



Delft University of Technology

Document Version

Final published version

Citation (APA)

Chappin, E., Scholz, G., & Verhagen, H. (2026). Preface: SSC2025 in a Growing Community. In *Preface: SSC2025 in a Growing Community* (pp. v-viii). (Springer Proceedings in Complexity). Springer Nature.

Important note

To cite this publication, please use the final published version (if applicable).
Please check the document version above.

Copyright

In case the licence states "Dutch Copyright Act (Article 25fa)", this publication was made available Green Open Access via the TU Delft Institutional Repository pursuant to Dutch Copyright Act (Article 25fa, the Taverne amendment). This provision does not affect copyright ownership.
Unless copyright is transferred by contract or statute, it remains with the copyright holder.

Sharing and reuse

Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

Takedown policy

Please contact us and provide details if you believe this document breaches copyrights.
We will remove access to the work immediately and investigate your claim.

This work is downloaded from Delft University of Technology.

Preface: SSC2025 in a Growing Community

Abstract. This preface introduces the Proceedings of the Social Simulation Conference 2025 (SSC2025). First, it presents the conference theme – Social simulation in a socio-technical context: embracing societies’ complexities. Second, it outlines the organization of SSC2025, including its sessions and associated events. Third, it describes the contents of these Conference Proceedings. More information about the conference is available at <https://ssc2025.tbm.tudelft.nl>.

Keywords: Conference Proceedings · Social Simulation · Agent-Based Modelling · Delft University of Technology

1 Social Simulation in a Socio-Technical Context: Embracing Societies’ Complexities

The 20th annual Social Simulation Conference (SSC 2025) took place from August 25 to 29, 2025, at Delft University of Technology, the Netherlands¹. The conference is one of the key activities of the European Social Simulation Association (ESSA)², aimed at promoting social simulation in Europe and elsewhere.

The conference theme was “*Social simulation in a socio-technical context: embracing societies’ complexities*”. This invites social simulation researchers to enable the engineering sciences, the social sciences, and the humanities to work together in the spirit of team science. A theme fitting well to the faculty Technology, Policy and Management (TPM) that bridges engineering to many of the disciplines that are present in the ESSA community including social simulation research on e.g., energy systems and infrastructure, climate change mitigation and adaptation, and on institutions and communities. And to the host, The TPM Energy Transition Lab, which works on the integration of disciplines in the area of social simulation, energy systems engineering, and environmental psychology.

The 2025 conference was a celebration: it was the 20th Social Simulation Conference of a community that has seen substantial growth over the years. With 215 participants and over 180 original submissions, this was the largest SSC event to date. The growth of the community comes with new opportunities and new responsibilities: to further establish good modelling practices, to bridge to other disciplines and areas of research, and to get more involved with real-world decision makers. It invites the community who dares to take (some) bold steps to bring the field a leap forward.

¹ See <https://ssc2025.tbm.tudelft.nl> for more information on the Social Simulation Conference 2025.

² See <https://essa.eu.org/> for more about the European Social Simulation Association (ESSA)

2 The Conference Program: Connecting a Diverse Range of Disciplines Through Social Simulation

The ESSA community flourishes and is highly diverse. This makes sense because social simulation is an approach that can be applied in a wide range of application domains. We share the method (or approach), and we can learn from each other on the *what* and the *how*. The workshops and sessions in the conference are indicative of this diversity.

A conference intends to be inspiring, to be a place to learn and exchange. Therefore, there were a lot of initiatives to connect: there were a range of social events, an informal social event for PhD students and early career researchers, a wonderful conference dinner, and plenty of moments and space for breaks. During the conference, as well as before and after, there was strong attention to inclusion and social safety. Such attention is warranted in any setting; in a diverse community, extra care is needed. Procedures included a social safety committee, specific instructions to session organizers that increase social safety, instructions to authors, instructions to support staff during the conference, and discussions with the organization committee and ESSA management committee on review policy and practices.

The first conference day was designated as workshop day and was visited exceptionally well. The presented workshops displayed the current diversity in topics (and approaches): “Building Distributed Agent-based Models with Repast4Py”, “Ethnographic methods and Social Simulations”, “Selecting and formalizing social science theory for agent-based models”, “Reusable building blocks – turning individual models into a collective resource”, and “Water Game of Opinions – Exploring Opinion Dynamics and Polarization through Simulation”. There was also substantial interest in the ESSA@Work session, where work in progress is discussed with experts in the field.

All other days kicked off with an inspiring keynote speech:

From Social Simulation to Hybrid Intelligent Reality: In her keynote, Prof. dr. Catholijn Jonker examined how value-sensitive, AI-driven social simulation—particularly using LLM-based agents—can improve the realism of societal models and help us understand and shape an emerging hybrid human–AI future.

Agents and Agency in a Complex World: In her keynote, Corinna Elsenbroich argued that agent-based modelling offers a process-oriented, realist yet reflexive approach to causality in complex social systems, while emphasizing the decisive role of modelers’ agency in shaping explanations rather than revealing objective social reality.

The Past, Present, and Future of Agent-Based Modeling: In his keynote, Bill Rand traced the evolution of data-driven agent-based modelling—from early stylized simulations to future “policy flight simulators”—showing how combining big data with ABM can preserve individual heterogeneity while bridging empirical data and social theory.

(Im-)Possibilities for Social Simulation in Robust Adaptive Energy Investment Planning in the Netherlands: In his keynote, Igor Nikolic explored how social simulation can (and cannot) be integrated into adaptive, participatory energy-planning processes to support just and robust policy decisions under deep uncertainty in the Dutch energy transition.

This year’s set of tracks was particularly large. Sessions that received enough submissions featured at the conference. A new addition was that the conference featured

so-called ESSA tracks, which ESSA as an organization aims to attract interest in. It is expected these will feature again in future events. The ESSA tracks that featured at SSC2025 were *Blue Sky; Social simulation as a method and methodology*; and *Technical aspects of social simulation*. Those suggested by ESSA special interest groups and the social simulation community at large were: *Agent-based models for healthcare systems research*; *Artificially Intelligent Agents in Social Agent-based Models*; *Cities and Climate Change*; *Complexity in Organization, Management, and Economics*; *Integration of circularity and life cycle assessment tools into social simulation*; *Modeling Transformative Change*; *NISE: Norms and Institutions in the Social Environment*; *Qual2Rule: Using qualitative data to inform behavioral rules in agent-based models*; *Sense & Sensibility: Modelling human deliberation and decision-making*; *Social Identity Approach Modelling*; and *Social Networks in Agent-Based Models*.

3 Contents of these Proceedings

From the over 180 original submissions, 84 short and long papers were accepted, of which 50 are included in these proceedings. Because of the high number of tracks and diversity of topics and approaches, we decided on an alphabetical (instead of track-wise) structure. The proceedings, as they are, display the diversity and current state of the growing social simulation community.

Emile Chappin
Geeske Scholz
Harko Verhagen