



## Special Session: Agent-based behavioral operations research

### Organizers:

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### Theme:

Current and future processes in manufacturing systems and supply chains have been progressively realizing the importance of considering human behavior in systems performance (cf. Kunc, M., Malpass, J., & White, L. (Eds.). (2016). *Behavioral Operational Research: Theory, Methodology and Practice*. Springer). This realization comes as the inclusion of social and cognitive dimensions of human decision making in the operation of technical systems. Even in manufacturing systems of the future, a thorough understanding of the “human element” is key to secure reliable performance of such systems. This implies that many contemporaneous and future systems can be categorized as socio-technical systems, where behavioral aspects are as relevant to systems performance as the technical ones. Modern computational approaches such as agent-based modeling is allowing to translate empirical work from the social sciences to computationally represent human decision making.

This track aims to showcase the latest research at the intersection of agent-based computational modeling and operations research, with an emphasis on the effects of human behavior in manufacturing systems and supply chain issues. We welcome papers that (i) study the effect of behavioral aspects in those systems, (ii) propose methodologies to include them in computational representations, and (iii) explore performance implication of systems comprising both technical and human dimensions.

### Key Topics:

- Agent-based applications to manufacturing systems
- Agent-based computational models of supply chains
- Consideration of cognitive features in supply chains
- Behavioral aspects in organizational resilience modeling
- “Agentization” in production systems
- Computational modeling of socio-technical systems
- Socio-technical aspects of technology management
- Applications on coupled social and technical systems (e.g. energy, infrastructure, etc.)
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### Important dates:

Proposals of Special Sessions: **March 20, 2020**  
Full paper submission: **May 25, 2020**  
Notification of acceptance/Rejection: **June 22, 2020**  
Camera-ready paper submission: **June 30, 2020**  
Early Registration and fee payment: **July 10, 2020**  
SOHOMA Workshop: **August 26 – 27, 2020**