



# Faculty Research in ME



## System operation optimization

**Dr. Adel Alaeddini**

- HealthCare management
- Operations research/Machine learning
- Applied statistics



## Mechanics of Materials

**Dr. Ron Bagley**

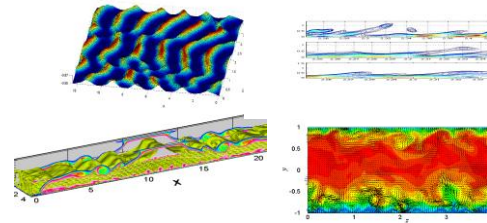
- Material characterization
- Engineering mathematics



## 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**

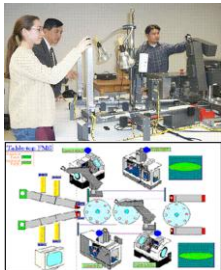
- Mathematical modeling of supply chains
- Optimization of large-scale scenarios
- Uncertainty, quality control and reliability.



## Lean Manufacturing

**Dr. F. Frank Chen**

- Flexible Manufacturing Systems
- Lean Manufacturing and Lean Enterprise
- Supply Chain Design & Management



## Performance simulation/diagnosis

**Dr. Bing Dong**

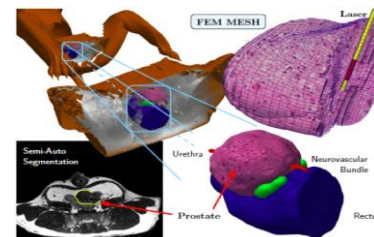
- Building Performance Diagnostics
- Probabilistic Graphical Models
- Real-time Prediction



## Computational Bioengineering

**Dr. Yusheng Feng**

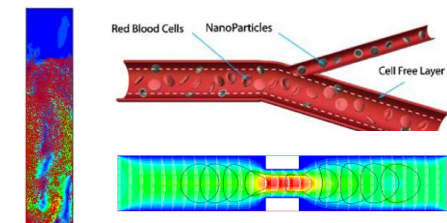
- Computational Mechanics
- Biomet Transfer & Mixture Theory
- Biomedical Imaging Analysis & Modeling



## Computational Fluid Mechanics

**Dr. Zhigang Feng**

- Theoretical/computational fluid mechanics
- Multiphase flow and its applications





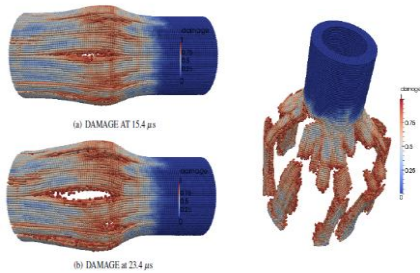
# Faculty Research in ME



## Computational solid mechanics

**Dr. John Foster**

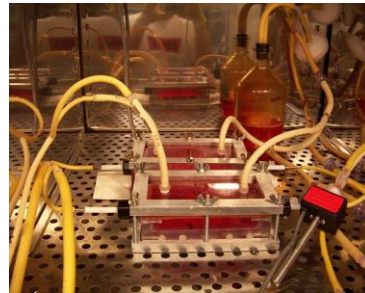
- Dynamic/Impac Behavior of Matertilas
- Computational Mechanics
- Failure modeling with peridynamics



## Cardiovascular Biomechanics

**Dr. Hai-Chao Han**

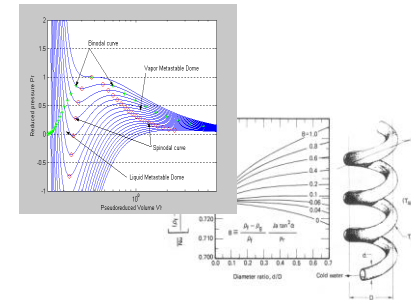
- Arterial injury responses and recovery
- Effect of pulse pressure on arterial wall
- Artery buckling and kinking



## Thermal/Fluid Systems

**Dr. Amir Karimi**

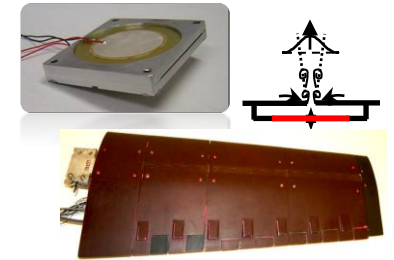
- Metastable thermodynamics
- Phase change heat transfer
- Thermal system management



## Multi-Scale Flow Control

**Dr. Victor Maldonado**

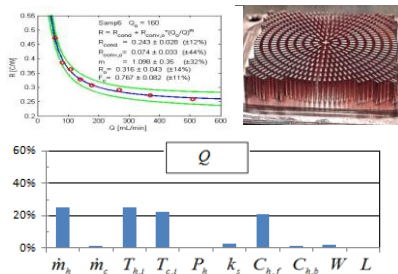
- Bio-Fluids/ MEMS
- Wind Turbines
- Sustainable Aircraft



## 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**

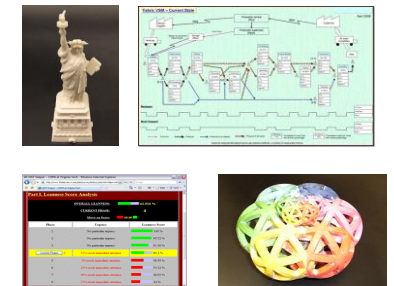
- Flexible Manufacturing Systems
- Shop Floor Control
- Automation and Digital Manufacturing



## Lean Manufacturing

**Dr. Hung-Da Wan**

- Sustainability and Leanness of Manufacturing Systems
- Rapid Prototyping (3D Printing)





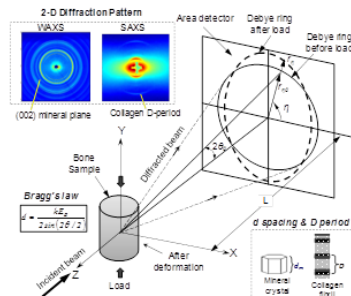
# New Faculty in ME



## 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

