

EAWOP SGM Activity Report

Using Advanced Technologies and Artificial Intelligence at Work

EXECUTIVE SUMMARY

1. Meeting Overview

Date: Jan. 21-22, 2021

Place: virtual conference due to COVID19 (originally planned at Goethe University, Frankfurt am Main, Germany)

Organizing committee:

- Goethe University Frankfurt: Anna-Sophie Ulfert, Sonja Scherer
- Eindhoven University of Technology : Sonja Rispens, Pascale Le Blanc, Maria Peeters

Keynotes:

- José M. Peiró (University of Valencia): The impacts of digitalization on work and organizations: Challenges for work and organizational psychology
- Gudela Grote (ETH Zürich): How to move work and organizational psychology (back) towards a socio-technical design orientation

Abstracts and links to the recordings of the keynotes are attached (Annex 1, page 7)

Participants: A list of participants is attached (Annex 1, pages 9-10)

2. Key Highlights

Key highlights of the SGM were the keynotes by José M. Peiró and Prof. Gudela Grote who are renowned scholars in W&O Psychology, who have recently published on the effects of digitization on, amongst others, labour markets, work (re)design, worker skills and competencies, and worker well being. In his keynote, José M. Peiró provided an overview of challenges for work and organizational psychology with respect to digitization in the workplace. Gudela Grote addressed the need for human-oriented technologies., She particularly highlighted practical examples of how work and organizational psychologists can contribute to a socio-technical design orientation that enables a successful adoption and use of technologies at work.

The live presentations included insights about technology-related interactions (e.g., humans with humanoid robots or with automated decision-support), as well as effects of technologization on work design, team dynamics, trust, and meaningful work.

Secondly, the SGM highlighted two topics that were discussed in small groups in parallel short sessions inspired by pre-recorded presentations (see Annex 1, page 11). In the session that focused on trust, individual reactions to decisions by human versus algorithmic decision-makers were discussed, with special attention to decisions in selection and leadership. In the session that focused on healthcare, research on the use of AI-based technologies and human-AI teaming in the healthcare sector was discussed, with emphasis on ethical issues and practical recommendations.

In a panel discussion with experts in the field of ethics, we focused on ethical issues of digitization at work and discussed the need for organizations to adapt policies concerning data management, data security as well as justice of algorithmic decisions. Short bios of Nadja Gotcheva, Jilles Smids, Gudela Grote and José M. Peiró are found in the documentation attached (Annex 1, page 8).

Moreover, we went into a further exploration of contemporary methodologies in research on emerging technologies that was addressed in presentations and throughout the entire SGM. In this regard, we acknowledged the fact that research on human-related aspects of technologies benefits a lot from interdisciplinary approaches (work and organizational psychology, computer science, engineering, educational psychology, and philosophy and ethics).

From a practical perspective, the SGM contributed to a better understanding of what organizations can do to support successful integration and usage of AI and emerging technologies at work. In our discussions, we subsumed practically relevant antecedents and consequences of digitization in the workplace and aspects that should be taken into account by HR managers and team leaders.

3. Meeting Outcomes

The SGM was rounded up by a plenary discussion on ways of continuing the exchange of knowledge and setting up new joint activities. The following future plans have been made:

- A special issue proposal on *'Adapting to Emerging Technologies at Work: Effects on the Nature of Work and Employee Outcome'* will be drafted and sent to EIWOP. For details, see the SGM's documentation attached (Annex 1, pages 13-18)
- Two symposia related to AI and emerging technologies at work were put together and submitted for the EIWOP conference following the SGM (Glasgow, 2022).
 - Emerging technologies and AI in organizations: Implications for job design and employee well-being
 - AI matter of trust: Interacting with Artificial Intelligence at Work
- In future research collaborations, specific attention will be paid to a clearer conceptualization of the constructs (e.g. trust) and related, the role of contextual factors (including e.g., radical changes in work environments such as during the covid-19 pandemic, EU policy of data security), and multidisciplinary research linking work and organizational psychology with computer sciences, engineering, educational sciences, and philosophy and ethics.
- Participants of the SGM agree on promoting the important role of work and organizational psychologists as facilitators for designing *human-centered* technologies and addressing ethical issues in digitization, robotization and AI

ACTIVITY REPORT

1. Event General Information

Date/ location: Jan. 21-22, 2021

Originally, the SGM was planned to take place at Goethe University Frankfurt in May, 2020. Due to the pandemic situation, the SGM was first postponed and later, changed to be held virtually.

Organizers:

- Goethe University Frankfurt: Anna-Sophie Ulfert, Sonja Scherer
- Eindhoven University of Technology: Sonja Rispens, Pascale Le Blanc, Maria Peeters

Participants: In total, there were 23 participants affiliated to a wide range of universities in Europe (Belgium, Italy, Spain, Switzerland, Austria, Germany, the Netherlands) and beyond (United States). See Annex 1 (pages 9-10) for a complete list of participants and their affiliations.

2. Program Overview and Course of the Meeting

General Topic and Specific Topics Overview:

The goal of this SGM was to bring interdisciplinary perspectives on technology use at work, with a specific focus on advanced technologies and artificial intelligence (AI), together and to discuss opportunities, challenges, and future directions of the field. Within the SGM we addressed these core themes: (a) overview and current developments in the use of advanced technologies /AI at work; (b) transformation & implementation; (c) consequences of advanced technologies / AI at work; (d) methods of AI for WOP research; (e) bridging the gap between WOP, computer/data science and practice; (f) ethics.

Meeting Format: The SGM lasted two days. We had

- (1) two keynotes
- (2) a moderated panel discussion with experts from different disciplines, as well as
- (3) in total, 15 paper presentations in different formats:
 - (a) seven live presentations with short discussions,
 - (b) two parallel thematic sessions (1: trust, 2: healthcare), each with two pre-recorded paper presentations and a joint discussion, and
 - (c) an interactive poster session in which participants could wander around the four posters.

Keynotes Speakers:

- José M. Peiró (University of Valencia): The impacts of digitalization on work and organizations: Challenges for work and organizational psychology
- Gudela Grote (ETH Zürich): How to move work and organizational psychology (back) towards a socio-technical design orientation

Abstracts and links to the recordings of the keynotes are attached (Annex 1, page 7)

See Annex 1 (pages 5-6) for the entire program and Annex 2 for abstracts.

3. Short Description of the SGM Topic Discussion

Main Conclusions

The keynote held by José Maria Peiró provided an informative overview and current developments in the use of advanced technologies AI at work. This included the presentation of a European framework for digital competencies, international cooperation projects in the field of WOP that address work in the digital era, as well as an outlook on the future of work. The keynote held by Gudela Grote did not only provide an overview of current trends and applications of WOP research in the field of emerging technologies, robotization and AI. In her talk, she also encouraged the WOP community to make an impact in technically dominated fields, promoting a socio-technical design orientation that pays attention to humans' needs and attributes. Both keynotes were followed by lively discussions and exchanges of ideas on the possible contributions of WOP to coin this field.

In the paper presentations, the participants highlighted the opportunities and challenges of advanced technologies and AI at work (e.g., on work design) and the need for considering different levels and stakeholders within organizations (e.g., employees, teams, leaders) (. The thematic sessions on day two provided more profound insights into issues of trust and application areas in the healthcare sector.

Moreover, we discussed using AI methods for WOP research (e.g., agent-based modeling). We concluded that the further development of both research methods and research questions profit from transdisciplinary collaboration. In the future, we would like to encourage WOP researchers to seek collaborators from outside the field of WOP more actively. Participants agreed that emerging technologies and AI should be more human-centric, considering core WOP theories. Further, more 'ambassadors of WOP' are needed in this field to foster the consideration of the human perspective in technology development and implementation processes in research and practice.

To bridge the current gap between WOP, computer science, and practice, a shared understanding of emerging technologies at work needs to be developed. To reach this goal, a first requirement will be to refine terminologies further and overcome inconsistencies in the use of central concepts (e.g., trust, model).

Last but not least, the highly relevant topic of ethics was addressed not only in paper presentations and discussions but also in a moderated panel discussion. For instance, we discussed ethical issues that arise from introducing emerging technologies/AI in the workplace or, more generally, into society.

4. Meeting Implications/ Outcomes

Expected Scientific Outcomes

We have proposed a Special Issue for EJWOP on the state-of-the-art in WOP research on emerging digital technologies and artificial intelligence in the workplace. The team of guest editors consists of the SGM's organizing committee.

Knowledge Transfer & Networking Development

The participants of the SGM expressed the wish to organize one or more symposia at the EAWOP conference in Glasgow, Scotland. The ideas developed at the SGM were pursued by using the communication tool (slack workspace) that was set up for and used during the meeting. Two symposia were submitted and accepted. We also discussed possibilities of networking activities in case covid-19 regulations will become long lasting. In addition, different options of applying for grants, such as a grant for building, extending and maintaining a network of experts with expertise in AI and emerging digital technologies at work were

explored. Last but not least, we exchanged ideas about scientific outlets for papers in the field of AI and digital technologies at work, especially with regard to the interdisciplinary context and proximity of the topic to computer science, educational psychology, philosophy and economics. At the 2023 EAWOP conference at least two symposiums and one panel came forth from this SGM.

5. SGM Evaluation

Overall, the feedback given by the participants of the SGM was very positive. Highlighted positive aspects were the diversified program with a mixture of presentation modes, as well as the quality of the keynotes, the high relevance of the panel discussion topic, and the positive atmosphere and room for discussions. The formats in which participant could get in touch informally and exchange ideas about future research and collaborations were highly appreciated (e.g., speed dating, stretching session, virtual poster gallery) and could have been extended.

The main critique of the participants was that they missed the personal contact since the format had to be switched to a virtual one due to the pandemic situation. In this regard, the surprising development of covid-19 in 2019 had forced us to postpone the SGM, which led to organizational challenges for some of the participants. We regret that some accepted presentations and a planned keynote by Guido Hertel (University of Münster, Germany) were canceled because the new date for the SGM (also planned to take place in Frankfurt, Germany) did not work out for the presenters.