

Sociotechnical Change: a Dialectic Among Individuals, Technologies and Social Contexts

Description of the Track

The theme of this Conference highlights how IS professionals and researchers are constantly required to engage with an agenda to facilitate change in organized human activities. In the 21st Century, digital technologies have enabled fundamental changes to be wrought throughout society, affecting us all. When contemplating these changes, it is important that we remember that technologies change nothing in isolation from the endeavours of people, generating creative ideas and harnessing technological developments in design of purposeful systems (Vickers, 1965; Alvesson and Spicer, 2012).

A sociotechnical approach in research ensures that such a perspective is maintained (Mumford and Weir, 1979; Baxter and Sommerville, 2011). Mohr and van Amelsvoort (2016, p.2) have defined a modern, sociotechnical approach to comprise: “*The participative, multidisciplinary study and improvement of how jobs, single organizations, networks, and ecosystems function internally and in relation to their environmental context, with a special focus on the mutual interactions of the entity’s ... value-creation processes*”. Interest in sociotechnical systems theory and practice has been firmly established within the ECIS community in recent years. Specifically, successful tracks have run over the last three conferences:

	Submissions	Research Papers	Research-in-Progress Papers
2015	28	18 (5 accepted – 30%)	10 (3 accepted – 30%)
2016	11	7 (2 accepted – 29%)	4 (1 accepted – 25%)
2017	33	27 (8 accepted – 30%)	6 (3 accepted – 50%)

Designers inquire into potential *use* of Informing Systems –what do ‘users’ need to be informed about? They also commonly engage with *usability* factors – what performance criteria must a system satisfy? However, insufficient attention is sometimes paid to *usefulness* for particular people in context – why do they wish to interact with a system, and how can it *afford* them meaningful action within a mesh of intentional activities they engage in within their working lives (Cabiza and Simone, 2012)? Developers need scope and methods to help them support people to participate in design of their own systems (Eason, 2008). By surfacing their unique experience of work context, people can embark on a process of co-creation that will support design of useful systems – those which afford the best support for meaningful work (Ciborra, 2004). They can also achieve a greater awareness of mutual dependencies among people interacting with technologies in their collective work activities.

Few people define their work roles as ‘users of IS’, but rather as architects, accountants, social workers, buyers, tour guides, teachers, etc. (Nissen, 2002). Everybody who will engage with an Information System can contribute to good design through opportunities to participate in shaping it for meaningful use in their

own professional context (Bednar and Welch, 2009). We can discern a symbiotic relationship between meaningful use and reflection-upon-use by individuals and groups in context (Bednar and Welch, 2007), forming productive learning spirals for purposeful, sociotechnical change. Contributions are invited that illuminate this relationship. These could be drawn from any aspect of IS use or inquiry, e.g. design research (Duffy, 2005); health and medicine (Carayon, 2012); effective and ethical use of AI (Stahl, et al, 2014); software engineering (Sommerville, 2011); sustainable systems (Dwyer, 2011).

Invited contributions: full research papers and research in progress papers.

Bibliography

- Alvesson M & Spicer A (2012). A Stupidity-Based Theory of Organizations. *JMS*, 49(7), 1194–1220.
- Baxter G. and Sommerville I (2011). Socio-technical systems. *Interacting with Computers*, 23(1), 4–17.
- Bednar P and Welch C (2007). ‘A double helix metaphor for use and usefulness in Informing Systems’, *Informing Science Journal: Journal of an Emerging Transdiscipline*, Vol. 10 Monograph, Use and Redesign in IS: Double Helix Relationships? H-E Nissen, P. Bednar and C. Welch, (editors), pp 272-295.
- Bednar P and Welch C (2009). ‘Contextual Inquiry and Requirements Shaping’. In Barry, C., Conboy, K., Lang, M., Wojtkowski, G., and Wojtkowski, W. (eds). *The Inter-Networked World: ISD Theory, Practice, and Education: Volume 1*, pp. 225-236. Springer-Verlag: New York
- Bonchek M (2013). Little Data Makes Big Data More Powerful. *HBR Blog*, 11:00 AM May 3, 2013, <https://hbr.org/>.
- Cabitza F and Simone C (2012). Affording mechanisms: an integrated view of coordination and knowledge management. *Computer Supported Cooperative Work (CSCW)*, 21(2-3), 227-260.
- Carayon P (2012). Sociotechnical systems approach to healthcare quality and patient safety. *Work*, 41, 3850-3854.
- Ciborra C (2004). ‘Encountering Information Systems as a Phenomenon’, in Avgerou C., Ciborra C. and Land F. eds. *The Social Study of Information and Communication Technology*, Oxford University Press.
- Duffy F (2005). Research, practice and architectural knowledge, *RIBA Research Symposium 2005: Design as Research*, Paper 1.
<https://www.architecture.com/Files/RIBAProfessionalServices/ResearchAndDevelopment/Symposium/FrankDuffy.pdf>
- Dwyer C (2011). "Socio-technical Systems Theory and Environmental Sustainability, Proceedings of SIG Green Workshop. *Sprouts: Working Papers on Information Systems*, 11(3) n.p. accessed at <http://sprouts.aisnet.org/11-3>.
- Eason K (2008). Sociotechnical systems theory in the 21st Century: another half-filled glass? in *Sense in Social Science*, D. Graves (ed), Broughton, 2008 pp 123-134.
- Giddens A (1976). *New Rules of Sociological Method*, London: Hutchinson.
- Mohr B J and van Amelsvoort P (2016). *Co-Creating Humane and Innovative Organizations: Evolutions in the Practice of Socio-technical System Design*. Portland ME: Global STS-D Network Press.
- Mumford M and Weir M (1979). *Computer systems in work design – the ETHICS method*. New York: Wiley.
- Myers M and Klein H.K (2011). A Set of Principles for Conducting Critical Research in Information Systems. *MISQ*,

35(1), 17-36.

Sommerville I (2011). *Software Engineering 9*. Harlow: Pearson.

Stahl B C; McBride N; Flick C and Wakunuma K (2014). The Empathic Care Robot, in *Technological Forecasting and Social Change*, G. Graham A. Greenhill V. Callaghan and D. Aikat (eds). 84, 74-85.

Stein M-K; Galliers R. and Whitley E.A (2016). Twenty years of the European information systems academy at ECIS: emergent trends and research topics. *EJIS* 25(1), 1-15.

Vickers G (1965). *The Art of Judgment: A Study of Policy Making*. SAGE Publication.

Possible topics include, but are not restricted to:

- Critically-informed sociotechnical approaches to organizational change
- Relationships between Lean and sociotechnical approaches
- Dynamics of work groups and their impact on system design
- Leadership and organizational learning
- Participatory design
- Systems theory in design
- Organizational anthropology
- Appreciative systems and *Weltanschauungen*
- The socialised enterprise
- Inter-organizational communication and culture
- Sociotechnical approaches to IS access and security
- Sociotechnical perspectives on Systems Failure
- Interconnected Human Activity Systems and Organizational Learning
- Soft Systems Thinking
- Contemporary Sociotechnical theory and practice
- Sustainable organizational change and routinization of habits
- Continuous re-design of interconnected human activity systems
- Contextually dependent IS diversity
- Sociotechnical practices and thinking in industrial and public sectors
- How IS *affords* meaningful action in relation to goal-oriented activities

Publishing Opportunities in Leading Journals

One possibility is *The Journal of Strategic Information Systems* where the editor in chief Bob Galliers is sympathetic to sociotechnical ideas and methods, and there is a potential for a special issue in this area. There is a potential to get published in the *Computer Supported Cooperative Work (CSCW)* journal and we believe that having papers published in this Journal would be possible if they bring a critical and constructive perspective on ST and their quality is good.

A further potential to get published is in the form of a special issue of the *International Journal of Systems and Society (IJSS)* where the editor Frank Stowell has expressed support for the idea of a potential special issue with good quality papers. *IT & People* is also a potential opportunity as it is a journal which has previously had special issues with a focus on Socio-Technical Approaches.

Track Co-Chairs

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	Short Biography	Federico Cabitza received his Master in IT Engineering at the Politecnico of Milan in 2001. Since then, he has worked as a Requirement Engineer in the private sector, specializing in Health Informatics. In 2007, he received his PhD in Informatics, with a thesis on Electronic Patient Record and coordination in hospital settings. Currently, he is an Assistant Professor (since 2011) 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

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“BEYOND DIGITIZATION - FACETS OF SOCIO-TECHNICAL CHANGE”, 23RD -28TH, JUNE, 2018, IN UNIVERSITY OF PORTSMOUTH, UK, FOR THE 26TH EUROPEAN CONFERENCE ON INFORMATION SYSTEMS

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