DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING

http://engineering.tamu.edu/materials/

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.


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

Akbulut, Mustafa, Associate Professor
Materials Science & Engr
PHD, University of California at Santa Barbara, 2007

Alge, Daniel L, Associate Professor
Materials Science & Engr
PHD, Purdue University, 2010

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

Asadi, Amir, Assistant Professor
Materials Science & Engr
PHD, University of Manitoba, 2013

Balbuena, Perla B, Professor
Materials Science & Engr
PHD, The University of Texas at Austin, 1996

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

Batteas, James D, Professor
Materials Science & Engr
PHD, University of California at Berkeley, 1995

Bazzi, Hassan, Professor
Materials Science & Engr
PHD, McGill University, 2003

Benzerga, Amine A, Professor
Materials Science & Engr

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

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

Cagin, Tahir, Professor
Materials Science & Engr
PHD, Clemson University, 1988
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Department</th>
<th>University/Institute</th>
<th>Year</th>
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<tbody>
<tr>
<td>Case, Raymundo P</td>
<td>Professor of the Practice</td>
<td>Materials Science &amp; Engr</td>
<td>University of Manchester Institute of Science and Technology, 2002</td>
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<tr>
<td>Castaneda-Lopez, Homero</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Penn State University, 2001</td>
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<tr>
<td>Creasy, Terry S</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of Delaware, 1997</td>
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<tr>
<td>Demkowicz, Michal J</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Massachusetts Institute of Technology, 2005</td>
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<tr>
<td>Elabd, Yossef A</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Johns Hopkins University, 2001</td>
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<tr>
<td>Elwany, Alaa Mohamed</td>
<td>Assistant Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Georgia Institute of Technology, 2009</td>
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<tr>
<td>Erdemir, Ali</td>
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<td>Materials Science &amp; Engr</td>
<td>Georgia Institute of Technology, 1986</td>
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<tr>
<td>Fang, Lei</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Northwestern University, 2010</td>
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<tr>
<td>Gaharwar, Akhilesh K</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Purdue University, 2011</td>
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<td>Grasley, Zachary C</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of Illinois Urbana Champaign, 2006</td>
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<td>Green, Micah</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Massachusetts Institute of Technology, 2007</td>
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<tr>
<td>Grunlan, Jaime C</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of Minnesota, 2001</td>
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<tr>
<td>Grunlan, Melissa A</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of Southern California, 2004</td>
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<tr>
<td>Guo, Bing</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Tsinghua University, China, 1998</td>
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<tr>
<td>Harris, Harlan R</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Texas Tech University, 2003</td>
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<tr>
<td>Hartl, Darren</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Texas A&amp;M University, 2009</td>
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<tr>
<td>Hemmer, Philip R</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Massachusetts Inst of Technology, 1984</td>
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<tr>
<td>Hipwell, M Cynthia</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of California at Berkeley, 1996</td>
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<td>Hwang, Wonmuk</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Boston University, 2001</td>
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<tr>
<td>Jeong, Hae-Kwon</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of Minnesota, 2004</td>
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<td>Kameoka, Jun</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Cornell University, 2002</td>
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<tr>
<td>Karaman, Ibrahim</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of Illinois at Urbana-Champaign, 2000</td>
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<tr>
<td>Katehi-Tseregounis, Linda</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of California, 1984</td>
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<tr>
<td>Kolluru, Pavan</td>
<td>Assistant Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of Illinois at Urbana-Champaign, 2014</td>
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<tr>
<td>Kuo, Yue</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Columbia University, 1980</td>
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<tr>
<td>Kuttolamadom, Mathew A</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Clemson University, 2012</td>
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<tr>
<td>Lagoudas, Dimitris C</td>
<td>University Distinguished Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Lehigh University, 1986</td>
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<tr>
<td>Le Graverend, Jean-Briac B</td>
<td>Associate Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Ecole Nationale de Mécanique et d'Aérotechnique, France, 2013</td>
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<tr>
<td>Liang, Hong</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Stevens Institute of Technology, 1992</td>
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<td>Lin, Paotai</td>
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<td>Northwestern University, 2009</td>
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<td>Lutkenhaus, Jodie</td>
<td>Professor</td>
<td>Materials Science &amp; Engr</td>
<td>Massachusetts Institute of Technology, 2007</td>
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<td>Ma, Chao</td>
<td>Assistant Professor</td>
<td>Materials Science &amp; Engr</td>
<td>University of California, 2015</td>
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</table>
Mansoor, Bilal, Associate Professor
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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/)

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/)