

JIARONG HONG

PERSONAL INFORMATION

Title: Assistant Professor, Department of Mechanical Engineering (ME), Saint Anthony Falls Laboratory (SAFL), University of Minnesota
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EDUCATION

- Ph.D. 2011, Johns Hopkins University
- M.S. 2008, Johns Hopkins University
- B. S 2005, University of Science and Technology of China

RESEARCH EXPERIENCE

- Assistant Professor, University of Minnesota, 2012~present
- Research Assistant, Johns Hopkins University, 2005-2011
- Research Assistant, University of Science and Technology of China, 2004-2005

AWARDS

- 2012: Corrsin-Kovaszny Outstanding Paper Award.
- 2011: Robert T. Knapp Award from ASME Fluids Engineering Division for the best paper on analytical, numerical, or laboratory research (with J. Katz, M. Schultz).
- 2005: Guomo ruo Award from University of Science and Technology of China.

PUBLICATIONS

Journal Articles

1. **J. Hong**, J. Katz, M. Schultz, 2011, Near-wall turbulence statistics and flow structures over three-dimensional roughness in a turbulent channel flow, *Journal of Fluid Mechanics*, vol.667, pp.1-37.
2. **J. Hong**, S. Talapatra, J. Katz, P. Tester, R. Waggett, A. Place, 2012, Algal toxin alter copepod grazing behavior, *PLoS ONE* 7(5): e36845. doi:10.1371/journal.pone.0036845.
3. **J. Hong**, J. Katz, C. Meneveau, M. Schultz, 2012, Coherent structures and associated subgrid-scale energy transfer in a rough-wall channel flow, *Journal of Fluid Mechanics*, in press.
4. S. Talapatra, **J. Hong**, M. McFarland, A. Nayak, C. Zhang, J. Katz, J. Sullivan, M. Twardowski, J. Rines, P. Donaghay 2012, Characterization of organisms and particles in the water column using in situ digital holography, *Journal of Limnology and Oceanography*, in press.
5. L. Chamorro & **J. Hong**, 2012, Interaction between a full-scale wind turbine and turbulence across scales in a neutrally stratified boundary layer, *Wind Energy*, submitted.

Conference Proceedings

1. **J. Hong**, J. Katz, M. Schultz, 2008, Near-wall stereo PIV investigation of the turbulent channel flow over rough-walls, *Proceedings of ASME 2008 Fluids Engineering Conference*, Jacksonville, FL, USA.

2. **J. Hong**, J. Katz, M. Schultz, 2009, High resolution PIV measurement near a rough wall in an optically index-matched facility, *8th International Symposium on Particle Image Velocimetry*, Melbourne, Australia.
3. **J. Hong**, J. Katz, M. Schultz, 2010, Scale-dependent energy fluxes in a rough-wall turbulent channel flow, *Proceedings of ASME 2010 3rd Joint US-European Fluids Engineering Summer meetings*, Montreal, Canada. **(the paper won Robert T. Knapp Award)**
4. **J. Hong**, R. Miorini, J. Katz, M. Schultz, 2011, Investigation of Taylor's hypothesis using time-resolved PIV data, *9th International Symposium on Particle Image Velocimetry*, Kobe, Japan.
5. **J. Hong**, J. Katz, S. Talapatra, M. Schultz, 2011, The inner part of rough wall turbulent channel flow, *49 the AIAA Aerospace Sciences Meeting*, Orlando, FL.
6. S. Talapatra, **J. Hong**, J. Sheng, R. Waggett, P. Tester, J. Katz, 2008, A study of grazing behavior of copepods using digital holographic cinematography, *Proceedings of ASME 2008 Fluids Engineering Conference*, Jacksonville, FL, USA.
7. S. Talapatra, **J. Hong**, J. Katz, 2009, Digital microscopic holography to measure flow through rough walls, *8th International Symposium on Particle Image Velocimetry*, Melbourne, Australia.
8. J. Sullivan, J. Katz, S. Talapatra, M. Twardowski, **J. Hong**, P. Donaghay, 2011, Using in-situ holographic microscopy for ocean particle characterization, *Oceans, IEEE meeting*, Spain.

Conference Presentations

1. **J. Hong**, J. Katz, M. Schultz, 2008, Near-wall stereo PIV investigation of the turbulent channel flow over rough-walls, *Proceedings of ASME 2008 Fluids Engineering Conference*, Jacksonville, FL, USA.
2. **J. Hong**, J. Katz, M. Schultz, 2008, Experimental investigation of near-wall flow structures in a rough-wall turbulent channel flow, *61st Annual Meeting of the APS Division of Fluid Dynamics*, San Antonio, TX, USA.
3. **J. Hong**, J. Katz, M. Schultz, 2009, High resolution PIV measurement near a rough wall in an optically index-matched facility, *8th International Symposium on Particle Image Velocimetry*, Melbourne, Australia.
4. **J. Hong**, J. Katz, M. Schultz, 2009, Near-wall flow structures over 3D roughness in a turbulent channel flow, *International Union of Theoretical and Applied Mechanics (IUTAM) symposium on "The physics of wall-bounded turbulent flows on rough walls"*, Cambridge, UK.
5. **J. Hong**, J. Katz, M. Schultz, 2009, Turbulence statistics over 3D roughness in a turbulent channel flow, *62nd Annual Meeting of the APS Division of Fluid Dynamics*, Minneapolis, MN, USA.
6. **J. Hong**, J. Katz, M. Schultz, 2010, Scale-dependent energy fluxes in a rough-wall turbulent channel flow, *Proceedings of ASME 2010 3rd Joint US-European Fluids Engineering Summer meetings*, Montreal, Canada.
7. **J. Hong**, J. Katz, M. Schultz, 2010, Roughness signature in the outer-layer of a turbulent boundary layer, *63rd Annual Meeting of the APS Division of Fluid Dynamics*, Long beach, CA, USA.
8. **J. Hong**, R. Miorini, J. Katz, M. Schultz, 2011, Investigation of Taylor's hypothesis using time-resolved PIV data, *9th International Symposium on Particle Image Velocimetry*, Kobe, Japan.
9. **J. Hong**, J. Katz, S. Talapatra, M. Schultz, 2011, The inner part of rough wall turbulent channel flow, *49 the AIAA Aerospace Sciences Meeting*, Orlando, FL. **(invited presentation)**
10. **J. Hong**, J. Katz, C. Meneveau, M. Schultz, 2011, Coherent structures and associated sub-grid scale energy transfer in a rough-wall turbulent channel flow, *64th Annual Meeting of the APS Division of Fluid Dynamics*, Baltimore, MD, USA.
11. **J. Hong**, S. Talapatra, J. Katz, P. Tester, R. Waggett, A. Place, 2012, Species specific variations in copepod grazing behavior resulting from exposure to toxic dinoflagellates, *Ocean Sciences Meeting*, Salt Lake City, UT, USA.
12. S. Talapatra, **J. Hong**, J. Sheng, R. Waggett, P. Tester, J. Katz, 2008, A study of grazing behavior of copepods using digital holographic cinematography, *Proceedings of ASME 2008 Fluids Engineering Conference*, Jacksonville, FL, USA.
13. S. Talapatra, **J. Hong**, J. Katz, 2009, Digital microscopic holography to measure flow through rough walls, *8th International Symposium on Particle Image Velocimetry*, Melbourne, Australia.
14. S. Talapatra, **J. Hong**, Y. Lu, J. Katz, 2009, Microscopic holography for flow over rough plate, *61st Annual Meeting of the APS Division of Fluid Dynamics*, San Antonio, TX, USA.
15. S. Talapatra, **J. Hong**, J. Katz, 2009, Near-wall measurement in turbulent flow over rough wall using microscopic HPIV, *62nd Annual Meeting of the APS Division of Fluid Dynamics*, Minneapolis, MN, USA.

16. J. Katz, **J. Hong**, M. Schultz, 2009, Flow structures and effects of spatial resolution on turbulence Statistics in rough wall turbulent channel flow, *62nd Annual Meeting of the APS Division of Fluid Dynamics*, Minneapolis, MN, USA.
17. J. Katz, **J. Hong**, C. Meneveau, M. Schultz, 2010, Subgrid scale (SGS) flow structures and energy flux in a rough-wall channel flow, *63rd Annual Meeting of the APS Division of Fluid Dynamics*, Long beach, CA, USA.
18. S. Talapatra, A. Nayak, **J. Hong**, J. Katz, M. Twardoski, J. Sullivan, P. Donaghay 2010, Characterization of organisms, particles and bubbles in the water column using a free-drifting, submersible, digital microscopic holography system, *2010 Ocean optics*, Anchorage, AK, USA.
19. J. Sullivan, J. Katz, S. Talapatra, M. Twardowski, **J. Hong**, P. Donaghay, 2011, Using in-situ holographic microscopy for ocean particle characterization, *Oceans, IEEE meeting*, Spain.
20. S. Talapatra, **J. Hong**, M. McFarland, A. Nayak, C. Zhang, J. Katz, J. Sullivan, M. Twardowski, P. Donaghay, J. Rines, 2012, Effects of Bio-physical interactions on particle distributions revealed by in situ digital holography along with sampling and profiling of bulk water properties, *Ocean Sciences Meeting*, Salt Lake City, UT, USA.
21. S. Talapatra, J. Sullivan, J. Katz, M. Twardowski, P. Donaghay, **J. Hong**, J. Rines, M. McFarland, A. Nayak, C. Zhang, 2012, In situ digital holography and adaptive sampling enable the study of the interactions of particles, organisms and bubbles within their natural environment, *SPIE Defense Security + Sensing Meeting*, Baltimore, MD, USA.