Modelling Smart Grids 2018: 4th International Interdisciplinary Workshop

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Already the 4th well-established interdisciplinary international workshop *Modelling Smart Grids 2018* took place in Prague during 20–22 September 2018. It was organized by the Charles University in Prague, Czech Technical University in Prague, Czech Academy of Sciences, Czech Statistical Office, Technical University in Liberec and the Czech Statistical Society. In total, 48 participants from 5 countries presented and discussed contributions covering a broad spectrum ranging from theoretical statistics, optimization, computer science, official statistics, energy economics, control theory, cloud solutions and advanced remote metering for smart grids. Foreign participants came from China, France, Poland and Slovakia. The idea behind the *Modelling Smart Grids* workshops has always been to bring together statisticians, experts in optimization, computer scientists, economists, technicians, managers from energy production and distribution sector to enable the exchange of ideas and to provide them with interdisciplinary insight into the changing field of energetics.

The workshop took place in three different places: the Czech Institute of Informatics, Robotics and Cybernetics (CIIRC), the Czech Statistical Office and historical building of the Czech Technical University in Prague. Five keynote lectures were delivered.

Professor Jean-Michel Poggi (University Paris Descartes and University Paris Sud) delivered lecture on forecasting electricity consumption of individual consumers by wavelets. Hynek Beran (CIIRC) broadly discussed challenges of the Czech energetics after 2022 connected with EU regulations reducing usage of coal, replacing nuclear power plants and adopting infrastructure to smart grids. Václav Rybáček and Miloslav Beránek presented their reflection of energy sector in macroeconomic (emission trading) and price statistics. Tomasz Piasecki (Huawei) gave an overview on advanced remote electricity metering telecommunication infrastructure. Jakub Kúdela (Microsoft CZ) focused on two topics: i) Application of machine learning for remote control and security monitoring of the power plants, ii) Cloud service to process sensor data of smart grids in the real time.

The important parts of the Energy Days workshop are panel discussions on strategic issues of energetics. This year it was focused on long term investment strategy on power-plants and based on three lectures. The first part was the keynote lecture of Hynek Beran. Then, Vladimír Vágner (Nuclear Physics Institute, Czech Academy of Sciences) focused on effects of putting nuclear reactors in Germany out of operation to the Czech power industry. Finally, Radek Lamich (ČEZ Distribution) presented a simulation study of renewal costs of the distribution networks based on simulations.

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