

# MEng Project offerings 2014-2015

This is a list of MEng Project offerings for 2014-2015, you may also contact individual faculty for additional opportunities. **This page will be updated as additional project descriptions become available.**

## Project Teams

The department has a large number of project teams and many MEng students complete their MEng projects related to a team.

### ASML

Piezo Athermalization  
Small Bolt Pretensioner

### CCMR JumpStart Projects

ener-g-rotors

### Autonomous Systems Laboratory

ASL Projects Kress-Gazit  
ASL Projects Campbell

### Prof. Avedisian

A Chemical Reactor that Builds Itself  
Can Water Remain a Liquid above 100C at Normal Atmospheric Pressure  
Does Butanol = Gasoline

### Prof. Bonassar

Assessing the Effects of Impact Injury on Cartilage Frictional Properties  
Development of a Co-Culture Bioreactor for Anchoring Tissue Engineered Meniscus  
Development of Injectable Biomaterials for the Repair of Dura  
Mechanical Analysis of Cartilage from Human Tracheomalacia Patients  
Surgical Device Design to Study Ankle Post  
Post-Traumatic Osteoarthritis

### Prof. Butcher

Design of a computational growth model for embryonic cardiovascular morphogenesis

### Prof. Dawson

Grain de-huller for value-added processing on organic farms

### Prof. Erickson

<http://ericksonlab.org>

### Prof. Fisher

Sustainable Energy Cookstove Producing Biochar: Modeling, Testing, and Design

### Prof. George

"Product Life-Cycle Management" and Systems Engineering of a Formula SAE Race Car  
Composite Structural Design  
Shock Absorber (Damper) Effects on Formula SAE Race Car Performance

### Prof. Hernandez

Please contact Prof. Hernandez (cjh275@cornell.edu) for current list of available projects

### Prof. Louge

Dune Field Research

### Prof. Ruina

Biorobotics and Locomotion Lab  
Biped Robot Design & Biomechanics Projects

### Prof. Savransky

Simulation of Exoplanet Imaging Missions  
Modeling Asteroid Impacts for In-Situ Resource Utilization

### Prof. Selva

Projects in the Systems Engineering, Architecture, and Knowledge Lab

### Prof. Silberstein

Characterization, processing, and design of self-reporting polymer composites

### Prof. Singh

Singh Lab Projects

### Prof. Williamson

The Aircraft Wake Phenomenon  
The Vortex-Induced Vibration Problem

**Prof. van der Meulen**

Mechanical Testing

Characterization of lower limb geometry from CT scans for individuals with and without fracturesEquine Cone-Beam CT

**Prof. Zhang**

Optimizing thermal energy storage in building systems

Developing Tompkins County Energy Roadmap

Energy Management Strategies for Datacenters

Monitoring and Modeling of Energy Systems in Hospitals

Sustainable Roadway Designs to Mitigate Air and Noise Pollution

Solar-friendly Landscaping Designs

Design a Portable Exhaust Flow Meter

**Prof. Zehnder**

Fracture and acoustic properties of shale

Nonlinear Dynamics of Nanoscale Oscillator Arrays

**MAE undergraduate research opportunities** (many of these offerings are available to MEng students as well)

**CHES Projects**

In-situ Microfluidic Separation and High Speed Mixing for Biological X-ray Small Angle Solution Scattering at a Synchrotron Beamline

Control engineering for the processing of advanced functional materials

**Department of Biomedical Engineering MEng Projects**

Many Biomedical Engineering design project teams find having students with mechanical engineering backgrounds to be an asset.

[BME Faculty MEng Projects](#)

**Systems Engineering Projects**

[Create an Innovative Modular Robotics Platform](#)

[Cornell University Sustainable Design \(CUSD\)](#)