

DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING

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Head: I. Karaman

Director, Graduate Program: M. Demkowicz

Materials Science and Engineering (MSEN) at Texas A&M University is jointly operated by the College of Engineering and College of Arts and Sciences. The Department works collaboratively with several universities nationally and internationally as well as with institutions including several NASA Research Centers, Army Research Laboratory, Air Force Research Laboratory, U.S. Naval Research Laboratory, and many of the Department of Energy National Laboratories, in addition to dozens of fortune 500 companies.

Graduate Study in the MSEN department provides the fundamental knowledge, practical skills, and professional experience necessary to enter a successful career involving advanced materials. Many of today's most pressing scientific problems stem from the limitations of materials currently available, and this department is at the forefront of new knowledge and discovery. Materials science and engineering involves the characterization of the physical and chemical properties of solid materials—metals and alloys, ceramics, magnetic materials, polymers, optical materials, semiconductors, superconductors, and composites—for the purpose of using, changing, or enhancing inherent properties to create or improve end products.

The Department provides educational and research opportunities in several areas of interest associated with Materials Science and Engineering such as Adaptive Functional Materials, Advanced Structural Materials, Computational Materials Science Design and Materials Informatics, Electrochemistry and Corrosion Science Engineering, Infrastructure Materials, Materials for Extreme Environments, Materials Synthesis and Processing, Polymers, Soft Matter and Composites, Small Scale Characterization Techniques, and Quantum Materials.

Modern facilities and equipment are available to enhance study and instruction in Materials Science and Engineering. These facilities include the following: Corrosion and Materials Reliability Laboratory, Microstructural Engineering of Structural and Active Materials (MESAM), Mass Spectroscopy Application and Collaboration Facility, Materials Characterization Facility (MCF), Interdisciplinary Soft Matter Facility (SoMF), Center for Infrastructure Renewal (CIR), Center for Research Excellence on Dynamically Deformed Solids (CREDDS), Materials Development and Characterization Center, Microscopy and Imaging Center (MIC), Nuclear Science Center, and Polymer Technology Consortium (PTC).

Degree Programs

The Department offers graduate studies leading to the degrees of: *Master of Engineering* (non-thesis), *Master of Science* (thesis and non-thesis), and *Doctor of Philosophy* in Materials Science and Engineering. This multidisciplinary department includes faculty members from several disciplines, including aerospace engineering, biomedical engineering, chemical engineering, chemistry, electrical engineering, mechanical engineering, nuclear engineering and physics.

Certificate Programs

Two certificate programs are offered to enable individuals the opportunity to gain specific knowledge and skill-sets: *Corrosion Science and Engineering*, and *Materials, Informatics and Design*. All departmental certificates are stand-alone programs, enrollment in a degree program is not required. Certificates may be awarded upon completion of requirements.

Contact

For more information on obtaining any of the degrees and/or certificates, please contact the graduate advising office at msen-advising@tamu.edu.

Faculty

Abdel-Wahab, Ahmed, Professor
Materials Science & Engr
PHD, Texas A&M University, 2003

Aguilar-Mendoza, Guillermo, Professor
Materials Science & Engr
PHD, University of California - Santa Barbara, 1999

Ahmed, Karim, Assistant Professor
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PHD, Purdue University, 2015

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PHD, Texas A&M University, 2019

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PHD, The University of Texas at Austin, 1996

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PHD, State University of New York at Stony Brook, 2004

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PHD, Ecole Nationale Superieure Des Mines De Paris, 2000

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Su, Hung-Jue, Professor
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Sukhishvili, Svetlana A, Professor
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Talreja, Ramesh R, Professor
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PHD, The Technical University of Denmark, 1974

Tamamis, Phanourios, Assistant Professor
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Masters

- Master of Engineering in Materials Science and Engineering (<http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/materials-science/meng/>)
- Master of Science in Materials Science and Engineering (<http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/materials-science/ms/>)

Doctoral

- Doctor of Philosophy in Materials Science and Engineering (<http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/materials-science/phd/>)

Certificates

- Corrosion Science and Engineering Certificate (<http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/materials-science/corrosion-science-engineering-certificate/>)
- Materials, Informatics and Design Certificate (<http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/materials-science/materials-informatics-design-certificate/>)