Jason Larkin
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EDUCATION

Carnegie Mellon University, Pittsburgh, PA
PhD. Mechanical Engineering **2009-present**
In Progress. **GPA: 3.7**

University of Pittsburgh, Pittsburgh, PA
M.S. Mechanical Engineering **2009**
Dissertation: "Statistics of Particle Concentrations in Free-Surface Turbulence"
GPA: 3.7

University of Pittsburgh, Pittsburgh, PA
B.S. Mechanical Engineering **2007**
GPA: 3.2

AWARDS

- Graduate Student Researcher, Carnegie Mellon University Department of Mechanical Engineering **2009-present**
- Graduate Student Research Grant, University of Pittsburgh Department of Physics **2007 – 2009**

TEACHING EXPERIENCE

University of Pittsburgh
Teaching Assistant – Advanced Fluid Mechanics **2008**
Held study sessions and office hours on topics in Fluid Mechanics including viscous flow, boundary layer theory, and scale similarity.

Lab Instructor – Physics Lab **2007-2009**
Supervised and helped undergraduates conduct research. Experiments ranged from turbulence and fluid mechanics to elasticity and fracture. Taught skills in programming, automation, and fluid dynamics measurements.

Lecturer – Physics **2007-2009**
Administered informal lectures to undergraduate students, graduate students, and faculty on a number of topics ranging from Mathematics, Turbulence, Bio-Physics, Statistical and Thermal Physics and general Nonlinear Phenomena.

RELATED EXPERIENCE

Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA
Graduate Student Researcher
Established research foundation for the simulation of Phase Change Materials. Established international collaboration with simulation expert in quantum mechanical methods. Have taken classes in the following areas: Molecular Simulation, Solid State Physics, Quantum Chemistry, Electronic Structure, Numerical Methods

Department of Physics, University of Pittsburgh, Pittsburgh, PA
Graduate Student Researcher **2007 - 2009**
Ran multiple experiments with produced 2 published papers andone in submission. Made use of PIV (particle imaging velocimetry) and LDV (laser Doppler velocimetry) equipment to conduct turbulent fluid measurements. Also used photon correlation spectroscopy. Used skills in motion control and programming to assist in experiments.

Department of Mechanical Engineering, University of Pittsburgh, Pittsburgh, PA

Undergraduate Researcher **2006 - 2007**
Made use of finite element software to help design a novel flow chamber for studying the initiation and development of cerebral aneurysms.

Precision Therapeutics, Pittsburgh, PA
IT Intern **2006-2007**
Assisted with bio-laboratory automation equipment design for novel chemotherapy assay. Equipment included cell imaging microscopy, motion-control, and various programming. Also produced CADD designs for custom parts.

PUBLICATIONS AND PAPERS

- J. Larkin, W. Goldburg, M.M. Bandi, "Time-Evolution of a fractal distribution: Particle concentrations in free-surface turbulence", Physica D (2009, in press).
- J. Larkin, M.M. Bandi, A. Pumir, W. Goldburg , "Power-law distributions of particle concentration in free-surface flows", Phys. Rev. E 80, 066301 (2009).
- J. Larkin, W. Goldburg, "Decorrelating a Compressible Turbulent Flow: an Experiment", Phys. Rev. E, (submitted).

PRESENTATIONS

- "Decorrelating a Compressible Turbulent Flow: an Experiment"
  Jason Larkin, Walter Goldburg (speaker)
  2010 American Physical Society March Meeting Portland, OR
- "Statistics of Preferential Particle Concentration in Free-Surface Turbulence"
  Mahesh Bandi, Walter Goldburg, Jason Larkin (speaker)
  2009 American Physical Society March Meeting Pittsburgh, PA
- "Experimental Determination of the von Karman Constant in Turbulent Two Dimensional Soap Film Flows"
  Nicholas Guttenberg, Nigel Goldenfeld, Jason Larkin, Alisia Prescott, Hamid Kellay, Walter Goldburg
  2008 Meeting of the APS Division of Fluid Dynamics San Antonio, TX
- "Turbulent Dynamics of a Hydraulic Jump in two dimensions: Soap Film Flow"
  Jason Larkin (speaker), Walter Goldburg, Tuan Tran, Pinaki Chakraborty, Gustavo Goia
  2008 Meeting of the APS Division of Fluid Dynamics San Antonio, TX
- "The Generalized Fractal Dimensions of a 2-D Compressible Turbulence"
  Jason Larkin (speaker), Mahesh Bandi, Walter Goldburg
  2007 American Physical Society March Meeting New Orleans, LA
- "Design of a Flow Chamber to Explore the Initiation and Development of Cerebral Aneurysms"
  Jason Larkin, John P. Barrow, A. M. Robertson
  2007 Biomedical Engineering Society Meeting Undergraduate Presentation Los Angeles, CA

MEMBERSHIPS

- American Physical Society
- American Society of Mechanical Engineers
- Society for Industrial and Applied Mathematics