Call for Papers
Special Issue on Computing in Engineering
Submission Deadline: May 15, 2017

Guest Editors:

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With the increasing ubiquity of computing, more engineering majors/programs now require one or more computing courses for their students. When significant numbers of engineering students take computer courses, instructors and educators assume roles teaching their computing courses for non-majors as service courses and dealing with students with diverse backgrounds and varied motivations. Teaching computing courses to non-majors is not new; however, the growing importance of computing in future undergraduate engineering curricula poses new challenges. Therefore, for this special issue we solicit original manuscripts focusing on (but not limited to) one or more of the following questions:

- How do computing courses impact or affect engineering majors in their learning and performance?
- How can computing courses be taught with research-based instructional approaches to engage engineering students?
- How can computing courses improve literacy and practice of computational thinking, computing, and programming in engineering?
- How can what students learn in their computing class be integrated with what they are learning in their engineering major?
- How do engineering students view computing courses? How can these views be improved?
- What are roles of the computing curriculum in an engineering student’s career and behavior as a lifelong learner?
- How do engineering students differ from computer science students in computing courses?
- How are engineering students assessed in computing courses?
- How can computing courses or course sequences be designed for engineering majors?
- How are specific courses contextualized or designed to meet engineering majors or non-majors, or interdisciplinary needs?
- How are outreach and recruitment programs established to encourage participation from engineering majors at different types of colleges and universities?

In addition, the call also welcomes manuscripts in computing education research involving engineering students.
Contributions must address discovery, integration, and/or application of knowledge in education in these fields. Articles should support contributions and assertions with compelling evidence and provide explicit, transparent descriptions of the processes through which the evidence is collected, analyzed, and interpreted. While characteristics of compelling evidence cannot be described to address every conceivable situation, generally assessment of the work being reported must go beyond student self-reported and attitudinal data.

Authors wishing to contribute to this special issue are strongly encouraged to refer to the IEEE Transactions on Education’s Author Resource site at http://sites.ieee.org/review-criteria-toe/ for information relative to the issues that must be addressed in manuscript preparation. Note that in order to be considered for publication submitted manuscripts are expected to:

- Report on work tied to an educational environment
- Clearly present intended contributions of the manuscript
- Support intended contributions with compelling, well-written arguments. If one or more of the intended contributions asserts that students have mastered intended content, the manuscript must present meaningful assessment/evaluation data analyzed according to modern, widely accepted statistical approaches. If one or more of the intended contributions asserts that students have mastered intended content more effectively, the data and statistical analysis must account for other factors that might explain differences in student performance.
- Situate contributions within the context of prior work, i.e., a literature review, that clearly delineates prior contributions and articulates new contributions in the submitted manuscript.
- Be DIRECTLY RELEVANT to the theme of the issue.
- Be planned to fit within eight journal pages.

Manuscripts must be submitted electronically to the Transactions’ ScholarOne web site at http://mc.manuscriptcentral.com/te-ieee no later than May 15, 2017, with “Special Issue” being selected as “Manuscript Type” in the corresponding menu during submission. Furthermore, for identification purposes the authors’ cover letter must include the statement: "This is a submission to the Special Issue on Computing in Engineering”.

For further information, contact the Lead Special Issue Editor for this issue: Professor Leen-Kiat Soh, University of Nebraska, Lincoln, NE, USA (lsloh@cse.unl.edu),

**Special Issue Timeline:**
Submission deadline: May 15, 2017
First decision notification deadline: October 31, 2017
Revised manuscript submission deadline: November 31, 2017
Revised manuscript decision notification: March 1, 2018
Final manuscript submission: April 1, 2018
Final decision notification: May 1, 2018
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