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SS-24: Human Factors for Collaborative Intelligence Applications in Safety Critical Domains

Maria Chiara Leva¹, Luca Gualtieri², Carlo Caiazzo², Ammar Abbas¹, Hector Diego Estrada Lugo³, John D. Kelleher⁴, Micaela Demichela⁵, Anders Madsen⁶, Gabriele Gianini⁷, Philip Long⁸, and Marko Djapan⁹

¹ Technological University Dublin, Ireland

² University of Bolzano, Italy

³ UK Atomic Energy Authority, United Kingdom

⁴ ADAPT Centre – Trinity College Dublin, Ireland

⁵ Polytechnic of Turin, Italy

⁶ Aalborg University, Denmark

⁷ University of Milano Bicocca, Italy

⁸ Atlantic Technological University, Ireland

⁹ University of Kragujevac, Serbia

mariachiara.leva@tudublin.ie; luca.gualtieri@unibz.it; carlo.caiazzo@unibz.it; abbasam@tcd.ie;
diego.estradalugo@ukaea.uk; john.kelleher@adaptcentre.ie; micaela.demichela@polito.it;
anders@hugin.com; gabriele.gianini@unimib.it; philip.long@aut.ie; djapan@kg.ac.rs

Description

The European Commission's guidelines on ethics in artificial intelligence (AI), published in April 2019, recognised the importance of a 'human-centric' approach to AI that is respectful of European values. Efforts to prepare for the integration of "human-centric" AI into European innovation and industry are now underway. AI systems should be able to collaborate with (rather than replace) humans. Safety critical applications of AI technology are "human-in-the-loop" scenarios, where AI and humans work together, as in manufacturing processes, IoT systems, and critical infrastructures. The concept of Collaborative Intelligence is essential for safety critical situations, and it requires interdisciplinary approaches blending expertise across AI, Human Factors, Neuroergonomics and System Safety Engineering.

Submissions are invited from researchers, industry experts, and policymakers on topics such as Human machine interface design, human reliability for human in the loop automation, Human Robotic interaction, and innovations in ergonomic design and safety of intelligent and autonomous systems.

Topics of Interest

The topics covered in this session should be at the intersections of the following:

- Modelling the dynamics of system behaviours for the production processes, IoT systems, and critical infrastructures (System Safety Engineering);
- Designing and implementing processes capable of monitoring interactions between automated systems and the humans destined to use them (Human Factors/Neuroergonomics);
- Using data analytics and AI to create novel human-in-the-loop automation paradigms to support decision making and/or anticipate critical scenarios;
- Managing the Legal and Ethical implications in the use of physiology-recording wearable sensors and human performance data in AI algorithms.