April 12, 2018

CURRICULUM VITAE

JOANNES JACOBUS ALOYSIUS WESTERINK

Joseph and Nona Ahearn Professor in Computational Science and Engineering and Henry J. Massman Chairman, Department of Civil and Environmental Engineering and Earth Sciences
Concurrent Professor, Department of Aerospace and Mechanical Engineering
Concurrent Professor, Department of Applied and Computational Mathematics and Statistics
Concurrent Professor, Department of Computer Science and Engineering
University of Notre Dame
156a Fitzpatrick Hall, Notre Dame, IN 46556-0767
Phone: (574) 631-6475 Fax: (575) 631-9236
e-mail: jjw@nd.edu

EDUCATION

1981-1984	Ph.D. Civil Engineering, Massachusetts Institute of Technology
1979-1981	M.S. Civil Engineering, State University of New York at Buffalo
1975-1979	B.S. Civil Engineering, Summa Cum Laude, State University of New York at Buffalo

APPOINTMENTS

2014-present	Concurrent Professor, Department of Aerospace and Mechanical Engineering, University of Notre Dame
2013-present	Joseph and Nona Ahearn Endowed Professor in Computational Science and Engineering, Department of Civil & Environmental Engineering & Earth Sciences
2011-present	Henry J. Massman Chairman, Department of Civil & Environmental Engineering & Earth Sciences (formerly Civil Engineering and Geological Sciences), University of Notre Dame
2011-2013	Notre Dame Chair in Computational Hydraulics, University of Notre Dame
2011-present	Concurrent Professor, Department of Computer Science and Engineering, University of Notre Dame
2010-present	Concurrent Professor, Department of Applied and Computational Mathematics and Statistics, University of Notre Dame
2007-2010	Concurrent Professor, Department of Mathematics, University of Notre Dame
2006-present	Professor, Department of Civil & Environmental Engineering & Earth Sciences (formerly Civil Engineering and Geological Sciences), University of Notre Dame
1995-2006	Associate Professor, Department of Civil Engineering and Geological Sciences, University of Notre Dame
1990-1995	Assistant Professor, Department of Civil Engineering and Geological Sciences, University of Notre Dame
1987-1990	Assistant Professor, Department of Civil Engineering, Texas A&M University
1984-1987	Assistant Professor, Department of Civil Engineering, Princeton University
1981-1984	Research Assistant, Department of Civil Engineering, Massachusetts Institute of Technology
1979-1981	Research Assistant, Department of Civil Engineering, State University of New York at Buffalo

RESEARCH INTERESTS

Computational fluid mechanics, finite element methods, modeling of circulation and transport in coastal seas and oceans, tidal hydrodynamics, hurricane storm surge prediction, geophysical turbulence modeling, numerical modeling of the convection-diffusion and Navier-Stokes equations, environmental fluid mechanics

AWARDS AND FELLOWSHIPS

R.P. Apmann Memorial Scholarship, State University of New York at Buffalo, 1979
Seagrant Scholar, National Oceanic and Atmospheric Administration, 1979-1981
Kaneb Teaching Award, Department of Civil Engineering and Geological Sciences, Univ. of Notre Dame, 2000
BP Outstanding Teacher of the Year Award, College of Engineering, University of Notre Dame, 2004
Faculty Fellow, John A. Kaneb Center for Teaching and Learning, University of Notre Dame, 2005-2006
U.S. Army Corps of Engineers Interagency Performance Evaluation Task Force Leadership Award, 2007
Department of the Army, Outstanding Civilian Service Medal, 2007
Rev. Edmund P. Joyce, C.S.C. Award for Excellence in Undergraduate Teaching, Univ. of Notre Dame, 2010.
American Society of Civil Engineers Orville T. Magoon Sustainable Coasts Award, 2014.
Faculty Award, University of Notre Dame, 2014

PROFESSIONAL ACTIVITIES

Member American Geophysical Union
Member American Society of Civil Engineers
Member American Meteorological Society
Editorial board member for *Advances in Water Resources* (1989-1997)
Advisor member of the Computational Hydraulics Committee, ASCE Hydraulics Division (1990-1994)
Affiliate Scientist, Center for Coastal and Land Margin Research, Oregon Graduate Institute (1992-1996)
Control member of the Task Committee on Pre-Standardization of Estuarine Tidal Modeling, ASCE Hydraulics Division (1992-1994)
Control member of the Computational Hydraulics Committee, ASCE Hydraulics Division (1994-1996): Secretary (1994)
Member, International Scientific Advisory Committee, Coastal Engineering 95, Cancun, Mexico (1994-1995)
Member, International Scientific Advisory Committee, Coastal Engineering 97, La Coruna, Spain (1996-1997)
Member, International Scientific Advisory Committee, Coastal Engineering 99, Lemnos, Greece (1998-1999)
Member, Organizing Committee, Fifth SIAM Conference on Mathematical and Computational Issues in the Geosciences, San Antonio, TX, March 24-27, 1999 (1998-1999)
Member, International Organizing Committee, Twelfth International Conference on Finite Element Methods in Flow Problems, Meijo University, Nagoya, Japan, April 2-4, 2003 (2001-2003)
Member, Advisory Committee, Coastal and Environmental Modeling Laboratory, Louisiana State University, Baton Rouge, LA, (2003).
U.S. Congressional Briefing with Clint Dawson entitled, "From Katrina Forward; How Mathematical Modeling Predicts Storm Surges," for the American Mathematical Society, U.S. Congress, Washington D.C., November 3, 2005.
Co-organizer with M. Iskandarani and J. Pietrzak the Fifth International Workshop on Unstructured Mesh Numerical Modeling of Coastal, Shelf and Ocean Flows, Miami FL, November 13-15, 2006.
Numerical Modeling of Hurricane Katrina Surge and Wave Environment Team co-leader for the U.S. Army Corps of Engineers' Interagency Performance Evaluation Task Force (IPET) of New Orleans and Southeastern Louisiana Hurricane Protection Projects (2005-2007).
Commissioner, Southeast Louisiana Flood Protection Authority–West Bank; Appointed by Governor Kathleen Blanco, 2007; Re-appointed by Governor Bobby Jindal, 2009 (2007-2012).
Storm Surge Model Development Team leader for the U.S. Army Corps of Engineers' (USACE) and Federal Emergency Management Agency's (FEMA) Joint Coastal Surge (JCS) study of Louisiana and Texas in support of the USACE Hurricane Protection Office (USACE-HPO) rebuilding of the Southern Louisiana Federal levee systems, the Congressionally mandated Louisiana Coastal Protection and Restoration (LACPR) study, and the FEMA Digital Flood Insurance Rate Maps (DFIRMS) (2006-present).

Member Scientific Organizing Committee, International Workshop on Unstructured Mesh Numerical Ocean Modeling, Cambridge MA, August 17-20, 2010.

International Expert for the UNESCO Joint World Meteorological Organization – Intergovernmental Oceanographic Commission (WMO-IOC) Technical Commission for Oceanography and Marine Meteorology (JCOMM); Enhancing Forecasting Capabilities for North Indian Ocean Storm Surges (2009-present)

External Peer Reviewer, U.S. Army Corps of Engineer Research Development Center, Coastal Hydraulics Laboratory, May – June 2012.

Co-organizer with C. Dawson and E.J. Kubatko. Twelfth International Workshop on Multi-scale (Un)-structured mesh numerical Modeling for coastal, shelf, and global ocean dynamics, Austin Texas, September 16-18, 2013.

Member, Federal Emergency Management Agency Great Lakes Review Panel, June 1, 2014 – May 31, 2015.

Member Scientific Advisory Committee. Thirteenth International Workshop on Multi-scale (Un)-structured mesh numerical Modeling for coastal, shelf, and global ocean dynamics, Lisbon, Portugal, August 25-27, 2014.

International Advisory Board Member, CIGIDEN, National Research Center for Integrated Natural Disaster Management, Santiago, Chile, Fall 2014-Fall 2017.

Member, Review Committee for Research Assessment of Civil Engineering Research, Delft University of Technology, Delft, the Netherlands, February 2018.

REFEREED JOURNAL PUBLICATIONS

1. Westerink, J.J., J.J. Connor and K.D. Stolzenbach, "A Primitive Pseudo Wave Equation Formulation for Solving the Harmonic Shallow Water Equations," ***Advances in Water Resources***, **10**, 188-199, 1987.

2. Westerink, J.J., J.J. Connor and K.D. Stolzenbach, "A Frequency-Time Domain Finite Element Model for Tidal Circulation Based on the Least Squares Harmonic Analysis Method," ***International Journal for Numerical Methods in Fluids***, **8**, 813-843, 1988.

3. Westerink, J.J. and D. Shea, "Consistent Higher Degree Petrov-Galerkin Methods for the Solution of the Transient Convection-Diffusion Equation," ***International Journal for Numerical Methods in Engineering***, **28**, 1077-1101, 1989.

4. Westerink, J.J., K.D. Stolzenbach and J.J. Connor, "General Spectral Computations of the Nonlinear Shallow Water Tidal Interactions Within the Bight of Abaco," ***Journal of Physical Oceanography***, **19,** 1350-1373, 1989.

5. Baptista, A.M., J.J. Westerink and P.J. Turner, "Tides in the English Channel and Southern North Sea. A Frequency Domain Analysis Using Model TEA-NL," ***Advances in Water Resources***, **12**, 166-183, 1989.

6. Cantekin, M.E. and J.J. Westerink, "Non-Diffusive N+2 Degree Petrov-Galerkin Methods for Two-Dimensional Transient Transport Computations," ***International Journal for Numerical Methods in Engineering***, **30**, 397-418, 1990.

7. Luettich, R.A. and J.J. Westerink, "A Solution for the Vertical Variation of Stress, Rather than Velocity, in a Three-Dimensional Circulation Model," ***International Journal for Numerical Methods in Fluids***, **12**, 911-928, 1991.

8. Westerink, J.J. and W.G. Gray, "Progress in Surface Water Modeling," ***Reviews of Geophysics***, **29**, April Supplement, 210-217, 1991.

9. Westerink, J.J., R.A. Luettich, A.M. Baptista, N.W. Scheffner and P. Farrar, "Tide and Storm Surge Predictions Using a Finite Element Model," ***Journal of Hydraulic Engineering***, **118**, 1373-1390, 1992.

10. Cantekin, M.E., J.J. Westerink and R.A. Luettich, "Low and Moderate Reynolds Number Transient Flow Simulations Using Space Filtered Navier Stokes Equations," ***Numerical Methods for Partial Differential Equations***, **10**, 491-524, 1994.

11. Kolar, R.L., J.J. Westerink, M.E. Cantekin and C.A. Blain, "Aspects of Nonlinear Simulations Using Shallow Water Models Based on the Wave Continuity Equation," ***Computers and Fluids***, **23**, 3, 523-538, 1994.

12. Kolar, R.L., W.G. Gray, J.J. Westerink and R.A. Luettich, "Shallow Water Modeling in Spherical Coordinates: Equation Formulation, Numerical Implementation and Application," ***Journal of Hydraulic Research***, **32**, 1, 3-24, 1994.

13. Westerink, J.J., R.A. Luettich and J.C. Muccino, "Modeling Tides in the Western North Atlantic Using Unstructured Graded Grids," ***Tellus***, **46A**, 178-199, 1994.

14. Westerink, J.J., R.A. Luettich, J.K. Wu and R.L. Kolar, "The Influence of Normal Flow Boundary Conditions on Spurious Modes in Finite Element Solutions to the Shallow Water Equations," ***International Journal for Numerical Methods in Fluids***, **18**, 1021-1060, 1994.

15. Luettich, R.A., S. Hu and J.J. Westerink, "Development of the Direct Stress Solution Technique for Three Dimensional Hydrodynamic Models Using Finite Elements," ***International Journal for Numerical Methods in Fluids***, **19**, 295-319, 1994.

16. Blain, C.A., J.J. Westerink and R.A. Luettich, "The Influence of Domain Size on the Response Characteristics of a Hurricane Storm Surge Model," ***Journal of Geophysical Research***, **99, C9**, 18467-18479, 1994.

17. Grenier, R.R., R.A. Luettich and J.J. Westerink, "A Comparison of the Nonlinear Frictional Characteristics of Two-Dimensional and Three-Dimensional Models of a Shallow Tidal Embayment," ***Journal of Geophysical Research***, **100, C7**, 13719-13735, 1995.

18. Kolar, R.L., W.G. Gray and J.J. Westerink, "Boundary Conditions in Shallow Water Models - An Alternative Implementation for Finite Element Codes," ***International Journal for Numerical Methods in Fluids***, **22**, 603-618, 1996.

19. Blain, C.A., J.J. Westerink and R.A. Luettich, "Grid Convergence Studies for the Prediction of Hurricane Storm Surge," ***International Journal for Numerical Methods in Fluids***, **26**, 369-401, 1998.

20. Hagen, S.C., J.J. Westerink and R.L. Kolar, "One-Dimensional Finite Element Grids Based on a Localized Truncation Error Analysis," ***International Journal for Numerical Methods in Fluids,*** **32**, 241-261, 2000.

21. Hagen, S.C., J.J. Westerink, R.L. Kolar and O. Horstmann, "Two Dimensional Unstructured Mesh Generation for Tidal Models," ***International Journal for Numerical Methods in Fluids***, **35**, 669-686, 2001.

22. Atkinson, J.H., J.J. Westerink and J.M. Hervouet, "Similarities between the Quasi-Bubble and the Generalized Wave Continuity Equation Solutions to the Shallow Water Equations," ***International Journal for Numerical Methods in Fluids***, **45,** 689-714, 2004.

23. Atkinson, J.H., J.J. Westerink and R.A. Luettich, "Two-Dimensional Dispersion Analysis of Finite Element Approximations to the Shallow Water Equations," ***International Journal for Numerical Methods in Fluids***, **45,** 715-749, 2004.

24. Bunya, S., J.J. Westerink and S. Yoshimura, "Discontinuous Boundary Implementations for the Shallow Water Equations," ***International Journal for Numerical Methods in Fluids***, **47**, 1451-1468, 2005.

25. Bunya, S., S. Yoshimura and J.J. Westerink, "Improvements in the Mass Conservation Using Alternative Boundary Implementations for a Quasi Bubble Finite Element Shallow Water Model," ***International Journal for Numerical Methods in Fluids***, **51**, 1277-1296**,** 2006.

26. Dawson, C., J.J. Westerink, J.C. Feyen and D. Pothina, "Continuous, Discontinuous and Coupled Discontinuous-Continuous Galerkin Finite Element Methods for the Shallow Water Equations," *International* ***Journal for Numerical Methods in Fluids***, **52**, 63-88, 2006.

27. Kubatko, E.J., J.J. Westerink and C. Dawson, "An Unstructured Grid Morphodynamic Model with a Discontinuous Galerkin Method for Bed Evolution," ***Ocean Modeling***, **15**, 71-89, 2006.

28. Kubatko, E.J., J.J. Westerink and C. Dawson, "*hp* Discontinuous Galerkin Methods for Advection Dominated Problems in Shallow Water Flow," ***Computer Methods in Applied Mechanics and Engineering***, **196**, 437-451, 2006.

29. Ebersole, B.A., D. Resio, and J.J. Westerink, "A Community Approach to Improved Prediction and Characterization of Coastal Storm Hazards," ***Marine Technology Society Journal,*** **40**, 4, 56-68, 2006/2007.

30. Kubatko, E.J and J.J. Westerink, "Exact Discontinuous Solutions of Exner's Bed Evolution Model: Simple Theory for Sediment Bores," ***Journal of Hydraulic Engineering,*** **133**, 305-311, 2007.

31. Kubatko, E.J., J.J. Westerink and C. Dawson, "Semi-discrete Discontinuous Galerkin Methods and Stage Exceeding Order Strong Stability Preserving Runge-Kutta Time Discretizations," ***Journal of Computational Physics,*** **222**, 832-848, 2007.

32. Westerink, J.J., R.A. Luettich , J.C. Feyen, J.H. Atkinson, , C. Dawson, H.J. Roberts, M.D. Powell, J.P. Dunion, E.J. Kubatko, H. Pourtaheri, "A Basin to Channel Scale Unstructured Grid Hurricane Storm Surge Model Applied to Southern Louisiana," ***Monthly Weather Review***, **136**, 3, 833-864, 2008.

33. Resio, D.T. and J.J. Westerink, "Hurricanes and the Physics of Surges," ***Physics Today***, **61**, 9, 33-38, 2008.

34. Kubatko, E.J., C. Dawson, J.J. Westerink, "Time Step Restrictions for Runge-Kutta Discontinuous Galerkin Methods on Triangular Grids," ***Journal Computational Physics,*** **227**, 9697-9710, 2008.

35. Bunya S. and J.J. Westerink, "Hurricane Katrina Storm Surge Hindcast Using a Coupled Storm Surge, Wind Wave, and Tidal Current Model on an Unstructured Grid," (in Japanese), ***Annual Journal of Coastal Engineering, Japan Society of Civil Engineers,*** **55**, 316-320, 2008.

36. Bunya, S., E.J. Kubatko, J.J. Westerink, C. Dawson, "A Wetting and Drying Treatment for the Runge-Kutta Discontinuous Galerkin Solution to the Shallow Water Equations," ***Computer Methods in Applied Mechanics and Engineering,*** **198**, 1548-1562, 2009.

37. Kubatko, E.J., S. Bunya, C. Dawson, J.J. Westerink, "Dynamic *p*-adaptive Runge-Kutta Discontinuous Galerkin Methods for the Shallow Water Equations," ***Computer Methods in Applied Mechanics and Engineering,*** **198**, 1766-1774, 2009.

38. Kubatko, E.J., S. Bunya, C. Dawson, J.J. Westerink, C. Mirabito, "A Performance Comparison of Continuous and Discontinuous Finite Element Shallow Water Models," ***Journal of Scientific Computing***, **30**, 315-339, 2009.

39. Bunya, S., J.C. Dietrich, J.J. Westerink, B.A. Ebersole, J.M. Smith, J.H. Atkinson, R. Jensen, D.T. Resio, R.A. Luettich, C. Dawson, V.J. Cardone, A.T. Cox, M.D. Powell, H.J. Westerink, H.J. Roberts, "A High Resolution Coupled Riverine Flow, Tide, Wind, Wind Wave and Storm Surge Model for Southern Louisiana and Mississippi: Part I - Model Development and Validation," ***Monthly Weather Review***, **138**, 345–377, 2010.

40. Dietrich, J.C., S. Bunya, J.J. Westerink, B.A. Ebersole, J.M. Smith, J.H. Atkinson, R. Jensen, D.T. Resio, R.A. Luettich, C. Dawson, V.J. Cardone, A.T. Cox, M.D. Powell, H.J. Westerink, H.J. Roberts, "A High Resolution Coupled Riverine Flow, Tide, Wind, Wind Wave and Storm Surge Model for Southern Louisiana and Mississippi: Part II - Synoptic Description and Analyses of Hurricanes Katrina and Rita ," ***Monthly Weather Review***, **138**, 378–404, 2010.

41. Ebersole, B.A., J.J. Westerink, S. Bunya, J.C. Dietrich, M.A. Cialone, "Development of Storm Surge Which Led to Flooding in St. Bernard Polder during Hurricane Katrina," ***Ocean Engineering***, **37**, 91-103, 2010.

42. Wirasaet, D., S. Tanaka, E.J. Kubatko, J.J. Westerink, C. Dawson, "A Performance Comparison of Nodal Discontinuous Galerkin Methods on Triangles and Quadrilaterals," ***International Journal for Numerical Methods in Fluids***, **64**, 1336-1362, 2010.

43. Forbes, C., R.A. Luettich, C.A. Mattocks, J.J. Westerink, "A Retrospective Evaluation of the Storm Surge Produced by Hurricane Gustav (2008): Forecast and Hindcast Results," ***Weather and Forecasting,*** **25**, 6, 1577-1602, 2010.

44. Dietrich, J.C., M. Zijlema, J.J. Westerink, L.H. Holthuijsen, C. Dawson, R.A. Luettich, R. Jensen, J.M. Smith, G.S. Stelling, G.W. Stone, "Modeling Hurricane Waves and Storm Surge using Integrally-Coupled, Scalable Computations," ***Coastal Engineering***, **58**, 45-65, 2011.

45. Mirabito, C., C. Dawson, E.J. Kubatko, J.J. Westerink, S. Bunya, "Implementation of a Discontinuous Galerkin Morphological Model on Two-Dimensional Unstructured Meshes," ***Computer Methods in Applied Mechanics and Engineering***, **200**, 189-207, 2011.

46. Tanaka, S., S. Bunya, J.J. Westerink, C. Dawson, R.A. Luettich, "Scalability of an Unstructured Grid Continuous Galerkin Based Hurricane Storm Surge Model," ***Journal of Scientific Computing***, **46**, 329-358**,** 2011.

47. Dawson, C. E.J. Kubatko, J.J. Westerink, C. Trahan, C. Mirabito, C. Michoskia, N. Pandaa, "Discontinuous Galerkin Methods for Modeling Hurricane Storm Surge," ***Advances in Water Resources***, **34**, 1165-1176, 2011.

48. Dietrich, J.C., J.J. Westerink, A.B. Kennedy, J.M. Smith, R. Jensen, M. Zijlema, L.H. Holthuijsen, C. Dawson, R.A. Luettich, Jr., M.D. Powell, V.J. Cardone, A.T. Cox, G.W. Stone, H. Pourtaheri, M.E. Hope, S. Tanaka, L.G. Westerink, H.J. Westerink, Z. Cobell, "Hurricane Gustav (2008) Waves, Storm Surge and Currents: Hindcast and Synoptic Analysis in Southern Louisiana," ***Monthly Weather Review***, **139**, 2488-2522, DOI 10.1175/2011MWR3611.1, 2011.

49. Kennedy, A.B., U. Gravois, B.C. Zachry, J.J. Westerink, M.E. Hope, J.C. Dietrich, M.D. Powell, A.T. Cox, R.A. Luettich Jr., R.G. Dean, "Origin of the Hurricane Ike Forerunner Surge," ***Geophysical Research Letters***, **38**, L08608, 2011.

50. Michoski, C., C. Mirabito, C. Dawson, D. Wirasaet, E.J. Kubatko, J.J. Westerink, "Dynamic p-enrichment schemes for multicomponent reactive flows," ***Advances in Water Resources***, **34**, 1666-1680, doi:10.1016/j.advwatres.2011.09.001, 2011.

51. Michoski, C., C. Mirabito, C. Dawson, D. Wirasaet, E.J. Kubatko, J.J. Westerink, "Adaptive Hierarchic Transformations for Dynamically p-enriched Slope-limiting over Discontinuous Galerkin Systems of Generalized Equations," ***Journal of Computational Physics***, **230**, 22, 8028-8056, 2011.

52. Dietrich, J.C., S. Tanaka, J.J. Westerink, C.N. Dawson, R.A. Luettich, Jr., M. Zijlema, L.H. Holthuijsen, J.M. Smith, L.G. Westerink, H.J. Westerink, "Performance of the Unstructured-Mesh, SWAN+ADCIRC Model in Computing Hurricane Waves and Surge" ***Journal of Scientific Computing***, **52**, 468-497 2012.

53. Dietrich, J.C., Trahan, C.J., Howard, M.T., Fleming, J.G., Weaver, R.J., Tanaka,S., Yu, L., Luettich Jr., R.A., Wells, G., Dawson, C.N., Westerink, J.J., Lu, A., Vega, K., Kubach, A., Dresback, K.M., Kolar, R.L., Kaiser, C., Twilley, R.R.," Surface Trajectories of Oil Transport along the Northern Coastline of the Gulf of Mexico, ***Continental Shelf Research***, DOI 10.1016/j.csr.2012.03.015, **41**, 17-47, 2012.

54. Kennedy, A.B., J.J. Westerink, J.M. Smith, M.E. Hope, M. Hartman, A. Taflanidis, S. Tanaka, H. Westerink, K. Cheung, T. Smith, M. Hamann, M. Minamide, A. Ota, C. Dawson, "Tropical cyclone inundation potential on the Hawaiian Islands of Oahu and Kauai," ***Ocean Modeling***, **52-53**, 54-68, 2012.

55. Kerr, P.C., J.J. Westerink, J.C. Dietrich, R.C. Martyr, S. Tanaka, D.T. Resio, J.M. Smith, H.J. Westerink, L.G. Westerink, T. Wamsley, M. van Ledden, W. deJong, "Surge Generation Mechanisms in the Lower Mississippi River and Discharge Dependency," ***Journal of Waterway, Port, Coastal, and Ocean Engineering***, **13**9, 326-335, 2013.

56. Taflanidis, A.A., A.B. Kennedy, J.J. Westerink, J. Smith, K.F. Cheung, M. Hope, S. Tanaka, "Rapid Assessment of Wave and Surge Risk during Landfalling Hurricanes: Probabilistic Approach", ***Journal of Waterway, Port, Coastal, and Ocean Engineering***, **139**, 171-182, 2013.

57. Resio, D.T., J.L. Irish, J.J. Westerink, N.J. Powell, "The effect of uncertainty on estimates of hurricane surge hazards," ***Natural Hazards***, **66**, 1443-1459, 2013.

58. Martyr, R.C., J.C. Dietrich, J.J. Westerink, P.C. Kerr, C. Dawson, J.M. Smith, H. Pourtaheri, N. Powell, M. Van Ledden, S. Tanaka, H.J. Roberts, H.J. Westerink, L.G. Westerink, "Simulating Hurricane Storm Surge in the Lower Mississippi River under Varying Flow Conditions," ***Journal of Hydraulic Engineering***, **139**, 492-501, 2013.

59. Zhang, Y., A.B. Kennedy, N. Panda, C. Dawson, J.J. Westerink, "Boussinesq-Green-Naghdi rotational water wave theory," ***Coastal Engineering***, **73**, 13-27, 2013.

60. Dawson, C., C.J. Trahan, E.J. Kubatko, J.J. Westerink, "A parallel local timestepping Runge-Kutta discontinuous Galerkin method with applications to coastal ocean modeling," ***Computer Methods in Applied Mechanics and Engineering***, **259**, 154-165, 2013.

61. Dietrich, J.C., M. Zijlema, P.-E. Allier, L.H. Holthuijsen, N. Booij, J.D. Meixner, J.K. Proft, C.N. Dawson, C.J. Bender, A. Naimaster, J.M. Smith, J.J. Westerink, "Limiters for spectral propagation velocities in SWAN," ***Ocean Modeling***, **70**, 85-102, 2013.

62. Zachry, B.C., J.L. Schroeder, A.B. Kennedy, J.J. Westerink, C.W. Letchford, and M.E. Hope, "A Case Study of Nearshore Drag Coefficient Behavior during Hurricane Ike (2008)," ***Journal of Applied Meteorology and Climatology***, **52**, 2139-2146, 2013.

63. Zheng, L., R.H. Weisberg, Y. Huang, R.A. Luettich, J.J. Westerink, P.C. Kerr, A.S. Donahue, G. Crane, L. Akli, "Implications from the comparisons between two- and three-dimensional model simulations of the Hurricane Ike storm surge," ***Journal of Geophysical Research: Oceans***, **118**, 3350-3369, DOI: 10.1002/jgrc.20248, 2013.

64. Chen, C., R.C. Beardsley, R.A. Luettich Jr., J.J. Westerink, H. Wang, W. Perrie, Q. Xu, A.S. Donahue, J. Qi, H. Lin, L. Zhao, P.C. Kerr, Y. Meng, B. Toulany, "Extratropical storm inundation testbed: Intermodel comparisons in Scituate, Massachusetts," ***Journal of Geophysical Research: Oceans***, **118**, 10, 5054–5073, doi:10.1002/jgrc.20397, 2013.

65. Hope, M.E., J.J. Westerink, A.B. Kennedy, P.C. Kerr, J.C. Dietrich, C. Dawson, C.J. Bender, J.M. Smith, R.E. Jensen, M. Zijlema, L.H. Holthuijsen, R.A. Luettich Jr., M.D. Powell, V.J. Cardone, A.T. Cox, H. Poutaheri, H.J. Roberts, J.H. Atkinson, S. Tanaka, H.J. Westerink, and L.G. Westerink, "Hindcast and validation of Hurricane Ike (2008) waves, forerunner, and storm surge," ***Journal of Geophysical Research: Oceans***, **118**, 4424-4460, doi:10.1002/jgrc.20314, 2013.

66. Kerr, P.C., A.S. Donahue, J.J. Westerink, R.A. Luettich Jr., L.Y. Zheng, R.H. Weisberg, Y. Huang, H.V. Wang, Y. Teng, D.R. Forrest, A. Roland, A.T. Haase, A.W. Kramer, A.A. Taylor, J.R. Rhome, J.C. Feyen, R.P. Signell, J.L. Hanson, M.E. Hope, R.M. Estes, R.A. Dominguez, R.P. Dunbar, L.N. Semeraro, H.J. Westerink, A.B. Kennedy, J.M. Smith, M.D. Powell, V.J. Cardone, A.T. Cox, "U.S. IOOS coastal and ocean modeling testbed: Inter-model evaluation of tides, waves, and hurricane surge in the Gulf of Mexico," ***Journal of Geophysical Research: Oceans***, **118**, 10, 5129–5172, DOI 10.1002/jgrc.20376, 2013.

67. Kerr, P.C., R.C. Martyr, A.S. Donahue, M.E. Hope, J.J. Westerink, R.A. Luettich Jr., A.B. Kennedy, J.C. Dietrich, C. Dawson, H.J. Westerink, "U.S. IOOS coastal and ocean modeling testbed: Evaluation of tide, wave, and hurricane surge response sensitivities to mesh resolution and friction in the Gulf of Mexico," ***Journal of Geophysical Research: Oceans***, **118**, 4633-4661, DOI 10.1002/jgrc.20305, 2013.

68. Michoski, C., C. Dawson, C. Mirabito, E.J. Kubatko, D. Wirasaet, J.J. Westerink, "Fully coupled methods for multiphase morphodynamics," ***Advances in Water Resources***, **59**, 95-110, 2013.

69. Kennedy, A.B., J.C. Dietrich, J.J. Westerink, "The surge standard for 'events of Katrina magnitude'," ***Proceedings of the National Academy of Sciences of the United States of America***, **110**, 29, E2665-E2666, DOI: 10.1073/pnas.1305960110, July 16, 2013.

70. McCullough, M.C., A. Kareem, A. S. Donahue, and J.J. Westerink, "Structural damage under multiple hazards in coastal environments," ***Journal of Disaster Research***, **8**, 6, 1042-1051, 2013.

71. Zhang, Y., A. B. Kennedy, N. Panda, C. Dawson, J.J. Westerink, "Generating–absorbing sponge layers for phase-resolving wave models," ***Coastal Engineering***, **84**, 1-9, DOI 10.1016/j.coastaleng.2013.10.019, 2014.

72. Wirasaet, D., E.J. Kubatko, C.E. Michoski, S. Tanaka, J.J. Westerink, C. Dawson, "Discontinuous Galerkin Methods with Nodal and Hybrid Modal/Nodal Triangular, Quadrilateral, and Polygonal Elements for Nonlinear Shallow Water Flow," ***Computer Methods in Applied Mechanics and Engineering***, doi:http://dx.doi.org/10.1016/j.cma.2013.11.006, **270**, 113–149, 2014.

73. Butler, T., D. Estep, S. Tavener, C. Dawson, and J.J. Westerink , "A measure-theoretic computational method for inverse sensitivity problems III: Multiple quantities of interest," ***SIAM/ASA Journal of Uncertainty Quantification***, **2**, 174–202, 2014.

74. Zhang, Y., A.B. Kennedy, A.S. Donahue, J.J. Westerink, N. Panda, C. Dawson, "Rotational surf zone modeling for O(μ4) Boussinesq–Green–Naghdi systems," http://dx.doi.org/10.1016/j.ocemod.2014.04.001, ***Ocean Modeling***, **79**, 43–53, 2014.

75. Panda, N., C. Dawson, Y. Zhang, A.B. Kennedy, J.J. Westerink, A.S. Donahue, "Discontinuous Galerkin methods for solving Boussinesq–Green–Naghdi equations in resolving non-linear and dispersive surface water waves," ***Journal of Computational Physics***, **273**, 572–588, 2014.

76. Donahue, A.S., Y. Zhang, A.B. Kennedy, J.J. Westerink, N. Panda and C. Dawson, "A Boussinesq-scaled, Pressure–Poisson water wave model," ***Ocean Modeling***, **86,** 36-57, 2015.

77. Butler, T., L. Graham, D. Estep, C. Dawson, J.J. Westerink, "Definition and solution of a stochastic inverse problem for the Manning's n parameter field in hydrodynamic models," ***Advances in Water Resources***, **78,** 60-79, 2015.

78. Wirasaet, D., S.R. Brus, C.E. Michoski, E.J. Kubatko, J.J. Westerink, C. Dawson, "Artificial boundary layers in discontinuous Galerkin solutions to shallow water equations in channels," ***Journal of Computational Physics***, **299**, 579-612, 2015.

79. Michoski, C., C. Dawson, E.J. Kubatko, D. Wirasaet, S. Brus, J.J. Westerink, "A Comparison of Artificial Viscosity, Limiters, and Filters, for High Order Discontinuous Galerkin Solutions in Nonlinear Settings," ***Journal of Scientific Computing***, DOI 10.1007/s10915-015-0027-2, **66**, 1, 406-434, 2016.

80. Zhang, Yao, A.B. Kennedy, T. Tomiczek, A. Donahue, J.J. Westerink, "Validation of Boussinesq-Green-Naghdi modeling for surf zone hydrodynamics," ***Ocean Engineering***, **111**, 290-309, 2016

81. Donahue, A.S., A.B. Kennedy, J.J. Westerink, Y. Zhang and C. Dawson, "Simulation of wave phenomena in the nearshore through application of O(μ2) and O(μ4) pressure-Poisson Boussinesq type models," ***Coastal Engineering***, **114**, 61-76, 2016.

82. Brus, S.R., D. Wirasaet, J. J. Westerink, C. Dawson, "Performance and Scalability Improvements for Discontinuous Galerkin Solutions to Conservation Laws on Unstructured Grids," ***Journal of Scientific Computing***, DOI 10.1007/s10915-016-0249-y, **70**, 210-242, 2017.

83. Graham, L.C, T. Butler, S. Walsh; C. Dawson, J.J. Westerink, "A Measure-Theoretic Algorithm for Estimating Bottom Friction in a Coastal Inlet: Case Study of Bay St. Louis during Hurricane Gustav (2008)," ***Monthly Weather Review***, **145 (3)**, 929-954, 2017

84. Resio, D.T., N. Powell, M. Cialone, H.S. Das, J.J. Westerink, "Quantifying Impacts of Forecast Uncertainties on Predicted Storm Surges," ***Journal of Natural Hazards***, DOI 10.1007/s11069-017-2924-1, **88**, 3, 1423-1449, 2017.

85. Zhang, Y., Kennedy, A.B., Tomiczek, T., Yang, W., Liu, W., Westerink, J.J., "Assessment of hydrodynamic competence in extreme marine events through application of Boussinesq-Green-Naghdi models", ***Applied Ocean Research***, DOI 10.1016/j.apor.2017.06.001, **67**, 136-147, 2017.

TRADE JOURNAL PUBLICATIONS

1. Ledden, M. van, W. de Jong, J. Westerink, "New Orleans Wapent Zich met Robuuster Dijkontwerp," (in Dutch). *Land + Water: Magazine voor Civiele- en Milieutechniek*, 19 Oktober , 16-17, 2007

2. Waart, M. van de, S. Hulscher, M. van de Ledden, J. Westerink, J. Mulder, W. de Jong, "Plaquemines Spillways Zijn een Sterk Alternatief voor Dijkverhoging in New Orleans," (in Dutch). *H_20*: *Tijdschrift voor Watervoorziening and Waterbeheer*, 7, 17-19, 2010.

REFEREED BOOK CHAPTERS (*I - indicates invited*)

1.***I*** Luettich, R.A. and J.J. Westerink, "Continental Shelf Scale Convergence Studies with a Barotropic Tidal Model," in Quantitative Skill Assessment for Coastal Ocean Models, D.R. Lynch and A.M. Davies, Editors, Coastal and Estuarine Studies Series, **47**, American Geophysical Union, Washington, D.C., 1995

REFEREED CONFERENCE PROCEEDINGS

1. Westerink, J.J., "The Solution of the Shock Wave Problem Using the Fractional Step Method," Proceedings of the Symposium on Computational Acoustics, Yale University, New Haven, Ct., D. Lee, R. Sternberg and M. Schulz, Eds., 1986.
2. Luettich, R.A., S. Hu, J.J. Westerink and N.W. Scheffner, "Modeling 3-D Circulation Using the DSS Technique," Estuarine and Coastal Modeling, M. Spaulding Ed., ASCE, N.Y., N.Y., 1992.
3. Westerink, J.J., J.C. Muccino and R.A. Luettich, "Tide and Storm Surge Computations for the Western North Atlantic and Gulf of Mexico," Estuarine and Coastal Modeling, M. Spaulding Ed., ASCE, N.Y., N.Y., 1992.
4. Grenier, R.R., R.A. Luettich and J.J. Westerink, "Comparison of 2D and 3D Models for Computing Shallow Water Tides in a Friction Dominated Tidal Embayment," Estuarine and Coastal Modeling III, M. Spaulding et al. Eds., ASCE, New York, NY, 58-70, 1994.
5. Spargo, E., J.J. Westerink, R.A. Luettich and D. Mark, "Developing a Tidal Constituent Database for the Eastern North Pacific Ocean," Estuarine and Coastal Modeling, Proceedings of the Eight International Conference, November 3-5, 2003, Monterey, CA, M. Spaulding et al. Eds., ASCE, New York, NY, 2004.
6. Dietrich, J.C., R.L. Kolar and J.J. Westerink, "Refinements in Continuous Galerkin Wetting and Drying Algorithms," Estuarine and Coastal Modeling, Proceedings of the Ninth International Conference, October 31-November 2, 2005, Charleston, SC, M. Spaulding et al. Eds., 2006.
7. Atkinson, J., J. Westerink, T. Wamsley, M. Cialone, C. Dietrich, K. Dresback, R. Kolar, D. Resio, C. Bender, B. Blanton, S. Bunya, W. de Jong, B. Ebersole, A. Grzegorzewski, B. Jensen, H. Pourtaheri, J. Ratcliff, H. Roberts, J. Smith, and C. Szpilka, "Hurricane Storm Surge and Wave Modeling in Southern Louisiana: A Brief Overview," Estuarine and Coastal Modeling, Proceedings of the Tenth International Conference, November 5-7, 2007, Newport, RI, M. Spaulding Ed. ASCE, 2008.
8. Forbes, C., J. Fleming, C. Mattocks, C. Fulcher, R. Luettich, J. Westerink, and S. Bunya, "New Developments in the ADCIRC Community Model," Estuarine and Coastal Modeling, Proceedings of the Tenth International Conference, November 5-7, 2007, Newport, RI, M. Spaulding Ed. ASCE, 2008.
9. Clint Dawson, Joannes Westerink, Ethan Kubatko, Jennifer Proft and Chris Mirabito, "Parallel Finite Element Models for Hurricane Storm Surges," Proceedings of the Teragrid '08 Conference, Las Vegas, NV, June 9-13, 2008.
10. J. McKee Smith, R.E. Jensen, A.B. Kennedy, J.C. Dietrich, and J.J. Westerink. " Waves in Wetlands: Hurricane Gustav," Proceedings of the 32nd International Conference on Coastal Engineering (ICCE 2010), Shanghai, China, Coastal Engineering Research Council of the American Society of Civil Engineers, 2010.

REFEREED TECHNICAL REPORTS

1. Luettich, R.A., J.J. Westerink and N.W. Scheffner, "ADCIRC: An Advanced Three-Dimensional Circulation Model for Shelves, Coasts and Estuaries, Report 1: Theory and Methodology of ADCIRC-2DDI and ADCIRC-3DL," Technical Report DRP-92-6, Department of the Army, US Army Corps of Engineers, Washington D.C., November 1992.
2. Westerink, J.J., R.A. Luettich and N.W. Scheffner, "ADCIRC: An Advanced Three-Dimensional Circulation Model for Shelves, Coasts, and Estuaries, Report 3: Development of a Tidal Constituent Database for the Western North Atlantic and Gulf of Mexico," Department of the Army, US Army Corps of Engineers, Washington, D.C., June 1993.
3. Blain, C.A., J.J. Westerink, R.A. Luettich and N.W. Scheffner, "Generation of a Storm Surge Data Base from the Hindcast of 153 Historical Hurricane Events," Department of the Army, US Army Corps of Engineers, Washington, D.C., 1993.
4. Westerink, J.J., R.A. Luettich, C.A. Blain and N.W. Scheffner, "ADCIRC: An Advanced Three-Dimensional Circulation Model for Shelves, Coasts and Estuaries; Report 2: Users Manual for ADCIRC-2DDI," Department of the Army, US Army Corps of Engineers, Washington D.C., January 1994.

5. Blain, C.A., J.J. Westerink, R.A. Luettich and N.W. Scheffner, "ADCIRC: An Advanced Three-Dimensional Circulation Model for Shelves, Coasts, and Estuaries, Report 4: Hurricane Storm Surge Modeling Using Large Domains," Department of the Army, US Army Corps of Engineers, Washington, D.C., August 1994.

6. Scheffner, N.W., D.J. Mark, C.A. Blain, J.J. Westerink and R.A. Luettich, "ADCIRC: An Advanced Three-Dimensional Circulation Model for Shelves, Coasts, and Estuaries, Report 5: A Tropical Storm Database for the East and Gulf of Mexico Coasts of the United States," Department of the Army, US Army Corps of Engineers, Washington, D.C., August 1994.

7. Hench, J.L., R.A. Luettich, J.J. Westerink and N.W. Scheffner, "Development of a Tidal Constituent Database for the Eastern North Pacific," Department of the Army, U.S. Army Corps of Engineers, Washington, D.C., 1994.

8. Blain, C.A., J.J. Westerink, R.A. Luettich and N.W. Scheffner, "The Influence of Domain Size and Grid Structure on the Response Characteristics of a Hurricane Storm Surge Model," Department of the Army Waterways Experiment Station, Vicksburg MS, March 1995.

9. Mukai, A., J.J. Westerink and R.A. Luettich, "Guidelines for Using the Eastcoast 2001 Database of Tidal Constituents within the Western North Atlantic Ocean, Gulf of Mexico and Caribbean Sea," Coastal and Hydraulic Engineering Technical Note, U.S. Army Engineer Research and Development Center, Vicksburg MS, September 2001.

10. Mukai, A., J.J. Westerink, R.A. Luettich and D.J. Mark, "A Tidal Constituent Database for the Western North Atlantic Ocean, Gulf of Mexico and Caribbean Sea," Technical Report, U.S. Army Engineer Research and Development Center, Vicksburg MS, Report ERDC/CHL TR-02-24, September 2002.

11. Spargo, E.A., J.J. Westerink, R.A. Luettich and D.J. Mark, "ENPAC 2003: A Tidal Constituent Database for the Eastern North Pacific Ocean," Technical Report, U.S. Army Engineer Research and Development Center, Vicksburg MS, Report ERDC/CHL TR-04-12, September 2004.

12. Ebersole, B.A., J.J. Westerink, D.T. Resio, R.G. Dean, "Performance Evaluation of the New Orleans and Southeast Louisiana Hurricane Protection System," Volume IV – The Storm, Final Report of the Interagency Performance Evaluation Task Force, U.S. Army Corps of Engineers, Washington, D.C., March 2007.

13. Link, L.E., J.J. Jaeger, J. Stevenson, W. Stroupe, R.L. Mosher, D. Martin, J.K. Garster, D.B. Zilkoski, B.A. Ebersole, J.J. Westerink, D.T. Resio, R.G. Dean, M.K. Sharp, R.S. Steedman, J.M. Duncan, B.L. Moentenich, B. Howard, J. Harris, S. Fitzgerald, D. Moser, P. Canning, J. Foster, B. Muller, "Performance Evaluation of the New Orleans and Southeast Louisiana Hurricane Protection System," Volume I – Executive Summary and Overview, Final Report of the Interagency Performance Task Force, U.S. Army Corps of Engineers, Washington, D.C., June 2008.

14. Flood Insurance Study: Southeastern Parishes, Louisiana, Intermediate Submission 2: Offshore Water Levels and Waves, FEMA Region 6, U.S. Army Corps of Engineers, New Orleans District, 24 July, 2008. *Contributors: J. Westerink, J. Dietrich, S. Bunya, H. Westerink, S. Tanaka, R. Martyr, M. Hope, L. Westerink; University of Notre Dame; J. Atkinson, L. Zevenbergen, Ayres Associates; H. Roberts, F. Clark, ARCADIS U.S., Inc.; B. Ebersole, J. Smith, R. Jensen, D. Resio, M. Cialone, T. Wamsley, A. Sleath, USACE ERDC; J. Ratcliff, H. Pourtaheri, N. Powell, D. Elzey, V. Brisley, H. Winer, J. Hote, V. Stutts, USACE MVN; C. Dawson, E. Kubatko, University of Texas at Austin; W. deJong, Royal Haskoning; R. Kolar, K. Dresback, University of Oklahoma; R. Luettich, B. Blanton, J. Flemming, University of North Carolina at Chapel Hill; V. Cardone, A. Cox, Oceanweather, Inc.; M. Powell, HRD/NOAA.*

15. Flood Insurance Study: Southwestern Parishes, Louisiana, Intermediate Submission 2: Offshore Water Levels and Waves, FEMA Region 6, U.S. Army Corps of Engineers, New Orleans District, 23 October, 2008. *Contributors: J. Westerink, J. Dietrich, S. Bunya, H. Westerink, S. Tanaka, R. Martyr, M. Hope, L. Westerink; University of Notre Dame; J. Atkinson, L. Zevenbergen, Ayres Associates; H. Roberts, F. Clark, ARCADIS U.S., Inc.; B. Ebersole, J. Smith, R. Jensen, D. Resio, M. Cialone, T. Wamsley, A. Sleath, USACE ERDC; J. Ratcliff, H. Pourtaheri, N. Powell, D. Elzey, V. Brisley, H. Winer, J. Hote, V. Stutts, USACE MVN; C. Dawson, E. Kubatko, University of Texas at Austin; W. deJong, Royal Haskoning; R. Kolar, K. Dresback, University of Oklahoma; R.*

Luettich, B. Blanton, J. Flemming, University of North Carolina at Chapel Hill; V. Cardone, A. Cox, Oceanweather, Inc.; M. Powell, HRD/NOAA.

16. Flood Insurance Study: Coastal Counties, Texas, Intermediate Submission 2: Scoping and Data Review, FEMA Region 6, U.S. Army Corps of Engineers, New Orleans District, 15 November, 2011. *Contributors: J. Westerink, J. Dietrich, H. Westerink, S. Tanaka, R. Martyr, M. Hope, L. Westerink, University of Notre Dame; J. Atkinson, H. Roberts, R. Clark, S. Zou, Z. Cobell, ARCADIS U.S., Inc.; C. Bender, R. Srinivas, Taylor Engineering; J. Smith, R. Jensen, D. Resio, J. Ratcliff, USACE ERDC; H. Pourtaheri, N. Powell, D. Elzey, D. Ulm, USACE MVN; C. Dawson, J. Proft, University of Texas at Austin; C. Szpilka, R. Kolar, K. Dresback, University of Oklahoma; V. Cardone, A. Cox, Oceanweather, Inc.; M. Powell, HRD/NOAA.*

BOOK CHAPTERS (*I - indicates invited*)

1.*I* Westerink, J.J., R.A. Luettich, C.A. Blain and S.C. Hagen, "Surface Elevation and Circulation in Continental Margin Waters," in Finite Element Modeling of Environmental Problems, Surface and Subsurface Flow and Transport, G.F. Carey, Ed., J. Wiley and Sons, Chichester, 1995.

2.*I* Westerink, J.J. and P.J. Roache, "Issues in Convergence Studies in Geophysical Flow Computations," in Next Generation Environmental Models Computational Methods, G. Delic and M.F. Wheeler, Eds., Society for Industrial and Applied Mathematics, Philadelphia, PA, 1997.

CONFERENCE PROCEEDINGS (*I - indicates invited, P - indicates invited Plenary speaker*)

1. Harms, V.W., C.T. Bishop and J.J. Westerink, "Pipe-Tire Floating Breakwater Design Criteria," Floating Breakwater Conference, Seattle, Washington, October 19-21, 1981.

2. Westerink, J.J., J.J. Connor and K.D. Stolzenbach., "Harmonic Finite Element Model of Tidal Circulation for Small Bays," Proceedings of the Conference on Frontiers in Hydraulic Engineering, H.T. Shen, Ed., ASCE, N.Y., 1983.

3. Westerink, J.J., J.J. Connor and K.D. Stolzenbach, "Spectral Computations within the Bight of Abaco Using a Frequency-Time Domain Finite Element Model," Proceedings of the Sixth International Conference on Finite Elements in Water Resources, A. Sa da Costa et al., Eds., Lisbon, Portugal, 1986.

4. Westerink, J.J., D. Shea and M.E. Cantekin, "Non-diffusive N+2 Degree Upwinding Methods for the Finite Element Solution of the Time Dependent Transport Equation," VIIth International Conference on Computational Methods in Water Resources, Cambridge, MA, M. Celia et al. Eds., 1988.

5. Miller, M.C., W.E. Roper, L.E. Borgman and J.J. Westerink, "Development of Water Level and Wave Height Design Data," Proceedings, 23rd Joint Meeting, United States - Japan Program in Natural Resources, Panel on Wind and Seismic Effects, Tsukuba, Japan, 14-17 May, 1991.

6. Kolar, R.L., W.G. Gray and J.J. Westerink, "An Analysis of the Mass Conserving Properties of the Generalized Wave Continuity Equation," Proceedings of the IX International Conference on Computational Methods in Water Resources, T. Russell et al. Eds., Denver, CO., June 1992.

7. Luettich, R.A. and J.J. Westerink, "A Three Dimensional Circulation Model Using a Direct Stress Solution over the Vertical," Proceedings of the IX International Conference on Computational Methods in Water Resources, T. Russell et al. Eds., Denver, CO., June 1992.

8. Westerink, J.J., J.C. Muccino and R.A. Luettich, "Resolution Requirements for a Tidal Model of the Western North Atlantic and Gulf of Mexico," Proceedings of the IX International Conference on Computational Methods in Water Resources, T. Russell et al. Eds., Denver, CO., June 1992.

9. Kareem, A., J.J. Westerink and L.E. Borgman, "Integrated Risk Assessment for Coastal Regions Subjected to Tropical Storms/Global Climate Change," Proceedings of the 7th U.S. National Conference on Wind Engineering, UCLA, June 1993.

10. Kolar, R.L., W.G. Gray and J.J. Westerink, "Normal Flow Boundary Conditions in Shallow Water Models - Affect on Mass Conservation and Accuracy," Proceedings of the X International Conference on Computational Methods in Water Resources, A. Peters et al. Eds, Heidelberg, July, 1994.

11. Blain, C.A., J.J. Westerink and R.A. Luettich, "Domain and Grid Sensitivity Studies for Hurricane Storm Surge Predictions," Proceedings of the X International Conference on Computational Methods in Water Resources, A. Peters et al. Eds., Heidelberg, July, 1994.

12.*I* Westerink, J.J. and R.A. Luettich, "Meshing Requirements for Large Scale Coastal Ocean Tidal Models," Proceedings of the X International Conference on Computational Methods in Water Resources, A. Peters et al. Eds., Heidelberg, July, 1994.

13.*I* Hagen, S.C. and J.J. Westerink, "Finite Element Grids Based on Truncation Error Analysis," Second International Conference on Hydro-science and Engineering, Beijing, China, March, 1995.

14. Hagen, S.C. and J.J. Westerink, "First Element Grid Resolution Based on Second and Fourth Order Truncation Error Analysis," Coastal Engineering '95, C.A. Brebbia et al. Eds., Cancun, Mexico, September, 1995.

15. Blain, C.A., J.J. Westerink and R.A. Luettich, "Application of a Domain Size and Gridding Strategy in the Prediction of Hurricane Storm Surge," Computer Modeling of Seas and Coastal Regions II, C.A. Brebbia et al. Eds., Computational Mechanics Publications, Southampton, 301-308, 1995.

16. Scheffner, N.W., J.J. Westerink and R.A. Luettich, "Applications of a Longwave Hydrodynamic Model Generated Tropical and Extra-tropical Storm Surge Database," Computer Modeling of Seas and Coastal Regions II, C.A. Brebbia et al. Eds., Computational Mechanics Publications, Southampton, 327-334, 1995.

17.*I* Westerink, J.J. and P.J. Roache, "Issues in Convergence Studies in Geophysical Flow Computations," Joint ASME/JSME Fluids Engineering Conference, Hilton Head, SC, August, 1995.

18.*P* Westerink, J.J., R.A. Luettich and R.L Kolar, "Advances in Finite Element Modeling of Coastal Ocean Hydrodynamics," Computational Methods in Water Resources XI, Volume 2, Computational Methods in Surface Flow and Transport Problems, A. Aldama et al. Eds., Computational Mechanics Publications, Southampton, 313-322, 1996.

19. Kolar, R.L., J.J. Westerink and S.C. Hagen, "Truncation Error Analysis of Shallow Water Models Based on the Generalized Wave Continuity Equation," Computational Methods in Water Resources XI, Volume 2, Computational Methods in Surface Flow and Transport Problems, A. Aldama et al. Eds., Computational Mechanics Publications, Southampton, 215-222, 1996.

20.*I* Westerink, J.J., R.A. Luettich and R.L Kolar, "ADCIRC, An Advanced Finite Element Model for Coastal Ocean Circulation," The Third Asian Pacific Conference on Computational Mechanics, 16-18 September, Seoul, Korea, 1996.

21. Hagen, S.C. and J.J. Westerink, "Utilization of an Imposed Multiple of Change in Finite Element Grid Generation," The Third Asian Pacific Conference on Computational Mechanics, 16-18 September, Seoul, Korea, 1996.

22. Kolar, R.L., J.P. Looper, J.J. Westerink and W.G. Gray, "An Improved Time Marching Algorithm for GWC Shallow Water Models," Computational Methods in Water Resources XII, Volume 2, Computational Methods in Surface and Ground Water Transport, V.N. Burganos et al. Eds., Computational Mechanics Publications, Southampton, 379-386, 1998.

23. Atkinson, J.H. and J.J. Westerink, "Evaluation of Spatial Discretizations of the Shallow Water Equations," Computational Methods in Water Resources XIII, L. Bentley et al. Eds., Volume 2, Computational Methods, Surface Waters Systems and Hydrology, Balkema Publishers, Rotterdam, 873-880, 2000.

24. Feyen, J.C., J.H. Atkinson and J.J. Westerink, "Issues in Hurricane Surge Computations Using a GWCE Based F.E. Model," Computational Methods in Water Resources XIII, L. Bentley et al. Eds., Volume 2, Computational Methods, Surface Waters Systems and Hydrology, Balkema Publishers, Rotterdam, 865-872, 2000.

25. Aldama, A., A. Aguillar, R. Kolar and J.J. Westerink, "A Mass Conservation Analysis of the GWCE Formulation," Computational Methods in Water Resources XIII, L. Bentley et al. Eds., Volume 2, Computational Methods, Surface Waters Systems and Hydrology, Balkema Publishers, Rotterdam, 907-912, 2000.

26. Kolar, R. and J.J. Westerink, "A Look Back at 20 Years of GWC Based Shallow Water Models," Computational Methods in Water Resources XIII, L. Bentley et al. Eds., Volume 2, Computational Methods, Surface Waters Systems and Hydrology, Balkema Publishers, Rotterdam, 899-906, 2000.

27. Feyen, J.C., J.H. Atkinson and J.J. Westerink, "GWCE-based Shallow Water Equation Simulations of the Lake Pontchartrain - Lake Borgne Tidal System," Computational Methods in Water Resources XIV, S.M. Hassanizadeh et al. Eds., Volume 2, Developments in Water Science, 47, Elsevier, Amsterdam, 1581-1588, 2002.

CONFERENCE ABSTRACTS (*I - indicates Invited; P - indicates invited Plenary speaker; K – indicates Keynote address*)

1. Westerink, J.J., J.J. Connor and K.D. Stolzenbach., "A Numerical Study of the Tides within the Bight of Abaco," Fall Meeting of the American Geophysical Union, San Francisco, EOS, Vol. 66, No. 46, 1985.

2.*I* Westerink, J.J. and M.E. Cantekin, "Superconvergent Petrov-Galerkin Methods for the Transient Transport Equation," Fall Meeting of the American Geophysical Union, San Francisco, EOS, Vol. 70, No. 43, 1989.

3. Wu, J., J.J. Westerink and R.A. Luettich, "Boundary Condition Control on Spurious Modes in Finite Element Solutions of the Shallow Water Equations," Fall Meeting of the American Geophysical Union, San Francisco, EOS, Vol. 70, No. 43, 1989.

4. Luettich, R.A., S. Hu and J.J. Westerink, "An Efficient Method for Including Boundary Layers in 3-D Hydrodynamic Models: Solving for the Vertical Variation of Shear Stress Rather than Velocity," Fall Meeting of the American Geophysical Union, EOS, Vol. 71, No. 43, 1990.

5.*I* Westerink, J.J., "Non-Diffusive Petrov-Galerkin Methods for the Transient Transport Equation," Workshop on Advances in Computational Methods for Transport Phenomena, University of Kentucky, Lexington KY, January 7-9, 1991.

6. Westerink, J.J., R.A. Luettich, A.M. Baptista and N.W. Scheffner, "Tidal Circulation Computations for the Western Atlantic Shelf and Gulf of Mexico," 25th Annual Congress of the Canadian Meteorological and Oceanographic Society, Winnipeg, Canada, 3-7 June, 1991.

7. Luettich, R.A., S. Hu and J.J. Westerink, "Development and Application of a Three-Dimensional Circulation Model Using a Direct Stress Solution Over the Vertical," 25th Annual Congress of the Canadian Meteorological and Oceanographic Society, Winnipeg, Canada, 3-7 June, 1991.

8.*I* Cantekin, M.E., J.J. Westerink, R.A. Luettich, "Lid Driven Cavity Flow Computations Using Filtered Navier Stokes Equations," First U.S. National Congress on Computational Mechanics, Chicago, July 21-24, 1991.

9.*I* Westerink, J.J. and R.A. Luettich, "Modeling Tides and Hurricane Storm Surge in the Western Atlantic Using the Generalized Wave Continuity Equation Model," JONSMOD '92, P.P. Dyke, Ed., Copenhagen, August 3-6, 1992.

10.*I* Luettich, R.A. and J.J. Westerink, "Assessing the Physics of Coastal Flow Models by Examining the Spectral Distribution of Nonlinear Tides," SIAM Conference on Mathematical and Computational Issues in the Geosciences, Houston, TX, April, 1993.

11.*I* Westerink, J.J. and R.A. Luettich, "Grid Convergence Studies for Coastal Ocean Models," SIAM Conference on Mathematical and Computational Issues in the Geosciences, Houston, TX, April, 1993.

12. Westerink, J.J. and R.A. Luettich, "Sensitivity Studies of Forcing Mechanisms for the Western North Atlantic Tidal Model," 3rd International Conference on Estuarine and Coastal Modeling, Oak Brook, IL, September, 1993.

13.[I] Westerink, J.J. and R.A. Luettich, "Convergence Studies of Tidal and Hurricane Storm Surge Response for Continental Margin Waters," Workshop on Finite Element Modeling of Environmental Problems, G.F. Carey, Ed., Computational Fluid Dynamics Laboratory, University of Texas at Austin, Austin, TX, March 4-5, 1994.

14.[I] Luettich, R.A. and J.J. Westerink, "Tidal Characteristics from a Barotropic Tidal Model of the Western North Atlantic and the Gulf of Mexico," JONSMOD '94, P.P. Dyke, Ed., Brussels, July 25-28, 1994.

15.[I] Westerink, J.J., C.A. Blain and R.A. Luettich, "Convergence Studies of Hurricane Storm Surge Response over a Large Scale Shelf Model," JONSMOD '94, P.P. Dyke, Ed., Brussels, July 25-28, 1994.

16.[P] Westerink, J.J. and R.A. Luettich, "Convergence Studies of Tides and Hurricane Response in Continental Margin Waters," SIAM Conference on Mathematical and Computational Issues in the Geosciences, San Antonio, TX, February 8-11, 1995.

17.[I] Westerink, J.J. and R.A. Luettich, "Unstructured Mesh Design and Error Assessment for Surface Water Flow Models," Workshop on the Next Generation Environmental Models Computational Methods, U.S. Environmental Protection Agency National Environmental Supercomputing Center, Bay City, MI, August 1995.

18.[I] Westerink, J.J. and R.L. Kolar, "Analysis of Boundary Conditions for Shallow Water Equation Models," Coastal Engineering 95, C.A. Brebbia et al. Eds., Cancun, Mexico, September 1995.

19. Hagen, S.C. and J.J. Westerink, "A Practical Approach for Two-Dimensional Finite Element Mesh Generation Based on Localized Truncation Error Analysis," Fourth International Conference on Estuarine and Coastal Modeling, San Diego, CA, October 26-28, 1995.

20. Luettich, R.A. and J.J. Westerink, "Recent Results from a Tidal Model of the Western North Atlantic, Gulf of Mexico and Caribbean Sea," Fourth International Conference on Estuarine and Coastal Modeling, San Diego, CA, October 26-28, 1995.

21. Luettich, R.A., J.J. Westerink and J. Hudgins, "Initial Results from a Combined Tide and Storm Surge Forecast Model of the U.S. East Coast, Gulf of Mexico and Caribbean Sea," 7th Pacific Congress on Marine Science and Technology, Honolulu, HA, June, 1996.

22. Luettich, R.A. and J.J. Westerink, "Sensitivity Studies with a Finite Element Tidal Model of the Western North Atlantic, Gulf of Mexico and Caribbean Sea," Tidal Sciences 1996, London, October, 1996.

23. Atkinson, J.H. and J.J. Westerink, "Convergence Study of Solutions to the Advection-Diffusion Equation," Fourth SIAM Conference on Mathematical and Computational Issues in the Geosciences, Albuquerque, NM, June 16-19, 1997.

24. Kolar, R.L. and J.J. Westerink, "A Look Back at 20 Years of Wave Equation Models," Fifth SIAM Conference on Mathematical and Computational Issues in the Geosciences, San Antonio TX, March 24-27, 1999

25. Westerink, J.J., R.L. Kolar, and R.A. Luettich, "Issues of Mass Conservation Associated with GWCE Based Finite Element Surface Water Models," Fifth SIAM Conference on Mathematical and Computational Issues in the Geosciences, San Antonio TX, March 24-27, 1999

26.[P] Westerink, J.J., "Modeling Hurricane Storm Surge Using Large Domains and Unstructured Grids," 1999 Gordon Research Conference on Coastal Ocean Modeling, Colby-Sawyer College, New London NH, June 20-24, 1999

27.[I] Westerink, J.J., "Modeling Hurricane Storm Surge Using Large Domains and Unstructured Grids," Society for Engineering Science, Austin TX, October 25-27, 1999.

28. Atkinson, J.H. and J.J. Westerink, "Similarities between the Quasi-Bubble and the Generalized Wave Continuity Equation Solutions to the Shallow Water Equations," Fifteenth International Symposium on Mathematical Theory of Networks and Systems, University of Notre Dame, August 12-16, 2002.

29. Spargo, E., J.J. Westerink and R.A. Luettich, "A Tidal Constituent Database for the Eastern North Pacific Ocean," Twelfth International Conference on Finite Element Methods in Flow Problems, Meijo University, Nagoya, Japan, April 2-4, 2003.

30. Feyen, J.C., J.J. Westerink and C. Dawson, "A Comparison of the Generalized Wave Continuity Equation and Discontinuous Galerkin Finite Element Methods for the Shallow Water Equations," Twelfth International Conference on Finite Element Methods in Flow Problems, Meijo University, Nagoya, Japan, April 2-4, 2003.

31. Kubatko, E.J. and J.J. Westerink, "Applying the Discontinuous Galerkin Method to the Equation of Sediment Continuity," Twelfth International Conference on Finite Element Methods in Flow Problems, Meijo University, Nagoya, Japan, April 2-4, 2003.

32.^{I} Westerink, J.J., "Hurricane Storm Surge Simulations Using a Large Domain Finite Element Model in Southern Louisiana," The Second International Workshop on Unstructured Grid Numerical Modeling of Coastal, Shelf and Ocean Flows, Delft University of Technology, Delft, Netherlands, 23-25 September, 2003.

33.^{I} Luettich, R.A. and J.J. Westerink, "Hurricane Storm Surge Simulations Using the ADCIRC Coastal Ocean Hydrodynamic Model," 58th Interdepartmental Hurricane Conference, Charleston, SC, March, 2004.

34. van Heerden, I.L. and J.J. Westerink, "The Use of the ADCIRC Hydrodynamic Model for Computing Hurricane Storm Surge in Southern Louisiana," 58th Interdepartmental Hurricane Conference, Charleston, SC, March, 2004.

35. Kubatko, E.J., J.J. Westerink, and C. Dawson, "The *h-p* Discontinuous Galerkin Method Applied to the Shallow Water Equations," The Third International Workshop on Unstructured Grid Numerical Modeling of Coastal, Shelf and Ocean Flows, Laboratoire d'Etudes en Geodesie et Oceanographie Spatiales, Obsevatoire Midi-Pyrenees, Toulouse, France, 20-22 September, 2004.

36.^{I} Westerink, J.J., J.C. Feyen, J.H. Atkinson, R.A. Luettich, C. Dawson, H.J. Roberts, and E.J. Kubatko, "Development of a Large Domain Finite Element Storm Surge Model for Southern Louisiana," International Workshops on Advances in Computational Mechanics, Tokyo, Japan, 3-6 November, 2004.

37.^{I} Kubatko, E.J., J.J. Westerink, and C. Dawson, "*h-p* Discontinuous Galerkin Methods for Coastal and Estuarine Circulation and Transport," International Workshops on Advances in Computational Mechanics, Tokyo, Japan, 3-6 November, 2004.

38. Bunya, S., S. Yoshimura, and J.J. Westerink, "Quasi-bubble Finite Element Formulation for the Shallow Water Equations with Discontinuous Boundary Implementation," International Conference on Computational Mechanics 2004, Singapore, 15-17 December 2004.

39. Kolar, R.L., K. Dresback, J.C. Dietrich, J.J. Westerink and R.A. Luettich, "Recent Advances with the ADCIRC Family of Hydrodynamic Models; Part 1 - Development," Eighth U.S. National Congress on Computational Mechanics, Austin, TX, July 24-28, 2005.

40. Kolar, R.L., K. Dresback, J.C. Dietrich, J.J. Westerink and R.A. Luettich, "Recent Advances with the ADCIRC Family of Hydrodynamic Models; Part 2 - Applications," Eighth U.S. National Congress on Computational Mechanics, Austin, TX, July 24-28, 2005.

41. Kubatko, E.J., J.J. Westerink and C. Dawson, "*h-p* Discontinuous Galerkin Methods for Shallow Water Flow and Transport," Eighth U.S. National Congress on Computational Mechanics, Austin, TX, July 24-28, 2005.

42. Bunya, S., S. Yoshimura and J.J. Westerink, "Alternative Formulations of Open Boundary Forcing for Shallow Water Flows," Eighth U.S. National Congress on Computational Mechanics, Austin, TX, July 24-28, 2005.

43.^{P} Westerink, J.J., E.J. Kubatko, S. Bunya, C. Dawson and R.A. Luettich, "Coupled Shallow Water Equation - Morphological Computations Using Continuous Galerkin and Discontinuous Galerkin Based Finite Element Solutions," The Fourth International Workshop on Unstructured Grid Numerical Modeling of Coastal, Shelf and Ocean Flows, Bremerhaven Germany, October 10-12, 2005.

44. Kubatko, E.J., S. Bunya, J.J. Westerink and C. Dawson, "Recent Developments and Applications of an *h-p* Discontinuous Galerkin Model for Shallow Water Flow and Transport," The Fourth International Workshop on Unstructured Grid Numerical Modeling of Coastal, Shelf and Ocean Flows, Bremerhaven Germany, October 10-12, 2005

45. Dawson, C., J. Westerink, E. Kubatko, "A DG-Based Hydrodynamic Storm Surge Model," The Seventh World

Congress on Computational Mechanics, Los Angeles, CA, July 16-22, 2006.

46. Westerink, J., S. Bunya, J.C. Dietrich, H. Westerink, R. Luettich, C. Dawson, "High Resolution Unstructured Storm Surge Models of the Gulf of Mexico," The Seventh World Congress on Computational Mechanics, Los Angeles, CA, July 16-22, 2006.

47. Bunya, S., J. Westerink, E. Kubatko, C. Dawson, S. Yoshimura, "A New Wetting and Drying Algorithm for Discontinuous Galerkin Solutions to the Shallow Water Equations," The Seventh World Congress on Computational Mechanics, Los Angeles, CA, July 16-22, 2006.

48. Kubatko, E., J. Westerink, C. Dawson, S. Bunya, "High-Order Discontinuous Galerkin Methods for Advection Dominated Shallow Water Hydrodynamics and Transport," The Seventh World Congress on Computational Mechanics, Los Angeles, CA, July 16-22, 2006.

49.***I*** Westerink, J., S. Bunya, J.C. Dietrich, R. Luettich, B. Ebersole, J. Atkinson, H. Westerink, J. Smith, B. Jensen, A. Cox, V. Cardonne, M. Powell, "High Resolution Unstructured Grid Storm Surge Modeling for Southern Louisiana," Rebuilding the New Orleans Region: Infrastructure Systems and Technology Innovation Forum, New Orleans, LA, September 24-26, 2006.

50. Bunya, S., J. Westerink, J.C. Dietrich, "Next-generation Hurricane/Typhoon Storm Surge Modeling Using Unstructured Grids in HPC Environments," The 84th Conference of the Fluids Engineering Division of the Japan Society of Mechanical Engineers, Toyo University, Kawagoe, Japan, October 28-29, 2006.

51.***P*** Westerink, J., S. Bunya, J.C. Dietrich, "Hindcasting Hurricane Katrina Using the ADCIRC High Resolution Unstructured Grid Coastal Ocean Model," The 84th Conference of the Fluids Engineering Division of the Japan Society of Mechanical Engineers, Toyo University, Kawagoe, Japan, October 28-29, 2006.

52. Bunya, S., J. Westerink, E. Kubatko, C. Dawson, "Mass Conservative Wetting and Drying Algorithm for Discontinuous Galerkin Solutions to the Shallow Water Equations," The Fifth International Workshop on Unstructured Grid Numerical Modelling of Coastal, Shelf, and Ocean Flows, Miami, FL, November 13-15, 2006.

53. Kubatko, E., C. Dawson, J. Westerink, "hp-adaptive Discontinuous Galerkin Methods for the Shallow Water Equations," The Fifth International Workshop on Unstructured Grid Numerical Modelling of Coastal, Shelf, and Ocean Flows, Miami, FL, November 13-15, 2006.

54. Tromble, E., R. Kolar, J. Westerink, "Optimal Parameter Selection in GWCE-based Shallow Water Models," The Fifth International Workshop on Unstructured Grid Numerical Modelling of Coastal, Shelf, and Ocean Flows, Miami, FL, November 13-15, 2006.

55. Westerink, J., S. Bunya, J.C. Dietrich, R. Luettich, B. Ebersole, J. Atkinson, H. Westerink, J. Smith, B. Jensen, A. Cox, V. Cardonne, M. Powell, "High Resolution Unstructured Grid Storm Surge Modeling for Southern Louisiana," The Fifth International Workshop on Unstructured Grid Numerical Modelling of Coastal, Shelf, and Ocean Flows, Miami, FL, November 13-15, 2006.

56.***I*** Westerink, J., "An Overview of Hurricane Science and Modeling," 2007 American Association for the Advancement of Science Annual Meeting, Science and Technology for Sustainable Well-Being, San Francisco, CA, February 15-19, 2007.

57. Westerink, J., "High Resolution Multi-Scale Storm Surge Modeling for Southern Louisiana," 2007 SIAM Conference on Mathematical and Computational Issues in the Geosciences, Santa FE, NM, March 19-22, 2007.

58.***I*** Westerink, J., "ADCIRC – Hurricane Katrina Surge Analysis," ASCE's Hurricane Katrina External Review Panel, World Environmental & Water Resources Congress 2007, Tampa, FL, May 15-19, 2007.

59. Kubatko, E., S. Bunya, C. Dawson, J. Westerink, "Verification and Validation of a Discontinuous Galerkin Method for Shallow Water Flow and Transport," Ninth US National Congress on Computational Mechanics, San Francisco, CA, July 22-26, 2007.

60. Westerink, J., J. Atkinson, S. Bunya, C. Dawson, J.C. Dietrich, E. Kubatko, R. Luettich, H. Westerink, "Modeling Hurricane Storm Surge along the Gulf Coast – Toward Petaflop Computations," Ninth US National

Congress on Computational Mechanics, San Francisco, CA, July 22-26, 2007.

61. Bunya, S., C. Dawson, E. Kubatko, J. Westerink, S. Yoshimura, "Validation of a Moving Boundary RKDG Method for the Shallow Water Equations," Ninth US National Congress on Computational Mechanics, San Francisco, CA, July 22-26, 2007.

62. Dietrich, J.C. and J. Westerink, "Modeling the Coupled Winds, Waves, and Storm Surge of Hurricane Rita," Ninth US National Congress on Computational Mechanics, San Francisco, CA, July 22-26, 2007.

63.*I* Westerink, J., M. Cialone, B. Ebersole, S. Bunya, J. Atkinson, J. Smith, R. Jensen, V. Cardone, A. Cox, M. Powell, "High Resolution Multi-Process Hurricane Storm Surge Modeling in Southern Louisiana," JCOMM, Joint World Meteorological Organization – Intergovernmental Oceanographic Commission of UNESCO Technical Commission for Oceanography and Marine Meteorology, Scientific and Technical Symposium on Storm Surges, Seoul, Korea, October 2-6, 2007.

64. Bunya, S., J. Westerink, B. Ebersole, J. Atkinson, J. Smith, R. Jensen, V. Cardone, A. Cox, M. Powell, M. Cialone, H. Westerink, R. Luettich, C. Dawson, "Hindcasting Winds, Waves, and Storm Surge for Hurricane Katrina," 10th International Conference on Estuarine and Coastal Modeling, Newport, RI, November 5-7, 2007.

65. Dietrich, C., J. Westerink, J. Atkinson, S. Bunya, J. Smith, R. Jensen, V. Cardone, A. Cox, H. Westerink, R. Luettich, C. Dawson, "Hindcasting Winds, Waves and Storm Surge for Hurricane Rita," 10th International Conference on Estuarine and Coastal Modeling, Newport, RI, November 5-7, 2007.

66. Resio, D., J. Ratcliff, T. Wamsley, H. Roberts, J. Atkinson, B. Blanton, M. Cialone, A. Grzegorzewski, K. Dresback, R. Kolar, J. Smith, R. Jensen, C. Bender, S. Bunya, J. Westerink, H. Westerink, C. Dawson, "Stochastic Framework for Analyzing Hurricane Storm Surge Probabilities within Southern Louisiana and Mississippi," 10th International Conference on Estuarine and Coastal Modeling, Newport, RI, November 5-7, 2007.

67. Grzegorzewski, A., W. de Jong, H. Roberts, J. Atkinson, T. Wamsley, K. Dresback, R. Kolar, J. Westerink, "The Influence of Barrier Islands on Storm Surge in Southern Louisiana," 10th International Conference on Estuarine and Coastal Modeling, Newport, RI, November 5-7, 2007.

68. Atkinson, J., T. Wamsley, A. Grzegorzewski, M. Cialone, K. Dresback, R. Kolar, J. Westerink, "The Influence of Marshes on Hurricane Wind Waves and Storm Surge in Louisiana and Mississippi," 10th International Conference on Estuarine and Coastal Modeling, Newport, RI, November 5-7, 2007.

69. de Jong, W., D. Resio, J. Westerink, V. Stutts, T. Wamsley, J. Atkinson, K. Dresback, R. Kolar, J. Ratcliff, L. Westerink, "The Influence of Lower Plaquemines Parish Mississippi River Levees on Storm Surge in Southern Louisiana," 10th International Conference on Estuarine and Coastal Modeling, Newport, RI, November 5-7, 2007.

70. Westerink, J., J. Smith, V. Cardone, A. Cox, D. Resio, R. Jensen, T. Wamsley, B. Ebersole, "Hurricane Wave and Surge Computations: Deficiencies & Research Needs," 10th International Workshop on Wave Hindcasting and Forecasting and Coastal Hazard Symposium, Oahu, Hawaii, November 11-16, 2007.

71. Bunya, S., J. Westerink, B. Ebersole, J. Atkinson, J. Smith, R. Jensen, V. Cardone, A. Cox, M. Powell, M. Cialone, H. Westerink, R. Luettich, C. Dawson., "Hindcasting Winds, Waves and Storm Surge for Hurricane Katrina," 10th International Workshop on Wave Hindcasting and Forecasting and Coastal Hazard Symposium, Oahu, Hawaii, November 11-16, 2007.

72. Dietrich, C., J. Smith, J. Westerink, J. Atkinson, S. Bunya, R. Jensen, V. Cardone, A. Cox, H. Westerink, R. Luettich, C. Dawson, "Hindcasting Winds, Waves and Storm Surge for Hurricane Rita," 10th International Workshop on Wave Hindcasting and Forecasting and Coastal Hazard Symposium, Oahu, Hawaii, November 11-16, 2007.

73. Dawson, C., E. Kubatko, J. Westerink, "High Performance Computing to Resolve Propagation and Advection Dominated Multi-Scale Multi-Process Physics," 10th International Workshop on Wave Hindcasting and Forecasting and Coastal Hazard Symposium, Oahu, Hawaii, November 11-16, 2007.

74. Westerink, J., S. Bunya, C. Dietrich, E. Kubatko, C. Dawson, R. Luettich, "Modeling Hurricane Storm Surge

along the Gulf Coast in the Wake of Katrina – Towards Petaflop Computations," Third Asian Pacific Congress on Computational Mechanics in conjunction with Eleventh International Conference on Enhancement and Promotion of Computational Methods in Engineering and Science, Kyoto, Japan, December 3-6, 2007.

75. Bunya, S., S. Yoshimura, J. Westerink, "Applications of a Moving Boundary Runge-Kutta Discontinuous Galerkin Method to Large-scale Coastal Flow Problems," Third Asian Pacific Congress on Computational Mechanics in conjunction with Eleventh International Conference on Enhancement and Promotion of Computational Methods in Engineering and Science, Kyoto, Japan, December 3-6, 2007.

76. Wamsley, T., D. V. Stutts, J. Westerink, "Surge and Wave Modeling for the Louisiana Coastal Protection and Restoration Study (LACPR)," 31st International Conference on Coastal Engineering, Hamburg, Germany, August 31 – September 5, 2008.

77. Dawson, C., J. Proft, J. Westerink, S. Tanaka, E. Kubatko, S. Bunya, "A Comparative Study of Continuous and Discontinuous Finite Element Methods for the Shallow Water Equations," Seventh International Workshop on Unstructured Grid Numerical Modelling of Coastal, Shelf, and Ocean Flows, Dartmouth, Nova Scotia, September 17-19, 2008.

78. Westerink, J., C. Dietrich, R. Martyr, J. Atkinson, H. Roberts, C. Dawson, H. Westerink, L. Westerink, "Riverine Flow, Tides and Hurricane Storm Surge in the Lower Mississippi River and Delta," Seventh International Workshop on Unstructured Grid Numerical Modelling of Coastal, Shelf, and Ocean Flows, Dartmouth, Nova Scotia, September 17-19, 2008.

79. Dietrich, C., J. Westerink, M. Zijlema, C. Dawson, R. Luettich, J. Fleming, "Coupled, Unstructured Grid, Wave and Circulation Models: Validation and Resolution Requirements," Seventh International Workshop on Unstructured Grid Numerical Modelling of Coastal, Shelf, and Ocean Flows, Dartmouth, Nova Scotia, September 17-19, 2008.

80. Bunya, S., E. Kubatko, J. Westerink, C. Dawson, S. Serhadlioglu, "Shallow Water Model for Coastal and Riverine Flow Problems Containing Wetting and Drying Zones," Seventh International Workshop on Unstructured Grid Numerical Modelling of Coastal, Shelf, and Ocean Flows, Dartmouth, Nova Scotia, September 17-19, 2008.

81. Roberts, H., J. Atkinson, F.R. Clark, J. Westerink, A. Sleath, "An ADCIRC Analysis of Variance in Marshland Hydroperiod Induced by Flood Protection Barriers," 2008 Annual Water Resources Conference, American Water Resources Association, New Orleans, Louisiana, November 17-20, 2008.

82. Martyr, R., M. Hope, C. Dietrich, J. Westerink, J. Atkinson, H. Roberts, C. Szpilka, "Storm Surge Propagation in the Lower Mississippi River," 2008 Annual Water Resources Conference, American Water Resources Association, New Orleans, Louisiana, November 17-20, 2008.

83.***I*** Westerink J., "ADCIRC Louisiana Storm Models and HPC Developments," Grand Challenges in Coastal Resiliency Workshop, Louisiana State University, Baton Rouge, LA, January 20, 2009.

84. Westerink, J., "Verification and Validation of High Resolution Hurricane Wind, Wave and Surge Simulators," SIAM Conference on Computational Science and Engineering, Miami, Florida, March 2-6, 2009.

85. Kubatko, E., S. Bunya, C. Dawson, J. Westerink, "A Discontinuous Galerkin Storm Surge Model," SIAM Conference on Computational Science and Engineering, Miami, Florida, March 2-6, 2009.

86.***P*** Westerink, J., C. Dietrich, S. Tanaka, "Modeling Hurricane Wave and Storm Surge using Integrated Tightly Coupled High Performance Computations," 15th International Conference on Finite Elements in Flow Problems, Tokyo, Japan, April 1-3, 2009.

87. Tanaka, S., J. Westerink, C. Dawson, S. Keithley, "Parallel Performance of Unstructured Shallow Water Equation Model for Hurricane Storm Surge," 15th International Conference on Finite Elements in Flow Problems, Tokyo, Japan, April 1-3, 2009.

88. Kubatko, E., S. Bunya, C. Dawson, J. Westerink, "Aspects of Runge-Kutta Discontinuous Galerkin Methods for Shallow Water Flow and Transport," 15th International Conference on Finite Elements in Flow Problems, Tokyo, Japan, April 1-3, 2009.

89. Dietrich, C., J. Westerink, M. Zijlema, C. Dawson, R. Luettich, "Coupled, Unstructured Grid, Wave and Circulation Models: Validation and Resolution Requirements," 15th International Conference on Finite Elements in Flow Problems, Tokyo, Japan, April 1-3, 2009.

90. Westerink, J., C. Dietrich, S. Tanaka, C. Dawson, R. Luettich, E. Kubatko, S. Bunya, M. Zijlema, L. Holthuijsen, G. Stelling, "Advances in Scalable High Resolution Wave and Current Computations," ADCIRC Workshop, Silver Spring, MD, April 20-21, 2009.

91.*P* Westerink, J., "Modeling Hurricane Waves and Storm Surge using Integrated Tightly Coupled Scalable Computations," SIAM Conference on Mathematical and Computational Issues in the Geosciences, Leipzig, Germany, June 15-18, 2009.

92. Mirabito, C., C. Dawson, E. Kubatko, J. Westerink, S. Bunya, "Implementation of a Discontinuous Galerkin Morphological Model on Two-dimensional Unstructured Meshes," 10th US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009.

93. Wirasaet, D., S. Tanaka, J. Westerink, C. Dawson, "Numerical Simulation of a Gravity-Current Problem using a Discontinuous Galerkin method," 10th US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009.

94. Tanaka, S., J. Westerink, S. Keithley, C. Dawson, "Analysis of Parallel Performance of Explicit and Implicit Shallow Water Models for Coastal Storm Surge," 10th US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009.

95. Westerink, J., C. Dietrich, S. Tanaka, C. Dawson, "Modeling Hurricanes Gustav and Ike Waves and Storm Surge Using Integrated Tightly Coupled High Performance Wave and Circulation Models," 10th US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009.

96. Dietrich, C., J. Westerink, M. Zijlema, C. Dawson, R. Luettich, "Coupled, Unstructured Grid, Wave and Circulation Models: Validation and Resolution Requirements," 10th US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009.

97. Martyr, R., C. Dietrich, M. Hope, J. Westerink, "Propagation and Dissipation in Rivers and Porous Coastal Interfaces in a Long Wave Hydrodynamic Model," 10th US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009.

98. Hope, M., J. Westerink, A. Kennedy, C. Dawson, J. Proft, J. Atkinson, H. Roberts, "Validation of Waves and Surge for Hurricane Ike along the Texas Gulf Coast," 10th US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009.

99. Westerink, J. et al, "Hurricane Wave and Circulation Computations Using the Coupled Unstructured SWAN+ADCIRC Model in the Gulf of Mexico," The Eighth International Workshop on Unstructured Mesh Numerical Modelling of Coastal, Shelf & Ocean Flows, Louvain-la-Neuve, Belgium, September 16-18, 2009.

100. Westerink, J. C. Dietrich, C. Dawson, R. Luettich, A. Kennedy, M Hope, "High Performance Coupling of Unstructured Hurricane Wave and Current Models," The Japan Society for Computational Engineering and Science 2nd International Workshops on Advances in Computational Mechanics, Yokohama, Japan, March 29-31, 2010.

101. Dawson, C., E. Kubatko, J. Westerink, "HPC for Hurricane Storm Surge and Sediment Transport Using Discontinuous Galerkin Methods," The Japan Society for Computational Engineering and Science 2nd International Workshops on Advances in Computational Mechanics, Yokohama, Japan, March 29-31, 2010.

102. Bunya, S., E. Kubatko, J. Westerink, C. Dawson, "A RKDG Shallow Water Model with an Eulerian Moving Boundary Method for Riverine and Coastal Flow Problems," The Japan Society for Computational Engineering and Science 2nd International Workshops on Advances in Computational Mechanics, Yokohama, Japan, March 29-31, 2010.

103. Tanaka, S., J. Westerink, C. Dawson, R. Luettich, "Parallel Scalability of Hurricane Storm Surge Model," The Japan Society for Computational Engineering and Science 2nd International Workshops on Advances in Computational Mechanics, Yokohama, Japan, March 29-31, 2010.

104. Westerink J., "ADCIRC Development Overview," 14th ADCIRC Model Workshop, U.S. Army Engineer Research and Development Center, Vicksburg, MS, April 20-21, 2010.

105. Dietrich, C., J. Westerink, M Zijlema, L. Holthuijsen, C. Dawson, R. Luettich, "Coupled Waves and Storm Surge during Hurricane Gustav," 14th ADCIRC Model Workshop, U.S. Army Engineer Research and Development Center, Vicksburg, MS, April 20-21, 2010.

106. Hope, M., J. Westerink, A. Kennedy, C. Dawson, J. Proft, J. Atkinson, H. Roberts, "Hindcasting Waves and Surge for Hurricane Ike on the Texas Gulf Coast," 14th ADCIRC Model Workshop, U.S. Army Engineer Research and Development Center, Vicksburg, MS, April 20-21, 2010.

107. Kerr, P., J. Westerink, D. Resio, "An Assessment of Anthropogenic Effects on Southern Louisiana Hurricane Storm Surge," 14th ADCIRC Model Workshop, U.S. Army Engineer Research and Development Center, Vicksburg, MS, April 20-21, 2010.

108. Martyr, R., C. Dietrich, M. Hope, J. Westerink, H. Westerink, L. Westerink, H. Roberts, J. Atkinson, "High Resolution Modeling of Flow, Tides and Hurricane Storm Surge in the Lower Mississippi River," 14th ADCIRC Model Workshop, U.S. Army Engineer Research and Development Center, Vicksburg, MS, April 20-21, 2010.

109. Tanaka, S., S. Bunya, J. Westerink, C. Dawson, R. Luettich, D. Wirasaet, "Parallel Scalability of Implicit/Explicit ADCIRC and Outputting Process," 14th ADCIRC Model Workshop, U.S. Army Engineer Research and Development Center, Vicksburg, MS, April 20-21, 2010.

110. Wirasaet, D., S. Tanaka, E. Kubatko, J. Westerink, C. Dawson, "A Study on Performances of Nodal Discontinuous Galerkin Methods on Quadrilaterals and Triangles," 14th ADCIRC Model Workshop, U.S. Army Engineer Research and Development Center, Vicksburg, MS, April 20-21, 2010.

111. Westerink, J. C. Dietrich, A. Kennedy, S. Tanaka, M. Hope, C. Dawson, J. Smith, R. Jensen, "Modeling Hurricane Waves and Storm Surge in Coastal Texas, Louisiana and Mississippi using Integrated Tightly Coupled Scalable Unstructured Mesh Computations," State of the Coast, Implementing a Sustainable Coast for Louisiana, Baton Rouge, LA, June 8-10, 2010.

112. ^{K} Westerink, J., D. Wirasaet, S. Tanaka, E. Kubatko, C. Dawson, "Nodal Discontinuous Galerkin Solutions to Shallow Water Flow and Transport on Triangles and Quadrilaterals," Joint 9th World Congress on Computational Mechanics and 4th Asian Pacific Congress on Computational Mechanics, Sydney, Australia, July 19-23, 2010.

113. R. Martyr, J.C. Dietrich, J. Westerink, S. Tanaka, H. Westerink, L. Westerink, P. Kerr, H. Roberts, J. Atkinson, "Multi-scale Modeling of Riverine and Porous Coastal Environments in a Hydrodynamic Model, " International Workshop on Multiscale Unstructured Mesh Numerical Ocean Modeling, Massachusetts Institute of Technology, 17-20 August, 2010.

114. S. Tanaka, J.J. Westerink, C. Dawson, and R.A. Luettich, Jr. - Scalability of Unstructured Grid Based Hurricane Storm Surge Model," International Workshop on Multiscale Unstructured Mesh Numerical Ocean Modeling, Massachusetts Institute of Technology, 17-20 August, 2010.

115. M.E. Hope, J.J. Westerink, A.B. Kennedy, J.C. Dietrich, C. Dawson, J. Proft, J. Atkinson, H. Roberts - Application of the Coupled ARCIRC+SWAN Model to Hurricane Ike on the Texas Gulf Coast," International Workshop on Multiscale Unstructured Mesh Numerical Ocean Modeling, Massachusetts Institute of Technology, 17-20 August, 2010.

116. J.J. Westerink, J.C. Dietrich, A.B. Kennedy, M. Zijlema, L.H. Holthuijsen, C. Dawson and R.A. Luettich, Jr. - Coupled Waves and Storm Surge during Hurricane Gustav," International Workshop on Multiscale Unstructured Mesh Numerical Ocean Modeling, Massachusetts Institute of Technology, 17-20 August, 2010.

117. ^{P} J.J. Westerink, A.B. Kennedy, J.C. Dietrich, , S. Tanaka, L. Westerink, H. Westerink, C. Dawson, J. Proft, M. Zijlema, L. H. Holthuijsen, and R. A. Luettich, "Computing Hurricane Ike Waves, Forerunner, and Surge: Slow and Fast Flow Processes from the Louisiana-Texas Shelf to Houston," Storm Surges Congress 2010, University of Hamburg, Hamburg Germany September 13-17, 2010

118. J.J. Westerink, "Computing Hurricanes Gustav and Ike Waves and Surge: Slow and Fast Processes on the Louisiana-Texas Shelf and Coast," Modeling and Computations of Shallow Water Coastal Flows, Center for

Scientific Computation and Mathematical Modeling, University of Maryland, College Park, MD, October 18-22, 2010.

119. J.J. Westerink, C. Dietrich, C. Dawson, S. Tanaka, "High Performance Scalable Computations of Hurricane Driven Wind Waves, Storm Surge, and Flow in Integrated ocean Basin to Shelf to Inland Floodplain Systems," SIAM Conference on Mathematical and Computational Issues in the Geosciences, Long Beach, California, March 21-24, 2011.

120. ***I*** J.J. Westerink, "Computing Hurricane Ike Waves, Forerunner, and Surge: Slow and Fast Flow Processes from the Gulf to Louisiana-Texas Shelf to Houston," IMA Workshop on Societally Relevant Computing, Institute for Mathematics and Its Applications, University of Minnesota, Minneapolis, April 11-15, 2011.

121. ***IP*** J.J. Westerink, "High Performance Scalable Computations of Hurricane Driven Wind Waves, Storm Surge, and Flow in Integrated Ocean Basin to Shelf to Inland Floodplain Systems," Waves 2011, 10th International Conference on Mathematical and Numerical Aspects of Waves, Vancouver, BC, July 25-29, 2011.

122. C. Dawson, J. Westerink, E. Kubatko, C. Michoski, C. Mirabito, J.C. Dietrich, J. Meixner, "Discontinuous Galerkin Methods for Hydrodynamics, Waves and Sediment Transport," U.S. National Congress on Computational mechanics, University of Minnesota, Minneapolis, July 25-28, 2011.

123. D. Wirasaet, E. Kubatko, C. Michoski, S. Tanaka, J.J. Westerink, C. Dawson, "An Assessment of Discontinuous Galerkin Methods with Nodal and Hybrid Modal/Nodal Triangular, Quadrilateral, and Polygonal Elements for Shallow Water Flows," U.S. National Congress on Computational mechanics, University of Minnesota, Minneapolis, July 25-28, 2011.

124. C. Michoski, C. Mirabito, C. Dawson, E. Kubatko, D. Wirasaet, J.J. Westerink, "Dynamic p-Enrichment Schemes with Dynamic Slope Limiting for Multicomponent Reactive Flows," U.S. National Congress on Computational mechanics, University of Minnesota, Minneapolis, July 25-28, 2011.

125. S. Tanaka, M. Hope, J.J. Westerink, A. Kennedy, "Validation of Wave and Storm Surge Model for Pacific Ocean Islands," U.S. National Congress on Computational mechanics, University of Minnesota, Minneapolis, July 25-28, 2011.

126. J.J. Westerink, A. Kennedy, "Hurricane Ike Forerunner Surge and Damage," 12th International Workshop on Wave Hindcasting and Forecasting & 3rd Coastal Hazard Symposium, Kohala Coast, Hawaii, October 30 – November 4, 2011.

127. J. Smith, J. Westerink, A. Kennedy, A. Taflanidis, K. Cheung, T. Smith, "Fast Forecasting Tool for Hurricane Wave, Surge, and Runup Inundation in Hawaii," 12th International Workshop on Wave Hindcasting and Forecasting & 3rd Coastal Hazard Symposium, Kohala Coast, Hawaii, October 30 – November 4, 2011.

128. A. Taflanidis, A. Kennedy, J. Westerink, "Integrated Probabilistic Framework for Rapid Hurricane-Risk Assessment," 12th International Workshop on Wave Hindcasting and Forecasting & 3rd Coastal Hazard Symposium, Kohala Coast, Hawaii, October 30 – November 4, 2011.

129. J. Smith, A. Taflanidis, J. Westerink, K. Cheung, S. Tanaka, A. Kennedy, A. Ota, M. Hamman, "Phase-Resolving Wave Runup for Storm Inundation Assessment," 12th International Workshop on Wave Hindcasting and Forecasting & 3rd Coastal Hazard Symposium, Kohala Coast, Hawaii, October 30 – November 4, 2011.

130. J. Gonzalez, A. Mercado, J. Westerink, J. Capella, J. Morell, M. Canals, "Effect of Steep and Complex-Featured Shelf on Storm Surge and Wave Spectra," 12th International Workshop on Wave Hindcasting and Forecasting & 3rd Coastal Hazard Symposium, Kohala Coast, Hawaii, October 30 – November 4, 2011.

131. D. Resio, J. Irish, J. Westerink, "Factors Contributing to Uncertainty in Surge Prediction in Planning Applications and their Potential Impacts," 12th International Workshop on Wave Hindcasting and Forecasting & 3rd Coastal Hazard Symposium, Kohala Coast, Hawaii, October 30 – November 4, 2011.

132. A. Donahue, J. Westerink, R. Martyr, P. Kerr, M. Hope, "Gulf of Mexico Grid Resolution Sensitivity in an ADCIRC Inter-Grid Model Comparison: Performance Evaluations of Tides," 12th International Conference on Estuarine and Coastal Modeling," St. Augustine, FL, November 7 – 9, 2011.

133. P. Kerr, J. Westerink, M. Hope, A. Donahue, R. Martyr, R. Luettich, "Gulf of Mexico Grid Resolution Sensitivity in an ADCIRC Inter-Grid Model Comparison: Performance Evaluations of Hurricanes Ike and Rita," 12th International Conference on Estuarine and Coastal Modeling," St. Augustine, FL, November 7 – 9, 2011.

134. C. Chen, R. Beardsley, R. Luettich, D. Slinn, H. Wang, J. Westerink, W. Perrie, "IOOS/SURA Extratropical Storm Inundation Testbed: Preliminary Results for Scituate, MA," 2012 American Meteorological Society 92nd Annual Meeting, New Orleans, January 22-26, 2012.

135. J. Westerink, P. Kerr, A. Donahue, M. Hope, R. Luettich, R. Weaver, R. Beardsley, C. Chen, J. Feyen, J. Hanson, E. Devalier, A. Kramer, A. Haase, H. Lander, C. Li, W. Perrie, B. Toulany, J. Rhome, C. Forbes, D. Slinn, J. Davis, H. Wang, R. Weisberg, L. Zheng, "Inter-Model and Intra-Model Evaluations of Simulating Hurricane Wave and Storm Surge Environments in the Gulf of Mexico," 2012 American Meteorological Society 92nd Annual Meeting, New Orleans, January 22-26, 2012.

136. L. Zheng, R. Weisberg, R. Luettich, J. Westerink, A. Donahue, P, Kerr, "Implications of 2D vs 3D Model Formulation on Hurricane Ike Storm Surge," 2012 American Meteorological Society 92nd Annual Meeting, New Orleans, January 22-26, 2012.

137. J. Westerink, "Model Development Needs," CariCOOS Workshop on Simulation and Model Testbed of Hurricane Wave, Surge, and Rainfall Runoff Events for Puerto Rico, March 29-30, 2012.

138[I] J. Westerink, "Hurricane Wave and Surge Dynamics from the Gulf to the Floodplain," SSPEED Severe Storm Prediction, Education, and Evacuation from Disasters, Gulf Coast Hurricanes: Mitigation and Response, Rice University, Houston, April 10-11, 2012.

139. A. Donahue, J. Westerink, "SURA-IOOS Coastal Inundation Testbed: Gulf of Mexico Inter-Model Comparison of Waves and Hurricane Surge," 2012 ADCIRC Workshop, Silver Spring, MD, April 23-24, 2012.

140. P. Kerr, J. Westerink, "SURA-IOOS Coastal Inundation Testbed: Gulf of Mexico Inter-Model Comparison of Waves and Hurricane Surge," 2012 ADCIRC Workshop, Silver Spring, MD, April 23-24, 2012.

141. R. Martyr, J. Westerink, "Hurricane Surge Characteristics in the Lower Mississippi River under Variable Flow Conditions," 2012 ADCIRC Workshop, Silver Spring, MD, April 23-24, 2012.

142. M. Hope, J. Westerink, "Integration of Rainfall-Runoff and Hydrologic Processes into ADCIRC with an Emphasis on Validation of Hurricane Ike (2008)," 2012 ADCIRC Workshop, Silver Spring, MD, April 23-24, 2012.

143. S. Brus, J. Westerink, "Comparison of Local Mass Conservation Properties in Coupled Flow and Transport Models," 2012 ADCIRC Workshop, Silver Spring, MD, April 23-24, 2012.

144. J. Gonzalez, J. Westerink, "Towards an operational wave-circulation model in Puerto Rico: General overview and wave modeling preliminaries," 2012 ADCIRC Workshop, Silver Spring, MD, April 23-24, 2012.

145. D. Wirasaet, J. Westerink, "Some Aspects of High-order Discontinuous Galerkin Methods for Shallow Water Equations," Midwest Numerical Analysis Days 2012, University of Notre Dame, May 12-13, 2012.

146.[IP] J. Westerink, "Hurricanes Waves, Forerunner, and Storm Surge and their Interaction in the Gulf of Mexico," 3rd International Symposium on Shallow Flows, Iowa City, June 4-6, 2012.

147. S. Brus, J. Westerink, D. Wirasaet, A. Donahue, E. Kubatko, "Importance of Local Mass Conservation in Coupling Flow and Transport Models," 3rd International Symposium on Shallow Flows, Iowa City, June 4-6, 2012.

148. A. Donahue, J. Westerink, Y. Zhang, A. Kennedy, "A Boussinesq Scaling of the Pressure Poisson Equation for Resolving Near Shore Wave Dynamics," 3rd International Symposium on Shallow Flows, Iowa City, June 4-6, 2012.

149.[IP] J. Westerink, "Forecasting Hurricane Waves, Storm Surge, and Currents: Physics, Algorithms, Scalability, and Validation," XIX International Conference on Computational Methods in Water Resources, Urbana, IL, June 17-21, 2012.

150. A. Donahue, J. Westerink, "A Boussinesq Scaling Approach to Solving Near Shore Phase Resolving Nonlinear Waves," XIX International Conference on Computational Methods in Water Resources, Urbana, IL, June 17-21, 2012.

151. J. Westerink, C. Dawson, "High Performance Computations of Hurricane Driven Wind Waves, Storm Surge, and Flow in Integrated Ocean Basin to Shelf to Inland Floodplain Systems," XSEDE12, Extreme Science and Engineering Discovery Environment, Chicago, IL, July 16-20, 2012.

152. J. Westerink, A. van der Westhuysen, J. Smith, J. Feyen, J. Gonzalez, A. Irizarry, J. Morell, A. Kennedy, M. Canals, S. Boc, S. Stripling, C. Anselmi, E. Rodriguez, E. Diaz, P. Diaz, R. Baltes, "Whitepaper on the establishment of an islands wave, sure and hydrologic testbed based on Puerto Rico and the U.S. Virgin Islands," AMS Annual Meeting, Austin, TX, January 6-10, 2013.

153. J. Westerink, "Modeling Storm Surge in Southern Louisiana," Hurricane Surge Hazard Analysis Workshop, New Orleans, LA, August 15-16, 2013.

154. J. Westerink, M. Hope, A. Kennedy, H. Westerink, M. Powell, V. Cardone, A. Cox, "Computing Hurricanes Sandy Waves and Surge SURA-IOOS Tropical Storm Test Bed," IMUM2013, The 12th International Workshop on Multi-Scale (Un)-structured Mesh Numerical Modeling for Coastal, Shelf, and Global Ocean Dynamics, Austin, TX, September 18, 2013.

155. J. Westerink, M. Hope, A. Kennedy, H. Westerink, M. Powell, V. Cardone, A. Cox, "Hurricane Sandy (2012) Waves, Surge, and Circulation: Synoptic Analysis and Validation Using the SWAN+ADCIRC coupled wave-circulation model," 13th International Workshop on Wave Hindcasting & Forecasting and 4th Coastal Hazards Symposium, Banff, Alberta, Canada, October 27 – November 1, 2013.

156. J. Gonzalez-Lopez, J. Westerink, A. Kennedy, M. Canals, J. Smith, A. van der Westhuysen, R. Luettich, J. Morell, J. Capella, "Measurement of winter swell transformation and breaking over a narrow, steep shelf reef system," 13th International Workshop on Wave Hindcasting & Forecasting and 4th Coastal Hazards Symposium, Banff, Alberta, Canada, October 27 – November 1, 2013.

157 ***I***. J. Westerink, "From Katrina to Sandy: High Performance Scalable Computations of Hurricane Driven Wind Waves, Storm Surge, and Flow in Integrated Ocean Basin to Shelf to Inland Floodplain Systems," COMPSAFE, Sendai, Japan, April 14, 2014.

158. J. Westerink, M. Hope, A. Kennedy, H. Westerink, A. Cox, "Hurricane Sandy (2012) Waves, Surge, and Circulation: Validation and Analysis Using the SWAN+ADCIRC wave-circulation model," ICCE 2014, Seoul, Korea, June 16, 2014.

159. J. Westerink, C. Dawson, R. Luettich, "Understanding Coastal Processes and Mitigating Risk Through High Fidelity Simulations," 2015 SIAM Conference on Computational Science and Engineering, Salt Lake City, Utah, March 17, 2015.

160. J. Westerink, A. Donahue, S. Brus, E. Holzenthal, "A Tidal Validation Study for the South China Sea," 19th Annual ADCIRC Model Workshop, College Park, MD, March 30-31, 2015.

161. J. Gonzalez-Lopez, J. Westerink, "A comprehensive modeling framework for Puerto Rico and the U.S. Virgin islands: Tides, waves, storm surge, and currents using ADCIRC+SWAN," 19th Annual ADCIRC Model Workshop, College Park, MD, March 30-31, 2015.

162. A. Donahue, J. Westerink, "Incorporation of high-order phase resolving wave models within a finite element shallow water model," 19th Annual ADCIRC Model Workshop, College Park, MD, March 30-31, 2015.

163. B. Joyce, J. Westerink, "Modeling Tides in the North Pacific: An ADCIRC model for Alaska," 19th Annual ADCIRC Model Workshop, College Park, MD, March 30-31, 2015.

164. J. Meixner, J. Westerink, "Using ADCIRC to Track Marine Life," 19th Annual ADCIRC Model Workshop, College Park, MD, March 30-31, 2015.

165. J. Westerink, J. Smith, R. Luettich, "Evolution of High Fidelity Surge and Wave Models of Southern Louisiana since Hurricane Katrina (2005)," Special Symposium on Hurricane Katrina: Progress in Leveraging Science,

Enhancing Response and Improving Resilience, 96th American Meteorological Society Annual Meeting, New Orleans, January 10-14, 2016.

166. J. Westerink, R. Luettich, C. Dawson, "Rationale for Large Domain High Resolution Unstructured Grids to Simulate Coastal Hydrodynamic Processes," 14th Conference on Artificial and Computational Intelligence and its Applications to the Environmental Sciences, 96th American Meteorological Society Annual Meeting, New Orleans, January 10-14, 2016.

167. C. Dawson, J. Westerink, C. Michoski, S. Brus, "High Order Numerical Methods for Geophysical Fluid Flows on HPC Architectures," 96th American Meteorological Society Annual Meeting, New Orleans, January 10-14, 2016.

168. B. Joyce, J. Westerink,"A High-Resolution Coupled Tide and Storm Surge Model for the Gulf of Alaska, Bering Sea, Chukchi Sea, and Beaufort Sea," Alaska Marine Science Symposium, Anchorage Alaska, January 25-29, 2016.

169. J. J. Westerink, B. Joyce, and J. Meixner, "Process Complexity and Uncertainty in Coastal Hydrodynamics Hazards Modeling," SIAM conference on the Mathematics of Planet Earth, Philadelphia, September 30-October 2, 2016.

170. A. van der Westhuysen, J. Westerink, C. Anselmi, R. Calzada, C. Forbes, J. Gonzalez, A. Mercado, J. Rhome, E. Rodriquez, V. Roeber, J. Smith, D. Yang, "Progress on the IOOS COMT Wave, Surge and Inundation Modeling Testbed for Puerto Rico and the US Virgin Islands," American Meteorological Society, 97th Annual Meeting, Seattle, January 22-26, 2017.

171. S. Brus, J. Westerink, C. Dawson, "Efficiency Gains in Coastal Ocean Modeling Through High-Order Solution Algorithms," American Meteorological Society, 97th Annual Meeting, Seattle, January 22-26, 2017.

172. D. Wirasaet, J. Westerink, "Using a Sponge Layer as a Boundary Treatment for Open-ocean Boundaries in a Barotropic Coastal Ocean Model," American Meteorological Society, 97th Annual Meeting, Seattle, January 22-26, 2017.

173. B. Joyce, J. Westerink, R. Grumbine, "An Integrated Tide and Storm Surge Model for the Gulf of Alaska and Bering, Chukchi, and Beaufort Seas Incorporating Ice Coverage," American Meteorological Society, 97th Annual Meeting, Seattle, January 22-26, 2017.

174. J. Gonzalez-Lopez, A. van der Westhuysen, J. Westerink, M. Canals, J. Morell, "Spectral Wave Model Sensitivity Under Hurricane Wind Forcing Over a Narrow Shelf Steep-Reef Environment," American Meteorological Society, 97th Annual Meeting, Seattle, January 22-26, 2017.

175. A. Suhardjo, W. Pringle, J. Westerink, "Modeling Dissipative Effects of Large Scale Coastal and Oceanic Regions on Tides in the Indian and Western Pacific Ocean," American Meteorological Society, 97th Annual Meeting, Seattle, January 22-26, 2017.

176. J. Westerink, A. Suhardjo, W. Pringle, S. Brus, J. Meixner, "Progress in Modeling Tides and Storm Surge in the Western Pacific & Marginal Seas," 2017 ADCIRC User's Group Meeting, Norwood, MA, May 4-5, 2017.

177. B. Joyce, J. Westerink, J. Feyen, R. Grumbine, A. van der Westhuysen, "Modeling Storm Surge Under Varying Ice Conditions in the Alaska Region," 2017 ADCIRC User's Group Meeting, Norwood, MA, May 4-5, 2017.

178. W. Pringle, A. Suhardjo, D. Wirasaet, J. Westerink, A. Kennedy, "Tides and Storm Surge in the Indian Ocean and South China Sea," 2017 ADCIRC User's Group Meeting, Norwood, MA, May 4-5, 2017.

179. K. Roberts, C. Dietrich, D. Wirasaet, J. Westerink, C. Dawson, "Load Balancing in ADCIRC: With Applications for the U.S. East Coast," 2017 ADCIRC User's Group Meeting, Norwood, MA, May 4-5, 2017.

180. D. Wirasaet, J. Gonzalez, W. Pringle, A. Suhardjo, J. Westerink, "Progress in Using Sponge Layers as an Open Boundary Treatment in ADCIRC," 2017 ADCIRC User's Group Meeting, Norwood, MA, May 4-5, 2017.

181. S. Brus, J. Westerink, "A detailed high-order discontinuous Galerkin tidal simulation for Galveston Bay," 2017 ADCIRC User's Group Meeting, Norwood, MA, May 4-5, 2017.

182. J. Gonzalez-Lopez, J. Perez-Valentin, F. Santiago, G. Seijo, J. Westerink, A. van der Westhuysen, J. Morell, "Latest applications of ADCIRC+SWAN for tides, waves, currents, storm surge, and hydrology coupling in Puerto Rico and the Virgin Islands," 2017 ADCIRC User's Group Meeting, Norwood, MA, May 4-5, 2017.

183. J. Westerink, W. Pringle, A. Suhardjo, D. Wirasaet, J. Meixner, S. Brus, A. Kennedy, "High Resolution Unstructured Grid Hydrodynamic Circulation Model of the Indian Ocean, Western Pacific Ocean and Adjacent Marginal Seas," 16th International workshop on Multi-scale (Un)-structured mesh numerical Modeling for coastal, shelf, and global ocean dynamics (IMUM 2017), held at Stanford University, August 29-September 1, 2017.

184. J. Westerink, B. Joyce, R. Grumbine, A. van der Westhuysen, J. Feyen, W. Pringle, D. Wirasaet, "Storm surge under varying ice coverages along Alaska's Bering and Chukchi coasts," 1st International Workshop on Waves, Storm Surges and Coastal Hazards (incorporating the 15th International Workshop on Wave Hindcasting and Forecasting; 6th Coastal Hazards Symposium; 3rd JCOMM Scientific and Technical Symposium on Storm Surges), Liverpool UK, September 10-15, 2017.

185. N. Mitsume, T. Yamada, S. Yoshimura, J. Westerink, "Development of a Parallel Analysis System for Wave-Structure Interaction Simulation Based on Partitioned Coupling Scheme," CompHPC2017, 1st International Conference on Computational Methods and Algorithms on HPC Platforms and Accelerators, Athens, Greece, September 18-20, 2017.

186. M. Contreras, C. Escauriaza, A. Taflanidis, J. Westerink, "Forecasting Flood Hazard on Real Time: Implementation of a New Surrogate Model for Hydrometeorological Events in an Andean Watershed," American Meteorological Society, 98th Annual Meeting, Austin, TX, January 7-11, 2018.

187. J. Westerink, A. Van der Westhuysen, C. Anselmi, R. Calzada, J. Gonzalez, J. Perez, J. Rhome, E. Rodriquez, S. Smith, "Comparison between Wave, Surge, and Inundation Models over Puerto Rico and the U.S. Virgin Islands," American Meteorological Society, 98th Annual Meeting, Austin, TX, January 7-11, 2018.

188. J. Westerink, W. Pringle, A. Suhardjo, D. Wirasaet, J. Meixner, S. Brus, A. Kennedy, "Basin to Inlet scale Unstructured Grid Hydrodynamic Circulation Modeling of the Indian Ocean, Western Pacific Ocean, and Adjacent Marginal Seas," American Meteorological Society, 98th Annual Meeting, Austin, TX, January 7-11, 2018.

189. B. Joyce, J. Westerink, A. Van der Westhuysen, "Coupled Storm Surge and Wind Wave Model for the Gulf of Alaska and the Bering Chukchi and Beaufort Seas," American Meteorological Society, 98th Annual Meeting, Austin, TX, January 7-11, 2018.

190. D. Wirasaet, W. Pringle, J. Gonzalez, A. Suhardjo, J. Westerink, "Using a Sponge Layer as an Open-Ocean Boundary Treatment in Barotropic Tide and Storm-Surge Models," American Meteorological Society, 98th Annual Meeting, Austin, TX, January 7-11, 2018.

TECHNICAL REPORTS

1. Harms, V.W., B. Safaie, S.N. Kam, and J.J. Westerink, "Computer Manual for Calculating Wave Height Distributions about Offshore Structures," WREE Report 79-4, Department of Civil Engineering, State University of New York at Buffalo, September 1979.

2. Harms, V.W. and J.J. Westerink, "Wave Transmission and Mooring-Force Characteristics of Pipe-Tire Breakwaters," Lawrence Berkeley Laboratory Report No. 11778, University of California, Berkeley, October 1980.

3. Harms, V.W., J.J. Westerink, R.M. Sorenson and J.E. McTamany, "Wave Transmission and Mooring-Force Characteristics of Pipe-Tire Breakwaters," CERC Technical Paper No. 82-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi, 1982.

4. Bishop, C.T., V.W. Harms and J.J. Westerink, "Pipe-Tire Breakwater Model Tests Data Report," Hydraulics Division Report L7R4A6, National Water Research Institute, Canada Centre for Inland Waters, Environment Canada, March 1982.

5. Westerink, J.J., J.J. Connor, K.D. Stolzenbach, E.E. Adams and A.M. Baptista, "TEA: A Linear Frequency Domain Finite Element Model for Tidal Embayment Analysis," Technical Report, M.I.T. Energy Laboratory, Cambridge, Mass., February 1984.
6. Westerink, J.J., K.D. Stolzenbach and J.J. Connor, "A Frequency Domain Finite Element Model for Tidal Circulation," Report No. MIT-EL 85-006, M.I.T. Energy Laboratory, Cambridge, Mass., 1985.
7. Westerink, J.J., E. Cantekin and D. Shea, "The Development of Higher Order Finite Element Upwinding Schemes for Convection Dominated Turbulent Flow Problems," Report No. COE-303, Ocean Engineering Program, Texas A&M University, 1988.
8. Westerink, J.J. and R.A. Luettich, "Review of Numerical Modeling Strategies for Predicting the Long Term Hydrodynamic Circulation for Estimating the Fate of Disposed Dredged Materials," Report No. COE-304, Ocean Engineering Program, Texas A&M University, 1989.
9. Westerink, J.J. and R.A. Luettich, "Tide and Storm Surge Predictions in the Gulf of Mexico Using Model ADCIRC-2D," Report to the US Army Engineer Waterways Experiment Station, July 1991.
10. Luettich, R.A., R.H. Birkhahn and J.J. Westerink, "Application of ADCIRC-2DDI to Masonboro Inlet, North Carolina: A Brief Numerical Modeling Study," Contractors Report to the US Army Engineer Waterways Experiment Station, August 1991.
11. Westerink, J.J., "Tidal Prediction in the Gulf of Mexico/Galveston Bay Using Model ADCIRC-2DDI," Contractors Report to the US Army Engineer Waterways Experiment Station, January 1993.
12. Blain, C.A., J.J. Westerink, R.A. Luettich and N.W. Scheffner, "Generation of a Storm Surge Time History Data Base From the Hindcast of Extratropical Storm Events from 1977-1992," Contractors report to the U.S. Army Engineer Waterways Experiment Station, December 1994.
13. Westerink, J.J. and R.A. Luettich, "Tidal Predictions for Galveston Bay, Texas Using Model ADCIRC-2DDI," Report to the Texas Water Development Board, State of Texas, Austin TX, December 1997.
14. Westerink, J.J., R.A. Luettich and A. Militello, "Leaky Internal-Barrier Normal-Flow Boundaries in the ADCIRC Coastal Hydrodynamics Code," Coastal and Hydraulic Engineering Technical Note IV-XX, U.S. Army Engineer Research and Development Center, Vicksburg MS, May 2001.
15. Wamsley, T.V., M.A. Cialone, J.J. Westerink and J.M. Smith, "Influence of Marsh Restoration and Degradation on Storm Surge and Waves," Coastal and Hydraulic Engineering Technical Note I-77, U.S. Army Engineer Research and Development Center, Vicksburg MS, July 2009.

OTHER INVITED LECTURES AND ADDRESSES

1. "A Frequency-Time Domain Finite Element Model for Tidal Circulation," Department of Civil Engineering, University of California at Berkeley, January 1984.
2. "Computations of Nonlinear Shallow Water Tidal Interactions using a General Spectral Finite Element Model," Department of Civil Engineering, The University of Delaware, May 1987.
3. "Numerical Modeling of Coastal Circulation," Naval Oceanographic Research and Development Activity, U.S. Navy, Bay St. Louis, MS, January 1988.
4. "Finite Element Modeling of Shallow Water Tidal Circulation," National Research Council, Ottawa, Canada, March 1989.
5. "Improved Finite Element Methods for Circulation and Transport in Coastal Seas," Texas Institute for Computational Mechanics, The University of Texas at Austin, March 1989.
6. "Advances in Finite Element Modeling of Coastal Ocean Hydrodynamics," Department of Civil Engineering, Chuo University, Tokyo, Japan, September 1996.
7. "Convergence and Grid Issues for Finite Element Solutions to the Shallow Water Equations," Mexican Institute for Water Technology, Jiutepec, Mexico, November 1996.

8. "ADCIRC Overview and Perspective on 20 years of GWCE Based Modeling," 4th Army-Navy ADCIRC Model Workshop, Naval Research Laboratory, Stennis Space Center, MS, February 20-21, 2001.

9. "ADCIRC Developments and Directions," 5th ADCIRC Model Workshop, Naval Research Laboratory, Stennis Space Center, MS, February 2-4, 2001.

10. "ADCIRC Overview and Model Features," "Modeling Strategy and Example Applications," "Grays Harbor Grid Design and Parameter Selection," Coastal Inlets Research Program, SMS Steering Module Workshop, U.S. Army Engineering Research and Development Center, Vicksburg, MS, July 29-August 2, 2002.

11. "Hurricane Hindcasts in Southern Louisiana Using a GWCE-based Finite Element Model," Advisory Board Meeting, Louisiana State University Hurricane Center, Baton Rouge, LA, August 21, 2002.

12. "ADCIRC Progress and Development Report: Implementation of Discontinuous Galerkin Methods for Hydrodynamic and Transport Modeling," Coastal Inlets Research Program Inlet Modeling System Sediment Transport and Morphology Change Team Meeting # 2, Ponte Vedra Beach, Fl, February 11, 2003.

13. "ADCIRC Tidal Data Bases, Implementation of Discontinuous Galerkin Methods for Hydrodynamic and Transport Modeling, ADCIRC Parallel Processing," Coastal Inlets Research Program Inlet Modeling System Sediment Transport and Morphology Change Team Meeting # 2, Ponte Vedra Beach, Fl, February 11, 2003.

14. "Overview of the ADCIRC Model," Florida Coastal Hydraulics Workshop, University of Central Florida, Orlando, FL, June 4-6, 2003.

15. "Louisiana Storm Surge Study," Florida Coastal Hydraulics Workshop, University of Central Florida, Orlando, FL, June 4-6, 2003.

16. "Future Development of ADCIRC," Florida Coastal Hydraulics Workshop, University of Central Florida, Orlando, FL, June 4-6, 2003.

17. "Storm Surge Flooding along the Southern Louisiana Coast," ADCIRC Briefing to U.S. Army Corps of Engineers Management, U.S. Army Engineer Research and Development Center, Vicksburg, MS, June 9, 2003.

18. "Storm Surge Flooding Realities - ADCIRC Modeling," Center for the Study of Public Health Impacts of Hurricanes, Advisory Committee Meeting, Louisiana State University, Baton Rouge, LA, September 15, 2003.

19. "Impact of Advances in High Performance Computing on Storm Surge Modeling," Coastal and Environmental Modeling Laboratory, Advisory Committee Meeting, Louisiana State University, Baton Rouge, LA, September 30, 2003.

20. "Hurricane Storm Surge Calculations in Southern Louisiana Using a Finite Element Based Model," Applied Mathematics Seminar, University of Notre Dame, Notre Dame, IN, October 13, 2003.

21. "Large Scale - Small Scale Applications of the ADCIRC Hydrodynamic Model," Texas Water Development Board, State of Texas, Austin, TX, April 28, 2004.

22. "Storm Surge Modeling in the Gulf of Mexico Using ADCIRC," Chester Jelesnianski Seminar in Ocean Engineering, Department of Civil Engineering, Texas A&M University, College Station, TX, April 29, 2004.

23. "An Overview of ADCIRC-IMS, A System of CG and DG Based Solutions for 2D and 3D Hydrodynamics and Transport," U.S. Army Research and Development Center, Vicksburg, MS, September 8, 2004.

24. "Unstructured Grid Shallow Water Equation Applications and Algorithms," Delft University of Technology, December 17, 2004.

25. "ADCIRC Storm Surge Computations in Southern Louisiana," U.S. Army Corps of Engineers New Orleans District, Federal Emergency Management Agency - ADCIRC Meeting, February 16, 2005.

26. "Hindcasting Hurricane Katrina Using an Unstructured Grid Model for Southern Louisiana," Notre Dame booth at Supercomputing 2005, Seattle WA, November 16, 2005.

27. "The Impact of Hurricane Katrina and Predicting Storm Surges in Southern Louisiana," Scholars in the classroom series, Kaneb Center for Teaching and Learning, University of Notre Dame, Notre Dame, IN, February 23, 2006.

28. "An Overview of Hurricane Inundation Modeling in the Gulf of Mexico and the Need for Statistical Quantification of High Impact Very Low Frequency Events," Workshop on Stochastic Modeling, Center for Applied Mathematics, University of Notre Dame, Notre Dame, IN, March 26, 2006.

29. "The Impact of Hurricane Katrina and Predicting Storm Surges in Southern Louisiana," Interdisciplinary Studies in Tsunami Impacts and Mitigation, Research Experience for Undergraduates, Department of Civil Engineer and Geological Sciences, University of Notre Dame, Notre Dame, IN, June 14, 2006.

30. "Modeling Hurricane Storm Surge along the Gulf Coast in the Wake of Katrina – Towards Petaflop Computations," Workshop on Scientific Computing, Center for Research Computing, University of Notre Dame, Notre Dame, IN, May 15, 2007.

31. "The Impact of Hurricane Katrina and Predicting Storm Surges in Southern Louisiana," Interdisciplinary Studies in Tsunami Impacts and Mitigation, Research Experience for Undergraduates, Department of Civil Engineer and Geological Sciences, University of Notre Dame, Notre Dame, IN, July 11, 2007.

32. "Modeling Hurricane Storm Surge along the Gulf Coast in Southern Louisiana – Towards Petaflop Computations," Department of Civil and Environmental Engineering, University of New Orleans, New Orleans, LA, September 25, 2008.

33. "Modeling Hurricane Storm Surge along the Gulf Coast in Southern Louisiana – Towards Petaflop Computations," School of Marine and Atmospheric Sciences, State University of New York, Stony Brook, NY, October 10, 2008.

34. "Massively Parallel Coastal Ocean Flow and Wind Wave Simulations," Department of Computer Science and Engineering Seminar Series, University of Notre Dame, IN, December 11, 2008.

35. "FEMA DFIRM Mapping and Quality Assurance Process," with Gary Zimmerer, Robert Dean, Billy Edge, Don Resio, Louisiana Coastal Protection and Restoration Authority, DFIRM Committee Meeting, Louisiana Capital Building, Baton Rouge, LA, March 12, 2009.

36. "High Resolution Unstructured Scalable Hurricane Wave and Storm Surge Models in the Gulf of Mexico," NOAA's Gulf of Mexico Unstructured Grid Catalog Workshop, Bay St. Louis, MS, March 17-18, 2009.

37. "High Resolution High Performance Scalable Hurricane Wave and Storm Surge Modeling in Southern Louisiana," 2009 Tulane Engineering Forum, New Orleans, LA, April 3, 2009.

38. "Next Steps in Improving the Physics of Storm Surge Models," Computational Mechanics Laboratory, Chuo University, Tokyo, Japan, March 30, 2009.

39. "UnSWAN+ADCIRC: High Resolution High Performance Coupled Wave and Current Modeling on Unstructured Grids," Office of Naval Research Physical Oceanography Program Review, Chicago, IL, June 11, 2009.

40. "Next Steps in Hurricane Storm Surge Modeling," Delft University, Delft, Netherlands, June 23, 2009.

41. "Modeling Hurricane Waves and Storm Surge using Integrated Tightly Coupled Scalable Computations," FM Global, Boston, MA, July 14, 2009.

42. "Modeling Hurricane Waves and Storm Surge in Coastal Texas, Louisiana and Mississippi using Integrated Tightly Coupled Scalable High Performance Computations," Iowa Institute for Hydraulic Research, College of Engineering, University of Iowa, October 2, 2009.

43. "Modeling Storm Surge and Waves," Hurricane Storm Surge Modeling Workshop, Southeast Louisiana Flood Protection Authority – East, New Orleans, LA, January 26, 2010.

44. "ADCIRC Modeling, Surge Propagation up the Mississippi River," Hurricane and Storm Damage Risk Reduction System/Mississippi River Levees Design Summit, U.S. Army Corps of Engineers New Orleans District, New Orleans, LA, January 27, 2010.
45. "Computing Hurricane Ike Waves, Forerunner, and Surge: Slow and Fast Processes from the Louisiana-Texas Shelf to San Jacinto Bay," Institute for Computational Engineering and Sciences, University of Texas at Austin, February 26, 2010.
46. "Computing Hurricane Ike Waves, Forerunner, and Surge: Slow and Fast Processes from the Louisiana-Texas Shelf to San Jacinto Bay," College of Engineering Retired Faculty Lunch Seminar, University of Notre Dame, March 3, 2010.
47. "Computing Hurricane Ike Waves, Forerunner, and Surge: Slow and Fast Processes from the Louisiana-Texas Shelf to San Jacinto Bay," Coast Survey Development Laboratory, National Ocean Service, NOAA, March 11, 2010.
48. "Towards Scalable Integrated Hurricane Wave and Current Modeling Systems," U.S. Army Corps of Engineers and NOAA/Pacific Climate Information System Workshop on Climate Change and Variability, and its Implications to Planning and Design for Coastal Flooding and Erosion in the Pacific, Scripps Institution of Oceanography, July 13-14, 2010.
49. "Computing Hurricanes Gustav and Ike Waves and Surge: Slow and Fast Processes on the Louisiana-Texas Shelf and Coast," Ocean Engineering Program, Department of Civil Engineering, Texas A&M University, October 14, 2010.
50. "High Performance Scalable Hurricane Wave and Surge Simulations," Scientific Computing Workshop, Center for Research Computing, University of Notre Dame, February 23, 2011.
51. "High Performance Scalable Computations of Hurricane Driven Wind Waves, Storm Surge, and Flow in Integrated Basin to Shelf to Inland Floodplain Systems," College of Engineering and Computer Sciences, University of Central Florida, March 4, 2011.
52. "The Evolution of Hurricanes Gustav and Ike," Louisiana Floodplain Management Association, Lafayette, LA, April 27-29, 2011.
53. "High Performance Scalable Computations of Hurricane Driven Wind Waves, Storm Surge, and Flow in Integrated Ocean Basin to Shelf to Inland Floodplain Systems," Department of Physics, University of Notre Dame, October 12, 2011.
54. "Storm Surge Modeling," TXCHART Technical Workshops, Port Arthur, Seabrook, Victoria, Corpus Chisti, Harlingen, Texas, December 6-15, 2011.
55. "High Performance Scalable Computations of Hurricane Driven Wind Waves, Storm Surge, and Flow in Integrated Ocean Basin to Shelf to Inland Floodplain Systems," Department of Civil and Environmental Engineering, University of Illinois, Urbana, IL, March 9, 2012.
56. "SWAN+ADCIRC: a Delft-U.S. Collaboration; Computing Hurricane Sandy Waves and Surge," On the occasion of the retirement of Guus Stelling, Delft University of Technology, Delft, September 27, 2013.
57. "Infrastructure Service Delivery Innovations for Future Resilience," Panel, ND-GAIN 2013 Annual Meeting, Washington, D.C., December 11, 2013.
58. "Hurricane/TS Sandy Waves, Surge, and Circulation: Synoptic Analysis and Validation using SWAN+ADCIRC," U.S. Engineer Research and Development Center, Vicksburg, MS, February 4, 2014.
59. "ADCIRC and SWAN+ADCIRC Coastal Waves and Currents," US Coast Guard Briefing, San Juan, Puerto Rico, March 12, 2014.
60. "High Fidelity, High Resolution, Tide and Surge Computations using the ADCIRC Community Model," Storm Surge Workshop, College of Staten Island, New York, April 22-23, 2014.

61. "Hurricane Storm Surge Models Using Integrated Ocean Basin to Shelf to Inland Floodplain Unstructured Grids," The Center for Computational Engineering, Massachusetts Institute of Technology, Cambridge MA, May 1, 2014.
62. CIGIDEN International Seminar, National Ministries and ONEMI (National Emergency Office), Santiago, Chile, November 16, 2015.
63. "Hurricanes and Storms Surge and Storm Wave Prediction," Great Lakes Science Boot Camp, Notre Dame, IN, July 15, 2016.
64. "Understanding a Sustainable Coast – Perceptions and Realities of Hurricane Storm Surge and Waves," Environmental Engineering Seminar, McCormick School of Engineering, Civil and Environmental Engineering, Northwestern University, February 10, 2017.
65. "Understanding a Sustainable Coast through Simulation – Perceptions and Realities of Hurricane Storm Surge and Waves," Environmental, Water Resources & Coastal Engineering seminar series, Department of Civil, Construction, and Environmental Engineering, North Carolina State University, March 17, 2017.
66. "Understanding a Sustainable Coast – Perceptions and Realities of Hurricane Storm Surge and Waves," The Bernard and Susan Master 2018 Moonlight on the Marsh Distinguished Lecture Series, Florida Gulf Coast University, March 15, 2018.

SPONSORED RESEARCH

1. National Science Foundation: Grant EET-8718436, September 1987 - December 1989, "Improved Computations for Convection Dominated Turbulent Flow Problems Using the Fractional Step Method," Principal Investigator; Award $59,978.
2. Texas A&M Engineering Excellence Award: April 1988 - March 1989, "Development of Filtered Solution Techniques for Turbulent Flow Simulation," Principal Investigator; Award $15,000.
3. U.S. Army Engineer Waterways Experiment Station, Grant DACW39-86-D-0004/0001, July 1988 - December 1989, "Development of a Two-Dimensional Numerical Model for Estimating the Long Term Fate of Dredged Material," Principal Investigator; Award $116,093.
4. National Science Foundation Offshore Technology Research Center: Grant CDR-8721512-Project 6300A13, October 1988 - September 1989, "Forces on Slender Structures," Co-principal Investigator with Jun Zhang, Texas A&M University; Award $96,630.
5. U.S. Army Engineers Waterways Experiment Station, Grant DACW39-86-D-0004/0002, August 1989 - September 1990, "New York Bight Model Feasibility Study," Principal Investigator; Award $54,335.
6. National Science Foundation Offshore Technology Research Center: Grant CDR-8721512-Project 6300A13, October 1989 - September 1990, "Forces on Slender Structures," Co-principal Investigator with Jun Zhang, Texas A&M University; Award $81,217.
7. U.S. Army Engineers Waterways Experiment Station, Grant DACW39-90-M-2965, April 1990 - September 1990, "A Storm Surge Application of the DRP Circulation Model to the Gulf of Mexico," Principal Investigator; Award $21,457.
8. U.S. Army Engineers Waterways Experiment Station, Grant DACW 39-90-K-0021, May 1990 - September 1994, "Two-Dimensional and Three-Dimensional Tidal and Storm Surge Circulation Computations for the Western Atlantic Shelf and the Gulf of Mexico," Principal Investigator with R.A. Luettich, University of North Carolina at Chapel Hill; Award $375,302
9. National Science Foundation Offshore Technology Center: Grant CDR-8721512; October 1990 - November 1992, "Turbulent Flow Modeling with Space-Time Filtered Solutions to the Navier Stokes Equations," Principle Investigator; Award $30,210.

10. U.S. Army Engineers Waterways Experiment Station, Grant DACW 39-92-M-0352, December 1991 - June 1992, "Tidal Predictions in Galveston Bay Using the Gulf of Mexico Model," Principal Investigator; Award $9,443.

11. U.S. Army Engineers Waterways Experiment Station, October 1994 - January 2000, Grant DACW 39-95-K-0011, "Enhancements of the ADCIRC Model for the Analysis of Coastal Inlet Hydrodynamics," Principal Investigator with R.A. Luettich, University of North Carolina at Chapel Hill; Award $343,265.

12. Texas Water Development Board, November 1994 - December 1995, "Computer Simulation of Water Movement and Salinity Transport in Galveston Bay, Texas," Principal Investigator; Award $15,000.

13. U.S. Army Engineers Waterways Experiment Station, May 1995 - December 1996, "Development of Second Generation Long Wave Hydrodynamic Databases for U.S. Coastal and Continental Margin Waters," Principal Investigator with R.A. Luettich, University of North Carolina at Chapel Hill; Award $114,721.

14. U.S. Naval Research Laboratory, April 1997 - September 1999, "Development and Application of a Prognostic 3 Dimensional Baroclinic Capability in the ADCIRC Hydrodynamic Model," Co-Principal Investigator with R.A. Luettich, University of North Carolina at Chapel Hill; Amount $131,972.

15. Army Research Office, April 1998 - March 1999, Grant DAAG55-98-1-0091, "Scalable Meta-Computing in Computational Sciences and Engineering," Co-Principal Investigator with A. Lumsdaine, N. Chrisochoides, E. Maginn, M. Stadtherr and R. Stevenson, University of Notre Dame; Amount $400,000.

16. Texas Water Development Board, State of Texas, September 1998 - August 1999, "Baroclinic Hydrodynamic Simulations for the Texas Gulf Coast and Gulf of Mexico," Principal Investigator; Award $21,000.

17. Texas Water Development Board, State of Texas, September 1999 - January 2001, "ADCIRC Model for Shelves, Coasts and Estuaries to the Texas Gulf Coast," Principal Investigator; Award $21,000.

18. University of Notre Dame Graduate School, Equipment Restoration Fund, January 2000, "Scalable Meta-Computing for High Performance Computational Science and Engineering," Co-Principal Investigator with A. Lumsdaine, N. Chrisochoides, E. Maginn, M. Stadtherr and R. Stevenson, University of Notre Dame; Amount $200,000.

19. U.S. Army Engineer Research and Development Center, February 2000 - January 2005, Grant DACW 42-00-C-0006, "ADCIRC Hydrodynamic Circulation and Transport Code Development and Applications," Principal Investigator with R.A. Luettich, University of North Carolina at Chapel Hill; Award $674,450.

20. U.S. Army Corps of Engineers, New Orleans District, September 2000 - August 2001, Grant DACW29-00-C-0085, "Modifications of the ADCIRC-NO Hurricane Model to Enhance Robustness, Accuracy and Ease of Implementation," Principal Investigator; Award $247,928.

21. National Science Foundation, September 2001 - August 2004, "Adaptive Multinumeric Finite Element Methods for Shallow Water Flow," Co-Principal Investigator with C. Dawson at University of Texas at Austin; Award to Notre Dame $77,322.

22. Texas Water Development Board, State of Texas, June 2001- May 2002, "ADCIRC Model for Shelves, Coasts and Estuaries to the Texas Gulf Coast," Principal Investigator; Award $21,000.

23. Millennium Trust, Health Excellence Fund, State of Louisiana/ Subcontract through Louisiana State University Hurricane Center, January 2002 - December 2005, "Hydrodynamic Modeling of Flooding Events in Southern Louisiana," Principal Investigator; Award to Notre Dame $209,846.

24. Texas Water Development Board, State of Texas, July 2002- June 2003, "ADCIRC Model for Shelves, Coasts and Estuaries to the Texas Gulf Coast," Principal Investigator; Award $20,000.

25. Sun Microsystems Matching Equipment Grant Program Q4 FY03, July 2003, Principal Investigator; Award $40,896.50.

26. U.S. Army Engineer Research and Development Center, February 2005 - January 2007, Grant W912HZ-05-C-0022, "ADCIRC-CZMS Coastal Zone Modeling System for Circulation, Transport and Morphology: Development and Applications," Principal Investigator; Award $445,506.

27. Offshore and Coastal Technologies Inc., May 2005 - August 2005, "Chesapeake Bay Sediment Hydrodynamic Modeling," Principal Investigator; Award $15,000.

28. U.S. Army Corps of Engineers, New Orleans District, September 2005, Addition to Grant W912HZ-05-C-0022, "Category 5 Hurricane Protection for Louisiana Study," Principal Investigator; Award $77,760.

29. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), October 2005 - October 2006, "Development of a Gulf of Mexico Storm Surge Model from Texas to Florida," Principal Investigator, Award $141,000.

30. U.S. Army Corps of Engineers, Mobile District, November 2005 – November 2008, contract W91278-05-D-0018/003 (through Woolpert Inc. as part of a project funded through a direct Congressional appropriation), "Morphos 3D Long Wave Hydrodynamic Modeling," Principal Investigator; Award $175,095.

31. Office of Naval Research, December 2005 – September 2009, "Wave and Circulation Modeling on Unstructured Grids," Principal Investigator with C. Dawson at the University of Texas at Austin and R.A. Luettich at the University of North Carolina at Chapel Hill; Award $452,910.

    (This project is in cooperation with a separately ONR funded parallel project entitled "A Spectral Shallow Water Wave Model with Nonlinear Energy and Phase Evolution" by L.H. Holthuijsen and G.S. Stelling at Delft University of Technology)

32. National Aeronautics and Space Administration, May 2006 - April 2009, "Topographic and Hydrologic Modeling Constraints on Martian Channel Flow and Erosion," Co-Principal Investigator with Principal Investigator S. Sakimoto at the University of Notre Dame and Collaborators L. Keszthelyi of the United States Geological Survey and R. Williams of the Planetary Science Institute; Award $99,239.

33. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), November 2006 – November 2007, "USACE/FEMA Storm Surge Modeling Study-Phase I: Eastern Louisiana," Principal Investigator, Award $531,260.

34. U.S. Army Engineer Research and Development Center, October 2006 - March 2007, "Regional Hydrodynamics Task Co-leadership and Storm Surge Analysis and Modeling," Principal Investigator; $299,644.

35. National Science Foundation, September 2006 – August 2009, "CMG Collaborative Research: Adaptive Numerical Methods for Shallow Water Circulation with Applications to Hurricane Storm Surge Modeling," Co-Principal Investigator with C. Dawson at the University of Texas at Austin and R.A. Luettich at the University of North Carolina at Chapel Hill; Project Award $600,000, Award to Notre Dame $207,723.

36. National Science Foundation, October 2007 – September 2012, "Collaborative Research: NSF PetaApps Storm Surge Modeling on Petascale Computers," Co-Principal Investigator with C. Dawson at the University of Texas at Austin and A. Spagnuolo, Oakland University. Award $1,600,000; Award to Notre Dame $503,809.

37. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for USACE New Orleans District), January 2008 – December 2008, "IHNC Storm Surge Study for USACE HPO," Principal Investigator, Award: $51,770.

38. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), January 2008 - June 2010, "USACE/FEMA Storm Surge Modeling Study of the Texas Coast," Principal Investigator, Award: $323,594.

39. U.S. Army Corps of Engineers, Philadelphia District, April 2008 – June 2009, "USACE - Developing Advanced Hurricane Storm Surge Modeling Capabilities – Research Needs," Principal Investigator, Award: $72,723.

40. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), April 2008 – December 2008, "USACE - St. Charles Parish Surge Sensitivity Analysis," Principal Investigator, Award: $8,000.

41. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), April 2008 – December 2008, "USACE – Mississippi River Surge Propagation," Principal Investigator, Award: $14,700.

42. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), May 2008 – December 2008, "USACE – IHNC Hydroperiod Analysis," Principal Investigator, Award: $5,000.

43. Sun Microsystems Matching Equipment Grant Program, June 2008, Principal Investigator; Award $153,499.

44. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), May 2009 – June 2010, "Mississippi River Model Refinements," Principal Investigator, Award: $44,500.

45. U.S. Army Engineer Research and Development Center, July 2009 – July 2012, "Hurricane Inundation Risk in the North Pacific Ocean," Co-Principal Investigator with A. Kennedy and A. Taflanidis at the University of Notre Dame, Award $598,033.

46. U.S. Army Corps of Engineers, New Orleans District October 2009 – May 2010, (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), "Comprehensive Services in Support of New Orleans District West Shore Lake Pontchartrain Protection Projects," $47,030.

47. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), November 2009 – December 2010, "USACE/FEMA Storm Surge Modeling," $98,700.

48. FM Global, April 2010 – August 2012, "Combined Wind-Wave, Surge, and Rainfall-Runoff Processes in Evaluating Coastal Inundation During Hurricanes," $257,010.

49. National Science Foundation, Office of Cyberinfrastructure, "Collaborative Research: Extension of the ADCIRC Coastal Circulation Model for Predicting Near Shore and Inner Shore Transport of Oil from the Horizon Oil Spill," June 2010 – May 2011, Award $200,000, Award to Notre Dame $59,863.

50. Department of Homeland Security, "Supplemental Funding Request for the Application of the ADCIRC Coastal Circulation Model for Predicting Near Shore and Inner Shore Transport of Oil from the Horizon Oil Spill," July 1, 2010 – June 30, 2011, $52,000.

51. IOOS NOAA, "Total Water Level and Inundation Component of Super-regional Testbed to Improve Models of Environmental Processes on the US Atlantic and Gulf of Mexico Coasts," June 1, 2010 – December 31, 2011, $174,000.

52. National Science Foundation, "CMG Collaborative Research: Simulation of Wave-Current Interaction Using Novel, Coupled and Non Phase and Phase Resolving Wave and Current Models," October 1, 2010 – August 31, 2013, Principal Investigator with A. Kennedy at the University of Notre Dame, Clint Dawson at the University of Texas at Austin and Ethan Kubatko at the Ohio State University., Award $500,000, Award to Notre Dame $248,815, Additional University of Notre Dame Cost Share $18,967.

53. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc. as project managers for FEMA and USACE New Orleans District), "Comprehensive Services in Support of New Orleans District Atchafalaya River Surge Model," August 27, 2010 – December 13, 2010, $70,000.

54. U.S. Army Corps of Engineers, New Orleans District (through Arcadis Inc.), "Southwest Coastal Louisiana Hurricane Protection Project for ADCIRC and STWAVE Hydraulic Modeling," October 2010 – July 2011, $55,000.

55. Baker AECOM, "Region IV Coastal Develop ADCIRC Model," November 2010 – June 2013, $100,284.

56. U.S. Army Corps of Engineers, New Orleans District and Arcadis US Inc., "Comprehensive Services in Support of New Orleans Modeling Projects," January 2011 – July 2012, $218,448.

57. Arcadis US, Inc., "Southern Louisiana Model Development and Applications," January 2011 – October 2011, $111,000.

58. SURA, "University of Notre Dame Contribution to the US IOOS Coastal Modeling Testbed," August 2011 – April 2013, $40,000.

59. FM Global, "Model Development for Western North Pacific," June 2012 – May 2013, $120,000.
60. Department of Homeland Security, "Wave and Surge Modeling and Operational Forecasting in Puerto Rico," July 2012 – June 2015, $147,433.
63. National Science Foundation, "Collaborative Research: Data-Driven Inverse Sensitivity Analysis for Predictive Coastal Ocean Modeling," September 2012 – August 2015, $189,647.
64. Baker AECOM, "Region VI Coastal: Central Florida Study," July 2012 – December 2013, $65,720.
65. National Oceanographic and Atmospheric Administration, "ADCIRC Circulation Modeling Deepwater Horizon Oil Spill NRDA," April 2012 – August 2017, $590,746.
66. National Oceanographic and Atmospheric Administration (flow through Western Alaska Land Conservation Corps), "A High Resolution Integrally-Coupled Ice, Tide, Wind-Wave, and Storm Surge Model for Western Alaska," June 2015 – March 2016, $88,763.
67. National Oceanographic and Atmospheric Administration/SURA, "A Puerto Rico/U.S. Virgin Islands Surge and Wave Inundation Model Testbed," September 2013 – August 2018, $139,487.
68. Arcadis, "Katrina Hindcasting and Levee Breaching," June 2013 – June 2014, $40,000.
69. Arcadis, "Southwest Coastal Louisiana Feasibility Study," October 2013 – October 2014, $19,000.
70. Baker AECOM, "ADCIRC Attribute Review and Code Performance Optimization," August 2014 – December 2015, $26,317.
71. Arcadis, "Lake Pontchartrain Barrier Storm Surge Study," August 2014 – November 2016, $26,856.
72. Arcadis, "2017 Master Plan ADCIRC and CLARA Model Improvement Considerations," August 2014 – May 2016, $26,880.
73. Arcadis, "Modeling in Support of United States Department of Justice," August 2014 – December 2016, $62,500.
74. National Science Foundation "SSI2: Collaborative Research: STORM: A Scalable Toolkit for an Open Community Supporting Near Realtime High Resolution Coastal Modeling," October 2014 – September 2018, Total award $3,000,000 with Co-Pi's Hartmut Kaiser, LSU, Clint Dawson, University of Texas at Austin, and Rick Luetich, University of North Carolina Chapel Hill; Notre Dame portion $730,000.
75. Arcadis, "GCCPRD – Six County Texas Study," May 2015 – May 2016, $20,000.
76. Arcadis, "Technical Support for NYC FEMA Appeal," May 2015 – May 2016, $40,000.
77. Arcadis, "2017 Master Plan CPU Hours and Technical Support," May 2015 – June 2017, $306,108.
78. Office of Naval Research, "Tides and Storm Surge in the Indian Ocean and the South China Sea," May 2015 – August 2017, $158.680.
79. FM Global, "Model Development for Western North Pacific," July 2015 – June 2017, $51,576.
80. FM Global, "Combined Wind Wave, Surge, and Rainfall Runoff Processes in Evaluating Coastal and Inland Inundation, New York NYV01 Model Studies," July 2015 – December 2017, $128,880.
81. Arcadis, "GCCPRD – Six County Texas Study," February 2017 – October 2017, $46,000.
82. NIST, "Coastal Inundation Events in Developed Regions," August 2017 – August 2020, $715,550.

RESEARCH SUPERVISED

Undergraduate Research

D. Shea, Topic: Petrov-Galerkin Solutions to the Convection-Diffusion Equation, senior thesis, August 1986 - July 1987.

S. Liu, Topic: Petrov-Galerkin Solutions to the Convection-Diffusion Equation, senior thesis, August 1986 - May 1987.
H. Zhao, Topic: New York Bight Circulation Studies, January - July 1990.
L. O'Brien, Topic: Finite Element Grid Development for Coastal Circulation Models, NSF Research Experience for Undergraduates, June - July 1991.
S. Hagen, Topic: Truncation Error Analysis for Shallow Water Equations, NSF Research Experience for Undergraduates, June - July 1992.
R. Li, Topic: Finite Element Grid Studies for Coastal Circulation Models, NSF Research Experience for Undergraduates, June - July 1994.
K. Adu-Sarkodie, Topic: Influence of Grid Valence on the Generation of Spurious Modes in Solutions to the Shallow Water Equations, independent study, January - May 2000.
M. Altman, Topic: Hurricane Storm Surge Calculations in Southern Louisiana, January 2001 - May 2002.
P. Drummey, Topic: Tidal Computations in Texas Coastal Inlets, January - December 2001, August 2002 - May 2003.
A. Henisey, Topic: Tidal Computations in Texas Coastal Inlets, January - May 2002.
P.J. Craig, Topic: Resonant Modes of the Gulf of Mexico, September 2004 - May 2005.
J. Breckler, Topic: The Influence of South Western Levees on Storm Surge Propagating Up the Mississippi River Under High River Stage Conditions, September – December 2005.
T. Roy, Topic: Grid Resolution Effects on the Mississippi River, January 2007 – May 2008.
J. Jeray, Topic: Grid Resolution Effects on the Mississippi River, September 2007 – May 2008.
M. Shubert, Topic: Grid Resolution Effects on the Mississippi River, January 2008 – May 2008.
C. Harris, Topic: Grid Resolution Effects on the Mississippi River, January 2008 – May 2008.
Z. Cobell, Topic: Data Analysis of Historical Storm Surge Water Elevations in Southern Louisiana, September 2008 – May 2009.
D. Reimer, Topic: Data Analysis of Historical Storm Surge Water Elevations in Southern Louisiana, September 2008 – May 2009.
S. Keithley, Topic: Performance Analysis of Scalable Finite Element Coastal Storm Surge Models, September 2008 – May 2009.
Z. Cobell, Topic: Applying Lidar and Land Use Data Bases to Quantify Topography and Surface Roughness for Hurricane Models, May 2009 – May 2010.
B. Mitchell, Topic: Verifying Storm Surge Models in Southern Louisiana, June-August 2009, Summer research experience undergraduate student from Xavier University in New Orleans, LA.
N. Tate, Topic: Verifying Storm Surge Models in Southern Louisiana, June-August 2009, Summer research experience undergraduate student from Xavier University in New Orleans, LA.
M. Hartman, January 2010 – May 2010, Topic: Data analysis of hurricane storm surge and runup.
D. Iwanski, September 2010 – May 2010, Topic: Assessment of hurricane characteristics and response in the Pacific Ocean.
R. Estes, September 2010 – May 2011.
R. Dominguez, September 2010 – May 2013.
R. Dunbar, September 2011 – May 2012.
L. Semeraro, September 2011 – May 2012.
M. Eppler – September 2012 – May 2013.
K. Krah – September 2012 – May 2013.
E. Andruszkiewicz – September 2012 – May 2013.
D. Noe – September 2012 – May 2013.
E. Holtzenthal – August 2013 – 2015, Topic: Modeling Tides in the South China Sea.
A. Toth – August 2015 – August 2016.
C. Nauman – January 2016 – December 2016.
D. Stone – January 2018 – present.

Master's Theses Directed

J.C. Muccino, "Grid Resolution Studies of the Western North Atlantic Ocean, Gulf of Mexico and Caribbean Sea," Department of Civil Engineering and Geological Sciences, University of Notre Dame, M.S., completed November 1992.

M.J. Roe, "Achieving a Dynamic Steady State in the Western North Atlantic/Gulf of Mexico/Caribbean Using Graded Finite Element Grids," Department of Civil Engineering and Geological Sciences, University of Notre Dame, M.S., completed August 1998.

A. Mukai, "Tidal Computations within the Western North Atlantic Using a High Resolution Unstructured Finite Element Mesh," Department of Civil Engineering and Geological Sciences, University of Notre Dame, M.S., completed September 2001.

E. Spargo, "Using a Finite Element Model of the Shallow Water Equations to Model Tides in the Eastern North Pacific Ocean," Department of Civil Engineering and Geological Sciences, University of Notre Dame, M.S., completed September 2003.

H.J. Roberts, "Grid Generation Methods for High Resolution Finite Element Models Used for Hurricane Storm Surge Prediction," Department of Civil Engineering and Geological Sciences, University of Notre Dame, M.S., completed December 2004.

P. Miller, "Grid Resolution and Parameter Study for Coupled Hydrodynamic Sediment Wave Models over an Idealization of the Shinnecock Inlet, New York," Department of Civil Engineering and Geological Sciences, University of Notre Dame, M.S., completed April 2005.

M. Agnew, "Surge and Wave Propagation over Wetlands with Respect to Storm Forward Speed," completed January 2012.

A. Suhardjo, "Development of a High Resolution Hydrodynamic Model for the Asian-Pacific, Indian Ocean, and Associated Marginal Sea Basins for Tidal Predictions," January 2018.

Visiting Graduate Students

A.A. Chavez, Instituto Mexicano de Technologia del Agua, Topic: Simulation of Flushing of Inlets in Cancun, Mexico, February - May 1997.

S. Bunya, University of Tokyo, Topic: Boundary Condition Implementations for Quasi-Bubble Solutions to Shallow Water Equations, July 2003 - June 2004.

N. Mitsume, University of Tokyo, Topic: 2D-3D Coupling Wave Model for Tsunami Simulation, May 2015 – March 2016.

J. Moris, UTFSM, Chile, Phase-resolving 4thorder Boussinesq model, January 2016 – March 2016.

M.T. Contreras Vargas, Pontificia Universidad Catolica de Chile, February 2017.

Doctoral Dissertations Directed

M.E. Cantekin, "Numerical Simulation with Gaussian Low Pass Filtered Navier Stokes Equations," Department of Civil Engineering, Texas A&M University, Ph.D., completed July 1991.

C.A. Blain, "The Influence of Domain Size and Grid Structure on the Response Characteristics of a Hurricane Storm Surge Model," Department of Civil Engineering and Geological Sciences, University of Notre Dame, Ph.D., completed June 1994.

S.C. Hagen, "Truncation Error Analysis and Grid Design for Long Wave Propagation in Continental Margin Waters," Department of Civil Engineering and Geological Sciences, University of Notre Dame, Ph.D., completed July 1997.

J. H. Atkinson, "Two-dimensional Analysis of Spatial Discretizations of the Shallow Water Equations," Department of Civil Engineering and Geological Sciences, University of Notre Dame, Ph.D., completed October 2002.

J. C. Feyen, "Predictive Hurricane Storm Surge Modeling through Use of a Large Scale Locally Refined Finite Element Model," Department of Civil Engineering and Geological Sciences, University of Notre Dame, Ph.D., completed April 2005.

E.J. Kubatko, "Development, Implementation, and Verification of *hp* Discontinuous Galerkin Models for Shallow Water Hydrodynamics and Transport," Department of Civil Engineering and Geological Sciences, University of Notre Dame, Ph.D., completed December 2005.

J.C. Dietrich, "Development and Application of Coupled Hurricane Wave and Surge Models for Southern Louisiana," Ph.D. , completed October 12, 2010.

R. Martyr, Ph.D., "Toward a Unified Parameterization of Bottom Friction for Riverine, Tidal and Storm Surge Analysis," completed December 2012.

P. Kerr, Ph.D., "Astronomical Tide, Hurricane Storm Surge, Coastal Inundation, and Wind-Wave Modeling and Response Sensitivities, completed May, 2013.

M. Hope, Ph.D., Examination and Validation of Winds, Waves, and Storm Surge Processes for Hurricanes Ike (2008) and Sandy (2012) and then Integration of Hydrologic Processes into a Coastal Circulation Model, completed, March 2015.
J. Gonzalez, Ph.D., "Regional and Coastal Hydrodynamics of Puerto Rico, the U.S. Virgin Islands, and the Caribbean Sea," completed December 2015.
A. Donahue, Ph.D., "A Pressure-Poisson Based Boussinesq-Type Phase Resolving Wave Model," completed February 2016 (co-advisor with Andrew Kennedy).
S. Brus, Ph.D., "Efficiency Improvements for Modeling Coastal Hydrodynamics through the Application of High-Order Discontinuous Galerkin Solutions to the Shallow Water Equations," 2017.
B. Joyce, Ph.D. Program
K. Roberts, Ph.D. Program
J. Perez-Valentin, Ph.D. Program
J. Moris, Ph.D. Program
M. Contreras-Vargas, Ph.D. Program

Post Doctoral Associates

J.K. Wu, Topic: Finite Element Based Solutions to the Shallow Water Equations, August 1988 - August 1990
M.E. Cantekin, Topic: Analysis of Finite Element Based Solutions to the Shallow Water Equations, August 1991 - July 1992
R.L. Kolar, Topic: Mass Conservation Issues for Finite Element Solutions to the Shallow Water Equations, July - August 1992.
S. Bunya (visiting assistant professor), Topic: Discontinuous Galerkin Implementations for Coupled Shallow Water Equations, June 2005 – May 2007
E.J. Kubatko, Topic: Discontinuous Galerkin Solutions to the Shallow Water Equations," January – August 2006.
S. Tanaka (assistant research professor), Topic: High Performance Computational Models of the Coastal Ocean, April 2008 – March 2011.
D. Wirasaet, (assistant research professor), Topic: High Performance Computational Models of the Coastal Ocean, August 2008 – present
J. Meixner, Topic: Discontinuous Galerkin Solutions to Non-phase Resolving Wave Fromulations, August 2012-2015.
W. Pringle, Topic: Tides and Storm Surge in the Indian Ocean and the South China Sea, June 2016 – present.
S. Brus, Topic: Oyster Population Transport Processes and Optimization of Grid Structures in Channels for CG and DG Codes, June 2017 – present.

COURSES TAUGHT

Princeton University

CE 276	Introduction to Water Resources
CE 306	Applied Engineering Hydraulics
CE 508	Numerical Methods in Engineering
CE 581	Advanced Hydraulics

Texas A&M University

ENGR 102	Engineering Analysis II
CVEN 311	Fluid Dynamics
OCEN 678	Hydromechanics
CVEN 688	Computational Fluid Dynamics

University of Notre Dame

CE 242	Introduction to Civil Engineering
CE 341	Computational Methods
CE 344	Hydraulic Engineering
CE 441	Numerical Methods in Engineering

CE 539	Advanced Hydraulics
CE 563	Finite Elements in Engineering
CE 598	Modeling Surface Water Flow and Transport
CE30125	Computational Methods
CE 33600/43600	Challenges and Innovation in Civil Engineering
CE60130	Finite Elements in Engineering
CE60450	Advanced Hydraulics

University of Notre Dame

Civil and Environmental Engineering Junior Class Fieldtrip – co-led with D.E. Westerink (2006-present)

CONFERENCE SESSIONS ORGANIZED

Co-organized with W.G. Gray a mini-symposium at the Third SIAM Conference on Mathematical and Computational Issues in the Geosciences, San Antonio, TX, February 8-10, 1995, entitled "Finite Element Methods for Surface Water Flow and Transport"

Co-organized with R. Kolar a mini-symposium at the Fifth SIAM Conference on Mathematical and Computational Issues in the Geosciences, San Antonio, TX, March 24-27, 1999, entitled "Solution Strategies to the Shallow Water Equations"

Co-organized with C. Dawson, S. Yoshimura and K. Kashiyama a mini-symposium at the Eighth U.S. National Congress on Computational Mechanics, Austin, TX, July 24-28, 2005, entitled "Finite Element Methods in Environmental Fluid Mechanics"

Co-organized with K. Kashiyama three technical sessions at the Seventh World Congress on Computational Mechanics, Los Angeles, CA, July 16-22, 2006, entitled "Finite Element Methods in Environmental Fluid Mechanics"

Co-organized with K. Kashiyama a mini-symposium at the Ninth US National Congress on Computational Mechanics, San Francisco, CA, July 22-26, 2007, entitled "Finite Element Methods in Environmental Fluid Mechanics"

Co-organized with T. Wamsley and J. Atkinson two technical sessions at the 10th International Conference on Estuarine and Coastal Modeling, Newport, RI, November 5-7, 2007, entitled "Hurricane Storm Surge Modeling in Southern Louisiana"

Co-organized with T. Wamsley a technical session at the 10th International Workshop on Wave Hindcasting and Forecasting and Coastal Hazard Symposium, Oahu, Hawaii, November 11-16, 2007, entitled "Estimation of Coastal Hazards"

Co-organized with K. Kashiyama, C. Dawson, and E. Kubatko a mini-symposium at the Tenth US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009, entitled, "Finite Element Methods in Environmental Fluid Mechanics"

Co-organized with K. Kashiyama, T. Nomura, and M. Behr a workshop at the International Workshops on Advances in Computational Mechanics, Yokohama, Japan, March 29-31, 2010, entitled, "Advances in Computational Methods for Free and Moving Boundary Problems"

Co-organized with K. Kashiyama a mini-symposium at the 9th World Congress on Computational Mechanics and 4th Asian Pacific Congress on Computational Mechanics, Sydney, Australia, July 19-23, 2010, entitled, "Finite Element Methods and High Performance Computing for Environmental Fluid Mechanics"

TECHNICAL REVIEWER

Journals

Advances in Water Resources
Communications in Applied Numerical Methods
International Journal for Numerical Methods in Fluids
International Journal for Numerical Methods for Heat and Fluid Flow
Journal of Continental Shelf Research
Journal of Engineering Mechanics
Journal of Geophysical Research

Journal of Hydraulic Engineering
Journal of Physical Oceanography
Journal of Waterway, Port, Coastal and Ocean Engineering
Nature
Numerical Methods for Partial Differential Equations
Water Resources Research

COMMITTEES/SERVICE ACTIVITIES

Princeton University

Fall 1985-Spring 1987	ASCE Student Chapter Advisor
Fall 1985-Spring 1987	Departmental Library Liaison

Texas A&M University

Fall 1989-Spring 1990	Member Departmental Computer Committee

University of Notre Dame

Fall 1991-Summer 1992	Member Departmental Computing Committee
Fall 1991-Summer 1994	Member of the College Library Committee
Fall 1992-Summer 1994	Chair of the Departmental Computing Committee
Fall 1992-Spring 1993	Member of the Departmental Undergraduate Curriculum Committee
Fall 1992-Summer 2007	Member of the College Computing Committee
Spring 1993-Fall 1993	Member of the University Subcommittee on Large Scale Technical Computing
Fall 1993	Member of the Departmental Catholic Character Committee
Fall 1993-Summer 1994	Member of the Departmental Honesty Committee
Spring 1994-Summer 1994	Member of the Office of University Computing UNIX Search Committee
Spring 1994-Spring 1995	Member of the University Off-Campus Computer Access Committee
Spring 1994-Summer 1994	Member of the University Subcommittee on Resource Allocation for the IBM SP1 Computing Facility
Summer 1994-Summer 1996	Member of the University Committee on Technical Computing
Fall 1994	Member of the College Computing UNIX Search Committee
Summer 1995-Summer 1996	Member of the University Committee on Computing and Information Services
Fall 1995-Summer 1996	Chair of the College Computing Committee
Fall 1995-present	Member of Departmental Committee on Appointments and Promotions
Fall 1997	Moran Search Committee
Fall 2000-Spring 2003	Executive Committee Center for Applied Mathematics
Spring 2000	Member of the University Committee on Technical Computing
Fall 2001-Summer 2002	Member of the Ad Hoc Committee on Computing in the College of Engineering
Fall 2001-present	Civil Engineering Program Class student advisor
Fall 2006-present	Co-organizer, Annual Junior Class Behind-the-Scenes Infrastructure Field Trip
Spring 2007	Computing Strategic Plan Task Force
Fall 2007-Spring 2008	Chair, CE/GEOS Massman Chair Search Committee
Spring 2008-Spring 2009	CE/GEOS Graduate Studies Committee
Spring 2008-present	Co-organizer, Undergraduate Lecture Series, “Challenges and Innovation in Civil and Environmental Engineering and Earth Sciences”
Fall 2008-Spring 2009	Chair, CE/GEOS Hydraulics position search committee chair
Spring 2009	Chair, CE/GEOS Ad Hoc Committee for undergraduate studies
Fall 2012-Fall 2014	Advisor, Engineers Without Borders student chapter
Fall 2012 -present	Department Chair Advisory Council