

## Editorial

We wish all our readers a very happy and prosperous 2008. There have been some changes in the Journal office. Dr. Chetan Sankar, who has been my co-editor in chief from the inception of this journal, has now moved into an administrative role as the Managing Editor of the journal. He now has new responsibilities as the editor of the Decision Sciences Institute Journal of Innovations in Business Education. We thank him for all his dedicated service to our journal which has helped this journal grow to its present stature, and we also thank him for agreeing to be the Managing Editor. Additionally, due to the increasing costs of journal production, we had to increase the pay charges from \$150 to \$295, effective immediately.

The focus of this issue of the journal is the necessity of expanding our understanding of the boundaries of SMET education. Although the Journal of SMET Education focuses primarily on this education in 2- and 4-year colleges and universities, we must continue to recognize the importance of SMET education outside the scope of the traditional classroom, including high school pre-engineering programs, college pre-orientation programs, and internships for undergraduates. Additionally, the incorporation of interdisciplinary classroom work and technological exploration outside the classroom will continue to play a major role in the formation of future scientists and engineers. The articles in this edition contribute to the continuing discussion about the future of SMET education.

The first article, by Drs. Reid and Feldhaus, discusses the implementation of pre-engineering curricula in American high schools and the practical issues that stem from using a more technologically demanding and rigorous program in a traditional high school setting. The second article features an examination of project-based learning in engineering classrooms. Drs. Savage, Chen, and Vanasupa explore how the concept of project-based learning leads students to solve technical problems with an eye towards the balance between environmental, social, and economic factors in the problem; this systems-level perspective allows for clear connections between science and engineering and emphasizes the importance of these connections.

The third and fourth articles are case studies that explore education outside the classroom. Drs. Wright, Wu, Frye, Mathur, and Patrick investigate an internship program in biomedical engineering that highlights the importance of interdisciplinary study in the classroom by showing it in action in the workplace. Drs. Abuhamdieh and Sehwal survey the use of portals among faculty and students; although the students were generally more willing to explore the portal, the study showed that faculty influence in using technology like portals was quite high, and students were less likely to actually use the portals if faculty members did not encourage them.

The next case study looks at the effectiveness of interdisciplinary projects in Calculus classes at the University of Tulsa. The group members discuss the development of this program and how it fostered communications between disciplines in the formation as well as contributing to greater learning experiences for the students. The sixth study introduces Dr. Moaveni's approach to teaching fundamental dimensions of engineering across specializations in the freshman year of engineering students, developing these fundamentals early on contributes to better practical implementation of these fundamental ideas, according to his study. Finally, Drs. Thompson and Consi discuss the formation of Freshman Pre-Orientation Programs (FPOPs) at MIT. The benefits they have found reach not only the freshman that get an early start with their engineering programs but also the upperclassmen that participated in the programs.

Interdisciplinary work is fast becoming a necessary facet of education in all disciplines, but must especially be embraced by SMET disciplines and those who teach them. Exploration of the future of SMET education is on-going. Please contribute to the discussion by sharing your thoughts, ideas, and experiences with the Journal through further publications and comments on our current issues.

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