

CURRICULUM VITAE

Pingwen Zhang

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Education:

- 1989-1992: Ph.D. in mathematics, supervised by Prof. Longan Ying,
Department of Mathematics, Peking University, Beijing, China.
- 1988-1989: Master candidate,
Department of Mathematics, Peking University, Beijing, China.
- 1984-1988: Bachelor of Science,
Department of Mathematics, Peking University, Beijing, China.

Working Experience:

- 2015-present: Vice Provost, Director of Office of Academic Affairs, Peking University.
- 2010-present: Director of Laboratory of Mathematics and Applications, Peking University.
- 2001-present: Executive Deputy Director for Center for Computational Science and Engineering,
Peking University.
- 2013-2015: Executive Vice Dean of School of Mathematical Sciences, Peking University.
- 2008-2012: Vice Dean of School of Mathematical Sciences, Peking University.
- 2008-2012: Deputy Director of Institute of Mathematics, Peking University.
- 2008-2010: Deputy Director of Laboratory of Mathematics and Applications, Peking University.
- 1999-2008: Director for Department of Scientific & Engineering Computing,
School of Mathematical Sciences, Peking University.
- 1996-present: Professor in School of Mathematical Sciences,
Peking University, China.
- 1994-1996: Associate Professor in School of Mathematical Sciences,
Peking University, China.
- 1992-1994: Lecturer in Department of Mathematics,
Peking University, China.

Research Fields:

Modeling and Simulation of Soft Matter (Complex Fluids);
Applied Analysis and Numerical Analysis;
Moving mesh methods and applications.

Honors and Awards:

- 2015: Member of The Chinese Academy of Sciences
- 2014: National Prize of Natural Sciences (Second-Class)
- 2014: Leading Scientist, Innovative Group of NSFC
- 2007: The First-Class Prize of Natural Sciences, Higher Education Institutions of MOE
- 2002: Changjiang Professor
- 2002: National Science Fund for Distinguished Young Scholars
- 2002: The Best Textbook of National Higher Institutions of MOE (second class),
for the textbook book **Numerical Linear Algebra**
- 2002: Medallist of Wu'si Youth Award, Beijing
- 2000: Outstanding Young Teachers in Higher Education Institutions of MOE
- 1999: Fok Ying Tung Education Foundation - Excellent University Young Teacher
for research work
- 1999: Feng Kang Prize of Scientific Computing
- 1995: The Best National Science and Technology Publications (second class),
for the book **Vortex Method**
- 1994: Prize of Excellent Research Paper, Beijing Computational Mathematical Society
- 1992: Guanhua Scholarship, Peking University
- 1990: Jiuzhang Mathematical Scholarship, Peking University

Professional Activities:

- 2004-present: Vice President of China Society for Industry and Applied Mathematics (CSIAM)
Chair of Scientific Committee of CSIAM
- 2015-present: Associate Director for Scientific Committee of
National Lab in Large Scale Scientific Computing
- 2006-present: Associate Director for Scientific Committee of Computational Physics Lab,
Institute of Applied Physics and Computational Mathematics
- 2001-2006: Associate Director for Scientific Committee of
National Lab in Large Scale Scientific Computing
- 2010-2014: Vice President of Chinese Computational Mathematics Society
- 2002-2006: Vice President of Chinese Computational Mathematics Society
- 2005-present: Visiting Professor, research collaborator, Jilin University
- 2004-present: Visiting Professor, research collaborator, Xiangtan University
- 2004-present: Visiting Professor, research advisor, Suzhou University
- 1999-2001: Visiting Professor, research advisor, Tsinghua University

Extended Visits:

- Mar.-May 2004: Visiting Research Scientist
Applied and Computational Mathematics, Princeton University, USA.
- Jan.-Feb. 2002: Visiting Research Scientist
Applied and Computational Mathematics, Princeton University, USA.
- Jan.-Feb. 2001: Visiting Scholar in the Department of Mathematics,

Jul.-Aug. 1999: Hong Kong University of Science and Technology, Hong Kong.
 Visiting Scholar in the Department of Applied Mathematics,
 California Institute of Technology, USA.
 May 1999: Visiting Scholar in the Department of Mathematics,
 The Hong Kong Baptist University, Hong Kong.
 Sept.1998-Feb. 1999: Crouch Foundation Fellow in the Department of Mathematics,
 The Hong Kong Baptist University, Hong Kong.
 Nov. 1997-Aug. 1998 Visiting Scholar in the Department of Applied Mathematics,
 California Institute of Technology, USA.
 Apr. 1996: Visiting Scholar in the Department of Mathematics,
 Chinese University of Hong Kong, Hong Kong.
 Feb.-Nov. 1995: Visiting Scholar in the Department of Applied Mathematical,
 California Institute of Technology, USA.
 1993-1996: Visiting Associate Professor,
 National Key Laboratory of Computational Physics, China.

Editorial Board:

2014-present Multiscale Modeling & Simulation, A SIAM Interdisciplinary Journal
 2012-present Discrete and Continuous Dynamical System - B;
 2011-present Journal of Mathematics in Industry (Coordinating Editors);
 2010-present Applied Mathematics and Mechanics;(Associate Chief Editor Since 2014)
 2007-present Journal of Computational Mathematics;
 2006-present Communications in Computational Physics;
 2006-present International Journal of Nonlinear Science;
 2005-present Communication in Mathematical Sciences;
 2005-present Journal of Information and Computational Science;
 2005-2013 SIAM Journal on Numerical Analysis;
 2002-present Applied Mathematical Research Express (AMRX);
 2010-present Advances in Mathematics (China);
 2007-present Journal of Engineering Mathematics (China);
 2006-present Journal of Mathematics (China);
 2004-present Journal of Computational Mathematics (China);
 2004-present Journal of Computational Physics (China)(Associate Chief Editor Since 2008);
 2004-present Northeast Mathematical Journal (China).

Conference Organization:

The 8th International Congress on Industrial and Applied Mathematics (ICIAM 2015), The Chair of Sub-Committee of Academic, Beijing, China, August 10-14, 2015.

Frontiers of Applied and Computational Mathematics, Beijing, August 7-9, 2015.

Workshop of Mathematical Analysis, Modeling and Computations on Liquid Crystals and Related Topics, Beijing, August 8-9, 2015.

One-Day Workshop on Mathematical Theory of Liquid Crystals, Beijing, September 29, 2014.

Northeastern Asian Symposium on Methods and Modeling for High Performance Scientific Computing, Sept. 22-25, 2013.

Modeling and Mathematical Theory of Phase Transition, Peking University, September 1-December 31 2011

The First Cross-straits Workshop on Computational Mathematics, Xiamen, August 3-6, 2010.

Computational Problems in Material Sciences, Suzhou, August 2-4, 2010.

Workshop on Numerical Methods of PDEs, Guangzhou, July 28-31, 2010.

The 7th International Conference on Scientific and Applications, Dalian, June 13-16, 2010.

China-Germany Conference on "Mathematics and Industry", Beijing, March 15-17, 2010.

The Fifth China-Italy Conference on Computational and Applied Mathematics. Mathematical models in Life Science: Theory and Simulation, Roma, Italy, November, 2009.

International Workshop on Quantum Systems and Semiconductor Devices: Analysis, Simulations, Applications, Beijing, China, April, 2009.

Rheology of complex fluids: Modeling and Numerics, Paris, France, January, 2009.

Organizer of Thematic Program on Multiscale Modeling of Complex Fluids, Peking University, Sept. 2007-May 2008

Organizer of Multiscale Modeling of Complex Fluids, University of Maryland, Apr. 2007.

Organizer of summer workshop on mathematical and numerical modeling of nanoscale devices, Peking University, Jun.-Jul. 2005.

Organizer of Summer workshop on adaptive method and applications, Peking University, Jun.-Aug. 2005.

Organizer of Summer School of Scientific Computing and Applied Mathematics, Peking University, Jun.-Aug. 2005.

Organizer of International conference on multiscale modeling and scientific computing, Peking University, Jun. 2005.

Organizer of Mathematical models in life sciences: Theory and Simulation, Peking University, Jun. 2005.

Organizer of Summer School of Scientific Computing and Applied Mathematics, Peking University, Jul.-Aug. 2003.

Organizer of Summer School of Scientific Computing and Applied Mathematics, Peking University, Aug.-Sept. 2003.

Organizer of The Second Chinese-Korean Joint Workshop on Recent Advances in Numerical Analysis and Its applications, Beijing, China, Feb. 2003.

Organizer of Summer School of Scientific Computing and Applied Mathematics, Tsinghua University, Jul.-Aug. 2002.

Organizer (Chairman) of the 10-th conference on Computational Methods of Fluid Mechanics, Kuming, China, Aug. 2001.

One of organizers of international symposium on computational & applied PDEs, Zhangjiajie, China, Jun. 2001.

Organizer (Chairman) of international conference on scientific & engineering computing, Peking university, Beijing, China, Mar. 2001.

One of organizers of the Workshop on Numerical PDE, Peking University, Beijing, China, 1996.

One of organizers of the Overseas Chinese Computational Physics Conference, sponsored by the National Key Laboratory of Computational Physics, Beijing, China, 1996.

Secretary of the 6-th conference on Computational Methods of Fluid Mechanics, Shandong University, Shandong, China, 1993.

Invited Conference Talks:

The 9th International Conference on Computational Physics, Singapore, Jan. 7-11, 2015.

International Conference on Optimization, Sparsity and Adaptive Data Analysis, Beijing, March 18-21, 2015.

The 2014 SIAM Annual Meeting (AN14), Chicago, Illinois, USA, July 7-11, 2014.

Robust Discretization and Faster Solvers for Computable Multi-Physics Models, ICERM, Brown University, May 12-16, 2014.

The 5th International Conference on Scientific Computing and PDEs, Hong Kong, December 8-12, 2014.

International Conference on PDE, Guangzhou, Dec. 6-10, 2013.

2013 Northeastern Asian Symposium on Methods and Modeling for High Performance Scientific Computing, Chengdu, Sept. 22-25, 2013.

2013 International Conference on Mathematical Modeling and Computation, Wuhan, May 15-19, 2013.

Nonlinear analysis of continuum theories: statics and dynamics, Oxford, Apr. 8-12, 2013.

Symmetry, bifurcation and order parameters, Cambridge, Jan. 7-11, 2013.

Multiscale Modeling, Simulation, Analysis and applications, Singapore, Jan. 9-13, 2012.

International Conference on Scientific Computing, Hong Kong, Jan. 4-7, 2012.

7th International Congress on Industrial and Applied Mathematics, Vancouver, July 18-22, 2011.

International Conference on Interdisciplinary Applied Mathematics and Computational Mathematics, Zhejiang, June 17-21, 2011.

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

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

Kinetic and Fluids, Beijing, July, 2010.

The Fifth China-Italy Conference on Computational and Applied Mathematics. Mathematical models in Life Science: Theory and Simulation, Roma, Italy, November, 2009.

3rd Chinese-German Workshop on Computational and Applied Mathematics, Heidelberg, Germany, Sept. 28 - Oct. 2, 2009.

International Workshop on Continuum Modeling of Biomolecules, Beijing, China, September, 2009.

Mathematical Theory and Numerical Methods of Computational Materials simulation and Design, Singapore, August, 2009.

International Conference on Mathematical Theory and Applications of Liquid Crystal, Ferromagnetism and Related Topics, Guangzhou, China, June, 2009.

Computational Multiscale Methods, Oberwolfach, Germany, June, 2009.

International Workshop on Quantum Systems and Semiconductor Devices: Analysis, Simulations, Applications, Beijing, China, April, 2009.

Adaptivity, Robustness and Complexity of Multiscale Algorithm, Edinburgh, England, March, 2009.

Rheology of complex fluids: Modeling and Numerics, Paris, France, January, 2009.

6th International Conference on Scientific Computing and Applications, Busan, Korea, June, 2008.

Workshop on the Foundations of numerical PDEs (FoCM), Hong Kong, China, June, 2008.

Workshop on Nanoscale Interfacial Phenomena in Complex Fluids, Beijing, China, June, 2008.

Canada-China workshop on industrial mathematics, Banff, Canada, Aug. 2007.

Multiscale Modeling of Complex Fluids, Maryland, Apr. 2007.

International Workshop on Multiscale Analysis and Applications, Singapore, Nov. 2006.

The Symposium on Multi-physics and Multi-Scale Computation of Materials-2006, Xi'an, Oct. 2006.

International Conference on PDE and Numerical Analysis, Changsha, Jun. 2006.

Workshop on Multiscale Modeling of Complex Fluids, Beijing, Jun. 2006.

2006, 6 International Conference on Recent Advances in Scientific Computations, Beijing, Jun. 2006.

2006 International Conferences on Applied Mathematics and Interdisciplinary Research, Tianjin, Jun. 2006.

International Symposium on Polymer Physics, Suzhou, Jun. 2006.

Interfacial Dynamics in Complex Fluids, Banff, Canada, May 2006.

International Conference on Calculus of Variations, PDEs and Nonlinear Analysis, Beijing, May 2006.

The second International Conference on Scientific Computing and Partial Differential Equations, Hongkong, Nov. 2005.

The 1st China-Germany Workshop on Computational and Applied Mathematics, Berlin, Germany, Sept. 2005.

International conference on scientific computing, Nanjing, Jun. 2005.

International conference on multiscale modeling and scientific computing, Peking University, Jun. 2005.

Mathematical models in life sciences: Theory and Simulation, Beijing, Jun. 2005.

The 3rd joint Chinese-Korean Workshop on Recent Progresses on Numerical Analysis and Its Applications, South Korea, Feb. 2005.

Nanoscale Material Interfaces: Experiment, Theory and Simulation, Singapore, Jan. 2005.

Workshop on Multiscale Rheological Models for Fluids, Montreal, Canada, Nov. 2004.

International Conference on Numerical and Applied PDEs, Changchun, China, Jun. 2004.

International Conference on Frontiers of Applied Mathematics, Beijing, China, Jun. 2004.

The 2nd International Conference on Inverse Problem, Shanghai, China, Jun. 2004.

International Workshop on Wave Propagations, Beijing, China, Jun. 2004.

International Conference on Superconvergence and A Posteriori Estimates in FEM, Changsha, China, May 2004.

International Conference of Scientific Computing, Beijing, China, Dec. 2003.

The Third China-Italy Joint Conference on Computational and Applied Mathematics, Grado, Italy, Nov. 2003.

The Second Chinese-Korean Joint Workshop on Recent Advances in Numerical Analysis and Its applications, Beijing, China, Feb. 2003.

The Third International Workshop on Scientific Computing and Applications, Hong Kong, Jan. 2003.

ICM2002-Beijing Satellite Conference on Scientific Computing, Xi'an, China, Aug. 2002.

The 11th International Conference of Fluid Dynamics and Soft Condensed Matter, Shanghai, China, Aug. 2002.

Workshop on Multiscale Analysis and Computation, Taiwan, Jun. 2002.

Third China-Sweden Workshop on Computational Mathematics Goteberg, Sweden, Jun. 2002.

International symposium on computational & applied PDEs, Zhangjiajie, China, Jun. 2001.

International conference on scientific & engineering computing, Peking university, Beijing, China, Mar. 2001.

The First Chinese-Korean Joint Workshop on Recent advances in Numerical Analysis and Its Applications, Korea, Feb. 2001.

The 2nd Sino-Italian Symposium on Computational and Applied Mathematics, Ischia, Italy, Jun. 2000.

The 2nd China-Sweden workshop on Numerical Partial Differential Equations, Hong Kong, Jan. 2000.

Conference of Partial Differential Equation and Numerical Method in Mechanics, Hong Kong, Jun. 1999.

The First Sino-Italian Symposium on Applied and Computational Mathematics, Beijing, China, Dec. 1998.

China-Japan Symposium on Computational Mathematics, Dalian, China, Aug. 1997

96'Symposium on Computational Physics, Institute of Computational Mathematics and Applied Physics, Beijing, China, Jun. 1996.

Summer Research Seminars on Theory and Computations of Fluid Dynamics, Chinese Academy of Sciences, Beijing, China, Jun. 1994.

Publications (Journal Papers)

1. Pingwen Zhang, *Viscous splitting for the exterior problem of Navier-Stokes equations*, **Acta Scientiarum Naturalium Universitatis Pekinensis**, Vol 27, No. 3, (1991).
2. Pingwen Zhang, *Viscosity splitting with nonzero tangent boundary value*, **Numerical Mathematics, Journal of Chinese Universities**, Vol 14, No. 2, (1992).
3. Pingwen Zhang, *Exterior problem for the three-Dimensional Euler equation*, **Journal of Partial Differential Equations**, Vol 5, No. 3, (1992).
4. Pingwen Zhang, *A sharp estimate of simplified viscosity splitting scheme*, **Journal of Computational Mathematics**, Vol 11, No. 3, 295-210, (1993).
5. Pingwen Zhang, *A family of viscous splitting schemes for Navier-Stokes equations*, **Journal of Computational Mathematics**, Vol. 11, No. 1, 20-36, (1993).
6. Pingwen Zhang, *A symmetrical viscous splitting schemes for Navier-Stokes equations*, **Numerical Mathematics, A Journal of Chinese Universities**, Vol 1, No. 1, (1993).
7. Long-an Ying and Pingwen Zhang, *Fully discrete convergence estimates for vortex methods in bounded domains*, **SIAM Journal on Numerical Analysis**, Vol 31, No. 2, 344-361, (1994).
8. Pingwen Zhang, *Convergence of vortex methods for Exterior problems*, **Chinese Annal of Mathematics**, 15A (3) 287-296, (1994) (in Chinese).
9. Pingwen Zhang, *On vortex methods for initial boundary problems*, **Northeast Mathematical Journal**, Vol. 10, No. 2, 256-266, (1994).
10. Zhenhuan Teng, Long-an Ying and Pingwen Zhang, *Convergence of variable-elliptic-vortex method for Euler equations*, **SIAM Journal on Numerical Analysis**, Vol 32 No. 3, 754-774, (1995).
11. Pingwen Zhang, Huaqi Liu and Yu Zhang, *Computation of wavelet function*, **Mathematica Numerica Sinica (Chinese)** , Vol 2, 173-185, (1995)
12. Pingwen Zhang, *Convergence of the point vortex methods for Euler equation on half plane*, **Journal of Computational Mathematics**, Vol. 14, No. 3, 213-222, (1996).
13. Thomas Y. Hou, Zhenhuan Teng and Pingwen Zhang, *Well-posedness for linearized motion of 3-D water waves far from equilibrium*, **Communications in Partial Differential Equations**, 21 (9&10), 1551-1585, (1996).
14. Pingwen Zhang, *Convergence of vortex Methods in a bounded domain Using linear finite elements*, **IMA Journal of Numerical Analysis**, 16, 539-548, (1996).

15. Pingwen Zhang, *Convergence of vortex with boundary element methods*, **Journal of Computational Mathematics** 15:(2) 127-137 (1997).
16. Zhenhuan Teng and Pingwen Zhang, *Optimal L^1 -Rate of Convergence for Viscosity Method and Monotone Scheme to Piecewise Constant Solution with Shocks*, **SIAM Journal on Numerical Analysis**, Vol. 34, 3, (1997).
17. Thomas Y. Hou and Pingwen Zhang, *Growth Rates for the Linearized Motion of 3-D Fluid Interfaces with Surface Tension Far from Equilibrium*, **The Asian Journal of Mathematics**, Vol. 2, 2, (1998).
18. Long-an Ying and Pingwen Zhang, *Vanishing Curvature Viscosity for Front propagation*, **Journal of Diff. Eqs.** 161, 289-306 (2000).
19. Pingwen Zhang and Yu Zhang, *Wavelet Boundary Element Methods*, **J. Comput. Math.** Vol.18, No.1 25-42 (2000).
20. Tao Tang, Weimin Xue and Pingwen Zhang, *Analysis of Moving Mesh Methods Based on Geometrical Variables*, **J. Comp. Math.** Vol. 19, No.1, 41-54 (2001).
21. Thomas Y. Hou and Pingwen Zhang, *A New Stability Technique for Boundary Integral Methods of Water Waves*, **Math. Comp.** Vol. 70 No. 235, 951-976 (2001).
22. B. Fu, Z. Yang, Y. Wang and P. Zhang, *A Mathematical Model of Soil Moisture Spatial Distribution on the Hill Slopes of the Loess Plateau*, **Science in China (series D)** Vol. 44 No. 5 395-402 (2001).
23. Rou Li, Tao Tang and Pingwen Zhang, *Moving Mesh Methods in Multiple Dimensions Based on Harmonic Maps*, **Journal of Computational Physics** 170, 562-588 (2001).
24. Tiejun Li and Pingwen Zhang, *Numerical Studies of Shallow Water Waves on Slopping Beach with Artificial Boundary*, **Mathematica Numerica Sinica (Chinese)** Vol.23, No.4, 503-512 (2001).
25. Qiang Du, Dianzhong Li, Yiyi Li, Rou Li and Pingwen Zhang, *Simulating A Double Casting Technique Using Level Set Method*, **Computational Materials Science** 22 200-212 (2001).
26. Pingwen Zhang and Xiaoming Zheng, *Numerical Studies of 2D Free Surface Waves with Fixed Bottom*, **Journal of Computational Mathematics** Vol.20, No.4, 391-412 (2002).
27. Thomas Y. Hou and Pingwen Zhang, *Convergence of a Boundary Integral Method for 3-D Water Waves*, **Discrete and Continuous Dynamical Systems Series B** Vol. 2, Number 1, 1-34 (2002).
28. Rou Li, Tao Tang and Pingwen Zhang, *A Moving Mesh Finite Element Algorithm for Singular Problems for Two and Three Space Dimensions*, **Journal Computational Physics** 177, 365-393 (2002).
29. Zhenfu Xu and Pingwen Zhang, *Stability of Boundary Integral Method for Water Wave*, **Mathematica Numerica Sinica (Chinese)** Vol.24, No.3, 311-318 (2002).
30. Q. Wang, W. E, C. Liu and P. Zhang, *Kinetic Theories for Flows of Nonhomogeneous Rodlike Liquid Crystalline Polymers with a Nonlocal Intermolecular Potential*, **Physical Review E** Vol. 65, 051504 (2002).

31. Weinan E, Tiejun Li and Pingwen Zhang, *Convergence of a stochastic method for the modeling of polymeric fluids*, **Acta Mathematicae Applicatae Sinica**, English Series, Vol. 18 529-536 (2002).
32. Thomas Y. Hou, Gang Hu and Pingwen Zhang, *Singularity Formulation of 3D Vortex Sheets*, **Physics of Fluids** Vol. 15, No. 1, 147-172 (2003).
33. Pingwen Zhang, Yi Sun, Haiyan Jiang and Wei Yao, *Multi-scale Methods for Inverse Modeling in 1-D Mos Capacitor*, **Journal of Computational Mathematics**, Vol. 21, No. 1, 85-100, (2003).
34. Huazhong Tang, Tao Tang and Pingwen Zhang, *An adaptive mesh redistribution method for nonlinear hamiltonian-jacobi equations in two- and three dimensions*, **Journal of Computational Physics**, Vol 188/2 543 - 572, (2003)
35. Xiao yingxion, Shu shi, Pingwen Zhang, *A kind of semi-roarsing AMG method for two dimensional energy equations with three temperatures*, **Numerical Computation and Application of Computer**, Vol. 4, 293-303, (2003)
36. Hui Zhang and Pingwen Zhang, *A theoretical and numerical study for the rod-like model of a polymeric fluid*, **Journal of Computational Mathematics**, Vol. 22 No. 2, 319-330, (2004)
37. Daming Li, Ruo Li and Pingwen Zhang, *A new coupled model for alloy solidification* **Science in China series A-Mathematics**, 47: 41-52 Suppl. S APR, (2004)
38. Wienan E, Tiejun Li and Pingwen Zhang, *Well-posedness for the dumbbell model of polymeric fluids*, **Communications in mathematical physics** 248 (2): 409-427, (2004)
39. Tiejun Li, Hui Zhang and Pingwen Zhang, *Local existence for the dumbbell model of polymeric fluids*, **Communications in Partial Differential Equations** 29 (5-6): 903-923, (2004)
40. Tiejun Li, Eric Vanden-Eijnden, Pingwen Zhang and Weinan E, *Stochastic models of polymeric liquids at small Deborah number*, **Journal of Non-Newtonian Fluid Mechanics** 121, 117-125, (2004)
41. Tiejun Li, Pingwen Zhang and Xiang Zhou, *Analysis of 1+1 dimensional stochastic models of liquid crystal polymer flows*, **Communications in Mathematical Sciences** 2295-316, (2004)
42. Tiao Lu, Pingwen Zhang and Wei Cai, *Discontinuous Galerkin methods for dispersive and lossy Maxwell's equations and PML boundary conditions*, **Journal of Computational Physics** 200 (2): 549-580, (2004)
43. Chong Luo, Hui Zhang and Pingwen Zhang, *The structure of equilibrium solutions of one-dimensional Doi equation*, **Nonlinearity**, 18, 379-389, (2005)
44. Tiao Lu, Wei Cai and Pingwen Zhang, *Conservative local discontinuous Galerkin methods for time dependent Schrodinger equation*, **International Journal of Numerical Analysis & Modeling** Vol. 2(1)75-84 (2005)
45. Weinan E Pingbing Ming and Pingwen Zhang, *Analysis of the heterogeneous multiscale method for elliptic homogenization problems*, **Journal of the American Mathematical Society** 18 (1): 121-156, (2005)

46. Tiao Lu, Wei Cai and Pingwen Zhang, *Discontinuous Galerkin time-domain method for GPR simulation in dispersive media*, **IEEE Transactions on Geoscience and Remote Sensing** 43 (1): 72-80, (2005)
47. Yana Di, Ruo Li, Tao Tang and Pingwen Zhang, *Moving mesh finite element methods for the incompressible Navier-Stokes equations*, **SIAM Journal on Scientific Computing** 26 (3): 1036-1056, (2005)
48. Hailiang Liu, Hui Zhang and Pingwen Zhang, *Axial symmetry and classification of stationary solutions of Doi-Onsager equation on the sphere with Maier-Saupe potential*, **Communications in Mathematical Sciences**,3 201-218, (2005)
49. Xia Ji, Tiao Lu T, Wei Cai and PingwenZhang, *Discontinuous Galerkin time domain (DGTD) methods for the study of 2-D waveguide-coupled microring resonators*, **Journal of Lightwave Technology** 23 (11): 3864-3874 (2005)
50. Haiyang Jiang and Pingwen Zhang, *Model analysis and parameter extraction for MOS capacitor including quantum mechanical effects*, **Journal of Computational Mathematics** 24 (3): 401-411 MAY (2006)
51. Tiejun Lin and Pingwen Zhang, *Convergence analysis of BCF method for Hookean dumbbell model with finite difference scheme*, **Multiscale Modeling & Simulation** 5 (1): 205-234 (2006)
52. Hui Zhang and Pingwen Zhang, *Local existence for the FENE-dumbbell model of polymeric fluids* **Archive for Rational Mechanics and Analysis** 181 (2): 373-400 JUL (2006)
53. Dongzhuo Zhou, Pingwen Zhang and Weinan E, *Modified models of polymer phase separation* **Physical Review E** 73 (6): Art. No. 061801 Part 1 JUN (2006)
54. Yana Di and Pingwen Zhang, *Moving mesh kinetic simulation for sheared rodlike polymers with high potential intensities*. **Communications in Computational Physics**, 1 859-873. (2006)
55. Yana Di, Ruo Li, Tao Tang, and Pingwen Zhang, *Moving mesh methods for singular problems on a sphere using perturbed harmonic mappings*, **SIAM Journal on Scientific Computing**, 28, 1490-1508. (2006)
56. Guanghua Ji, Qi Wang, Pingwen Zhang and Hong Zhou, *Study of phase transition in homogeneous, rigid extended nematics and magnetic suspensions using an order-reduction method*, **Physics of Fluids**, 18, 123103 (2006)
57. Weinan E and Pingwen Zhang, *A Molecular Kinetic Theory of Inhomogeneous Liquid Crystal Flow and the Small Deborah Number Limit*, **Methods and Applications of Analysis** Vol. 13, No. 2, 181-198, JUN (2006)
58. Pingbing Ming and Pingwen Zhang, *Analysis of the heterogeneous multiscale method for parabolic homogenization problems*, **Mathematics of Computation** 76 (257): 153-177 (2007)
59. Xia Ji, Wei Cai and Pingwen Zhang, *High order DGTD methods for dispersive Maxwell's equations and modeling of silver nanowire Coupling*, **International Journal for Numerical Methods in Engineering** 69, 308-325 (2007)

60. Haijun Yu and Pingwen Zhang, *A kinetic-hydrodynamic simulation of microstructure of liquid crystal polymers in plane shear flow*, **Journal of Non-Newtonian Fluid Mechanics** 141 (2-3): 116-127 FEB 15 (2007)
61. Daming Li, Ruo Li and Pingwen Zhang, *A cellular automaton technique for modelling of a binary dendritic growth with convection*, **Applied Mathematical Modelling** 31 (6): 971-982 JUN (2007)
62. Tiejun Li and Pingwen Zhang, *Mathematical analysis of multi-scale models of complex fluids*, **Communications in Mathematical Sciences** 5 (1): 1-51 MAR (2007)
63. Yana Di, Ruo Li, Tao Tang and Pingwen Zhang, *Level set calculations for incompressible two-phase flows on a dynamically adaptive grid*, **Journal of Scientific Computing** 31 (1-2): 75-98 MAY (2007)
64. Dan Hu, Pingwen Zhang and Weinan E, *Continuum theory of a moving membrane*, **Physical Review E** 75 (4): Art. No. 041605 Part 1 APR (2007)
65. Hui Zhang and Pingwen Zhang, *Stable dynamic states at the nematic liquid crystals in weak shear flow*, **Physica D-Nonlinear Phenomena** 232 (2): 156-165 (2007)
66. Congmin Wu, Tiezhen Qian and Pingwen Zhang, *Non-equilibrium molecular-dynamics measurement of the Leslie coefficients of a Gay-Berne nematic liquid crystal*, **Liquid Crystals** 34 (10): 1175-1184 (2007)
67. Guanghai Ji, Qi Wang, Pingwen Zhang, Hongyun Wang and Hong Zhou, *Steady states and their stability of homogeneous, rigid, extended nematic polymers under imposed magnetic fields*, **Communications in Mathematical Sciences** 5 (4): 917-950 DEC (2007)
68. Guoxian Chen, Huazhong Tang and Pingwen Zhang, *Second-order accurate Godunov scheme for multicomponent flows on moving triangular meshes*, **Journal of Scientific Computing** Volume: 34 64-86 (2008)
69. Lingyun Zhang, Hui Zhang and Pingwen Zhang, *Global existence of weak solutions to the regularized Hookean dumbbell model*, **Communications in Mathematical Sciences** 6 (1): 85-124 (2008)
70. Han Wang, Kun Li and Pingwen Zhang, *Crucial properties of the moment closure model FENE-QE*, **Journal of Non-Newtonian Fluid Mechanics**, 150(2-3), 80-92 (2008)
71. Pingwen Zhang and Xinwei Zhang, *An efficient numerical method of Landau-Brazovskii model*, **Journal of Computational Physics**, 227 (11) 5859-5870 (2008)
72. Peng Song and Pingwen Zhang, *Numerical simulation of fluid membranes in two-dimensional space*, **Communications in Computational Physics**, 3(4) 794-821 (2008)
73. Xia Ji, Wei Cai and Pingwen Zhang, *Reflection/transmission characteristics of a discontinuous Galerkin method for Maxwell's equations in dispersive inhomogeneous media*, **Journal of Computational Mathematics**, 26 (3): 347-364 MAY (2008)
74. Haiyan Jiang, Sihong Shou, Wei Cai and Pingwen Zhang, *Boundary treatments in non-equilibrium Green's function (NEGF) methods for quantum transport in nano-MOSFETs*, **Journal of Computational Physics**, 227 (13) 6553-6573 (2008)

75. Yan Ding, Tiejun Li, Dongxiao Zhang and Pingwen Zhang, *Adaptive Stroud stochastic collocation method for flow in random porous media via Karhunen-Loeve expansion*, **Communications in Computational Physics**, 4(1) 102-123 (2008)
76. Dongzhuo Zhou, An-Chang Shi and Pingwen Zhang, *Numerical simulation of phase separation coupled with crystallization*, **Journal of Chemical Physics**, 129, 154901, (2008)
77. Hui Zhang and Pingwen Zhang, *On the New Multiscale Rodlike Model of Polymeric Fluids*, **SIAM Journal on Mathematical Analysis**, 40(3) 1246-1271 (2008)
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