

Guest Editorial

Special Issue on: Engineering Education Everywhere: Good Practices for Emergency Situations and Remote Regions – Part 3

The IJEE Special Issue on “Engineering Education Everywhere: Good Practices for Emergency Situations and Remote Regions” was launched just after the outbreak of the SARS-CoV-2, which led to the COVID-19 pandemic. Suddenly, in response to the great lockdown of spring 2020, almost all higher education institutions worldwide had to reformulate their educational strategies and teaching-learning methods. Emergency remote teaching (ERT) became commonplace for managing such an emergency and was enabled through the efforts of institutions, professors, supporting personnel and students, which in general did their best for establishing successful educational environments.

From one week to the next, face-to-face courses had to shift to web-based experiences, usually combining real-time and asynchronous interactions, employing varied new-development tools for fostering online interactions in large groups, resorting to virtual labs, recorded lessons, chats with students to compensate for the lack of personalized tutorials, to cite a few. Professors and students without previous experience in the already classic e-learning, b-learning and m-learning methods, and without any buffer time to receive any training, had to become experts in distance learning.

To search, generate, gather and share good practices and provide some evidence for solving the pandemic-related pedagogical challenges, while in parallel supporting the ongoing educational transformations in engineering education, this Special Issue was proposed. The topic generated an outstanding interest, and more than 60 papers were submitted by colleagues and evaluated by the reviewers’ team, since the launch of the call for papers and along years 2020, 2021 and the first semester of 2022. In consequence, the special issue had to be published in different parts, for giving space to prolonged debates and discussions linked to this continuously evolving topic.

Nowadays, with the virulence of the pandemic fading away, thanks to an unprecedented rise of global scientific collaboration, it is also time to make balance of lessons learnt, as regards engineering education and the most adequate methods for delivering knowledge and fostering technical, professional and social skills of the engineers of the future in emergency situations and remote contexts. This will make us more prepared, not only for dealing with pandemics’ outbursts, but also for eventual similar future challenges, including engineering education in displacement due to warfare or denial of human rights by force and engineering education in low-resource and remote settings in general.

This Part 3 of the Special Issue comprises 19 selected papers, which provide comprehension about how engineering education has progressed, with the perspective of two years and academic courses performed amidst a global pandemic. Topics covered include case studies on project-based learning, service learning, task-based learning, online labs and virtual conferences, among other educational methodologies, applied to several engineering courses for ERT. Besides, opinions of students and educators are gathered in some of the selected papers, which helps to evaluate the impacts, limitations, inequalities and sustainability of these educational approaches.

The Guest Editors are profoundly grateful to the authors for their outstanding involvement with this special issue, to reviewers for their help with managing the large number of submissions received, and to Chief Editor Ahmad Ibrahim for his help and advice. We truly hope that the result of this third part of the Special Issue, linked to “emergent and remote engineering education”, will be according to authors’ expectations and of interest for colleagues and readers of the International Journal of Engineering Education. We also hope that the published studies may support engineering educators towards “engineering education everywhere”.

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