

EABSS Workshop 2023

Co-Creation of Agent-Based Social Simulation Models

Welcome

Workshop Convenor

- Peer-Olaf Siebers

- Homepage

- <https://www.cs.nott.ac.uk/~pszps/>

- Email

- peer-olaf.siebers@nottingham.ac.uk

- Medical Condition

- Functional (Dissociative) Seizure



The screenshot shows a web browser window with the address bar displaying <https://www.cs.nott.ac.uk/~pszps/>. The page header features the University of Nottingham logo and the School of Computer Science logo, along with the ima Intelligent Modelling & Analysis logo. A navigation menu includes links for Home, Teaching, Research, Publications, Dissertations, PhDs, Tutees, and JournalClub. The main content area is titled "Dr Peer-Olaf Siebers" and includes a profile picture of a man with short hair and a beard. To the right of the picture, the text reads: "Assistant Professor", "School of Computer Science [url]", "Intelligent Modelling & Analysis Research Group [url]", "The University of Nottingham [url]", "Nottingham [url]", "NG8 1BB, UK [url]". Below this, the email address is given as peer-olaf.siebers@nottingham.ac.uk and the OrCID ID as [0000-0002-0603-5904](https://orcid.org/0000-0002-0603-5904). Further down, the location is listed as "CompSci Building, Room B35 [map]" and office hours are noted as "Office Hours: Please make an appointment via email". A link to the official university website is also provided. Below the profile information is a "Mission Statement" section with two quotes: "Research is formalized curiosity. It is poking and prying with a purpose." -Zora Neale Hurston [more info] and "Ich will, ich kann, ich muss" (I will, I can, I have to) -Joachim Deckarm [more info]. The final paragraph of the page states: "My main research topic is the application of Computer Simulation and Artificial Intelligence to study human-centric and coupled human-natural complex adaptive systems. I am a strong advocate of Object Oriented Agent-Based Social Simulation (OOABSS). This is a novel and highly interdisciplinary research field, involving disciplines like Social Science, Economics, Psychology, Geography, Operations Research, and Computer Science. My current research focus is twofold. On the methodological frontier I aim to advance the model development strategies for OOABSS. On the practical frontier I look at novel uses of simulation for studying Urban Sustainability (including Smart Cities and Smart Roads), and people's wellbeing at local and global scale. I am a co-investigator in the Leverhulme funded project Sustaining Urban Habitats and a member of the university's Sustainable and Resilient Cities Research Priority Area management team. Furthermore, I am working together with Nottingham City Council's Transport Strategy Department on some Smart City projects."

My Research Interests

- It's all about Agents and Agent-Based Modelling



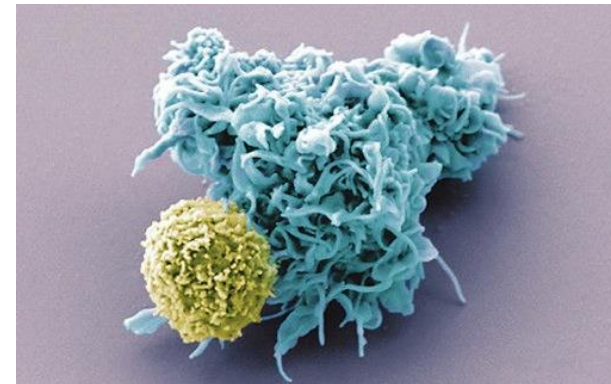
My Research Interests

- Technical Aspects
 - Engineering Social Simulations and other Multi-Agent Systems
 - Using Software Engineering methods and tools to define all sorts of agents and their interactions



My Research Interests

- Applications
 - My Mission: Applying OO-ABM to as many fields as possible
 - Business studies (Risk Assessment; CBA; MCDA)
 - Economics (Game Theory; Agent Based Computational Economics)
 - Social Sciences (Political Science; Social Simulation)
 - Engineering (Manufacturing; Urban Modelling; Energy; Transportation)
 - Computer Science (Robotics; Game Development)
 - Operations Research (Healthcare)
 - Systems Biology (Immunology)
 - Mental Health (EABSS framework)

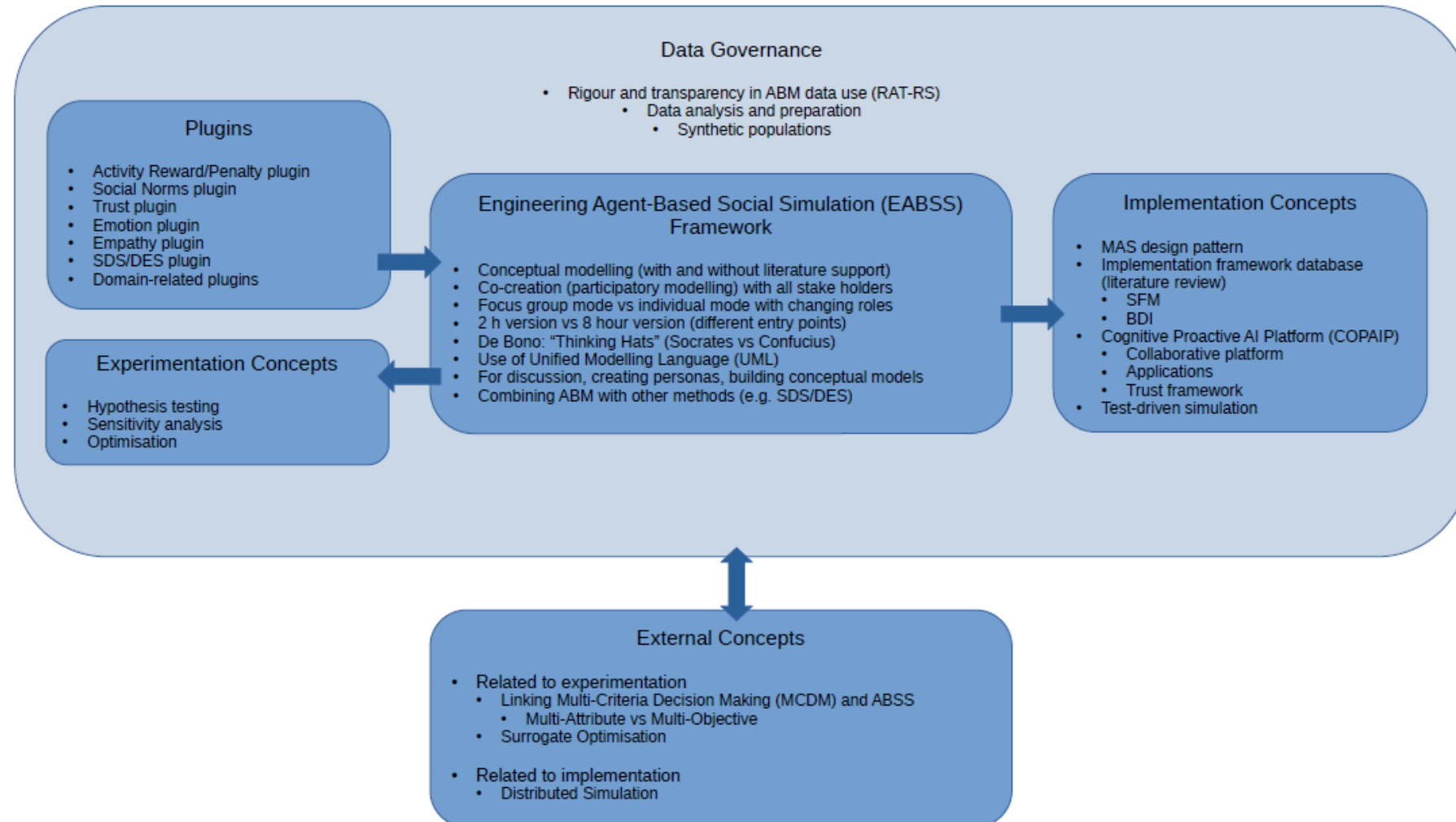


My Research Interests

- Simulating the future of service



Collaboratively Creating Artificial Labs for Better Understanding Current and Future Human and Mixed Human/Agent Societies

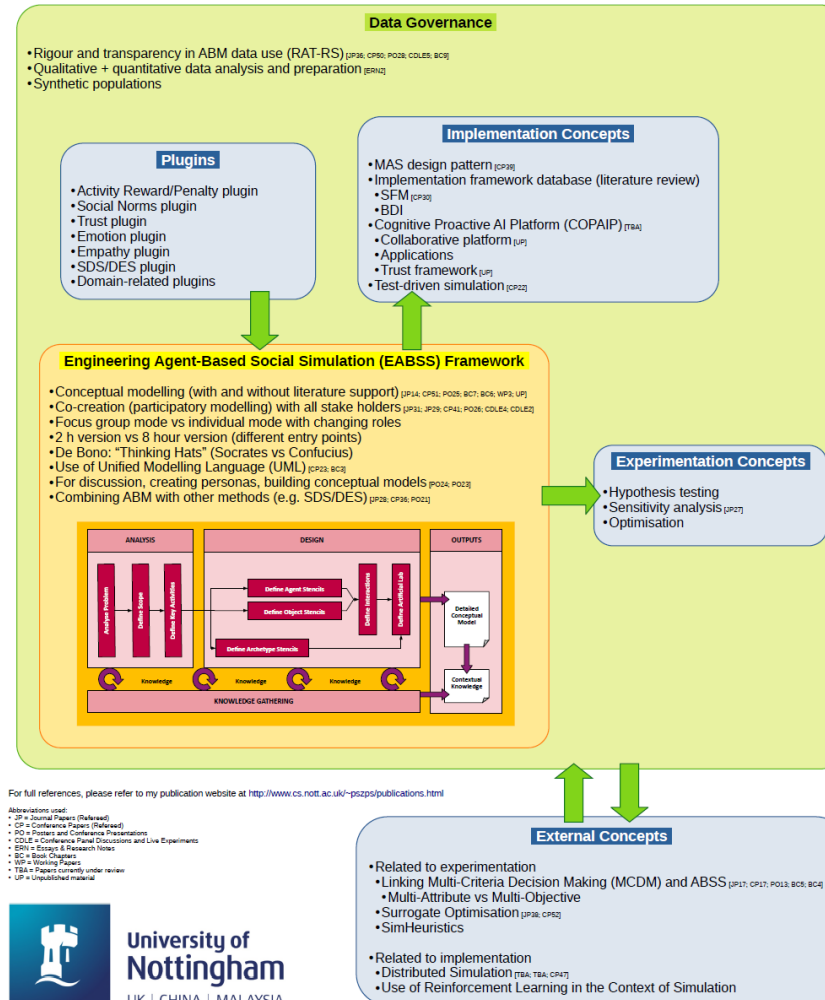


Everything you always wanted to know about Dr Siebers (academic details only :) - 2nd Edition

Poster presented at OR SOCIETY 11th SIMULATION WORKSHOP (SM23) by Peer-Olaf Siebers, School of Computer Science, The University of Nottingham, UK. Email: peer-olaf.siebers@nottingham.ac.uk

After more than 10 years of publishing the first edition of my research agenda I felt that it's time for an update. My current research can be subsumed under the umbrella of "collaboratively creating artificial labs for better understanding current and future human and mixed human/robot societies". I am a strong advocate of agent-based simulation, but I am also open to other approaches. My poster provides references to my previous and ongoing work, identifies current gaps, and offers ideas for future collaborations.

My research aligns towards standardisation of methods and towards considering future scenarios of human/robot interactions in an operational and service oriented context. Wherever possible, I aim to introduce techniques from computer science, and in particular software engineering, to come up with a more structured and transparent approach to simulation modelling. I also embed simulation into other analysis tools to enable these to consider uncertainties in a more transparent way.



Siebers (2023)

Agenda

- Day 1
 - Welcome
 - Simulation Modelling Framework
 - Agent-Based Modelling and Simulation
 - EABSS Introduction
- Day 2
 - Running Focus Groups
 - UML (Unified Modelling Language)
 - EABSS Example + EABSS Practice (recreate and improve an existing model)
- Day 3
 - EABSS Practice (create your own model)

Agenda

- Additional topics
 - ABM case studies
 - Introduction to AnyLogic + OO + Java
 - Collaboration Opportunities
 - TBA

Any Questions?

