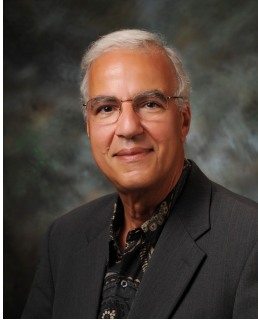


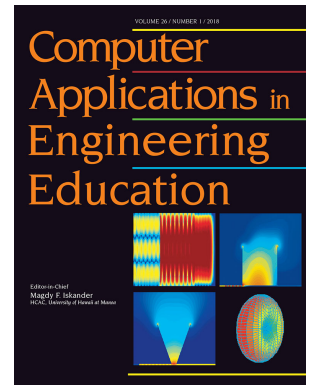


## Meet Magdy Iskander. . .

Editor-in-Chief, Computer Applications in Engineering Education



Magdy F. Iskander, is the Director of the Hawaii Center for Advanced Communication at the University of Hawaii at Manoa. He is a life Fellow of IEEE and was the 2002 President of the IEEE Antennas and propagation Society. His students and colleagues recently published a book in appreciation of his four decades of excellence in academic research and education - The World of Applied Electromagnetics - editors: Lakhtakia, Akhlesh, Furse, Cynthia M.



## We asked Magdy...

**In your role as Editor-in-Chief of Computer Applications in Engineering Education, what do you love to see in a research paper?**

*"When Computer Applications in Engineering Education (CAE) was founded, it came out of a firm belief that engineering education innovation is the responsibility of university faculties, like doing research, and that the phenomenal growth in computer technologies will play an important role in realizing this vision and in enabling its effective implementation. The expectation of CAE continually grew with the remarkable growth in computational speed and power, including access to the internet, social media use in education, software tools, new pedagogy, Massive Online Open Courses (MOOC), virtual labs, and more. CAE now has a broader vision regarding the use of digital technologies in stimulating learning and enhancing the effectiveness of teaching engineering courses."*

**The journal is in its 25th year of publication. What has changed in engineering education over those 25 years?**

*"The development of CAE started in 1989 when the National Center for Computers Applications in Electromagnetic Education (CAEME) was established via grant funding, with the aim to enhance teaching through computers and software, and to stimulate learning of electromagnetics. CAE was founded in 1992, and received the 1993 Award of "Excellence in Professional and Scholarly Publishing in Science, Technology, and Medicine" from The Association of American Publishers. Although CAE's software distribution to authors started on 3.5" floppy diskettes with published issues, much has happened since then and developments in educational technologies have far exceeded initial expectations. Advances now include cloud computing, mobile devices, online games, and global interactions and information sharing through the Internet and social media. Pedagogy and teaching practices continue to evolve and now include innovation through integration, project-based learning, virtual laboratories, e-learning, virtual organizations, and the development of a "Globally Competent" engineering workforce for the 21st century. Through it all, publication in CAE has been focused on contributions with significant fundamental and innovative approaches in teaching engineering courses."*

**What excites you about this area of work?**

*"Leading advances and innovation in engineering education is a fundamental responsibility for those who work at universities and academic institutions. This is particularly important in engineering as we are entrusted with preparing the future technology work force. It is, therefore, invigorating to see the continued growth in digital technologies and their implementation in engineering education. New challenges continue to arise regarding best practices and most effective methodologies, but this is why CAE continue to grow as we broaden its coverage to include new approaches such as the role of social media, mobile devices, and new pedagogy in teaching engineering courses."*

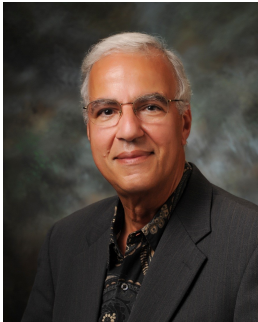
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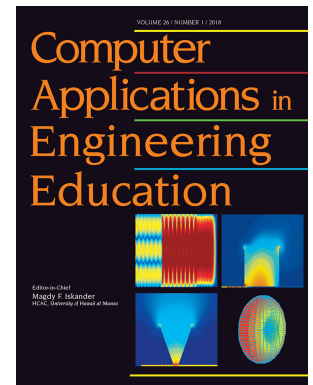


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## We asked Magdy...

**What topics / areas of research would break new ground in this subject or are there any areas which are currently under-researched?**

*"Besides addressing best practices and alternative assessment methods in using modern digital technologies in engineering education, there are still new research areas that continue to emerge in this field. Examples include the impact on globalization on engineering education and, fundamentally, what the curriculum should be to facilitate successful implementation of this inevitable event. Also industry engagement in engineering education, and the role of data analytics and cloud computing on pedagogy and methodology of teaching engineering courses."*

**Can you give a couple of examples of how research in your field impacts society?**

*"CAE research uses innovative computational tools, the Internet, and software in engineering education. Besides new courses and software tools, the CAE scope covers areas that support the integration of technology-based modules in the engineering curriculum and promotes discussion of the assessment and dissemination issues associated with these new implementation methods. To this end, CAE plays an important role in preparing the engineering workforce for the nation. With the proliferation of MOOCs, use of social media, and web-based applications, CAE will also continue to contribute and play a significant role in shaping the evolution of globalization of engineering education."*

**Tell us about the 25th anniversary special issue of CAE. What can readers expect?**

*"When we first published this special issue call for papers, we hoped to attract manuscripts that describe the latest and greatest in computer and digital technologies to enhance the effectiveness of teaching and stimulate students' learning of engineering courses. There was an overwhelming response and more than 180 manuscripts were submitted for publication. We were pleased with the high quality of submitted papers; and after a detailed review process, 44% were accepted. The special issue also attracted participation by the Division of Undergraduate Education at the National Science Foundation, USA, and an invited contribution was received from the Ministry of Education, China. In all, 74 papers from 28 countries are included in this special issue. With its breadth of topics and large number of contributions, this special issue truly represents a global view of advances and innovations in using computers and digital technologies in engineering education."*

*The following five categories are identified as representative of the main themes addressed in the accepted papers:*

- *Digital technology aided engineering education (includes pedagogy, new courses, and simulation software for teaching)*
- *Web-based applications and on-line courses (including Massive Open Online Courses (MOOCs))*
- *Virtual reality and gaming applications (papers on hardware & software innovations for advances in teaching and learning)*
- *Mobile devices and social media engagement in engineering education (papers on integration of social networks within/ outside classroom educational activities)*
- *Assessment of technology use on students learning (papers on assessment results of using technology in teaching)*

Submit your paper to *Computer Applications in Engineering Education* at  
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