FACULTY RESEARCH AREAS IN MECHANICAL ENGINEERING

Dr. Adel Alaeddini
Big Data Analytics in Healthcare & Manufacturing
Statistical Learning in Systems Modeling and Control

Dr. Kiran Bhaganagar
Wind Turbine Modelling
Turbulence
Drone Fluids Interface

Dr. Pranav Bhounsule
Mobile and Humanoid Robots
Mechanism Design
Mechatronics

Dr. Krystel Castillo
Mathematical Modeling of Complex Systems
Optimization
Big Data Analytics
Bioenergy Supply Chain
Network Design

Dr. F. Frank Chen
Lean manufacturing
Flexible manufacturing
Supply chain management

Dr. Bing Dong
Energy Efficiency
Smart Building Systems
Building Controls & Diagnostics

Dr. Yusheng Feng
Computational bioengineering
Multi-scale simulation and control
Cancer treatment modeling

Dr. Zhi-Gang Feng
Multi-phase flow
Computational fluid dynamics
Heat and mass transfer

Dr. Hai-Chao Han
Cardiovascular biomechanics
Mechanical modeling & analysis
Tissue remodeling

Dr. Amir Karimi
Metastable thermodynamics
Phase change heat transfer
Thermal systems

Dr. Amir Jafari
Soft Robotics
Physical-Human-Robot Interaction
phRI
Exoskeletons and Prosthesis
Devices

Dr. Ruijie Liu
Hydraulic Fracturing and Geomechanics
Micromechanics and Material Failure
HPC for Multi-field and Multi-physics

Dr. Victor Maldonado
Active Flow Control
Experimental Aerodynamics
Aircraft Dynamics and Control

Dr. Randall Manteufel
Energy Efficiency
Performance Assessment
Thermal Fluid Systems

Dr. Harry Millwater
Computational Mechanics
Probabilistic Life Prediction
Fatigue and Fracture

Dr. Can Saygin
Manufacturing engineering
Shop floor control and automation
Distributed decision-making

Dr. HungDa Wan
Six Sigma and Lean Systems Manufacturing Systems Engineering
Digital Manufacturing and 3D Printing

Dr. Xiaodu Wang
Tissue Biomechanics
Age and Disease Related Fragility Fractures
Biinspired Design/Synthesis of Nanocomposites

Dr. Justin Wilkerson
Theoretical and Computational Mechanics
Materials in Extreme Environments
Multifunctional Nanomaterials

Dr. Xiaowei Zeng
Computational Biomechanics
Multiscale Modeling & Simulation
Nanomechanics

Dr. Lyle Hood
Controlled Drug Delivery
Photothermal Therapies
Medical Device Design

Dr. Ender Finol
Vascular biomechanics
Abdominal aortic aneurysms
Pulmonary hypertension
Non-destructive tissue mechanics

Dr. Wei Gao
Mech. behavior of materials,
Low dim. materials
Biological and bio-inspired materials and structures
Computational material design
Adv. material manuf., characterization & testing

Dr. Brendy Rincon Troconis
Stress corrosion cracking,
Hydrogen embrittlement
Coating adhesion, Passivation
Localized corrosion, Atmospheric corrosion,
Corrosion inhibitors

MECHANICAL ENGINEERING
Graduate Programs
1 UTSA Circle
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engineering.utsa.edu/me
M.S. in Mechanical Engineering
The Master of Science program in Mechanical Engineering (M.S. in ME) is designed to offer students the opportunity to prepare for doctoral studies and leadership roles in government, industry, or research institutions. This program prepares students with an advanced understanding of both the theories and applications of traditional mechanical engineering fields including thermal, fluid, mechanics, controls, and materials. Students also have opportunities to learn about contemporary topics such as robotics, security issues, high-speed computing, biomechanics, and renewable energy.

M.S. in Advanced Manufacturing & Enterprise Engineering
The Master of Science program in Advanced Manufacturing and Enterprise Engineering (M.S. in AMEE) is designed to offer the fundamental knowledge and understanding of the operational complexity of enterprises, manufacturing and business process improvement and optimization, and integrated product, process, and system design. The graduates of this program will have the ability to critically evaluate the potential benefits of alternative manufacturing strategies, to use simulated platforms to facilitate and improve business processes, and to analyze enterprise systems as systems of interacting units, components, and subsystems.

Ph.D. in Mechanical Engineering
The Department of Mechanical Engineering offers advanced coursework integrated with research leading to the Doctor of Philosophy degree in Mechanical Engineering. The program has three concentrations: Thermal and Fluid Systems, Design and Manufacturing Systems, and Mechanics and Materials. The Ph.D. in Mechanical Engineering will be awarded to candidates who have displayed an in-depth understanding of the subject matter and demonstrated the ability to make an original contribution to knowledge in their field of specialty.

Financial Assistance
Various forms of financial support, including Graduate Teaching and Research Assistantships (GTA & GRA) and competitive scholarships are available. For more information on additional sources of financial assistance, please visit the Mechanical Engineering website.

For more information contact:
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