

Guest Editorial

In 2004, the National Academy of Engineering published a report titled, “The Engineer of 2020: Visions of Engineering in the New Century,” which identifies the importance of having more practicing engineers knowledgeable in principles of leadership and management, ethical standards, cultural diversity, global/international impacts, and cost-benefit constraints, among other topics, to ensure the future development of the engineering profession. The critical importance of effectively integrating engineering, technology and leadership has never been more evident than in recent years with large scale natural catastrophes, man-made global challenges and the global recession. While engineering is not a cure-all for these issues, the focus on STEM education and transitioning this knowledge to tangible products that impact the economy are underpinned by quality engineering leadership education. Simply put, it is essential to the competitiveness of the United States and to global society for future engineering graduates to possess strong leadership and management skills in addition to their engineering skills.



The motivation for this Special Edition of the *Journal of STEM Education: Innovations and Research* was an Engineering Leadership Workshop hosted by the National Science Foundation on September 10, 2007, organized by researchers at the University of Central Florida, Center for Engineering Leadership and Learning. The purpose of this workshop was to convene nationally recognized engineering educators, practitioners, government agencies (including the National Science Foundation and National Academy of Engineering), and other stake holders in engineering leadership education. The workshop included presentations, panel discussions and focus groups. The event was a powerful brainstorming and working session that led to the development of a list of priorities in engineering leadership education. Some of these priorities include:

- Establish an Engineering Leadership Electronic Clearing House
- Formally establish an Engineering Leadership Education Community
- Formulate a plan for engaging industry leaders in academic engineering leadership development programs
- Develop a plan to begin a national dialogue on Engineering Leadership
- Create engineering leadership resources to support institutions in achieving Accreditation Board for Engineering and Technology (ABET) requirements while at the same time offering engineering leadership education and opportunities to students
- Develop plans to convert traditional engineering faculty into advocates for Engineering Leadership

Each of these priorities became a focus for small teams of individuals that attended the workshop; however, it was apparent that more dissemination of these findings and a broader dialogue was needed.

The goals of this special issue include further disseminating workshop knowledge presented on engineering leadership programs, best practices, and research, and sharing the priorities identified in the workshop. The articles contained in this journal are designed to share effective engineering leadership techniques, review best practices and share the state of leadership initiatives the engineering education community. Ideally, this special edition will generate additional dialogue, applications, research and synergy in engineering leadership education.

I am honored to serve at the Guest Editor in the *Journal of STEM Education: Innovations and Research*, and to encourage the continuation of this vitally important conversation among my colleagues, practitioners and students. I invite you join us in this discussion concerning engineering education as our community makes strides to meet the national and global needs in engineering leadership education.

Sincerely,

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