Curriculum Vitae
Yang Liu

Contact Information:

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Education:

- Ph. D. (expected), Mathematics, Florida State University, July 2020
- M.S. Mathematics, Florida State University, 2015
- M.E. Fluid Machinery and Engineering, Dalian University of Technology, 2013
- B.A. (duo degree), English, Dalian University of Technology, 2009
- B.S. Mathematics and Applied Mathematics, Dalian University of Technology, 2008

Research interests:

- Numerical methods for multi-material problems involving phase change and material processing
- Sharp interface capturing method involving level-set method, VOF, MOF
- Numerical analysis (involving conservation, convergence and accuracy)
- Computational fluid dynamics
- Computational geometry

Presentations in Conferences:

- "A conservative moment-of-fluid algorithm for simulating boiling in general geometries with special filament aware diffustion solver", in minisymposium "Numerical methods for interfacial dynamics", presented July 2019, International Congress on Industrial and Applied Mathematics (ICIAM2019), Valencia, Spain.
- "A Moment-of-Fluid Method for Diffusion Equations on Irregular Domains with Application to Problems in Multi-material Systems", in minisymposium "Advances and Applications in Numerical Methods for Interfacial Flows", presented Feburary 2019, SIAM Conference on Computational Science and Engineering (SIAM CSE19), Spokane, WA, U.S.
- "A moment-of-fluid method for diffusion equations on irregular domains in multi-material systems", presented November 2018, 71st Annual Meeting of the APS Division of Fluid Dynamics (APS-DFD19), Atlanta, GA, U.S
- Poster on international conference multimat2017, held by Los Alamos National

Laboratory

Publication :

- Liu, Yang, et al. "A moment-of-fluid method for diffusion equations on irregular domains in multi-material systems." Journal of Computational Physics 402 (2020): 109017.

Paper in preparation:

- "A supermesh method for the Stefan problem" Yang Liu · Mark Sussman · Yongsheng Lian · M. Yousuff Hussaini · Mehdi Vahab · Kourosh Shoele

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Teaching:

Fall 2013-Fall 2016, Summer 2017, Summer 2018, Fall 2019, Graduate teaching assistant
Instructor of class: PreCalculus (MAC1140) (Fall 2016, Summer 2017), Calculus 1(Summer 2018)
Grader of class: Advanced Calculus I (Fall 2019)

Research Experience:

2017 Spring-2019 Summer Graduate Research Assistant . Florida State university
funded by Y. Lian, M. Sussman, NASA B - Verification and enhancement of a 3D nucleate pool boiling simulation model using PSI data. (2017-2018) 200K.
2020 Spring Graduate Research Assistant , Florida State university
funded by Kourosh Shoele, M. Sussman. NASA ESI 2019, Fast Multilevel Multi-phase CFD-nodal Model for Cryogenic Applications.
2020 summer Graduate Research Assistant , Florida State university
funded by **M. Yousuff Hussaini, National Institute of Aerospace,** Anisotropic Adaptive Wavelet Collocation Methods for Uns.

Other Research Experience:

05/2010-07/2013 Research Experience in School of Energy and Power Engineering, Dalian University of Technology

- *Study of size effect on compressor model stages;*
- *Analysis of Final Stage Volute in the Centrifugal Compressor;*
- *The optimization design and experimental study on the guide vane of the water pump;*

09/2004-06/2008 Academic experience in Department of Mathematics, Dalian University of Technology

- 2008, undergraduate thesis, *the application about the theorem of implicit function in elasticity mechanics;*
- 2006, Mathematical Modeling Competition of China;
- 2005, Mathematical Modeling Competition of Dalian University of Technology.

Abilities:

Programming Abilities

- C++; FORTRAN; Matlab;

Software

- AutoCAD, Creo,
- ANSYS CFX, NUMECA

Awards:

- Distinguished Teaching Assistant 2019 (DTA), Math department, Florida State University
- Nominated as 2016-2017 Outstanding Teaching Assistant Award (OTAA), recognized by Florida State University
- 09/2010-07/2013 Second Prize Graduate Scholarship, Dalian University of Technology;
- 2004-2005 Excellent Student of Mathematical Department, Dalian University of Technology.