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## EDUCATION

*Carnegie Mellon University, Pittsburgh, PA*
**Ph.D., Mechanical Engineering** GPA: 3.9 **2009-present**
**-Research:** Thermal Modeling of Disordered Materials
**-Coursework:** Molecular Simulation, Electron Structure Simulation, Solid State Physics, Quantum Chemistry, Numerical Methods, Nanoscale Transport Phenomena

*University of Pittsburgh, Pittsburgh, PA*
**M.S. Mechanical Engineering** GPA: 3.7 **2007-2009**
**-Thesis:** Statistics of Particle Concentrations in Free-Surface Turbulence
**-Coursework:** Quantum Mechanics, Statistical Mechanics, Advanced Fluid Mechanics, Turbulence, Chaos and Nonlinear Phenomena, Linear and Nonlinear Elasticity.
**B.S. Mechanical Engineering** GPA: 3.2 **2003-2007**
**-Research:** FEA modeling of novel flow chamber to study initiation and development of aneurysms.

## TEACHING EXPERIENCE

*Carnegie Mellon University*
**Teaching Assistant –** 24-322: Heat Transfer **2010**
Topics in conduction, convection, radiation and heat exchangers. Supervised recitation sessions and substituted for several lectures.

*University of Pittsburgh*
**Teaching Assistant –** Advanced Fluid Mechanics **2008**
Topics in Fluid Mechanics including viscous flow, boundary layer theory, and scale similarity.
**Lecturer** – Physics **2007-2009**
Administered lectures to undergraduate students, graduate students, and faculty on topics ranging from Mathematics, Turbulence, Bio-Physics, Statistical Physics, and general Nonlinear Phenomena.

## PUBLICATIONS AND PAPERS

- J. Larkin, A.J.H. McGaughey, "Predicting Phonon Properties of Defected Systems using Spectral Energy Density", in preparation.
- S. Stefanus, J. Larkin, W. Goldburg, "A Search for Conformal Invariance in Compressible Two Dimensional Turbulence", in preparation.
- J. Larkin, W. Goldburg, M.M. Bandi, "Time-Evolution of a fractal distribution: Particle concentrations in free-surface turbulence", *Physica D* **239** 14 (2010) 1211-1378.
- Larkin, W. Goldburg, "Decorrelating a Compressible Turbulent Flow: an Experiment", *Phys. Rev. E* **82**, 016301 (2010).
- 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).

## SELECTED PRESENTATIONS (7 TOTAL)

- "Predicting Thermal Conductivity of Defected Systems using the Spectral Energy Density", J. Larkin 2011 Bennett Graduate Student Symposium Presentation. Award for Best Presentation.
- "Decorrelating a Compressible Turbulent Flow: An Experiment", J. Larkin, W. Goldburg (speaker). 2010 American Physical Society March Meeting Portland, OR.
- "Statistics of Preferential Particle Concentration in Free-Surface Turbulence", J. Larkin (speaker), M.M. Bandi, W. Goldburg. 2009 American Physical Society March Meeting Pittsburgh, PA.
- "The Generalized Fractal Dimensions of a 2-D Compressible Turbulence", J. Larkin (speaker), M.M. Bandi, W. Goldburg. 2008 American Physical Society March Meeting New Orleans, LA.

## MEMBERSHIPS

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