Guest Editorial

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Experience in teaching engineering related subjects has shown that a complementary approach combining theoretical and practical exercises is vital for effective learning. Increasingly, teaching institutions are offering remote access to distant laboratories as part of an overall e-learning strategy. However, the majority of remote access laboratories developed to date have suffered from a major deficiency, namely the provision of a web based environment that accurately recreates the collaborative group working and tutor driven experiences of traditional on-campus based laboratories. New collaborative remote experimentation environments and architectures are required to enable students in disparate locations to simultaneously and collaboratively complete complex experimental exercises. This special issue of the IJOE journal seeks to report on the current research in Remote Laboratories with a practical emphasis on collaborative working and user support, and also to present future research directions in this rapid and emerging area.

The first paper, entitled "Mixed reality learning spaces for collaborative experimentation: A challenge for engineering education and training" by Dieter Müller et. al investigates the vision of collaborative learning spaces, which involve an amalgam of real, virtual and remote lab tools to support a wide spectrum of simple and complex, concrete and abstract, safe and dangerous experimentation settings.

The second paper, entitled "Collaborative Working e-Learning Environments Supported by Rule-Based e-Tutor" by Salaheddin Odeh and Eiman Ketaneh discusses the implementation of automated user support using a rule-based approach in collaborative working environments for remote experimentation.

The third paper, entitled "Paradigms in Remote Experimentation" by Michael Callaghan and Jim Harkin reviews current and future directions in collaborative and lecturer led remote experimentation environments which facilitate more flexible, co-operative working between remotely located students and teaching staff.

To conclude this special edition of IJOE, we would like to thank those authors who contributed to this edition.

Best Regards,
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