

# Xiaofeng Yang

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|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Research Areas</b>           | Computational/Applied Mathematics.<br>(modeling, numerical analysis, and scientific computing with applications to soft matter/complex fluids/bio-cell Dynamics).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Education</b>                | <b>Ph. D.</b> , Mathematics, Purdue University, West Lafayette, Indiana, USA, 2007.<br><br><b>M. S.</b> , Mathematics, University of Science and Technology of China, 2001.<br><br><b>B. S.</b> , Mathematics, University of Science and Technology of China, 1998.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Professional Employments</b> | Dec. 2017–present, <b>Full Professor (tenure)</b> , Department of Mathematics, University of South Carolina, Columbia, SC.<br><br>Aug. 2013–Nov. 2017, <b>Associate Professor (tenure)</b> , Department of Mathematics, University of South Carolina, Columbia, SC.<br><br>Aug. 2009–Jul. 2013, <b>Assistant Professor (tenure track)</b> , Department of Mathematics, University of South Carolina, Columbia, SC.<br><br>Jul. 2007–Jul. 2009, <b>Postdoctoral Research Associate</b> , Department of Mathematics, University of North Carolina at Chapel Hill (UNC-CH), Chapel Hill, NC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Selected Publications</b>    | <ul style="list-style-type: none"><li>• Q. Cheng, <b>X. Yang</b> and J. Shen, Linear, second order, unconditionally energy stable schemes for hydrodynamics coupled phase field diblock copolymer model, <b>Journal of Computational Physics</b>, 341:44-60, 2017. (IF: 2.744)</li><li>• J. Zhao, <b>X. Yang</b>, Y. Gong and Q. Wang, A Novel Linear Second Order Unconditionally Energy Stable Scheme for a Hydrodynamic Q-Tensor Model of Liquid Crystals, <b>Computer Methods in Applied Mechanics and Engineering</b>, 318:803–825, 2017. (IF: 5.763)</li><li>• R. Chen, <b>X. Yang*</b> and H. Zhang, Second Order, linear and unconditionally energy stable schemes for a hydrodynamic model of Smectic-A Liquid Crystals, 39(6):A2808-A2833, <b>SIAM Journal on Scientific Computing</b>, 2017.</li><li>• H. Yu and <b>X. Yang*</b>, Decoupled Energy stable schemes for phase field model with contact lines and variable densities, <b>Journal of Computational Physics</b>, 334:665-686, 2017.</li><li>• <b>X. Yang*</b>, J. Zhao, Q. Wang and J. Shen, Numerical Approximations for a three components Cahn-Hilliard phase-field Model based on the Invariant Energy Quadraticization method, <b>Mathematical Models and Methods in Applied Sciences (M3AS)</b>, 27(11):1993-2030, 2017.</li><li>• <b>X. Yang*</b>, J. Zhao and Q. Wang, Numerical Approximations for the Molecular Beam Epitaxial Growth Model Based on the Invariant Energy Quadraticization Method, <b>Journal of Computational Physics</b>, 333:104-127, 2017.</li></ul> |

- **X. Yang\*** and D. Han, Linearly First- and Second-Order, Unconditionally Energy Stable Schemes for the Phase field Crystal Equation, **Journal of Computational Physics**, 330:1116-1134, 2017.
- **X. Yang\*** and L. Ju, Linear and Unconditionally Energy Stable Schemes for the binary Fluid-Surfactant Phase field Model, **Computer Methods in Applied Mechanics and Engineering**, 318:1005–1029, 2017.
- **X. Yang\*** and L. Ju, Efficient linear schemes with unconditionally energy stability for the phase field elastic bending energy model, **Computer Methods in Applied Mechanics and Engineering**, 315:691–712, 2017.
- J. Zhao, **X. Yang**, J. Li, and Q. Wang, Energy stable numerical schemes for a hydrodynamic model of Nematic liquid crystals, **SIAM. Journal on Scientific Computing**, 38, A3264–A3290, 2016.
- **X. Yang\***, Linear, first and second order and Unconditionally Energy Stable Numerical Schemes for the Phase Field model of Homopolymer blends, **Journal of Computational Physics**, 302:509–523, 2016.
- J. Zhao, Q. Wang and **X. Yang\***, Numerical Approximations to a New Phase Field Model for Immiscible Mixtures of Nematic Liquid Crystals and Viscous Fluids, **Computer Methods in Applied Mechanics and Engineering**, 310, 77–97, 2016.
- J. Zhao, **X. Yang**, J. Shen and Q. Wang, A Decoupled Energy stable scheme for a Hydrodynamic Phase-Field Model of Mixtures of Nematic Liquid Crystals and viscous Fluids, **Journal of Computational Physics**, 305:539–556, 2016.
- R. Chen, G. Ji, **X. Yang** and H. Zhang, Decoupled Energy stable schemes for Fluid vesicle membrane Phase field model, **Journal of Computational Physics**, 302:509–523, 2015.
- J. Shen, **X. Yang** and H. Yu, Energy stable scheme and simulation for multiphase fluids system of Navier boundary condition, **Journal of Computational Physics**, 284: 617–630, 2015.
- J. Shen and **X. Yang**, Decoupled, Energy stable schemes for phase field models of two phase incompressible flows, **SIAM Journal on Numerical Analysis**, 53:279–296, 2015.
- J. Shen and **X. Yang\***, Decoupled, Linear, and Energy stable schemes for a phase field model of two phase complex fluids, **SIAM Journal on Scientific Computing**, 36(1), B122–B145, 2014. (IF:2.31)