PREFACE

Peter Kovacs, IPC chair

Citizens need sophisticated ways of thinking in order to understand complex real social and economic phenomena and to interpret relationships among social and business data correctly. Huge amounts of data, data sources, and visualization tools provide an opportunity to illustrate complex relations with real data. At the same time, the misuse of these tools can lead to misinterpretations, and perhaps to poor decision making.

The conference entitled Challenges and Innovations in Statistics Education, which was a multiplier event of ProCivicStat project, was organized on 7–9 September, 2018. ProCivicStat (http://www.procivicstat.org), a strategic partnership of six universities funded by the Erasmus+ program of the European Union, is developing new methods in statistics instruction for high-schools and universities, this way contributing to young people's ability to understand quantitative evidence about the key social phenomena that permeate civic life. These materials use authentic large scale data in topics such as migration, quality of life, sustainable development goals, and social inequality, often presented in innovative ways.

The conference was sponsored by the International Association for Statistical Education (IASE) and the Hungarian Statistical Association (MST).

For the participants, the goal of the conference was to learn about ProCivicStat materials and other relevant resources, to share their ideas and current practices, and to work on challenges and innovations in statistics education. Use of real data, databases, IT solutions, visualizations, innovative teaching, learning and examining methods, solutions were the main topics of the conference in English and Hungarian languages.

The plenary talk was given by Jim Ridgway on *Statistics for Empowerment: opportunities and challenges.* In course of the event, one special session on *Resources to Support Innovative Teaching: conceptual maps, data sources, and visualization tools,* 8 workshops on *Codap, R, digital tools, Jupyterhub, Answerminer, Understanding statistics about society and gamification*, and 7 presentation sessions *on ProCivicStat approach, issues and innovative teaching methods, misuse and IT support of Statistics and Developing (Official) Statistical Literacy* with 22 talks were organized, 72 colleagues from 13 countries (43 Hungarians and 29 from other countries, mainly from Eastern Europe) participated. The materials of the sessions are available at http://www.eco.u-szeged.hu/procivicstat.

This proceeding contains 13 papers in the above mentioned topics.

INTERNATIONAL PROGRAM COMMITTEE

- Péter Kovács, University of Szeged, Hungary (chair)
- Djordje M. Kadijevich, Institute for Educational Research, Serbia
- Éva Laczka, Hungarian Statistical Association, Hungary
- James Nicholson, Durham University, UK
- Joachim Engel, Ludwigsburg University of Education, Germany
- Ksenija Dumičić, University of Zagreb, Croatia

ADVISORY BOARD
- Andrej Blejec, National Institute of Biology, University of Ljubljana, Slovenia
- Éva Kriszt Sándorné, Budapest Business School, Statistical Committee of Hungarian Academy of Science, Hungary
- Iddo Gal, University of Haifa, Israel

- Jim Ridgway, Durham University, UK
- Pedro Campos, Statistics Portugal & University of Porto, Portugal
- Rolf Biehler, University of Paderborn, Germany