John Crane

Aerospace Engineer

1938 Johnson Ferry Rd NE APT R
Atlanta, GA 30319

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http://www.jmcrane.com/

Objective

Seeking a full-time position as an Aerospace Engineer in the area of research and development with a concentration in combustion, safety, and related areas.

Summary of Qualifications

More than seven years experience in aerospace research concentrating on short-term applications. Strong project management and team leadership skills with extensive knowledge of pollutant emissions control.

Education

Georgia Institute of Technology, Atlanta, Georgia
Doctorate of Science in Aerospace Engineering — May 2009
Management of Technology Certificate, College of Management
GPA: 3.60 / 4.0

Master of Science in Aerospace Engineering — 2006
GPA: 3.35/4.0

University of Florida, Gainesville, Florida
Bachelor of Science in Aerospace Engineering — 2004
GPA: 3.81 / 4.0 Major: 3.76 / 4.0
100% of college expenses financed by academic scholarships

Skills

Software
Matlab, LabVIEW, FLUENT, Gambit, AutoCAD, Solidworks, COSMOSworks, Mathematica, XFOIL, C Programming, Internet Publishing, Microsoft Office

Equipment
Gas Analyzers: Horiba Portable Gas Analyzer, Horiba Unburned Hydrocarbon Detector, Foxboro Portable Ambient Air Analyzer
Velocimetry: Dantec Streamline Hotwire and FiberFlow Laser Doppler Anemometers
Acoustics: Bruel & Kjaer Microphones, Amplifiers, and Calibration Equipment

Experience

Georgia Institute of Technology, School of Aerospace Engineering
Graduate Research Assistant – **NSF Fellow**, August 2004 – Present
Dr. Ben T. Zinn, Supervisor, Combustion Group

- Developed simple (low-cost) analytical models to describe the velocity field inside a novel **ultra-low pollutant emissions combustor**
- Developed a simple (low-cost) technique for estimating the flame structure of the novel combustor, eliminating the need to solve the complex and mathematically stiff conservation equations (high-cost)
- Delivered a combustor design tool for trade-off studies allowing extension of the novel combustor to gas turbine engines, refinery burners, boilers, and air heaters through *strong interaction with industry*
- Directed 4 undergraduate and 3 graduate students

University of Florida, Department of Mechanical and Aerospace Engineering
Undergraduate Research Assistant, Summer 2001 – August 2004
Dr. Louis Cattafesta, Supervisor, Interdisciplinary Microsystems Group,

- Developed a non-intrusive **optical technique** for measurement of a 1-D **acoustic field** for characterizing the sound absorption of nacelle liners
- Characterized piezoelectric driven actuators via a Z-type schlieren system for closed cavity boundary layer control and mitigation of aero-optic distortions
- Validated lumped element modeling of piezoelectric driven synthetic jet actuators using hotwire anemometry and laser doppler velocimetry for wing boundary layer control
- Developed Matlab and LabVIEW codes for high speed data acquisitions machine (VXI High Speed Digitizer) for use with vibration and acoustic instrumentation
- Established a tradition of a biweekly cookout to build communication and camaraderie in the group that is still followed today

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Honors

Army Research Office Short Term Innovative Research Program ~ $50,000 — Fall 2008

Scholarships and Fellowships

Georgia Institute of Technology Presidential Fellowship	Fall 2008
National Science Foundation Graduate Student Fellowship ~ $190,000	Spring 2005
Wayne Chen Scholarship	Fall 2003
University of Florida Aerospace Department Undergraduate Research Fellow	Spring 2003
University of Florida University Scholar	2002-2003
AIAA Foundation Scholarship	Fall 2002
Lockheed Martin Scholarship	Fall 2002

Leadership

Engineering Service Award	Spring 2003
Students in Free Enterprise Business Ethics Competition, First Place	Fall 2002
National Chairman Citation for Outstanding Service	Spring 2002

Technical

AIAA Abe M. Zarem Award for Distinguished Achievement for paper entitled "Stagnation-Point Reverse-Flow Combustor Performance with Liquid Fuel Injection"	Spring 2006
AIAA Region II Student Conference Design Team Competition, Third Place	Spring 2004
AIAA Design Build Fly Competition, Ninth Place	April 2004

Publications / Presentations

J. Crane, "**Fundamental Theory of Operation and Emissions Performance Investigation of a Stagnation Point Reverse Flow Combustor**", Georgia Institute of Technology Doctoral Thesis, to be presented May 2009.

J. Crane, Y. Neumeier, P. Bhave, and B. T. Zinn, "**Approximate Solution for a Laminar Jet Discharged into a Dead End Tube,**" AIAA-2009-0387, 47th AIAA Aerospace Sciences Meeting, Orlando, Florida, January 5-8, 2009.

J. Crane, Y. Neumeier, J. Jagoda, J. Seitzman, and B. T. Zinn, "**Stagnation-Point Reverse-Flow Combustor Performance with Liquid Fuel Injection,**" GT2006−91338, Proc. of ASME Turbo Expo, Barcelona, Spain, May 8-11, 2006. Awarded AIAA Abe M. Zarem Award.

Georgia Tech Aerospace Dept Family Day 2007, "New Combustion Technology: Meeting Tomorrow's EPA Requirements Today."

Georgia Tech Combustion Lab Seminar, "HORIBA Portable Gas Analyzer and Unburned Hydrocarbon Detector."

Georgia Tech Graduate Technical Symposium Poster, "Ultra-low Emissions Combustor Performance with Liquid Fuel Injection."

Georgia Tech Aerospace Department Brownbag Lunch, "Stagnation-Point Reverse-Flow Combustor."

Activities

University of Florida Design Build Fly Team, Aerodynamics Team Leader
University of Florida Student Government, Engineering Senator
University of Florida Benton Engineering Council, Vice President of Communications
University of Florida 2002 Engineering and Science Fair, Operations Manager
Epsilon Lambda Chi, University of Florida Engineering Leadership Circle, Director
Friends for Life of America, National Board Director
Friends for Life of America, National Board Vice President of Strategy and Operations
Friends for Life of America, General Chair of the 5th Anniversary Celebration
American Institute of Aeronautics and Astronautics, Region II, Communications Liaison
University of Florida Micro Air Vehicle Laboratory, Design Team Leader

Interests

Swimming, Sports, UF Gator Football and Basketball, Coffee Roasting