

CURRICULUM VITAE

Wei Wang

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EDUCATION

- Ph.D. in Applied Mathematics, 09/2004-05/2008.
Division of Applied Mathematics, **Brown University**, Providence, RI.
Thesis Title: Multiscale discontinuous Galerkin methods and applications
Advisor: Chi-Wang Shu
- M.S in Applied Mathematics, 09/2004-05/2006.
Division of Applied Mathematics, **Brown University**, Providence, RI.
- B.S. in Mathematics, 09/2000-07/2004.
University of Science and Technology of China, Hefei, Anhui, P.R. China.

EMPLOYMENT

- Assistant professor, 08/2010-present.
Department of Mathematics & Statistics, **Florida International University**, Miami, FL.
- Research scholar, 06/2010-08/2010.
Division of Applied Mathematics, **Brown University**, Providence, RI.
- Postdoctoral Fellow, 06/2008-05/2010.
Center for Turbulence Research, **Stanford University**, Stanford, CA.

RESEARCH INTERESTS

- Computational fluid dynamics, reacting flows, turbulence and shock waves, especially development of low dissipative high order accurate schemes for shock and turbulence interactions of nonequilibrium flow.
- High order numerical methods for conservation laws, especially discontinuous Galerkin method, WENO method and spectral methods.
- Discontinuous Galerkin methods for multiscale modeling of solid mechanics.
- Multiscale discontinuous Galerkin methods for quantum semiconductor device simulation.

PUBLICATIONS/PREPRINTS

Published or Accepted Journal Articles

1. W. Wang, C.-W. Shu, H. C. Yee and B. Sjögreen, High order well-balanced schemes and applications to non-equilibrium flow with stiff source terms, *Journal of Computational Physics*, v228(2009), pp. 6682–6702.
2. W. Wang and C.-W. Shu, The WKB local discontinuous Galerkin method for the simulation of Schrödinger equation in a resonant tunneling diode, *Journal of Scientific Computing*, v40(2009), pp. 360-374.
3. W. Wang, X. Li and C.-W. Shu, The discontinuous Galerkin method for the multiscale modeling of dynamics of crystalline solids, *Multiscale Modeling and Simulation: A SIAM Interdisciplinary Journal*, v7(2008), pp. 294-320.
4. W. Wang, J. Guzmán and C.-W. Shu, The multiscale discontinuous Galerkin method for solving a class of second order elliptic problems with rough coefficients, *International Journal of Numerical Analysis and Modeling*, to appear.
5. W. Wang, H. C. Yee, B. Sjögreen, T. E. Magin and C.-W. Shu, Construction of low dissipative high order well-balanced filter schemes for non-equilibrium flow, *Journal of Computational Physics*, to appear.

Submitted or In Preparation

6. W. Wang, H. C. Yee, B. Sjögreen and C.-W. Shu, Finite difference methods for hyperbolic conservation laws with stiff reaction terms, in preparation.
7. W. Wang and C.-W. Shu, The WKB local discontinuous Galerkin method for the simulation of 2D Nanoscale MOSFETs, in preparation.

Technical Reports

8. W. Wang, C.-W. Shu, H. C. Yee and B. Sjögreen, On well-balanced schemes for non-equilibrium flow with stiff source terms, *Annual Research Briefs, Center for Turbulence Research, Stanford University* (2008).
9. W. Wang, H. C. Yee, B. Sjögreen, T. E. Magin and C.-W. Shu, Construction of low dissipative high order well-balanced filter schemes for non-equilibrium flow, *Annual Research Briefs, Center for Turbulence Research, Stanford University* (2009).

AWARDS AND HONORS

- Travel Grant
 - AWM-NSF Travel Grant, 2009.
 - IPAM program: Metamaterials: Applications, Analysis and Modeling, January 25 - 29, 2010, IPAM, UCLA.

- Postdoctoral Fellowship, 2008-2010, Center for Turbulence Research, Stanford University.
- The Stella Dafermos Award, 2008, Division of Applied Mathematics, Brown University.
- Graduate Student Fellowship, 2004-2005, Brown University.
- Zhang Zongzhi Fellowship, 2002-2003, University of Science and Technology of China.
- Outstanding Students Scholarship, 2000-2002, 2003-2004, University of Science and Technology of China.

TEACHING EXPERIENCE

- Florida International University, lecturer, Fall 2010-present
 - Undergraduate courses: Calculus
- Brown University, Teaching Assistant, Fall 2005-Fall 2007
 - Undergraduate courses: Operations Research, Methods of Applied Mathematics I, II
- Sheridan Center Teaching Certificate I, 2006-2007

CONFERENCES/WORKSHOPS

- Invited Talk:
 - Math Colloquium, Department of Mathematics, University of Massachusetts Dartmouth, North Dartmouth, MA, March 2010.
 - Math Colloquium, Department of Mathematics & Statistics, Florida International University, Miami, FL, February 2010.
 - AMS Special Session on Mathematics of Computation, the Joint Mathematics Meetings, San Francisco, CA, January 13-16, 2010.
 - BIRS meeting on Discontinuous Galerkin Methods for Partial Differential Equations, Banff Center, Alberta, Canada, November 25-30, 2007.
- Contributed Talk:
 - SIAM Annual meeting, Denver, CO, July 6-10, 2009.
- Poster:
 - International Conference on Advances in Scientific Computing, Brown University, December 6-8, 2009.
- Participant:
 - IPAM program: Metamaterials: Applications, Analysis and Modeling, UCLA, January 25 - 29, 2010.

- VKI Lecture Series on Hypersonic Entry and Cruise Vehicles, Stanford University, June 30-July 3, 2008.
- Seoul National University - Stanford University workshop on Prediction of Complex flows, Stanford University, June 19-20, 2008.
- Advances and Challenges in the Solution of Stochastic Partial Differential Equation, Brown University, October 20-22, 2006.
- SIAM Conference on Analysis of Partial Differential Equations, Boston, MA, July 10-12, 2006.

PROFESSIONAL SERVICE

- Referee for Mathematics of Computation, Communication in Computational Physics (CiCP), Advances in Water Resources (AWR), Applied Mathematics and Computation (AMC), Journal of Scientific Computing (JSC).
- Reviewer for CTR Annual Research Briefs