

# STEVEN HUNT

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## AREAS OF INTEREST

Thermoacoustic engines  
Aerospace propulsion systems  
Heat exchangers  
Supercritical fluids



## EDUCATION

**PhD in Aerospace Engineering** **2016**

Purdue University, West Lafayette, IN

Dissertation: "Thermoacoustic Oscillations in Supercritical Fluid Flows"

Major area: Propulsion

Minor area: Aerodynamics

**MS in Mechanical Engineering** **2011**

Polytechnic Institute of New York University, Brooklyn, NY

Thesis: "Flow of Herschel Bulkley Fluids through Porous Media"

Concentration: Fluid mechanics and thermodynamics

**BS in Mechanical Engineering** **2009**

University of California - Los Angeles, Los Angeles, CA

Concentration: Fluid mechanics and thermodynamics

## PROFESSIONAL EXPERIENCE

### **Research Assistant**

**2012-Present**

Purdue University - Maurice Zucrow Laboratories

Designed, built, and operated test article to investigate thermoacoustic oscillations in supercritical fuel flows.

Wrote CFD software to simulate thermoacoustic oscillations in heated fuel systems.

Presently designing novel thermoacoustic standing wave engine.

### **Design and Release Engineer**

**2011-2012**

Chrysler Group LLC

Designed and managed release of pistons and connecting rods for Hellcat engine.

Created DVP&R (design verification plan and report) and DFMEA (design failure mode and effects analysis) for engine components.

Analyzed piston cooling techniques for durability and knock relief.

### **Graduate Assistant**

**2010**

Polytechnic Institute of New York University - Mechanical Engineering Department

Instructed dynamics and transport phenomena recitation. Performed non-Newtonian fluid CFD simulations and wrote CFD solver.

### **Engineering Intern**

**2008**

General Motors - Global Energy Center

Wrote fuel economy prediction software.

Analyzed individual vehicle features' effects on fuel economy.

## PUBLICATIONS AND PAPERS

*Thermoacoustic Oscillations of Jet-A Fuel in Parallel Heated Flowpaths.*  
In ASME 2015 International Mechanical Engineering Congress  
and Exposition. American Society of Mechanical Engineers.

2015

*S. Hunt and S. Heister. Thermoacoustic Oscillations in Supercritical Fuel Flows.*  
In 12th International Energy Conversion Engineering  
Conference. American Institute of Aeronautics and  
Astronautics.

2014

*Design and Analysis of a High-Speed, High-Pressure Peroxide/RP-1 Turbopump.*  
In 50th AIAA/ASME/SAE/ASEE Joint Propulsion Conference.  
American Institute of Aeronautics and Astronautics.

2014

## TEACHING EXPERIENCE

### Teaching Assistant

Polytechnic Institute of New York University  
ME 6043 - Transport Phenomena  
ME 3223 - Dynamics

2010

## MEMBERSHIPS

American Institute of Aeronautics and Astronautics  
Society of Mechanical Engineers