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 Science. 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 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

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

Alge, Daniel L, Assistant 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

Atli, Kadri Can, Research Assistant Professor
Materials Science & Engr
PHD, Texas A&M University, 2011

Balbuena, Perla B, Professor
Materials Science & Engr
PHD, University of Texas, 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, Berkeley, 1995

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

Benzerba, Amine A, Professor
Materials Science & Engr

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

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

Case, Raymundo P, Professor of the Practice
Materials Science & Engr
PHD, University of Manchester Institute of Science and Technology, 2002
Castaneda-Lopez, Homero, Associate Professor  
Materials Science & Engr  
PHD, Penn State University, 2001

Cheng, Zheng Dong, Professor  
Materials Science & Engr  
PHD, Princeton University, 1999

Creasy, Terry S, Associate Professor  
Materials Science & Engr  
PHD, University of Delaware, 1997

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

Elabd, Yossef A, Professor  
Materials Science & Engr  
PHD, Johns Hopkins University, 2001

Elwany, Alaa Mohamed, Assistant Professor  
Materials Science & Engr  
PHD, Georgia Institute of Technology, 2009

Fang, Lei, Assistant Professor  
Materials Science & Engr  
PHD, Northwestern University, 2010

Gaharwar, Akhilesh K, Assistant Professor  
Materials Science & Engr  
PHD, Purdue University, 2011

Grasley, Zachary C, Professor  
Materials Science & Engr  
PHD, University of Illinois Urbana Champaign, 2006

Green, Micah, Associate Professor  
Materials Science & Engr  
PHD, Massachusetts Institute of Technology, 2007

Grunlan, Jaime C, Professor  
Materials Science & Engr  
PHD, University of Minnesota, 2001

Grunlan, Melissa A, Professor  
Materials Science & Engr  
PHD, University of South Carolina, 2004

Guo, Bing, Assistant Professor  
Materials Science & Engr  
PHD, Tsinghua University, China, 1998

Harris, Harlan R, Associate Professor  
Materials Science & Engr  
PHD, Texas Tech University, 2003

Hartl, Darren, Assistant Professor  
Materials Science & Engr  
PHD, Texas A&M University, 2009

Hemmer, Philip R, Professor  
Materials Science & Engr  
PHD, Massachusetts Inst of Technology, 1984

Hipwell, M Cynthia, Professor  
Materials Science & Engr  
PHD, University of California-Berkeley, 1996

Hwang, Wonmuk, Associate Professor  
Materials Science & Engr  
PHD, Boston University, 2001

Jeong, Hae-Kwon, Associate Professor  
Materials Science & Engr  
PHD, University of Minnesota, 2004

Kameoka, Jun, Professor  
Materials Science & Engr  
PHD, Cornell University, 2002

Kane, Matthew H, Associate Professor  
Materials Science & Engr  
PHD, Georgia Institute of Technology, 2007

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

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

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

Kuo, Yue, Associate Professor  
Materials Science & Engr  
PHD, Columbia University, 1980

Kuttolamadom, Mathew A, Assistant Professor  
Materials Science & Engr  
PHD, Clemson University, 2012

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

Le Graverend, Jean-Briac B, Associate Professor  
Materials Science & Engr  
PHD, Ecole Nationale de Mécanique et d'Aérotechnique, France, 2013

Liang, Hong, Professor  
Materials Science & Engr  
PHD, Stevens Institute of Technology, 1992

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

Lutkenhaus, Jodie, Professor  
Materials Science & Engr  
PHD, Massachusetts Institute of Technology, 2007

Ma, Chao, Assistant Professor  
Materials Science & Engr  
PHD, University of California, 2015
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Degree</th>
<th>Institution</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mansoor, Bilal</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>University of Michigan, 2010</td>
<td></td>
</tr>
<tr>
<td>McDeavitt, Sean M</td>
<td>Associate Professor</td>
<td>PHD</td>
<td>Purdue University, 1992</td>
<td></td>
</tr>
<tr>
<td>McShane II, Michael J</td>
<td>Professor</td>
<td>PHD</td>
<td>Texas A&amp;M University, 1999</td>
<td></td>
</tr>
<tr>
<td>Michaudel, Quentin</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>The Scripps Research Institute, 2015</td>
<td></td>
</tr>
<tr>
<td>Naraghi, Mohammad</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>University of Illinois at Urbana Champaign, 2009</td>
<td></td>
</tr>
<tr>
<td>Naugle, Donald G</td>
<td>Professor</td>
<td>PHD</td>
<td>Texas A&amp;M University, 1965</td>
<td></td>
</tr>
<tr>
<td>Needleman, Alan</td>
<td>University Distinguished Professor</td>
<td>PHD</td>
<td>Harvard University, 1971</td>
<td></td>
</tr>
<tr>
<td>Nyakiti, Luke Q</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>Texas Tech University, 2008</td>
<td></td>
</tr>
<tr>
<td>Ozmetin, Ali E</td>
<td>Research Assistant Professor</td>
<td>PHD</td>
<td>Texas A&amp;M University, 2009</td>
<td></td>
</tr>
<tr>
<td>Pentzer, Emily</td>
<td>Associate Professor</td>
<td>PHD</td>
<td>Northwestern University, 2010</td>
<td></td>
</tr>
<tr>
<td>Pharr IV, George M</td>
<td>Professor</td>
<td>PHD</td>
<td>Stanford University, 1979</td>
<td></td>
</tr>
<tr>
<td>Pharr, George</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>Harvard University, 2014</td>
<td></td>
</tr>
<tr>
<td>Qian, Xiaofeng</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>Massachusetts Institute of Technology, 2008</td>
<td></td>
</tr>
<tr>
<td>Radovic, Miladin</td>
<td>Professor</td>
<td>PHD</td>
<td>Drexel University, 2001</td>
<td></td>
</tr>
<tr>
<td>Reddy, Junuthula</td>
<td>Professor</td>
<td>PHD</td>
<td>University of Alabama at Huntsville, 1974</td>
<td></td>
</tr>
<tr>
<td>Ross Jr, Joseph H</td>
<td>Professor</td>
<td>PHD</td>
<td>University of Illinois at Urbana-Champaign, 1986</td>
<td></td>
</tr>
<tr>
<td>Sagapuram, Dinakar</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>Purdue University, 2013</td>
<td></td>
</tr>
<tr>
<td>Seminario, Jorge M</td>
<td>Professor</td>
<td>PHD</td>
<td>Southern Illinois University Carbondale, 1987</td>
<td></td>
</tr>
<tr>
<td>Shamberger, Patrick J</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>University of Washington, 2010</td>
<td></td>
</tr>
<tr>
<td>Shao, Lin</td>
<td>Professor</td>
<td>PHD</td>
<td>University of Houston, 2001</td>
<td></td>
</tr>
<tr>
<td>Sheldon, Matthew T</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>University of California, Berkeley, 2010</td>
<td></td>
</tr>
<tr>
<td>Srivastava, Ankit</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>University of North Texas, 2013</td>
<td></td>
</tr>
<tr>
<td>Su, Hung-Jue</td>
<td>Professor</td>
<td>PHD</td>
<td>University of Michigan - Ann Arbor, 1988</td>
<td></td>
</tr>
<tr>
<td>Sukhishvili, Svetlana A</td>
<td>Professor</td>
<td>PHD</td>
<td>Lomonosov Moscow State University, 1989</td>
<td></td>
</tr>
<tr>
<td>Talreja, Ramesh R</td>
<td>Professor</td>
<td>PHD</td>
<td>The Technical University of Denmark, 1974</td>
<td></td>
</tr>
<tr>
<td>Teizer, Winfried</td>
<td>Associate Professor</td>
<td>PHD</td>
<td>University of Massachusetts - Amherst, 1998</td>
<td></td>
</tr>
<tr>
<td>Thomas, Edwin L</td>
<td>Visiting Professor</td>
<td>PHD</td>
<td>Cornell, 2018</td>
<td></td>
</tr>
<tr>
<td>Tu, Qing</td>
<td>Assistant Professor</td>
<td>PHD</td>
<td>Duke University, 2017</td>
<td></td>
</tr>
<tr>
<td>Vaddiraju, Sreeram</td>
<td>Associate Professor</td>
<td>PHD</td>
<td>University of Louisville, 2006</td>
<td></td>
</tr>
<tr>
<td>Wang, Jyhwen</td>
<td>Professor</td>
<td>PHD</td>
<td>Northwestern University, 1991</td>
<td></td>
</tr>
<tr>
<td>Wang, Shiren</td>
<td>Associate Professor</td>
<td>PHD</td>
<td>Florida State University, 2006</td>
<td></td>
</tr>
<tr>
<td>Whitcomb, John D</td>
<td>Professor</td>
<td>PHD</td>
<td>Virginia Tech, 1988</td>
<td></td>
</tr>
</tbody>
</table>
Wilkerson, Justin, Assistant Professor
Materials Science & Engr
PHD, Johns Hopkins University, 2014

Williams, Richard, Professor
Materials Science & Engr
PHD, University of California at Berkeley, 1978

Wong, Zi Jing, Assistant Professor
Materials Science & Engr
PHD, University of California, Berkeley, 2015

Wooley, Karen L, Professor
Materials Science & Engr
PHD, Cornell University, 1993

Wu, Wenhao, Associate Professor
Materials Science & Engr
PHD, University of Chicago, 1992

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

Yu, Choongho, Associate Professor
Materials Science & Engr
PHD, University of Texas - Austin, 2004

Zhou, Hongcai J, Professor
Materials Science & Engr
PHD, Texas A&M University, 2000

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/)