

## Curriculum Vitae

SHI JIN

Department of Mathematics  
University of Wisconsin  
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### PERSONAL INFORMATION:

Born on April 25, 1963 in Jiangxi Province, P.R. China.  
U.S. citizen

### EDUCATION:

**Ph.D., University of Arizona, 1991**

*Dissertation:* Numerical Transport in Diffusive Regimes

*Advisor:* Professor C. David Levermore

**M.S., University of Arizona, 1989**

**B.S., Peking University, 1983**

### RESEARCH INTERESTS:

Kinetic theory, computational high frequency wave propagations, semiclassical and multiscale methods in quantum dynamics, numerical methods for conservation laws and front propagation, computational fluid dynamics, etc.

### ACADEMIC EXPERIENCES:

#### Regular Positions:

Co-Director, Institute of Natural Sciences, Shanghai Jiao Tong University, August 2011–date

Chair Professor and Chairman, Department of Mathematics, Shanghai Jiao Tong University, China, June 2011–date

*Chair*, Department of Mathematics, University of Wisconsin-Madison, 6/08 –5/11

*Professor*, University of Wisconsin-Madison, 9/00 - date

*Associate Professor*, Georgia Institute of Technology, 9/98 - 8/00

*Assistant Professor*, Georgia Institute of Technology, 9/93 - 8/98

*Postdoctoral Visiting Member*, Courant Institute, 9/91-8/93

#### Visiting Positions:

*Changjiang Visiting Professor*, Tsinghua University, Beijing, China, Dec 2007–Nov 2010

*Pauli Fellow*, Wolfgang Pauli Institute, University of Vienna, Feb 2007.  
*CNRS Invited Visiting Professor*, Universite Paul Sabatier-Toulouse, France, Jan-Feb 2007, June-July 2007  
*Visiting Chair Professor*, Tsinghua University, China, Sept 2006-Aug 2007  
*Visiting Professor*, Beijing International Center for Mathematical Research, Peking University, September-December 2006.  
*IMA New Direction Visiting Professor*, IMA, University of Minnesota, Jan-June 2005  
*Invited Professor*, University of Paris VII, France, May 2002  
*Visiting Professor of Special Mathematics Lectures*, Peking University, Beijing, China, June-July 2001, July 2002  
*Invited Professor*, Universite Paul Sabatier, Toulouse, France, 1/01, 3/00  
*Senior Visiting Professor*, Tsinghua University, China, 7/99-8/99  
*Visiting Professor*, University of Wisconsin-Madison, 3/99 - 5/99  
*Visiting Associate Professor*, Stanford University, 1/99 - 3/99  
*Maitre de Conférences*, Université de Paris VII, 9/92  
*Visiting Member*, Institute for Advanced Study, Princeton, 9/91-8/92  
*Research Assistant*, Los Alamos National Laboratory, summers of 90 and 91

#### **AWARDS AND HONORS:**

Sigma Xi Young Faculty Award, Georgia Tech Chapter of the Sigma Xi Scientific Research Society, 1997  
 Feng Kang Prize in Scientific Computing, Chinese Academy of Science, 2001  
 The Ministry of Education of China Changjiang Professor, Tsinghua University, China, 2001-2006  
 Distinguished Overseas Young Scientist Award, National Natural Science Foundation of China, 2002-2005  
 Van Vleck Distinguished Research Prize, Department of Mathematics, University of Wisconsin-Madison, 2007-2011  
 Morningside Silver Medal of Mathematics, IV International Congress of Chinese Mathematicians, December 2007  
 Vilas Associate Award, Graduate School, University of Wisconsin, 2010-2012  
 Copernicus Visiting Scientist, University of Ferrara, Italy, June 2010

#### **EDITORSHIPS:**

Founding Chief Editor, *Communications in Mathematical Sciences*, International Press, 2002–  
 Editorial boards of *Chinese Journal of Computational Physics*, 2002–; *SIAM Journal of Applied Mathematics*, 2005–; *Networks and Heterogeneous Media*, 2005– ; *Journal*

*of Computational Mathematics*, 2006–; *Kinetic and Related Models*, 2008–; *Journal of Mathematical Research and Exposition*, 2010–; *SIAM Journal of Scientific Computing*, 2001–2006; *Numerical Mathematics: A Journal of Chinese Universities*, 2005–2010.

## GRANTS:

Principal Investigator, National Science Foundation grant DMS-1114546, “Multi-scale Computational Methods for Semiclassical Schrodinger Equations”, 2011-2014, \$345,843

Vilas Associate Awards, Graduate School, University of Wisconsin-Madison, 2010-2012, \$100,000

Co-Principal Investigator, NSF Focused Research Group Grant 2008-2011: “Collaborative Research on Kinetic Description of Multiscale Phenomena: Modeling, Theory and Computation” \$166,668

Van Vleck Distinguished Research Prize, Department of Mathematics, University of Wisconsin-Madison, 2007-2011, \$80,000

Principal Investigator, National Science Foundation DMS-0608720, 2006-2011, “Computation of Multiscale and Multivalued Solutions to High Frequency Waves in Multimedia” \$548,542

Co-Principal Investigator, National Science Foundation DMS-0532085, 2005-2006: SCREMS “Multiscale Computation in Astrophysics, Geophysics, Hydrodynamics, Kinetic and Quantum Applications” (with F. Waleffe, J. Rossmanith, and L. Smith) \$73,000

IMA funding for International Workshop on PDEs and Mechanics, (with A. Tzavaras), 2004 \$5,000

ONR Funding for International Workshop on PDEs and Mechanics, (with A. Tzavaras), 2004 \$7,500

ONR International Field Office Funding for International Workshop on PDEs and Mechanics, (with A. Tzavaras), 2004 \$5,000

Principal Investigator, National Science Foundation Grant, 2003-2006, for “Numerical Methods for Multiscale Physical Problems” \$181,700

Principal Investigator, National Science Foundation Grant, 2000-2003, for “Numerical Methods for Hyperbolic Problems” \$77,000

Co-Principal Investigator (with E. Carlen), National Science Foundation, US-Italy Joint Research: Kinetic Theory and Kinetic Models of Hydrodynamic Behavior, 1998-2001 \$12,500

Principal Investigator, National Science Foundation Grant DMS-9704957, 1997-2000, for “Numerical Methods for Hyperbolic Systems and Related Problems” \$75,000.

Principal Investigator, National Science Foundation-CBMS Regional Conference on Shock Wave Theory, 1997 \$25,585.

Co-Principal Investigator (with K. Mischaikow, X. Chen and L. Dieci), National Science Foundation, US-Mexico Joint Research: Theoretical and Numerical Problems in Differential Equations, 1996-2000 \$24,800.

Principal Investigator, National Science Foundation Grant DMS-9404157, 1994-1997, for “Numerical Methods for Hyperbolic Systems” \$61,500.

Co-Principal Investigator (with R. Shonkwiler, K. Mischaikow, M. Spruill and R. Thomas), National Science Foundation Grant DMS-9406776, 1994-1995, for “Mathematical Sciences Computing Research Environments” \$50,000.

#### **INVITED CONFERENCE SPEECHES:**

International Conference on Computational Science, on the occasion of Prof. Ben-Yu Guo’s 70th Birthday, Shanghai Normal University, China, July 16-20, 2012.

SIAM Conference on Nonlinear Waves and Coherent Structures, Seattle, June 13-16, 2012. ( **plenary speaker** )

Workshop on “Semiclassical & multiscale aspects of wave propagation”, University of Crete, Greece, May 28-June 2, 2012.

Mathematical Theory and Computational Methods for Multiscale Problems, National University of Singapore, Jan 9-13, 2012

International Conference on Scientific Computing 2012, in celebration of the 60th birthday of Prof. Tony F. Chan, Chinese University of Hong Kong, Hong Kong, Jan 4-7, 2012.

Second Reunion Conference for IPAM’s Quantum and Kinetic Transport 2009 (KT2009) Long Program, Lake Arrowhead, CA, Dec 11-16, 2011

Partial Differential Equations and Modelization, University of Paris-6, France, Sept 23, 2011

The second conference “Numerical approximations of hyperbolic systems with source terms and applications”, Roscoff, France, Sept 19-23, 2011

International Conference on Applied Mathematics and Statistics, Renmin University, Beijing, China, August 21-22, 2011.

ICIAM 2011, Minisymposium on “Numerical Methods for Kinetic Equations and Related Models”; Minisymposium on “Advances in High Order Numerical Methods for PDEs in Computational Mathematics”, Vancouver, Canada, July 18-21, 2011

Sino-French Workshop on Contemporary Applied Mathematics, Fudan University, Shanghai, China, July 4-8, 2011.

Summer School on Kinetic Theory, Shanghai Jiaotong University. Shanghai, China, June 20-July 1, 2011 (**mini-course**)

2011 International Conference on Applied Mathematics and Interdisciplinary Research, Nankai University, Tianjin, China, June 13-16, 2011.

Waves in Fluids-III, Rio de Janeiro, Brazil, June 6-11, 2011

New Perspectives in Nonlinear PDE's, in honor of Blake Temple's 60th birthday, University of Michigan-Ann Arbor, May 2-6, 2011 .

"Kinetic Models of Classical and Quantum Particle Systems", a Conference in the Memory of Naoufel Ben Abdallah, Toulouse, France, March 14-18, 2011.

5th International Congress of Chinese Mathematicians, Tsinghua University, Beijing, China, Dec 17-22, 2010.

Workshop on "PDE Models for Quantum Fluids" , Newton Institute, University of Cambridge, UK, Sept 13-17, 2010.

Workshop on "Modern Applied Mathematics", Fudan University, Shanghai, China, Oct 25-Nov 4, 2010

Yangtze River International Mathematics Forum, on the occasion of the 70th Birthday of Prof. Liu Yingming, Sichuan University, Chengdu, China Aug 9-14, 2010.

Meeting on Computational Problems in Material Sciences, Suzhou University, China, Aug 2-5, 2010.

The First Cross-straits Workshop on Computational Mathematics, Xiamen University, China, Aug 2-5, 2010.

International Conference on PDEs in Memory of Prof. Wu Xinmou, Beijing, China, July 16-18, 2010.

10th International Conference Computational and Mathematical Methods in Science and Engineering, Almeria, Spain, June 26-30, 2010. ( **keynote speaker** )

5th Summer School on "Methods and Models of Kinetic Theory (M&MKT 2010)", Porto Ercole, Grosseto, Italy, June 13-19, 2010. (**main course**)

Second Advanced School on Numerical Solutions of PDEs: New Trends and Applications, Malaga, Spain, Feb 8-12, 2010 (**series of lectures**)

Numerical Analysis of Multiscale Computations, Banff, Canada, Dec 6-11, 2009.

Kinetic Description of Multiscale Phenomena: The Annual Kinetic FRG Meeting, University of Maryland, College Park, Sept 21-25, 2009.

National Graduate Students Summer School in Applied Mathematics and Statistics, Tsinghua University, Beijing, China, July 9-27, 2009 (**mini course**)

8th International Conference on Computational and Mathematical Methods in Science and Engineering (CMMSE - 2009), Gijon, Spain, June 30-July 3, 2009. (**keynote lecture**)

IPAM Culminating Workshop at Lake Arrowhead, Lake Arrowhead, CA, June 7-12, 2009.

Workshop on " Modern Topics in Nonlinear Kinetic Equations", University of Cambridge, UK, April 20-22, 2009.

Workshop: Computational Kinetic Transport and Hybrid Methods, IPAM, UCLA, March 30-April 3, 2009

Quantum and Kinetic Transport: Tutorials, IPAM, UCLA, March 10-13, 2009 (**4 lectures**)

International Conference on Modern Applied Mathematics, on the occasion of the 60th birthday of Prof. Andrew Majda, Fudan University, Shanghai, China, Jan. 19-23, 2009

First International Conference on Frontiers in Computational Mathematics, Guilin, China, Dec 15-17, 2008

Workshop on Moment Methods in Kinetic Gas Theory , ETH, Zurich, Switzerland, Nov 6-8, 2008

Workshop on Recent Developments in Numerical Methods for Nonlinear Hyperbolic Partial Differential Equations and their Applications , Banff, Canada, Aug 31-Sept 5, 2008.

12th International Conference on Hyperbolic Problems: Theory, Numerics, Applications, University of Maryland, College Park, June 9-13, 2008. (**plenary lecture**)

Conference on Kinetic Equations: Direct and Inverse Problems, Mantova, Italy, May 15-18, 2008.

2008 American Mathematical Society (AMS) Spring Central Section Meeting, Bloomington, IN, April 5-6, 2008. (**plenary lecture**)

Workshop on Multiscale Modeling, Analysis and Simulations, Michigan State University, East Lansing, MI, March 27-28, 2008

20th Conference on Numerical Fluid Mechanics, Paris, France, January 28-29, 2008

The Fourth International Congress of Chinese Mathematicians, Zhejiang University, Hangzhou, China, Dec 11-17, 2007

Fourth Pacific Rim Conference on Mathematics, Special Session on Kinetic Theory, City University of Hong Kong, December 7-11, 2007.

Workshop on Quantized Vortices in Superfluidity and Superconductivity and kinetic theory, National University of Singapore, Dec 10–Dec 14, 2007.

2007-08 Program on Random Media: Interface Problems Workshop, Research Triangle Park, North Carolina, November 15-16, 2007

2007 AMS Fall Central Section Meeting, Special Session on Wave Propagation from Mathematical and Numerical Viewpoints, Chicago, IL, Oct. 5-6, 2007.

An Isaac Newton Institute Follow-up Satellite Workshop: High Frequency Wave Propagation and Scattering, University of Cambridge, UK, July 24-26, 2007.

The 6th International Congress on Industrial and Applied Mathematics (ICIAM 07), Minisymposium on Mathematical Analysis and Numerical Simulation for Bose-Einstein Condensation; Minisymposium on Level set methods: Current development and applications. Zurich, Switzerland, July 16-20, 2007.

Workshop on Numerical Methods and Kinetic Equations, Toulouse, France, July 2-4, 2007.

Workshop on Applied PDEs: Theory and Numerics, Seoul National University, Korea, May 1, 2007

The Clifford Lectures Conference, Tulane University, New Orleans, March 21-25, 2007.

Workshop on Computational High Frequency Waves, Wolfgang Pauli Institute, University of Vienna, Austria, Feb 21-March 1, 2007 (**mini-course** )

Air Force Annual Workshop on Computational Electromagnetic Waves, San Antonio, Texas, Jan 9-11, 2007

Classical and Quantum Mechanical Models of Many-Particle Systems , Oberwolfach, Germany, Dec 3-9, 2006.

The Symposium on Multi-Physics and Multi-Scale Computation of Materials, Xi'an, China, Oct 13-16, 2006.

The 9th Annual China Society for Industrial and Applied Mathematics (CSIAM) Conference, Nanjing, China, Aug 26-30, 2006. (**plenary speaker**)

Mathematical Modeling National Summer Camp for College Students of China, Beijing, China, Aug 7, 2006 (**Keynote speaker**)

International Conference on Nonlinear Evolutionary Partial Differential Equations, Xining, Qinghai, China, Aug 1-6, 2006 (**plenary speaker**)

International Workshop on Scientific Computing, In Honor of Prof. Lin Qun's 70th Birthday, Beijing, China, July 15-16, 2006

International Workshop on Scientific Computing, National Taiwan University, Taipei, June 26-30, 2006 (**plenary speaker**)

International Conference on Partial Differential Equations and Numerical Analysis, Hunan Normal University, Changsha, China, June 22-26, 2006 (**plenary speaker**)

2006 International Conference on Applied Mathematics and Interdisciplinary Research-Nankai, Nankai University, Tianjin, China, June 12-15, 2006.

Complex Quantum and Classical Systems and Effective Equations, Erwin Schrodinger Institute (ESI), Vienna, Austria, June 1-9, 2006

Workshop on High Frequency Wave propagation, University of Maryland, College Park, MD, Sept 19-22, 2005.

The international conference "Mathematics: opportunity and Challenge", in conjunction with the celebration of the 70th anniversary of Chinese Mathematical Society (CMS), Weihai, Shandong, China, July 25-29, 2005,

Workshop on Hyperbolic Conservation Laws and Related Topics, Academy of Math and Syst Sci, Chinese Academy of Science, Beijing, China, July 18, 2005.

Workshop on Nonlinear PDEs and Applications, Capital Normal University, Beijing, China, July 14, 2005

Workshop on Multidimensional Conservation Laws, University of Wisconsin-Madison, June 2005

The Midwest Numerical Analysis Conference, University of Iowa, May 20-22, 2005

The Third International Congress of Chinese Mathematicians, Hong Kong, Dec 17-22, 2004.

Summer School on Plasma: Mathematical Modelling and Computational Challenges in Plasma Physics and Applications, Institut d'Etudes Scientifiques de Cargese, Corsica, France, Oct 25-30, 2004 (**main course**)

Workshop on Computational Methods in Transport, Lake Tahoe, California, Sept 11-16, 2004.

Focused Research Group on Kinetic models for multiscale problems, The Banff International Research Station, Alberta, Canada, Aug 21-Sept 4, 2004

International Conference on Numerical and Applied PDEs, Jilin University, Changchun, China, June 23-28, 2004.

International Conference on Frontiers in Applied Mathematics, Morningside Center of Mathematics, Chinese Academy of Science, Beijing, China, June 14-17, 2004

International Workshop on Nonlinear Waves - On the occasion of George Papanicolaou's 60th Birthday, The Chinese University of Hong Kong, Hong Kong, June 1-4, 2004.

Workshop on Hyperbolic Conservation Laws, Oberwolfach, Germany, April 4-10, 2004.

3rd Annual Intermountain/Southwest Conference on Industrial and Interdisciplinary Mathematics, Arizona State University, Feb 27-28, 2004.

Workshop on Multi-Scale Phenomena in Soft-Matter, Nano-Materials , SAMSI, North Carolina, February 15-17, 2004

International Workshop on Nonlinear Analysis and Kinetic Theory, Taiwan, Dec 13-17, 2003.

International Workshop on Scientific Computing, to celebrate the 70th birthday of Prof. Zhong-Ci Shi, Chinese Academy of Science, Beijing, China, Dec 5-6, 2003.

Summer School in Applied Mathematics, Peking University, China, July 21-Aug 16, 2003 (**Series Lectures**)

ICIAM Minisymposium on Computational Methods for Hyperbolic and Kinetic Problems: Methods and Theory; Minisymposium on Kinetic Theory and Related Hyperbolic Problems; Minisymposium on Novel Applied and Computational Mathematics Techniques for New Application Fields, Sydney, Australia, July 7-11, 2003.

Summer School on Modeling and Numerical Methods for Multiscale Problems, University of Crete, Greece, June 2-10 2003, (**serious lectures**)

AMS Sectional Meeting, Special Sessions on Particle Models and Their Fluid Limits, Bloomington, IN, April 4-6, 2003

"Around HYperbolic and Kinetic Equations", First annual meeting of the EU RTN Program HYKE Network , Vienna, Austria, Feb 24 - 28, 2003 (**Plenary Speaker** )

Workshop on Applied and Numerical PDEs, Peking University, China, Jan 4-5, 2003

Workshop on Multi-scale Problems, Peking University, Beijing, China, Aug 18-19, 2002.

Workshop on PDEs, Capital Normal University, Beijing, China, Aug 15-18, 2002.

11th International Conference on Discrete Simulation of Fluid Dynamics and Soft Condensed Matter, Fudan University, Shanghai, China, Aug 5-9, 2002.

Summer School on Applied Mathematics, Tsinghua University, Beijing, China, July 20-Aug 20, 2002. (**Series Lecturer**)

Peking University Special Mathematics Lecture Series, Peking University, Beijing, July 8-Aug 9, 2002 (**Series Lecturer**)

First AMS-UMI Joint International Meeting, Special Session on Hyperbolic Systems, Pisa, Italy, June 12-16, 2002

Conference: Advances on Nonlinear PDEs, L'Aquila, Italy, June 5-8, 2002 (**plenary speaker**)

First AMS-UMI Joint International Meeting, Special Session on Hyperbolic Systems, Pisa, Italy, June 12-16, 2002

Workshop on Mathematics of Subgrid Scale Phenomena in Atmospheric and Oceanic Flows, IPAM, UCLA, Jan 28-Feb. 5, 2002

The Second International Congress of Chinese Mathematicians (ICCM 2001), Taipei, Taiwan, Dec. 17-22, 2001

Fourth Annual Chinese-American Frontiers of Sciences Symposium, organized by US National Academy of Science and Chinese Academy of Science, Beijing, China, Sept 21-23, 2001 (**keynote speaker**)

Euro Conference on Asymptotic Methods and Applications in Kinetic and Quantum-Kinetic Theory, Granada, Spain, Sept 17-21, 2001

Mathematics Conference in Honor of Prof. Su Bu-qing's 100 Birthday, Zhejiang University, Hangzhou, China, July 30-31, 2001

Summer School on Computational Fluid Dynamics, Peking University, Beijing, China, July 10-Aug 10, 2001 (**series lectures**)

International Symposium on Computational and Applied PDEs, Zhangjiajie, China, July 1-7, 2001 (**plenary speaker**)

Peking University Special Mathematics Lectures, Beijing, China, June-July 2001 (**a month long course**)

International Conference on Nonlinear Evolutionary Partial Differential Equations, The City of Yellow Mountains, China, June 10-15, 2001

Mathematics Workshop in Celebration of Tsinghua University's 90th Anniversary, Tsinghua University, Beijing, April 27-29, 2001 (**plenary lecture**)

Workshop on Asymptotic and Numerical Methods for Kinetic Equations, Oberwolfach, Germany, April 15-21, 2001.

International Conference on Scientific and Engineering Computing, March 19-23, Beijing, 2001

AMS Meeting No.960, Special Session on “Nonlinear Partial Differential Equations and Applications” Birmingham, AL, Nov. 10-12, 2000

Workshop on Hyperbolic Conservation Laws, Oberwolfach, Germany, Oct. 22-28, 2000.

The TMR Workshop on Advances in Mathematical Semiconductor Modeling, University of Pavia, Italy, Sept 22-23, 2000

Summer School on Nonlinear Evolutional Equations and Mathematical Physics, Morningside Center of Mathematics, Beijing, Aug 5-21, 2000 (**series lectures**)

2000 SIAM Annual Meeting, Minisymposium on Kinetic Models in Applied Sciences, Rio Grande, Puerto Rico, July 10-14, 2000.

IMA Workshop on Simulation of Transport in Transition Regimes, University of Minnesota, May 22-26, 2000

Eighth International Conference on Hyperbolic Problems, University of Magdeburg, Germany, Feb 28-March 3, 2000.

Workshop on Numerical Methods for Kinetic and Hyperbolic Equations, University of Ferrara, Italy, Dec. 17-18, 1999 (**plenary lecture**)

AMS Meeting No. 948, Special Session on Mathematical Advances in Transport Phenomena, Austin, TX, Oct. 8-10, 1999.

Workshop on Surface and Interface Sciences and their Mathematical Methods, Beijing, July 19-21, 1999

'99 International Conference on Scientific and Engineering Computing for Young Chinese Scientists, Beijing, July 1-4, 1999

IMS Conference on Differential Equations From Mechanics , The Chinese University of Hong Kong, Hong Kong, May 31–June 5, 1999 (**plenary lecture**)

Workshop on Numerical Partial Differential Equations and its Applications, Baptist University, Hong Kong, June 28-30, 1999

Program in Computational PDEs, National Center for Theoretical Sciences, Tsinghua University, Taiwan, June 5-20, 1999 (**series lectures**)

1999 French National Congress on Numerical Analysis, Ax les Thermes, France, May 17-21, 1999 (**plenary lecture**)

Sixteenth International Conference on Transport Theory, Atlanta, May 10-15, 1999.

1999 IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, Athens, GA, April 12-15, 1999.

AMS Meeting Special Session on Nonlinear Partial Differential Equations, Sept 12-13, Chicago, 1998

Fifth International Workshop on Mathematical Aspects of Fluids and Plasma Dynamics, Maui, Hawaii, June 28-July 3, 1998 (**plenary lecture**)

Summer Workshop on Computational Materials, Xiangtan, China, May 6-12, 1998 (**series lectures**)

Centennial Conference of Mathematics, Peking University, May 3-May 5, 1998

International Workshop on Analysis and Computation of Multiscale Problems, Academic Sinica, Beijing, August 1997 (**ten lectures**)

V Workshop on Partial Differential Equations: Theory, Computations, and Applications, IMPA, Rio de Janeiro, Brazil, July 1997

First Conference of Young Chinese Mathematicians in North America, Berkeley, CA, June 1997

NSF-CBMS Regional Conference on Shock Wave Theory, Georgia Tech, June 9-13, 1997

Sixth International Conference on Discrete Models for Fluid Mechanics, Boston University, August 1996

Workshop on Numerical Solutions of Partial Differential Equations, Peking University, Beijing, July 1996

'96 Symposium on Computational Physics for Chinese Overseas and at Home, Beijing, June 1996

Workshop on Numerical Solutions of Partial Differential Equations, Baptist University, Hong Kong, June 1996

The 6th International Conference on Hyperbolic Systems, Hong Kong, June 1996

Hyperbolic Systems of Conservation Laws, Oberwolfach, Germany, April 1996

International Workshop on Differential Equations and Nonlinear Analysis, Taxco, Guerrero, Mexico, Nov. 1994

Workshop on Nonlinear Hyperbolic-Parabolic Partial Difference Equations, Stanford University, August 1994

Summer School on Applied and Theoretical Fluid Mechanics, Beijing, June 1994

SIAM Annual Meeting Mini Symposium on High Order Shock Capturing Methods for Hyperbolic Conservation Laws, Philadelphia, July 1993

NATO Advanced Research Workshop on Singularities in Fluids, Plasmas and Optics, Heraklion, Crete, Greece, July 1992

#### **INVITED COLLOQUIA AND SEMINAR TALKS:**

Beijing Institute of Applied Physics and Computational Mathematics, Beijing, China, June 2011

Duke University, April 2011  
Arizona State University, October 2010  
University of Illinois-Chicago, Oct 2010  
Columbia University, Dept of Appl. Phys. and Appl. Math., Sept. 2010  
Tsinghua University, Beijing, China, July 2010  
Capital Normal University, Beijing, China, July 2010  
Yantai University, China, July 2010  
Universitat Autònoma de Barcelona, Spain, July 2010  
University of Texas-Austin, April 2010  
Colorado School of Mines, Nov 2009  
Stanford University, Nov 2009  
Shanghai Jiaotong University, April 2009  
Courant Institute, New York University, April 2009  
Rensselaer Polytechnic Institute, April 2009  
University of Wisconsin-Madison, Dept of Chemistry, Dec. 2008  
East China Normal University, Shanghai, China, June 2008  
Shanghai Jiaotong University, China, June 2008  
The Royal Institute of Technology (KTH), Stockholm, Sweden, May 2008  
Los Alamos National Lab, March 2008  
University of Cambridge, UK, Feb 2008  
State University of New York at Stony Brook, Nov 2007  
University of California-Irvine, Oct 2007  
Duke University, Oct 2007  
University of Nice, France, June 2007  
Kyoto University, Japan, June 2007  
Tokyo Institute of Technology, Japan, June 2007  
University of Science and Technology of China, Hefei, China, May 2007  
Shanghai Jiaotong University, China, May 2007  
Peking University, Beijing, China, May 2007  
Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea, May 2007  
National Seoul University, Korea, May 2007  
University of Maryland-College Park, March 2007  
Michigan State University, Feb 2007

Ecole Normale Supérieure-Paris, France, Feb 2007  
Universite Paul Sabatier-Toulouse, France, Jan 2007  
Nanjing University, China, Dec., Oct 2006  
Department of Mechanics, Tsinghua University, China, Dec., Oct 2006  
Beijing University of Technology, Oct 2006  
Chinese University of Hong Kong, Oct 2006  
Dalian University of Science and Technology, Dalian, China, Sept 2006  
Institute of Applied Math, Chinese Academy of Sciences, July 2006  
Capital Normal University, Beijing, China, July 2006  
Shanghai Jiaotong University, China, June 2006  
University of Vienna, Austria, June 2006  
Beijing Institute of Applied Physics and Comp. Math, China, May 2006  
University of Toronto, Canada, March 2006  
York University, Canada, April 2006  
Purdue University, March 2006  
University of Michigan, March 2006  
University of Pittsburgh, March 2006  
Beijing Normal University, China, Jan 2006  
UCLA, Nov 2005  
University of California, Irvine, Nov 2005  
Stanford University, Nov 2005  
Illinois Institute of Technology, Nov 2005  
Georgia Institute of Technology, Oct 2005  
Rheology Research Seminar, University of Wisconsin-Madison, Sept 2005  
Institute of Applied Phys and Comp Math, Beijing, China, Aug 2005  
Pennsylvania State University, Feb 2005  
Ohio State University, Feb 2005  
IMA, University of Minnesota, Jan 2005  
University of Michigan, Ann Arbor, Nov 2004  
Wayne State University, Sept 2004  
Michigan State University, Sept 2004  
Academy of Mathematics and System Sciences, Chinese Academy of Science, Beijing, China, July 2004  
Xi'an Jiaotong University, China, June 2004

Princeton University, Feb 2004  
Institute of Applied Physics and Comp. Math., Beijing, China, Dec 2003  
National Taiwan University, Taiwan, Dec 2003  
Jilin University, Changchun, China, Aug 2003  
Institute of Mathematics, Chinese Academy of Science, Beijing, China, Aug 2003  
University of Vienna, Austria, May 2003  
Newton Institute, University of Cambridge, United Kingdom, May 2003  
Illinois Institute of Technology, May 2003  
Johns Hopkins University, April 2003  
University of Maryland, College Park, April 2003  
Xi'an Jiaotong University, Jan 2003  
University of Iowa, Dec 2002  
Institute of Applied Physics and Computational Mathematics, Beijing, China, Aug 2002  
Morningside Center of Mathematics, Chinese Academy of Sciences, Beijing, China, July 2002  
SISSA, Trieste, Italy, June 2002  
University of Bordeaux, France, May 2002  
University of Paul Sabatier, Toulouse, France, May 2002  
Ecole Normale Supérieure, Paris, France, May 2002  
Beijing Institute of Applied Physics and Computational Mathematics, March 2002  
Peking University, Beijing, March 2002  
Tsinghua University, Beijing, March 2002  
University of Maryland, College Park, Feb 2002  
Stanford University, Jan 2002  
Georgia Institute of Technology, Dec 2001  
Institute of Mathematics, Academia Sinica, Taiwan, Aug 2001  
Institute of Astronomy and Astrophysics, Academia Sinica, Taiwan, Aug 2001  
National Taiwan University, Taiwan, Aug 2001  
Academy of Math and Syst Sci, Academia Sinica, Beijing, China, June 2001  
Fudan University, Shanghai, China, June 2001  
Zhejiang University, Hangzhou, China, June 2001  
University of Chicago, April 2001  
Indiana University, Bloomington, April 2001

University of North Carolina, Chapel Hill, March 2001  
University of Paul Sabatier, Toulouse, France, Jan 2001  
University of Michigan-Ann Arbor, Dec 2000  
University of Arizona, Sept 2000  
Jilin University, Changchun, China, Aug 2000  
Tsinghua University, Beijing, Aug 2000  
Peking University, Beijing, Aug 2000  
Universite Paul Sabatier, Toulouse, France, March 2000  
University of Vienna, March 2000  
University of Texas, Austin, Feb 2000  
Hong Kong Baptist University, Jan 2000  
Chinese University of Hong Kong, Jan 2000  
University of Wisconsin, Madison, Oct 1999  
Institute of Mathematics, Chinese Academy of Sciences, Aug 1999  
Fudan University, Aug 1999  
National University of Singapore, July 1999  
Chinese University of Hong Kong, June 1999  
Hong Kong University of Science and Technology, May 1999  
Northwestern University, April 1999  
University of Wisconsin-Madison, April 1999  
University of California, Davis, March 1999  
UCLA, March 1999  
Los Alamos National Laboratory, March 1999  
Stanford University, Dept of Math., Feb 1999  
North Carolina State University, Nov. 1998  
Brown University, Oct. 1998  
University of Maryland, College Park, Oct. 1998  
Beijing Institute of Applied Physics and Computational Mathematics, May 1998  
Tsinghua University, Beijing, May 1998  
University of North Carolina, Chapel Hill, April 1998  
University of Georgia, Feb. 1998  
University of California, Irvine, Jan. 1998  
Pennsylvania State University, Dec. 1997

UCLA, Nov. 1997  
Courant Institute, Sept. 1997  
Institute of Mathematics, Academia Sinica, Sept. 1997  
Peking University, Beijing, Aug. 1997  
Institute of Computational Mathematics, Academia Sinica, Aug. 1997  
Istituto per le Applicazioni del Calcolo “M. Picone”, Roma, Italy, June 1997  
University of Pavia, Italy, June 1997  
University of North Carolina, Charottee, Feb. 1997  
University of Massachusetts, Jan. 1997  
North Carolina State University, Dec. 1996  
Duke University, Dec. 1996  
Institute of Mathematics, Academia Sinica, Beijing, July 1996  
Institute of Physics, Academia Sinica, Beijing, July 1996  
Institute of Computational Mathematics, Academia Sinica, Beijing, June 1996  
University of Washington, Seattle, Mar. 1996  
Simon Fraser University, Mar. 1996  
Columbia University, Sept. 1995  
IBM Watson Research Center, Yorktown Heights, NY, Sept. 1995  
General Electric R&D Center, Schenectady, NY, Sept. 1995  
Institute for Advanced Study, Princeton, Mar. 1995  
Courant Institute, Mar. 1995  
Beijing Institute of Applied Physics and Computational Mathematics, June 1994  
Tsinghua University, Beijing, June 1994  
Peking University, Beijing, June 1994  
University of Chicago, May 1994  
Argonne National Laboratory, June 1994  
University of Wisconsin–Madison, Dec. 1993  
University of Arizona, Dec. 1993  
University of Minnesota, Oct. 1993  
UCLA, August 1993  
Stanford University (joint with NASA Ames Research Center), August 1993  
Institute for Advanced Study, Princeton, April 1993  
University of Washington, Jan. 1993

Georgia Institute of Technology, Jan. 1993  
New Jersey Institute of Technology, Oct. 1992  
Courant Institute, Oct. 1992  
Institute for Advanced Study, Princeton, Mar. 1992  
University of Arizona, April 1991  
SUNY at Stony Brook, Feb. 1991  
UCLA, Feb. 1991  
Arizona/Los Alamos Day, University of Arizona, Dec. 1990  
Los Alamos National Laboratory, July 1990

**CONFERENCES ORGANIZED:**

The second Pacific Rim Mathematical Association (PRIMA) Congress, Shanghai, June 24-28, 2013 (Scientific Committee and Chair of Local Organizing Committee)

Workshop on Frontiers of Computational and Applied Mathematics , Shanghai Jiao Tong University, China, Aug 14-15, 2011 (Scientific Committee)

Summer School on Kinetic Theory, Shanghai Jiaotong University. Shanghai, China, June 20-July 1, 2011 (c-Chair)

Final Annual Meeting of FRG (NSF Focused Research Group): Kinetic Description of Multiscale Phenomena, in honor of Dave Levermore's 60th Birthday, University of Wisconsin-Madison, May 23-27, 2011 (co-organized with E. Tadmor)

"Kinetic Models of Classical and Quantum Particle Systems", a Conference in the Memory of Naoufel Ben Abdallah, Toulouse, France, March 14-18, 2011 (scientific committee)

Program on "Partial Differential Equations in Kinetic Theories", Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK, Aug. 16-Dec 22, 2010 (co-organized with J. Carrillo and P.A. Markowich)

Workshop on Frontiers of Computational and Applied Mathematics , Soochow University, Suzhou, China, July 31-Aug 1, 2010 (Scientific Committee)

10th International Conference on Computational and Mathematical Methods in Science and Engineering (CMMSE 2010), University of Wisconsin-Madison, May 24-26, 2010 (co-organized with B. Wade)

Quantum-Classical Modeling of Chemical Phenomena, University of Maryland, College Park, March 8-11, 2010 (co-organized with V. Batista, M. Alexander and E. Tadmor)

Kinetic Description of Multiscale Phenomena: The Annual Kinetic FRG Meeting University of Maryland, College Park, Sept 21-25, 2009 (co-organized with E. Tadmor and A. Tzavaras)

Workshop on Frontiers of Computational and Applied Mathematics , Tsinghua University, Beijing, China, Aug 9-10, 2009 (Scientific Committee)

A Quarter-Long Program on Quantum and Kinetic transport, Institute of Pure and Applied Mathematics (IPAM), UCLA, Winter 2009 (co-chaired with I. Gamba)

International Conference on Computational high Frequency, Quantum and Seismic Waves, Tsinghua University, Beijing, Dec 20-22, 2008 (co-organized with Z. Huang and D. Yang)

The International Conference on “Hyperbolic Problems: Theory, Numerics and Applications”, University of Maryland-College Park, June 9-13, 2008 (Scientific Committee)

International conference: “Nonlinear waves —Theory and Applications” , Beijing, China, June 9-12, 2008 (Scientific Committee)

Advance in computational and applied mathematics meeting, Peking University, Beijing, China, Aug 4-5, 2007 (co-organized with Zhiming Chen, Weinan E, Tao Tang and Pingwen Zhang)

Workshop on High Frequency Wave Computation, Wolfgang Pauli Institute, University of Vienna, Austria, Feb 19-March 2, 2007 (with P. Markowich, N. Mauser and C. Schmeiser)

Special Semester on Quantum Kinetic Theory, Beijing International Center for Mathematical Research, Peking University, Beijing, Sept-December 2006

Workshop on Scientific Computing, Tsinghua University, Beijing, July 13-24, 2006 (with Zhongyi Huang and Dinghui Yang)

Third International Conference on Applied Mathematics, Provdiv, Bulgaria, Aug. 12-16, 2006 (Scientific Committee)

Summer School on Applied Mathematics and Scientific Computing, Beijing, China, June 1-Aug 31, 2005 (with Weinan E, Fengshan Bai and Pingwen Zhang)

Focused Research Group on Kinetic models for multiscale problems, The Banff International Research Station, Alberta, Canada, Aug 21-Sept 4, 2004 (with R. Illner, P. Markowich and L. Pareschi)

Summer School on Applied Mathematics and Scientific Computing, Morningside Center of Mathematics, Beijing, China, June 14-July 31, 2004 (with Zhiming Chen and Weinan E)

International Conference on Frontiers in Applied Mathematics, Morningside Center of Mathematics, Chinese Academy of Science, Beijing, China, June 14-17, 2004 (with Zhiming Chen and Weinan E)

International Conference on Wave Propagations - On the occasion of George Papanicolaou’s 60th Birthday, Tsinghua University, Beijing, China, June 7-10, 2004 (with Zhouping Xin)

International Conference on Mechanics and PDEs: On the occasion of Marshall Slemrod’s 60th Birthday, Madison, WI, April 30–May 2, 2004 (with A. Tzavaras)

IPAM Workshop: Emerging Applications of Nonlinear Schrödinger Equations, IPAM, UCLA, Feb 3-7, 2003 (with G. Fibich and G. Papanicolaou).

Workshop on Applied and Numerical PDEs, Peking University, Beijing, China, Jan 4-5, 2003 (with P. Zhang, Y. Guo, T. Tao and J.C. Xu)

AMS Sectional Meeting Special Session on Hyperbolic and Kinetic Equations, Madison, WI, Oct 12-13, 2002 (with M. Slemrod and A. Tzavaras).

Summer School on Mathematics and Computation of Multiscale Physical Problems, Morningside Center of Mathematics, Academia Sinica, Beijing, China, May – Sept, 2002 (with Z.P. Xin and P. Zhang)

Workshop on Semiclassical limits: WKB vs Wigner transform methods, Nov 22-25, 2001, Vienna, Austria (with P. Gerard, P.A. Markowich and N.J. Mauser)

International Conference on Scientific and Engineering Computing, The organizing committee, Beijing, March 19-23, 2001, Beijing

Summer School on Nonlinear Evolutional Equations and Mathematical Physics, (with L. Hsiao and Z.P. Xin), The Morningside Center of Mathematics, Beijing, May–Sept 2000.

Workshop on Surface and Interface Sciences and their Mathematical Methods, Beijing, July 19-21, 1999

SIAM Annual Meeting Invited Mini Symposium on Numerical Methods for Multiscale Partial Differential Equations, Atlanta, May 1999

NSF-CBMS Regional Conference on Shock Wave Theory, June 9-13, 1997, Georgia Tech

'96 Symposium on Computational Physics for Chinese Overseas and at Home, Vice Chair of the Organizing Committee, Beijing, June 1996

SIAM Annual Meeting Invited Mini Symposium on Mesoscopic Modeling and Simulation on Hydrodynamic Phenomena, Kansas City, KS, July 1996

Georgia Tech Workshop on Scientific Computing (with D. Estep), March 1996

SIAM Annual Meeting Mini Symposium on Numerical Simulations of Compressible Flows (with J.-G. Liu), Charlotte, NC, Oct. 1995.

#### **OTHER PROFESSIONAL SERVICES:**

Steering Committee, Pacific Rim Mathematical Association, 2010–

Member of American Mathematical Society

Member of Society for Industry and Applied Mathematics (SIAM)

Member of the Tsinghua University Mathematical Development Advisory Committee, 2008-2014

Changjiang Professor Application Oversea Reviewer appointed by Ministry of Education of China, 2005, 2006, 2007

Overseas Consulting Expert of the 973 Project “High Performance Scientific Computation Research”, Chinese Academy of Sciences, Beijing, China, 2005–

Advisory Board, Research Center for Applications of High Performance Computation, State Key Laboratory of Scientific and Engineering Computing, Chinese Academy of Sciences, Beijing, China, 2004–

NSF Applied Mathematics Program Proposal Review Panelist, 2001, 2002

NSF Focused Research Group Proposal Review Panelist, Nov 2003

NSF Computational Mathematics Program Proposal Review Panelist, 2004, 2007

China NSF Distinguished Young Scientist Award Review Panelist, 2004

Scientific Committee of Beijing International Center of Computational Physics, 2003–

Vice Chair, Organizing Committee of Beijing International Center of Computational Physics, 1997-2002

Review Committee, The Applied Mathematics, Engineering and Physics (AMEP) Program, University of Wisconsin-Madison, 2002

Reviewed proposals for NSF, Italy, Hong Kong, Taiwan, China, the Royal Society (London) Wolfson Research Merit Award, etc

Referee for over 30 scientific journals, Mathematical Review, etc.

#### **PH.D ADVISEES:**

Xiantao Li, University of Wisconsin-Madison, Ph.D. 2002. First position after Ph.D.: postdoc at Program in Applied and Computational Mathematics, Princeton University. Current: Associate Professor, Pennsylvania State University

Xuele Wang, Georgia Tech, Nov. Ph.D 2003; now computer engineer at Verizon

Kyle Novak, University of Wisconsin-Madison, Ph.D. 2006. First position after Ph.D.: Assistant Professor and Deputy Head, Department of Math and Stat., Air Force Institute of Technology

Xiaomei Liao, University of Wisconsin-Madison, Ph.D. 2007. First position after Ph.D.: Postdoc at Department of Biostatistics, Harvard University. Current: Research Associate, Department of Epidemiology and Department of Biostatistics, Harvard University

Xu Yang, University of Wisconsin-Madison, Ph.D. 2008. First position after Ph.D.: postdoc at Program in Applied and Computational Mathematics, Princeton University. Current: postdoc at Courant Institute, New York University

Ming Tang, Tsinghua University, Ph.D. 2008. First position after Ph.D.: postdoc at Toulouse Institute of Mathematics, University Paul Sabatier, Toulouse, France; current: Postdoc at INRIA and University of Paris 6, Paris, France

Yingzhe Shi, University of Wisconsin-Madison, Ph.D. 2009. First position after Ph.D.: Assistant Professor at Central University of Finance and Economics, China

Hao Wu, Tsinghua University, Ph.D. 2009. First position after Ph.D.: Université Paul Sabatier, Toulouse, France

Jeff Haack, University of Wisconsin-Madison, Ph.D. 2010. First position after Ph.D: Postdoc, Department of Mathematics, University of Texas-Austin

Jingwei Hu, University of Wisconsin-Madison, Ph.D. 2011. First position after Ph.D: Postdoc, Institute for Computational Engineering and Sciences, University of Texas-Austin

Zhiwen Zhang, Tsinghua University, Ph.D. 2011 (co-advised with H. Han). First position after Ph.D.: Division of Applied Math., Caltech

Bokai Yan, University of Wisconsin-Madison, Ph.D., Dec 2011 (expected). First position after Ph.D.: postdoc at Department of Mathematics, UCLA

Leland Jefferis, University of Wisconsin-Madison, current

Lei Li, University of Wisconsin-Madison, current

Qian Li, University of Wisconsin-Madison, current

Peng Qi, University of Wisconsin-Madison, current

Yu Sun, University of Wisconsin-Madison, current

Li (Aug) Wang, University of Wisconsin-Madison, current

Zhennan Zhou, University of Wisconsin-Madison, current

Lihui Chai, Tsinghua University, current

Jia Deng, Tsinghua University, current

#### **POSTDOC ADVISEE:**

Weizhu Bao, 1998-2000; now professor at National University of Singapore

Xin Wen, 2003–2005, at Tsinghua University, China; now associate Professor at Chinese Academy of Science

Dongsheng Yin, 2005–2007, at Tsinghua University, China; now Associate Professor at Tsinghua University, China

Dongming Wei, 2008–2011, at University of Wisconsin-Madison; now postdoc at ICERM, Brown University

#### **PUBLICATIONS:**

##### **In refereed journals:**

- [1] J. Shi, J.S. Li, P.Q. Wang and S. Jin, *Numerical Methods for Turbines Flow Mixed with Cold Air*, J. Aerodynamics, 4(4), 305-309 (1989), (in Chinese).
- [2] S. Jin and C.D. Levermore, *The Discrete-Ordinate Method in Diffusive Regimes*, Transport Theory and Statistical Physics 20, 413-439 (1991).
- [3] S. Jin and C.D. Levermore, *Fully-Discrete Numerical Transfer in Diffusive Regimes*, Transport Theory and Statistical Physics, 22, 739-791 (1993).
- [4] S. Jin and J.-G. Liu, *Relaxation and Diffusion Enhanced Dispersive Waves*, Proceedings of Royal Society London A, 446, 555-563 (1994).

- [5] S. Jin and Z.P. Xin, *The Relaxation Schemes for Systems of Conservation Laws in Arbitrary Space Dimensions*, Communications in Pure and Applied Mathematics 48, 235-276 (1995).
- [6] S. Jin, *Runge-Kutta Methods for Hyperbolic Conservation Laws with Stiff Relaxation Terms*, J. Computational Physics 122, 51-67 (1995).
- [7] S. Jin, *Numerical Integrations of Systems of Conservation Laws of Mixed Type*, SIAM J. Applied Mathematics 55, 1536-1551 (1995).
- [8] S. Jin, *A Convex Entropy for a Hyperbolic System with Relaxation*, J. Differential Equations 127, 95-107 (1996).
- [9] S. Jin and J.-G. Liu, *The Effects of Numerical Viscosities I: Slowly Moving Shocks*, J. Computational Physics 126, 373-389 (1996).
- [10] S. Jin and C.D. Levermore, *Numerical Schemes for Hyperbolic Conservation Laws with Stiff Relaxation Terms*, J. Computational Physics 126, 449-467 (1996).
- [11] R. Caflisch, S. Jin and G. Russo, *Uniformly Accurate Schemes for Hyperbolic Systems with Relaxations*, SIAM J. Numerical Analysis, 34, 246-281, (1997).
- [12] N. Cao, S. Chen, S. Jin and D. Martinez, *Physical Symmetry and Lattice Symmetry in Lattice Boltzmann Method*, Physical Review E. 55, 21-24 (1997).
- [13] S. Jin and M. Katsoulakis, *Relaxation Approximations to Front Propagation*, J. Differential Equation 138, 380-387 (1997).
- [14] M.M. Aral, Y. Zhang and S. Jin, *Application of Relaxation Scheme to Wave Propagation Simulation in Open-Channel Networks*, J of Hydraulic Engineering, 124, 1125-1133, 1998.
- [15] S. Jin, L. Pareschi and G. Toscani, *Diffusive Relaxation Schemes for Discrete-Velocity Kinetic Equations*, SIAM J. Numerical Analysis, 35, 2405-2439, 1998.
- [16] S. Jin and Z.P. Xin, *Numerical Passage from Systems of Conservation Laws to Hamilton-Jacobi Equations, and Relaxation Schemes*, SIAM J. Numerical Analysis 35, 2385-2404, 1998.
- [17] F. Golse, S. Jin and C.D. Levermore, *The Convergence of Numerical Transfer Schemes in Diffusive Regimes I: The Discrete-Ordinate Method*, SIAM J. Numerical Analysis 36, 1333-1369, 1999.
- [18] S. Jin and H.L. Liu, *Diffusion Limit of a Hyperbolic System with Relaxation*, Methods and Applications of Analysis 5, 317-334, 1998.
- [19] S. Jin, X.L. Wang and T.L. Starr, *A Model for Front Evolution with a Non-Local Growth Rate*, J. Material Research 14, No. 10, 3829-3832, 1999.
- [20] S. Jin, M. Katsoulakis and Z.P. Xin, *Relaxation Schemes for Curvature-Dependent Front Propagation*, Communications in Pure and Applied Mathematics, 52, 1587-1615, 1999.
- [21] S. Jin, *Efficient Asymptotic-Preserving Schemes (APS) for Some Multiscale Kinetic Equations*, SIAM J. Scientific Computing, 21, 441-454, 1999 (electronic).
- [22] S. Jin and H.L. Liu, *A Diffusive Subcharacteristic Condition for Hyperbolic Systems with Diffusive Relaxation*, Transport Theory and Statistical Physics 29, 583-593, 2000.

- [23] S. Jin and M.A. Katsoulakis, *Hyperbolic Systems with Supercharacteristic Relaxations and Roll Waves*, SIAM J. Applied Mathematics 61, 273-292, 2000 (electronic).
- [24] S. Jin and L. Pareschi, *Discretization of the Multiscale Semiconductor Boltzmann Equation by Diffusive Relaxation Schemes*, J. Computational Physics 161, 312-330, 2000.
- [25] S. Jin, X.L. Wang, T.L. Starr and X.F. Chen, *Robust Numerical Simulation of Porosity Evolution in Chemical Vapor Infiltration I. Two Space Dimension*, J. Computational Physics 162, 467-482, 2000.
- [26] S. Jin, L. Pareschi and G. Toscani, *Uniformly Accurate Diffusive Relaxation Schemes for Multiscale Transport Equations*, SIAM J. Numerical Analysis 38, 913-936, 2000 (electronic).
- [27] W.Z. Bao and S. Jin, *The Random Projection Method for Hyperbolic Systems with Stiff Reaction Terms*, J. Computational Physics 163, 216-248, 2000.
- [28] H.T. Fan, S. Jin and Z.-H. Teng, *Zero Reaction Limit for Hyperbolic Conservation Laws with Source Terms*, J. Differential Equation. 168, 270-294, 2000.
- [29] W.Z. Bao and S. Jin, *Weakly Compressible High-Order I-Stable Central Difference Schemes for Incompressible Viscous Flows*, Computational Methods in Applied Mechanics and Engineering 190, 5009-5026, 2001
- [30] S. Jin and M. Slemrod, *Regularization of the Burnett Equations for Fast Granular Flows via Relaxation*, Physica D 150, 207-218, 2001.
- [31] S. Jin and M. Slemrod, *Regularization of the Burnett Equations via Relaxation*, J. Statistical Physics 103, 1009-1033, 2001.
- [32] W.Z. Bao and S. Jin, *The Random Projection Method for Stiff Detonation Capturing*, SIAM J. Scientific Computing 23, 1000-1026, 2001.
- [33] S. Jin and Y.J. Kim, *On the Computation of Roll Waves*, Mathematical Models and Numerical Analysis 35, 463-480, 2001.
- [34] S. Jin, *A Steady-State Capturing Method for Hyperbolic Systems with Geometrical Source Terms*, Mathematical Models and Numerical Analysis 35, 631-646, 2001
- [35] W.Z. Bao, S. Jin and P. Markowich, *On Time-Splitting Spectral Methods for Schrödinger Equations in the Semi-Classical Regimes*, J. Computational Physics 175, 487-524, 2002.
- [36] S. Jin, L. Pareschi and M. Slemrod, *A Relaxation Scheme for Solving the Boltzmann Equation Based on the Chapman-Enskog Expansion*, Acta Mathematicas Applicatae Sinica (English Series) 18, 37-62, 2002.
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- [38] S. Jin and X.L. Wang, *Robust Numerical Simulation of Porosity Evolution in Chemical Vapor Infiltration II: Two Dimensional Anisotropic Fronts*, J. Computational Physics 179, 557-577, 2002.

- [39] Weizhu Bao and S. Jin, *Error Estimates on the Random Projection Methods for Hyperbolic Systems with Stiff Reaction Terms*, Applied Numerical Mathematics 43, 315-333, 2002.
- [40] W.Z. Bao and S. Jin, *High Order I-Stable Central Difference Schemes for Viscous Compressible Flows*, J. Computational Mathematics 21, 101-112, 2003.
- [41] H.T. Fan, S. Jin and J. Miller, *Wave Patterns and Slow Motions in Inviscid and Viscous Hyperbolic Equations with Stiff Reaction Terms*, J. Differential Equations 189, 267-291, 2003.
- [42] A. Fannjiang, S. Jin and G. Papanicolaou, *High Frequency Behavior of the Focusing Nonlinear Schrödinger Equation with Random Inhomogeneities*, SIAM J. Applied Mathematics 63, 1328 - 1358, 2003 (electronic).
- [43] F. Bouchut, S. Jin and X.T. Li, *Numerical Approximations of Pressureless and Isothermal Gas Dynamics*, SIAM J. Numerical Analysis 41, 135-158, 2003.
- [44] S. Jin and X.L. Wang, *Robust Numerical Simulation of Porosity Evolution in Chemical Vapor Infiltration III: Three Space Dimension*, J. Computational Physics 186, 582-595, 2003.
- [45] W.Z. Bao, S. Jin and P.A. Markowich, *Numerical Study of Time-Splitting Spectral Discretizations of Nonlinear Schrodinger Equations in the Semi-classical Regimes*, SIAM J. Scientific Computing 25, 27-64, 2003.
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- [48] F. Golse, S. Jin and C.D. Levermore, *A Domain Decomposition Analysis for a Two-Scale Linear Transport Problem*, Mathematical Models and Numerical Analysis 37, 869-892, 2003.
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- [54] S. Jin, P.A. Markowich and C.X. Zheng, *Numerical simulation of a generalized Zakharov system*, J. Computational Physics 201, 376-395, 2004.
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- [57] J. Wöhlbier, S. Jin and S. Sengle, *Eulerian calculations of electron overtaking and multi-valued solutions in a traveling wave tube*, Physics of Plasmas 12, 023106, 2005.
- [58] Z. Huang, S. Jin, P.A. Markowich, C. Sparbar and C.X. Zheng, *A time-splitting spectral scheme for the Maxwell-Dirac system*, J. Computational Physics 208, 761-789, 2005.
- [59] P. Degond, S. Jin and L. Mieussens, *A Smooth Transition Model Between Kinetic and Hydrodynamic Equations*, J. Computational Physics 209, 665-694, 2005.
- [60] S. Jin and X. Wen, *Hamiltonian-preserving schemes for the Liouville equation with discontinuous potentials*, Communications in Mathematical Science 3, 285-315, 2005.
- [61] S. Jin, H.L. Liu, S. Osher and R. Tsai, *Computing multivalued physical observables for high frequency limit of Symmetric hyperbolic problems*, J. Computational Physics 210, 497-518, 2005.
- [62] S. Jin and C.X. Zheng, *A time-splitting spectral method for the generalized Zakharov system in multi-dimensions*, J. Scientific Computing, 26, 127-149, 2006.
- [63] S. Jin and X. Wen, *Hamiltonian-preserving schemes for the Liouville equation of geometrical optics with discontinuous local wave speeds*, J. Computational Physics, 214, 672-697, 2006.
- [64] X. Yang, F. Golse, Z.Y. Huang and S. Jin, *Numerical study of a domain decomposition method for a two-scale linear transport equation*, Networks and Heterogeneous Media 1(1), 143-166, 2006.
- [65] S. Jin and X. Wen, *Computation of Transmissions and Reflections in Geometrical Optics via the Reduced Liouville Equation*, Wave Motion, 43(8), 667-688, 2006.
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- [68] S. Jin and Xiaomei Liao, *A Hamiltonian-preserving scheme for high frequency elastic waves in heterogeneous media*, J. Hyperbolic Diff Eqn. 3, No. 4, 741-777, 2006.
- [69] Z.Y. Huang, S. Jin, P.A. Markowich and C. Sparber, *A Bloch decomposition based time-splitting spectral method for quantum dynamics with periodic potentials*, SIAM J. Sci. Comp. 29, 515-538, 2007.

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- [73] S. Jin, X. Yang and G. Yuan, *A domain decomposition method for a two-scale transport equation with energy flux conserved at the interface*, Kinetic and Related Models 1, 65-84, 2008.
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- [75] S. Jin, Xiaomei Liao and Xu Yang, *Computation of interface reflection and regular or diffuse transmission of the planary symmetric radiative transfer equation with isotropic scattering and its diffusion limit*, SIAM J. Sci. Comp. 30, 1992-2017, 2008.
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- [79] Xin Wen and Shi Jin, *The  $l^1$ -error estimates for a Hamiltonian-preserving scheme to the Liouville equation with piecewise constant coefficients*, SIAM J. Num. Anal. 46, 2688-2714, 2008.
- [80] P. Degond, Shi Jin and Min Tang, *On the time-splitting spectral method for the complex Ginzburg-Landau equation in the large time and space scale limit*, SIAM J. Sci. Comput. 30, 2466-2487, 2008.
- [81] S. Jin, H. Wu and Z.Y. Huang, *A Hybrid Phase-Flow Method for Hamiltonian Systems with Discontinuous Hamiltonians*, SIAM J. Sci. Comp. 31, 1303-1321, 2008.
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- [83] S. Jin, H. Wu and X. Yang, *Gaussian beam methods for the Schrodinger equation in the semi-classical regime: Lagrangian and Eulerian formulations*, Comm. Math. Sci. 6, 995-1020, 2008.

- [84] Xin Wen and Shi Jin, *The  $l^1$ -stability of a Hamiltonian-preserving scheme for the Liouville equation with discontinuous potentials*, J. Comp. Math. 27, 45-67, 2009.
- [85] Z. Huang, S. Jin, P.A. Markowich and C. Sparber, *On the Bloch decomposition based spectral method for wave propagation in periodic media B*, Wave Motion, 46, 15-28, 2009.
- [86] S. Jin, M. Tang and H. Han, *A uniformly second order numerical method for the one-dimensional discrete-ordinate transport equation and its diffusion limit with interface*, Networks and Heterogeneous Media 4, 35-65, 2009.
- [87] S. Jin and K. Novak, *A coherent semiclassical transport model for pure-state quantum scattering*, Comm. Math. Sci., 8, 253-275, 2010.
- [88] S. Jin, H. Wu and X. Yang, *A numerical study of the Gaussian beam methods for one-dimensional Schrödinger-Poisson equations*, J. Comp. Math. 28, 261-272, 2010.
- [89] S. Jin and Y. Shi, *A micro-macro decomposition based asymptotic-preserving scheme for the multispecies Boltzmann equation*, SIAM J. Sci. Comp.,31, 4580-4606, 2010
- [90] S. Jin, H. Wu, X. Yang and Z.Y. Huang, *Bloch Decomposition-Based Gaussian Beam Method for the Schrödinger equation with Periodic Potentials*, J. Comp. Phys. 229, 4869-4883, 2010
- [91] F. Filbet and S. Jin, *A class of asymptotic preserving schemes for kinetic equations and related problems with stiff sources*, J. Comp. Phys., 229, 7625-7648, 2010.
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- [92] S. Jin, Hao Wu and Xu Yang, *Semi-Eulerian and High Order Gaussian Beam Methods for the Schrodinger Equation in the Semiclassical Regime*, Comm. Comp. Phys, 9, 668-687, 2011.
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