

2015 NSF RESEARCH EXPERIENCES FOR UNDERGRADUATES (REU) MANUFACTURING AND TECHNO-ENTREPRENEURSHIP JUNE 1 - AUGUST 7, 2015

# TENNESSEE TECH UNIVERSITY



THUNIVERSITY

## Center for Manufacturing Research **College of Engineering**

This Summer Research Experiences for Undergraduates (REU) site, funded by NSF Division of Engineering Education and Centers focuses on manufacturing related research and provides student interns with techno-entrepreneurship experiences.

#### **Project Objectives**

- Opportunities to conduct manufacturing research.
- Allow interns to self-assess their interest in techno-entrepreneurship.
- Allow interns to self-assess their interest in graduate school.
- Engage in manufacturing-related and innovative experiences such as the Lean LaunchPad approach.

#### Sample Projects

- Finite Element Analysis Tool Fixture Design Integrity Verification and Optimization
- Hybrid-Electric Vehicle Power Train Packaging
- Manufacturing Mobile Robots
- Manufacture of Biomass Microspheres for Advancing Pyrolysis Technology
- · Complexity Benchmarking in Additive and Subtractive Manufacturing
- Annealing Effects on Surface Roughness of Flexible Solar Cell Platform Film
- Reliability Assessment of Electronic Assemblies under Realistic Service Conditions
- Atomistic Level Study of Compression Induced Activity Enhancements in Platinum Catalyst for Fuel Cell Application
- Novel Electrode Materials for High-energy Density, High-power Density, Longer Capacity, Cost-effective and Safe Li-ion/Li-air Batteries
- Design of Low-Cost Hardware for Software-Defined Radios (SDR) in Massive Mobile Spectrum Observatories and Remote Sensing for Manufacturing

#### Eligibility

- U.S. Citizen or Permanent Resident
- Engineering, Computer Science or Engineering Technology major with a 3.25 or higher GPA
- Freshman, sophomore, junior or senior
- Must graduate after Sept. 2015

#### Application Process

- Two-page application form
- **Transcripts**
- Two recommendation letters
- Personal statement

#### **Application Deadline**

March 11, 2015

#### Applications available online www.tntech.edu/engineering/reu

All qualified applicants are encouraged to apply, including minorities, women, veterans, and individuals with disabilities.

#### Contact

Joseph J. Rencis, Ph.D., P.E. Vahid Motevalli, Ph.D., P.E. Dean of Engineering

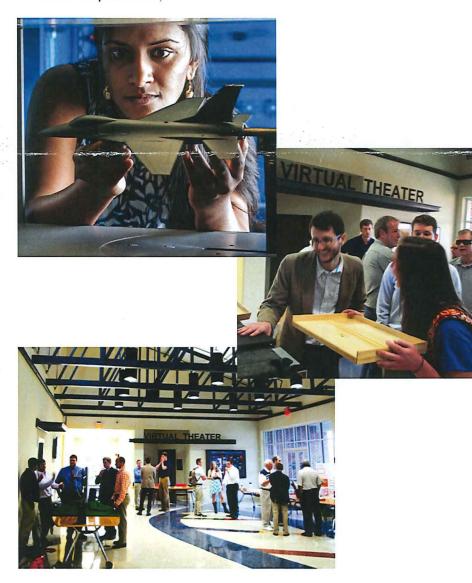
iirencis@tntech.edu

Assocaite Dean for Research & Innovation

vmotevalli@tntech.edu

#### **Activities**

- Field trip to Oak Ridge National Laboratory Manufacturing Demonstration Facility
- Techno-Entrepreneurship Short Course
- **Professional Development Workshops**
- **GRE** Preparation



#### **Award Information**

- \$5,000 stipend for 10 weeks
- On-campus housing included
- Food allowance
- Workshop meals
- Round-trip travel expenses up to \$500

### Announcement of Awards

March 25, 2015



College of Engineering, Tennessee Tech University, 1010 N. Peachtree Ave., Box 5005, Cookeville, TN 38505 Phone: (931) 372-3172 engineering@tntech.edu

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