

13th IFAC Conference on Technology, Culture and International Stability (TECIS 2019)

26-28 September 2019
Sozopol, BG

The 19th IFAC Conference on Technology, Culture and International Stability (TECIS 2019, formerly "SWIIS") was organized by the Bulgarian IFAC NMO. It took place at the Villa List Hotel in Sozopol, a beautiful ancient town located on the southern Bulgarian Black Sea coast from 26-28 September 2019.

Control and automation technologies can be used to improve the conditions in less developed regions by helping to create jobs and improving inflows of wealth. They can be also used to improve agriculture and to provide medical services in unstable regions. Technology development leads to dramatic changes in international stability. It has never been so important to examine system stability.

IFAC TECIS 2019 provided a forum for professionals, researchers, experts, and practitioners from industry, non-governmental organizations (NGOs) and academia to give an overview of the state of the art, to present new research results and to exchange ideas and experiences in the field of the role of control and automation technologies in promoting international stability. During recent years social international and national systems of control have been shown to be inadequate and prone to be fundamental and most basic instable. Many basic assumptions are no longer certain and are questioned. The imposed goals of IFAC TECIS 2019 were to systematically examine topics associated with these issues. Whilst TECIS 2019 accepted papers within the entire broad scope of the event the conference was particularly concerned with the role of Cost Oriented Automation as a way of improving international stability, through its applications, technologies, processes and as part of larger systems contexts.

The 120 contributions included six plenary talks, 23 invited papers organized in six invited sessions and 91 regular papers in 14 regular sessions. A very broad field of subjects were covered including: Control and Automation Applications Designed to Improve Stability, Social Networks, Managing the Introduction of Technological Change to Improve Stability, Technological Applications in Post-Conflict Regions, Architecture and Software Tools for Enterprise Integration and Networking, Cost Oriented Automation: Modularity, Flexibility, Cost Reduction with E-Maintenance Systems, SME-oriented Automation and Decision Support Systems, Control of Biotechnological Processes, Semi-Automated Assembly and Disassembly, Cost Oriented Automation in Mining, Agriculture and Transportation, Efficient Use of Intelligent Machinery, Advances in Embedded Control Systems, Methods for Cost Effective Operation and Maintenance, Advances in Mechatronic Systems and Robotics, Retrofit-

ting Old Control Systems and Robots, Efficient Control of Hybrid Energy Systems (Wind, Solar, Biogas, Waterpower), Ecological Systems, Engineering Ethics, Tele-Medical Systems and Cross-Cultural Aspects of Engineering.

The plenary papers were presented by Dr. Fahmida N. Chowdhury (National Science Foundation, US) "Toward a Broader Definition of Engineering Careers", Prof. Gancho Vachkov (AZ) "Detection of Changes and Performance Deterioration in Complex Machines and Industrial Systems", Dr. Christoph Jansen (DE) "Leveraging Academic Potentials for Socio-economic Demands: A Contribution to Regional Resilience", Prof. Karamjit S. Gill (UK) "Designing Symbiotic Technological Futures", Prof. Peter Kopacek (AT) "Trends in Production Automation", Prof. Petko Petkov (BG) "Embedded Robust Control of Multivariable Plants". A panel discussion: *Sustainable Engineering for the 21st Century and Beyond* was also organized.

Many young researchers attended the event. From six finalists for the Young Author Award the paper of John Organ (INSYTE, Waterford Institute of Technology, IE) was selected for the award by the selection committee. A special award was also granted to the paper of Ms. Vassiliki Mpelogianni by Prof. Karamjit Gill, Editor-in-Chief of the Journal *AI & Society*, Springer.



TECIS 2019 participants at the
closing ceremony

The TECIS 2019 social program included a welcome party and a banquet dinner at the Hotel Villa List restaurant including a program with traditional dancers. At the end of the conference there was a guided walking tour in the old town of Sozopol to give the international participants an impression of its history and the landscape.

We are extremely grateful to the members of the International Program Committee (IPC) for their valuable help with the reviewing of the papers, the members of the National Organizing Committee (NOC) for the successful organization of the event and especially to all attendees for participating in and contributing to this event. We hope all of the participants enjoyed the creative atmosphere that stimulated intensive and successful discussions.

Submitted by Prof. Peter Kopacek, IPC chair, Vienna University of Technology, (AT) and Prof. Andon V. Topalov, NOC Co-chair, TU of Sofia, Branch Plovdiv, (BG)