



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



## 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](http://www.tntech.edu/engineering/reu)

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

### Contact

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### 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



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