

## Values

- develop student thinking and problem solving
- integrate real world issues with theories in STEM
- respond to employer needs and expectations
- use educational research and student assessment to inform innovations in education

## Editor-in-Chief

### P. K. Raju

Thomas Walter Professor  
Director, LITEE  
Department of Mechanical Engineering  
270 Ross Hall • Auburn University, AL, 36849  
Phone: (334) 844-3301 • Fax: (334) 844-3307  
Email: pkraju@eng.auburn.edu

## Managing Editor

### Chetan S. Sankar

Thomas Walter Professor  
Department of Management  
415 West Magnolia Avenue, Suite 401  
Auburn University, AL, 36849  
Phone: (334) 844-6504 • Fax: (334) 844-5159  
Email: sankacs@auburn.edu

## Mission Statement

To promote high-quality undergraduate education in science, technology, engineering and mathematics through peer reviewed articles that provide

- Case studies and other innovations in education
  - Well founded in STEM content
  - Informed by educational research
  - Tested through assessment of impact on student learning
- Results from educational research that informs teaching and learning in STEM
- Recent developments that impact STEM education in such areas as policy and industry needs

## Editorial Assistants

Janice Drummond  
Department of Mechanical Engineering  
270 Ross Hall, Auburn University, AL 36849  
Phone: (334) 844-3360 • Fax: (334) 844-3307  
Email: drummje@eng.auburn.edu

Miranda Martin  
Department of Mechanical Engineering  
270 Ross Hall, Auburn University, AL 36849  
Phone: (334) 844-3360 • Fax: (334) 844-3307  
Email: martim1@auburn.edu

## International Editorial Advisory Board Members

**M. Dayne Aldridge**, Dean and Kaolin Chair of Engineering, Mercer University, GA

**Timothy J. Anderson**, Associate Dean for Research and Graduate Programs and Professor, Chemical Engineering, University of Florida, FL

**Frank S. Barnes**, Distinguished Professor, Electrical and Computer Engineering, University of Colorado, Boulder, CO

**Larry D. Benefield**, Dean, Samuel Ginn College of Engineering, Auburn University, AL

**John D. Bransford**, James W. Mifflin University Professorship and Professor, College of Education, University of Washington, WA

**James W. Camerius**, Professor, Walker L. Cisler College of Business, Northern Michigan University, MI

**K. Chandrasekaran**, Dean and Professor, R.M.K. Engineering College, Kavaraipeitai, Tamil Nadu State, INDIA

**Tim Edlund**, Past President, NACRA, Associate Professor, Earl G. Graves School of Business and Management, Morgan State University, MD

**Don L. Evans**, Faculty Emeritus, Mechanical & Aerospace Engineering, Arizona State University, AZ

**Lyle Feisel**, Retired, Dean Emeritus of Thomas J. Watson School of Engineering and Applied Science, Binghamton University, NY

**Richard M. Felder**, Hoechst Celanese Professor Emeritus, Department of Chemical Engineering, North Carolina State University, NC

**Norman Fortenberry**, Director, Center for the Advancement of Scholarship on Engineering Education, National Academy of Engineering, Washington, DC

**Wallace T. Fowler**, University Distinguished Teaching Professor, Department of Aerospace Engineering and Engineering Mechanics, The University of Texas at Austin, TX

**Mythreyee Ganapathy**, University Relations Manager, Microsoft India, Hyderabad, INDIA

**Lothar Gaul**, Director, Institut für Mechanik, University of Stuttgart, GERMANY

**Alain Gerard**, Professor, Laboratoire de Mecanique Physique, Université Bordeaux, FRANCE

**George Hairston**, Chairman, Southern Nuclear Operating Company, Inc., Birmingham, AL

**Claudia House**, Teacher, English Department, Shelbyville Central High School, TN

**Frank Huband**, Executive Director, American Society for Engineering Education, Washington, DC

**Gerald S. Jakubowski**, Past President, American Society for Engineering Education, Washington, DC and Provost, Arizona State University, Polytechnic Campus, Mesa, AZ

**Jim Johnson**, Dean, Information & Engineering Technologies, Nashville State Community College, TN

**Mario Letelier**, Director, Center for Research in Creativity and Higher Education, University of Santiago de Chile, CHILE

**James H. Lightbourne**, Senior Advisor, Office of Integrative Activities, National Science Foundation, Arlington, VA

**Lillian C. McDermott**, Professor of Physics, University of Washington, WA

**Patricia F. Mead**, Professor, Optical Engineering, Norfolk State University, VA

**Carolyn W. Meyers**, President, Norfolk State University, VA

**Dilip K. Nag**, Senior Lecturer, Civil Engineering, Monash University, Victoria, AUSTRALIA

**George Peterson**, Executive Director, Accreditation Board for Engineering and Technology, Baltimore, MD

**Winfred M. Phillips**, Vice President for Research and Dean, Graduate School, University of Florida, FL

**Russell L. Pimmel**, Program Director, CCLI/DUE, National Science Foundation, Arlington, VA

**Karl-Heinz Rau**, Professor, Business School, Pforzheim University, GERMANY

**William H. Rauckhorst**, Senior Associate to the Provost and Professor of Physics, Miami University, OH

**Sydney Rogers**, Executive Director, Alignment Nashville, TN

**Eric Sheppard**, Dean, School of Engineering and Technology, Hampton University, VA

**Larry J. Shuman**, Professor and Associate Dean for Academic Affairs, School of Engineering, University of Pittsburgh, PA

**Karl A. Smith**, Morse-Alumni Distinguished Teaching Professor of Civil Engineering, University of Minnesota, MN

**Nam P. Suh**, Ralph E. & Eloise F. Cross Professor and Director, Mechanical Engineering Department, Massachusetts Institute of Technology, Cambridge, MA

**Gerard Voland**, Dean, School of Engineering, Technology and Computer Science, Indiana University – Purdue University, Fort Wayne, IN

**M.S. Wald**, Editor-in-Chief, The International Journal of Engineering Education, Dublin Institute of Technology, IRELAND

**Phillip C. Wankat**, Clifton L. Lovell Distinguished Professor of Chemical Engineering and Director of Undergraduate Degree Programs, Purdue University, IN

**Steve E. Watkins**, Professor of Electrical & Computer Engineering, University of Missouri Rolla, MO