From cutting-edge medical devices to new forms of renewable energy, a strong understanding of fluid mechanics underlies many of the emerging technologies that address society's most pressing challenges. Our coursework includes a strong fundamental grounding in fluid mechanics and our faculty are advancing high-impact fluids research across a wide swath of areas including human health, advanced manufacturing, robotics, machine learning, transportation, clean energy and the environment. Our location in Seattle provides a number of advantages to studying fluids due to our proximity to unique marine environments, large businesses that rely on fluids research and engineering, and UW Medicine, one of the nation's top medical research institutions. These advantages also result in world class interdisciplinary research projects across numerous UW departments.

**ASSOCIATED FACULTY**
Alberto Aliseda  
Steve Brunton  
Juan Carlos del Alamo  
Michelle DiBenedetto  
Ashley Emery  
John Kramlich  
Igor Novosselov  
Brian Polagye  
Jonathan Posner  
Per Reinhall  
Jim Riley

**NOTABLE PARTNERS**
American Heart Association  
The Boeing Company  
Novo Nordisk  
PACCAR  
Pacific Northwest National Laboratory  
U.S. Department of Defense  
U.S. Department of Energy  
UW Applied Physics Laboratory  
UW Medicine

**KEY RESEARCH AREAS**
- Acoustics  
- Aerodynamics  
- Cardiovascular flows and medical devices  
- Complex dynamical systems and controls  
- Fluid-structure interactions  
- Machine learning  
- Marine hydrodynamics  
- Nano-scale flows and microfluidics  
- Wind and marine renewable energy
The UW Applied Physics Lab boasts a world-class set of oceanographic and engineering research facilities, including a fleet of research vessels.

The Institute for Nano-Engineered Systems (NanoES) catalyzes research in nano-engineered technology and hosts an array of cutting-edge nanofabrication and testing facilities.

The Alice C. Tyler flume is an open-top water channel with control of flow speed, water depth, and water temperature for testing a variety of fluid conditions.

The Pacific Marine Energy Center responsibly advances the technical, environmental and societal dimensions of marine energy by expanding scientific understanding, engaging stakeholders and empowering students.

The Novoselov Research Group conducts multidisciplinary research and technology development in areas of aerosol science, supercritical fluids and electrohydrodynamics.

The Brunton Lab applies machine learning and other data science techniques to explore dynamical systems and controls, specializing in fluids.

NOTABLE STARTUPS

Aquagga, Inc. uses supercritical fluids to address the challenges of cleaning up a pervasive toxic chemical known as PFAS.

MarineSitu makes marine environmental monitoring instruments accessible to turbine developers and other renewable energy companies.

XFlow Energy is developing robust, inexpensive and efficient vertical-axis wind turbine technologies focused on reducing the cost of wind energy generation.

ME researchers provide fundamental fluid mechanics insights on a broad range of topics including cardiovascular flows, microplastics in the ocean, and visualization of fluid dynamics.