

Faculty members – <http://mte.eng.ua.edu/people/>

Dr. Viola L. Acoff, Professor, Associate Dean
Ph.D. University of Alabama at Birmingham
Joining, welding and processing of intermetallic compounds

Dr. Luke Brewer, Professor
Ph.D. Northwestern University
Cold spray additive manufacturing, friction stir welding, EBSD and related microscopy

Dr. Steve Daniewicz, Professor and Department Head
Ph.D. Ohio State University
Metal Fatigue, Fracture Mechanics, Welding

Dr. Subhadra Gupta, Professor
Ph.D. University of Cincinnati
Thin film applications to magnetic, semiconductor display, optical and medical technology

Dr. Greg Kubacki, Assistant Professor
Ph.D. Clemson University
Corrosion Science, Additive Manufacturing, Structural Alloys, Biomedical Alloys, Environmental Factors

Dr. Nilesh Kumar, Assistant Professor
Ph.D. Missouri S&T (Rolla)
Mechanical behavior of metallic alloys, high entropy alloys

Dr. Lin Li, Associate Professor and Graduate Coordinator
Ph. D. Ohio State University
Computational Materials Science and Engineering, Materials Informatics and Machine Learning, Mechanical Behavior

Dr. Charles Monroe, Associate Professor
Ph.D. University of Iowa
Metal Casting, Forging, Solidification, Process Simulation Design for Manufacture

Dr. Laurentiu Nastac, Associate Professor
Ph.D. University of Alabama
Casting and solidification, microstructure modeling, ultrasonic processing of alloys and metal-matrix-nanocomposites

Dr. Ramana G. Reddy, ACIPCO Professor
Ph.D. University of Utah
Thermodynamics, molten metal chemistry, composite processing

Dr. Gregory B. Thompson, University Research Professor,
Director of the UA Materials Science PhD Program & AARC
Ph.D. Ohio State University
Structure-property relationships, phase transformations, analytical microscopy, low dimensional metal alloys, UHTCs

Dr. Ruigang Wang, Associate Professor
Ph.D. Arizona State University
Rare-earth oxides based catalyst, energy conversion and storage materials, in situ based electron microscopy

Dr. Mark L. Weaver, Professor
Ph.D. University of Florida
Heat-resistant materials, mechanical properties, electron microscopy, tribology

Dr. Feng Yan, Assistant Professor
Ph.D. National University of Singapore
Thin film solar cells, energy materials

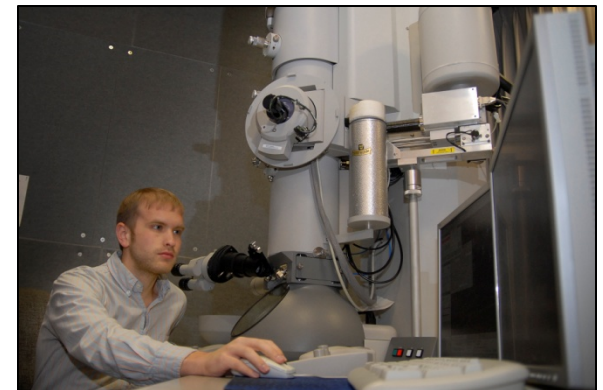
Tuscaloosa and the surrounding area

Tuscaloosa, located along the banks of the Black Warrior River in West Central Alabama, is approximately 60 miles, or 100 kilometers, from Birmingham, Ala. The Tuscaloosa metropolitan area, with more than 150,000 people, has been declared the "Most Livable City in America" through the 2000s and 2010s, one of America's "100 Best Communities for Young People", one of the "50 Best College Towns", and one of the "Best Places to Launch a Small Business". The city offers a range of shopping, restaurants and state parks in the vicinity. Tuscaloosa is home to Mercedes-Benz U.S. International, which allows Tuscaloosa to have the only Mercedes-Benz Museum in the world outside of Germany. In addition, the city has the Westervelt Warner Museum of American Art, featuring one of the most significant assemblages of American art to be found anywhere in the world



Historic UA President's mansion located on the UA campus. Constructed in 1847, the building is one of the most recognized on campus.

Graduate Studies in Metallurgical & Materials Engineering



<http://mte.eng.ua.edu/>



About the department

In 1837, The University of Alabama became one of the first five universities in the nation to offer engineering classes. The Department of Metallurgical & Materials Engineering (MTE) offers a bachelors and masters of science along with a Ph.D. In addition, many of the MTE faculty are members of the UA Tri-campus Materials Science PhD program (<http://materialsscience.ua.edu>) giving materials-orientated graduate students a range of academic opportunities. The MTE department is one of only eight accredited metallurgical degree granting institutions in the United States. Its core emphasis in metallurgy and materials provides students depth in structure-processing-property relationships. UA has more than 38,000 students with about 20 percent being graduate students.

The department has 14 faculty members that educate approximately 100 undergraduate students and 60 graduate students. Faculty research interests include magnetic materials, nanomaterial synthesis and device fabrication, phase-microstructure relationships, heat-resistant aerospace coatings, deformation mechanisms in metals and ceramic structures, corrosion, additive manufacturing, casting and solidification sciences and computational materials science and engineering.



The Science & Engineering Complex offering students modern facilities for research.

Research Facilities

The University of Alabama has a range of research centers that provide students state-of-the-art facilities and multi-disciplinary, collaborative interaction. Many of the MTE faculty either manage or are members of these centers.

Manufacturing at the Point of Need Center – Production of components on demand, at the point-of-need, to reduce material waste and enable customization with reduced costs and times compared to traditional manufacturing supply chains and acquisition processes.

Alabama analytical Research Center (AARC) – Houses more than \$10 million of analytical microscopy equipment, including a TEM, FIBs, SEMs, XPS, atom probe and microprobe. Please visit <http://www.aarc.ua.edu>

Micro-Fabrication Facility (MFF) – A multi-million dollar, 7,000 sq-foot clean room with more than 2,200 sq feet of class 100/1000 that houses various physical vapor deposition, lithographic and ion etching instruments.

Ray L. Farabee Metal Casting Laboratory – This more than 6,000 sq-foot facility houses various melting furnaces for casting steels, brass, bronze, cast iron, aluminum, superalloys, etc. as well as mold equipment, a spectrometer, and a 3D printer for investment casting pattern fabrication.

Center for Advanced Vehicle Technologies – Research center dedicated to the vehicle technologies including powertrains, energy storage, materials manufacturing and electronics. Serves the budding auto manufacturing industry in the southeastern US. <http://cavt.eng.ua.edu/>

Application process

The Metallurgical and Materials Engineering Department accepts applicants throughout the year. Most admission decisions are made in March for the next fall academic term. Faculty members who have external support for new students may expedite the admission date decision for identified, outstanding candidates. The majority of the graduate students in the department are supported through external research funds, fellowships, or teaching assistantships which includes tuition, health care and a stipend. Applicants interested in graduate studies are encouraged to contact faculty advisors to determine compatibility and available funding opportunities.

How to Apply

Applicants should visit <http://graduate.ua.edu/> and complete the on-line form. You will need to provide a statement of purpose, official academic transcript, references, and submission of an official GRE score. International applicants (non-native English speakers) will also be required to complete a provisional language exam (TOEFL or IELTS or PTE). Regular admission requirements are >3.0 GPA; >300 GRE; >79 iBT TOEFL, >6.5 IELTS, >59 PTE. These scores do not necessarily grant admission to the department. Competitive MTE entering graduate applications have scores exceeding these minimums.

Please send questions concerning the graduate program to mtegradcoord@eng.ua.edu.



College of
Engineering