

A Summary of the IFAC HMS2019 in Tallinn, Estonia

The 14th IFAC/IFORS/IFIP/IEA symposium on Analysis, Design and Evaluation of Human-Machine systems was held in Tallinn, Estonia from September 16-19, 2019 in the Park Inn Radisson Meriton SPA and Conference Hotel. More Information can be found on the symposium website <https://cs.ttu.ee/hms2019/>.



HMS2019 group photo at the Banquet

IFAC HMS 2019 is a triennial symposium sponsored by the IFAC Technical Committee on Human-Machine Systems (4.5) and co-sponsored by the IFAC Technical Committee Adaptive and Learning Systems (1.2), IFAC Technical Committee Control Design (2.1) and IFAC Technical Committee Social Impact of automation (9.2). The symposium was also supported by the following organizations: International Federation of Information Processing, International Federation of Operation Research Societies and International Ergonomics Association.

The objective of the symposium is to provide an international forum for the latest scientific and technological achievements in Human-Machine Systems research. The symposium aims to bring together researchers working in this field and provide them with opportunities to exchange ideas, to overview achieved results and develop the vision for future research. The role of human is important in a wide-range of applications in the domains of intelligent and autonomous systems, robotics, virtual reality, healthcare, etc., requiring advanced solutions for efficient and safe human-machine interaction.

During the last twenty-five years Estonia has experienced rapid technological development and now is one of the leading countries in areas such as e-governance, cyber-security and e-medicine. All these areas rely heavily on human-machine interaction technologies and were set as main themes of this symposium together with the established themes of previous IFAC HMS symposiums.

IFAC HMS strongly promotes the research of young scientists in the field. This time IFAC Young Author Award was given to Mr. Husam Muslim for the paper *Trust and Acceptance of Adaptive and Conventional Collision Avoidance Systems*.



Husam Muslim, Prof Jianhua Zhang (IPC Chair)

Best paper award was given to Mareijn Willems, Daan Marinus Pool, Kasper van der El, Herman J. Damveld, Rene van Paassen, Max Mulder for the paper *Analysis of Human Skill Development in Manual Ramp-Tracking Tasks*.



Prof Jianhua Zhang (IPC Chair), Dr Sven Nõmm (NOC Chair), Dr Daan Marinus Pool, Prof Max Mulder

Five keynote lectures were given during the symposium:

- 1) *“Incident Response Case Studies: Reality vs Security Theatre”* by Kieren Ni colas Lovell. Main attention of the lecture was paid to the cybersecurity aspects and dangers of social networks.
- 2) *“There is no intelligence in artificial intelligence (yet)”* by Prof. Aaro Toomela. He discussed problems of Intelligence vs. Artificial Intelligence from the viewpoint of psychology.
- 3) In order to strengthen contacts between academia and local industry three keynote lectures were organized: *“Remote Tower for ATM - Possibilities and Challenges”* by Dr. Meelis N mm Cybernetica AS; *“Meaningful Human Control of Unmanned Ground Vehicles”* by Prof Mart Noorma, Milrem Robotics; *“Unmanned aircraft systems (UAS) – present and the future”* by Martin J esaar, Threed Systems.

The 15th IFAC HMS Symposium will take place in 2022 in San Jose, California.