

Editorial

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This issue of INTERSCI contains many excellent articles describing some of the scholarly activities taking place within the College of Science & Engineering. Students in our Science Writing class wrote all the articles. Many thanks to Phillip Cohen, who not only taught the course well but also did the final editing of the articles. As always, our graphic designer, Diane Fenster, did a wonderful job of adding graphics and compiling everything into this attractive publication. As evidenced by the articles in this issue, the college is leaping forward with increased professional creative activities. However, we have not overlooked our primary function of teaching and learning. In fact, faculty research efforts have complemented our instructional efforts marvelously by involving students in hands-on projects.



Advances in science and engineering have affected every facet of our lives—including education. Because of the rapidly expanding knowledge base in these fields, it is becoming increasingly difficult to prepare our students for the challenges they will encounter on the job. Scientists and engineers are also expected to collaborate with others because the nature of their work is far too complicated for a single person to perform. Further compounding the problem is the increased competition as a result of globalization and other economic factors. Companies are cutting training budgets and programs, hiring only workers who have experience with real-life projects. With rapidly changing technologies, science and engineering professionals are expected to change jobs, and perhaps branch to a different area, several times in their working lifetime. How can we produce graduates who are competent, competitive, and adaptable?

First of all, we emphasize fundamentals—the essential knowledge upon which additional knowledge can be built. A college education is, in its essence, about building a strong foundation and developing the ability to build continuously on that foundation. Next, we stress transferable skills—skills that are useful no matter what career paths our students take. Research shows that the current generation of students learns much better through project-based learning. Thus, hands-on projects have become an integral part of our educational process.

Scientists and engineers learn through solving real-life problems. Our students learn critical and creative thinking skills, in addition to scientific and engineering concepts, when they have to struggle to define problems and develop practical solutions. In the process, our students learn how to gather, evaluate, and utilize relevant information. They also learn communication and teamwork skills when working on projects with other people.

Critical thinking, problem solving, communication, teamwork, and life-long learning are some of the most important skills every successful person must possess—and working on projects is the best way to develop those skills. The College of Science and Engineering encourages extensive collaboration between our students and our faculty on projects involving exciting research developments. Please enjoy this issue of INTERSCI as you learn about some of these activities.