

# Curriculum Vitae

## Fengyan Li

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### Education

- Ph.D. in Applied Mathematics, May 2004, Brown University, Providence, RI, USA
- M.Sc. in Computational Mathematics, July 2000, Peking University, Beijing, China
- B.Sc. in Computational Mathematics, July 1997, Peking University, Beijing, China

### Professional Experiences

- Associate Professor, Department of Mathematical Sciences, Rensselaer Polytechnic Institute, December 2011 - present
- Long term visitor, Institute for Computational and Experimental Research in Mathematics (ICERM), September 5 - December 5, 2011
- Long term visitor, Institute for Mathematics and its Applications (IMA), September 1 - December 20, 2010
- Assistant Professor, Department of Mathematical Sciences, Rensselaer Polytechnic Institute, August 2006 - December 2011
- Postdoctoral Fellow, Department of Mathematics, University of South Carolina, August 2004 - August 2006
- Fellowship, Teaching/Research Assistant, Division of Applied Mathematics, Brown University, September 2000 - May 2004

### Honors and Awards

- RAMP-Up Career Campaign Award, Rensselaer Polytechnic Institute, 2010
- NSF CAREER Award, 2009
- Alfred P. Sloan Research Fellow, 2008
- Stella Dafermos Award, Brown University, 2004
- Ostrach Fellowship, Brown University, 2003 - 2004

### Research Interests

Design, analysis and implementation of accurate, robust and efficient numerical methods for differential equations

- Discontinuous Galerkin methods and central discontinuous Galerkin methods
- Divergence-free techniques in high order methods for magnetohydrodynamics (MHD) equations
- Efficient methods: high order fast sweeping methods, hybridization for eigenvalue problems
- High order methods for MHD equations, time dependent and time harmonic Maxwell equations, Hamilton-Jacobi equations, eigenvalue problems

### Grants

Active

- RAMP-Up Career Campaign Award 2010, Rensselaer Polytechnic Institute, \$7,000, November 5, 2010 - February 1, 2012
- PI, CAREER: Development and Applications of Discontinuous Galerkin Methods, NSF CAREER award DMS-0847241, \$582,112, July 15, 2009 - June 30, 2014
- Co-PI, GAANN: Graduate Assistance in Areas of National Need, Department of Education grant P200A090009, with PI M. Holmes and Co-PIs M. Cheney, I. Herron, G. Kovacic, D. Schwendeman, and V. Roytburd, \$656.410, August 15, 2009 - August 14, 2012
- Co-PI, EMSW21-RTG: Integrated Research Training in the Mathematical Sciences, NSF grant DMS-0636358, with PI M. Holmes and Co-PIs G. Kovacic, P. Kramer, Y. Lvov, \$1,272,000, 5 years from August 15, 2007
- Co-PI, CSUMS: Computational Science Training in the Mathematical Sciences at Rensselaer, NSF grant DMS-0639321, with PI M. Holmes and Co-PIs I. Herron, G. Kovacic, P. Kramer, \$1,251,000, 5 years from January 1, 2007
- Alfred P. Sloan Research Fellow 2008, \$50,000, September 16, 2008 - September 15, 2010 (with two years extension)

#### Inactive

- Sub-award: as a long term visitor for the annual program on Simulating Our Complex World: Modeling, Computation and Analysis, Institute for Mathematics and its Applications (IMA), Minneapolis, MN, \$9,373, September 1 - December 20, 2010
- PI, US-China Collaboration in Mathematical Research, supplementary to NSF grant DMS-0652481, \$40,000, September 1, 2008 - August 31, 2010 (with one year extension)
- PI, On Local-Structure-Preserving Discontinuous Galerkin Methods, NSF grant DMS-0652481, \$101,382, June 1, 2006 - May 31, 2009
- Selected travel awards
  - International Conference on Spectral and High Order Methods (ICOSAHOM09), Trondheim, Norway, June 22-29, 2009, \$1,000
  - AWM-NSF travel grant for the 8th US National Congress on Computational Mechanics (USNCCM8), Austin, TX, July 24-28, 2005, \$1,000

### **Publications** (<http://www.rpi.edu/~lif/publication.html>)

#### Refereed Journal Publications

1. S. Yakovlev, L. Xu, and F. Li, *Locally divergence-free central discontinuous Galerkin methods for ideal MHD equations*, Journal of Computational Sciences, submitted, 2011
2. F. Li and L. Xu, *Arbitrary order exactly divergence-free central discontinuous Galerkin methods for ideal MHD equations*, Journal of Computational Physics, DOI: 10.1016/j.jcp.2011.12.016, v231 (2012), pp.2655-2675.
3. F. Li, *On the negative-order norm accuracy of a local-structure-preserving LDG method*, Journal of Scientific Computing, DOI: 10.1007/s10915-011-9503-5, to appear, 2011
4. F. Li, L. Xu and S. Yakovlev, *Central discontinuous Galerkin methods for ideal MHD with the exactly divergence-free magnetic field*, Journal of Computational Physics, v230 (2011), pp.4828-4847
5. W. Guo, F. Li and J. Qiu, *Local-structure-preserving discontinuous Galerkin methods with Lax-Wendroff type time discretizations for Hamilton-Jacobi equations*, Journal of Scientific Computing, v47 (2011), pp.239-257

6. Y.-T. Zhang, S. Chen, F. Li, H.-K. Zhao and C.-W. Shu, *Uniformly accurate discontinuous Galerkin fast sweeping methods for Eikonal equations*, SIAM Journal on Scientific Computing, v33 (2011), pp.1873-1896
7. B. Cockburn, J. Gopalakrishnan, F. Li, N.-C. Nguyen and J. Peraire, *Hybridization and postprocessing techniques for mixed eigenfunctions*, SIAM Journal on Numerical Analysis, v48 (2010), pp.857-881
8. F. Li and S. Yakovlev, *A central discontinuous Galerkin method for Hamilton-Jacobi equations*, Journal of Scientific Computing, v45 (2010), pp.404-428
9. S. C. Brenner, F. Li and L.-Y. Sung, *Nonconforming Maxwell eigensolvers*, Journal of Scientific Computing, v40 (2009), pp.51-85
10. S. C. Brenner, F. Li and L.-Y. Sung, *A nonconforming penalty method for a two-dimensional curl-curl problem*, Mathematical Models and Methods in Applied Mathematics, v19 (2009), pp.651-668
11. F. Li, C.-W. Shu, Y.-T. Zhang and H.-K. Zhao, *A second order DGM based fast sweeping method for Eikonal equations*, Journal of Computational Physics, v227 (2008), pp. 8191-8208
12. S. C. Brenner, J. Cui, F. Li and L.-Y. Sung, *A nonconforming finite element method for a two dimensional curl-curl and grad-div problem*, Numerische Mathematik, v109 (2008), pp.509-533
13. S. C. Brenner, F. Li and L.-Y. Sung, *A locally divergence-free interior penalty method for two-dimensional curl-curl problems*, SIAM Journal on Numerical Analysis, v46 (2008), pp.1190-1211
14. S. C. Brenner, F. Li and L.-Y. Sung, *A locally divergence-free nonconforming finite element method for the reduced time-harmonic Maxwell equations*, Mathematics of Computation, v76 (2007), pp.573-595
15. F. Li and C.-W. Shu, *A local-structure-preserving local discontinuous Galerkin method for the Laplace equation*, Methods and Applications of Analysis, v13 (2006), pp. 215-233
16. F. Li and C.-W. Shu, *Reinterpretation and simplified implementation of a discontinuous Galerkin method for Hamilton-Jacobi equations*, Applied Mathematics Letters, v18 (2005), pp.1204-1209
17. F. Li and C.-W. Shu, *Locally divergence-free discontinuous Galerkin methods for MHD equations*, Journal of Scientific Computing, v22-23 (2005), pp.413-442
18. B. Cockburn, F. Li and C.-W. Shu, *Locally divergence-free discontinuous Galerkin methods for the Maxwell equations*, Journal of Computational Physics, v194 (2004), pp.588-610
19. L.-A. Ying and F. Li, *Exterior problem of the Darwin model and its numerical computation*, Mathematical Modelling and Numerical Analysis, v37 (2003), pp.515-532

Research Report (unpublished, <http://www.rpi.edu/~lif/publication.html>)

1. F. Li, *A priori error estimates of a local-structure-preserving LDG method*, May 2011

Conference and Workshop Proceedings

- S. C. Brenner, F. Li and L.-Y. Sung, *Nonconforming Maxwell eigensolvers*, Oberwolfach Report No. 36, 2008, the proceedings for the workshop: Nonstandard Finite Element Methods, Mathematisches Forschungsinstitut Oberwolfach, Germany, August 10-16, 2008, pp.42-43
- F. Li, C.-W. Shu, Y.-T. Zhang and H.-K. Zhao, *A DGM-based fast sweeping method for Eikonal equations*, Oberwolfach Report No. 36, 2008, the proceedings for the workshop: Nonstandard Finite Element Methods, Mathematisches Forschungsinstitut Oberwolfach, Germany, August 10-16, 2008, pp.38
- S. C. Brenner, F. Li and L.-Y. Sung, *A locally divergence-free nonconforming finite element method for the reduced time-harmonic Maxwell equations*, the proceedings of the joint Workshop by AWM and MSRI: Women in Mathematics: The Legacy of Ladyzhenskaya and Oleinik, MSRI, Berkeley, CA, May 18-20, 2006 (<http://topo.math.auburn.edu/pub/20lgas-proceedings/>), pp.187-191

- B. Cockburn, F. Li and C.-W. Shu, *Discontinuous Galerkin methods for equations with divergence-free solutions: preliminary results*, Computational Fluid and Solid Mechanics 2003, K.J. Bathe, Editor (Elsevier Science) Proceedings of the Second MIT Conference on Computational Fluid and Solid Mechanics, June 17-20, 2003, volume 2, pp.1900-1902

#### Projects in Progress

- Positivity preserving DG and central DG methods for ideal MHD equations
- Discontinuous Galerkin methods for Vlasov-Maxwell equations
- High order numerical methods for shallow water models
- Dispersion and dissipation analysis of fully discrete discontinuous Galerkin methods

#### **Students Supervision (Rensselaer Polytechnic Institute)**

- Ph.D. students in Mathematics:
  - Matthew Reyna, Summer 2011 - present
  - He Yang, Fall 2010 - present
  - Maojun Li (visiting Ph.D. student from Chongqing University, China), Fall 2011 - present
  - Sergey Yakovlev, Summer 2008 - Summer 2011 (Currently a Postdoc Fellow at University of Utah)  
*“Central Discontinuous Galerkin Methods for Hamilton-Jacobi Equations and Ideal Magnetohydrodynamics Equations”*
- M.S. student in Applied Mathematics:
  - Jayanth Jagalur Mohan, 2008 - present
- Master projects:
  - Yue Cheng (visiting Master student from Nanjing University, China), Spring 2011  
*“Positivity Preserving Techniques in MHD Simulations”*
  - Dong Guo, Fall 2009, Spring 2010  
*“Randomized Low-Rank Approximation of Large Matrix”*
- Undergraduate research projects:
  - Summer 2011 (with I. Herron): Daniel Goldstein, Aaron Smith  
*“Magnetorotational Instability and Magnetocoriolis Waves: a Global Analysis”*
  - Spring 2011 (with G. Kovacic):  
 Vera Axelrod, *“Digital Image Watermarking with the Singular Value Decomposition”*  
 John Laurentiev, *“Invisibility Cloaking”*  
 Barry Fortuna, Jason Greene, *“Modeling of Systemic Risk in Banking Ecosystems”*
  - Spring 2010: Samantha Cotter, Yu (Boris) Ning, Kayla Melanson  
*“Gender-Biased Predation”*
  - Summer 2009 (with M. Holmes): Aaron Allen, Lixun Liu, Tianhe Zhang  
*“Efficiently Solving Polynomial Systems by Homotopy Continuation”*
  - Spring 2009 (with M. Holmes):  
 Aaron Allen, *“Using Homotopy Methods to Find Roots of a Polynomial System of Equations”*  
 Eric A. Weissenstein, *“Stability Analysis of a Predator-Prey Model Incorporating Gender”*

#### **Postdoc Mentoring (Rensselaer Polytechnic Institute)**

- Dr. Liwei Xu, Fall 2009 - present

## Professional Activities and Service

### Workshops and Mini-Symposia (Co-)Organized

- *The 2nd New York Conference on Applied Mathematics*, University at Buffalo, Buffalo, NY, April 30, 2011
- Mini-Symposium on *Advances in Computational Mathematics: Design, Analysis, Optimization and Visualization*, at the 2010 SIAM Annual Meeting, Pittsburgh, PA, July 12-16, 2010
- *Applied Math Days*, Rensselaer Polytechnic Institute, Troy, NY, March 19-20, 2010
- Mini-Symposium on *Discontinuous Galerkin Methods for Hyperbolic Equations*, at International Conference on Spectral and High Order Methods (ICOSAHOM09), Trondheim, Norway, June 22-26, 2009
- *Fall 2008 Finite Element Circus*, Rensselaer Polytechnic Institute, Troy, NY, October 24-25, 2008
- Mini-Symposium on *Advances in Numerical Methods for PDEs and their Applications*, at the 2008 SIAM Annual Meeting, San Diego, CA, July 7-11, 2008
- Mini-Symposium on *Computational Methods for Electromagnetism*, at the Joint Meeting of Southeastern Section MAA & SIAM Southeast Atlantic Section, Auburn, AL, March 30-April 1, 2006
- Mini-Symposium on *Discontinuous Galerkin Methods*, at the Spring 2005 SIAM Southeast Atlantic Section, Charleston, SC, March 25-26, 2005

### Reviewer for

- Research proposals
  - Review panels: National Science Foundation, 2008, 2009, 2011
  - Single proposal: Department of Energy, National Science Foundation
- Conference proceedings:
  - International Conference on Spectral and High Order Methods, Trondheim, Norway, June 22-26, 2009
- Research journals (since 2004): *Applied Mathematical Modelling*, *Applied Mathematics Letters*, *Applied Numerical Analysis*, *Applied Numerical Mathematics*, *Communication in Computational Physics*, *Discrete and Continuous Dynamical Systems Series B*, *International Journal of Computer Mathematics*, *International Journal for Numerical Methods in Engineering*, *International Journal for Numerical Methods in Fluids*, *Journal of Computational and Applied Mathematics*, *Journal of Computational Physics*, *Journal of Numerical Mathematics: Theory, Methods, and Applications*, *Journal of Scientific Computing*, *Mathematics of Computation*, *Mathematical Modelling and Numerical Analysis*, *Numerische Mathematik*, *Numerical Methods for Partial Differential Equations*, *SIAM Journal on Numerical Analysis*, *SIAM Journal of Scientific Computing*

### Service in Activities for Career Advancement and Diversity

- Served as a panelist in Professional Development Round Table Discussion on *Hiring and Interviews*, Institute for Computational and Experimental Research in Mathematics (ICERM), Providence, RI, September 27, 2011
- Served as a mentor in Association for Women in Mathematics (AWM) Mentor Network, Spring 2011
- Organized a mini-symposium at the 2010 SIAM Annual Meeting, Pittsburgh, PA, July 12-16, 2010. All speakers were women applied mathematicians, including senior and junior professors as well as postdocs.
- Participated in lunch discussion with women graduate students in mathematics at University of Minnesota, November 4, 2008, November 17, 2010

- Served as a panelist in the seminar on *Planning Your Career* by SIAM Student Chapter at University of South Carolina, April 25, 2006
- At Rensselaer Polytechnic Institute
  - Hosted and supervised a female visiting student from Nanjing University, China on a Master project in Spring 2011
  - Supervised 3 female undergraduates in their research projects in Spring 2010 and Spring 2011
  - Co-organized and moderated the RTG Job Application Seminar, October 7, 2009

## Department and University Service

- Rensselaer Polytechnic Institute
  - Member of the Math Head Search Committee, Fall 2007 - Spring 2008, Fall 2009 - Spring 2010
  - Math Colloquium Chair, Fall 2006 - Summer 2011
  - Faculty Member of the Scientific Computation Research Center (SCOREC), Spring 2011 - present
  - Faculty Member of the Multi-scale Science and Engineering Center, Fall 2006 - present
  - Committee member of the qualifying exams for 12 graduate students, March 2007 - present
  - Member of the doctoral committee of (since August 2007, by default in Mathematics): Sanjeev Rao (Chemical & Biological Engineering), Sergey Yakovlev, Analee Miranda, Melih Ozlem, Pablo U. Suárez, Ronald J. Chila (Mechanical Engineering), Oswaldo Sanchez, Ning Zhang, Xueru Ding, Christina H. Lee, Polina Zheglova
- Brown University
  - Organized the Computational Mathematics Group Seminar, Division of Applied Mathematics, Brown University, September 2003 - May 2004

## Teaching Experiences

- Rensselaer Polytechnic Institute, Fall 2006 - present
  - Graduate courses: Computational Linear Algebra, Finite Element Analysis, Topics in Discontinuous Galerkin Methods, Seminars in Finite Element Methods
  - Undergraduate courses: Introduction to Numerical Methods for Differential Equations
  - Courses designed: Seminars in Finite Element Methods (2-credit), Topics in Discontinuous Galerkin Methods
  - Independent study: Numerical Methods for PDEs, Finite Element Methods, Discontinuous Galerkin Methods, Optimal Control of PDEs
- University of South Carolina, August 2004 - May 2006
  - Undergraduate courses: Calculus I, Elementary Differential Equations
- Brown University, September 2001 - May 2002
  - Undergraduate courses (recitation): Methods of Applied Mathematics I, II

## Academic Presentations

### Invited Talks

- Department of Mathematical Sciences, Delaware State University, Dover, DE, December 5, 2011
- Second Monterey Workshop on Computational Issues in Nonlinear Control, Monterey, CA, November 7-8, 2011

- ICERM Seminars, at Institute for Computational and Experimental Research in Mathematic (ICERM), Providence, RI, October 25, 2011
- Mini-Symposium on Scientific Computation and Numerical Methods, “40 Years and Counting: AWM’s Celebration of Women in Mathematics”, at Institute for Computational and Experimental Research in Mathematic (ICERM), Providence, RI, September 17-18, 2011
- Mini-Symposium on Discontinuous Galerkin Methods, at the 7th International Congress on Industrial and Applied Mathematics (ICIAM 2011), Vancouver, Canada, July 18-22, 2011
- Workshop on Computational Problems in Materials Science, Wuhan University, China, July 4-6, 2011
- Math/ICES Center of Numerical Analysis Seminar, University of Texas at Austin, May 2, 2011
- Scientific Computing Group Seminars, Brown University, Providence, RI, March 18, 2011
- Workshop on Advancing numerical methods for viscosity solutions and applications, Banff International Research Station (BIRS), Banff, AB, Canada, February 14-18, 2011
- IMA Annual Program Year Workshop - Numerical Solutions of Partial Differential Equations: Novel Discretization Techniques, Minneapolis, MN, November 1-5, 2010
- Mini-Symposium on Advanced Computational Methods for Convection Dominated Flow Problems, at the 2010 SIAM Annual Meeting, Pittsburgh, PA, July 12-16, 2010
- Applied and Interdisciplinary Mathematics Seminar, University of Michigan, April 9, 2010
- Scientific Computing and Numerics Seminar, Cornell University, March 29, 2010
- Applied and Computational Math Seminar, University of North Carolina at Charlotte, March 19, 2010
- ICES Seminars- Numerical Analysis Series, University of Texas at Austin, February 16, 2010
- New York Conference on Applied Mathematics, Rochester Institute of Technology, Rochester, NY, October 17, 2009
- Mini-Symposium on Advances in Discontinuous Galerkin Methods for Partial Differential Equations, at the 10th US National Congress on Computational Mechanics (USNCCM10), Columbus, Ohio, July 16-19, 2009
- Mini-Symposium on Discontinuous Galerkin Methods for Hyperbolic Equations, at International Conference on Spectral and High Order Methods (ICOSAHOM09), Trondheim, Norway, June 22-26, 2009
- Numerical PDEs Seminar, Department of Mathematics, Nanjing University, China, May 22, 2009
- Math Colloquium, Department of Mathematics, Virginia Polytechnic Institute and State University, April 10, 2009
- Applied Math Seminar, Department of Mathematics, California State University Northridge, March 25, 2009
- Numerical Analysis and Scientific Computing Seminar, Courant Institute of Mathematical Sciences, New York University, December 5, 2008
- Workshop on Nonstandard Finite Element Methods, Mathematisches Forschungsinstitut, Oberwolfach, Germany, August 10-16, 2008
- Applied Mathematics Seminar, Department of Mathematics, University of California, Irvine, April 28, 2008
- Mini-Symposium on Finite Element Methods and Applications, at the 2008 Spring Central AMS Meeting, Indiana University, Bloomington, IN, April 5-6, 2008

- Applied Mathematics Seminar, Department of Mathematics, Michigan State University, February 15, 2008
- Workshop on Discontinuous Galerkin Methods for Partial Differential Equations, Banff International Research Station (BIRS), Banff, AB, Canada, November 25-30, 2007
- Applied Mathematics Seminar, Department of Mathematics, Syracuse University, October 24, 2007
- Math Colloquium, Department of Mathematics and Statistics, University of Maryland, Baltimore County, October 5, 2007
- Mini-Symposium on Higher Order and HP Methods with Applications to Elliptic and Maxwell Problems, at the 9th US National Congress on Computational Mechanics (USNCCM9), San Francisco, CA, July 23-26, 2007
- Scientific & Engineering Computing Seminar, School of Mathematical Sciences, Peking University, China, July 5, 2007
- Computational Mathematics Seminar, Institute of Computational Mathematics, Chinese Academy of Sciences, China, July 4, 2007
- Nonlinear Mechanics Laboratory Seminar, Institute of Mechanics, Chinese Academy of Sciences, China, July 2, 2007
- Mini-Symposium on High Order Discontinuous Galerkin Methods and Applications, at International Conference on Spectral and High Order Methods (ICOSAHOM07), Institute of Computational Mathematics, Chinese Academy of Sciences, Beijing, China, June 18-22, 2007
- Workshop on Discontinuous Galerkin Method and Its Application, Beijing International Center for Computational Physics, Beijing, China, June 13-17, 2007
- Numerical Analysis Seminar, Department of Mathematics, Texas A&M University, March 7, 2007
- Applied Math Seminar, Department of Mathematics, Colorado State University, March 1, 2007
- Special guest lecture, Center for Computation and Technology, Louisiana State University, February 19, 2007
- Workshop on Numerical Methods for Degenerate Elliptic Equations and Applications, Banff International Research Station (BIRS), Banff, AB, Canada, December 9-14, 2006
- Mini-symposium on Fast Sweeping Methods for Hamilton-Jacobi Equations: Updates, Algorithms and Applications, at SIAM Conference on Analysis of Partial Differential Equations, Boston, MA, July 10-12, 2006
- Math Colloquium, Department of Mathematical Sciences, Rensselaer Polytechnic Institute, February 2006
- Math Colloquium, Department of Mathematics, University of Louisville, February 2006
- Math Colloquium, Department of Mathematical Sciences, University of Alabama in Huntsville, February 2006
- Math Colloquium, School of Mathematics, University of Minnesota, February 2006
- Math Colloquium, Department of Mathematics, University of Tennessee, February 2006
- Math Colloquium, Department of Mathematical Sciences, Clemson University, January 2006
- AMS-SIAM Special Session on Analysis and Implementation of Finite Element Methods, at Joint Mathematics Meeting, San Antonio, TX, January 12-15, 2006
- Mini-Symposium on Discontinuous Galerkin Methods, at the 8th US National Congress on Computational Mechanics (USNCCM8), Austin, TX, July 24-28, 2005

- Mini-Symposium on Discontinuous Galerkin Methods for PDEs, at the Third MIT Conference on Computational Fluid and Solid Mechanics, Cambridge, MA, June 14-17, 2005
- Scientific Computing Seminar, Division of Applied Mathematics, Brown University, March 2005
- SIAM Mini-Symposium on Discontinuous Galerkin Methods: Theory and Applications, at the AMS Joint Mathematics Meetings, Atlanta, GA, January 5-8, 2005
- Mini-Symposium on High-order Methods in Electromagnetics and Plasma Physics, at the International Conference on Spectral and High Order Methods (ICOSAHOM04), Providence, RI, June 21-25, 2004
- Mini-Symposium on Discontinuous Galerkin Methods for Computational Mechanics, at the 7th US National Congress on Computational Mechanics (USNCCM7), Albuquerque, NM, July 27-31, 2003
- Mini-Symposium on Discontinuous Galerkin Methods for Fluid and Solid Mechanics, at the Second MIT Conference on Computational Fluid and Solid Mechanics, Cambridge, MA, June 17-20, 2003

#### Invited Tutorial Lectures

- *Numerical Methods for Kinetic Equations - Part I: Finite Difference Methods*, Institute for Computational and Experimental Research in Mathematics (ICERM), Providence, RI, September 9, 2011
- (3-hour) *Discontinuous Galerkin Methods*, Workshop on Advancing numerical methods for viscosity solutions and applications, Banff International Research Station (BIRS), Banff, AB, Canada, February 14-18, 2011
- *Introduction to Central Discontinuous Galerkin Methods*, Department of Mathematics, Nanjing University, China, May 20, 2009
- *Introduction to Discontinuous Galerkin Methods for Hyperbolic and Elliptic Problems*, Department of Mathematics, University of California, Irvine, April 28, 2008
- *Introduction to Discontinuous Galerkin Methods*, Department of Mathematics, Michigan State University, February 15, 2008

#### Contributed Talks

- MSEC (Multi-scale Science and Engineering Center) Seminar, Rensselaer Polytechnic Institute, November 9, 2009
- The Fall 2008 Finite Element Circus, Rensselaer Polytechnic Institute, Troy, NY, October 24-25, 2008
- The Spring 2007 Finite Element Circus, University of Maryland, College Park, MD, April 20-21, 2007
- SIAM Student Chapter Seminar, Department of Mathematics, University of South Carolina, January 2006
- The Fall 2005 Finite Element Circus, Rutgers University, Piscataway, NJ, October 21-22, 2005
- AWM Workshop for Women Graduate Students and Recent PhDs, held in conjunction with the SIAM Annual Meeting, New Orleans, LA, July 11-12, 2005
- The Spring 2005 Finite Element Circus, University of Delaware, Newark, DE, April 29-30, 2005
- The Fall 2004 Finite Element Circus, Syracuse University, Syracuse, NY, October 15-16, 2004
- Scientific Computation Seminar, Department of Mathematics, University of South Carolina, September 2004
- Southeastern Atlantic Mathematical Sciences Workshop (SEAMS), Charleston, SC, September 17-19, 2004

#### Posters

- AWM and MSRI workshop: The Legacy of Ladyzhenskaya and Oleinik, MSRI, Berkeley, CA, May 18-20, 2006
- Southeastern Atlantic Mathematical Sciences Workshop (Cha-Cha Days), Chapel Hill, NC, September 23-25, 2005
- AWM Workshop: Focus on Research & Career Experiences, at SIAM Annual Meeting and SIAM Conference on the Life Sciences, Portland, OR, July 12-16, 2004
- ADAPT'03: Conference on Adaptive Methods for Partial Differential Equations and Large-Scale Computation, on the Occasion of Dean Joseph E. Flaherty's 60th birthday, Rensselaer Polytechnic Institute, Troy, NY, October 11-12, 2003

## Conference and Workshop Participation

- ICERM Semester Program, Providence, RI
  - Vlasov Models in Kinetic Theory, September 19-23, 2011
  - Novel Applications of Kinetic Theory and Computations, October 17-21, 2011
  - Boltzmann Models in Kinetic Theory, November 7-11, 2011
- Applied Math Days, Rensselaer Polytechnic Institute, Troy, NY, April 8-9, 2011
- IMA Annual Program Year Workshop, Minneapolis, MN
  - Computing with Uncertainty: Mathematical Modeling, Numerical Approximation and Large Scale Optimization of Complex Systems, October 18-22, 2010
  - Numerical Solutions of Partial Differential Equations: Fast Solution Techniques, November 29-December 3, 2010
- The Spring 2010 Finite Element Circus, Brown University, Providence, RI, April 30-May 1, 2010
- International Conference on Advances in Scientific Computing, Brown University, December 6-8, 2009
- (Invited) Meeting on Mathematics and Its Application (MMIA) by NSF, Beijing, China, May 26, 2009
- The Spring 2009 Finite Element Circus, University of Delaware, Newark, DE, April 24-25, 2009
- (Invited) Workshop on Recent Developments in Numerical Methods for Nonlinear Hyperbolic Partial Differential Equations and their Applications, Banff International Research Station (BIRS), Banff, AB, Canada, August 31-September 5, 2008
- The CSUMS Graduate School Seminar, Rensselaer Polytechnic Institute, September 24, 2008
- The 8th Annual Rensselaer Colloquium on Teaching and Learning, Rensselaer Polytechnic Institute, May 12-13, 2008
- The Fall 2007 Finite Element Circus, Cornell University, October 19-20, 2007
- Multi-scale Science and Engineering Workshop, Rensselaer Polytechnic Institute, October 31, 2006
- Workshop: Advances and Challenges in the Solution of Stochastic Partial Differential Equations, Brown University, October 20-22, 2006
- Nanotechnology 2006, Rensselaer Polytechnic Institute, September 25-26, 2006
- Program on Grand Challenge Problems in Computational Astrophysics, the Institute for Pure and Applied Mathematics (IPAM) at UCLA, May 3-24, 2005
- International Conference on the Research Trend for PDE Modeling and Computation, on the Occasion of David Gottlieb's 60th birthday, Brown University, November 7-8, 2004

- Workshop on Multi-Dimensional Euler Equations and Conservation Laws, University of Pittsburgh, November 6-9, 2003
- Workshop of Advances and Challenges in Time-Integration of PDE's, Brown University, August 18-20, 2003
- International Conference on Scientific Computing, Partial Differential Equations and Image Processing, on the Occasion of Stanley Osher's 60th birthday, UCLA, April 5-7, 2002

**Updated: January 29, 2012**