

Jinzi Mac Huang

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Education

Courant Institute of Mathematical Sciences, NYU
Ph.D., Mathematics, 2018.
Advisors: Leif Ristroph, Jun Zhang & Michael J. Shelly
Fields: Experimental Fluid Dynamics, Applied Mathematics

Zhiyuan College, Shanghai Jiao Tong University
B.S., Applied Mathematics & Applied Physics, 2013.
Advisor: Hepeng Zhang

Research

Palacci Lab, Department of Physics, UCSD
Postdoc Researcher, 2018-Now
Projects: locomotion of active swimmers

Applied Math Lab, Courant Institute, NYU
Research Assistant, 2013-2018
Projects: fluid-structure interaction, mass and heat transfer in fluid

Joint Physics Lab, NYU Shanghai
Research Associate, 2015-2018
Projects: thermal convection, 3D shadowgraph

Zhang Group, Institute of Natural Sciences, SJTU
Undergraduate Research Assistant, 2011-2013
Projects: locomotion at low Reynolds number, three-link swimmer

Teaching

Courant Institute, NYU
Recitation Leader, UA251 Intro to Maths Modeling, 2016-2017
Recitation Leader, UA180 Intro to Fluid Dynamics, 2016

Awards and Fellowships

Thomas Tyler Bringley Fellowship
2018

MacCracken Fellowship, NYU
2013-2018

Outstanding student of Zhiyuan College
Speaker of graduation ceremony, SJTU
2013

- Publications
- Solute transport by flow yields geometric shocks in shape evolution**
Huang, J. M., Tong, J., Ristroph, L., & Shelley, M. (2018).
In preparation
- Solving Stefan problem with natural convection using Immersed Boundary Smooth Extension (IBSE)**
Huang, J. M., Stein, D. B., & Shelley, M. (2018).
In preparation
- Rayleigh-Bénard convection with side wall heating**
Huang, J. M., & Zhang, J. (2018).
In preparation
- 3D shadowgraph technique visualizes thermal convection**
Huang, J. M., & Zhang, J. (2018).
In preparation
- Shape dependent flight stability and the origin of oriented meteorites**
Amin, K., Huang, J. M., Hu, K. J., Zhang, J & Ristroph, L. (2018).
submitted to Proceedings of the National Academy of Sciences
- Stochastic dynamics of fluid–structure interaction in turbulent thermal convection**
Huang, J. M., Mertz, L., Zhong, J. & Zhang, J. (2018).
Journal of Fluid Mechanics (Rapids), 854. doi:10.1017/jfm.2018.683
- Self-sculpting of a dissolvable body due to gravitational convection**
Davies Wykes, M., Huang, J. M., Hajaar, G., & Ristroph, L. (2018).
Physical Review Fluids, 3. doi:10.1103/PhysRevFluids.3.043801
- Shape dynamics and scaling laws for a body dissolving in fluid flow**
Huang, J. M., Moore, M. N., & Ristroph, L. (2015).
Journal of Fluid Mechanics (Rapids), 765. doi:10.1017/jfm.2014.718

Talks

Solute transport by flow yields geometric shocks in shape evolution

APS DFD Annual Meeting, Denver, CO (Nov. 2017),

AMD, Troy, NY (Mar. 2018).

SIAM SEAS, Charlotte, NC (Apr. 2018),

Rayleigh-Bénard convection with side wall heating

APS DFD Annual Meeting, Denver, CO (Nov. 2017).

Sculpting of a dissolving body

ACMS Seminar, University of Wisconsin Madison, Madison, WI (Sep. 2017),

SIAM CSE meeting, Atlanta, GA (Mar. 2017),

GFDI Seminar, Florida State University, Tallahassee, FL (Mar. 2017).

3D shadowgraph technique visualizes thermal convection

APS DFD Annual Meeting, Portland, OR (Nov. 2016).

Heat and mass transfer through fluids

NYU Shanghai math analysis / PDE seminar, Shanghai, China (Mar. 2016).

Sculpting of a dissolvable body by flowing water

APS DFD Annual Meeting, San Francisco, CA (Nov. 2014).