# 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

Arroyave, Raymundo, Professor
Materials Science & Engr
PHD, Massachusetts Inst of Technology, 2004

Atli, Kadri Can, Instructional Associate Professor
Materials Science & Engr
PHD, Texas A&M University, 2011

Attari, Vahid, Research Assistant Professor
Materials Science & Engr
PHD, Texas A&M University, 2019

Banerjee, Sarbajit, Senior Professor
Materials Science & Engr
PHD, State University of New York at Stony Brook, 2004

Benzerga, Amine A, Professor
Materials Science & Engr
PHD, Ecole Nationale Superieure Des Mines De Paris, 2000

Bullard, Jeff, Professor
Materials Science & Engr
PHD, University of California at Berkeley, 1993

Butler, Brady G, Visiting Assistant Professor
Materials Science & Engr
PHD, Johns Hopkins University, 2017

Cagin, Tahir, Professor
Materials Science & Engr
PHD, Clemson University, 1988

Castaneda-Lopez, Homero, Professor
Materials Science & Engr
PHD, Penn State University, 2001

Demblon, Alexander Robert, Research Assistant Professor
Materials Science & Engr
PHD, Texas A&M University, 2023

Demkowicz, Michael J, Professor
Materials Science & Engr
PHD, Massachusetts Institute of Technology, 2005

Dimitriyev, Michael S, Assistant Professor
Materials Science & Engr
PHD, Georgia Institute of Technology, 2017

Hsiao, Kai-Wen, Assistant Professor
Materials Science & Engr
PHD, University of Illinois at Urbana Champaign, 2017

Karaman, Ibrahim, Professor
Materials Science & Engr
PHD, University of Illinois at Urbana-Champaign, 2000

Katehi-Tseregounis, Linda P B, Professor
Materials Science & Engr
PHD, University of California, 1984

Kolluru, Pavan V, Assistant Professor
Materials Science & Engr
PHD, University of Illinois at Urbana-Champaign, 2014

Lagoudas, Dimitris C, Professor
Materials Science & Engr
PHD, Lehigh University, 1986

Lavernia, Enrique J, Professor
Materials Science & Engr
PHD, Massachusetts Institute of Technology, 1986

Lin, Paotai, Associate Professor
Materials Science & Engr
PHD, Northwestern University, 2009

Lin, Yuxuan Cosmi, Assistant Professor
Materials Science & Engr
PHD, Massachusetts Institute of Technology, 2019

Lipkin, Don M, Professor
Materials Science & Engr
PHD, University of California, Santa Barbara, 1996

Ozcan, Hande, Visiting Assistant Professor
Materials Science & Engr
PHD, Texas A&M University, 2020

Pharr, George M, Professor
Materials Science & Engr
PHD, Stanford University, 1979

Qian, Xiaofeng, Associate Professor
Materials Science & Engr
PHD, Massachusetts Institute of Technology, 2008

Radovic, Miladin, Professor
Materials Science & Engr
PHD, Drexel University, 2001

Schoenung, Julie M, Professor
Materials Science & Engr
PHD, Massachusetts Institute of Technology, 1987

Shamberger, Patrick J, Associate Professor
Materials Science & Engr
PHD, University of Washington, 2010

Srivastava, Ankit, Associate Professor
Materials Science & Engr
PHD, University of North Texas, 2013

Su, Hung-Jue, Professor
Materials Science & Engr
PHD, University of Michigan at Ann Arbor, 1988

Sukhishvili, Svetlana A, Professor
Materials Science & Engr
PHD, Lomonosov Moscow State University, 1989

Talreja, Ramesh R, Professor
Materials Science & Engr
PHD, The Technical University of Denmark, 1974

Thomas, Edwin L, Professor
Materials Science & Engr
PHD, Cornell University, 1974

Tu, Qing, Assistant Professor
Materials Science & Engr
PHD, Duke University, 2017

Ware, Taylor H, Associate Professor
Materials Science & Engr
PHD, University of Texas at Dallas, 2013

Xie, Kelvin Yu Xuan, Associate Professor
Materials Science & Engr
PHD, University of Sydney, 2013

## Masters

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

## Doctoral

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

## Certificates

- Materials, Informatics and Design Certificate (https://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/materials-science/materials-informatics-design-certificate/)