John H. Atkinson

Research Associate
Department of Civil Engineering
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Education

Ph.D. Civil Engineering, University of Notre Dame, October 2002.
Dissertation: *Two-dimensional analysis of Spatial Discretizations of the Shallow Water Equations*

M.S. Civil Engineering, West Virginia University, December 1995.
Thesis: *Numerical Simulation of the Flow of FBC-Ash Grout*

B.S. Civil Engineering, West Virginia University, December 1992.

Professional Interests

- Computational Fluid Dynamics
- High Performance Computing
- Numerical Methods and Analysis
- Estuarine and Coastal Ocean Hydrodynamics
- Geophysical Fluid Dynamics

Awards

National Science Foundation Graduate Research Traineeship, 9/98 - 8/00

Graduate Assistantship in Areas of National Need Fellowship, U.S. Department of Education, 9/96 – 8/97

Professional Licenses & Affiliations

E.I.T. Certification, State of West Virginia

Chi Epsilon (National Civil Engineering Honor Society)

Professional Experience and Workshops

Postdoctoral Research Associate, University of Oklahoma.
Project: *Prognostic Baroclinic Computations of 3D Flow in Coastal Seas*,
2002 – present.

Co-Teacher, *Open Channel Hydraulics*, University of Oklahoma, Spring 2003

ASEE Teaching Workshop, University of Oklahoma, September 2002

Researcher in the Environmental Hydraulics Laboratory, University of Notre Dame.
Project: *Evaluation of Spatial Discretizations of the Shallow Water Equations*,
1996 – 2002.

Student Workshop, U.S. Army Corps of Engineers' Coastal Inlets Research
Program, Waterways Experiment Station, Vicksburg MS, June 2000.

Researcher in the Environmental Hydraulics Laboratory, University of Notre Dame.
Project: *Hurricane Storm Surge Modeling for Southern Louisiana Coast*,
1998 – 2000.

Teaching Assistant, University of Notre Dame.
Numerical Analysis (CE441), and Introduction to Civil Engineering (CE242).
Helped with writing and grading of exams and homework, and substitute lectured,
1995 – 1998.

Supercomputing Workshop, Pittsburgh Supercomputing Center, Pittsburgh, PA,
1996.

Research Assistant, West Virginia University.
Project: *Numerical Simulation of Non-Newtonian Grout injection into Abandoned,
Underground Mines*. 1993 – 1995.

Publications

Atkinson, J.H., J.J. Westerink, and J.M. Hervouet, "Similarities Between the Wave Equation and the Quasi-Bubble Solutions to the Shallow Water Equations", *International Journal for Numerical Methods in Fluids*, in review, October 2002.

Atkinson, J.H., J.J. Westerink, and R.A. Luettich, "Two-Dimensional Dispersion Analysis for Finite Element Approximations to the Shallow Water Equations", *International Journal for Numerical Methods in Fluids*, in press, December 2002.

Feyen, J.C., J.H. Atkinson, J.J. Westerink, "Hurricane Storm Surge Hindcasts in Southern Louisiana Using a Finite Element Model", *Monthly Weather Review*, In preparation.

Presentations and Proceedings

Dresback, K.M, J.H. Atkinson, and R.L. Kolar, "Mentoring Through Team Teaching", ASEE Midwest Section Meeting, University of Missouri–Rolla, September, 2003. (Awarded Second Place in Best Paper Competition)

Atkinson, J.H., and J.J. Westerink, "Two-Dimensional Dispersion Analysis of Spatial Discretizations to the Shallow Water Equations", *ASCE 7th International Conference on Estuarine and Coastal Modeling*, St. Pete Beach, FL, November 2001.

Atkinson, J.H., *Alternative Solution Techniques for the Shallow Water Equations*, Center for Applied Mathematics Graduate Student Seminar, University of Notre Dame, April 6, 2001.

Atkinson, J.H., and J.J. Westerink, *Evaluation of Alternatives to the Wave Equation Approach for Solving the Shallow Water Equations*. 1st Annual Coastal Inlets Research Program Student Seminar, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS., June 19-21, 2000.

Feyen, J.C., J.H. Atkinson, and J.J. Westerink, *Improved Efficiency and Jetty Permeability Capabilities in ADCIRC*. 1st Annual Coastal Inlets Research Program Student Seminar, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS., June 19-21, 2000.

Atkinson, J.H., and J.J. Westerink, "Evaluation of Spatial Discretizations to the Shallow Water Equations", *Proceedings of the 13th International Conference on Computational Methods in Water Resources*, Calgary CA, June 2000.

Feyen, J.C., Atkinson, J.H., and J.J. Westerink, "Issues in Hurricane Storm Surge Modeling Using a GWCE Based Finite Element Model", *Proceedings of the 13th International Conference on Computational Methods in Water Resources*, Calgary CA, June 2000.

Atkinson, J.H., and J.J. Westerink, *Evaluating Solution Techniques for the Shallow Water Equations*, 4th ADCIRC Model Workshop, Naval Research Laboratory, Stennis Space Center, MS., February 1-4, 2000.

Feyen, J., J. Atkinson, and J.J. Westerink, *Recent Advances in ADCIRC*. 1st Annual Coastal Inlets Research Program Student Seminar, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS., June 20-22, 2000.

Atkinson, J.H., and J.J. Westerink, "Convergence Study of Solutions to the Advection Diffusion Equation"*, Proceedings of the 4th SIAM Conference Mathematical and Computational Issues in the Geosciences*, Albuquerque, NM, June 1997.

Atkinson, J.H., and D.D. Gray, "Numerical Simulation of the Flow of Non-Newtonian Grouts", Computer Applications in Industry and Engineering, *Proceedings of the ISCA 9th International Conference*, Hawaii, 1995.

References

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