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Guest Editorial

The use of computers in engineering education has seen many advancements over the past twenty-five years. From the initial use of large, slow mainframes in the late seventies to accomplish very basic computations to the use of desktop systems to perform complex calculation, simulation, and data acquisition tasks today, the computer has become an indispensable tool in the engineering classroom. To leverage this power, many software-based educational tools have emerged to revolutionize modern engineering education and yet this is just the beginning. Today's educator is quickly realizing that while individual teaching tools can greatly enhance the classroom experience, the true power comes from combining the strengths of multiple tools to create integrated learning environments.

The primary focus of this special issue of IJEE is applications that integrate multiple hardware and software engineering education platforms. By combining the strengths of individual teaching tools, powerful learning environments can be created that are greater than the sum of the parts. The papers presented here are just a few examples of the innovation that can result. In this journal, you will find a range of applications where the authors have combined National Instrument's LabVIEW with other engineering education tools including Spice-based circuit simulation platforms, Matlab, and microcontroller development environments. You will also find applications where authors have used LabVIEW to enhance the use of hardware in the laboratory and classroom. One common thread that emerges from many of the papers is that students now have access to teaching tools that combine multiple learning styles into a single environment.

With some copies of this issue, a CD is also included so that the authors can share some of the software needed to create these environments. The CD also includes an evaluation version of LabVIEW to help you get started. Keep in mind, that these applications are open-ended, allowing you to develop tools specific to your needs. I would also encourage you contact the authors if you need more information.

I would like to thank Michael Wald, the Editor-in-Chief for the International Journal of Engineering Education and Ravi Marawar from National Instruments for giving me the opportunity to work on this issue. While the work involved was substantial, I hope that you find the results worthwhile. I would also like to thank all of the authors involved for their patience and dedication. Finally, I hope that this journal and the CD prove to be useful tools and that you are able to leverage this information in your own classroom.

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