Faculty Research in ME

System operation optimization
Dr. Adel Alaeddini
- Healthcare management
- Operations research/Machine learning
- Applied statistics

Mechanics of Materials
Dr. Ron Bagley
- Material characterization
- Engineering mathematics

Computational Fluid Mechanics
Dr. Kiran Bhaganagar
- Modeling/visualization of turbulent flows
- Simulation of Environmental/Physiological Flows and Wind turbine farm.

System/Engineering Management
Dr. Krystal Castillo
- Mathematical modeling of supply chains
- Optimization of large-scale scenarios
- Uncertainty, quality control and reliability.

Lean Manufacturing
Dr. F. Frank Chen
- Flexible Manufacturing Systems
- Lean Manufacturing and Lean Enterprise
- Supply Chain Design & Management

Performance simulation/diagnosis
Dr. Bing Dong
- Building Performance Diagnostics
- Probabilistic Graphical Models
- Real-time Prediction

Computational Bioengineering
Dr. Yusheng Feng
- Computational Mechanics
- Biomet Transfer & Mixture Theory
- Biomedical Imaging Analysis & Modeling

Computational Fluid Mechanics
Dr. Zhigang Feng
- Theoretical/computational fluid mechanics
- Multiphase flow and its applications
Faculty Research in ME

**Computational solid mechanics**
Dr. John Foster
- Dynamic/Impact Behavior of Materials
- Computational Mechanics
- Failure modeling with peridynamics

**Cardiovascular Biomechanics**
Dr. Hai-Chao Han
- Arterial injury responses and recovery
- Effect of pulse pressure on arterial wall
- Artery buckling and kinking

**Thermal/Fluid Systems**
Dr. Amir Karimi
- Metastable thermodynamics
- Phase change heat transfer
- Thermal system management

**Multi-Scale Flow Control**
Dr. Victor Maldonado
- Bio-Fluids/MEMS
- Wind Turbines
- Sustainable Aircraft

**Thermal/Fluid Systems**
Dr. Randall Manteufel
- Energy analysis
- Performance assessment
- Thermal-fluid systems

**Probabilistic Engineering**
Dr. Harry Millwater
- Structural reliability
- Fatigue and fracture
- High performance computing

**Flexible Manufacturing**
Dr. Can Saygin
- Flexible Manufacturing Systems
- Shop Floor Control
- Automation and Digital Manufacturing

**Lean Manufacturing**
Dr. Hung-Da Wan
- Sustainability and Leanness of Manufacturing Systems
- Rapid Prototyping (3D Printing)
New Faculty in ME

Skeletal Tissue Biomechanics
Dr. Xiaodu Wang
- Age-related bone fragility fractures
- Nanomechanics of bone
- Modeling/simulation of hard tissues

Solid mechanics
Dr. Xiaowei Zeng
- Cell-ECM Soft Contact /Adhesion
- MD Simulation of Nanomaterials
- Multiscale Modeling of Damage