

Lecture Notes in Networks and Systems

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Online Engineering & Internet of Things

Proceedings of the 14th International
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and Virtual Instrumentation REV 2017, held
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Preface

The REV conference is the annual conference of the International Association of Online Engineering (IAOE) and the Global Online Laboratory Consortium (GOLC).

REV2017 was the 14th in a series of annual events concerning the area of Remote Engineering and Virtual Instrumentation. The general objective of this conference is to contribute and discuss fundamentals, applications, and experiences in the field of Remote Engineering and Virtual Instrumentation and related new technologies like Internet of Things, Industry 4.0, Cyber-security, M2M, and Smart Objects. Another objective of the conference is to discuss guidelines and new concepts for education at different levels for above-mentioned topics including emerging technologies in learning, MOOCs & MOOLs, Open Resources, and STEM pre-university education.

REV2017 has been organized in cooperation with Columbia University, New York, and the International E-Learning Association (IELA) from March 15 to 17, 2017, in New York.

REV2017 offered again an exciting technical program as well as networking opportunities. Outstanding scientists accepted the invitation for keynote speeches:

- **George Giakos**
IEEE Fellow, Professor and Chair, Director of Graduate Program, Manhattan College, ECE Department, Riverdale NY, USA
- **Greg Dixon**
Director of Industrial Electronics, Phoenix Contact USA
- **Helmut Krcmar**
Chair of Information Systems, Academic Director of SAP University Competence Center Munich, Technical University of Munich, Germany
- **Robert J. Rencher**
Sr. Systems Engineer and Co-Leader Boeing enterprise Internet of Things/ Digital Business strategy team, The Boeing Company, Chicago IL, USA

- **Tarek M. Sobh**

Senior Vice President for Graduate Studies and Research and Dean of the School of Engineering, University of Bridgeport, USA

It was in 2004 when we started this conference series in Villach, Austria, together with some visionary colleagues and friends from around the world. When we started our REV endeavor, the Internet was just 10 years old! Since then, the situation regarding Online Engineering and Virtual Instrumentation has radically changed. Both are today typical working areas of most of the engineers, and are inseparably connected with

- Internet of Things
- Cyber-physical Systems
- Collaborative Networks and Grids
- Cyber-cloud Technologies
- Service Architectures

to name only a few.

With our conference in 2004 (thirteen years ago), we tried to focus on the upcoming use of the Internet for engineering tasks and the problems around it – with big success as we can see today.

The following main themes have been discussed in detail:

- Online Engineering
- Cyber-physical Systems
- Internet of Things
- Industry 4.0
- Cyber-security
- M2M Concepts
- Virtual and Remote Laboratories
- Remote Process Visualization and Virtual Instrumentation
- Remote Control and Measurement Technologies
- Networking, Grid and Cloud Technologies
- Mixed-reality Environments
- Telerobotics and Telepresence, Coboter
- Collaborative Work in Virtual Environments
- Smart City, Smart Energy, Smart Buildings, Smart Homes
- Innovative Organizational and Educational Concepts
- Standards and Standardization Proposals
- Applications and Experiences

As submission types have been accepted:

- Full Paper, Short Paper
- Work in Progress, Poster
- Special Sessions
- Round Table Discussions, Workshops, Tutorials

All contributions were subject to a double-blind review. The review process was very competitive. We had to review nearly 300 submissions. A team of about 129 reviewers did this terrific job. My special thanks go to all of them.

Due to the time and conference schedule restrictions, we could finally accept only the best 116 submissions for presentation. The conference had again more than 140 participants from 31 countries from all continents.

REV2018 will be held in Düsseldorf, Germany, and REV2019 in Bangalore, India.

Michael E. Auer
REV General Chair

Online Engineering & Internet of Things – Proceedings of the 14th International Conference on Remote Engineering and Virtual Instrumentation (REV 2017)

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