Providing Opportunities Through Useful Intern Projects: An Industry Perspective

NASA Space Grant Meeting
October 2010

Vito Moreno
Successful Geared Turbo Fan (GTF) Development

- Demo Ground Test
- Flight Test
- Bombardier C Series

- 4000+ Engineers
- ~100 Interns per year
- Traditional college
- In Roads
- Space Grant
Pratt & Whitney: Extensive Intern Experience

- Space Grant intern contributions are valuable
  - Focus school (University of Hartford)
  - NASA support adds flexibility
  - Intention to expand

- Main Goals:
  - Major learning opportunity by “designed project” intern can call their own
  - Enable student to display capability through independent work
  - Provide opportunities for interaction with other interns
  - Provide opportunities for other work in addition to the “designed project”
  - Talent evaluation and recruiting
Description of NASA Space Grant Work at Pratt & Whitney

Next Generation Product Family (NGPF) Flight Test Data Acquisition System Evaluation

Description:
This work will involve the setup and verification of the operation of the signal conditioning and the data acquisition units for the NGPF flight test. The evaluation of the operation of the system and the data errors due to high and low temperature operation, in addition to the effects of vibration, will be evaluated. Documentation of the standard wiring and setup information will be produced, consistent with the verification activity.

Student Learning Opportunity:
This is a very hands-on project and will provide the student the opportunity to work directly with engineers highly-experienced in this area. The work will be performed in such a manner as to provide a project environment for the student, so that the maximum learning can be achieved in the area of testing and instrumentation for jet engine flight tests. It is the goal of Pratt & Whitney to provide a rich learning experience to the student intern, while providing a professional environment in which to develop their technical ability and teaming skills.

Job (Task) Ticket is essential
- Clear expectations/requirements
- Organizational alignment
- Project Lead and Mentor Identified
Example Project: Non-Contact Stress Measurement System Uncertainty Evaluation Measurements

Project Goals

- Measure uncertainty
- Determine analytical predictions
- Present results to management at end of summer

Student: BA in Physics & Mathematics
Example Project: Technical Evaluation of a Combined Stress Measurement / Clearance Probe

Project Goals

- Examine the noise floor with mapping rig
- Propose possible improvements
- Use spin rig to obtain dynamic results
- Present results to management at end of summer

Student: Sc.B. Mechanical Engineering
Systems Engineering and Validation
Summer Intern Project

Project Name
NSMS Uncertainty Evaluation Measurements

Name: Ian Agoos
Supervisor: Bruce Hockaday
Mentor: Allison Nickdous
Date: 6/15 - 8/21

NASA RI/CT Space Grant Internship
Summary Report of Summer Work

Adam Hoffman
Supervisor: Andy Consiglio
Pratt & Whitney Measurement Center
June 2 – August 6, 2010
Summer 2010 Interns (partial)

Katie Dagon (RI)
UTC Power

Clint Fleming (CT) & Julius Woods (CT)
CT Center For Advanced Technology

Adam Hoffman (CT)
Pratt & Whitney Aircraft

Jessica Logsdon (CT)
Sikorsky Aircraft
Recommendations for a Successful Internship Program

• Provide a defined project - promotes ownership
  • Job Ticket
  • Recognized contribution
• Add additional /side assignments
• Provide a mentor
• Provide opportunity to participate in program/project meetings to expand experience
• Presentation to Sr. Management
2011 UTC Space Grant Internships

- Openings UTC aerospace operations
  - P&W, HS and Sikorsky
- Applications to CT Space Grant Program Coord. - 12/1/10
- Corporate intern decision - 2/1/11
- Housing available at UH
  - $45/week
  - 15 minutes to P&W
  - 20 minutes to HS
  - 55 minutes to Sikorsky
Outstanding CT Space Grant/UHart coordination

National NASA UTC Summer 2011 Aerospace Internship Application Cover Sheet

The information provided in this form will be used to match students with potential hiring managers. UTC hiring managers will receive copies of this information.

Please complete this application, attach the following items, then email the completed application to ctsgrant@hartford.edu or fax to 860/768 5073:

- Resume/CV
- Transcript
- One Letter of Recommendation – Must be from an academic or research advisor. If you wish, you may submit additional letters of support from industry contacts, past supervisors or past project advisors. (Note: faculty contacts who wish to submit confidential letters of recommendation may email these to ctsgrant@hartford.edu)

Special Notes:
- Proof of U.S. Citizenship – This and other pre-employment screening paperwork will be required of all students selected to participate in the internship. As a government contractor, UTC and its divisions each have their own varying levels of employment background requirements, which may include, but are not limited to, pre-employment drug testing and background investigations. Selected applicants will be made aware of the specific requirements upon receiving an offer of employment.
- Support from Applicant’s State Space Grant Consortium – Evidence of your state’s Space Grant Consortium agreeing to sponsor you is required before you will be considered for the internship. If you are selected for participating in this 10-week summer internship, your state’s Consortium will award you a fellowship/travel grant to pay 1) the suggested stipend of $5,000 for the 10-week internship assignment, and 2) cover travel costs to and from Connecticut.

NASA UTC Summer Aerospace Internship Program

Check In: Sunday, May 29, 2011 (Internship begin Tuesday, May 31, 2011)
Check Out: Saturday, August 6, 2011

Stipend: Interns will be paid the stipend in the amount they were awarded by their state’s Space Grant Consortium (recommended rate of $5,000) directly by their Consortium’s office. (Plus a recommended Travel Grant up to $1,000 for students who reside in states outside of CT)

November 15, 2010 – Application Deadline
State Space Grant Consortia will consider agreeing to sponsor students from their state’s affiliates. Students who secure their state’s agreement to sponsor them (if selected by UTC) will then email or fax their completed application to the Connecticut Space Grant by 11/15/10. Connecticut will submit these applications to UTC on February 1st for final consideration for this 10-week aerospace internship within UTC operating divisions in Connecticut.

By February 1, 2011 – Decisions Expected from UTC
UTC will announce their intern selections and the CT Space Grant Consortium will begin to coordinate the pre-employment paperwork/testing and housing needs of each intern, in collaboration with the intern’s state Consortium’s coordinator.

STATE’S PROVIDE
- Commitment to Fund Student Intern Stipend (recommended rate of $5,000 for the 10-week internship) plus a Travel Grant (up to $1,000)

CONNECTICUT PROVIDES
- Coordination of Application Process
- Facilitation between Applicants and UTC
- Development of Low Cost Housing for Students
- Coordination of Information on Dorm-to-Worksite Transportation