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## 个人简历

赵建平，女，副教授，硕士生导师，1981年10月出生，2004年7月本科毕业于新疆大学，2007年6月硕士毕业于新疆大学，2013年12月博士毕业于西安交通大学数学与统计学院。2007年7月-至今任职于新疆大学数学与系统科学学院，2018.3-2018.6前往中科院科学与工程计算国家重点实验室访问，2019.8-2020.8 前往美国北卡罗来纳州立大学访问。主要从事连续介质流体力学方法及应用、数值分析、运筹与最优化、大数据分析、统计计算、生物信息统计、数学建模等教学科研工作。现主持国家级项目1项，省部级项目1项，自治区教育厅高校科研项目1项。完成国家自然科学基金项目1项，省部级科研项目2项，共发表论文30余篇。

## 科研项目

- 1、沙丘长时间移动演变行为的动力学模型及其数值模拟研究 (NO.61962056)国家自然科学基金地区基金项目，38万元，2020.1-2023.12，主持
- 2、Augmented 扩展有限元方法的研究(NO.2019D01C047),新疆维吾尔自治区科技厅自然科学基金面上项目，2019.5-2022.5，7万元，主持
- 3、基于多组学数据整合的癌症驱动突变识别(NO.XJEDU2019Y002)，2019.8-2021.8，5万元，主持
- 4、国家自然科学基金青年启动项目，高立式沙障不同水平组合模式对近地表流场的扰动及数值模拟 (No.41501107)，2016.1-2018.12，24万元，主持，已结题
- 5、自治区自然科学基金项目,均匀结构沙障气流运动模型的构建及数值模拟研究 2015.1-2017.12，5万元，主持，已结题
- 6、自治区人才计划项目青年博士，2016.6-2017.7，8万元，主持，已结题

## 教学科研奖励

- 1、2017 年度 全国大学生建模竞赛优秀组织工作者，2017.12
- 2、2016 年度新疆大学光华教育奖学金，独立获奖，2016.12

## 科研成果 ( 论文、专著等 )

- [1] **Zhao Jianping**, Wang Haiyun, Zheng Chunhou, SHDC: A Method of Similarity Measurement Using Heat Kernel Based on Denoising for Clustering scRNA-seq Data, *Intelligent Computing Theories and Application, International Conference on Intelligent Computing*, 2021, 327-335.
- [2] **Zhao Jianping**, Wang Na, Wang Haiyun, Zheng Chunhou, Su Yanseng, SCDRHA: A scRNA-seq data Dimensionality Reduction Algorithm based on Hierarchical Autoencoder. *Frontiers in Genetics*, 2021(12), Aug, 27, 733906.
- [3] Tian Jing, **Zhao Jianping**, Zheng Chunhou, Clustering of cancer data based on Stiefel manifold for multiple views, *BMC Bioinformatics*, 2021, 22(268)1-15.
- [4] Su Haiyan, Feng Xinlong, **Zhao Jianping**, Penalty decoupled iterative methods for the stationary natural convection equations with different Rayleigh numbers, *Applied Numerical Mathematics* 163 (2021) 270 – 291.
- [5] **Zhao, Jianping**, Chen Rui and Su, Haiyan, “An Energy-Stable Finite Element Method for Incompressible Magnetohydrodynamic-Cahn-Hilliard Coupled Model”, *Advances in Applied Mathematics and Mechanics*, 2021, 13(4), 761-790.
- [6] Wang, Haiyun, **Zhao, Jianping** and Zheng, Chunhou. “SUSCC: Secondary Construction of Feature Space based on UMAP for Rapid and Accurate Clustering Large-scale Single Cell RNA-seq Data”. *Interdisciplinary Sciences Computational Life Sciences*, 2021(5).
- [7] Huang, Xueling, Xiao, Xufeng, **Zhao, Jianping** and Feng Xinlong. “An efficient operator-splitting FEM-FCT algorithm for 3D chemotaxis models”, *Engineering With Computers*, 2020, 36(1).
- [8] Xiao, Xufeng, **Zhao, Jianping**, and Feng, Xinlong. "A layers capturing type H-adaptive finite element method for convection–diffusion–reaction equations on surfaces." *Computer Methods in Applied Mechanics and Engineering* 361 (2020): 112792.
- [9] Su, Haiyan, Feng Xinlong and **Zhao, Jianping**. "On Two-Level Oseen Penalty Iteration Methods for the 2D/3D Stationary Incompressible Magnetohydrodynamics." *Journal of Scientific Computing* 83.1 (2020): 1-30.

- [10] Zhao, Shubo, Xiao, Xufeng, **Zhao, Jianping** and Feng Xinlong. "A Petrov–Galerkin finite element method for simulating chemotaxis models on stationary surfaces". *Computers & Mathematics with Applications*, (2020)79(11):3189-3205.
- [11] Yu, Jiaping, Shi Feng, and **Zhao Jianping** . "A stabilized coupled method and its optimal error estimates for elliptic interface problems." *Advances in Difference Equations* 2019.1 (2019): 400.
- [12] Li, Lulu, Su Haiyan, **Zhao Jianping** and Feng, Xinlong. "Recovery-based error estimator for the natural-convection problem based on penalized finite element method." *International Journal of Numerical Methods for Heat & Fluid Flow* (2019).
- [13] Ping, Yuan, Su Haiyan, **Zhao Jianping** and Feng, Xinlong. "Parallel two-step finite element algorithm based on fully overlapping domain decomposition for the time-dependent natural convection problem." *International Journal of Numerical Methods for Heat & Fluid Flow* (2019) 30(2)496-514.
- [14] Sun, Ting, Li Jingwei, **Zhao Jianping** and Feng Xinlong. "Least-squares RBF-FD method for the incompressible Stokes equations with the singular source." *Numerical Heat Transfer, Part A: Applications* 75.11 (2019): 739-752.
- [15] Huang, Xueling, Xiao Xufeng, **Zhao Jianping** and Feng Xinlong. "An efficient operator-splitting FEM-FCT algorithm for 3D chemotaxis models." *Engineering with Computers* (2019): 1-12.
- [16] Liu, Yi, Sheng Mengyang, **Zhao Jianping** and etc. "A New Optimization Method for the Layout of Pumping Wells in Oases: Application in the Qira Oasis, Northwest China." *Water* 11.5 (2019): 970.
- [17] Li, Jingwei, **Zhao Jianping**, Qian linZhi and Feng Xinlong. "Two-level meshless local Petrov Galerkin method for multi-dimensional nonlinear convection–diffusion equation based on radial basis function." *Numerical Heat Transfer, Part B: Fundamentals* 74.4 (2018): 685-698.
- [18] Gang Peng, **Jianping Zhao**, and Xinlong Feng, "Operator-splitting method for 2D/3D parabolic equation via finite element method", *Mathematical Reports*,19(69), (2017):381-397.
- [19] Haiyan Su, Xinlong Feng and **Jianping Zhao**. "Two-Level Penalty Newton Iterative Method for the 2D/3D Stationary Incompressible Magnetohydrodynamics Equations". *Journal of Scientific Computing*, 70(3) (2017): 1144–1179.
- [20] **Zhao Jianping**, Hou Yanren, Zheng Haibiao and etc. "The application of dimension split method in the three-dimensional heat equation", *Mathematical Methods In The Applied Sciences*, 39 (12)(2016) :3506-3515.

[21] Li Ning, **Zhao Jianping**, Feng Xinlong and etc. "Generalized polynomial chaos for the convection diffusion equation with uncertainty", *International Journal Of Heat And Mass transfer* 97(2016): 289-300.

[22] **Zhao Jianping**, Hou Yanren and Song Lina, "Modified intrinsic extended finite element method for elliptic equation with interfaces", *Journal of Engineering Mathematics*, 97(1)(2016): 147-159.

[23] **Zhao Jianping**, Hou Yanren, Song Lina and etc, The stable extrinsic extended finite element method for second order elliptic equation with interfaces, *Advances In Difference Equations*, 216(2015): 1-13.

[24] Huang Pengzhan, **Zhao Jianping** and Feng Xinlong, Highly efficient and local projection-based stabilized finite element method for natural convection problem, *International Journal Of Heat And Mass Transfer* , 83(2015): 357-365.

[25] Tang, Bo, Fan Yingzhe, **Zhao Jianping** and Wang Xuemin. "Solitary and compacton solutions of fractional KdV-like equations." *Open Physics* 14.1 (2016): 328-336.

[26] **Jianping Zhao**, Yanren Hou, Haibiao Zheng and Bo Tang, "A New Iterative Method for Linear Systems from XFEM", *Mathematical Problems in Engineering*, 2014, Article ID 367802, 8 pages.

[27] Xindong Zhang, **Jianping Zhao**, Juan Liu & Bo Tang, "Homotopy perturbation method for two dimensional time-fractional wave equation", *Applied Mathematical Modelling*, 2014 , 38 (23) :5545-5552.

[28] Yunzhang Zhang, Yanren Hou and **Jianping Zhao**, "Error analysis of a fully discrete finite element variational multiscale method for Natural Convection Problem," *Computers and Mathematics with Applications*, 68(2014), 543--567.

[29] Huang Pengzhan, **Zhao Jianping**, Feng Xinlong, "An Oseen scheme for the conduction-convection equations based on a stabilized nonconforming method", *Applied Mathematical Modelling* , 2014 , 38 (2) :535-547.

[30] **Jianping Zhao** and Yanren Hou and Yongfei Li, "Immersed Interface Method for Elliptic Equations based on piecewise second order polynomial", *Computers and Mathematics with Applications*, 63:5(2012), 957--965.

[31] Qi Guan, **Jianping Zhao**, Chunhou Zheng, "SNEMO: Spectral clustering based on the neighborhood for multi-omics data", *International Conference on Intelligent Computing*, Springer, Cham, 2021, 490-498.

[32] Wang, Haiyun, **Zhao Jianping**, Su Yansen, Zheng Chunhou, "scCDG: A Method based on DAE and GCN for scRNA-seq data Analysis." IEEE/ACM Transactions on Computational Biology and Bioinformatics (2021) Accepted.

## 研究生培养

在校研究生:

2021级博士(博一)王海云

2019级(研三) 关企、田静

2020级 (研二) 张馨丹、肖玉慧、廖萌、张志敏、梁瑶瑶、侯同帅、李津津、尹言龙、曹青青、陈守智、马智文、段星吉

2021级 (研一) 朱浩迪、张雪燕、黄路明、高平平、吴吉琨、毛博、张伟英、黎峰林、蒋晓蕾、李泽、李西杨、慈梦涛、胡杨、王自乐、钟艺、杨博

2022级 阿米娜姆罕.阿布迪热曼

毕业研究生:

2021年6月硕士毕业生: 陆文轩、王娜、谢新蒙、吴聪聪

欢迎优秀本科生报考本人研究生

要求: 具备一定的数学基础和编程能力, 乐观积极向上, 具备良好的沟通和交流能力, 有志于在研究生阶段了解和参与研究计算数学、大数据分析 with 挖掘前沿问题。核心培养学生能够围绕问题驱动研究, 不怕苦, 有责任心, 具有团队精神, 能专注进行科研训练。如果只是来团队混个文凭, 在这里可能没有机会。