Curriculum Vitae of Hong Zhang (张弘)

Personal Data

Name, First name	Zhang, Hong
Gender	Male
Date of Birth:	Aug. 30th, 1991, Anhui, China
Citizenship	Chinese

Address

Department of Mathematics,
Utrecht University,
Budapestlaan 6, 3584CD, Utrecht, the Netherlands
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Educational and Academic Data

1. PhD student in Department of Mathematics
   Utrecht University, the Netherlands, 2015-present
   Adviser: Associate Professor Paul Zegeling
2. *M.Sc.* in Department of Mathematics and System Science,
   National University of Defense Technology, P.R. China, 2012-2014
   Thesis Title: Study on two classes of structure-preserving methods for Hamiltonian partial differential equations
   This thesis was awarded Excellent Thesis for Master's Degree of National University of Defense Technology.
   Adviser: Prof. Songhe Song

1. *B.Sc*. in Department of Mathematics, Zhejiang University, P.R. China, 2008-2012
   Overall GPA: 3.74/4.0 (85.32/100) The last two years GPA: 3.81/4.0 (87.36/100)
   Thesis Title: Simulation of incompressible flow using lattice Boltzmann method on multi-threaded platform
   This thesis was awarded TOP 100 Thesis Prize for Bachelor's Degree of Zhejiang University.
   Adviser: Associate Prof. Xianliang Hu

Research Interests

1. Adaptive moving mesh refinement using finite difference scheme, finite element method and discontinuous Galerkin method
2. Simulation of two-phase flow in porous media
3. Structure-preserving methods for partial differential equations
2. Computational fluid dynamics

Publications

1. Yunrui Guo, Lingyan Tang, Hong Zhang and Songhe Song. A Maximum-Principle-Preserving Third Order Finite Volume SWENO Scheme on

Unstructured Triangular Meshes Adv. Appl. Math. Mech., 10 (2018), pp. 114-137
2. Zhang H, Zegeling P A. Simulation of thin film flows with a moving mesh mixed finite element method, 2017 (submitted to Applied Mathematics and Computation)
3. Zhang H, Zegeling P A. A moving mesh finite difference method for non-monotone solutions of non-equilibrium equations in porous media[J]. Communications in Computational Physics, 2017, 22(4): 935-964.
4. Zhang H, Zegeling P A. A numerical study of two-phase flow models with dynamic capillary pressure and hysteresis[J]. Transport in Porous Media, 2017, 116(2): 825-846.
5. Zhang H, Zegeling P A. Numerical investigations of two-phase flow with dynamic capillary pressure in porous media via a moving mesh method[J]. Journal of Computational Physics, 2017.
6. Mingzhan Song, Xu Qian, Hong Zhang, Jingmin Xia, Songhe Song. Two kinds of new energy-preserving schemes for the coupled nonlinear Schrodinger equations, 2017 (submitted to Communications in Computational Physics)
7. Song M, Qian X, Zhang H, et al. Hamiltonian Boundary Value Method for the Nonlinear Schrödinger Equation and the Korteweg-de Vries Equation[J]. Advances in Applied Mathematics and Mechanics, 2017, 9(4): 868-886.
8. H. Zhang, S.H. Song, X.D. Chen, W.E. Zhou, Average vector field methods for the coupled Schrödinger-KdV equations. Chin. Phys. B,23(7)(2014)070208
9. H. Zhang, S.H. Song, W.E. Zhou, X.D. Chen, Multi-symplectic method for the coupled Schrödinger-KdV equations. Chin. Phys. B, 23(8) (2014) 080204

Participation in Research Projects

1. *Computational of non-monotone waves and fingers in two phase flow.* China Scholarship Council, No. 201503170430
2. *Unstructured grid and high accuracy finite volume methods for fluid solid interaction on turbine blade.* Major Research plan of the National Natural Science Foundation of China
3. *Structure-preserving methods and parallel computing.* Open foundation of state key laboratory of high performance computing

Conferences and Courses

1. ENUMATH 2017, 2017.9.25-2017.9.29, Voss, Norway
2. Woudschoten Conferences WSC, 2017.10.4-2017.10.6, Zeist, the Netherlands (poster presentation)
3. The 11th annual conference of Chinese Computational Mathematics Society, 2017, Xi'an, China
4. Spring meeting WSC, 2017.5.19, Antwerp, Belgium
5. The 53 Nederlands Mathematisch congress, 2017.4.11, Utrecht, the Netherlands (poster presentation)
6. Forefront of PDEs: Modelling, Analysis and Numerics, 2016.12.12-2016.12.14,

Vienna, Austria (poster presentation)
7. 1st SRP NUPUS meeting, 2016.10.5-2016.10.7, Stuttgart, Germany (poster presentation)
8. DUNE::FEM summer school, 2016.9.26-2016.9.30, Stuttgart, Germany
9. XVI International Conference on Hyperbolic Problems: Theory, Numerics, Applications, 2016.8.1-2016.8.5, Aachen, Germany (poster presentation)
10. NDNS workshop, 2016.7.4-2016.7.5, Twente, the Netherlands (poster presentation)
11. Moving mesh methods workshop, 2016.6.13-2016.6.16, Bath, UK
12. Spring meeting WSC, 2016.5.13, Utrecht, the Netherlands
13. The 10^{th} annual conference of China Computational Mathematics, 2015.9.19-2015.9.22, Guangzhou, China
14. Summer school on numerical methods for coupled fluid-solid dynamics, 2014.8, Beijing, China
15. The 1_{st} postgraduate forum on numerical methods for partial differential equations, 2014, Beijing, China
16. The 12_{th} annual conference of Chinese Computational Mathematics Society, 2013, Changsha, China
17. International conference on compressed sensing: theory and applications, 2013, Changsha, China
18. Postgraduate summer school on Applied Mathematics, 2013, Changsha, China
19. Summer school on Applied Mathematics, 2011, Zhengzhou, China

Skills

Languages: Chinese, English, Japanese
Computer skills: C/C++, Matlab, Fortran, Shell Script

Awards

1. Excellent M.Sc thesis of NUDT, 2014
2. Excellent Graduate Student, Zhejiang University, 2012
3. Scholarship for Outstanding Merits, Zhejiang University, 2009-2011
4. Scholarship for Outstanding Students, Zhejiang University, 2009-2011
5. Prize of the National Talents Training Base, Zhejiang University, 2010