



Pingwen Zhang

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Education

1988 - 1992 **Ph.D.** in mathematics, Peking University, Adviser: Ying, Long-An

Work Experience

2015- **Vice Provost, Director** of Office of Academic Development, Peking University
2010- **Director**, Key Lab of Mathematics and Applied Mathematics, Ministry of Education
2001- **Executive Deputy Director**, Center for Computational Science & Engineering, Peking University
2013-2015 **Executive Vice Dean** School of Mathematical Sciences, Peking University
1999-2008 **Director**, Department of Scientific and Engineering Computing, School of Mathematical Sciences, Peking University
1996- **Professor**, School of Mathematical Sciences, Peking University
1994 - 1996 **Associate Professor**, School of Mathematical Sciences, Peking University
1992 - 1994 **Lecturer**, School of Mathematical Sciences, Peking University

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).
2002 **Changjiang Scholar**, Award for outstanding Chinese scholars in all fields.
1999 **Feng Kang Prize of Scientific Computing**, Honor for significant contributions in scientific computing

Invited Talks

2014 **The 2014 SIAM Annual Meeting (AN14)**, Chicago, Illinois, USA
2011 **7th International Congress on Industrial & Applied Mathematics**, Vancouver, British Columbia, Canada

Organizers

2015 **8th International Congress on Industrial & Applied Mathematics**, Beijing, China
The Chair of Sub-Committee of Academic
2011 **Modeling and Mathematical Theory of Phase Transitions**, Beijing International Center for Mathematical Research, Sept. 1-Dec. 31, 2011, Beijing
2007 **Thematic Program on Multiscale Modeling of Complex Fluids**, Beijing International Center for Mathematical Research, Sept. 1, 2007-May 31, 2008, Beijing

Professional Activities

2016 - **Vice President**, China Society for Industry and Applied Mathematics (CSIAM)
Chair, Scientific Committee of China Society for Industry and Applied Mathematics (CSIAM)
2015 - **Associate Director**, Scientific Committee of National Key Lab in Large Scale Scientific Computing
2010-2014 **Vice President**, China Society for Computational Mathematics (CSCM)
2002-2006 **Vice President**, China Society for Computational Mathematics (CSCM)
2001- 2006 **Associate Director**, Scientific Committee of National Key Lab in Large Scale Scientific Computing
2006- **Associate Director**, Scientific Committee of Key Lab of Computational Physics, Institute of Applied Physics and Computational Mathematics

Extended Visits

- 2002-2004 **Visiting Research Scientist**, Applied and Computational Mathematics, Princeton University (5 months)
1995-1999 **Visiting Scholar**, Department of Applied Mathematics, California Institute of Technology (23 months)

Editorial Board Activities

- 2014- Multiscale Modeling & Simulation, A SIAM Interdisciplinary Journal
2012- Discrete and Continuous Dynamical System - B
2011- Journal of Mathematics in Industry (Coordinating Editors)
2010- Applied Mathematics and Mechanics (Associate Chief-Editor from 2014)
2007- Journal of Computational Mathematics
2006- Communications in Computational Physics
2005- Communications in Mathematical Sciences
2005-2013 SIAM Journal on Numerical Analysis

Selected Papers

Modeling and Simulation of Soft Matter (Complex Fluids)

1. Jiequn Han, Yi Luo, Wei Wang, Pingwen Zhang and Zhifei Zhang, *From Microscopic Theory to Macroscopic Theory: a Systematic Study on Modeling for Liquid Crystals*, **Archive for Rational Mechanics and Analysis**, 215 (3), 741-809, (2015).
2. Kai Jiang and Pingwen Zhang*, *Numerical Methods for Quasicrystals*, **Journal of Computational Physics**, 256, 428-440, (2014).
3. Weiquan Xu, Kai Jiang, Pingwen Zhang* and An-Chang Shi*, *A Strategy to Explore Stable and Metastable Ordered Phases of Block Copolymers*, *Journal of Physical Chemistry B*, 117 (17), 5296-5405, (2013).
4. Chu Wang, Kai Jiang, Pingwen Zhang* and An-Chang Shi*, *Origin of epitaxies between ordered phases of block copolymers*, **Soft Matter**, 7, 10552-10555, (2011)
5. Kai Jiang, Yunqing Huang and Pingwen Zhang*, *Spectral method for exploring patterns of diblock copolymers*, **Journal of Computational Physics**, 229(20), 7796-7805, (2010)
6. Xiuyuan Cheng, Ling Lin, Weinan E, Pingwen Zhang* and An-Chang Shi*, *Nucleation of Ordered Phases in Block Copolymers*, **Physical Review Letters**, 104(14), 148301, (2010)
7. Ling Lin, Xiuyuan Cheng, Weinan E, An-Chang Shi and Pingwen Zhang*, *A numerical method for the study of nucleation of ordered phases*, **Journal of Computational Physics**, 229(5), 1797-1809, (2010)
8. Pingwen Zhang* and Xinwei Zhang, *An efficient numerical method of Landau-Brazovskii model*, **Journal of Computational Physics**, 227 (11), 5859-5870, (2008)
9. Dongzhuo Zhou, An-Chang Shi* and Pingwen Zhang*, *Numerical simulation of phase separation coupled with crystallization*, **Journal of Chemical Physics**, 129, 154901, (2008)
10. 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, (2007)
11. Dongzhuo Zhou, Pingwen Zhang* and Weinan E*, *Modified models of polymer phase separation*, **Physical Review E** 73 (6): 061801, Jun. (2006)

Applied Analysis and Numerical Analysis

1. Wei Wang, Pingwen Zhang and Zhifei Zhang, *The Small Deborah Number Limit of the Doi-Onsager Equation to the Ericksen-Leslie Equation*, **Communications on Pure and Applied Mathematics**, 68 (8), 1326-1398, (2015).
2. Wei Wang, Pingwen Zhang and Zhifei Zhang, *Well-Posedness of the Ericksen-Leslie System*, **Archive for Rational Mechanics and Analysis**, 210 (3), 837-855, (2013).
3. Tiejun Li and Pingwen Zhang, *Mathematical analysis of multi-scale models of complex fluids*, **Communications in Mathematical Sciences**, 5 (1): 1-51, (2007)
4. 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, (2006)
5. 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)

6. Chong Luo, Hui Zhang and Pingwen Zhang, *The structure of equilibrium solutions of one-dimensional Doi equation*, **Nonlinearity**, 18, 379-389, (2005)
7. 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)
8. Weinan E, Tiejun Li and Pingwen Zhang, *Well-posedness for the dumbbell model of polymeric fluids*, **Communications in Mathematical Physics**, 248 (2): 409-427, (2004)

Moving Mesh Methods and Applications

1. 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)
2. Ruo 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)
3. Ruo Li, Tao Tang and Pingwen Zhang, *Moving mesh methods in multiple dimensions based on harmonic maps*, **Journal of Computational Physics**, 170, 562-588, (2001)