

# Evan C. Landrum

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## EDUCATION

**Georgia Institute of Technology**, Atlanta, GA  
*Masters of Science in Mechanical Engineering (MSME)*, Expected May 2009  
Concentration: Thermal-Fluid Sciences  
GPA: 3.83/4.0

**University of Florida**, Gainesville, FL  
*Bachelor of Science in Mechanical Engineering (BSME)*, May 2007  
Graduated Summa cum Laude  
GPA: 3.90/4.0

### Relevant Coursework

- Advanced Thermodynamics & Energy Systems Analysis
- Convective Heat Transfer
- Radiation Heat Transfer
- Fluid Mechanics

## RESEARCH EXPERIENCE

**Undergraduate Research**, University of Florida, February 2007 – May 2007  
Gainesville, FL

- Senior Thesis Project – *Bone-Cartilage Modeling of Knee Joint*
- Used cadaver images to construct solid models of load bearing structures of knee joint
- Stresses were analyzed in dynamic simulations

**Graduate Research Assistantship**, Georgia Institute of Technology, September 2007 – Present  
Atlanta, GA

- Master's Thesis Project – *Anisotropic Hydrodynamic Parameters of Mesh Fillers Relevant to Miniature Cryocooler*
- Designed, and participated in the construction of custom experimental apparatus housing porous samples and sensor equipment
- Helped integrate data acquisition system with mass flow meter, constant temperature hot wire anemometers, as well as dynamic and static pressure transducers
- Performed experiments aimed at the measurement of hydrodynamic parameters of porous structures used in Stirling and pulse tube cryocoolers
- Developed and applied empirical closure relationships to be used in tractable macroscopic equations governing fluid flow through porous media
- Employed CFD code coupled with experimental boundary conditions to solve for flow resistance parameters pertaining to porous structures
- Aided team in the design of a miniature cryocooler prototype

## WORK EXPERIENCE

**Thermal Designer**, Siemens Gas Turbine Engineering, June 2009 – Present  
Orlando, FL

- Member of Transitions and Casings Design Group
- Analyze engine component definition to predict thermal loads
- Utilize design tools to provide cooling schemes for over-temperature parts

**Internship**, CH2M HILL Inc., May 2005 – August 2007

Gainesville, FL

- Joined Building Mechanical division of the Engineering Design Group East
- Specialized in HVAC and plumbing for industrial, commercial and residential buildings
- Performed energy code calculations
- Sized air handling units based on design specifications
- Assisted administration with technology development by creating interactive multipurpose schedules

**Projects:**

- **Alachua County Civil Courthouse Chief Judge's Area Renovation** – designed new diffuser system for existing mains
- **Alachua County State Attorneys Office** – specified new packaged rooftop unit
- **Florida Air National Guard, Jacksonville Hanger** – supported design of high expansion foam fire protection system
- **Kusan AFB Visiting Quarters Dormitory** – coordinated riser diagrams for domestic hot and cold water, ventilation and sanitary pipes
- **Sawgrass Water Treatment Plant** – modeled a sound analysis for pump additions resulting in an internal memo explaining the acoustical considerations for site expansion

**PUBLICATIONS**

- *Effect of Pressure on Hydrodynamic Parameters of Several PTR Regenerator Fillers in Axial Steady Flow*, presented at International Cryocooler Conference 15, Summer 2008
- *Anisotropic Hydrodynamic Parameters of Regenerator Materials Suitable for Miniature Cryocoolers*, presented at International Cryocooler Conference 15, Summer 2008
- *CFD Modeling of Meso-Scale and Micro-Scale Pulse Tube Refrigerators*, presented at International Cryocooler Conference 15, Summer 2008

**COMPUTER SKILLS**

- AutoCAD 2007
- Pro-E Wildfire
- Fluent
- MS Office
- Microstation v8, 2004
- SolidWorks
- MatLab
- ANSYS
- LabVIEW
- Gambit
- EES

**ACTIVITIES & HONORS**

- **Recipient**, Engineer In Training License, EIT023500
- **Recipient**, 2004 Anderson Scholar Award – University of Florida CLAS
- **Member**, Golden Key International Honor Society, University of Florida
- **Member**, Pi Tau Sigma, Mech. Eng. Honor Society, University of Florida
- **Recipient**, 2002, International Baccalaureate Diploma
- **Member**, American Society of Mechanical Engineers (ASME)

## INTERESTS

- Sustainable Energy Systems Design, Analysis & Optimization
- Power Systems Integration
- Alternative Fuels