

张平文

武汉大学校长，武汉大学教授，北京大学博雅讲席教授

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教育背景

1988 - 1992	博士研究生	北京大学数学科学学院	导师:应隆安教授
1984 - 1988	学士	北京大学数学系	

工作经历

2023 -	武汉数学与智能研究院院长
2022 -	武汉大学校长
2022 -	武汉大学教授
2020 - 2022	北京大学科技创新研究院院长
2019 - 2022	北京大学副校长
2018 -	大数据分析与应用技术国家工程实验室主任
2019 - 2021	北京大学大数据科学研究中心主任
2018 - 2019	北京大学科学与工程计算中心主任
2015 - 2019	北京大学学科建设办公室主任
2013 - 2015	北京大学数学科学学院常务副院长
2010 - 2017	数学及其应用教育部重点实验室主任
2008 - 2012	北京大学数学科学学院副院长
2008 - 2012	北京大学数学中心副所长
2008 - 2010	数学及其应用教育部重点实验室副主任
2001 - 2018	北京大学科学与工程计算中心常务副主任
1999 - 2008	北京大学数学科学学院科学与工程计算系主任
1996 - 2022	北京大学数学科学学院教授
1994 - 1996	北京大学数学科学学院副教授
1992 - 1994	北京大学数学科学学院助理教授

研究领域

- 软物质（复杂流体）的建模和计算
- 应用分析和数值计算
- 大数据分析与应用

荣誉与奖励

2021	何梁何利基金科学与技术进步奖
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2020	中国工业与应用数学学会会士
2020	美国工业与数学学会会士
2018	国际数学家大会·大会邀请报告
2016	发展中国家科学院院士
2015	中国科学院院士
2015	第八届国际工业和应用数学大会组织委员会成员及学术子委员会主席
2014	国家自然科学奖二等奖
2014	国家自然科学基金创新研究群体项目学术带头人
2014	美国工业和应用数学会·大会邀请报告
2011	第七届国际工业和应用数学大会·大会邀请报告
2010	北京市师德标兵
2007	教育部高校科学技术奖自然科学一等奖
2002	国家自然科学基金杰出青年科学基金获得者
2002	长江学者特聘教授
1999	冯康科学计算奖

学术兼职

2022 -	北京大学博雅讲席教授
2022 -	中国教育发展战略学会教育帮扶专委会理事长
2022 -	北京大学计算与数字经济研究院，首席科学家
2021 -	北京大学重庆大数据研究院，首席科学家
2018 -	北京大学大数据分析与应用技术国家工程实验室，主任
2016 -	中国工业与应用数学学会（CSIAM）理事长
2004 - 2016	中国工业与应用数学学会(CSIAM)，副理事长，学术委员会主任
2015 -	“大规模科学与工程计算”国家重点实验室，学术委员会副主任
2006 -	北京应用物理与计算数学研究所计算物理实验室，学术委员会副主任
2001 - 2006	“大规模科学与工程计算”国家重点实验室，学术委员会副主任
2010 - 2014	中国计算数学学会，副理事长
2002 - 2006	中国计算数学学会，副理事长
2005 -	吉林大学，兼职教授
2004 -	湘潭大学，兼职教授
2004 -	苏州大学，兼职教授
1999 - 2001	清华大学，兼职教授

学术交流

2004.03-05	普林斯顿大学应用和计算数学系，访问学者，美国
2002.01-02	普林斯顿大学应用和计算数学系，访问学者，美国
2001.01-02	香港科技大学数学系，访问学者
1999.07-08	加州理工大学应用数学系，访问学者，美国
1999.05	香港浸会大学数学系，访问学者
1998.09-1999.02	香港浸会大学数学系，访问学者

1997.11-1998.08	加州理工大学应用数学系，访问学者，美国
1996.04	香港中文大学数学系，访问学者
1995.02-11	加州理工大学应用数学系，访问学者，美国
1993-1996	计算物理国家实验室，访问副教授

杂志编委

2020 -	CSIAM Transactions on Applied Mathematics (Editor in Chief)
2014 -	Multiscale Modeling & Simulation, A SIAM Interdisciplinary Journal
2013 -	Science China Mathematics
2012 -	Discrete and Continuous Dynamical System-B
2011 -	Journal of Mathematics in Industry (Coordinating Editors)
2010 -	Applied Mathematics and Mechanics;(Associate Chief Editor Since 2014)
2007 -	Journal of Computational Mathematics
2006 -	Communications in Computational Physics
2006 -	International Journal of Nonlinear Science
2005 -	Communication in Mathematical Sciences
2005 -	Journal of Information and Computational Science
2005 - 2013	SIAM Journal on Numerical Analysis
2002 -	Applied Mathematical Research Express (AMRX)
2010 -	Advances in Mathematics
2007 -	《工程数学学报》
2006 -	《数学杂志》
2004 -	《计算数学》
2004 -	《计算物理》
2004 -	《东北数学》

专著

1. 张平文，邱泽奇，宋洁，数字生态与治理（第三辑）：数据要素流通及其治理，社会科学文献出版社, (2025)

2. 张平文，应用数学落地研究：国家需求驱动应用数学发展，高等教育出版社，(2024)

3. 张平文，邱泽奇，宋洁，数字生态与治理（第二辑）：数据要素流通及其治理，社会科学文献出版社, (2024)

4. 张平文，邱泽奇，宋洁，数字生态与治理：数字生态与中美欧数字治理格局，社会科学文献出版社, (2024)

5. 张平文，邱泽奇，数据要素五论：信息、权属、价值、安全、交易， 北京大学出版社，(2022)

6. 张平文，李铁军，数值分析， 北京大学出版社，(2007)

7. Tatsien Li and Pingwen Zhang (editors), Frontiers and Prospects of Contemporary Applied Mathematics, Series in Contemporary Applied Mathematics, CAM6, Higher Education Press and World Scientific, (2006)

8. 周铁，徐树方，张平文，李铁军，计算方法， 清华大学出版社，(2006)

9. 徐树方，高立，张平文，数值线性代数， 北京大学出版社，(2001)

10. Long-an Ying and Pingwen Zhang, Vortex Methods, Science Press, (1994)

论文（中文）

1. 邱泽奇,李昊林,张平文 and 乔天宇. 专家知识数据化与文科智能. 中国社会科学, 2025, (07):91-109.
2. 张平文. 充分发挥高水平研究型大学在科技强国建设中的独特作用. 中国高等教育, 2024, (Z2):43-45.
3. 张平文. 高校应找准服务发展新质生产力的发力点. 中国高等教育, 2024, (08):1.
4. 张平文. 关于数学学科高层次人才培养的思考. 大学与学科, 2023, 4(04):1-12.
5. 张平文. 应用数学落地研究-国家需求驱动应用数学发展. 高等教育出版社, 2024, .
6. 张平文 and 邱泽奇. 数据要素五论——信息、权属、价值、安全、交易. 北京大学出版社, 2022, .
7. 张平文. 围绕首都“四个中心”建设辐射带动北京市属高校发展. 北京教育, 2023, :10-13.
8. 张平文. 数字经济将成为国家发展新征程的助推器. 中国经贸导刊, 2022, :12-14.
9. 乔天宇,李由君,赵越,谭成 and 张平文. 数字治理格局研判的理论与方法探索. 中国科学院院刊, 2022, :1365-1375.
10. 张平文. 数学与企业创新. 中国科学院院刊, 2021, 36(4).
11. 王娟,张蕴洁,宋洁 and 张平文. 中美欧数字经济与贸易的比较研究. 西安交通大学学报, 2022, .
12. 王娟,张一,黄晶,李由君,宋洁 and 张平文. 中国数字生态指数的测算与分析. 电子政务, 2022, 3:4-16.
13. 张平文,贺飞,何洁 and 何峰. 把脉问诊、对标一流：北京大学学科国际同行评议的探索与启示. 大学与学科, 2021, 2(3).
14. 张平文. 关于《大学与学科》的若干思考. 大学与学科, 2020, 1(1).

论文 (英文)

1. Shuai Miao,Ziqi Liu,Lei Zhang,Pingwen Zhang and Xiangcheng Zheng. Construction and analysis for Adams explicit discretization of high-index saddle dynamics. CSIAM Transactions on Applied Mathematics, 2025, .
2. Dawei Wu,Baoming Shi,Yucen Han,Pingwen Zhang,Apala Majumdar and Lei Zhang. A diffuse-interface Landau-de Gennes model for free-boundary problems in the theory of nematic liquid crystals. SIAM Journal on Mathematical Analysis, 2025, 57(4):4358-4395.
3. Ruedi Aebersold, Mark S. Baker, Xiuwu Bian, Xiaochen Bo, Daniel W. Chan, Cheng Chang, Luonan Chen, Chris Soon Heng Tan, Xiangmei Chen, Yu-Ju Chen, Heping Cheng, Ben C. Collins, Fernando Corrales, Jürgen Cox, Weinan E, Jennifer E. Van Eyk, Jia Fan, Pouya Faridi, Daniel Figeys, George Fu Gao, Mingxia Gao, Qiang Gao, Wen Gao, Yushun Gao, Zu-Hua Gao, Keisuke Goda, Wilson Wen Bin Goh, Dongfeng Gu, Changjiang Guo, Tiannan Guo, Xuejiang Guo, Fuchu He, Jie He, Jun He, Qing-Yu He, Yuezhong He, Albert J. R. Heck, Henning Hermjakob, Jinlin Hou, Canhua Huang, Tony Hunter, Chenxi Jia, Narayanan Gopalakrishna Iyer, Ying Jiang, Connie R. Jimenez, Lokesh Joshi, Neil L. Kelleher, Bernhard Kuster, Chaoying Li, Dong Li, Ming Li, Yan Li, Yanchang Li, Yang Li, Qingsong Lin, Cui Hua Liu, Fan Liu, Guang-Hui Liu, Siqi Liu, Xiaonan Liu, Ya Liu, Yansheng Liu, Zhihua Liu, Zhongyang Liu, Teck Yew Low, Ben Lu, Haojie Lu, Matthias Mann, Anming Meng, Robert L. Moritz, Edouard Nice, Yongzhan Nie, Guang Ning, Mariko Okada, Gilbert S. Omenn, Christopher M. Overall, Giuseppe Palmisano, Yaojin Peng, Charles Pineau, Terence Chuen Wai Poon, Anthony W. Purcell, Guojun Qian, Jie Qiao, Hongqiang Qin, Yu Rao, Zihe Rao, Roger R. Reddel, Xianwen Ren, Yan Ren, Phillip J. Robinson, Paola Roncada, Chris Sander, Jiahao Sha, Feng Shen, Lin Shen, Erwei Song, Sanjeeva Srivastava, Shicheng Su, Aihua Sun, Siu Kwan Sze, Minjia Tan, Ben Zhong Tang, Chao Tang, Liujun Tang, Sheng-Ce Tao, Ruijun Tian, Juan Antonio Vizcaíno, Chanjuan Wang, Chen Wang, Jian Wang, Tong Wang, Xiaowen Wang, Xinxing Wang, Yan Wang, Liming Wei, Tobias Weiss, Mathias Wilhelm, Robert Winkler, Bernd Wollscheid, Catherine C. L. Wong, Limsoon Wong, Linhai Xie, Wei Xie, Xiaoliang Sunney Xie, Li Xu, Ping Xu, Tao Xu, Tianhao Xu, Liying Yan, Huanming Yang, Jianjun Yang, Jing Yang, Xiao Yang, John Yates, Mingliang Ye, Wantao Ying, Xiaobo Yu, Yaxiang Yuan, Qingcun Zeng, Qiwei Zhai, Qimin Zhan, Bing Zhang, Hui Zhang, Lihua Zhang, Lingqiang

Zhang, Pingwen Zhang, Xiaofei Zhang, Xu Zhang, Ying Zhang, Yukui Zhang, Yu Zi Zheng, Nan-Shan Zhong, Qing Zhong, Feng Zhou, Yi Zhu, Yunping Zhu and Zemin Zhang. π -HuB: the proteomic navigator of the human body. *NATURE*, 2024, 636(8042).

4. Kai Jiang, Shifeng Li and Pingwen Zhang. ON THE APPROXIMATION OF QUASIPERIODIC FUNCTIONS WITH DIOPHANTINE FREQUENCIES BY PERIODIC FUNCTIONS. *SIAM JOURNAL ON MATHEMATICAL ANALYSIS*, 2025, 57(1).
5. Kai Jiang, Xueyang Li, Yao Ma, Juan Zhang, Pingwen Zhang and Qi Zhou. IRRATIONAL-WINDOW-FILTER PROJECTION METHOD AND APPLICATION TO QUASIPERIODIC SCHRÖDINGER EIGENPROBLEMS. *SIAM JOURNAL ON NUMERICAL ANALYSIS*, 2025, 63(2).
6. Yuling Jiao, Ruoxuan Li, Peiying Wu, Jerry Zhijian Yang and Pingwen Zhang. DRM Revisited: A Complete Error Analysis. *JOURNAL OF MACHINE LEARNING RESEARCH*, 2025, 26.
7. Lei Zhang, Pingwen Zhang and Xiangcheng Zheng. UNDERSTANDING HIGH-INDEX SADDLE DYNAMICS VIA NUMERICAL ANALYSIS. *COMMUNICATIONS IN MATHEMATICAL SCIENCES*, 2025, 23(2).
8. Shuai Miao, Lei Zhang, Pingwen Zhang and Xiangcheng Zheng. Construction and analysis for orthonormalized Runge-Kutta schemes of high-index saddle dynamics. *COMMUNICATIONS IN NONLINEAR SCIENCE AND NUMERICAL SIMULATION*, 2025, 145.
9. Wei Si, Shifeng Li, Pingwen Zhang, An-Chang Shi and Kai Jiang. Designing a minimal Landau model to stabilize desired quasicrystals. *PHYSICAL REVIEW RESEARCH*, 2025, 7(2).
10. Xin Wang, An-Chang Shi, Pingwen Zhang and Kai Jiang. Stability of Diverse Dodecagonal Quasicrystals in T-Shaped Liquid Crystalline Molecules. *Macromolecules*, 2025, 58.
11. Zhuoyuan Li, Bin Dong and Pingwen Zhang. State-observation augmented diffusion model for nonlinear assimilation with unknown dynamics. *Journal of Computational Physics*, 2025, 539.
12. Tiejun Zhou, Lei Zhang, Pingwen Zhang, An-Chang Shi and Kai Jiang. Nucleation and phase transition of decagonal quasicrystals. *Journal of Chemical Physics*, 2024, 161(16).
13. Qiuzi Han Wen, Dingyu Wan, Quan Dong, Yan Yan and Pingwen Zhang. Improved freezing rain forecast using machine learning. *Weather and Climate Extremes*, 2024, 44.
14. Chenguang Duan, Yuling Jiao, Jerry Zhijian Yang and Pingwen Zhang. Recovering the Source Term in Elliptic Equation via Deep Learning: Method and Convergence Analysis. *East Asian Journal on Applied Mathematics*, 2024, 14(3):460-489.
15. Zhuoyuan Li, Bin Dong and Pingwen Zhang. Latent assimilation with implicit neural representations for unknown dynamics. *Journal of Computational Physics*, 2024, 506.
16. Kai Jiang, Qi Zhou and Pingwen Zhang. Accurately Recover Global Quasiperiodic Systems by Finite Points. *SIAM Journal on Numerical Analysis*, 2024, 62(4):1713-1735.
17. Kai Jiang, Shifeng Li and Pingwen Zhang. Numerical Methods and Analysis of Computing Quasiperiodic Systems. *SIAM Journal on Numerical Analysis*, 2024, 62(1):353-375.
18. Qiuqi Li, Chang Liu, Mengnan Li and Pingwen Zhang. An Adaptive Method Based on Local Dynamic Mode Decomposition for Parametric Dynamical Systems. *Communications in computational physics*, 2024, 35(1):38-69.
19. Zhijuan He, Xin Wang, Pingwen Zhang, An-Chang Shi and Kai Jiang. Theory of Polygonal Phases Self-Assembled from T-Shaped Liquid Crystalline Molecules. *Macromolecules*, 2024, 57(5):2154-2164.
20. Lei Zhang, Pingwen Zhang and Xiangcheng Zheng. Probabilistic error estimate for numerical discretization of high-index saddle dynamics with inaccurate models. *Annals of Applied Mathematics*, 2023, 40(1):1-20.
21. Yue Luo, Lei Zhang, Pingwen Zhang, Zhiyi Zhang and Xiangcheng Zheng. Semi-implicit method of high-index saddle dynamics and application to construct solution landscape. *Numerical Methods for Partial*

Differential Equations, 2024, 40(6).

22. Jianyuan Yin, Lei Zhang and Pingwen Zhang. Solution landscape of the Onsager model identifies non-axisymmetric critical points. *Physica D-nonlinear Phenomena*, 2022, 430.
23. Lei Zhang, Pingwen Zhang and Xiangcheng Zheng. Error estimate for semi-implicit method of sphere-constrained high-index saddle dynamics. *Chinese Annals of Mathematics, Series B*, 2023, :1–20.
24. Juan Wang, Yunjie Zhang, Jie Song and Pingwen Zhang. The comparative study on the digital economy and trade between China, the U.S. and the EU. *Acta Numerica*, 2022, :1-89.
25. Jie Song, Guannan He, Jianxiao Wang and Pingwen Zhang. Shaping future low-carbon energy and transportation systems: Digital technologies and applications. *iEnergy*, 2022, :285-305.
26. Lei Zhang, Pingwen Zhang and Xiangcheng Zheng. A model-free shrinking-dimer saddle dynamics for finding saddle point and solution landscape. *Japan Journal of Industrial and Applied Mathematics*, 2023, :1-17.
27. Chuansai Zhou, Haochen Li, Chen Yu, Jiangjiang Xia and Pingwen Zhang. A station-data-based model residual machine learning method for fine-grained meteorological grid prediction. *Applied Mathematics and Mechanics*, 2022, :155-166.
28. Wenjia Kong, Haochen Li, Chen Yu, Jiangjiang Xia, Yanyan Kang and Pingwen Zhang. A deep spatio-temporal forecasting model for multi-site weather prediction post-processing. *Communications in Computational Physics*, 2022, :131-153.
29. Chuansai Zhou, Wen Yuan, Jun Wang, Haiyong Xu, Yong Jiang, Xinmin Wang, Qiuzi Han Wen and Pingwen Zhang. Detecting Suspected Epidemic Cases Using Trajectory Big Data. *arXiv preprint arXiv:2004.00908*, 2020, :186-206.
30. Mingwen Fei, Wei Wang, Pingwen Zhang and Zhifei Zhang. On the Isotropic-Nematic Phase Transition for the Liquid Crystal. *Peking Mathematical Journal*, 2018, 1:141-219.
31. Yi Mo, Mengjie Du, Wei Ge and Pingwen Zhang. Analysis of the energy-minimization multiscale model with multiobjective optimization. *Particuology*, 2020, 48:109-115.
32. Weihua Deng, Xudong Wang and Pingwen Zhang. Anisotropic Nonlocal Diffusion Operators for Normal and Anomalous Dynamics. *Multiscale Modeling & Simulation*, 2020, 18(1):415-443.
33. Chen Yu, Haochen Li, Jiangjiang Xia, Hanqiuzi Wen and Pingwen Zhang. A Data-Driven Random Subfeature Ensemble Learning Algorithm for Weather Forecasting. *Communications in Computational Physics*, 2020, 28(4):1305-1320.
34. Chuansai Zhou, Wen Yuan, Jun Wang, Haiyong Xu, Yong Jiang, Xinmin Wang, Qiuzi Han Wen and Pingwen Zhang. Detecting Suspected Epidemic Cases Using Trajectory Big Data. *CSIAM Transactions on Applied Mathematics*, 2020, 1(1):186-206.
35. Jiangjiang Xia, Haochen Li, Yanyan Kang, Chen Yu, Lei Ji, Lve Wu, Xiao Lou, Guangxiang Zhu, Zaiwen Wang, Zhongwei Yan, Lizhi Wang, Jiang Zhu, Pingwen Zhang, Min Chen, Yingxin Zhang, Lihao Gao and Jiarui Han. Machine Learning-based Weather Support for the 2022 Winter Olympics. *Advances in Atmospheric Sciences*, 2020, 37:927-932.
36. Qiuqi Li and Pingwen Zhang. A Variable-Separation Method for Nonlinear Partial Differential Equations With Random Inputs. *SIAM Journal on Scientific Computing*, 2020, 42(2):A723-A750.
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38. Lei Zhang, Pingwen Zhang and Xiangcheng Zheng. Discretization and index-robust error analysis for constrained high-index saddle dynamics on the high-dimensional sphere. *Science China Mathematics*,

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39. Lei Zhang, Pingwen Zhang and Xiangcheng Zheng. Error estimates for euler discretization of high-index saddle dynamics. *SIAM Journal on Numerical Analysis*, 2022, 60(5):2925-2944.
40. Lei Zhang, Pingwen Zhang and Xiangcheng Zheng. Mathematical and numerical analysis to shrinking-dimer saddle dynamics with local Lipschitz conditions. *CSIAM Transaction on Applied Mathematics*, 2023, :157-176.
41. Jianyuan Yin, Lei Zhang and Pingwen Zhang. Solution Landscape of the Onsager Model Identifies Non-axisymmetric Critical Points. *Physica D: Nonlinear Phenomena*, 2022, 430:133081.
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43. Wei Wang, Lei Zhang and Pingwen Zhang. Modeling and Computation of Liquid Crystals. *Acta Numerica*, 2021, 30:765-851.
44. Jianyuan Yin, Kai Jiang, AnChang Shi, Pingwen Zhang and Lei Zhang. Transition pathways connecting crystals and quasicrystals. *Proceedings of the National Academy of Sciences*, 2021, 118(49):e2106230118.
45. Jianyuan Yin, Yiwei Wang, Jeff Z. Y. Chen, Pingwen Zhang and Lei Zhang. Construction of a Pathway Map on a Complicated Energy Landscape. *Phys. Rev. Lett.*, 2020, 124(9).
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47. Haochen Li, Yu, Chen, Jiangjiang Xia, Yingchun Wang, Jiang Zhu and Pingwen Zhang. A Model Output Machine Learning Method for Grid Temperature Forecasts in the Beijing Area. *Advances in Atmospheric Sciences*, 2019, 36(10):1156-1170.
48. Tian Tian, Han Wang, Wei Ge and Pingwen Zhang. Detecting Particle Clusters in Particle-Fluid Systems by a Density Based Method. *COMMUNICATIONS IN COMPUTATIONAL PHYSICS*, 2019, 26(5):1617-1630.
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51. Yiwei Wang, Pingwen Zhang and Jeff Z. Y. Chen. Formation of three-dimensional colloidal crystals in a nematic liquid crystal. *SOFT MATTER*, 2018, 14(32):6756-6766.
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59. Yiwei Wang and Pingwen Zhang. Topological Defects in an Unconfined Nematic Fluid Induced by Single and Double Spherical Colloidal Particles. *Physical Review E*, 2017, 96(4):042702.
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