THE SCHOOL OF MECHANICAL, INDUSTRIAL AND MANUFACTURING ENGINEERING

At the School of MIME, we are driven by two overarching and interdependent goals that, taken together, constitute our mission:

1. To educate our students as entrepreneurial, team-oriented, and profession-ready graduates who thrive in their chosen disciplines.
2. To engage in collaborative, cutting-edge research that leverages Oregon’s prosperity, fuels local and sustainable future, and enhances the lives of all members of the global community.

To learn more about our programs and research visit www.oregonstate.edu

EXPERIENTIAL LEARNING, EXCEPTIONAL RESULTS

Globally, the School of MIME competes with and sends all its products and services and personal attention to the students, ensuring they are well-prepared for the challenges and opportunities of the real-world.Dense and results-focused project management experiences, the students firm their leadership and teamwork skills by top industry employers.

NEW FACULTY 2016-17
Harriet Nembhard, Ph.D., School Head, Eric B. Smith Professor of Engineering

Nembhard’s scholarship in industrial engineering and operations research focuses on improving complex systems across manufacturing and healthcare. Her work has led to numerous advances including a patented manufacturing process for smart-rate medical devices, simulation models for assessing emergency department patient flow, and tools for quantifying healthcare quality.

Bahrouz Allabai, Ph.D., Assistant Professor of Mechanical Engineering

Allabai’s research focuses on energy technologies, advanced materials, and systems for energy systems, water resource management, and sustainable design and control systems for the thermoelectric applications.

Zhengdong Fan, Ph.D., Assistant Professor of Mechanical Engineering

Fan’s research focuses on the areas of advanced manufacturing, micro-manufacturing design and characterization for the miniaturizing of manufacturing processes, energy efficient sensor networks, and MEMS-enabled sensor miniaturization and packaging.

NEW RESEARCH EFFORTS 2016-17

- FIRE EXTINGUISHMENT AND BURN REHABILITATION
  - Xiao Yang, Ph.D., Assistant Professor of Advanced Manufacturing
  - Yang’s research focuses on the development of advanced multilayer foams for use in burn rehabilitation, including the development and application of novel materials for the treatment of burn injuries.

- WATER-ENERGY-ROCKET PROJECT
  - Xuan Dong, Ph.D., Associate Professor of Mechanical Engineering
  - Dong’s research focuses on the integration of water-energy technologies and rocket propulsion systems, with a particular emphasis on the development of advanced materials and processes for rocket engines.

- ULTRASONIC AND LASER-SIMULATED MANUFACTURING
  - Donghua Xu, Ph.D., Assistant Professor of Advanced Manufacturing
  - Xu’s research focuses on the development of advanced manufacturing processes, including ultrasonic and laser-simulated manufacturing techniques, for the production of high-performance materials and components.
Julie Tucker’s NSF CAREER award provides Assistant professor of mechanical engineering autonomy in designing, developing, and deploying new technologies for transforming energy, health, materials, and information to advance the needs of society.

Roberto Robert Castellanos, assistant professor of mechanical engineering, is developing technology to detect and drive engineering, building with complex electronic wiring. The system will feature a tower-mounted computer, connected computer cameras able to differentiate if an approaching bird is in an eagle and whether it is flying forward or tailing. If both those answers are yes, the computer automatically triggers a ground-level system to roll the tower away on mission objectives. The impact of minimalistic design is a potential breakthrough in the capabilities of natural systems.

“Collaboration is the fuel that drives interdisciplinary research,” says newly appointed Associate Professor of Mechanical Engineering, Ross Hatton. Three School of MIME faculty have achieved prestigious and competitive research awards.

AWARD-WINNING FACULTY

Three School of MIME faculty have earned several new honors by receiving prestigious and competitive research awards.

Cann and Gibbons, assistant professor of mechanical engineering, are using novel processing methods to identify new alloys that can be an order of magnitude smaller in size, requiring less energy input to manufacture the best materials to use in the high-temperature, high-pressure environments where current alloys make the material undesirable, even in small quantities. Finding a lead-free alternative that works as well as Pb2+ has been a challenge, but after more than seven years of research, Cann and Gibbons have come up with several materials that work well.

Tucker, assistant professor of mechanical engineering, is investigating the next materials to use in the high-temperature, high-pressure environments of next-generation power plants that will use carbon dioxide to drive turbines instead of steam. These plants will be less costly to construct because the turbines can be as order of magnitude smaller in size, requiring less energy input to power the same amount of energy.

With support from a National Science Foundation grant, Melisa Sarita, assistant professor of mechanical engineering, is using novel processing methods coupled with advanced microscopy techniques to identify new alloys that can be an order of magnitude smaller in size, requiring less energy input to manufacture the best materials to use in the high-temperature, high-pressure environments where current alloys make the material undesirable, even in small quantities. Finding a lead-free alternative that works as well as Pb2+ has been a challenge, but after more than seven years of research, Cann and Gibbons have come up with several materials that work well.

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