



Track n. 11 - Socio-Technical perspectives for the future of work and society

Contemporary Socio-Technical perspectives can be seen as a cornerstone in discussions about the human agency in the pursuit of organizational excellence. Now, the so-called “future of work” (OECD 2018, WEF 2019) will be characterized by economical and societal discontinuities implied by the spread of the adoption of digital technology (such as AI, IoT and 5G). In such a context, sociotechnical phenomena such as collaborative robots (cobots), where pro-active support for human use and engagement with big data, everyday interactions with Internet of Things, Social Networking as intertwined aspect of mainstream cultural behavior, will allow and interfere with major changes in organizations and in society. These changes, however, must be designed - if not by focusing on individuals, according to the philosophy of human centered design (Shin et al. 2014) – by taking into account the systemic effects between people and technology. The agenda moves from technology developed to replace human activities, or to be used by human agent – towards sociotechnical agendas where technology supports human activities as technical partners and collaborative agents – not simply as tools.

IS research could be described having two different (system) agendas in mind. Technical: represented by artifact focus. Human: represented by work design focus. Socio-technical approaches can be used within both these areas of interest and paradigms and indeed allow to break down barriers between too narrowly focalized researches by acknowledging the entangled nature of the technical and the social components in human activity systems (Trist, 1981). Since technical systems have been recognized to be intrinsically if not intentionally incomplete and perpetually in the making (Kallinikos, Aaltonen, & Marton, 2013), the design and re-design of socio-technical systems should be conceived as a continuous process involving innovators and recipients dealing with complex and evolving artifacts (Mumford, 2006) which cannot be decoupled from the soft, social, cultural and even psychological components (Silver & Markus, 2013). Socio-technical approaches are historically grounded on a combination of humanistic principles. Part of the key contemporary agenda however, is looking on the ability to recognize the editable, interactive, open, and semiotic nature of digital artifacts. This in turn requires attention to be put on the intentionally pursued revision of contextually relevant action of the social environment (Bednar, 2016). Designing as part of the digital economy, digital enterprises, digital services and products, implies therefore a multidisciplinary effort (Barrett et al. 2015, Lyytinen et al. 2016), that is embedded into the sociotechnical system perspective/model (King et al. 1999, Luna-Reyes et al. 2005). Through this perspective, IS field research can provide a relevant contribution to innovation technology management, moving the focus towards to socio-materiality of digital artifacts (Yoo et al. 2015).

In this track, we focus on IS research inspired by socio-technical principles (Baskerville, Pries-Heje, & Venable, 2009), the materiality of digital artifacts (Leonardi, 2011, 2013) and their capability to enable pragmatic significance in situated material configurations (Beynon-Davies, 2011, Mattozzi, 2015). This would include data ethnography field studies and IS oriented discussions on innovation and purposeful problem solving, characterized by the design and implementation of digital artifacts, with a particular attention to individual and / or organizational contexts (Bednar, 2000, 2016). We welcome research on Human Oriented Designing Digitalization which focuses on the (human aspect of) omnipresent digital transformation of society, human activities, and how we contribute to this transformation as designers and developers. Included in the scope of this track are topics such as Future of Work, Software Robotics, Cobots - as these are contemporary Sociotechnical areas of interest in Industry and society today.

Appropriate methodologies can include re-interpreted and re-contextualized components from engineering, computer science, information system, management, social sciences including behavioral sciences. Examples of relevant research include not only empirically grounded research but also theoretically grounded discussions on problem analyses, systems theories, models, and methods. Also welcome is meta-research that proposes either methodological or epistemological advancements, including Philosophy oriented papers.



References

- Barrett, M., Davidson, E., Prabhu, J., & Vargo, S. L. (2015). Service innovation in the digital age: key contributions and future directions. *MIS quarterly*, 39(1), 135-154.
- Baskerville, R., Pries-Heje, J., & Venable, J. (2009). Soft Design Science Methodology. In *DESRIST '09*.
- Bednar (2000). A Contextual Integration of Individual and Organizational Learning Perspectives as Part of IS Analysis. *Informing Science*, 3, 134-156. Available at: <http://www.inform.nu/Articles/Vol3/v3n3p145-156.pdf>
- Bednar (2016). Complex methods of inquiry: structuring uncertainty. Lund University Press. Available at: <http://lup.lub.lu.se/record/8871409>
- Beynon-Davies, P. (2011). *Significance: exploring the nature of information, systems and technology*. New York: Palgrave Macmillan.
- Kallinikos, J., Aaltonen, A., & Marton, A. (2013). The Ambivalent Ontology of Digital Artifacts. *MIS Quarterly*, 37(2), 357–370.
- Kling, R., & Lamb, R. (1999). IT and organizational change in digital economies: a socio-technical approach. *ACM SIGCAS Computers and Society*, 29(3), 17-25.
- Leonardi, P. (2011). When flexible routines meet flexible technologies: Affordance, constraint, and the imbrication of human and material agencies. *MIS Quarterly*, 35(1), 147–167.
- Leonardi, P. (2013). Theoretical foundations for the study of sociomateriality. *Information and Organization*, 23(2), 59–76.
- Luna-Reyes, L. F., Zhang, J., Gil-García, J. R., & Cresswell, A. M. (2005). Information systems development as emergent socio-technical change: a practice approach. *European Journal of Information Systems*, 14(1), 93-105.
- Lyytinen, K., Yoo, Y., & Boland Jr, R. J. (2016). Digital product innovation within four classes of innovation networks. *Information Systems Journal*, 26(1), 47-75.
- Mattozzi, A. (2015) *Rewriting the script, A methodological dialogue about the concept of "script" and how to account for the mediating role of objects*. Forthcoming. A draft is available at http://www.utwente.nl/bms/steps/research/colloquia_and_seminars/colloquia/bestanden/2011-2012/mattozzi_rewriting_script.pdf
- Mumford, E. (2006). The study of socio-technical design: reflections on its successes, failures and potential. *Information Systems Journal*, 16, 317–342.
- OECD (2018), *Job Creation and Local Economic Development 2018: Preparing for the Future of Work*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264305342-en>.
- Shin, D. (2014). A socio-technical framework for Internet-of-Things design: A human-centered design for the Internet of Things. *Telematics and Informatics*, 31(4), 519-531.
- Silver, M. S., & Markus, M. L. (2013). Conceptualizing the SocioTechnical (ST) Artifact. *Systems, Signs & Actions*, 7(1), 82–89.
- Trist, E. (1981). The evolution of socio-technical systems – a conceptual framework and an action research program. *Occasional Paper*, 2, 1–67.
- WEF (2019), *Towards a Reskilling Revolution. Industry-Led Action for the Future of Work*. World Economic Forum Report. January 2019. http://www3.weforum.org/docs/WEF_Towards_a_Reskilling_Revolution.pdf
- Yoo, Y. (2013). The tables have turned: how can the information systems field contribute to technology and innovation management research? *Journal of the Association for Information Systems*, 14(5), 227.



Type of contributions invited:

We invite full research papers, research-in-progress papers, experience-in-the-field reports and case reports. Both empirically and/or theoretically grounded.

Track Co-Chairs

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| Name – Surname | Peter Bednar |
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| Short bio | Peter Bednar is a Senior Lecturer and Chair of the Systems and Information Systems Research Group in the School of Computing at the University of Portsmouth, UK. He is a Visiting Researcher at the Department of Informatics, Lund University, Sweden and visiting Professor in the Department of Systems Engineering at the University of Life Sciences in Prague, Czech Republic. His research areas include Systems Thinking, Socio-Technical Approaches, Critically Informed IS Practices, Complex Systems, Study of Ambiguous and Uncertain Problem Spaces. Originally an Engineer with years of industrial experience he also holds a Master Degree and a PhD at the Dept. of Informatics at Lund University, Sweden. He is a member of the ItAIS for the last ten years, IFIP WG 8.6, IFIP WG 8.2, UKAIS, UKSS and more. He has published more than 120 academic peer reviewed papers in journals, books and conferences. He is chairing the STPIS 2019 Workshop, the Sociotechnical Track at the ECIS 2019 conference and was chairing the ECIS 2018, conference. |
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| Short bio | Federico Cabitza is an Assistant Professor at the University of Milano-Bicocca (Milan, Italy) where he teaches human-computer interaction and data visualization. Since 2016 he has also had an official research appointment with the Orthopaedics Institute IRCCS Galeazzi in Milano (Italy). His current research interests include requirement analysis, IT impact assessment, and the design of interactive systems in the Healthcare setting. He has co-chaired International workshops (on Data Visualization in Healthcare and knowledge IT artifacts), conference tracks (on Socio-technical design), conference programs (for the Italian Chapter of AIS) and special issues on impacted Journals (i.e., the CSCW journal and Program). He is stable PC member of several international conferences and associate editor of the International Journal of Medical Informatics. He is author of more than 120 research publications to date, in international conference proceedings, edited books and scientific journals. He was also chairing the ST Track at ECIS 2018. |
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| Short bio | Moufida Sadok is at the Institute of Criminal Justice Studies, University of Portsmouth, UK, formerly she was working as Assistant Professor at the Higher Institute of Technological Studies in Communications in Tunis (Iset'Com), and also a member of the research laboratory LARIME, University of Tunis. She holds a Doctoral degree in Management (main area Information Systems Management) from the University Pierre Mendès France in Grenoble, France. Her main areas of research interest include socio-technical approaches to Information Systems Security and business systems analysis. She is a member of the AIS and was chairing the ECIS 2018 Track on “Socio-Technical Perspectives on Information Systems Security”. She served as Associate Editor in the program committee of several international conferences. |

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Submission

Submissions will be evaluated through a standard blind review process. Track chairs will ensure anonymity of the review process.

Authors are highly encouraged to seek guidance from Track Chairs prior submitting the paper. We highly encourage authors to formalize this process by sending an abstract to the Track Chairs to receive feedback and guidance. Formal submission must specify the track that they are intended for. The page limit for contributions submitted in English is equal to 12 pages (maximum). Formatting rules (LNCS Springer format) are available at this link:

<http://www.springer.com/it/computer-science/lncs/conference-proceedings-guidelines>

Deadline for encouraged abstract submission: April 21, 2019

Deadline for full paper submission: May 20, 2019