OVERVIEW

UW Mechanical Engineering is helping to advance manufacturing and strengthen the innovation ecosystem in the State of Washington and the nation. Washington is at the forefront of advanced manufacturing — using technology to improve products, services and processes. It has a growing health technology and medical device industry, as well as the most robust aerospace cluster in the world. Next-generation advanced manufacturing will be knowledge-intensive and will require innovations that leverage emerging information and sensing technologies. The new processes and solutions being developed in our labs are helping to create a stronger, more sustainable, globally competitive manufacturing sector.

KEY RESEARCH AREAS

- Advanced composite materials and structures
- Biomanufacturing
- Machine learning and big data
- Modeling, simulation and sensors
- Nanomanufacturing
- Printed and flexible electronics
- Robotics and human interaction
- Self-assembly manufacturing
- 3-D printing and digital manufacturing
RESEARCH HIGHLIGHTS

Companies resulting from recent ME faculty and student research include:

- **Alchemai** provides advanced data analytics for supply chain risk management.

- **NanoFacture** introduced a technology addressing the challenge to rapidly concentrate and purify DNA with results comparable to popular commercial kits, but at a much lower cost.

- **VICIS** has developed a helmet designed to mitigate impact forces in NFL, college and youth football.

**STARTUPS**

**Formula Motorsports** designs, builds and competes small formula-style racecars from scratch. The team has had years of success with combustion vehicles and is now solely focusing on electric.

**Husky Robotics** designs, builds, programs and competes Mars Rovers in simulated missions while providing students with experience in machining, circuit design, coding and project management.

**WOOF 3-D Print Club** provides emerging engineers with an environment centered on additive manufacturing.

**AWARD-WINNING STUDENT TEAMS**

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**Boeing Advanced Research Center** pairs Boeing engineers with students and faculty to develop solutions for Boeing products in the areas of automation, robotics and aircraft assembly.

The **Washington Clean Energy Testbeds** accelerate the development, scale-up and adoption of new energy technologies by providing labs for prototype manufacturing, testing and systems integration.

A consortium of academic institutions, aerospace companies and government agencies, the **Center for Advanced Materials in Transport Aircraft Structures** seeks solutions to the challenges associated with the application of composites and advanced materials for large commercial aircraft.

**MEchanical Engineering**

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