Humans-Systems Integration in Industry 4.0 environments

Organisers:

- Karel Kruger, Stellenbosch University, South Africa, (kkruger@sun.ac.za)
- Sondès Chaabane, LAMIH UMR CNRS 8201, Université Polytechnique Hauts-de-France, France (sondes.chaabane@uphf.fr)
- Marie-Pierre Pacaux-Lemoine, LAMIH UMR CNRS 8201, Université Polytechnique Hauts-de-France, France (marie-pierre.lemoine@uphf.fr)

Short presentation:

The fourth industrial revolution promises enhanced connection between smart systems and people. While research has mainly focussed on developments in automated systems, there has been a growing interest in the role(s) of humans within such industry 4.0 environments. The challenges of mutual integration between humans and systems have also captured the interest of the SOHOMA community, with special sessions arranged around this topic in the recent editions of the workshop. Similarly, this session will serve as a forum emerging interdisciplinary research relevant to human-system integration and organization and its applications within the Industry 4.0 context.

The session invites contributions that:
- explore the role(s) of humans in the industrial systems of the future;
- propose and/or evaluate mechanisms for the effective integration and management of humans (or human factors) in the design, operational and decision-making processes of industrial systems; and/or
- consider the various aspects of human well-being in industrial environments.

In accordance with the above-mentioned themes, possible topics may include:
- staff-scheduling problems
- decision-making in human resource planning
- ergonomics in operations and logistics
- considerations for human work spaces and conditions
- key enabling technologies for human integration
- impact of technology on human work
- impact of demographic changes on manpower in industrial systems

Considering the theme of the workshop, research that applies the service-oriented, holonic and/or multi-agent systems approaches to the human-system integration challenge will be of particular interest to the SOHOMA community. Concept, position and short review papers, as well as papers reporting on case study implementations, are welcome.

Keywords: Human factors; human-system integration; human-machine cooperation; human resource management; ergonomics; Industry 4.0

Important dates:

- Proposals of Special Sessions: 30 April 2021
- Full paper submission: 15 July 2021
- Notification of acceptance: 15 September 2021
- Final, camera-ready paper submission: 15 October 2021
- Early registration and fee payment: 1 November 2021
- Workshop: 18-19 November 2021