of Coastal Dynamics 2009, Tokyo, Japan, Paper No. 64.
125. Yamada, F., Shirakawa, Y., Anai, H., Kusoai, Y., Sakanishi, Y., Yamamoto, K. and Kobayashi, N. (2009). "Sediment Budget Based on the Mass of Silt and Clay

- on Intertidal Flat Adjacent to River Mouth.” Proceedings of 56th Japanese Coastal engineering Conf., JSCE, 476-480.
126. Yamada, F., Tsujimoto, G., Kamohara, S., Ikeda, Y., Hokamura, T., Kobayashi, N. and Illic, S. (2009). “Time-Space Variations of Sediment Density and Porosity Profiles due to Beach Deformations Using X-ray CT.” Proceedings of 56th Japanese Coastal Engineering Conf., JSCE, 6-10.
 127. Hicks, B., Kobayashi, N. and Puleo, J. (2010). “Cross-shore Transport of Coarse Grained Sediment.” American Geophysical Union Ocean Science Meeting, Portland, OR.
 128. Figlus, J., Kobayashi, N., Gralher, C. and Iranzo, V. (2010). “Wave-Induced Overwash and Destruction of Sand Dunes.” Proceedings of 32nd Coastal Engineering Conference, Sediment, 34, 1-13.
 129. Farhadzadeh, A., Kobayashi, N. and Melby, J.A. (2010). “Evolution of Damaged Armor Layer Profile.” Proceedings of 32nd Coastal Engineering Conference, Structures, 40, 1-13.
 130. Hicks, B., Kobayashi, N., Puleo, J. and Farhadzadeh, A. (2010). “Cross-Shore Gravel Transport on Beaches.” Proceedings of 32nd Coastal Engineering Conference, Sediment, 43, 1-9.
 131. Yamada, F., Kobayashi, N., Shirakawa, Y. and Sakanishi, Y. (2010). “Sediment Budgets based on the Mass of Silt and Clay on Intertidal Flat Adjacent to River Mouth.” Proceedings of 32nd Coastal Engineering Conference, Sediment, 82, 1-13.
 132. Hayashi, K., Hashimoto, K., Yagisawa, K. and Kobayashi, N. (2010). “Beach Morphologies at Notsukezaki Sand Spit, Japan.” Proceedings of 32nd Coastal Engineering Conference, Sediment, 48,1-12.
 133. Yamada, F., Tsujimoto, G., Tabata, M., Tateyama, R., Hokamura, T. and Kobayashi, N. (2010). “Internal Sediment Density Structures around Bars and Troughs due to Beach Deformation using X-ray CT.” Proceedings of 57th Japanese Coastal Engineering Conf., JSCE, 66(1), 436-440.
 134. Yamada, F., Shirakawa, Y., Funakoshi, Y., Tagawa, K., Hokamura, T., Sakanishi, Y., Kobayashi, N., Tamaki, A. and Tada, A. (2010). “Relative Importance of Tide and River Discharge on Sediment Transport on Intertidal Flat.” Proceedings of 57th Japanese Coastal Engineering Conf., JSCE, 66(1), 531-535.
 135. Kobayashi, N., Jung, H. and Figlus, J. (2011). “Maintenance of Beach and Dune for Coastal Flooding Reduction.” Proceedings of Coastal Structures 2011, World Scientific, Singapore, 71-82.
 136. Melby, J.A., Edge, B.L. and Kobayashi, N. (2011). “Present and Future of Coastal Engineering Structures in the United States.” Book of Abstracts, Coastal Structures 2011, World Scientific, Singapore, A6-020.
 137. Shin, B., Kim, K., Shin, S., and Kobayashi, N. (2011). “The Improvement of Harbor Tranquility by Numerical and Hydraulic Model Test for Rectangular Port in Korea.” Book of Abstracts, Coastal Structures 2011, World Scientific, Singapore, C11-113.
 138. Hokamura, T., Tada, Y., Suenaga, S., Kobayashi, N., and Yamada, F. (2011). “Image-Based Analysis for Spatial Variations and Sediment Density Structures of

- Intertidal Multiple Sand Bars.” Proceedings of 58th Japanese Coastal Engineering Conf., JSCE, 67(2), I_621-I_625.
139. Gralher, C., Kobayashi, N. and Do, K. (2012). “Wave Overwash of Vegetated Dunes.” Proceedings of 33rd Coastal Engineering Conference, Sediment 34, 1-7.
 140. Melby, J.A., Nadal, N. and Kobayashi, N. (2012). “Wave Runup Prediction for Flood Mapping.” Proceedings of 33rd Coastal Engineering Conference, Management 79, 1-15.
 141. Do, K., Kobayashi, N. and Suh, K.-D. (2012). “Erosion and Accretion on Curved Beach.” Proceedings of 33rd Coastal Engineering Conference, Sediment 11, 1-12.
 142. Hayashi, K., Mori, N., Mase, H., Kuriyama, Y. and Kobayashi, N. (2012). “Influences of Climate Change on Beach Profiles.” Proceedings of 33rd Coastal Engineering Conference, Sediment 17, 1-12.
 143. Figlus, J., Kobayashi, N. and Gralher, C. (2012). “Ridge-Runnel Migration.” Proceedings of 33rd Coastal Engineering Conference, Sediment 46, 1-15.
 144. Kim, K., Shin, S., Pyun, C.K., Kim, H. and Kobayashi, N. (2012). “Beach Erosion Counter Measure using New Artificial Reef Blocks.” Proceedings of 33rd Coastal Engineering Conference, Sediment 107, 1-6.
 145. Pietropaolo, J., Kobayashi, N. and Melby, J.A. (2012). “Wave Runup on Dikes and Beaches.” Proceedings of 33rd Coastal Engineering Conference, Current 19, 1-13.
 146. Do, K., Kobayashi, N., Suh, K-D. and Shim, J. (2012). “Erosion of Nourished Sand on Bethany Beach of Delaware, USA.” Proceedings of 23rd Conference of Korean Society of Coastal and Ocean Engineers, 382.
 147. Ayat, B. and Kobayashi, N. (2013). “Numerical Modeling of Erosion and Overwash of Vegetated Dunes.” Proceedings of 6th International Short Course and Conference on Applied Coastal Research, 1-10, Lisbon, Portugal.
 148. Kobayashi, N. (2013). “Cross-short Numerical Model CSHORE for Sand Beaches and Stone Structures.” Proceedings of 6th International Short Course and Conference on Applied Coastal Research, 1-69, Lisbon, Portugal.
 149. Lusia, M., Shiraishi, H., Ito, M., Hokamura, T., Nakajo, S., Kobayashi, N., Kuroiwa, M. and Yamada, F. (2014). “Intertidal flat response adjacent to Shirakawa River mouth due to flash flood caused by torrential rainfall on July 12, 2012 in Kumamoto.” Proceedings, Japan Society of Civil Engineers, 69(2), I_631-I_635.
 150. Garcia, R. and Kobayashi, N. (2014). ”Damage Variations of Low-Crest Breakwaters.” Proceedings of 34th Coastal Engineering Conference, Structure 14, 1-11.
 151. Kobayashi, N. and Weitzner, H. (2014). “Modeling Levee Erosion Under Irregular Waves.” Proceedings of 34th Coastal Engineering Conference, Structure 15, 1-12.
 152. Quan, R., Kobayashi, N. and Ayat B. (2014). “Pile Fence to Enhance Dune Resiliency.” Proceedings of 34th Coastal Engineering Conference, Sediment 15, 1-14.

153. Ayat, B. and Kobayashi, N. (2014). "Erosion Progression of Wooded Coastal Dunes." Proceedings of 34th Coastal Engineering Conference, Sediment 16, 1-10.
154. Aydogan, B. and Kobayashi, N. (2014). "Breaking of Positive and Negative Solitary Waves." Proceedings of 34th Coastal Engineering Conference, Currents 22, 1-10.
155. Chavez Cardenas, X., Kobayashi, N. and Quan, R. (2015). "Sliding and Floating of Wooden Houses due to Storm Surge and Waves." Proceedings of Coastal Structures and Solutions to Coastal Disasters Joint Conference, 774-786.
156. Kobayashi, N. (2015). "Gravel and Stone Transport on Beaches and Structures." Proceedings of 7th International Short Course and Conference on Applied Coastal Research, Florence, Italy.
157. Do, K., Kobayashi, N., Suh, K.-D. and Jin, J.-Y. (2016). "Cross-shore and Longshore Sand Transport on a Macrotidal Pocket Beach." Proceedings of 35th Coastal Engineering Conference.
158. Kim, H.D., Kobayashi, N. and Chávez Cárdenas, X. (2016). "Comparison of Rock Seawall and Dune for Storm Damage Reduction." Proceedings of 35th Coastal Engineering Conference, Sediment 31, 1-13.
159. Shim, K.-T., Kim, K.-H. and Kobayashi, N. (2016). "Dynamic Beach Nourishment and Multi-Purpose Artificial Reefs as a Beach Erosion Countermeasure." Proceedings of 35th Coastal Engineering Conference.
160. Ayat, B., Kobayashi, N., Yüksel, Y. and Aydogan, B. (2016). "Numerical Simulation of Seawall-Beach Profile Interaction in Runup Zone." Proceedings of 35th Coastal Engineering Conference, Sediment 21, 1-9.
161. Wu, Y.-T, Hu, .-R, Hwang, H.-H, Yang, R.-Y, and Kobayashi, N. (2017). "Experimental study in the morphological evolution of a gravel nourished beach in front of a vertical wall due to irregular waves." Proc. 39th Ocean Engineering Conference in Taiwan, 1-7.
162. Zhu, T. and Kobayashi, N. (2018). "Prediction of Small Bay Flooding through Tidal Inlet and by Wave Overtopping of Barrier Beach." Proceedings of 36th Coastal Engineering Conference.
163. Kim, H.D. and Kobayashi, N. (2018). "Settlement of Rock Seawall on Eroding Foreshore of Sand Beach." Proceedings of 36th Coastal Engineering Conference.
164. Mallavarapu, S., Kobayashi, N., and Zhu, T. (2018). "Effect of Net Cross-Shore Sand Transport on Beach Profiles." Proceedings of 36th Coastal Engineering Conference.
165. Yuksel, T. and Kobayashi, N. (2018). "Comparison of Sill and Revetment in Reducing Shore Erosion and Wave Overtopping." Proceedings of 36th Coastal Engineering Conference.
166. Shim, K.-T., Kim, K.-H., and Kobayashi, N. (2018). "Dynamic Nourishment and Multi-Purpose Artificial Reefs as a Beach Erosion Countermeasure." Proceedings of 36th Coastal Engineering Conference.
167. Itori, A., Yagisawa, K., Sasaki, T., Yamaguchi, R., and Kobayashi, N. (2018). "Storm-Induced Erosion of Notsukezaki Sand Spit, Japan." Proceedings of 36th Coastal Engineering Conference.

168. Kim, H.D., Kobayashi, N., Aoki, S., and Onaka, S. (2018). "Effective Method of Beach Nourishment Placement." Proceedings of 36th Coastal Engineering Conference.
169. Kobayashi, N. (2019). "Coastal Engineering Topics and Trend in ICCE2018." Proceedings of 9th International Short Course and Conference on Applied Coastal Research, Bari, Italy.
170. Kobayashi, N. (2019) "Equilibrium Beach Profile with Net Cross-shore Transport." Proceedings of 9th International Short Course and Conference on Applied Coastal Research, Bari, Italy.
171. Zhu, T. and Kobayashi, N. (2020). "Prediction of Consolidated Cohesive Bottom Erosion by Wave Action." Proceedings of Virtual Conference on Coastal Engineering 2020.
172. Kwak, M. S., Jeong, W.M., and Kobayashi, N. (2020). "A Case Study on Harbor Oscillations by Infragravity Waves." Proceedings of Virtual Conference on Coastal Engineering 2020.
173. Zhu, T. and Kobayashi, N. (2020). "Erosion Prediction of Soft Cliff by Oblique Breaking Waves." Proceedings of 2020 Fall Meeting, American Geophysical Union.
174. Izumi, T., Sumi, H. Kobayashi, N., Oda, A. and Ochiai, M. (2022). "Study on beach profiles and sediment transport of the Chirihama beach." Proceedings, Japan Society of Civil Engineers, B-3, 1-6.
175. Kwak, M.S. and Kobayashi, N. (2022). "Computer simulation of wave overtopping rate on vertical wall by Boussinesq wave model." Proceedings of 37th Coastal Engineering Conference .
176. Leone, E, Tomasicchio, G.R., Francone, A., D'Alessandro, F. and Kobayashi, N. (2022). "Erosion prediction of coastal dunes consolidated with nanosilica." Proceedings of 37th Coastal Engineering Conference.

Proceedings of Annual Conference

1. Iwasa, Y., Kobayashi, N. and Tanahashi, M. (1975), "Geomorphological Characteristics of River Basins," Proceedings of Annual Kansai District Conference of Japan Society of Civil Engineers, Osaka, Japan (in Japanese).
2. Iwasa, Y., Kobayashi, N. and Tanahashi, M. (1975), "Stochastic Study of Channel Distribution in River Basins," Proceedings of 30th Conference of Japan Society of Civil Engineers, Nagoya, Japan (in Japanese).
3. Iwasa, Y., Kobayashi, N., Tanahashi, M. and Yoshida, Y. (1976), "Stochastic Geomorphology of Drainage Basins," Proceedings of Annual Kansai District Conference of Japan Society of Civil Engineers, Kobe, Japan (in Japanese).

Research and Technical Reports

1. Iwasa, Y, Kobayashi, N. and Tanahashi, M. (1976), "Quantitative Properties of Basin Geomorphology," Bulletin Vol. 19, No. B-2, Disaster Prevention Research Institute, Kyoto University, Kyoto, Japan (in Japanese).

2. Vivatrat, V., Angelides, D. and Kobayashi, N. (1979), "Erosion Prediction and Prevention for Exploration and Production Systems in the Alaskan Beaufort Sea," Arctic Development Project, Task 3/4, Brian Watt Associates, Inc., Houston, Texas.
3. Kobayashi, N. (1980), "EPACS: Erosion Prediction Around Conical Structures," Report No. 087, Brian Watt Associates, Inc., Houston, Texas.
4. Kobayashi, N. (1981), "Prediction of Wave and Current Effects on Artificial Islands," Report No. 130, Vol. I, Brian Watt Associates, Inc., Houston, Texas.
5. Kobayashi, N. (1981), "Bering Sea Design Criteria," Report No. 148, Brian Watt Associates, Inc., Houston, Texas.
6. Kobayashi, N. and Madsen, O.S. (1981), "Effects of a Permeable Berm on Coastal Sediment Transport," Report NO. 153, Brian Watt Associates, Inc., Houston, Texas.
7. Jacobs, B.K. and Kobayashi, N. (1983), "Sandbag Stability and Wave Runup on Bench Slopes," Research Report CE-83-36, Department of Civil Engineering, University of Delaware, Newark, Delaware.
8. Dalrymple, R.A., Mann, D.W. and Kobayashi, N. (1983), "Tidal Flows in Indian River Inlet, June 11, 1983," Research Report CE-83-39, Department of Civil Engineering, University of Delaware, Newark, Delaware.
9. Kobayashi, N., Watson, K.D., Charles, G.E. and Roy, I. (1986), "Sedimentation Study of Summit North Marina," Research Report No. CE-86-53, Ocean Engineering Program, Department of Civil Engineering, University of Delaware, Newark, Delaware.
10. Kobayashi, N. and Dalrymple, R.A. (1986), "Erosion of Unprotected Causeways due to Waves," Research Report No. CE-86-58, Ocean Engineering Program, Department of Civil Engineering, University of Delaware, Newark, Delaware.
11. Kobayashi, N. and Cannon, D. G. (1987), "Interaction of Sea Waves with Discrete Ice Floes," Research Report No. CE-87-64, Ocean Engineering Program, University of Delaware, Newark, Delaware.
12. Kobayashi, N. and Wurjanto, A. (1988), "Numerical Prediction of Wave Overtopping on Coastal Structures," Research Report No. CE-88-72, Ocean Engineering Program, University of Delaware, Newark, Delaware.
13. Kobayashi, N. and Wurjanto, A. (1989), "Numerical Prediction of Wave Transmission over Submerged Breakwaters," Research Report No. CE-89-73, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
14. Kobayashi, N. and Wurjanto, A. (1989), "Numerical Model for Design of Impermeable Coastal Structures," Research Report No. CE-89-75, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
15. Kobayashi, N. and Garland, T. (1989), "Wave Runup and Groundwater Interaction in Coarse Steep Beaches-Recommendations," Proc. Beach and Nearshore Workshop for Prince William Sound Bioremediation Project, S. C. McCutcheon, Ed., Environmental Research Lab., EPA, Athens, Ga., pp. 29-30 and Appendix 2.
16. Raichle, A.W. and Kobayashi, N. (1990), "Review on Presidente Rivera Oil Spill in Delaware River," Research Report No. CACR-90-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.

17. Lee, H.W., Kobayashi, N., and Ryu, C.R. (1990), "Review on Oil Spills and Their Effects," Research Report No. CACR-90-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
18. Kobayashi, N. and Wurjanto, A. (1990), "Numerical Prediction of Armor Stability and Movement under Irregular Wave Action," Research Report No. CACR-90-4, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
19. Wurjanto, A. and Kobayashi, N. (1991), "Numerical Model for Random Waves on Impermeable Coastal Structures and Beaches," Research Report No. CACR-91-05, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
20. Cox, D.T., Kobayashi, N. and Wurjanto, A. (1991), "Computer Programs for Spectral and Time Series Analyses for Random Waves," Research Report No. CACR-91-06, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
21. Kobayashi, N., Raichle, A.W. and Asano, T. (1991), "Prediction of Wave Attenuation by Vegetation and Seaweed," Research Report No. CACR-91-07, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
22. Wurjanto, A. and Kobayashi, N. (1992), "Numerical Model for Random Waves on Permeable Coastal Structures," Research Report No. CACR-92-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
23. Wurjanto, A. and Kobayashi, N. (1992), "Irregular Wave Interaction with Permeable Slopes of Coastal Structures," Research Report No. CACR-92-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
24. Hancock, M.W. and Kobayashi, N. (1992), "Review of Pipeline-Seabed Interaction," Research Report No. CACR-92-08, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
25. Kobayashi, N. and Karjadi, E.A. (1993), "Documentation of Computer Program for Predicting Long Wave Run-up," Research Report No. CACR-93-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
26. Poff, M.T. and Kobayashi, N. (1993), "Computer Program for Refraction of Directional Random Waves," Research Report No. CACR-93-04, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
27. Kobayashi, N. and Poff, M.T. (1994), "Numerical Model RBREAK2 for Random Waves on Impermeable Coastal Structures and Beaches," Research Report No. CACR-94-12, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
28. Johnson, B.D., Kobayashi, N. and Watson, K.D. (1994), "Flooding of Delaware Route 54 between Little Assawoman and Assawoman Bays due to Storm Surge and Tides," Research Report No. CACR-94-16, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
29. Kobayashi, N. and Johnson, B.D. (1995), "Numerical Model VBREAK for Vertically Two-Dimensional Breaking Waves on Impermeable Slopes," Research Report No. CACR-95-06, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.

30. Cox, D.T., Kobayashi, N. and Okayasu, A. (1995), "Experimental and Numerical Modeling of Surf Zone Hydrodynamics," Research Report No. CACR-95-07, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
31. Kudale, M.D. and Kobayashi, N. (1995), "Hydraulic Stability Analysis of Leaside Slopes of Overtopped Breakwaters," Research Report No. CACR-95-10, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
32. Kobayashi, N. and Vidrine, J.C. (1995), "Combined Thermal-Mechanical Erosion Processes Model," Research Report No. CACR-95-12, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
33. Johnson, B.D., Kobayashi, N. and Cox, D.T. (1996), "Formulation and Validation of Vertically Two-Dimensional Shallow-Water Wave Model," Research Report No. CACR-96-05, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
34. Herrman, M.N., Kobayashi, N., Johnson, B.D. and Orzech, M.D. (1997), "Experiments on Surface Elevation Probability Distribution and Statistics in Surf and Swash Zones," Research Report No. CACR-97-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
35. Karjadi, E.A. and Kobayashi, N. (1997), "Numerical Models for Obliquely Incident Waves in Surf and Swash Zones," Research Report No. CACR-97-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
36. Orzech, M.D. and Kobayashi, N. (1997), "Random Wave Transformation and Sediment Transport across Barred and Terraced Sand Beaches," Research Report No. CACR-97-06, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
37. Kobayashi, N. (1997), "Wave Runup and Overtopping on Beaches and Coastal Structures," Research Report No. CACR-97-09, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
38. Kobayashi, N. and Johnson, B.D. (1998), "Computer Program CSHORE for Predicting Cross-Shore Transformation of Irregular Breaking Waves," Research Report No. CACR-98-04, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
39. Johnson, B.D. and Kobayashi, N. (1998), "Nearshore Water Level Surges in the Surf Zone," Research Report No. CACR-98-08, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
40. Kobayashi, N. (2000), "Prediction of Damage to Shorelines and Coastal Structures," Research Report No. CACR-00-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
41. Johnson, B.D. and Kobayashi, N. (2000), "Cross-Shore Irregular Wave Transformation and Sediment Transport in Surf and Swash Zones," Research Report No. CACR-00-05, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
42. Kearney, P.G. and Kobayashi, N. (2001), "Irregular Breaking Wave Transformation on a Beach and Runup on a Revetment," Research Report No. CACR-01-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.

43. Giovannozzi, M.A. and Kobayashi, N. (2001). "Sediment Suspension in Surf Zones on Eroding and Equilibrium Beaches," Research Report No. CACR-01-05, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
44. Pozueta, B. and Kobayashi, N. (2002). "Performance of Coastal Structures under Combined Storm Surge and Breaking Waves for Sequences of Hurricanes." Research Report No. CACR-02-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
45. Hosoi, H., Kobayashi, N. and Melby, J.F. (2003). "Wave Transmission and Force on Nearshore Rapidly-Installed Breakwater," Research Report No. CACR-03-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
46. Yamada, F. and Kobayashi, N. (2003). "Parameterization of Mudflat Profile Changes Caused by Seasonal Tide Level Variations," Research Report No. CACR-03-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
47. Lawrence, A.R. and Kobayashi, N. (2003). "Experiments on Cross-shore Sediment Transport under Positive and Negative Solitary Waves," Research Report No. CACR-03-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
48. Kobayashi, N. (2004). "Coastal Engineering Assessment of Storm-Induced Scour Problem for Proposed Indian River Inlet Bridge," Report prepared for the Delaware Department of Transportation, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
49. Meigs, L.E. and Kobayashi, N. (2004). "Time-averaged Model for Irregular Breaking Waves on Porous Structures and Beaches." Research Report No. CACR-04-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
50. Zhao, H. and Kobayashi, N. (2005). "Suspended Sand Transport in Surf Zones on Equilibrium Beaches." Research Report No. CACR-05-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
51. Irish, J.L. and Kobayashi, N. (2005). "Lidar Application for Coastal Engineering: Sea Bottom Mapping and Water Wave Measurement," Research Report No. CACR-05-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
52. Kobayashi, N. and Kagawa, M. (2005). "Personnel Safety Grate Study and Recommendation for Stormwater Pipes," Research Report No. CACR-05-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
53. de los Santos, F.J. and Kobayashi, N. (2005). "Irregular Wave Setup and Runup on Cobble Beaches and Revetments," Research Report No. CACR-05-06, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
54. Agarwal, A. and Kobayashi, N. (2005). "Time-Averaged Model for Longshore Current and Sediment Transport in Surf and Swash Zones." Research Report No. CACR-05-07, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
55. de los Santos, F.J. and Kobayashi, N. (2006). "Irregular Wave Seepage and Overtopping of Cobble Beaches and Revetments." Research Report No. CACR-

- 06-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
56. Schmied, L., Kobayashi, N., Payo, A. and Puleo, J.A. (2006). "Cross-Shore Sediment Transport and Beach Profile Change." Research Report No. CACR-06-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
 57. Figlus, J., and Kobayashi, N. (2007). "Seasonal and Yearly Profile Changes of Delaware Beaches." Research Report No. CACR-07-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
 58. Farhadzadeh, A., Kobayashi, N., Melby, J.A. and Ricottilli, C. (2007). "Experiments and Numerical Modeling of Wave Overtopping and Overflow on Dikes." Research Report No. CACR-07-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
 59. Buck, M., Kobayashi, N., Payo, A. and Johnson, B.D. (2007). "Experiments and Numerical Model for Berm and Dune Erosion." Research Report No. CACR-07-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
 60. Kobayashi, N., and Farhadzadeh, A. (2008). "Cross-shore Numerical Model CSHORE for Waves, Currents, Sediment Transport and Beach Profile Evolution." Research Report No. CACR-08-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
 61. Figlus, J., Kobayashi, N., Gralher, C. and Iranzo, V. (2009). "Experimental and Numerical Study on Transition from Minor to Major Wave Overwash of Dunes." Research Report No. CACR-09-04, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
 62. Farhadzadeh, A., Kobayashi, N., and Melby, J.A. (2009). "Wave Overtopping and Damage Progression on Rubble Mound Structures." Research Report No. CACR-09-05, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
 63. Kobayashi, N. (2009). "Documentation of Cross-Shore Numerical Model CSHORE 2009." Research Report No. CACR-09-06, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
 64. Hicks, B.S., Kobayashi, N., Figlus, J., Puleo, J.A. and Farhadzadeh, A. (2010). "Cross-shore Transport of Coarse Grained Sediment." Research Report No. CACR-10-01, Center for Applied Coastal Research, University of Delaware, Newark, Del.
 65. Figlus, J., Kobayashi, N. and Gralher, C. (2010). "Ridge and Runnel Migration – Experiment and Numerical Investigation." Research Report No. CACR-10-02, Center for Applied Coastal Research, University of Delaware.
 66. Farhadzadeh, A., Kobayashi, N. and Gravens, M.B. (2010). "Longshore Current and Sediment Transport due to Breaking Waves and Alongshore Pressure Gradient." Research Report No. CACR-10-04, Center for Applied Coastal Research, University of Delaware.
 67. Jung, H. and Kobayashi, N. (2011). "Numerical Modeling of Erosion and Recovery of Rehoboth and Dewey Beaches in Delaware." Research Report No. CACR-11-01, Center for Applied Coastal Research, University of Delaware.

68. Pietropaolo, J., Kobayashi, N. and Melby, J.A. (2011). “Numerical Modeling of Wave Transformation, Breaking and Runup on Dikes and Gentle Slopes.” Research Report No. CACR-11-05, Center for Applied Coastal Research, University of Delaware.
69. Gralher, C., Kobayashi, N. and Do, K. (2012). “Experiment on Wave Overtopping and Overwash of Bare and Vegetated Dunes.” Research Report No. CACR-12-05, Center for Applied Coastal Research, University of Delaware.
70. Kobayashi, N. (2013). “Cross-shore Numerical Model CSHORE 2013 for Sand Beaches and Coastal Structures.” Research Report No. CACR-13-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
71. Ayat, B. and Kobayashi, N. (2013). “Expansion of Numerical Model CSHORE to Predict Erosion and Overwash of Wooded Dunes.” Research Report No. CACR-13-07, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
72. Garcia, R., Kobayashi, N., Quan, R., Weitzner, H., and Aydogan, B. (2013). “Physical Model Testing of Negril Breakwater in Jamaica.” Model Testing Report No. CACR-2013. Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
73. Weitzner, H. and Kobayashi, N. (2014). “Modeling of Grassed Levee Erosion by Wave Action.” Research Report No. CACR-14-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
74. Garcia, R. and Kobayashi, N. (2014). “Damage Variations of Trunk and Head of Low-crested Breakwater.” Research Report No. CACR-14-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
75. Quan, R., Kobayashi, N. and Ayat, B. (2014). “Experiment on Pile Fence to Enhance Dune Resiliency.” Research Report No. CACR-14-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
76. Quan, R. and Kobayashi, N. (2014). “Numerical Modeling of Wave Overtopping and Overwash of Dune Fronted with Pile Fence.” Research Report No. CACR-14-09, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
77. Kobayashi, N. (2015). “Hydraulic Response and Armor Layer Stability on Coastal Structures.” Research Report No. CACR-15-07, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
78. Chávez Cárdenas, X. and Kobayashi, N. (2015). “Experiment on Sliding and Floating of Wooden Blocks in Swash Zone on Sand Beach.” Research Report No. CACR-15-08, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
79. Zhu, T. and Kobayashi, N. (2017). “Flooding of Indian River Bay and Rehoboth Bay through Indian River Inlet and by Wave Overtopping of Barrier Beach.” Research Report No. CACR-17-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
80. Kim, H.D., Kobayashi, N., and Chávez Cárdenas, X. (2017). “Experimental and Numerical Study on Rock Seawall in Swash Zone to Reduce Wave Overtopping and Overwash of Sand Beach.” Research Report No. CACR-17-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.

81. Mallavarapu, S., Kobayashi, N., and Zhu, T. (2018). "Experiment and Modeling of Equilibrium Beach Profile with Net Cross-Short Sand Transport." Research Report No. CACR-18-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
82. Zhu, T. and Kobayashi, N. (2019). "Erosion of Consolidated Cohesive Bottom Containing Cohesionless Sediment by Wave Action on Beaches." Research Report No. CACR-19-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
83. Strazzella, M., Kobayashi, N., and Zhu, T. (2019). "Analysis and Prediction of Storm Water Levels in Delaware Inland Bays." Research Report No. CACR-19-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
84. Yuksel, Z.T. and Kobayashi, N. (2019). "Experiment and Numerical Modeling for Revetment and Sill in Reducing Shore Erosion and Wave Overtopping." Research Report No. CACR-19-04, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
85. Zhu, T. and Kobayashi, N. (2019). "Numerical Study on Erosion of Soft Cliff by Oblique Breaking Waves on Cohesionless and Cohesive Beach." Research Report No. CACR-19-05, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
86. Zhu, T., and Kobayashi, N. (2021). "Experiment and Numerical Modeling of Rock Mound to Reduce Wave Overwash and Crest Lowering of a Sand Barrier." Research Report No. CACR-21-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
87. Laksanalamai, J. and Kobayashi, N. (2021). "Evolution of a nourished sand beach under low wave energy in Thailand during 2015-2020." Research Report No. CACR-21-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
88. Miranda, P.S. and Kobayashi, N. (2022). "Numerical modeling of intertidal mudflat profile evolution under waves and currents." Research Report No. CACR-22-01, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
89. Zhu, T. and Kobayashi, N. (2022). "Numerical modeling of beach recovery seaward of closed Katrina Cut in Dauphin Island, Alabama." Research Report No. CACR-22-02, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
90. Strazzella, M. and Kobayashi, N. (2022). "Damage progression and stabilization of low crested rubble mounds under breaking waves." Research Report No. CACR-22-03, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.
91. Kobayashi, N. and Zhu, T. (2022). "Cross-shore numerical model CSHORE 2022 for coastal sediments and structures." Research Report No. CACR-22-04, Center for Applied Coastal Research, University of Delaware, Newark, Delaware.

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Duration: January 1, 1982 - December 31, 1982

PI's: Robert A. Dalrymple, Nobuhisa Kobayashi

Title: Development of Design Guidelines of Sand-Bag Retained Islands Against Waves

Sponsor: Union Oil Science & Technology

Amount: \$5,046

Duration: October 1, 1982 - July 31, 1983

Title: Modeling of Erosion Control Measures

Sponsor: Sea Grant College Program, NOAA

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Duration: February 1, 1983 - January 31, 1985

PI's: Robert A. Dalrymple, Nobuhisa Kobayashi

Title: Indian River Inlet Study

Sponsor: Department of Natural Resources and Environmental Control, State of Delaware

Amount: \$3,201

Duration: June 1, 1983 - December 31, 1983

PI's: Robert A. Dalrymple, Nobuhisa Kobayashi

Title: Exxon Agreement No. PR-8045

Sponsor: Exxon Production Research Company

Amount: \$5,046

Duration: July 1, 1983 - June 30, 1984

Title: Computer-Managed Experiments for CE 471

Sponsor: College of Engineering, University of Delaware

Amount: \$6,000

Duration: July 27, 1984 - Spring, 1985

PI's: Nobuhisa Kobayashi and Robert A. Dalrymple

Title: Beach Erosion Study of Fenwick Island

Sponsor: Department of Natural Resources and Environmental Control, State of Delaware
Amount: \$25,000
Duration: August 27, 1984 - August 31, 1985
PI's: Robert A. Dalrymple and Nobuhisa Kobayashi

Title: Analysis and Experiment on Hydraulic Stability of Riprap Under Irregular Wave Attack

Sponsor: National Science Foundation
Amount: \$82,357
Duration: November 1, 1984 - June 30, 1987

Title: Impacts of Sea Level Rise: A Coastal Engineering Approach

Sponsor: Sea Grant College Program, NOAA
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Duration: February 1, 1985 - January 31, 1987
PI's: Robert A. Dalrymple, Nobuhisa Kobayashi, John H. Trowbridge

Title: Sediment Study of Summit North Marina

Sponsor: Office of State Park Planning and Development, State of Delaware
Amount: \$21,168
Duration: April 1, 1985 - January 31, 1986
PI's: Nobuhisa Kobayashi, Robert A. Dalrymple, John H. Trowbridge

Title: Interaction of Sea Waves with Discrete Ice Floes

Sponsor: U.S. Army Cold Regions Research and Engineering Laboratory
Amount: \$25,000
Duration: January 1, 1986 - August 31, 1987

Title: Wave Runup and Sediment Transport in Swash Zone on Beaches

Sponsor: Sea Grant College Program, NOAA
Amount: \$55,268
Duration: February 1, 1987 - January 31, 1989

Title: Development of a Computer Program for Rubble Structure Design

Sponsor: U.S. Army Coastal Engineering Research Center
Amount: \$25,000
Duration: April 1, 1988 - July 31, 1989

Title: Surf Beat and Cross-Shore Sediment Transport in Surf Zone on Natural Beaches

Sponsor: Sea Grant College Program, NOAA
Amount: \$105,983
Duration: February 1, 1989 - January 31, 1991

Title: **Irregular Wave Reflection, Runup and Armor Movement on Rough Permeable Slopes of Breakwaters and Revetments**

Sponsor: National Science Foundation

Amount: \$130,787

Duration: July 1, 1989 - June 30, 1992

Title: **Review on Oil Spills and Their Effects**

Sponsor: Sea Grant College Program, NOAA

Amount: \$7,969

Duration: September 1, 1989 - August 31, 1990

Title: **Development of Computer Programs for Irregular Waves on Coastal Structures**

Sponsor: U.S. Army Coastal Engineering Research Center

Amount: \$30,000

Duration: March 1, 1990 - March 31, 1992

Title: **Nonlinear Wave Interaction in Surf Zones**

Sponsor: Sea Grant College Program, NOAA

Amount: \$114,201

Duration: February 1, 1991 - January 31, 1993

Title: **Documentation of Computer Programs for Predicting Long Wave Runup**

Sponsor: National Science Foundation

Amount: \$36,851

Duration: March 1, 1991 - March 31, 1993

PI's: Nobuhisa Kobayashi, Stephan T. Grilli

Title: **Nearshore Wave and Circulation Modelling**

Sponsor: University Research Initiative, Army Research Office

Amount: \$2,000,000

Duration: July 1, 1992 - December 31, 1997

PI's: Robert A. Dalrymple, Nobuhisa Kobayashi, Ib A. Svendsen, James T. Kirby, Philip L.-F. Liu

Title: **Development of Computer Programs for Design of Coastal Structures in Surf Zones**

Sponsor: U.S. Army Coastal Engineering Research Center

Amount: \$30,000

Duration: June 1, 1993 - September 30, 1995

Title: **Hydraulic Study for Delaware Route 54 Improvement Project**

Sponsor: Department of Transportation, State of Delaware

Amount: \$25,000

Duration: July 1, 1993 - June 30, 1995

Title: **Vortex Dynamics and Suspension of Sediment Particles**
Sponsor: Augmentation Awards for Science and Engineering Training,
U.S. Army Research Office
Amount: \$90,000
Duration: July 1, 1994 – June 30, 1998
PI's: Nobuhisa Kobayashi, Robert A. Dalrymple

Title: **Breaking Wave Velocities and Shear Stress in Surf and Swash Zones**
Sponsor: National Science Foundation
Amount: \$105,974
Duration: September 1, 1994 - August 31, 1997

Title: **Swash Dynamics under Obliquely Incident Waves**
Sponsor: Sea Grant College Program, NOAA
Amount: \$110,000
Duration: February 1, 1995 - January 31, 1997

Title: **Probabilistic Modeling of Swash on Beaches**
Sponsor: Sea Grant College Program, NOAA
Amount: \$114,000
Duration: February 1, 1997 - January 31, 1999

Title: **Nearshore Water Level Changes during SuperDuck Experiment**
Sponsor: Sea Grant College Program, NOAA
Amount: \$18,000
Duration: May 1, 1997 - April 30, 1998

Title: **Transformation of Irregular Breaking Waves on Beaches and Coastal Structures**
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$30,000
Duration: April 1, 1998 - September 30, 1998

Title: **Wave Runup Variability on Beaches**
Sponsor: Sea Grant College Program, NOAA
Amount: \$20,000
Duration: February 1, 1999 - January 31, 2001

Title: **Prediction of Damage Progression and Failure for Life Cycle Analysis of Rubble Mound Breakwaters**
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$37,000
Duration: March 16, 1999 – September 30, 2000

Title: **Cross-Shore Sand Transport on Beaches**
Sponsor: National Science Foundation
Amount: \$207,682
Duration: August 1, 1999 - July 31, 2003

Title: **Coupled Wave and Structure Model for Flexible RIB System**
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$30,000
Duration: May 1, 2000 – September 30, 2000

Title: **Numerical Model for Sediment Suspension and Advection in Surf Zones**
Sponsor: Sea Grant College Program, NOAA
Amount: \$120,460
Duration: February 1, 2001 – January 31, 2003

Title: **Prediction of Life Cycle Damage on Rubble Mound Breakwaters and Jetties**
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$81,000
Duration: April 1, 2001 – September 30, 2002

Title: **Development of Numerical Models for Design of Shore-RIB**
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$30,000
Duration: December 1, 2001 – September 30, 2002

Title: **Longshore Sediment Transport in Surf and Swash Zones**
Sponsor: Sea Grant College Program, NOAA
Amount: \$211,866
Duration: February 1, 2003 – January 31, 2005
PI's: Nobuhisa Kobayashi and Fabrice Veron

Title: **Dynamic Revetments and Gravel Beaches**
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$80,000
Duration: April. 1, 2003 – September 30, 2005

Title: **Coastal Engineering Assessment of Storm-Induced Scour Problem for Proposed Indian River Inlet Bridge**
Sponsor: Delaware Department of Transportation
Amount: \$7,260
Duration: March 1, 2004 – August 31, 2004

Title: **Safety Grate Design for Stormwater Pipes**
Sponsor: Delaware Department of Transportation

Amount: \$37,715
Duration: April 1, 2004 – January 31, 2006

Title: Morphological Modeling of Intertidal Mudflats
Sponsor: Sea Grant College Program, NOAA
Amount: \$128,376
Duration: February 1, 2005 – January 31, 2007

Title: Hurricane Katrina Hydrodynamic Forces and Overtopping at Levees in New Orleans
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$40,000
Duration: November 1, 2005 – September 30, 2006

Title: Numerical Morphology Model for Dune Erosion and Overwash
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$480,000
Duration: April 1, 2006 – December 31, 2008

Title: Utilization of Risk Analysis Data
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$8,000
Duration: September 1, 2006 – September 30, 2006

Title: Critical Review of Numerical Models for Coastal Structures and New Time-Averaged Model CSHOREP for Practical Applications
Sponsor: U.S. Army Coastal and Hydraulics Laboratory
Amount: \$50,000
Duration: June 1, 2007 – December 31, 2007

Title: Extension of Cross-shore Numerical Model CSHORE for Damage Progression of Coastal Structures
Sponsor: U.S. Army Coastal and Hydraulic Laboratory
Amount: \$40,000
Duration: July 15, 2008 – December 31, 2008

Title: Numerical Simulation of Morphology and Coastal Protection
Sponsor: Kwandong University, Korea
Amount: \$25,000
Duration: October 12, 2007 – August 31, 2008

Title: Modeling Relevant Physics of Systems for Estimating Risk (MORPHOS)
Sponsor: U.S. Army Corps of Engineers
Amount: \$500,000

Duration: July 1, 2009 – December 31, 2011

Title: Stability and Functional Design of Overtopped Rubble Mound Breakwaters

Sponsor: U.S. Army Coastal and Hydraulic Laboratory

Amount: \$60,000

Duration: June 1, 2010 – February 28, 2011

Title: Innovative Technologies for Safer European Coasts in a Changing Climate

Sponsor: European Commission, Research Directorate

Amount: 80,784 Euro (a small fraction of a 6.53 M Euro EU project consisting of 31 institutions)

Duration: December 1, 2009 – February 28, 2014

Title: Risk-Based Design of Coastal Structures

Sponsor: U.S. Army Coastal and Hydraulics Laboratory

Amount: \$150,000

Duration: April 1, 2011 – September 30, 2014

Title: CSHORE Model Development for Application of Cases of Minor and Major Wave Overwash of Dunes and Coastal Structures

Sponsor: U.S. Army Corps of Engineers

Amount: \$51,000

Duration: August 1, 2013 – September 30, 2014

Title: Numerical Simulation of Artificial Reef

Sponsor: Kwandong University, Korea

Amount: \$35,000

Duration: November 1, 2013 – August 31, 2015

Title: Evaluating State-of-the-Art Methods and Modeling Techniques for Rubble Mound Structures

Sponsor: U.S. Army Corps of Engineers

Amount: \$35,000

Duration: July 30, 2015 – September 30, 2017

Title: Barrier Beach Breaching and Bay Flooding

Sponsor: Delaware Sea Grant College Program, NOAA

Amount: \$225,000

Duration: February 1, 2016 – January 31, 2018

PI's: Nobuhisa Kobayashi and Fengyan Shi

Title: Beach Erosion Countermeasures due to Coastal Structure Construction

Sponsor: Catholic Kwandong University

Amount: \$32,000

Duration: February 10, 2016 – March 1, 2017

Title: Wave, Sediment and Structure Interactions in Surf and Swash Zones

Sponsor: U.S. Army Corps of Engineers

Amount: \$120,000

Duration: October 1, 2018 – September 30, 2021

Title: Review of Edgemoor Terminal Hydrodynamic and Sediment Transport Analysis

Sponsor: Port of Wilmington, Diamond State Port Corporation

Amount: \$25,000

Duration: March 1, 2019 – August 31, 2020

Title: Coastal Structure Design and Rehabilitation Incorporating Stochastic Risk and Uncertainty

Sponsor: U.S. Coastal Research Program, U.S. Army Corps of Engineers

Amount: \$200,000

Duration: November 18, 2019 – November 17, 2021

Title: Shore Protection Structure Design Incorporating Coastal Sediments

Sponsor: U.S. Army Corps of Engineers

Amount: \$300,000

Duration: January 16, 2023 (delayed) – January 15, 2026

Title: Prediction of Natural and Nature-Based Features Performance during Storms

Sponsor: U.S. Army Corps of Engineers

Amount: \$300,000

Duration: January 16, 2023 (delayed) – January 15, 2026

Instructional Activities

Scheduled Teaching

The following undergraduate course has been taught every year since 2011:

CIEG 471	Introduction to Coastal Engineering
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The following graduate courses are taught once every two years

CIEG 679	Sediment Transport Mechanics
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CIEG 871	Coastal Structures
CIEG 870	Offshore Design

Acknowledged Teaching and Advising Efforts

- I was nominated for an Excellence in Undergraduate Academic Advising and Mentoring Award in 2016 by Faculty Senate Committee on Student and Faculty Honors.
- I was nominated for an Excellence in Teaching Award, University of Delaware in 1987.
- My teaching efforts in CE 870, Offshore Design, for the Fall Semester, 1986, were congratulated by the Dean, College of Engineering.
- My teaching efforts in CE 471, Introduction to Coastal Engineering for the Spring Semester, 1989 were congratulated by the Dean, College of Engineering.

Graduate Advising

The following graduate students completed or are working on their Ph.D theses under my supervision:

1. Andojo Wurjanto (1988-1992)
2. Daniel T. Cox (1989-1995)
3. Entin A. Karjadi (1989-1997): Post-Doctoral Fellow (1997-1999)
4. Jeffrey A. Melby (1990-1999)
5. Bradley D. Johnson (1996-2000)
6. Jennifer L. Irish (2004 – 2005)
7. Yukiko Tega (1999 – 2004)
8. Francisco J. de los Santos Ramos (2004-2006) co-supervised with Miguel Losada for Ph.D. from University of Granada, Spain
9. Jens Figlus (2007-2010)
10. Ali Farhadzadeh (2009-2010)
11. Kideok Do (2011 – 2014) co-supervised with Kyung-Duck Suh for Ph.D. from Seoul National University, Korea)
12. Xavier Chávez Cárdenas (2014-2017) co-supervised with Rodolfo Silva Casarin for Ph.D. from Universidad Nacional Autónoma de México, Mexico City
13. Tingting Zhu (2017-2021): Post-Doctoral Researcher (2021-2022)
14. Hyun Dong Kim (2017-2020) co-supervised with Shinichi Aoki for Ph.D. from Osaka University, Japan
15. Jirat Laksanalamai (2019-present)
16. Michele Strazzella (2020-2022) graduated with MCE to work for HR Wallingford
17. Elisa Leone (2019-2022) co-supervised with Roberto Tomasicchio for Ph.D. from University of Salento, Italy)

18. Giulio Scaravaglione (2022-present) co-supervised with Roberto Tomasicchio for Ph.D. from Technical University of Bari, Italy
19. Shoko Sato (2023-present) co-supervised with Nobuhito Mori for Ph.D. from Kyoto University, Japan

The following graduate students completed or are working on their Master's theses under my supervision since 1982:

1. Seung-Nam Seo (1982-1983)
2. Brian K. Jacobs (1982-1983)
3. Demet Aktan (1983-1984)
4. Roy Indrajit (1983-1986)
5. Ashwini K. Otta (1984-1986)
6. Susan Frankenstein (1984-1986)
7. Jeffrey H. Greenwald (1984-1986)
8. Kyung-Seok Han (1985-1987)
9. Gunamuni S. DeSilva (1985-1987)
10. Keith D. Watson (1985-1987)
11. Andojo Wurjanto (1986-1988)
12. David G. Cannon (1986-1988)
13. Michael S. Strzelecki (1986-1988)
14. Entin A. Karjadi (1986-1989)
15. Leslie C. Lockerman (1986-1988)
16. Daniel T. Cox (1987-1989)
17. Shuji Kaku (1987-1990)
18. Cheol S. Shin (1988-1991)
19. Randall A. Wise (1989-1991)
20. W. Gray Smith (1989-1991)
21. Andrew W. Raichle (1990-1992)
22. Paston Sidauruk (1991-1993)
23. Michael T. Poff (1991-1993)
24. Mark W. Hancock (1992-1994)
25. Bradley D. Johnson (1993-1996)
26. Yukiko Tega (1993-1995)
27. Jonica C. Vidrine (1994-1996)
28. Michael N. Herrman (1994-1996)
29. Mark D. Orzech (1995-1997)
30. Peter G. Kearney (1997-2001)
31. Prasert Vangsanittrakul (1998-2001)
32. Michael A. Giovannozzi (1999-2001)
33. Supasit Kongdee (2000-2002)
34. Beatriz Pozueta (2000-2002)
35. Andrew Lawrence (2001-2003)
36. Leslie E. Meigs (2002-2004)

37. Haoyu Zhao (2002-2004)
38. Arpit Agarwal (2003-2005)
39. Mayu Kagawa (2004-2005)
40. George E. Alexander (2004-2005)
41. Lauren Schmied (2004-2006)
42. Jens Figlus (2005-2006)
43. Mitchell Buck (2005-2007)
44. Ali Farhadzadeh (2006-2009)
45. Elizabeth Hicks (2008-2010)
46. Hoo-Young Jung (2009-2011)
47. Christine Grahler (2010-2012)
48. Jill Peitropaolo (2010-2012)
49. Heather Weitzner (2012-2014)
50. Rolando Garcia (2012-2014)
51. Rebecca Quan (2013-2015)
52. Tingting Zhu (2015-2017)
53. Hyun Dong Kim (2015-2017)
54. Wanyi Xing (2015-2017)
55. Sravani Mallavarapu (2016-2018)
56. Michele Strazzella (2018-2019) for M.S. from University of Bologna, Italy
57. Paterno (Jowi) Miranda (2020-2022)

Visiting Scientists

The following visiting scientists conducted or are performing joint research with me at the University of Delaware

1. Shigeki Sakai (Iwate University, Japan; 1987-1988)
2. Michio Sato (Kagoshima University, Japan; 1988)
3. Miguel A. Losada (University of Cantabria, Spain; 1988-1989)
4. Hajime Mase (Kyoto University, Japan; 1989-1990, Summer 1991, Summer 1992)
5. Cheong-Ro Ryu (National Fisheries University of Pusan, Korea; 1989-1990)
6. Hwa-Woon Lee (National Pusan University, Korea; 1989-1990)
7. Toshiyuki Asano (Kagoshima University, Japan; Summer 1990 and Summer 1991)
8. Kazuo Nadaoka (Tokyo Institute of Technology, Japan; Spring 1992)
9. Akio Okayasu (Yokohama National University, Japan; 1993)
10. J. Richard Weggel (Drexel University, USA; 1993-1994)
11. Maruti D. Kudale (Central Water & Power Research Station, India; 1994-1995)
12. Vijay T. Desai (Central Water & Power Research Station, India; 1995)
13. Takashi Tomita (Nagoya University, Japan; 1995-1996)
14. Mathias Polschinski (Technical University of Braunschweig, Germany; Summer 1995)
15. Nobuhito Mori (Central Research Institute of Electric Power Industry, Japan; Summer 1995)

16. Man-Hwa Chung (Maritime and Port Administration, Korea; 1995-1996)
17. Miguel A. Losada (University of Cantabria, Spain; 1996-1997)
18. Stephen Cavanagh (Imperial College, University of London; Summer, 1996)
19. Hong-Yoon Kang (Pukyong National University, Korea; 1996-1997)
20. Roberto Tomasicchio (University of Perugia, Italy; Fall, 1997)
21. Fumihiko Yamada (Kumamoto University, Japan; Spring, 1999)
22. Dingyong Yu (Ocean University of Qingdao; China; 2000-2001)
23. Jose A. Revilla (University of Cantabria, Spain; 2000)
24. Hiroaki Hosoi (Nagoya University, Japan; 2001-2002)
25. Akihide Tada (Nagasaki University, Japan; Fall, 2001)
26. Fumihiko Yamada (Kumamoto University, Japan; 2002-2003)
27. Takao Ota (Tottori University, Japan; 2002-2003)
28. Akira Kawamori (Alpha Hydraulic Engineering, Japan; 2003)
29. Liqiang Wang (Water Resources Planning, Liaoning, China; 2003-2004)
30. Junji Miyamoto (Kyoto University, Japan; Summer, 2003)
31. Francisco J. de los Santos Ramos (University of Granada, Spain; 2004)
32. Andres Payo (University of Granada, Spain; 2005-2007)
33. Ali Farhadzadeh (Tarbiat Modarres University, Iran; 2005-2006)
34. Bradley D. Johnson (U.S. Army Coastal and Hydraulics Lab.; 2006-2010)
35. Bum-shick Shin (Kwandong University, Korea; 2006)
36. Kyu-Han Kim (Kwandong University, Korea; summer 2006)
37. Rosanna Gencarelli (University of Calabria, Italy; 2006-2007)
38. Caterina Ricottilli (University of Calabria, Italy; 2006-2007)
39. Chanik Park (Kwandong University, Korea; 2006-2007)
40. Huaxing Liu (Ocean University of China, China; 2007-2008)
41. Vicente J. Iranzo (Ecole Speciale de Travaux Publics in Paris, France; Spring, 2009)
42. Christine Gralher (University of Hannover, Germany; 2009-2010)
43. Yuichiro Shirakawa (Kumamoto University, Japan; Fall, 2009)
44. In-cheol Lee (Pukyong National University, Korea; 2010-2011)
45. Takehisa Saitoh (Kanazawa University, Japan; 2010-2011)
46. Kyutae Shim (Myongji University, Korea; 2010-2011)
47. Gregorio Iglesias (University of Santiago de Compostela, Spain, Fall, 2010)
48. Kideok Do (Seoul National University, Korea, 2011-2013)
49. Berna Ayat (Yildiz Technical University, Turkey, 2012-2013)
50. Burak Aydogan (Yildiz Technical University, Turkey, 2013-2014)
51. Xavier Chávez Cárdenas (Universidad Nacional Autónoma de México, 2014-2015)
52. Panchen Shen (Southwest Jiaotong University, China, 2015-2016)
53. Kyu-Han Kim (Catholic Kwandong University, Korea, Spring 2016)
54. Z. Tugce Yuksel (Yildiz Technical University, Turkey, 2017-2018)
55. Hirokazu Sumi (Nihon University, Japan, 2018)
56. Moon Su Kwak (Myongji College, Korea, 2019-2022)
57. Elisa Leone (University of Salento, Italy, 2023)