Welcome to the 2016-2017 edition of the College of Engineering’s Faculty Directory. I am honored to present the distinguished individuals who carry on the teaching and research missions of the college. We look to them to continue the valuable work of educating our country’s future engineers and pioneering research activities, methods and products that will keep abreast of technology and bring about added quality of life for our citizens.

Mission Statement

The mission of the UT College of Engineering is:

• To provide high quality education in the major engineering disciplines from the undergraduate through doctoral levels through a creative balance of academic, professional, and extracurricular programs;

• To foster and maintain mutually beneficial partnerships with our alumni, friends, industry and local, state, and federal governments through public services assistance and collaborative research; and

• To be a major contributor to our nation’s technology base through scholarship and research.

Wayne T. Davis
Dean
The development mission is to secure philanthropic support that will propel our goal to become a Top 25 public college of engineering.

The Office of Engineering Communications directs all internal and external communications activities for the college, including web sites, publications, and multimedia presentations.
The Office of Engineering Diversity Programs develops initiatives to increase the number of minority engineering students through recruiting and outreach and helps prepare them for graduate studies and engineering careers.

The Engineering Advising Services Office provides academic program planning services to undergraduate students in the College of Engineering.

The University of Tennessee Space Institute (UTSI) is a graduate education and research institution recognized for research in engineering and physics.
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>RESEARCH AREAS</th>
<th>Honors &amp; Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard M. Bennett</td>
<td>Professor and Director, Engineering Fundamentals Program</td>
<td>Structural engineering; masonry building behavior and design; timber railroad bridges; engineering education</td>
<td>Fellow, The Masonry Society; Brooks Distinguished Professor Award, 2014; TLSAMP Faculty Member of the Year Award, 2011; UT Alumni Outstanding Teaching Award, 2008; Leon and Nancy Cole Teaching Award, 2006; ASTM Alvin Yorkdale Award, 2002</td>
</tr>
<tr>
<td>Amy Biegalski</td>
<td>Lecturer, Engineering Fundamentals</td>
<td>Engineering education; project based learning</td>
<td>Member, American Society of Engineering Education</td>
</tr>
<tr>
<td>Isaac Jeldes</td>
<td>Lecturer, Engineering Fundamentals</td>
<td>Numerical modeling; geomechanics of slope stability; restoration of mine-reclaimed sites; soil erosion; retaining structures; partially saturated soils</td>
<td>National academic excellence award (full undergraduate scholarship), Chile, 2000; Member, American Society of Civil Engineers; American Society for Engineering Education</td>
</tr>
<tr>
<td>Rachel McCord</td>
<td>Research Assistant Professor, Engineering Fundamentals</td>
<td>Problem solving and metacognition; self-regulated learning in engineering; academic motivation</td>
<td>Member, American Society for Engineering Education; Society of Women Engineers; Faculty Advisor: Society of Women Engineers; NAE Frontiers of Engineering Education invited attendee</td>
</tr>
<tr>
<td>Christopher D. Pionke</td>
<td>Associate Professor, Engineering Honors</td>
<td>Structural mechanics with an emphasis on linear and non-linear finite element methods, energy and variational methods, dynamics and vibrations, plate and shell analysis, and precision engineering and manufacturing techniques; computational solid mechanics; engineering education, particularly engineering design, as well as the history of science and engineering</td>
<td>Member, American Society for Engineering Education; Society of Sigma XI; Faculty Advisor and Treasurer, Tau Beta Pi</td>
</tr>
<tr>
<td>Will Schleter</td>
<td>Distinguished Lecturer, Engineering Fundamentals</td>
<td>Engineering education; learning management systems</td>
<td>Member, American Society for Engineering Education; Faculty Coordinator, Innovation &amp; Collaboration Studio</td>
</tr>
</tbody>
</table>
Bamin Khomami
Granger and Beaman Distinguished University Professor and Head Director, SEERC
PhD, University of Illinois-Urbana
419 Dougherty Engineering Building
Knoxville, TN 37996-2200
Phone: 865-974-2421
E-mail: bkhomami@utk.edu
cbe.utk.edu/people/bamin-khomami

Honors & Affiliations
• Fellow, American Institute of Chemical Engineers, 2015
• Fellow, American Physical Society, 2009
• UT-COE Outstanding Faculty Award, 2007
• Camille & Henry Dreyton Teacher-Scholar National Award, 1993
• NSF PYI Presidential Investigator Award, 1991
• Associate Editor, Journal of Rheology; Journal of Non-Newtonian Fluid Mechanics, Applied Rheology

Research Areas
Transport mechanics of complex fluids, advanced materials for sustainable energy applications, multiscale modeling and simulation, and rheology

Steven Abel
Assistant Professor
PhD, Stanford University
327 Dougherty Engineering Building
Knoxville, TN 37996-2200
Phone: 865-974-5709
E-mail: abel@utk.edu
cbe.utk.edu/people/steven-m-abel

Honors & Affiliations
• Member, American Institute of Chemical Engineers, Biomedical Engineering Society, American Physical Society
• Departmental Outstanding Teaching Award, 2015
• Centennial Teaching Award, 2006

Research Areas
Statistical mechanics applied to cell biology and immunology; multiscale modeling of cell signaling networks, the cytoskeleton, and membranes

Eric T. Boder
Career Development Associate Professor
PhD, University of Illinois
427B Dougherty Engineering Building
Knoxville, TN 37996-2200
Phone: 865-974-6362
E-mail: boder@utk.edu
cbe.utk.edu/people/eric-t-boder

Honors & Affiliations
• Tom and Ruth Clark Award for Excellence in Chemical and Biomolecular Engineering, 2010
• NSF CAREER Award, 2003
• National Academy of Engineering “Frontiers in Engineering” Invitée, 2002
• NSF Graduate Research Fellowship, 1993-1996
• Member, AIChE; Society for Biological Engineering; American Chemical Society

Research Areas
Molecular biotechnology and bioengineering, protein engineering and directed evolution

Paul Dalheimer
Associate Professor
PhD, University of Pennsylvania
426 Dougherty Engineering Building
Knoxville, TN 37996-2200
E-mail: pdalheimer@utk.edu
cbe.utk.edu/people/paul-dalheimer

Honors & Affiliations
• Ruth Kirschstein NRSA Postdoctoral-Fellow, 2005-2008
• Member, American Heart Association, 2012-present; American Institute for Chemical Engineering, 2003-present; American Society for Cell Biology, 2009-present; Biomedical Engineering Society, 2009-present; Biophysical Society, 2000-present

Research Areas
Cellular metabolism, lipid droplets, nanotechnology, drug delivery

Emmanouil Doxastakis
Associate Professor
PhD, University of Patras
328 Dougherty Engineering Building
Knoxville, TN 37996-2200
Phone: 865-974-2421
E-mail: edoxasta@utk.edu
www.engr.utk.edu/people/emmanouil-doxastakis

Honors & Affiliations
• Member, Biophysical Society (2010-present)
• Member, American Institute of Chemical Engineers (2004-present)
• Member, American Physical Society (2004-present)
• Member, Technical Chamber of Greece (1997-present)

Research Areas
Molecular thermodynamics and modeling of materials; development of simulation tools to study soft matter; association of biomolecules in a membrane environments; polymer nanocomposites and thin films; reaction diffusion phenomena in patterning applications.

Robert M. Counce
Professor
PhD, The University of Tennessee
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Knoxville, TN 37996-2200
Phone: 865-974-5318
E-mail: counce@utk.edu
cbe.utk.edu/people/robert-m-m-pete-counce

Honors & Affiliations
• Tom and Ruth Clark Award for Excellence in Chemical and Biomolecular Engineering Education, 2013
• Charles Edward Ferris Award for Technology, 2007
• Fellow, American Institute of Chemical Engineers, 2000
• Leon and Nancy Cole Superior Teaching Award, 2000
• Editorial Advisory Board, Advances in Environmental Research

Research Areas
Sustainable engineering, process design, separations and sustainable energy processes

Brian J. Edwards
Professor and Associate Head
PhD, University of Delaware
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Knoxville, TN 37996-2200
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E-mail: bedward1@utk.edu
cbe.utk.edu/people/brian-j-edwards

Honors & Affiliations
• Tom & Ruth Clark Award for Excellence in Chemical and Biomolecular Engineering, 2007, 2012
• COE Leon and Nancy Cole Superior Teaching Award, 2011
• College of Engineering Research Fellow, 2007, 2009
• COE Outstanding Faculty Advisor Award, 2003, 2009
• Chancellor’s Award for Excellence in Advising, 2009

Research Areas
Thermodynamics, fluid mechanics, molecular modeling and sustainable energy

Research Focus
• Biomolecular & Biomedical Engineering
• Molecular-Based Engineering & Science
• Transport Properties of Complex Fluid
• Process Design, Simulation & Control
• Sustainable Energy
• Processing Science of Nano- and Micro-Structured Materials
• Green Engineering
• Separations & Transport Phenomena

Chemical and Biomolecular Engineering

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E-mail: cbe@utk.edu
Phone: 865-974-7076
Fax: 865-974-2421

Research Areas
Phenomena
Separations & Transport
Complex Fluids
Rheology
Biomedical & Process
Transport Properties
of Nanomaterials
Paul D. Frymier  
Professor  
PhD, University of Virginia  
311 Dougherty Engineering Building  
Knoxville, TN 37996-2200  
Phone: 865-974-4961  
E-mail: pdf@utk.edu  
cbe.utk.edu/people/paul-d-frymier

Honors & Affiliations
- Tom and Ruth Clark Award for Excellence in Chemical and Biomolecular Engineering Education, 2015
- Chancellors Award for Teaching, 2009
- College of Engineering Teaching Fellow, 2009
- Leon and Nancy Cole Superior Teaching Award, 2007

Research Areas
- Engineering and optimization of photosynthetic routes to biohydrogen: development and implementation of biosensors and sustainable energy

Zhanhu Guo  
Associate Professor  
PhD, Louisiana State University  
322 Dougherty Engineering Building  
Knoxville, TN 37996-2200  
Phone: 865-974-2933  
E-mail: zgou10@utk.edu  
cbe.utk.edu/people/john-zhanhu-guo

Honors & Affiliations
- Presidential Faculty Fellowship in Support of Undergraduate Research/Creative Activity, 2014
- University Research Scholar, 2013
- Invited Lecturer of 55th anniversary of Beijing University of Technology, 2013
- Invited Plenary Speaker, “Nanotechnology in Corrosion” of National Association of Corrosion Engineers (NACE) - Corrosion Society, 2013

Research Areas
- Multifunctional nanocomposites, nanomanufacturing, advanced nanocomposite membranes, fuel efficiency improvement and energy usage efficiency enhancement, electrochemical, strain sensing and magnetic field sensing devices, electromagnetic wave shielding materials, environmental sustainability and remediation, industrial/civilian safety materials

Stephen J. Paddison  
Professor, Gibson Endowed Chair in Engineering  
PhD, The University of Calgary, Canada  
321 Dougherty Engineering Building  
Knoxville, TN 37996-2200  
Phone: 865-974-2026  
E-mail: spaddison@utk.edu  
cbe.utk.edu/people/stephen-j-paddison

Honors & Affiliations
- Fellow, Royal Society of Chemistry (UK)
- Visiting Fellow, University of Cambridge, 2015
- Royal Academy of Engineering Distinguished Visiting Fellowship, 2015
- Ferguson Faculty Fellow, 2013-2014
- Chancellor’s Research & Creative Achievement Award, 2012
- Tom & Ruth Clark Award for Excellence in Chemical & Biomolecular Engineering Education, 2011
- COE Research Fellow, 2010, 2011
- Member, American Chemical Society; Materials Research Society, The Electrochemical Society

Research Areas
- Computations and simulations of materials for electrochemical conversion and storage, proton and ion transport

Sankar RagHAVan  
Eastman Professor of Practice  
PhD, Kansas State University  
437 Dougherty Engineering Building  
Knoxville, TN 37996-2200  
Phone: 865-974-4820  
E-mail: srghavan2@utk.edu  
cbe.utk.edu/people/sankar-r-ragavan

Honors & Affiliations
- Member, American Institute of Chemical Engineering, Rotary Club of Danville

Research Areas
- Novel materials for electrochemical energy applications, nanoscale confinement and interfacial effects in soft materials, diffusion in soft condensed matter, broadband dielectric spectroscopy and its applications
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
<th>Address</th>
<th>Phone</th>
<th>Email</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gila E. Stein</td>
<td>Associate Professor</td>
<td>PhD, University of California, Santa Barbara</td>
<td>431 Dougherty Engineering Building, Knoxville, TN 37996-2200</td>
<td>865-974-6769</td>
<td><a href="mailto:stein4@utk.edu">stein4@utk.edu</a></td>
<td>cbe.utk.edu/people/gila-e-stein</td>
</tr>
<tr>
<td>Cong T. Trinh</td>
<td>Assistant Professor</td>
<td>PhD, University of Minnesota</td>
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<td>865-974-8121</td>
<td><a href="mailto:ctrinh@utk.edu">ctrinh@utk.edu</a></td>
<td>cbe.utk.edu/people/cong-t-trinh</td>
</tr>
<tr>
<td>Thomas Zawodzinski</td>
<td>Governor’s Chair and Professor</td>
<td>PhD, State University of New York</td>
<td>411B Science and Engineering Research Facility, Knoxville, TN 37996-2200</td>
<td>865-974-5137</td>
<td><a href="mailto:tzawodzi@utk.edu">tzawodzi@utk.edu</a></td>
<td>cbe.utk.edu/people/thomas-a-zawodzinski</td>
</tr>
</tbody>
</table>

**Honors & Affiliations**
- Editorial Advisory Board, Macromolecules, ACS Macro Letters, and Polymers
- NSF CAREER Award, 2012
- NRC Postdoctoral Fellow, 2008-2009
- Member, American Institute of Chemical Engineers, American Physical Society, American Chemical Society, Adhesion Society, and Society of Plastics Engineers

**Research Areas**
- Polymer physics and chemistry; thin films, membranes, and electronic materials

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<td>865-974-6769</td>
<td><a href="mailto:stein4@utk.edu">stein4@utk.edu</a></td>
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</tr>
<tr>
<td>Cong T. Trinh</td>
<td>Assistant Professor</td>
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<td>865-974-8121</td>
<td><a href="mailto:ctrinh@utk.edu">ctrinh@utk.edu</a></td>
<td>cbe.utk.edu/people/cong-t-trinh</td>
</tr>
<tr>
<td>Thomas Zawodzinski</td>
<td>Governor’s Chair and Professor</td>
<td>PhD, State University of New York</td>
<td>411B Science and Engineering Research Facility, Knoxville, TN 37996-2200</td>
<td>865-974-5137</td>
<td><a href="mailto:tzawodzi@utk.edu">tzawodzi@utk.edu</a></td>
<td>cbe.utk.edu/people/thomas-a-zawodzinski</td>
</tr>
</tbody>
</table>

**Honors & Affiliations**
- Fellow, Electrochemical Society, 2011
- Member, MRS, ECS, and ACS (Polymer Division)
- Fellow, American Chemical Society Polymer Division, 2015
- F. Alex Nason Professor of Engineering, 2002-2009
- Ohio Eminent Scholar in Fuel Cells, 2002-2009

**Research Areas**
- Electrochemical energy storage and conversion components, devices and systems (redox flow batteries, lithium batteries, fuel cells), transport and thermodynamics of ion-conducting membranes, composite electrodes, application of NMR methods to chemical engineering problems
Chris D. Cox  
Condra Professor and Head  
PhD, Pennsylvania State Univ.  
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E-mail: ccox9@utk.edu

Khalid A. Alshibli  
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PhD, University of Colorado, Boulder  
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E-mail: alshibli@utk.edu

Joseph Amoah  
Lecturer  
PE, PhD, Florida A&M University  
325 John D. Tickle Engineering Building  
Knoxville, TN 37996-2313  
Phone: 865-974-0724  
E-mail: jamoah@utk.edu

Kimberly Carter  
Assistant Professor  
PhD, University of Arizona  
420 John D. Tickle Engineering Building  
Knoxville, TN 37996-2313  
Phone: 865-974-7731  
E-mail: kcarte46@utk.edu

Christopher R. Cherry  
Associate Professor  
PE, PhD, University of California, Berkeley  
321 John D. Tickle Engineering Building  
Knoxville, TN 37996-2313  
Phone: 865-974-7710  
E-mail: cherriy@utk.edu

David B. Clarke  
Research Associate Professor and Director, Center for Transportation Research  
PE, PhD, The University of Tennessee  
309 Conference Center Building  
Knoxville, TN 37996-4133  
Phone: 865-974-1812  
E-mail: dclarke@utk.edu
### CIVIL AND ENVIRONMENTAL ENGINEERING

#### Mark Denavit
**Assistant Professor**
**PE, PhD, University of Illinois at Urbana-Champaign**
421 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-974-7714
E-mail: mdenavit@utk.edu

Honors & Affiliations
- Winner, OpenSees Challenge for best new OpenSees powered tool on NEEShub (portal, 1/13)
- Sarada M. and Raju A. Vinnakota Award, Structural Stability Research Council, 2012
- Frank H. Gorham – ACEC-Illinois State Scholarship, 2008
- AISS/Associated Steel Erectors of Chicago Fellowship, 2007
- Member, American institute of Steel Construction, American Society of Civil Engineers

### RESEARCH AREAS
- Analysis, behavior, and design of steel and composite structures; finite element formulations; structural stability; seismic behavior

#### Robert H. Dodds
**Research Professor**
**PhD, University of Illinois at Urbana-Champaign**
526 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-974-2503
E-mail: rddodds@utk.edu

Honors & Affiliations
- Member, National Academy of Engineering
- Editor, Engineering Fracture Mechanics (1996-2005), Elsevier
- ASCE Walter Huber Prize, 1992
- ASTM Fellow

### RESEARCH AREAS
- Nonlinear fracture mechanics of structural metals and functionally graded metals, large-scale computational solid mechanics and high-performance computing, micromechanical damage models for metals

#### John Drake
**Research Professor**
**PhD, The University of Tennessee**
326 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-441-0589
E-mail: jdrake@utk.edu

Honors & Affiliations
- Contributing editor, Computational Geosciences
- Editorial board, International Journal of High Performance Computing and Applications
- Member, Society of Industrial and Applied Mathematicians

### RESEARCH AREAS
- Climate dynamics/engineering implications of climate change; numerical methods and parallel algorithms for climate modeling along with developing approaches to predictability and decadal, regional forecasting.

#### Taylor Eighmy
**Vice Chancellor for Research & Engagement, Professor**
**PhD, University of New Hampshire**
711E Andy Holt Tower
Knoxville, TN 37996-0174
Phone: 865-974-8701
E-mail: teighmy@utk.edu

[cee.utk.edu/people/taylor-eighmy](cee.utk.edu/people/taylor-eighmy)

Honors & Affiliations
- Diplomate of the American Academy of Environmental Engineers and Scientists
- Fellow, AAAS
- Board of Directors, Oak Ridge Associated Universities
- Board of Directors, UT Research Foundation
- Fellow, National Academy of Inventors

### RESEARCH AREAS
- Recycled materials characterization and beneficial use, element speciation, environmental chemistry of leaching behavior, spectroscopic surface analysis, applied geochemistry, reactive barriers, environmental microbiology, biofilms, sustainability, carbon sequestration

#### Islam El-adaway
**Associate Professor, Construction Engineering and Management Program Coordinator**
**PhD, Iowa State University**
417 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-974-0722
E-mail: eladaway@utk.edu

Honors & Affiliations
- Fellow, Institution of Civil Engineers, 2018-present
- Associate Editor, Journal of Management in Engineering, 2016-present
- Academy of Distinguished Teachers, Mississippi State University, 2016
- New Faculty Research Award, American Society of Engineering Education, 2014

### RESEARCH AREAS
- Sustainable infrastructure systems, risk and financial engineering, holistic management for natural and man-made hazards, contractual and legal affairs in construction, agent based simulation and system dynamics modeling, engineering education, and engineering ethics

#### Israel El-adaway
**Associate Professor, Construction Engineering and Management Program Coordinator**
**PhD, Iowa State University**
417 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-974-0722
E-mail: eladaway@utk.edu

Honors & Affiliations
- Fellow, Institution of Civil Engineers, 2018-present

### RESEARCH AREAS
- Sustainable infrastructure systems, risk and financial engineering, holistic management for natural and man-made hazards, contractual and legal affairs in construction, agent based simulation and system dynamics modeling, engineering education, and engineering ethics

#### Lee D. Han
**Professor**
**PhD, University of California, Berkeley**
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Knoxville, TN 37996-2313
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E-mail: lhan@utk.edu

[cee.utk.edu/people/lee-d-han](cee.utk.edu/people/lee-d-han)

Honors & Affiliations
- L.R. Hesler Award for Excellence in Teaching and Service, 2016-2017
- Chancellor’s Citation for Research and Creative Achievement, 2014
- COE Research Achievement Award, 2014
- COE Teaching Fellow, 2013
- Leon and Nancy Cole Superior Teaching Award, 2012
- Chair, Faculty Senate Research Council, 2011-2013
- TRB University Representative, 2007-present
- Charles E. Ferris Faculty Award, 2007

### RESEARCH AREAS
- Urban pollutant fate and transport; green infrastructure; low impact development; anthropogenic influences on the environment; innovative monitoring instrumentation; storm-water runoff effects on human and ecological health; coupled human and natural systems

#### John Drake
**Professor, PhD, North Carolina State University**
416 John D. Tickle Engineering Building
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[cee.utk.edu/people/joshua-s-fu](cee.utk.edu/people/joshua-s-fu)

Honors & Affiliations
- Contributing author, National Climate Assessment
- Chancellor’s Professional Promise Award in Research & Creative Achievement, 2012
- Most-Cited Article Award, Atmospheric Environment, Elsevier Limited
- Significant Event Award, ORNL
- Modeling Lead, Model Intercomparison Study in Asia

### RESEARCH AREAS
- Air pollution; climate change in regional and local impacts such as heat waves; flood/drought; and energy infrastructure; computational science; smart cities

#### Jon Hathaway
**Assistant Professor**
**PhD, North Carolina State University, Raleigh**
415 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
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E-mail: hathaway@utk.edu

[cee.utk.edu/people/jon-hathaway](cee.utk.edu/people/jon-hathaway)

Honors & Affiliations
- National Science Foundation Career Award, 2016
- Professional Engineer, North Carolina
- Member, American Society of Civil Engineers
- Member, Committee on the Campus Environment

### RESEARCH AREAS
- Emergency and special event evacuation, real-time incident detection and management, high-performance computing for real-time microscopic traffic simulation; intelligent transportation systems (ITS), unsupervised learning via real-time Big Data feeds, real-time vehicle tracking using ALPR data; traffic flow theory and behavior models under abnormal conditions

#### Terry C. Hazen
**Governor’s Chair Professor, Director, Institute for a Secure and Sustainable Environment**
**PhD, Wake Forest University**
507 Science & Engineering Research Facility
Knoxville, TN 37996
Phone: 865-974-7709
E-mail: tchazen@utk.edu

[cee.utk.edu/people/terry-c-hazen](cee.utk.edu/people/terry-c-hazen)

Honors & Affiliations
- Fellow, American Association for the Advancement of Science, 2015-present
- Fellow, American Academy of Microbiology, 1991-present
- DOE BER Distinguished Scientist Award, 2005-2010
- CEE Scholar Recognition Award, 2014
- Faculty Fellow, Oak Ridge National Laboratory, Biosciences Division, 2011-present
- Adjunct Professor, nine universities internationally

### RESEARCH AREAS
- Applied and environmental microbiology; bioremediation to clean up contaminated sites; bioenergy; climate change; water quality
Qiang He
Associate Professor
PhD, University of Illinois, Urbana-Champaign
418 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-974-6067
E-mail: qianghe@utk.edu
c.ee.utk.edu/people/qiang-he

Honors & Affiliations
• Member, American Society for Microbiology (ASM)
• Member, International Water Association
• Member, Association of Environmental Engineering and Science Professors (AEEESP)
• CEE Scholar Recognition Award, 2011
• CEE Teaching Recognition Award, 2013

Research Areas
Environmental biotechnology, water quality, environmental microbiology and renewable energy

Baoshan Huang
Edwin G. Burdette Professor
PE, PhD, Louisiana State University
419 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-974-7713
E-mail: bhuang@utk.edu
c.ee.utk.edu/people/baoshan-huang

Honors & Affiliations
• Chair, ASCE Bituminous Materials Committee 2010-2012
• Associate Editor, ASCE Journal of Materials in Civil Engineering

Research Areas
Construction materials, pavement engineering, constitutive modeling and numerical analysis and geotechnical engineering

Asad Khattak
Alvin and Sally Beaman Professor
PhD, Northwestern University
322 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-974-7792
E-mail: akhattak@utk.edu
c.ee.utk.edu/people/asad-khattak

Honors & Affiliations
• Editor-in-Chief, Journal of Intelligent Transportation Systems, 2014 Impact Factor: 1.377
• Associate Editor, International Journal of Sustainable Transportation, 2014 Impact Factor: 2.548
• Member, Transportation Research Board User Information Systems Committee

Research Areas
Intelligent transportation systems, transportation safety, sustainable transportation

Frank Loeffler
Governor’s Chair Professor
PhD, University of Hohenheim/Technical University Harburg
706 Science & Engineering Research Facility
Knoxville, TN 37996-2000
Phone: 865-974-4004
E-mail: frank.loeffler@utk.edu
c.ee.utk.edu/people/frank-loeffler

Honors & Affiliations
• Fellowship of the American Academy of Microbiology, 2016
• ESTCP Cleanup Project of the Year Award, 2015
• Editor, Applied and Environmental Microbiology, 2013-2018
• SERDP, Cleanup Project of the Year Award, 2004, 2006
• National Science Foundation CAREER Award, 2001
• Alexander von Humboldt Foundation Feodor Lynen Fellow

Research Areas
Environmental microbiology and the use of bacteria to clean and protect environmental resources

Shashi Nambisan
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PE, University of California, Berkeley
320 John D. Tickle Engineering Building
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c.ee.utk.edu/people/shashi-nambisan

Honors & Affiliations
• Co-chair, Committee on National Transportation Data Requirements, Transportation Research Board of the National Academies
• Education Director, Southeastern Transportation Center
• Professor Shashi Nambisan Day, Proclamation by the Governor, State of Nevada, January 31, 2007
• Past President, Council of University Transportation Centers, 2014-2015

Research Areas
Transportation safety, risk analysis; data-enabled decision support systems; vulnerable road users; education and workforce development

Angelica M. Palomino
Assistant Professor
PhD, Georgia Institute of Technology
423 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-974-7757
E-mail: angel@utk.edu
c.ee.utk.edu/people/angel-palomino

Honors & Affiliations
• Member, American Society of Civil Engineers, Geo-Institute, Sigma Xi Scientific Research Society, Clay Mineral Society

Research Areas
Engineered Soils - particle modification, engineered soil fabrics, clay particle surface modification, micro-scale soil mechanics, geoprisms in pavement engineering applications, large-volume applications of coal combustion products

Z. John Ma
Professor
PE, PhD, University of Nebraska
315 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
Phone: 865-974-7276
E-mail: zma2@utk.edu
c.ee.utk.edu/people/z-john-ma

Honors & Affiliations
• ASCE Raymond C. Reese Research Prize, 2013
• Fellow, American Society of Civil Engineers
• Departmental Scholar Recognition Award, 2012
• NSF CAREER Award, 2004
• Co-winner, ASCE T.Y. Lin Award, 2002
• Outstanding Engineering Educator, ASCE Tennessee Section

Research Areas
Behavior and design of FRP decks and concrete bridges; mechanics and application of FRP composites; sustainable structures

Thanos Papanicolaou
Goodrich Chair of Excellence Professor
PhD, Virginia Tech University
410 John D. Tickle Engineering Building
Knoxville, TN 37996-2313
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Honors & Affiliations
• Director, Hydraulics and Sedimentation Laboratory
• Tennessee Water Resources Research Director, Tennessee Water Resources Research Center
• American Society of Civil Engineers (ASCE) Hydraulics Hunter Rouse Award, 2014
• Editor-in-Chief of Hydraulic Engineering, 2014
• Co-director, Critical Zone Observatory for Intensively Managed Landscapes, 2014
• ASCE Walter Huber Award Fellow, 2008
• Member, American Geophysical Union, ASCE, Soil and Water Conservation Society, American Society for Engineering Education

Research Areas
Hydrodynamics, modeling, sediment transport, sensors
### RESEARCH AREAS

**Development and field application of computer models for multiphase flow and reactive chemical transport in geologic media, inverse modeling, groundwater remediations system design; uncertainty analysis; stochastic cost optimization; forensic hydrology**

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**Granular materials; 3D mechanical properties; microstructure; flow through porous media; neutron and x-ray tomography; neutron residual stress mapping and polymeric composites**

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**Crystal plasticity of structural materials, composite performance computing**

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**Bank erosion; conservation practices; isotopic tracers; runoff and infiltration; sediment source partitioning; soil organic carbon biogeochemistry**
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>University</th>
<th>Building</th>
<th>Address</th>
<th>Phone</th>
<th>Email</th>
<th>Web Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leon M. Tolbert</td>
<td>Min H. Kao Professor and Head</td>
<td>Engineering Research Fellow Award, 2003, 2007, 2012, 2013</td>
<td>401C Min H. Kao Building</td>
<td>Knoxville, TN 37996-2250</td>
<td>865-974-8147</td>
<td><a href="mailto:tolbert@utk.edu">tolbert@utk.edu</a></td>
<td><a href="http://www.eecs.utk.edu/people/faculty/tolbert">www.eecs.utk.edu/people/faculty/tolbert</a></td>
</tr>
<tr>
<td>Mongi A. Abidi</td>
<td>Cook-Eversole Professor</td>
<td>Engineering Research Fellow Award, 2003, Gonzales &amp; Bradstreet Who's Who in Executives and Business, 2002-2003</td>
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<td>Knoxville, TN 37996-2250</td>
<td>865-974-5454</td>
<td><a href="mailto:abidi@utk.edu">abidi@utk.edu</a></td>
<td><a href="http://www.eecs.utk.edu/people/faculty/abidi">www.eecs.utk.edu/people/faculty/abidi</a></td>
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<tr>
<td>Micah Beck</td>
<td>Associate Professor</td>
<td></td>
<td>433 Min H. Kao Building</td>
<td>Knoxville, TN 37996-2250</td>
<td>865-974-3548</td>
<td><a href="mailto:mbeck@utk.edu">mbeck@utk.edu</a></td>
<td><a href="http://www.eecs.utk.edu/people/faculty/mbeck">www.eecs.utk.edu/people/faculty/mbeck</a></td>
</tr>
<tr>
<td>Michael W. Berry</td>
<td>Professor</td>
<td>Allen and Hoshall Engineering Faculty Award, 2010, L.P. Hesler Award for Excellence in Teaching and Service, Chancellor’s Honors, 2011, Moses E. and Mayme Brooks Distinguished Professor Award, 2009</td>
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<td>Knoxville, TN 37996-2250</td>
<td>865-974-3838</td>
<td><a href="mailto:berry@utk.edu">berry@utk.edu</a></td>
<td><a href="http://www.eecs.utk.edu/people/faculty/mberry">www.eecs.utk.edu/people/faculty/mberry</a></td>
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<tr>
<td>Benjamin J. Blalock</td>
<td>Blalock-Kennedy-Pierce Professor</td>
<td>Gonzales Family Award for Excellence in Teaching, 2009, Chancellor’s Award for Professional Promise, 2006, COE Research Fellow Award, 2005 &amp; 2006, Eta Kappa Nu Outstanding Teacher Award, 2002</td>
<td>513 Min H. Kao Building</td>
<td>Knoxville, TN 37996-2250</td>
<td>865-974-0927</td>
<td><a href="mailto:bblalock@eecs.utk.edu">bblalock@eecs.utk.edu</a></td>
<td><a href="http://www.eecs.utk.edu/people/faculty/bblalock">www.eecs.utk.edu/people/faculty/bblalock</a></td>
</tr>
</tbody>
</table>

**Research Focus**

- Bioinformatics
- Communication
- Computer Engineering
- Computer Vision & Robotics
- Electromagnetics
- Electro-Optics
- High Performance Computing
- Image & Information Processing
- Intelligent Control
- Microelectronics
- Mixed-Signal VLSI
- Monolithic Sensors
- Networking
- Parallel Computing
- Plasma Engineering
- Power Electronics & Systems
- Sensor Fusion
- Signal Processing
- Visualization

**Research Areas**

- Power systems and power electronics, hybrid electric vehicles, renewable energy and silicon carbide power electronics
- Image processing, robotics, artificial intelligence, multi-sensor integration and data fusion
- Distributed systems, networking, content distribution, storage systems, scalable services and data grids
- Information retrieval, data and text mining, bioinformatics, computational science and scientific and parallel computing
- Analog/mixed-signal integrated circuit design for extreme environments (both wide temperature and radiation); high-temperature/high-voltage gate drive circuits for wide bandgap power electronics; multi-channel monolithic instrumentation systems; and mixed-signal/mixed voltage circuit design for systems-on-a-chip
### RESEARCH AREAS

**Qing (Charles) Cao**
Associate Professor  
PhD, University of Illinois  
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Phone: 865-974-5417  
E-mail: qcao1@utk.edu

- Member, ACM, IEEE, IEEE Computer Society  
- National Science Foundation CAREER Award, 2010  
- ECE Early Career Award, 2010

**Daniel Costinett**
Assistant Professor  
PhD, University of Colorado, Boulder  
502 Min H. Kao Building  
Knoxville, TN 37996-2250  
Phone: 865-974-3572  
E-mail: dcostine@utk.edu

- Best Paper Award, COMPEL 2012  
- Best Presentation Award, APEC 2012  
- Associate Editor, IEEE Trans on Industrial Applications  
- ECE Faculty of the Year, 2015  
- Member, ACM, IEEE, Systms

**Mark E. Dean**
Fisher Distinguished Professor  
PhD, Stanford University  
319 Min H. Kao Building  
Knoxville, TN 37996-2250  
Phone: 865-974-5784  
E-mail: markdean@utk.edu

- Distinguished Alumni Award, University of Tennessee, 2012  
- Distinguished Alumni Award, Florida Atlantic University, 2009  
- Percy Julian Award & Outstanding Scientist of the Year, Harvard Society of Black Scientists and Engineers, 2007  
- National Institute of Science (NIS) 2006 Outstanding Scientist Award  
- Dougherty Award, 2005, UT College of Engineering  
- IEEE Fellow, 2002  
- Forty patents issued

**Seddik M. Djouadi**
Professor  
PhD, McGill University  
641 Min H. Kao Building  
Knoxville, TN 37996-2250  
Phone: 865-974-5447  
E-mail: mdjouadi@utk.edu

- Best Paper Award in the 1st Mediterranean Conference on Intelligent Systems and Automation  
- Ralph E. Powe Junior Faculty Award, 2005  
- Outstanding Reviewer for Automatica, 2004 and 2007  
- National Research Council/U.S. Air Force Research Laboratory Associateship Award, 2000

**Wei Gao**
Assistant Professor  
PhD, Pennsylvania State University  
353 Min H. Kao Building  
Knoxville, TN 37996-2250  
Phone: 865-974-3984  
E-mail: weigao@utk.edu

- Wireless networking, mobile systems, cyber-physical systems, social networks, pervasive mobile computing

**Judy Day**
Assistant Professor  
PhD, University of Pittsburgh  
301 Min H. Kao Building  
Knoxville, TN 37996-2250  
Phone: 865-974-8491  
E-mail: jday22@utk.edu

- Adjunct associate professor of radiology

### RESEARCH AREAS

**RESEARCH AREAS**

- Networked embedded systems, wireless sensor networks, operating systems, wireless networking, embedded software
- High efficiency power conversion, energy harvesting, implantable devices, and electric vehicles
- Development and analysis of mathematical models relating to the immune response to various stimuli and the application of control methodologies to modulate the immune response with therapeutic inputs
- Numerical algorithms in linear algebra, parallel computing, use of advanced computer architectures, programming methodology and tools for parallel computers
- Electromagnetics, antennas, microwaves, wireless and ultra wide band radars
- Wireless networking, mobile systems, cyber-physical systems, social networks, pervasive mobile computing
- Pattern recognition, image processing and computer tomography

### Honors & Affiliations

- Member, ACM, IEEE, IEEE Computer Society  
- National Science Foundation CAREER Award, 2010  
- ECE Early Career Award, 2010

- Best Paper Award, COMPEL 2012  
- Best Presentation Award, APEC 2012  
- Associate Editor, IEEE Trans on Industrial Applications  
- ECE Faculty of the Year, 2015  
- Member, ACM, IEEE, Systms

- Distinguished Alumni Award, University of Tennessee, 2012  
- Distinguished Alumni Award, Florida Atlantic University, 2009  
- Percy Julian Award & Outstanding Scientist of the Year, Harvard Society of Black Scientists and Engineers, 2007  
- National Institute of Science (NIS) 2006 Outstanding Scientist Award  
- Dougherty Award, 2005, UT College of Engineering  
- IEEE Fellow, 2002  
- Forty patents issued

- Best Paper Award in the 1st Mediterranean Conference on Intelligent Systems and Automation  
- Ralph E. Powe Junior Faculty Award, 2005  
- Outstanding Reviewer for Automatica, 2004 and 2007  
- National Research Council/U.S. Air Force Research Laboratory Associateship Award, 2000

### RESEARCH AREAS

- Advanced computer systems architectures and structures
- Systems and control, wireless communication, estimation and identification and computer vision
- Development and analysis of mathematical models relating to the immune response to various stimuli and the application of control methodologies to modulate the immune response with therapeutic inputs
- Numerical algorithms in linear algebra, parallel computing, use of advanced computer architectures, programming methodology and tools for parallel computers
- Electromagnetics, antennas, microwaves, wireless and ultra wide band radars
- Wireless networking, mobile systems, cyber-physical systems, social networks, pervasive mobile computing
- Pattern recognition, image processing and computer tomography
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<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>University/Institution</th>
<th>Address</th>
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<tbody>
<tr>
<td>Gong Gu</td>
<td>Associate Professor</td>
<td>PhD, Princeton University</td>
<td>545 Min H. Kao Building</td>
<td>865-974-5443</td>
<td><a href="mailto:ggu1@utk.edu">ggu1@utk.edu</a></td>
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<td>Honors &amp; Affiliations</td>
<td>• Referee for Applied Physics Letter, Journal</td>
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<td>of Applied Physics, Organic Electronics, Thin</td>
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<td>Solid Films, IEEE Electron Device Letters, and</td>
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<td>• Thirteen U.S. patents on organic</td>
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<td>semiconductor devices, display technologies</td>
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<td>and circuit design</td>
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<td>• Proposal reviewer for the Research</td>
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<td>Grants Council (RGC) of Hong Kong</td>
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<td>RESEARCH AREAS</td>
<td>Devices based on novel materials; semiconductor</td>
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<td>and device physics, processing and materials</td>
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<tr>
<td>Syed Kamrul Islam</td>
<td>James McConnell Professor and</td>
<td>PhD, University of Connecticut</td>
<td>504 Min H. Kao Building</td>
<td>865-974-8531</td>
<td><a href="mailto:sislam@utk.edu">sislam@utk.edu</a></td>
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<td></td>
<td>Associate Head</td>
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<td>Achievement, 2012</td>
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<td></td>
<td>• James W. McConnell Professor, COE, August 1</td>
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<td>2011-Present</td>
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<td>• UT COE Research Fellow Award, 2007, 2009</td>
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<td>• Min Kao Fellowship, 2006</td>
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<td>• Moses E. and Mayme Brooks Distinguished</td>
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<td>Professor Award, 2006</td>
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<td></td>
<td></td>
<td>• Eta Kappa Nu Outstanding Teacher Award,</td>
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<td>2004, 2005</td>
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<td></td>
<td></td>
<td>• John W. Fisher Professor, COE, August 1,</td>
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<td></td>
<td></td>
<td>2001- July 31, 2003</td>
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<tr>
<td></td>
<td>RESEARCH AREAS</td>
<td>Semiconductor devices, analog/mixed signal</td>
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<td>Very-Large-Scale Integration and monolithic</td>
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<td>sensors</td>
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<tr>
<td>Michael Jantz</td>
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<td>865-974-5470</td>
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</tr>
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<td>Knoxville, TN 37996-2250</td>
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<td><a href="http://www.eecs.utk.edu/people/faculty/mrjantz">www.eecs.utk.edu/people/faculty/mrjantz</a></td>
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<td></td>
<td>Honors &amp; Affiliations</td>
<td>• Upsilon Pi Epsilon Special Recognition</td>
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<td>Scholarship, 2011</td>
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<td>• Self Graduate Fellowship Honorable Mention</td>
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<td>Award, 2011</td>
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<td>• Paul F. Huebner Memorial Award for</td>
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<td>Excellence in Teaching, 2010</td>
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<td>• Member, Upsilon Pi Epsilon</td>
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<td>• American Society for Engineering Education</td>
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<tr>
<td></td>
<td>RESEARCH AREAS</td>
<td>Compilers, operating systems, and runtime</td>
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<td>systems (virtual machines); innovative system</td>
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<td>tools and techniques to enable more</td>
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<td>efficient execution on modern architectures</td>
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<tr>
<td>Fangxing (Fran) Li</td>
<td>Associate Professor</td>
<td>PE, PhD, Virginia Polytechnic Institute and</td>
<td>523 Min H. Kao Building</td>
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<td><a href="mailto:flil6@utk.edu">flil6@utk.edu</a></td>
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<td></td>
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<td>State University</td>
<td>Knoxville, TN 37996-2250</td>
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<td>Honors &amp; Affiliations</td>
<td>• Fellow of IET (formerly IEEE)</td>
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<td>• UT Chancellor’s Award for Professional</td>
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<td>Promise in Research and Creative Achievement,</td>
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<td></td>
<td>• College of Engineering Research Fellow, 2009</td>
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<td>• Director, CURENT Education Program</td>
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<td>• Editor, IEEE Transactions on Sustainable</td>
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<td>Energy</td>
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<td>• Secretary, IEEE Power and Energy Society</td>
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<td>PSPI Committee</td>
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<tr>
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<td>RESEARCH AREAS</td>
<td>Power systems; smart grid, renewable energy</td>
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<td>integration, electricity market</td>
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<tr>
<td>Husheng Li</td>
<td>Associate Professor</td>
<td>PhD, Princeton University</td>
<td>644 Min H. Kao Building</td>
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<td><a href="mailto:hili31@utk.edu">hili31@utk.edu</a></td>
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<td>Honors &amp; Affiliations</td>
<td>• Best Paper Award of EURASIP Journal on</td>
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<td>Wireless Communications and Networking, 2005</td>
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<td></td>
<td>• Member, IEEE</td>
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<td>RESEARCH AREAS</td>
<td>Wireless communications, signal processing,</td>
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<td>information theory and networking</td>
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<tr>
<td>David Icove</td>
<td>UL Professor of Practice</td>
<td>PhD, The University of Tennessee</td>
<td>643 Min H. Kao Building</td>
<td>865-974-8051</td>
<td><a href="mailto:icove@utk.edu">icove@utk.edu</a></td>
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<td>Honors &amp; Affiliations</td>
<td>• Registered Professional Engineer, Tennessee,</td>
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<td>Virginia, Texas, Pennsylvania &amp; Louisiana</td>
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<td>• Member, National Society of Professional</td>
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<td>Engineers</td>
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<td>• Senior Member, IEEE</td>
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<td>• Certified Fire and Explosion Investigator</td>
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<td>(NAFI)</td>
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<tr>
<td>Michael A. Langston</td>
<td>Professor</td>
<td>PhD, Texas A&amp;M University</td>
<td>642 Min H. Kao Building</td>
<td>865-974-3534</td>
<td><a href="mailto:langston@tennessee.edu">langston@tennessee.edu</a></td>
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<td>• COE Faculty Research, 2012</td>
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<td></td>
<td>• Distinguished Researcher Award, Canadian</td>
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<td>Mathematical Society, 2011</td>
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<td>• Gonzalez Family Research Excellence Award,</td>
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<td>University of Tennessee, 2011</td>
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<td></td>
<td>• COE Faculty Research Fellow, 2008</td>
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<td>• Department of Energy EPScor Award, 2007</td>
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<td>• UT Research and Creative Achievement, 2004</td>
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<td>Distinguished Service Prize, 2001</td>
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<td>RESEARCH AREAS</td>
<td>Analysis of algorithms, combinational</td>
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<td>optimization, computational biology, graph</td>
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<td>theory, high performance computing</td>
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<tr>
<td>Yilu Liu</td>
<td>Governor's Chair Professor,</td>
<td>PhD, Engineering Research Center</td>
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<td><a href="mailto:liu@utk.edu">liu@utk.edu</a></td>
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<td></td>
<td>Deputy Director of NSF/DOE</td>
<td>Ohio State University</td>
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<td>Engineering Research Center</td>
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<td>• Fellow, IEEE</td>
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<td>• Editorial Board of IEEE Proceedings</td>
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<td>• Editorial Board of European Transactions on</td>
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<td>Electric Power</td>
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</table>
**ELECTRICAL ENGINEERING AND COMPUTER SCIENCE**

**Bruce MacLennan**
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*Honors & Affiliations*  
- University Studies Interdisciplinary Scholar of the Year, 2005-06  
- Fellow, Institute for Advanced Studies, Collegium Budapest, 1997  
- Member, AAAS; IEEE; IEEE Computer Society and Computer Intelligence Society  
- Editor-in-Chief, *International Journal Nanotechnology* and *Molecular Computation*

**Donatello Materassi**
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E-mail: dmateras@utk.edu

*Honors & Affiliations*  
- Best Paper Award, *SIDRA* conference, 2011  
- Fellowship, University of Florence, 2004-2007  
- Università degli Studi di Firenze, 2003, Laurea in Computer Science Engineering, with Encomio Accademico (valedictorian)

**Audris Mockus**
Ericsson-Harlan Mills Chair Professor  
PhD, Carnegie Mellon University  
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E-mail: audris@utk.edu

*Honors & Affiliations*  
- Ranked ninth of the top software engineering scholars in Communications of the ACM, 2007  
- Most influential paper of International Conference on Software Engineering, 2000  
- Member, Institute of Electrical and Electronics Engineers; Association for Computing Machinery; American Association for the Advancement of Science; American Society for Engineering Education

**Lyne E. Parker**
Professor and Associate Head  
PhD, Massachusetts Institute of Technology  
617 Min H. Kao Building  
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E-mail: lepark@utk.edu

*Honors & Affiliations*  
- COE Moses and Mayne Brooks Distinguished Professor Award, 2013  
- Chancellor’s Award for Research & Creative Achievement, 2011  
- Fellow, IEEE, 2010; Member, ACM, AAAI  
- COE Allen & Hoshall Engineering Faculty Award, 2009  
- Gonzalez Family Award for Excellence in Research, 2009  
- UTK Angie Warren Perkins Award, 2006  
- PECASE Award, 2000

**Hector Pulgar-Painemal**
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E-mail: hpu@utk.edu

*Honors & Affiliations*  
- Fulbrighter  
- Member, CURENT, NSF Engineering Research Center  
- Member, Institute of Electrical and Electronics Engineers; American Society for Engineering Education

**Nicole McFarlane**
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PhD, University of Maryland  
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E-mail: mcf@utk.edu

*Honors & Affiliations*  
- Future Faculty Fellowship by University of Maryland Engineering Department, 2007  
- Outstanding TA Award, 2007

**James S. Plank**
Professor  
PhD, Princeton University  
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*Honors & Affiliations*  
- Gonzalez Family Teaching Excellence Award, 2012  
- COE Teaching Fellow, 2010  
- Chancellor’s Award for Excellence in Teaching, 2008  
- NSF CAREER Award, 1997  
- Best Paper Award, IEEE Network Computing Applications, 2006

**HaiHong Qi**
Gonzalez Family Professor  
PhD, North Carolina State Univ.  
304 Min H. Kao Building  
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E-mail: hqi@utk.edu

*Honors & Affiliations*  
- Best Paper Award, 3rd ACM/IEEE Int. Conf. on Distributed Smart Cameras, 2009  
- Best Paper Award, Int. Conf. on Pattern Recognition, 2006  
- NSF CAREER Award, 2005  
- Chancellor’s Award for Professional Promise, 2004  
- Leon and Nancy Cole Superior Teaching Award, 2006  
- COE Research Fellow Award, 2008

**RESEARCH AREAS**

- Computation in natural and artificial systems, molecular computation and self-organization for nanotechnology and post-Moore’s Law computation

- Identification and modeling; graphical models; computational biophysics; statistical methods; statistical mechanics; cybernetics; control theory

- Distributed mobile robots, human-robot interaction, artificial intelligence, sensor networks, multi-agent systems and machine learning

- Power systems dynamics and stability; power system operation and control; renewable energy integration; energy storage systems; wind farm modeling; voltage collapse and bifurcation analysis

- Image processing and computer vision and collaborative processing in resource-constraint networks

**RESEARCH AREAS**

- Software engineering; data science; digital archaeology

- Mixed signal VLSI circuit design particularly applied to bio-sensors and imaging; exploring the application of information theory to study trade-offs in circuit design; microfabrication and development of devices

- Advanced computer systems, computational science, reconfigurable computing and design automation

- Fault-tolerant computing and storage systems, erasure codes, distributed computing and operating systems

- Fault-tolerant computing and storage systems, erasure codes, distributed computing and operating systems

- Software engineering; data science; digital archaeology
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
<th>Research Areas</th>
<th>Honors &amp; Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garrett Rose</td>
<td>Associate Professor</td>
<td>PhD, University of Virginia</td>
<td>• Honors &amp; Affiliations</td>
<td>• Member, Institute of Electrical and Electronics Engineers (IEEE); Association for Computing Machinery; IEEE Computer Society; IEEE CAS Society; American Society for Engineering Education • Associate Editor, IEEE Transactions on Nanotechnology</td>
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<td>Phone: 865-974-3132</td>
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<td>E-mail: <a href="mailto:garose@utk.edu">garose@utk.edu</a></td>
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<tr>
<td>Max Schuchard</td>
<td>Assistant Professor</td>
<td>PhD, University of Minnesota</td>
<td>• Honors &amp; Affiliations</td>
<td>• Best Paper Award, ACM CCS, 2012</td>
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<td>345 Min H. Kao Building</td>
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<td>E-mail: <a href="mailto:mschuch@utk.edu">mschuch@utk.edu</a></td>
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<tr>
<td>Jinyuan (Stella) Sun</td>
<td>Assistant Professor</td>
<td>PhD, University of Florida</td>
<td>• Honors &amp; Affiliations</td>
<td>• Member, ACM and IEEE</td>
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<td>E-mail: <a href="mailto:jysun@utk.edu">jysun@utk.edu</a></td>
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<tr>
<td>Kai Sun</td>
<td>Assistant Professor</td>
<td>PhD, Tsinghua University, Beijing, China</td>
<td>• Honors &amp; Affiliations</td>
<td>• Project manager at Electric Power Research Institute, grid operations, planning, and renewable integration before joining UT</td>
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<td>E-mail: <a href="mailto:kaisun@utk.edu">kaisun@utk.edu</a></td>
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<tr>
<td>Chao Tian</td>
<td>Associate Professor</td>
<td>PhD, Cornell University</td>
<td>• Honors &amp; Affiliations</td>
<td>• Senior Member, Institute of Electrical and Electronics Engineers • Liu Memorial Award, Cornell University, 2014 • AT&amp;T Key Contributor Awards, 2009-2013</td>
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<tr>
<td>Kevin Tomsovic</td>
<td>CTI Professor and Director</td>
<td>Center for Ultra-wide-area Resilient Electric Energy Transmission Networks</td>
<td>• Honors &amp; Affiliations</td>
<td>• College of Engineering Research Achievement Award, 2015 • IEEE Fellow, 2007 • Outstanding Researcher, WSU 2001, 2003, 2004 • Outstanding EE Teaching Faculty, WSU 1996, 2002</td>
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<td>PhD, University of Washington</td>
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<tr>
<td>Brad Vander Zanden</td>
<td>Professor</td>
<td>PhD, Cornell University</td>
<td>• Honors &amp; Affiliations</td>
<td>• Member, Association for Computing Machinery • Member, IEEE Computer Society</td>
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<td>E-mail: <a href="mailto:bvanderz@utk.edu">bvanderz@utk.edu</a></td>
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<tr>
<td>Michael D. Vose</td>
<td>Associate Professor</td>
<td>PhD, University of Texas, Austin</td>
<td>• Honors &amp; Affiliations</td>
<td>• Member, American Mathematical Society</td>
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<tr>
<td>Fei (Fred) Wang</td>
<td>Professor and R.M. Condra</td>
<td>Chair of Excellence</td>
<td>• Honors &amp; Affiliations</td>
<td>• Fellow, IEEE • Associate Editor, IEEE Transactions on Power Electronics • IEEE Member of Power Electronics, Industry Applications, Power &amp; Energy and Industrial Electronics Societies • Member, IEEE IAS Industrial Drives and Industrial Power Converter Committees and IEEE PELS Rectifiers and Inverters Task Force • Vice Chairman, Task Force, Control Architecture for IEEE PES WG 18 Power Electronics Building Blocks</td>
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<td>E-mail: <a href="mailto:fred.wang@utk.edu">fred.wang@utk.edu</a></td>
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</table>
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E-mail: jwu10@utk.edu

www.eecs.utk.edu/people/faculty/jwu10
Honors & Affiliations
• Research and Creative Achievement-Professional Promise Award, University of
  Tennessee, 2008
• ORAU Powa Junior Faculty Award, 2006
• NSF CAREER Award, 2005
• Senior Member, IEEE

RESEARCH AREAS
Microfluidics, solid-state sensors and actuators and
microelectromechanical systems (MEMS)

Yan Xu
Eastman Professor of Practice
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Honors & Affiliations
• Research staff, Oak Ridge National Laboratory
• Senior Member, Institute of Electrical and
  Electronics Engineers (IEEE)
• Member, IEEE Power and Energy Society, IEEE
  Power Electronics Society

RESEARCH AREAS
Power systems and power electronics; including
utility applications of power electronics; renewable
energy integration; smart grid; microgrid; communica-
tion; control; protection; energy management of power
systems
Shuguang Ji
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Honors & Affiliations
- Editorial Board Member, Transportation Research Part E: Logistics and Transportation Review
- Editorial Board Member, Hellyon
- Member, Sigma Xi: the Scientific Research Society
- Member, American Statistical Association

RESEARCH AREAS
- Transportation and energy policy; statistical analysis

Klaus M. Blache
Research Professor and Director,
Reliability & Maintainability Center
PhD, Wayne State University
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Phone: 865-974-9628
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rmc.utk.edu/about/people

Honors & Affiliations
- Engineering Excellence Award, General Motors Institute Alumni
- Special Achievement Award for Innovation, GM North American Hfg. Center
- Past Chairman, Society of Maintenance & Reliability Professionals
- Most Valuable Colleague Award, General Motors Research & Development
- J.D. Power Gold Award (Highest Quality, North America) – CTS Cadillac Plant
- Member, Society of Maintenance & Reliability Professionals, Human Factors Society

RESEARCH AREAS
- Reliability and maintainability, lean process implementation, benchmarking competitive practices, instilling problem-solving cultures and strategies that lead to business results

Alberto Garcia
Professor and Director of Graduate Studies
PhD, University of Illinois-Urbana
51B John D. Tickle Engineering Building
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Honors & Affiliations
- Fellow, Institute of Industrial Engineers
- Member, National Council of Examiners for Engineering and Surveying
- Member, Institute for Operations Research and the Management Sciences

RESEARCH AREAS
- Supply chain management, transportation, logistics, optimization, stochastic processes

John Kobza
Professor and Head
PhD, Virginia Polytechnic Institute and State University
525E John D. Tickle Engineering Building
Knoxville, TN 37996-2315
Phone: 865-974-4711
E-mail: jkobza@utk.edu
ise.utk.edu/people/john-e-kobza

Honors & Affiliations
- Fellow of the Institute of Industrial Engineers
- Registered Professional Engineer, Texas
- Member, Institute for Operations Research and Management Sciences

RESEARCH AREAS
- Stochastic processes, quality, systems involving risks and uncertainty

Anahita Khojandi
Assistant Professor
PhD, University of Pittsburgh
521 John D. Tickle Engineering Building
Knoxville, TN 37996-0700
Phone: 865-974-0234
E-mail: khojandi@utk.edu
ise.utk.edu/people/anahita-khojandi

Honors & Affiliations
- Member, Institute for Operations Research and the Management Sciences; Society for Medical Decision Making; Institute of Industrial Engineers; American Society for Engineering Education

RESEARCH AREAS
- Sequential decision making under uncertainty; medical decision making; reliability; maintenance optimization; stochastic processes; Markov decision processes
## Industrial and Systems Engineering

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Affiliation</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xueping Li</td>
<td>Associate Professor</td>
<td>PhD, Arizona State University</td>
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<tr>
<td>H. Lee Martin</td>
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<td>PhD, The University of Tennessee</td>
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<tr>
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</tr>
<tr>
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<td>PhD, University of Tennessee</td>
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<td>Zhimin Xi</td>
<td>Assistant Professor</td>
<td>PhD, University of Maryland, College Park</td>
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<tr>
<td>Andrew J. Yu</td>
<td>Associate Professor</td>
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<td></td>
</tr>
</tbody>
</table>

## Research Areas

<table>
<thead>
<tr>
<th>Research Area</th>
<th>Honors &amp; Affiliations</th>
</tr>
</thead>
</table>
| Complex systems modeling, simulation and optimization; healthcare logistics; supply chain management; scheduling; information assurance | - Member, Institute for Operations Research & Management Sciences  
- Member, Institute of Electrical and Electronics Engineers  
- Member, Institute of Industrial Engineers                                                                 |
| Effective undergraduate and graduate student education; faculty development in health sciences and healthcare analytics | - UT Chancellor’s Associates, 2003-2008; Chairman 2006  
- College of Engineering Board of Advisors, 2000-2010  
- Member, National Society of Professional Engineers, 1980-2004  
- Member, American Society of Mechanical Engineers, 1978-present  
- Holder of twenty-one US Letters of Patent  
- NSPE National Young Engineer of the Year, 1986  
- R&D Magazine R&D 100 Awards, 1983, 1994                                                                 |
| Modeling and analysis of production systems with a focus on reliability and lean | - Waller Boeing Fellow  
- Lean Production Fellowship  
- Member, Institute for Industrial Engineers (IIE)  
- Member, Tau Beta Pi  
- Member, Alpha Pi Mu                                                                 |
| Healthcare systems engineering, optimization and simulation models in healthcare, stochastic optimization, parallel computing, communication networks | - Member, Institute for Operations Research and Management Sciences                                                                 |
| Supply chain systems and optimization; systems engineering—requirements, logistics support, and systems of systems; scheduling | - Member, Institute of Industrial Engineers  
- Member, Institute for Operations Research and Management Sciences                                                                 |

## RESEARCH AREAS

- Agricultural biomass in energy production and eco-feasibility of cottonseed oil based bio-diesel; utilizing systems-supplement; NSF I/UCRC program; economic systems; quantifying the purchasing power of public transportation; CELDI; human interaction in logistics systems-supplement; NSF I/UCRC program; economic feasibility of cottonseed oil based bio-diesel; utilizing agricultural biomass in energy production and economic development; public transportation maintenance knowledge and resource sharing project

- System design for high reliability organizations systems; quantifying the purchasing power of public transportation; CELDI; human interaction in logistics systems-supplement; NSF I/UCRC program; economic feasibility of cottonseed oil based bio-diesel; utilizing agricultural biomass in energy production and economic development; public transportation maintenance knowledge and resource sharing project

- Integer programming, stochastic programming, nonlinear programming, combinatorial optimization, power generation, scheduling problems, energy markets

- Healthcare systems engineering, optimization and simulation models in healthcare, stochastic optimization, parallel computing, communication networks

- Supply chain systems and optimization; systems engineering—requirements, logistics support, and systems of systems; scheduling
RESEARCH FOCUS

- Metals
- Polymers
- Ceramics
- Composites
- Optical/Electronic Materials

CONTACT

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VEERLE KEPPENS
Professor and Head; Associate Dean for Faculty Affairs; Director, Joint Institute for Advanced Materials
PhD, K.U. Leuven, Belgium
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Knoxville, TN 37996-2100
Phone: 865-974-5336
E-mail: vkeppens@utk.edu

Honors & Affiliations
- College of Engineering Research Fellow Award, 2009
- Chancellor’s Award for Professional Promise, 2007
- Departmental Outstanding Young Faculty Researcher, 2005
- Alexander Von Humboldt Fellow, 1998-1999
- Fulbright/NATO Fellow, 1995-1998
- Fellow, Acoustical Society of America

RESEARCH AREAS

Elastic constants and magnetic properties of novel materials.

HANNA CHOO
Associate Professor
PhD, Illinois Inst. of Technology
411 Ferris Hall
Knoxville, TN 37996-2100
Phone: 865-974-3643
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www.engr.utk.edu/mse/faculty/choo/default.html

Honors & Affiliations
- COE Teaching Fellow Award, 2014
- Leon and Nancy Cole Superior Teaching Award, 2013
- Faculty Award for Excellence in Teaching, 2010, 2014
- Professional Promise in Research and Creative Achievement, University of Tennessee, 2006

RESEARCH AREAS

Mechanical behavior of materials; neutron and synchrotron x-ray diffraction, amorphous, nanocrystalline, and ultrafine-grained alloys.

LINO COSTA
Research Assistant Professor
PhD, Instituto Superior Técnico, Universidade Técnica de Lisboa
UT Space Institute
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Phone: 931-393-7236
E-mail: lcosta@utsi.edu

www.utsi.edu/faculty/lcosta/lcosta.htm

Honors & Affiliations
- Member, Laser Institute of America
- Reviewer, Rapid Prototyping Journal

RESEARCH AREAS

Template-assisted fabrication of polymer nanofibers; functionalization of polymer nanofibers; laser materials processing; femtosecond laser machining; laser-assisted surface treatments; laser-assisted additive manufacturing of metals; electric double-layer capacitors.

ROBERTO S. BENSON
Professor and Associate Head
PhD, Florida State University
404 Ferris Hall
Knoxville, TN 37996-2100
Phone: 865-974-5347
E-mail: rbenson1@utk.edu

www.engr.utk.edu/mse/faculty/benson/default.html

Honors & Affiliations
- 2013 Outstanding Advisor for the College of Engineering
- Allen & Hoshall Engineering Faculty Award, 2004
- Celanese Teaching and Research Award, 2000

RESEARCH AREAS

Chemical and morphological characterization of fibers and polymers for biomedical applications.

WOJCIECH DMOWSKI
Research Associate Professor
PhD, Warsaw University of Technology
329 Ferris Hall
Knoxville, TN 37996-2100
Phone: 865-974-2268
Phone: 865-576-8684
E-mail: wdmowski@utk.edu

Honors & Affiliations
- Joint Institute for Neutron Sciences
- Secretary, SIG Amorphous Materials of the ACA, 200-2003
- Two research awards from the Ministry of Education and Science, Poland
- Member, TMS, ACA, ACS, APS and MRS

RESEARCH AREAS

Atomic structure and dynamics in liquids and glasses; nanoscale structures and local atomic ordering in materials; advanced structural characterization techniques.

GERD DUSCHER
Professor
Dr. rer. nat., University of Stuttgart
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Knoxville, TN 37996-2100
Phone: 865-974-5319
E-mail: gduscher@utk.edu

www.engr.utk.edu/mse/faculty/duscher/default.html

Honors & Affiliations
- Nanotechnology Impact Award, 2004
- George H. Bessis Outstanding Undergraduate Advisor Award, 2008
- College of Engineering Research Fellow Award, 2011
- Member, MRS, MSA, DPG, APS, TMS

RESEARCH AREAS

Interface science and analytical transmission electron microscopy.

Veerle Keppens
Professor and Head; Associate Dean for Faculty Affairs; Director, Joint Institute for Advanced Materials
PhD, K.U. Leuven, Belgium
414F Ferris Hall
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Honors & Affiliations
- College of Engineering Research Fellow Award, 2009
- Chancellor’s Award for Professional Promise, 2007
- Departmental Outstanding Young Faculty Researcher, 2005
- Alexander Von Humboldt Fellow, 1998-1999
- Fulbright/NATO Fellow, 1995-1998
- Fellow, Acoustical Society of America

RESEARCH AREAS

Elastic constants and magnetic properties of novel materials.

HANNA CHOO
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E-mail: hchoo@utk.edu

www.engr.utk.edu/mse/faculty/choo/default.html

Honors & Affiliations
- COE Teaching Fellow Award, 2014
- Leon and Nancy Cole Superior Teaching Award, 2013
- Faculty Award for Excellence in Teaching, 2010, 2014
- Professional Promise in Research and Creative Achievement, University of Tennessee, 2006

RESEARCH AREAS

Mechanical behavior of materials; neutron and synchrotron x-ray diffraction, amorphous, nanocrystalline, and ultrafine-grained alloys.

LINO COSTA
Research Assistant Professor
PhD, Instituto Superior Técnico, Universidade Técnica de Lisboa
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www.utsi.edu/faculty/lcosta/lcosta.htm

Honors & Affiliations
- Member, Laser Institute of America
- Reviewer, Rapid Prototyping Journal

RESEARCH AREAS

Template-assisted fabrication of polymer nanofibers; functionalization of polymer nanofibers; laser materials processing; femtosecond laser machining; laser-assisted surface treatments; laser-assisted additive manufacturing of metals; electric double-layer capacitors.

ROBERTO S. BENSON
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www.engr.utk.edu/mse/faculty/benson/default.html

Honors & Affiliations
- 2013 Outstanding Advisor for the College of Engineering
- Allen & Hoshall Engineering Faculty Award, 2004
- Celanese Teaching and Research Award, 2000

RESEARCH AREAS

Chemical and morphological characterization of fibers and polymers for biomedical applications.

WOJCIECH DMOWSKI
Research Associate Professor
PhD, Warsaw University of Technology
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Phone: 865-974-2268
Phone: 865-576-8684
E-mail: wdmowski@utk.edu

Honors & Affiliations
- Joint Institute for Neutron Sciences
- Secretary, SIG Amorphous Materials of the ACA, 200-2003
- Two research awards from the Ministry of Education and Science, Poland
- Member, TMS, ACA, ACS, APS and MRS

RESEARCH AREAS

Atomic structure and dynamics in liquids and glasses; nanoscale structures and local atomic ordering in materials; advanced structural characterization techniques.

GERD DUSCHER
Professor
Dr. rer. nat., University of Stuttgart
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E-mail: gduscher@utk.edu

www.engr.utk.edu/mse/faculty/duscher/default.html

Honors & Affiliations
- Nanotechnology Impact Award, 2004
- George H. Bessis Outstanding Undergraduate Advisor Award, 2008
- College of Engineering Research Fellow Award, 2011
- Member, MRS, MSA, DPG, APS, TMS

RESEARCH AREAS

Interface science and analytical transmission electron microscopy.
MATERIALS SCIENCE AND ENGINEERING

**Takeshi Egami**
**UT-ORNL Distinguished Scientist & Professor**
**PhD, University of Pennsylvania**
208 South College
Knoxville, TN 37996-2200
Phone: 865-974-7204
E-mail: egami@utk.edu

Honors & Affiliations:
- Director Emeritus, Shull Wollan Center—Joint Institute for Neutron Sciences
- J.D. Hanawalt Award, International Center for Diffraction Data
- B.E. Warren Diffraction Physics Award, American Crystallography Association, 2003
- Fellow, American Physical Society

**RESEARCH AREAS**
Physics of liquids and glasses, superconducting oxides and chalcogenides, neutron and x-ray scattering

**Jason Fowlkes**
**UT-ORNL Joint Associate Professor**
**PhD, The University of Tennessee**
304 Ferris Hall
Knoxville, TN 37996-2100
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E-mail: jfowlkes@utk.edu; fowlkesjd@ornl.gov

Honors & Affiliations:
- Nanofabrication Research Laboratory, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
- Bredesen Center for Interdisciplinary Research and Graduate Education

**RESEARCH AREAS**
Electron, ion, and photon beam processing; nanofabrications; physical vapor deposition; laser-induced phase transformations; lithographic methods; thin film processing; microfluidics

**Bin Hu**
**Professor**
**PhD, Chinese Academy of Sciences**
307 Joint Institute for Advanced Materials
Knoxville, TN 37996-2100
Phone: 865-974-3946
E-mail: bhu@utk.edu

Honors & Affiliations:
- Humboldt Prize, AvH Foundation, Germany
- Sustained Outstanding Research Award, U.S. Department of Energy
- TSM Fellow, ASM Fellow
- Buehler Best Paper Award
- MRS Outstanding Symposium Paper Award

**RESEARCH AREAS**
Physical metallurgy and mechanical behavior

**Wei He**
**Associate Professor**
**PhD, University of Connecticut**
303 Ferris Hall
Knoxville, TN 37996-2100
Phone: 865-974-5275
E-mail: whe5@utk.edu

Honors & Affiliations:
- Departmental Faculty Award for Excellence in Research, 2012
- NSF CAREER Award, 2011
- Departmental Faculty Award for Excellence in Teaching, 2011

**RESEARCH AREAS**
Biomaterials, neural tissue engineering and controlled release

**David C. Joy**
**Distinguished Scientist & Professor**
**PhD, University of Oxford**
104 Hoskins
Knoxville, TN 37996
Phone: 865-974-3642
E-mail: djoy@utk.edu

Honors & Affiliations:
- Peter Duncumb Award for Excellence in Microanalysis, 2010
- UT Research Foundation Recognition Award, 2009
- Fellow, Microscopy Society of America, 2009
- Fellow, Royal Microscopical Society (UK)
- Editor Emeritus, SCANNING
- National Winner, Battelle Nanoscience Challenge, 2002
- SRC Distinguished Research Award, 1998

**RESEARCH AREAS**
Nanofabrication, lithography and metrology; electron microscopy and microanalysis and modeling electron and ion interactions with solids

**Easo P. George**
**Research Professor**
**PhD, University of Pennsylvania**
304 Ferris Hall
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Honors & Affiliations:
- Humboldt Prize, AvH Foundation, Germany
- Sustained Outstanding Research Award, U.S. Department of Energy
- TSM Fellow, ASM Fellow
- Buehler Best Paper Award
- MRS Outstanding Symposium Paper Award

**RESEARCH AREAS**
Thin film processing; microfluidics; nanofabrications; physical vapor deposition; laser- and ion interactions with solids

**William H. Hofmeister**
**Research Professor**
**PhD, Vanderbilt University**
UT Space Institute CLA
411 B.H. Goethert Parkway
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E-mail: hof@utsi.edu

Honors & Affiliations:
- Director, Center for Laser Applications
- Fellow, ASM International
- Visiting Erskine Fellow Canterbury University, 2011
- Adjunct Professor of Electrical Engineering, Vanderbilt University
- External Associate, Vanderbilt Institute for Integrative Biosystems Research and Education

**RESEARCH AREAS**
Sensing, modeling and control of direct metal deposition, laser materials processing, biological device fabrication, diamond microelectronics

**Yanfei Gao**
**Associate Professor**
**PhD, Princeton University**
312 Joint Institute for Advanced Materials
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Honors & Affiliations:
- MSE Faculty Service Award, 2015
- MSE Faculty Teaching Award, 2013
- Chancellor’s Professional Promise Award, 2010
- COE Research Fellow Award, 2010, 2013
- MSE Faculty Research Award, 2010
- Sir Gordon Wu Fellowship, Princeton University
- Joint Faculty, ORNL Materials Theory Group

**RESEARCH AREAS**
Mechanics of solids and structures, computational materials science, surface science and mechanical behaviors of advanced structural materials

**Ramki Kalyanaraman**
**Professor**
**PhD, North Carolina State University**
419 Ferris Hall
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E-mail: ramki@utk.edu

Honors & Affiliations:
- Phi Kappa Phi Honor Society
- Member, MRS, SPIE, TMS, ASM, ACS and AAAS
- COE Research Fellow Award, 2011
- NSF CAREER Award, 2005

**RESEARCH AREAS**
Advanced functional materials; solar energy; plasmonics, optics and magnetism; nanomanufacturing
RESEARCH AREAS

Multiscale materials modeling, sustainable energy, structure/property relationships in nanostructured materials, coarse-grained modeling of polymers.

RESEARCH AREAS

Polymer science, polymer blends, electrospinning and polymer composites.

RESEARCH AREAS

Discovery, growth, and materials physics of new functional electronic and magnetic materials (e.g. superconductors, thermoelectrics, proton conductors, itinerant ferromagnets); 2D spintronic materials.

RESEARCH AREAS

Ultrasonic processing of materials and actinide oxide electronic properties and microwave processing of materials.

RESEARCH AREAS

Theoretical modeling of mechanical and thermodynamic properties of materials, particularly: liquid and glass behavior; defects, mechanical properties and phase transformations in crystalline materials; crystal nucleation and growth; gas adsorption in nanoporous materials.

RESEARCH AREAS

High temperature mechanical behavior; nanomaterials; multilayers; metallic glasses; high entropy alloys.

David J. Keffer
Professor
PhD, University of Minnesota
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Honors & Affiliations
- Faculty Appointments in Energy Science & Engineering Program, Joint Institute of Advanced Materials and Joint Institute of Computational Science
- Fulbright Distinguished Lectureship, Yonsei University, Seoul, Korea, 2010-2011
- Allen & Hoshall Engineering Faculty Award, 2008
- COE Research Fellow Award, 2008

RESEARCH AREAS

Inorganic scintillators and their applications.

Kevin M. Kit
Associate Professor and Director, Engineering Honors Program
PhD, University of Delaware
322 Perkins Hall
Knoxville, TN 37996-2020
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E-mail: kkit@utk.edu

Honors & Affiliations
- Departmental Faculty Award for Exemplary Service, 2014
- Member, American Chemical Society, Society of Plastics Engineers and The Fiber Society

RESEARCH AREAS

Nuclear and Plasma Science and Engineering

David Mandrus
Jerry and Kay Henry Endowed Professor
PhD, Stony Brook University
315 Joint Institute for Advanced Materials
Knoxville, TN 37996-2100
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Honors & Affiliations
- Fellow, American Physical Society
- Moore Foundation Materials Synthesis Investigator
- ISI Highly Cited Researcher
- Member, NRC Condensed Matter and Materials Research Committee
- Joint Faculty, Materials Science and Technology Division, ORNL

RESEARCH AREAS

Materials joining, non-equilibrium phase transformations, physical metallurgy, materials properties, corrosion of welds and failure analysis.

Carl D. Lundin
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PhD, Rensselaer Polytechnic Institute
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E-mail: lundin@utk.edu

Honors & Affiliations
- Fellow, American Society for Materials
- Fellow, American Welding Society
- Director of Materials Joining
- Director of High Temperature Piping Inspection Laboratory

RESEARCH AREAS

Materials joining, non-equilibrium phase transformations, physical metallurgy, materials properties, corrosion of welds and failure analysis.

Charles L. Melcher
Research Professor and Director, Scintillation Materials Research Center
PhD, Washington University
301 Science and Engineering Research Facility
Knoxville, TN 37996-2000
Phone: 865-974-0254
E-mail: cmelcher@utk.edu

Honors & Affiliations
- Fellow, IEEE
- Chair, IEEE Radiation Instrumentation Technical Committee, 2009-2011
- Associate Editor, IEEE Transactions on Nuclear Science, 2004-2010
- Senior Editor for Inorganic Scintillators and their Applications, 2007
- Nuclear and Plasma Sciences Society Merit Award, 2006

RESEARCH AREAS

Inorganic scintillators and their applications.

James R. Morris
ORNL-UT Joint Associate Professor
PhD, Cornell University
302 Ferris Hall
Knoxville, TN 37996-2100
Phone: 865-974-2484
E-mail: morrisjr@ornl.gov

Honors & Affiliations
- Coordinator, ORNL’s DOE BES MSE Program
- Leader, Materials Theory Group, Materials Science and Technology Division, ORNL
- Departmental Excellence in Teaching Award, 2012
- Visiting associate professor, CNRS, Ecole des Mines, Nancy Cedex, France, June 2005
- Chair, Chemistry and Physics of Materials Committee, TMS Society, 2005-2008

RESEARCH AREAS

Theoretical modeling of mechanical and thermodynamic properties of materials, particularly: liquid and glass behavior; defects, mechanical properties and phase transformations in crystalline materials; crystal nucleation and growth; gas adsorption in nanoporous materials.

Peter K. Liaw
John Fisher Professor, Ivan Racheff Chair of Excellence and National Alumni Association Distinguished Service Professorship
PhD, Northwestern University
406 Ferris Hall
Knoxville, TN 37996-2100
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E-mail: pliaw@utk.edu

Honors & Affiliations
- Fellow, American Society for Metals
- Haynes International Gift Funds
- Westinghouse Outstanding Performance
- Director of NSF Integrated Graduate Education and Research Training (IGERT), International Materials Institutes (IMI) and Major Research Instrument (MRI) programs

RESEARCH AREAS

Mechanical behaviors and processing of high-temperature materials and neutron studies.

Thomas T. Meek
Senior Lecturer
PhD, Ohio State University
314 Ferris Hall
Knoxville, TN 37996-2100
Phone: 865-974-0940
E-mail: tmeek7@utk.edu

RESEARCH AREAS

Discovery, growth, and materials physics of new functional electronic and magnetic materials (e.g. superconductors, thermoelectrics, proton conductors, itinerant ferromagnets); 2D spintronic materials.

T.G. Nieh
Professor
PhD, Stanford University
322 Ferris Hall
Knoxville, TN 37996-2100
Phone: 865-974-5328
E-mail: tnieh@utk.edu

Honors & Affiliations
- Fellow, TMS
- Fellow, ASM International
- Editor-in-Chief, International Metals Reviews
- Adjunct professor, WPI-Tohoku University
- Consulting professor, Hong Kong City University, University of Science and Technology-Beijing
<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Affiliation</th>
<th>Honors &amp; Affiliations</th>
<th>RESEARCH AREAS</th>
</tr>
</thead>
</table>
| Joo Hyon Noh                | Research Assistant Professor PhD, Yonsei University, Korea                                                | • Post-doctoral Research Associate, Los Alamos National Laboratory  
• Senior Research Fellow of the Department of Atomic Energy, India                                                                                                                                                                                                                                           | Discovery and development of electronic materials and devices; thin-film processing and characterization; nano-scale fabrication                                                                                                                                                                                                                                                   |
| Maulik Patel                | Research Assistant Professor PhD, Bhabha Atomic Research Center, University of Mumbai                      | • Fellow, ASM International  
• College of Engineering Leon and Nancy Cole Outstanding Teaching Award, 2016  
• Member, American Crystallographic Association, ASM International, Neutron Scattering Society of America  
• UT Faculty Award for Environmental Leadership, 2012  
• MSE Faculty Award for Excellence in Service, 2012, 2013  
• MSE Faculty Award for Excellence in Teaching, 2008                                                                 | Radiation induced modifications in ceramics, crystallography of complex oxides using X-ray and neutron diffraction                                                                                                                                                                                                                                                          |
| George M. Pharr             | Chancellor’s Professor, John McKamey Professor PE, PhD, Stanford University                               | • National Academy of Engineering, 2014  
• Fellow, Materials Research Society  
• Fellow, ASM International  
• Innovation in Materials Characterization Award, MRS, 2010  
• Bradley Stoughton Award for Young Teachers of Metallurgy, ASM, 1985                                                                                                                                                                                                                                        | Mechanical behavior of materials, nanoindentation and thin film mechanical properties                                                                                                                                                                                                                                                                                     |
| Philip D. Rack              | Professor and Leonard G. Penland Chair, Associate Department Head PhD, University of Florida               | • Member, AVS, and Thin Film Division Executive Committee  
• 2012 University of Tennessee College of Engineering Research Fellow Award  
• 2011 Chancellor’s Award for Research and Creative Achievement  
• 2011 College of Engineering Allen & Hoshall Engineering Faculty Award                                                                                                                                                                                                                                       | Thin film processing and characterization, materials and device nanofabrication; and nanoscale electron, ion, and photon beam induced processing                                                                                                                                                                                                                             |
| Claudia J. Rawn             | Associate Professor and Director, Center for Materials Processing PhD, University of Arizona              | • Fellow, ASM International  
• College of Engineering Leon and Nancy Cole Outstanding Teaching Award, 2016  
• Member, American Crystallographic Association, ASM International, Neutron Scattering Society of America  
• UT Faculty Award for Environmental Leadership, 2012  
• MSE Faculty Award for Excellence in Service, 2012, 2013  
• MSE Faculty Award for Excellence in Teaching, 2008                                                                 | Crystallography, crystal chemistry and property relationships, in-situ X-ray and neutron powder diffraction, ceramic synthesis and gas hydrates                                                                                                                                                                                                                             |
| Kurt E. Sickafus            | Alvin and Sally Beaman Professor PhD, Cornell University                                                  | • Fellow, Los Alamos National Laboratory, 2008  
• Los Alamos National Laboratory Distinguished Mentor Performance Award, 2003  
• Fellow, American Ceramic Society, 1998                                                                                                                                                                                                                                                                   | Behavior of complex oxides in extreme radiation environments                                                                                                                                                                                                                                                                                                                 |
| Michael L. Simpson          | UT-ORNL Joint Professor PhD, University of Tennessee                                                      | • Fellow, IEEE, AIMBE  
• Battelle Memorial Institute Distinguished Inventor, 2007  
• Kermit Fischer Environmental Award, 1998  
• Lockheed-Martin Energy Research Corporation Medal for Excellence in Technical Achievement, 1997, 1998                                                                                                                                                                                                 | Molecular-scale engineering and nanoscale technologies; and nanophase materials science                                                                                                                                                                                                                                                                                   |
| Shanfeng Wang               | Associate Professor PhD, University of Akron                                                              | • MSE Faculty Award for Excellence in Research, 2015  
• National Natural Science Foundation, China, 2014  
• International Collaborative Research Award, Ministry of Science and Technology, China, 2009  
• Guest Professor, East China University of Science and Technology, Shanghai, 2008-present  
• Member, Society of Rheology, American Physical Society, American Chemical Society, Materials Research Society, Society for Biomaterials, American Institute of Chemical Engineers                                                                                                                                                       | Biomaterials and tissue engineering; polymer chemistry, physics, and rheology                                                                                                                                                                                                                                                                                                 |
| William Weber               | Governor’s Chair Professor PhD, University of Wisconsin                                                   | • Pacific Northwest National Laboratory Director’s Award for Individual Lifetime Achievement in Science and Technology, 2009  
• University of Wisconsin, Oshkosh, Distinguished Alumnus, 2009  
• Fellow, Materials Research Society, American Association for the Advancement of Science, American Ceramic Society, American Physical Society                                                                                                                                                                         | Radiation-solid interactions; radiation damage in nuclear materials; ion beam modification of materials; materials under extreme environments                                                                                                                                                                                                                                  |
Andrew A. Wereszczak  
**UT-ORNL Joint Faculty Professor**  
PhD, University of Delaware  
254 Joint Institute for Advanced Materials  
Knoxville, TN 37996-2100  
Phone: 865-974-0645  
E-mail: andyw@utk.edu  
www.engr.utk.edu/mse/faculty/wereszczak/default.html  
Honors & Affiliations  
- Fellow, American Ceramic Society, 2011  
- Distinguished R&D Staff Member, Oak Ridge National Laboratory, 2009  
- Member, American Ceramic Society (ACerS), American Society for Testing and Materials (ASTM)  
- Senior Member, Institute of Electrical and Electronics Engineers (IEEE): Components, Packaging, and Manufacturing Technology Society  
  
**Research Areas**  
Science and engineering of brittle materials; micro-, meso-, and macro-mechanical response as a function of material microstructure; mechanical reliability and thermal management of structures; novel mechanical test methods; high-temperature mechanical test methods; probabilistic life prediction and design of brittle components; fracture mechanics and finite element analysis.

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Chris Wetteland  
**Lecturer**  
MS, Rutgers University  
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Phone: 865-974-5446  
E-mail: cjw@utk.edu  
Honors & Affiliations  
- Los Alamos National Laboratory  
- Distinguished Performance Award, 2001, 2003  
- Faculty Award for Excellence in Teaching, 2015  
- Bohmische Physical Society  
- Mineralogical Society of America  
- Meteoritical Society of America  
  
**Research Areas**  
Radiation damage in nuclear materials; ceramic synthesis; early solar system processes; novel development of solar thermal and photovoltaic energy systems; 3D printing; STEM outreach.

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Jiaqiang Yan  
**Research Assistant Professor**  
PhD, University of Texas at Austin  
B228 Joint Institute for Neutron Sciences  
Oak Ridge National Laboratory  
Oak Ridge, TN 37831-6453  
Phone: 865-576-8673  
E-mail: jayan@utk.edu  
www.engr.utk.edu/mse/faculty/zhang/default.html  
Honors & Affiliations  
- Member, American Physical Society  
- Member, American Society of Metal  
- Member, The Minerals, Metals and Materials Society  
  
**Research Areas**  
Design and synthesis of novel materials, mainly in single crystal form; physical properties of new materials including superconductors, thermoelectric materials, magnetostrictive materials and multiferroic materials; neutron and x-ray scattering.

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Yanwen Zhang  
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Honors & Affiliations  
- Director, Department of Energy (DOE) Energy Frontier Research Center (EFRC) on Dissipation to Defect Evolution (EDDE)  
- Deputy Director of the UT-ORNL Ion Beam Materials Laboratory (IBML)  
- Presidential Early Career Awards for Scientists and Engineers, 2005  
- DOE Office of Science Early Career Scientist and Engineer Award, 2005  
  
**Research Areas**  
Research focusing on a broad range of topics in both theoretical and experimental aspects of interaction of ions and electrons with materials and how these interactions can be applied to the analysis and modification of materials, as well as the detection and characterization of charged particles.

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Mariya Zhuravleva  
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E-mail: mariya@utk.edu  
Honors & Affiliations  
- Secretary, Executive Board, American Association of Crystal Growth, 2015-2017  
- Project leader, five-year NSF-DNDO grant to perform state-of-the-art research with the aim of achieving large volume bulk growth of new scintillators with excellent energy resolution  
- Member, Materials Research Society, IEEE Nuclear and Plasma Sciences Society, IEEE Women in Engineering  
  
**Research Areas**  
Discovery and development of new scintillation materials for the next generation of gamma-ray, x-ray, and neutron detectors; solid state synthesis and melt crystal growth via the Czochralski, the Vertical Gradient Freeze and the Bridgman methods; solid state chemistry and phase equilibria; scintillation mechanisms and characterization techniques.
Matthew M. Mench
Professor and Head, R.M. Condra Chair of Excellence
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ecpower.utk.edu

Honors & Affiliations
- Thomas Reuters Highly Cited Researcher
- ASME Fellow
- UT COE Translational Research Award, 2016
- UTRF Start Up Award, 2016
- Outstanding and Premier Teaching Awards Penn State Engineering Society, 2006 and 2009, respectively
- 2013 UTK Research Fellow Award
- 2007 NSF Early Career Development Award
- Associate Editor (Emeritus), International Journal of Hydrogen Energy

Reasearch Areas
Experimental and computational studies of multiphase transport in electrochemical power storage and conversion

Sudarsanam Suresh Babu
UT-ORNL Governor’s Chair Professor for Advanced Manufacturing
PhD, University of Cambridge, UK
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E-mail: sbabu@utk.edu
mabe.utk.edu/peopletwo/sudarsanam-suresh-babu-2

Honors & Affiliations
- OSU College of Engineering-Lumeley Award, April 2013
- AWS Adams Memorial Award, November 2012
- ASM Fellow Award, October 2012
- College of Engineering-Lumeley Interdisciplinary Award, May 2012
- Co-recipient, AWS Warren Savage Memorial Award, 2011
- Co-Recipient, AWS William Spraragen Award, 2011
- AWS William Irrgang Memorial Award, 2011

Research Areas
Advanced manufacturing including additive manufacturing, phase transformations, in-situ and ex-situ characterization

Phuriwat Anusonti-Inthra
Associate Professor
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411 B.H. Goethert Parkway
Tullahoma, TN 37388
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www.utsi.edu/faculty/pawsont/pawsont.htm

Honors & Affiliations
- Member, AIAA, AHS

Research Areas
Multi-physics (fluid/structure/thermal) simulations, computational mechanics, high-performance computing, novel sensor development and testing, health monitoring and condition-based maintenance systems, wind energy converter

Elizabth Barker
Lecturer, Research Assistant Professor
PhD, The University of Tennessee Health Science Center
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mabe.utk.edu/peopletwo/elizabeth-barker/

Honors & Affiliations
- Member, Society for Biomaterials; American Association of Pharmaceutical Scientists
- American Society for Engineering Education Excellence in Teaching Award, 2016

Research Areas
Synthesis and characterization of novel biomaterials; development of hydrogel drug delivery systems; local drug delivery to solid tumors; drug penetration through tumor tissue

Mark Barker
Senior Lecturer
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E-mail: jbarke16@utk.edu
mabe.utk.edu/peopletwo/j-mark-barker

Honors & Affiliations
- Member, Tau Beta Pi, Pi Tau Sigma
- Member, American Society of Mechanical Engineers American Society for Engineering Education Sigma Xi
- MABE Excellence in Teaching Award, 2016

Research Areas
Thermal fatigue, undergraduate education, fluid mechanics

Reza Abedi
Assistant Professor
PhD, University of Illinois at Urbana-Champaign
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E-mail: rabedi@utsi.edu
www.utsi.edu/faculty/rabedi/abedi.htm

Honors & Affiliations
- Henry J. Langhaar graduate award in Theoretical and Applied Mechanics, 2006
- Member of Phi Kappa Phi Honor Society 2004-present
- Firdawsi Science Fellowship Award, University of Illinois 2004
- 8th place in the Fourth Nationwide Student Scientific Olympiad of Civil Engineering 2000

Research Areas
Computational mechanics; fracture and contact mechanics; solid, fluid, and thermal mechanics; finite element methods; applied mathematics; multiscale modeling; mechanics of energy storage materials; structural health monitoring

Emam El Hak Abdel-Fatah
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mabe.utk.edu/peopletwo/emam-e-abdel-fatah/

Honors & Affiliations
- Member, Institute of Electrical and Electronics Engineers; Research on Care Community; International Congress for Joint Reconstruction
- Technical Reviewer, EMBC

Research Areas
Characterization, manufacturing, phase transformations, in-situ and ex-situ characterization
## Honors & Affiliations

Robert E. Bond  
**Senior Lecturer**  
PhD, West Virginia University  
63 Perkins Hall  
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mabe.utk.edu/peopletwo/robert-e-bond

J.A.M. Boulet  
**Associate Professor and Associate Head of Undergraduate Programs**  
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mabe.utk.edu/peopletwo/j-a-m-boulet

Honors & Affiliations
- Member, ASEE, ASME, SAE and SPE
- MABE Outstanding Teacher, 2013

Subhadeep Chakraborty  
**Assistant Professor**  
PhD, Pennsylvania State University  
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Knoxville, TN 37996-2210  
Phone: 865-974-5307  
E-mail: schakrab@utk.edu  
mabe.utk.edu/peopletwo/subhadeep-chakraborty

Honors & Affiliations
- Member, IEEE, ASME
- Regular reviewer for American Control Conference, Conference on Decision and Control, Systems Man and Cybernetics, Data Mining and Knowledge Discovery, ASME Turbo-Expo etc.

James G. Coder  
**Assistant Professor**  
PhD, Pennsylvania State University  
235 Dougherty Engineering Building  
Knoxville, TN 37996-2210  
Phone: 865-974-5115  
E-mail: jcoder@utk.edu  
mabe.utk.edu

Honors & Affiliations
- Member, AIAA, Applied Aerodynamics Technical Committee
- AIAA CFD Drag Prediction and High-Lift Prediction Workshops

Brett Compton  
**Assistant Professor**  
PhD, University of California, Santa Barbara  
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Knoxville, TN 37996-2210  
Phone: 865-974-8006  
E-mail: bcmcomptol@utk.edu  
mabe.utk.edu/peopletwo/brett-g-compton

Honors & Affiliations
- Member, American Ceramic Society, Engineering Ceramics Division  
- Gordon Research Fellowship  
- Fairmont Chateau Lake Louise Student Scholarship  

Hans DeSmidt  
**Associate Professor, AE PRogram Coordinator**  
PhD, Pennsylvania State University  
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Knoxville, TN 37996-2210  
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E-mail: hdesmidt@utk.edu  
mabe.utk.edu/peopletwo/hans-desmidt

Honors & Affiliations
- UTC Quest Scholar of the Week, Jan. 2010  
- ASME Dynamic Systems and Control Division, Rudolf Kalman Best Paper Award, 2009  
- NSF CAREER Award, 2008  
- Member, ASME, AIAA and AHS

Steve Brooks  
**Associate Professor**  
PhD, Catholic University of America, Washington DC  
UT Space Institute  
Upper-H UTSI Main Building  
411 B.H. Goethert Parkway, MS 39  
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Phone: 931-393-7413  
E-mail: sbrooks@utk.edu  
www.utsi.edu/faculty/sbrooks/brooks.htm

Honors & Affiliations
- US Antarctic Service Medal  
- US Navy Arctic Service Ribbon

Christopher Combs  
**Research Assistant Professor**  
PhD, The University of Texas at Austin  
UT Space Institute  
C-204 Main Building  
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Phone: 931-393-7573  
E-mail: ccombs@utsi.edu  
www.utsi.edu/faculty/ccombs/ccombs.htm

Honors & Affiliations
- NASA Space Technology Research Fellow, 2011 – 2015  
- Graduate Researcher, The University of Texas at Austin, 2010-2015  
- AIAA Aerodynamic Measurement Technology Best Paper, January 2013  
- Member, AIAA

Chad Duty  
**Associate Professor**  
PhD, Georgia Tech  
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Phone: 865-974-8107  
E-mail: cduty@utk.edu  
www.utsi.edu/faculty/ccombs/ccombs.htm

Honors & Affiliations
- ORNL Excellence in Technology Transfer Award for Big Area Additive Manufacturing (2014)  
- National FLC Award for Excellence in Technology Transfer for Pulse Thermal Processing (2013)  
- R&D 100 Award for CermaCladTM: Rapid Metal Coating Process (MesoCoat) (2011)  
- R&D100 Award for PulseForge 3000 with Pulse Thermal Processing (2009)

**RESEARCH AREAS**

- Aerodynamics, fluid dynamics, heat transfer, airplane performance
- Dynamics, vibrations and structures
- Atmospheric turbulence, atmospheric dispersion and transport, atmospheric trace gas chemistry, instrumentation, polar studies
- Compressible flows; turbulence; laser-based measurement techniques; flowfield imaging
- Improving the mechanical performance of polymer-based manufactured components and the development of a large-scale system called Big Area Additive Manufacturing (BAAM), capable of depositing parts 10x larger and 100x faster than current technology
- Characterization and mitigation of failures in complex systems using data-driven system identification and supervisory control; electrochemical sensor development for simultaneous detection of multiple environmental contaminants through stochastic signal processing; modeling and analysis of behavioral dynamics in networked societies
- Airfoil design and optimization; design of high-lift systems for natural-laminar-flow airfoils; unsteady aerodynamics relevant to rotorcraft applications; and modeling of fluid-dynamic turbulence
- Structural dynamics, active vibration control, rotordynamic, structural health monitoring, rotorcraft propulsion and elastic wave propagation
Kivanc Ekici  Associate Professor and Graduate Program Director  PhD, Purdue University  315 Perkins Hall / 415 Dougherty Engineering Building  Knoxville, TN 37996-2030  Phone: 865-974-6016  E-mail: ekici@utk.edu  mabe.utk.edu/peopletwo/kivanc-ekici  
Honors & Affiliations  
• Senior Member of AIAA  
• Member ASME, Sigma Gamma Tau, Sigma Xi  
• NSF Career Award, 2012  
• MABE Department Outstanding Teaching Award, 2012  
• ASME-IGTI John P. Davis Award for Best Paper of the Year, 2012  
• ASE, Air Force Summer Faculty Fellowship, 2011, 2012  

RESEARCH AREAS  
Unsteady aerodynamics, turbomachinery, computational fluid dynamics, gas turbine propulsion and aerodynamic design and parallel computation

Zannatul Ferdous  Assistant Professor  PhD, Rice University  312 Perkins Hall  Knoxville, TN 37996-2210  Phone: 865-974-6678  E-mail: zferdous@utk.edu  mabe.utk.edu/peopletwo/zannatul-ferdous-phd  
Honors & Affiliations  
• American Heart Association  
• Biomedical Engineering Society  
• Center for Biological and Environmental Nanotechnology

RESEARCH AREAS  
Disease development & remodeling in heart valves, cellular mechanobiology & electrophysiology, heart-valve biomechanics & tissue engineering, biomarkers for early detection & treatment in valves, bioreactor systems for native & engineered systems

J. I. Frankel  Professor  PhD, Virginia Polytechnic Institute & State University  402 Dougherty Engineering Building  Knoxville, TN 37996-2210  Phone: 865-974-5129  E-mail: jfranke1@utk.edu  mabe.utk.edu/peopletwo/jay-j-frankel  
Honors & Affiliations  
• General H.H. Arnold Award, 2010, AIAA TN Section  
• Exxon Mobil Professorship, 2005  
• Associate Editor, Inverse Problems in Science and Engineering, 2002-2010  
• Robert M. Condra Professorship, 1999-2003  
• Fellow, Wessex Institute of Technology  
• Associate Fellow, AIAA  

RESEARCH AREAS  
Conductive and radiative transport, applied and computational mathematics and inverse problems

William (Bill) R. Hamel  Professor  PhD, The University of Tennessee  403 Dougherty Engineering Building  Knoxville, TN 37996-2210  Phone: 865-974-6588  E-mail: whamel@utk.edu  mabe.utk.edu/peopletwo/william-r-hamel  
Honors & Affiliations  
• ANS Ray Goertz Award, 2014  
• ASME Fellow  
• IEEE Fellow  
• IEEE Robotic & Automation Society 2007 Distinguished Service Award  
• Allen & Hoshall Engineering Faculty Award, 2004  
• Moses E. and Mayme Brooks Distinguished Professor Award, 2000  
• MABE Outstanding Senior Faculty Award, 2016

RESEARCH AREAS  
Teleoperations and telerobotics, biomechatronics and birobotics, automotive systems and controls and nanobiostems

Anning Hu  Assistant Professor  PhD, University of Waterloo, Canada  509 Dougherty Engineering Building  Knoxville, TN 37996-2210  Phone: 865-974-5993  E-mail: ahu2@utk.edu  mabe.utk.edu/peopletwo/anming-hu  
Honors & Affiliations  
• Alexander von Humboldt Fellowship  
• New Energy Development Organization Industrial Research Fellowship  
• Member of SPIE, ASM, MRS, LIA, IWA  
• Member of Organizer Committee of Joining of Advanced and Specialty Materials Symposium, Material Science & Technology  
• Member of Organizer Committee of International Nano- and MicroJoining Conference

RESEARCH AREAS  
Additive manufacturing, nanophotonics, nanomaterials for energy storage and environment application, femtosecond induced nanothermal nanoinsteering and additive manufacturing for flexible electronics, li rechargeable battery, water treatment, transmissive substrates for surface enhanced optical spectroscopy, femtosecond laser-nanosurgery and cell transfection

David (Butch) K. Irick  Research Assistant Professor, Research Director  PhD, The University of Tennessee  401 Dougherty Engineering Building  Knoxville, TN 37996-2210  Phone: 865-974-0863  E-mail: dki@utk.edu  mabe.utk.edu/peopletwo/david-k-irick  
Honors & Affiliations  
• COE Charles Edward Ferris Faculty Award, 2014  
• Member, SAE Student Chapter Faculty Advisor  
• Senior Member, SME  
• Licensed Professional Engineer  
• Member, ASME

RESEARCH AREAS  
Automotive testing for emissions and performance; hybrid electric vehicle design and system integration; use of alternative fuels (methanol, ethanol, natural gas, bio-diesel) in vehicles; computer integrated engineering and manufacturing

Larry Steven Foster  Lecturer  BS, The University of Tennessee  304 E. Stadium Hall  Knoxville, TN 37996  E-mail: lfostef1@utk.edu  mabe.utk.edu/peopletwo/larry-steven-foster  
Honors & Affiliations  
• Mechanical Systems Architect/Chief Engineer/ Senior Technical Staff Member Lexmark International, 1991–2010  
• Senior Product Design Engineer IBM, 1977–1991

RESEARCH AREAS  
Statistical process control; datum design; design for mass production; technical problem solving using the scientific method; mechanical engineering senior capstone design

Wei He  Associate Professor  PhD, University of Connecticut  303 Ferris Hall  Knoxville, TN 37996-2100  Phone: 865-974-5275  E-mail: who5@utk.edu  mabe.utk.edu/peopletwo/weih  
Honors & Affiliations  
• Member, Materials Research Society  
• Member, Society of Biomaterials  
• Member, Biomedical Engineering Society  
• Departmental Faculty Award for Excellence in Research, 2012  
• NSF CAREER Award, 2011  
• Departmental Faculty Award for Excellence in Teaching, 2011

RESEARCH AREAS  
Biomaterials, neural tissue engineering and controlled release

Jacqueline (Jackie) A. Johnson  Associate Professor  PhD, University of Liverpool  UT Space Institute  411 B.H. Goethert Parkway  Tullahoma, TN 37388  Phone: 931-393-7474  E-mail: jjohnson@utsi.edu  www.utsi.edu/faculty/johnson/jjohnson.htm  
Honors & Affiliations  
• COE Research Fellow Award, 2014  
• Fellow, American Ceramic Society  
• R&D 100 Award Winner, 2007  
• Fellow of the Institute of Physics

RESEARCH AREAS  
Nanoscience in medicine
### Majid Keyhani

**Professor**  
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**Honors & Affiliations**  
- Fellow, ASME  
- Phi Tau Sigma Outstanding Teacher Award, 2006  
- B. Ray Thompson Sr. Professorship Award, 2002  
- Robert M. Condra Professorship Award, 1997-1999  
- Moses E. and Mayme Brooks Distinguished Professor Award, 1995

**Research Areas**  
- Buoyancy affected fluid flow and heat transfer, estimation of surface thermal conditions via in-depth temperature sensors, parameter estimation

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### Kenneth D. Kihm

**Magnox Professor**  
PhD, Stanford University  
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**Honors & Affiliations**  
- Exxon Mobil Professor Award, 2006  
- Fellow, ASME  
- Editorial Board, *Nature Scientific Reports*  
- Editor, *Journal of Flow Visualization and Image Processing*  
- Associate Editor, *Experiments in Fluids*  
- TEES Fellow Award, Texas A&M, 2001  
- Association of Former Students Teaching Excellence Award, Texas A&M 1999

**Research Areas**  
- Near-field characterization of micro/nano-scale transport; opto-thermal characterization of nanostructured materials (graphene); neutron radiographic characterization of liquid metal phase transition

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### Phillip Kreth

**Research Assistant Professor**  
PhD, Florida State University  
UT Space Institute  
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**www.utsi.edu/faculty/pkrecht/pkrecht.htm**

**Honors & Affiliations**  
- Member, American Ceramic Society, 2012-present  
- Elected Senator, UT Space Institute Student Government Association, 2012 - 2014  
- Awarded Wiley Student Reporter Scholarship, 2012  
- Awarded Graduate Research Assistantship, 2008

**Research Areas**  
- Active flow control; actuator development; hypersonics; aerothermodynamics; optical diagnostics (especially high-speed)

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### R. Lee Leonard

**Research Assistant Professor**  
PhD, The University of Tennessee  
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**www.utsi.edu/faculty/leonard/leonard.htm**

**Honors & Affiliations**  
- Member, American Ceramic Society, 2012-present  
- Elected Senator, UT Space Institute Student Government Association, 2012 - 2014  
- Awarded Wiley Student Reporter Scholarship, 2012  
- Awarded Graduate Research Assistantship, 2008

**Research Areas**  
- Functionalized nanoparticles; glass ceramics; storage phosphors; scintillators; thin films

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### Madhu S. Madhukar

**Associate Professor**  
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316 Perkins Hall  
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**mabe.utk.edu/peopletwo/madhu-s-madhukar**

**Honors & Affiliations**  
- Faculty Advisor for the East Tennessee Chapter of the Society for the Advancement of Material and Process Engineering (SAMPE)

**Research Areas**  
- Composite materials properties and processing, cure cycle optimization and fusion energy

---

### Mohamed R. Mahfouz

**Professor**  
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**mabe.utk.edu/peopletwo/mohamed-mahfouz**

**Honors & Affiliations**  
- Senior Member, IEEE  
- Member, IEEE Engineering and Biology Society  
- Member, IEEE Computer Society  
- Member, Orthopaedic Research Society

**Research Areas**  
- Musculoskeletal mechanics analysis, computer assisted orthopaedic surgery and medical imaging registration

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### Richard D. Komistek

**Fred M. Roddy Professor**  
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**Honors & Affiliations**  
- Research Fellow Award, 2005, 2006, 2012  
- President, International Society of Technology in Arthroplasty, 2009-2010  
- Guest Editor, *Journal of Biomechanics*, 2005  
- Coventry Award, Knee Society, 2003  
- ESB Clinical Biomechanics Award, 1996 and 1998  
- Member, American Academy of Orthopaedic Surgeons (AAOS), Orthopaedic Research Society (ORS), Knee Society

**Research Areas**  
- Biomechanics, Kane’s dynamics, implant design and vibrations

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### J. Evans Lyne

**Clinical Associate Professor**  
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E-mail: jelyne@utk.edu

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**Honors & Affiliations**  
- American Institute of Aeronautics; Advisor to the UT AIAA Student Chapter  
- Atmospheric Flight Mechanics Technical Committee and HyTASP Committee  
- Technical reviewer for the *Journal of Spacecraft and Rockets* and *Planetary and Space Science*

**Research Areas**  
- Space mission planning, hypersonics and atmospheric entry

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### Trevor M. Moeller

**Associate Professor**  
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**www.utsi.edu/faculty/tmoeller/moeller.htm**

**Honors & Affiliations**  
- Associate Fellow, AIAA; Senior Member, IEEE; Member, ASME  
- Member, AIAA Plasmadynamics and Lasers Technical Committee  
- Technical Chair, 2010 Plasmadynamics and Lasers Conference  
- Tennessee Section of AIAA Counsel (2001-present), Chair (2010), Vice-Chair (2009), Secretary (2004-2008)  
- Faculty point of contact, UTSI Propulsion Research Facility

**Research Areas**  
- Plasmadynamics, high-temperature gases, rarefied gases, cryodeposits, high-speed flow
Christopher D. Pionke  
**Associate Professor**  
PE, PhD, Georgia Institute of Technology  
321 Perkins Hall  
Knoxville, TN 37996  
Phone: 865-974-7679  
E-mail: cpionke@utk.edu

**Honors & Affiliations**  
- National Alumni Association Outstanding Teacher, 1999  
- American Society for Mechanical Engineers, Civil Engineers and Engineering Education  
- Society of Sigma Xi  
- Faculty Advisor and Treasurer, Tau Beta Pi

**Research Areas**  
Structural mechanics with an emphasis on linear and non-linear finite element methods, energy and variational methods, dynamics and vibrations, plate and shell analysis, and precision engineering and manufacturing techniques: computational solid mechanics: engineering education, particularly engineering design, as well as the history of science and engineering

Ke Nguyen  
**Associate Professor**  
PhD, University of Colorado  
510 Dougherty Engineering Building  
Knoxville, TN 37996-2210  
Phone: 865-974-5296  
E-mail: knguyen@utk.edu

**Honors & Affiliations**  
- MABE Distinguished Professor, 2008  
- Shell Professor, 2002  
- Exxon Professor, 1996  
- Member, American Society of Mechanical Engineers

**Research Areas**  
Fluidized beds, lean NOx traps (LNTS), diesel oxidation catalysts (DOC), SCR catalysts and diesel particulate filters (DPFs)
## Research Areas

### Mechanical, Aerospace and Biomedical Engineering

### Seungha Shin
**Assistant Professor**  
PhD, University of Michigan, Ann Arbor  
314 Dougherty Engineering Building  
Knoxville, TN 37996  
Phone: 865-974-7886  
E-mail: sshin@utk.edu  

**Honors & Affiliations**  
- Member, American Society of Mechanical Engineers, MRS  
- Member, The Honor Society of Phi Kappa Phi, University of Michigan, 2010-2013  
- Journal and conference proceeding reviewer for Physical Review B (APS), AIP Advances (AIP), Nanoscale and Microscale Thermophysical Engineering (Taylor & Francis), Heat Transfer 2013, IMECE 2014 (ASME)

### Gary V. Smith
**Professor**  
PhD, Pennsylvania State University  
206-A Dougherty Engineering Building  
Knoxville, TN 37996-2210  
Phone: 865-974-5271  
E-mail: gvsmith@utk.edu  

**Honors & Affiliations**  
- College of Engineering Outstanding Faculty Advisor, 2005  
- Outstanding MABE Teacher, 2010  
- Member, American Society of Mechanical Engineers; Instrument Society America  
- Licensed Professional Engineer (Tennessee)

### Jindong Tan
**Professor and Associate Head, Integrated Programs and Activities**  
PhD, Michigan State University  
503 Dougherty Engineering Building  
Knoxville, TN 37996-2210  
Phone: 865-974-5250  
E-mail: tan@utk.edu  

**Honors & Affiliations**  
- Institute of Electrical and Electronics Engineers  
- Robotics & Automation Society  
- Engineering in Medicine and Biology Society  
- Association for Computing Machinery  
- Fellow, American Society for Engineering Education  
- Outstanding MABE Teacher, 2010

### Stephanie TerMaath
**Assistant Professor**  
PE, PhD, Cornell University  
525 Dougherty Engineering Building  
Knoxville, TN 37996-2210  
Phone: 865-974-7711  
E-mail: sternaat@utk.edu  

**Honors & Affiliations**  
- Moses E. and Mayme Brooks Distinguished Professor Award, 2015  
- Penn State Schreyer Honors College Outstanding Alumni Mentor, 2014  
- Office of Naval Research Young Investigator Award, 2014  
- Associate Fellow, American Institute of Aeronautics  
- Faculty Advisor, Tau Beta Pi, Society of Women Engineers  
- 2016 Angie Warren Perkins Award

### Eric R. Wade
**Assistant Professor**  
PhD, Massachusetts Institute of Technology  
310 Dougherty Engineering Building  
Knoxville, TN 37996-2210  
Phone: 865-974-4538  
E-mail: ewades@utk.edu  

**Honors & Affiliations**  
- Member, ASME, IEEE, SIN, ASNR, ACMR

### Ahmad (Adam) Vakili
**Professor, Director of Technology and Economic Development**  
PhD, The University of Tennessee  
UT Space Institute  
411 B.H. Goethert Parkway  
Tullahoma, TN 37388  
Phone: 931-393-7289  
E-mail: avakili@utk.edu  

**Honors & Affiliations**  
- Teaching Excellence Award, 1997  
- Technology Transfer Award, 1997  
- UTSI/HATS Professional of the year Award, 1996  
- AIAA, Region II Faculty Advisor Award, 1991/92  
- AIAA, Associate Fellow  
- ASME & Sigma Xi, Member

### U. Peter Solies
**Clinical Associate Professor, Academic Program Coordinator, Aviation Systems**  
PhD, The University of Tennessee  
UT Space Institute  
411 B.H. Goethert Parkway  
Tullahoma, TN 37388  
Phone: 931-393-7289  
E-mail: psolies@utsi.edu  

**Honors & Affiliations**  
- Senior Member, American Institute for Aeronautics and Astronautics  
- NASA – American Society for Engineering Education Summer Faculty Fellowship

### Jindong Tan – Research Areas
- Fluid control systems

### Stephanie TerMaath – Research Areas
- Structural mechanics, fracture mechanics, material science, high-performance computing, structural dynamics

### Eric R. Wade – Research Areas
- Biological signal processing, wearable sensor design, assistive robotics, neuro-rehabilitation, health-care technologies

### Ahmad (Adam) Vakili – Research Areas
- Flow control, unsteady flows, high frequency swirling flows, flow actuators, combustion control, pitch-based carbon fibers and carbon fiber composites

### U. Peter Solies – Research Areas
- Multiphysics simulations on large scale parallel computers; finite element formulations for computational fluid dynamics; parallel direct and iterative solvers for systems of linear equations; numerical linear algebra implementation on GPUs; scalable software framework for multidisciplinary biomedical simulations
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Affiliation</th>
<th>Address</th>
<th>Contact Information</th>
<th>Honors &amp; Affiliations</th>
<th>Research Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zheng Liu</td>
<td>Associate Professor</td>
<td>Dept. of Mechanical Engineering</td>
<td>511 S. 4th Street</td>
<td>Phone: 865-974-7692</td>
<td>• Member, American Society of Mechanical Engineering; Member, Institute of Electrical and Electronics Engineers; American Society for Engineering Education</td>
<td>Radar REMPI, laser diagnostics and plasma dynamics</td>
</tr>
<tr>
<td>Matthew Young</td>
<td>Eastman Assistant Professor of Practice</td>
<td>PhD, The University of Tennessee</td>
<td>306D Dougherty Engineering Building Knoxville, TN 37996-2210 Phone: 865-974-7689 E-mail: <a href="mailto:m.young@utk.edu">m.young@utk.edu</a></td>
<td>mabe.utk.edu/people/zhili-zhang</td>
<td>• ASEE Air Force Summer Faculty Fellowship 2012, 2013 • Crocco Teaching Award, Princeton University • Member, American Institute of Aeronautics and Astronautics • Member, Optical Society of America</td>
<td>Sustainable energy and alternative fuel, low-emission combustion engines, thermal/fluid sciences, MEMS/NEMS, micro-/nano-scale transport, micro fluidics and heat transfer, advanced electron/optical/laser/X-ray spectroscopies</td>
</tr>
<tr>
<td>Feng-Yuan Zhang</td>
<td>Associate Professor</td>
<td>PhD, Nagoya University, Japan</td>
<td>UT Space Institute 411 B.H. Goethter Parkway, MS21 Tullahoma, TN 37388 Phone: 931-395-7428 E-mail: <a href="mailto:fzhang@utk.edu">fzhang@utk.edu</a></td>
<td><a href="http://www.utsi.edu/faculty/fzhang/fzhang.htm">www.utsi.edu/faculty/fzhang/fzhang.htm</a></td>
<td>• Graduate with the Highest Honor from NUAA • Meitetsu Foundation Fellowship • Maruban Research Promotion Foundation Scholar • Mitsutoyo Scholar for Science and Technology • First Place Prize, American Chemical Society (ACS)-Delaware Section • MABE Tenure-Track Faculty Award, 2014</td>
<td></td>
</tr>
<tr>
<td>Zhili Zhang</td>
<td>Associate Professor</td>
<td>PhD, Princeton University</td>
<td>202 Dougherty Engineering Building Knoxville, TN 37996-2210 Phone: 865-974-6650 E-mail: <a href="mailto:zzhang24@utk.edu">zzhang24@utk.edu</a></td>
<td>mabe.utk.edu/people/zhili-zhang</td>
<td>• ASEE Air Force Summer Faculty Fellowship 2012, 2013 • Crocco Teaching Award, Princeton University • Member, American Institute of Aeronautics and Astronautics • Member, Optical Society of America</td>
<td>Radar REMPI, laser diagnostics and plasma dynamics</td>
</tr>
<tr>
<td>Xiaopeng Zhao</td>
<td>Associate Professor</td>
<td>PhD, Virginia Tech</td>
<td>113 Perkins Hall</td>
<td>Phone: 865-974-7682</td>
<td>• Member, Biomedical Engineering Society • Member, American Society for Mechanical Engineers • NSF CAREER Award, 2009 • Quest Scholar of the Week, UTK, Jan. 2010 • Award, Computing in Cardiology Challenge, 2010, 2011</td>
<td>Dynamics and control, computational biology, medical informatics</td>
</tr>
<tr>
<td>Matthew Young</td>
<td>Eastman Assistant Professor of Practice</td>
<td>PhD, The University of Tennessee</td>
<td>306D Dougherty Engineering Building Knoxville, TN 37996-2210 Phone: 865-974-7689 E-mail: <a href="mailto:m.young@utk.edu">m.young@utk.edu</a></td>
<td>mabe.utk.edu/people/zhili-zhang</td>
<td>• ASEE Air Force Summer Faculty Fellowship 2012, 2013 • Crocco Teaching Award, Princeton University • Member, American Institute of Aeronautics and Astronautics • Member, Optical Society of America</td>
<td>Sustainable energy and alternative fuel, low-emission combustion engines, thermal/fluid sciences, MEMS/NEMS, micro-/nano-scale transport, micro fluidics and heat transfer, advanced electron/optical/laser/X-ray spectroscopies</td>
</tr>
<tr>
<td>Feng-Yuan Zhang</td>
<td>Associate Professor</td>
<td>PhD, Nagoya University, Japan</td>
<td>UT Space Institute 411 B.H. Goethter Parkway, MS21 Tullahoma, TN 37388 Phone: 931-395-7428 E-mail: <a href="mailto:fzhang@utk.edu">fzhang@utk.edu</a></td>
<td><a href="http://www.utsi.edu/faculty/fzhang/fzhang.htm">www.utsi.edu/faculty/fzhang/fzhang.htm</a></td>
<td>• Graduate with the Highest Honor from NUAA • Meitetsu Foundation Fellowship • Maruban Research Promotion Foundation Scholar • Mitsutoyo Scholar for Science and Technology • First Place Prize, American Chemical Society (ACS)-Delaware Section • MABE Tenure-Track Faculty Award, 2014</td>
<td></td>
</tr>
<tr>
<td>Zhili Zhang</td>
<td>Associate Professor</td>
<td>PhD, Princeton University</td>
<td>202 Dougherty Engineering Building Knoxville, TN 37996-2210 Phone: 865-974-6650 E-mail: <a href="mailto:zzhang24@utk.edu">zzhang24@utk.edu</a></td>
<td>mabe.utk.edu/people/zhili-zhang</td>
<td>• ASEE Air Force Summer Faculty Fellowship 2012, 2013 • Crocco Teaching Award, Princeton University • Member, American Institute of Aeronautics and Astronautics • Member, Optical Society of America</td>
<td>Radar REMPI, laser diagnostics and plasma dynamics</td>
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<td>Associate Professor</td>
<td>PhD, Virginia Tech</td>
<td>113 Perkins Hall</td>
<td>Phone: 865-974-7682</td>
<td>• Member, Biomedical Engineering Society • Member, American Society for Mechanical Engineers • NSF CAREER Award, 2009 • Quest Scholar of the Week, UTK, Jan. 2010 • Award, Computing in Cardiology Challenge, 2010, 2011</td>
<td>Dynamics and control, computational biology, medical informatics</td>
</tr>
</tbody>
</table>

**Research Areas:**
- Radar REMPI, laser diagnostics and plasma dynamics
- Sustainable energy and alternative fuel, low-emission combustion engines, thermal/fluid sciences, MEMS/NEMS, micro-/nano-scale transport, micro fluidics and heat transfer, advanced electron/optical/laser/X-ray spectroscopies
- Dynamics and control, computational biology, medical informatics
J. Wesley Hines
Charles P. Postelle Distinguished Professor in Nuclear Engineering and Head
PhD, Ohio State University
314 Pasqua Engineering Building
Knoxville, TN 37996-2300
Phone: 865-974-6561
E-mail: jhines2@utk.edu

Honors & Affiliations
• ANS Fellow
• SEC Faculty of the Year, 2015
• ASEE Glen Murphy Award, 2014
• Chancellor’s Research Award, 2007
• COE Research Fellow Award, 2006, 2009
• Moses E. & Mayme Brooks Distinguished Professor Award, 2005
• COE Teaching Fellow Award, 2004

RESEARCH FOCUS
• Nuclear Reactor Fuels and Materials
• Nuclear Fusion Technology
• Nuclear Security
• Radiological Science and Health Physics
• Nuclear I&C, Reliability and Safety
• Nuclear Fuel Cycles
• Advanced Modeling and Simulation

RESEARCH AREAS
Applied artificial intelligence, surveillance and diagnostics, instrumentation and control, modeling and simulation, maintenance and reliability engineering

Jamie Coble
Assistant Professor
PhD, The University of Tennessee
210 Pasqua Engineering Building
Knoxville, TN 37996-2300
Phone: 865-974-5057
E-mail: jcoble1@utk.edu

Honors & Affiliations
• Institute of Electrical and Electronic Engineers (IEEE)
• IEEE Reliability Society, Women in Engineering, Signal Processing Society
• American Nuclear Society (ANS)
• ANS Human Factors and Instrumentation & Control Division (HFICD) Executive Committee
• Prognostics and Health Management (PHM) Society
• Tau Beta Pi
• Institute for Nuclear Materials Management (INMM)
• Two PNNL outstanding performance awards, 2012

RESEARCH AREAS
Fault detection, diagnostics, and prognostics; equipment condition assessment; process monitoring for safeguards and control; risk-informed maintenance and control

John Auxier II
Research Associate Professor
PhD, The University of Tennessee
Room 339, Howard H. Baker Center for Public Policy
1640 Cumberland Avenue
Knoxville, TN 37996
Phone: 865-974-3841
E-mail: jauxier@utk.edu

Honors & Affiliations
• Baker Fellow
• Board, International Journal of Nuclear Security
• Member, American Chemical Society, American Nuclear Society, American Physical Society
• Strategic Planning Advisor for ACS Nuclear Chemistry Division
• Best Poster in Chemistry Division at Los Alamos National Laboratory

RESEARCH AREAS
Advanced radionuclide separations, nuclear forensics for post-detonation analysis, advanced imaging techniques and methodologies for pre-detonation forensic samples

David Donovan
Assistant Professor
PhD, University of Wisconsin-Madison
216 Pasqua Engineering Building
Knoxville, TN 37996
Phone: 865-974-0594
E-mail: ddonovan@utk.edu

Honors & Affiliations
• Ralph E. Powe Junior Faculty Enhancement Award, 2016
• Member, American Nuclear Society, American Physical Society, American Society for Engineering Education, US Burning Plasma Organization, University Fusion Association

RESEARCH AREAS
Nuclear fusion science and technology; plasma physics; plasma-material interactions; diagnostics

Ondrej Chvala
Research Assistant Professor
PhD, Charles University, Prague, Czech Republic
309 Pasqua Engineering Building
Knoxville, TN 37996-2300
Phone: 865-974-0984
E-mail: ochvala@utk.edu

Honors & Affiliations
• Quark Matter 2009 poster award
• 2008 PHENIX Christmas future award for detector simulation work
• 1994 Jaroslav Heyrovsky Foundation award – national award recognizing excellence in physics
• Member, American Nuclear Society, American Physical Society

RESEARCH AREAS
High performance computing applications to nuclear engineering, reactor core physics, molten salt based nuclear systems

Martin L. Grossbeck
Research Professor
PhD, University of Illinois
310 Pasqua Engineering Building
Knoxville, TN 37996
Phone: 865-974-7571
E-mail: mgrossbe@utk.edu

Honors & Affiliations
• Fellow, American Nuclear Society
• Fellow, American Society for Materials
• Chair, Publications Steering of American Nuclear Society
• Member, Sigma Xi, Sigma Pi Sigma, Tau Beta Pi
• Member, American Vacuum Society

RESEARCH AREAS
Research interests: radiation effects in materials, burnable absorbers, research reactors, liquid metal coolants, and ultra-high vacuum technology.
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
<th>Address</th>
<th>Phone</th>
<th>Email</th>
<th>Honors &amp; Affiliations</th>
</tr>
</thead>
</table>
| Howard L. Hall                          | Governor's Chair Professor                                 | PhD, University of California, Berkeley    | 505 Ferris Hall              | 865-974-2213 | hhall6@utk.edu               | Member, INMM, ASEE  
|                                        |                                                            |                                            |                              |             |                              | American Chemical Society  
|                                        |                                                            |                                            |                              |             |                              | Fellow, American Association for the Advancement of Science  
|                                        |                                                            |                                            |                              |             |                              | Fellow, American Institute of Chemists  
|                                        |                                                            |                                            |                              |             |                              | American Nuclear Society  
|                                        |                                                            |                                            |                              |             |                              | American Physical Society                                                                                                                                     |
| Jason P. Hayward                        | Associate Professor, UCOR Faculty Fellow in Nuclear Engine | PhD, University of Michigan                | 211 Pasqua Engineering Building | 865-974-2536 | jhayward@utk.edu            | DOE Science Career Award, 2013  
|                                        |                                                            |                                            | Knoxville, TN 37996-2300     |             |                              | Member, IEEE, American Society for Engineering Education  
|                                        |                                                            |                                            |                              |             |                              | ASEE New Faculty Research Award, 2012  
|                                        |                                                            |                                            |                              |             |                              | Chancellor’s Research Award, 2014  
|                                        |                                                            |                                            |                              |             |                              | Provost’s Junior Faculty Fellow, 2009-2013  
|                                        |                                                            |                                            |                              |             |                              | COE Research Fellow Award, 2011, 2014, 2016  
|                                        |                                                            |                                            |                              |             |                              | Dean’s Junior Faculty Research Award, 2009-2011  
|                                        |                                                            |                                            |                              |             |                              | Member, IEEE and ASEE                                                                                                                                   |
| Lawrence Heilbronn                      | Associate Professor                                        | PhD, Michigan State University             | 214 Pasqua Engineering Building| 865-974-0982 | lheilbro@utk.edu            | Member, American Society for Engineering Education  
|                                        |                                                            |                                            | Knoxville, TN 37996-2300     |             |                              | Member, American Physical Society  
|                                        |                                                            |                                            |                              |             |                              | Member, American Nuclear Society  
|                                        |                                                            |                                            |                              |             |                              | Member, IEEE                                                                                     |
| Maik Lang                               | Assistant Professor                                        | PhD, University of Heidelberg, Germany    | 313 Pasqua Engineering Building| 865-974-8247 | mlang2@utk.edu              | Member, American Society for Engineering Education  
|                                        |                                                            |                                            | Knoxville, TN 37996-2300     |             |                              | Member, German Physical Society  
|                                        |                                                            |                                            |                              |             |                              | Van Valkenburg Award, 2010                                                                                                                                   |
| Eric D. Lukosi                          | Assistant Professor                                        | PhD, University of Missouri-Columbia      | 212 Pasqua Engineering Building| 865-974-6568 | elukosi@utk.edu             | Ralf E. Powe Young Faculty Enhancement Award, 2013  
|                                        |                                                            |                                            | Knoxville, TN 37996-2300     |             |                              | ANS Meeting, Proceedings, and Transactions Committee, 2013-present  
|                                        |                                                            |                                            |                              |             |                              | Member IEEE, 2012-present  
|                                        |                                                            |                                            |                              |             |                              | Member, American Nuclear Society, 2007-present                                                                                                             |
| G. Ivan Maldonado                       | Associate Professor                                        | PhD, North Carolina State University      | 313 Pasqua Engineering Building| 865-974-7562 | ivan.maldonado@utk.edu      | Member, American Society for Engineering Education  
|                                        |                                                            |                                            | Knoxville, TN 37996-2300     |             |                              | Member, American Society of Mechanical Engineers  
|                                        |                                                            |                                            |                              |             |                              | Member, IEEE                                                                                     |
| Ronald E. Pevey                         | Associate Professor                                        | PE, PhD, The University of Tennessee      | 213 Pasqua Engineering Building| 865-974-7573 | rpevey@utk.edu              | COE Teaching Fellow, 2012  
|                                        |                                                            |                                            | Knoxville, TN 37996-2300     |             |                              | Leon and Nancy Cole Superior Teaching Award, 2001  
|                                        |                                                            |                                            |                              |             |                              | Secretary, American Nuclear Society Mathematics and Computations Division, 2004-2006                                                                 |
| Arthur E. Ruggles                       | Professor                                                  | PhD, Rensselaer Polytechnic Institute     | 312 Pasqua Engineering Building| 865-974-2525 | aruggles@utk.edu            | Fellow, American Society of Mechanical Engineers (ASME)  
|                                        |                                                            |                                            | Knoxville, TN 37996-2300     |             |                              | Member, American Nuclear Society (ANS)  
|                                        |                                                            |                                            |                              |             |                              | Member, Sigma Xi  
|                                        |                                                            |                                            |                              |             |                              | COE Research Fellow, 2009                                                                                                                                   |
| Steven E. Skutnik                       | Assistant Professor                                        | PhD, North Carolina State University      | 505A Ferris Hall              | 865-974-2212 | sskutnik@utk.edu            | Member, American Nuclear Society  
|                                        |                                                            |                                            | Knoxville, TN 37996-2100     |             |                              | 2016 COE Dean’s Faculty Research Excellence Award                                                                                                           |

**RESEARCH AREAS**

- Global nuclear security, nuclear counter-terrorism, nuclear and radiochemistry, nuclear forensics, nonproliferation, safeguards and consequence management
- Radiation damage and high-pressure studies, materials science
- Monte Carlo methods, nuclear criticality safety, radiation shielding and nuclear reactor physics
- Thermal-fluid transport, liquid metals, fluid transients, positron emission particle tracking
- Radiation instrumentation systems and algorithms, especially for nuclear nonproliferation technologies and imaging
- Reactor physics, computational nuclear engineering and nuclear fuel management
- Nuclear nonproliferation and safeguards, nuclear fuel cycle modeling, nuclear waste management, and policy issues pertaining to the nuclear fuel cycle
Joseph R. Stainback IV  
Research Associate Professor  
PhD, The University of Tennessee  
Room 339, Howard H. Baker Center for Public Policy  
1640 Cumberland Avenue  
Knoxville, TN 37996  
Phone: 865-974-3841  
E-mail: jstainback@utk.edu  

Honors & Affiliations  
• Baker Fellow  
• Board, International Journal of Nuclear Security  
• Five DOE Defense Programs Awards of Excellence  
• Member, Institute of Defense Engineers, Institute of Nuclear Materials Management, American Nuclear Society  

Research Areas  
Focusing efforts for the UT Institute for Nuclear Security on five principal thematic areas within the nuclear industry: policy, law and diplomacy, education and training, science and technology, operational and intelligence capabilities, and real-world missions while taking a systems-engineering approach to these matters.

Lawrence W. Townsend  
Robert M. Condra Professor, Chancellor’s Professor  
PhD, University of Idaho  
303A Pasqua Engineering Building  
Knoxville, TN 37996-2300  
Phone: 865-974-7569  
E-mail: ltownsen@utk.edu  

www. engr.utk.edu/nuclear/townsend.html  
Honors & Affiliations  
• ANS RSIPD Professional Achievement Award, 2013  
• COE Teaching Fellow Award, 2007  
• Moses E. and Mayme Brooks Distinguished Professor Award, 2001  
• NASA Exceptional Scientific Achievement Medal, 1993  
• Fellow, American Nuclear Society  
• Fellow, Health Physics Society  

Research Areas  
Nuclear and radiological engineering, radiation physics, transport theory, theoretical nuclear physics and space radiation protection.

Richard T. Wood  
Professor  
PE, PhD, University of Tennessee  
309 Pasqua Engineering Building  
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Phone: 865-974-8841  
E-mail: woodrt@utk.edu  

www. engr.utk.edu/nuclear/Faculty/wood.html  
Honors & Affiliations  
• U.S. Chief Delegate, International Electrotechnical Commission, SC45A  
• Member, American Nuclear Society, Institute of Electrical and Electronics Engineers  
• ANS Human Factors and Instrumentation & Control Division (HFICD) Executive Committee  
• Chair, International Atomic Energy Agency, Technical Working Group on Nuclear Power Plant Control and Instrumentation  

Research Areas  
Nuclear instrumentation and control, reactor safety and licensing, digital technology, reactor dynamics and control, environmental compatibility, advanced reactors, surveillance and diagnosis.

Donghua Xu  
Research Assistant Professor  
PhD, California Institute of Technology  
215 Pasqua Engineering Building  
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Phone: 865-974-5057  
E-mail: xudh@utk.edu  

Honors & Affiliations  
• Two first- and corresponding-author papers listed as Highly Cited by ISI Web of Science, 2014  
• Member, MRS, TMS, ISRN Mat. Sci. editorial board  
• Proposal Reviewer, Romanian National Research Council, US DOE Fusion Energy Sciences  
• Two US patents on metallic glasses  

Research Areas  
Nuclear structural materials; radiation damage in materials; amorphous and nano-crystalline metals/alloys; rate theory based cluster dynamics modeling; kinetic Monte Carlo modeling; positron annihilation spectros- copy experiments.

Steven Zinkle  
UT-ORNL Governor’s Chair Professor  
PhD, University of Wisconsin, Madison  
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Knoxville, TN 37996-2300  
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www. engr.utk.edu/nuclear/Zinkle.html  
Honors & Affiliations  
• Member, US National Academy of Engineering  
• Member, National Materials & Manufacturing Board  
• Senior Editor, Journal of Nuclear Materials  
• DOE E.O. Lawrence Memorial Award, Nuclear Technology, 2006  
• Fellow, Materials Research Society; The Minerals, Metals and Materials Society; American Nuclear Society, AAAS; American Physical Society, American Ceramic Society  
• Robert W. Cahn Award, 2010  
• ANS Mishima award, 2007  

Research Areas  
Physical metallurgy of structural materials; ion and neutron irradiation effects on the microstructure, physical properties, and mechanical properties of metals and ceramics; transmission electron microscopy; fusion and space fission reactor materials studies.

Brian Wirth  
UT-ORNL Governor’s Chair Professor  
PhD, University of California- Santa Barbara  
303 Pasqua Engineering Building  
Knoxville, TN 37996-2300  
Phone: 865-974-2554  
E-mail: bdwirth@utk.edu  

www. engr.utk.edu/nuclear/wirth.html  
Honors & Affiliations  
• National Science Foundation CAREER Award  
• Fusion Power Associates David J. Rose Excellence in Fusion Engineering Award, 2007  
• Presidential Early Career Award for Scientists & Engineers (PECASE), 2003  
• Early Career Scientist and Engineer Award. Department of Energy, 2003  
• Editorial Advisory Board, Journal of Nuclear Materials  

Research Areas  
Performance of nuclear fuels and structural materials in nuclear environments, leading to improved predictions about the longevity of nuclear reactor components and the development of high-performance, radiation resistant materials for advanced nuclear fission and fusion energy power plants. Multi-disciplinary combination of computational multiscale materials modeling with experimental processing and characterization of materials structure and properties from the nanometer to continuum length scales.

Xiaodong Zhang  
Research Associate Professor  
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E-mail: xzhang39@utk.edu  

rir.utk.edu/peopletwo/xiaodong-zhang  
Honors & Affiliations  
• Member, IEEE  
• CREN RD51 Representative  

Research Areas  
Radiation instrumentation, especially for nonproliferation technologies and imaging.
RESEARCH FOCUS

- Biofuels & Bioprocessing
- Underwater Video - GPS Habitat Mapping
- GPS Tracking of Military Vehicle Movement & Environmental Impacts
- Precision Farming & Yield Mapping
- Soil Bioremediation for Contaminant Removal
- Ground Penetrating Radar for Subsurface Measurements
- Erosion Mapping & Control & Sediment Modeling
- Irrigation System Design
- Waste Management – Human and Animal

RESEARCH AREAS

- Bioprocessing; biomass pretreatment
- Wastewater management, in the areas of onsite wastewater disposal, soil and water conservation engineering and livestock waste management
- Machine systems
- Precision agriculture

Honors & Affiliations

- Member, American Society of Agricultural & Biological Engineers
- Member, American Chemical Society
- Member, American Institute of Chemical Engineers
- New Faces of Engineering, American Society of Agricultural and Biological Engineers 2012
- Epsilon Sigma Phi Mid Career Award, 2006

RESEARCH AREAS

- Biomass conversion to biofuels, bioenergy and bioproducts, Process modeling and simulation of conversion processes, catalysis and intermediate product upgrading
- Precision agriculture
- Soil Bioremediation for Contaminant Removal
- Ground Penetrating Radar for Subsurface Measurements
- Irrigation System Design
- Waste Management – Human and Animal

Honors & Affiliations

- Member, American Society of Agricultural and Biological Engineers
- Member, American Chemical Society
- Member, American Institute of Chemical Engineers
- New Faces of Engineering, American Society of Agricultural and Biological Engineers 2012
- Epsilon Sigma Phi Mid Career Award, 2006

RESEARCH AREAS

- Member, American Society of Agricultural and Biological Engineers
- National Association of County Agricultural Agents, Gamma Sigma Delta National Honor Society
- National Association of County Agricultural Agents Distinguished Service Award, 2005
- Epsilon Sigma Phi Mid Career Award, 2006

RESEARCH AREAS

- Member, American Society of Agricultural & Biological Engineers
- Soil and Water Conservation Society, National Onsite Wastewater Recycling Association
- Consortium of Universities for the Advancement of Hydrological Sciences

Honors & Affiliations

- Member, American Society of Agricultural and Biological Engineers
- Member, American Chemical Society
- Member, American Institute of Chemical Engineers
- New Faces of Engineering, American Society of Agricultural and Biological Engineers 2012
- Epsilon Sigma Phi Mid Career Award, 2006
BIOSYSTEMS ENGINEERING AND SOIL SCIENCE

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Honors & Affiliations
• Member, American Society of Agricultural and Biological Engineers, Soil Science Society of America, American Society of Civil Engineers, ASFE Professional Firms Practicing in the Geosciences

RESEARCH AREAS
Soil mechanics, slope stability, coal mine reclamation; stability of residual soil in karst areas, mining-induced subsidence damage, geotechnical instrumentation

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Honors & Affiliations
• Member, American Society of Agricultural and Biological Engineers, Tennessee Association of Professional Surveyors, Gamma Sigma Delta Honor Society, Alpha Zeta Honor Society

RESEARCH AREAS
Near-surface geophysical surveying, land surveying, precision agriculture

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Honors & Affiliations
• Member, American Society of Agricultural & Biological Engineers
• Treasurer, Gamma Sigma Delta Honor Society of Agriculture
• UT National Alumni Association Outstanding Teaching Award, 2012
• UTIA Webster Pendergrass Award for Outstanding Service, 2011
• CASNR W.F. and Golda Moss Outstanding Teaching Award—Over 10 Years, 2011
• BESS Outstanding Service Faculty Award, 2011

RESEARCH AREAS
Power and machinery systems

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Honors & Affiliations
• Member, American Society of Agricultural & Biological Engineers, American Water Resources Association-Tennessee Section, Tennessee Air Pollution Control Board, Tennessee Association of Agricultural Agents & Specialists

RESEARCH AREAS
Extension specialty: the environmental impact of animal waste land application

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Honors & Affiliations
• Guest Professor, Wuhan Polytechnic University (China)
• BESS Outstanding Teacher Award, 2012
• Senior Associate Editor, Journal of the American Oil Chemists’ Society
• Associate Editor, Journal of Surfactants and Detergents
• Associate Editor, Biological Engineering Transaction (ASABE)
• Secretary/Treasurer, Biotechnology Division, American Oil Chemists’ Society (AOCS)

RESEARCH AREAS
Biological process engineering in the areas of biocatalysis, bioseparations and colloids

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Honors & Affiliations
• Member, American Society of Agricultural and Biological Engineers, Irrigation Association
• Washington State Department of Ecology Environmental Excellence Award, 2004
• Colorado State University Cooperative Extension Team Award, 1991

RESEARCH AREAS
Extension specialty: irrigation system design and management

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Honors & Affiliations
• Secretary, American Ecological Engineering Society
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RESEARCH AREAS
Watershed restoration, urban and agricultural stormwater management

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Honors & Affiliations
• Member, American Society of Agricultural & Biological Engineers, Tennessee Geographic Information Council

RESEARCH AREAS
GPS/GIS technologies, farm safety, AgrAbility and disaster education, solar energy

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Honors & Affiliations
• Member, American Society of Agricultural and Biological Engineers, American Geophysical Union

RESEARCH AREAS
Unsaturated flow and transport, LID
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Honors & Affiliations
• Fellow, Soil and Water Conservation Society
•Recipient of 1 Superior Paper and 2 Honorable Mention Paper Awards from ASABE
•Member, AAAS, AGU, ASABE, ASTM, SWCS

Research Areas
Stormwater management, erosion and sediment control, hydrologic monitoring

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Honors & Affiliations
• TAES Research Impact Award, UTIA
• T.J. Whatley Distinguished Young Scientist Award, UTIA
•Member, American Society of Agricultural & Biological Engineers, the American Society of Mechanical Engineers, UTIA Biofuels Committee

Research Areas
Biomass harvest, processing and supply logistics; spray application analyses and environmental effects

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Honors & Affiliations
•Member, American Society of Agricultural & Biological Engineers, Alpha Epsilon

Research Areas
Biomass conversion to bioenergy and biomaterials, characterization and evaluation of biological materials using NMR/MRI, FTIR/FTNIR, modeling of reaction and transport phenomena in food and bioprocess engineering

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Honors & Affiliations
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Research Areas
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Honors & Affiliations:
• Fellow, ASM International
• College of Engineering Leon and Nancy Cole Outstanding Teaching Award, 2016
• UTK Faculty Award for Environmental Leadership, 2012
• MSE Faculty Award for Excellence in Service, 2012
• MSE Faculty Award for Excellence in Teaching, 2008
• COE Outstanding Faculty Advisor, 2007
• Member, American Crystallographic Association, ASM International, Neutron Scattering Society of America

About the center:
The Center for Materials Processing (CMP) was initiated as a Center of Excellence in 1985 through the Tennessee Higher Education Commission. The CMP’s mission is to foster and promote research on a wide variety of materials with the objective of providing technology that can be the starting point for new product development or provide solutions to problems related to the performance of materials that will improve industrial competitiveness.

The mission is achieved by support of interdisciplinary research in departments across the campus. CMP funds are matched by support from industry and governmental agencies and are primarily used to support graduate fellowships and undergraduate research or for the purchase or upgrade of state-of-the art instrumentation. Industrial support is provided through CMP memberships, research contracts, and gifts.

Materials of interest include materials used in advance energy systems, including materials found as components in the solar and nuclear industries, and materials used in high performance applications including materials found as components in computers and in the aerospace industries. Biomaterials and materials for nuclear detection are also a focal point of many of the researchers associated with the CMP.

Center for Ultra-wide-area Resilient Electric Energy Transmission Networks
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Honors & Affiliations:
• College of Engineering Research Achievement Award, 2015
• IEEE Fellow, 2007
• Outstanding Researcher, WSU 2001, 2003, 2004
• Outstanding EE Teaching Faculty, WSU 1996, 2002

About the center:
The Center for Ultra-wide-area Resilient Electric Energy Transmission Networks (CURENT) is an engineering research center headquartered at the University of Tennessee, Knoxville, but with research partnerships at Northeastern University, Rensselaer Polytechnic Institute, and Tuskegee University. The center collaborates with academia, industry, and national laboratories to develop innovative technologies and studies that may aid in the creation of a smarter, more robust, and unified electric grid system. CURENT is jointly supported by the National Science Foundation (NSF) and the Department of Energy (DOE)

CURENT’s vision is a nation-wide or continent-wide transmission grid that is fully monitored and dynamically controlled in real-time for high efficiency, high reliability, low cost, better accommodation of renewable energy sources, full utilization of energy storage, and accommodation of responsive load. CURENT also strives for a new generation of electric power and energy systems engineering leaders with global perspectives and diverse backgrounds.

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Honors & Affiliations:
• Member Emeritus, TRB Committee on Local and Regional Rail Freight Transport; TRB Committee on Freight Transportation Economics and Regulation; TRB Committee on Railroad Operational Technologies
• Chair, ASCE-T&D Rail Transportation Committee
• Member, American Society of Civil Engineers, American Railway Engineering and Maintenance-of-Way Association, American Public Works Association and Editorial Board, Transportation Safety and Security

About the center:
CTR is home to a broad set of research, educational, and outreach activities that promote the safe and efficient movement of people and goods throughout the region and across the world. These activities help practitioners meet daily transportation challenges, contribute to the development and implementation of new transportation technologies, inform transportation policy-making, and help prepare coming generations of transportation professionals. CTR provides valuable opportunities in support of students and faculty across the university and throughout the Southeast.

During our forty-two-year history, CTR has relied on collaborations with affiliates, partners, and project sponsors. Our partnerships include state and federal agencies, individual communities, other universities, private-sector firms, and transportation leaders worldwide. CTR has long-standing relationships with all sectors of the US Department of Transportation, the US Army Corps of Engineers, Tennessee Department of Transportation, Governor’s Highway Safety Office, the Southeastern Transportation Center research consortium, the National University Rail Center, the Council of University Transportation Centers, and Knox County Schools. CTR has ongoing international collaborations with Beijing Jiaotong Transportation University and Tongji University.

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Honors & Affiliations:
• Distinguished Research Staff in the Computer Science and Mathematics Division, ORNL
• Turing Fellow, Manchester University, 2007-present
• ACM/IEEE Ken Kennedy Award, 2013; IEEE IPDPS Charles Babbage Award, 2011; IEEE Medal of Excellence in Scalable Computing, 2008; IEEE Fombach Award, 2004
• SIAM Supercomputing’s award for Career Achievement, 2010
• Member, National Academy of Engineering, 2001
• Fellow, SIAM, 2009; ACM, 2001; IEEE, 1999; AAAS, 1994

About the center:
The Innovative Computing Laboratory (ICL) aspires to be a world leader in enabling technologies and software for scientific computing. The center’s vision is to provide high performance tools to tackle science’s most challenging problems and to play a major role in the development of standards for scientific computing in general.

ICL is part of the Department of Electrical Engineering and Computer Science in the College of Engineering and serves as the cornerstone laboratory of the Center for Information Technology Research (CITR), one of the University of Tennessee’s nine Centers of Excellence.
Honors & Affiliations:
- Fellow, American Association for the Advancement of Science, 2013-present
- Fellow, American Academy of Microbiology, 1991-present
- DOE BER Distinguished Scientist Award, 2005-2010
- CEE Scholar Recognition Award, 2014
- Faculty Fellow, Oak Ridge National Laboratory, Biosciences Division, 2011-present
- Adjunct Professor, nine universities internationally

About the center:
The University of Tennessee's Institute for a Secure and Sustainable Environment (ISSE) seeks to promote the development of policies, technologies, and educational programs that cut across multiple disciplines, engage the university's research faculty and staff, and grow in response to pressing environmental and security issues facing the state, the nation, and the globe.

ISSE's specialized centers, programs, and initiatives address a range of issues that fall under the broad rubric of sustainability.

### Institute for a Secure and Sustainable Environment

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### Joint Institute for Advanced Materials

**Veerle Keppens, Director**  
**Professor and Head, Department of Materials Science and Engineering; Associate Dean for Faculty Affairs**  
**PhD, K.U. Leuven, Belgium**  
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Web: jiam.utk.edu

Honors & Affiliations:
- College of Engineering Research Fellow Award, 2009
- Chancellor's Award for Professional Promise, 2007
- Departmental Outstanding Young Faculty Researcher, 2005
- Alexander Von Humboldt Fellow, 1998-1999
- Fulbright/NATO Fellow, 1995-1998
- Fellow, Acoustical Society of America

About the center:
Established in 2005, the Joint Institute for Advanced Materials (JIAM), which comprises a multidisciplinary team of scientists from The University of Tennessee (UT), and Oak Ridge National Laboratory (ORNL), operates at the forefront of modern materials science.

Through a partnership that spans more than sixty years, UT and ORNL researchers have maintained international prominence in the field of advanced materials synthesis and characterization. This broad research realm directly engages physicists, chemists, microscopists, computer scientists, and engineers, while involving myriad other areas of scientific investigation. Many of JIAM’s scientists hold joint appointments at UT and ORNL.

The UT–ORNL joint institutes were created to spur collaboration and capitalize on mutual strengths. JIAM is one of five UT–ORNL joint institutes. The others include the Joint Institute for Biological Sciences, the Joint Institute for Heavy Ion Research, the Joint Institute for Neutron Sciences, and the Joint Institute for Computational Sciences.

### Reliability & Maintainability Center

**Klaus M. Blache, Director**  
**PhD, Wayne State University**  
507 East Stadium Hall  
Knoxville, TN 37996-0700  
Phone: 865-974-9628  
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Web: www.RMC.utk.edu

Honors & Affiliations:
- Research Professor in Industrial & Systems Engineering  
- Engineering Excellence Award, General Motors Institute Alumni  
- Special Achievement Award for Innovation, GM North American Mfg. Center  
- Past Chairman, Society of Maintenance & Reliability Professionals  
- Most Valuable Colleague Award, General Motors Research & Development  
- J.D. Power Gold Award (Highest Quality, North America) – CTS Cadillac Plant  
- Member, Society of Maintenance & Reliability Professionals, Human Factors Society

About the center:
The Reliability and Maintainability Center (RMC) is a university–industry association dedicated to improving industrial productivity, efficiency, safety and profitability through advanced reliability and maintainability concepts, technologies, and management principles.

The RMC's vision is to be an international leader in education, research, technologies, assessments, professional development, information sharing, and business support in the areas of reliability and maintainability.

Originated in 1996, the RMC has grown to more than fifty-five sponsoring organizations and has educational and research interactions with faculty and staff in all departments of the College of Engineering (COE) and with various faculty and staff in the College of Business. About twelve percent of the COE undergraduate class receives a minor in Reliability and Maintainability.

### Scintillation Materials Research Center

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Honors & Affiliations:
- Fellow, IEEE  
- Nuclear and Plasma Sciences Society, 2006 Merit Award  
- Senior Editor: Conference Proceedings of Inorganic Scintillators and their Applications, 2007  
- Associate Editor: Conference Proceedings of Inorganic Scintillators and their Applications, 2009  
- Associate Editor, IEEE Transactions on Nuclear Science, 2004-2010  
- Chair, Radiation Instrumentation Technical Committee, IEEE Nuclear and Plasma Sciences Society, 2009-2011

About the center:
The Scintillation Materials Research Center is widely recognized as a leading research facility for the discovery and development of innovative materials that are used as gamma ray, X-ray, and neutron sensors. The center’s faculty, students, and other researchers are supported by a combination of public and private funding to perform both basic and applied research related to the needs of the health-care industry, homeland security, and the exploration for new energy resources.

Applications of the technology include medical imaging systems that depend on high-performance radiation sensors for early and accurate diagnosis of disease, portal monitors that identify the illegal transport of radioactive materials, and instruments used in the petroleum industry for the discovery and production of oil and gas.
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