



# MATERIALS SCIENCE & ENGINEERING

MATERIALS SCIENTISTS AND ENGINEERS MAKE ALL ENGINEERING APPLICATIONS POSSIBLE.



## QUICK FACTS

Graduate students join MSE from a variety of engineering and physical science backgrounds such as chemistry and physics.

MSE offers Ph.D. and master's degree programs. Several students have successfully joined the Ph.D. program after completing the master's program. Additional training is available in clean energy, quantum materials, and data science.

## WHAT GRADUATE DEGREE PATH IS RIGHT FOR ME?

**The Ph.D. program** is for students interested in academia, research and technique innovation careers. It provides students with the skills to conduct advanced research in development and applications of novel and new materials. Doctoral students conduct research under the supervision of each individual faculty supervisor. Along with this training they generally receive appointments as teaching and research assistantships and fellowships that provide stipends, health insurance and tuition waivers throughout their average five years in the program.

**The applied master's program** is for students interested in pursuing a practice-oriented degree involving research project or internship with industry that culminates in a career in materials science and engineering or an advanced research degree in preparation for a Ph.D. The program is flexible, can be completed in as little as one year, or can be extended as most appropriate for the individual and their schedule. A broad selection of courses and a diverse group of faculty mentors enable the student to tailor their academic program and to establish their own desired expertise. Specific track options will be available soon in Performance Materials, Accelerated Materials Development and Quantum Materials. Both thesis and non-thesis options are available.

## WHAT ARE THE RESEARCH AREAS?

MSE has an extraordinary group of award-winning faculty members developing next generation materials across multiple disciplines, including: additive manufacturing, biomaterials and bionanotechnology, inorganic, polymer, composites, and hybrid materials, clean energy, quantum and nano materials, data science and computation materials modeling, electronic, optical and magnetic materials, synthesis, processing, manufacturing and characterization of materials, natural materials and bioinspiration.

# WHERE DO MSE STUDENTS PURSUE INTERNSHIPS & CAREERS?

## Academia

*Professorships in a variety of relevant fields | Johns Hopkins University, University of Cambridge, UC Berkeley, Korea University*

## Air and space

*Materials testing, manufacturing, processes, physics, coatings and finishes | Aerojet Rocketdyne, Boeing, Blue Origin, Crane Aerospace, Honeywell, LMI Aerospace, Janicki Industries, NASA, Space X, U.S. Air Force*

## Computing, data and digital technologies

*Data science, data analytics, e-beam and optical lithography, manufacturing, materials simulation modeling, semiconductor and fiber lasers, software and hardware development development | Apple, AT&T, Facebook, GeniSys GmbH, HCL Technologies, Infosys, Intel, Micron, Microsoft, nLight, Shin-Etsu America*

## Environment, sustainability and energy

*Clean energy development, waste management | Cupertino Electric, Group14 Technologies, nLIGHT, PNNL, Sedron Technologies, Washington Clean Energy Testbeds*

## Health and medicine

*Medical devices, tissue engineering, health research and development | Cardiac Dimensions, GT Medical Technologies, NanoString Technologies, Neoleukin Therapeutics, Rocket Science Health, Siemens Healthineers, UW School of Medicine*

## Infrastructure, transportation and society

*Cars, submarines, trucks, sporting goods and fabrics | Crane Currency, PACCAR, PNNL, Promethean, Samsung Electronics, Tesla, Uphill Designs, W.L. Gore*

## Robotics and manufacturing

*Product development, materials manufacturing and processes, failure analysis, 3D printing | Boeing, Boston Scientific, Fluke Corporation, Honeywell, General Dynamics, Intel, Toray Composite Materials America*

## RECENT PROJECTS

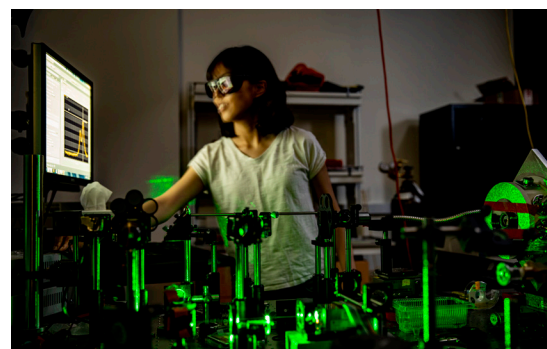
- > Structure-Property Relationships in Organic-Inorganic Halide Perovskite Solar Cells
- > Impact of Vacancies and Chemistry on Iron-based Electrodes for Alkali-ion Batteries
- > Evaluating 3D Printed and Extruded Polyurethane Durability in Seawater

## HOW DO I APPLY?

The application and instructions are available on our website. The following deadlines are for autumn quarter entry:

**PhD Program: January 6**

**Applied Master's Program: March 15**



## HOW CAN I LEARN MORE?

For more information contact Karen Wetterhahn, Graduate Program Advisor, karenlw@uw.edu 206-543-2740. You can also schedule an advising appointment: karenlw.youcanbook.me

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