

Key interests

Themes Computational social science, Complex systems, Climate crisis, Science communication

Methods Mathematical modelling, Agent-based simulation, Data science

Academic career

Postdoc at Complexity Science Hub in Vienna, Austria
2024 – project: Collective Adaptation (PIs: Mirta Galesic, Henrik Olsson)

Ph.D. in (Computational) Sociology at ZMT Bremen and Constructor University
2024 on ‘The complex effects of distorted social perceptions on opinions about climate change’ (supervisor: Agostino Merico);
main collaborators: Paul Smaldino, Marijn Keijzer

Master (M.Sc.) in Computer Simulations in Science and Engineering at TU Berlin and KTH Stockholm
2020 thesis in socio-economic modelling: ‘A spatially explicit agent-based model of human-resource interaction on Easter Island’ at ZMT Bremen (supervisor: Agostino Merico)

Master (M.Sc.) in (Climate) Physics at University of Potsdam and PIK
2018 thesis in climate modelling: ‘Estimating global warming from anthropogenic heat emissions – conceptual and numerical modelling approaches’ (supervisors: Georg Feulner & Maria A. Martin)

Bachelor (B.Sc.) in Physics at FAU Erlangen-Nuremberg
2016 thesis in astro-particle physics (supervisor: Uli Katz)

Scientific contributions

Selected publica- **Steiglechner P**, Smaldino PE, & Merico A (2025). How opinion variation among in-groups can skew perceptions
tions of ideological polarization [Preprint]. *SocArXiv*.

Steiglechner P, Keijzer MA, Smaldino PE, Moser D, & Merico A (2024). Noise and opinion dynamics: How ambiguity promotes pro-majority consensus in the presence of confirmation bias. *Royal Society Open Science*, 11 (4), 231071.

Steiglechner P, Smaldino PE, Moser D, & Merico A (2023). Social identity bias and communication network clustering interact to shape patterns of opinion dynamics. *Journal of The Royal Society Interface*, 20 (209), 20230372.

Steiglechner P & Merico A (2022). Spatio-temporal patterns of deforestation, settlement, and land use on easter island prior to European arrivals. In: Rull V & Stevenson C (eds) The prehistory of Rapa Nui (Easter Island): Towards an integrative interdisciplinary framework. *Developments in Paleoenvironmental Research*, vol 22. Springer, Cham.

Ongoing work **Steiglechner P**, Poulsen VM, Olsson H, Galesic M (in preparation). Adaptive belief networks.

Steiglechner P, Poulsen VM, Olsson H, Galesic M (in preparation). How we perceive opinions and evaluate political differences.

Batzke M, **Steiglechner P**, Lorenz J, Edmonds B, & Kalvas F (submitted). From cognitive coherence to political polarization: An agent-based model of belief change.

Keijzer MA, Gelastopoulos A, Jochim A, Steinbrinker L, **Steiglechner P**, & Analytis PP (in preparation). From preference to dominance: The reinforcing and regressing effects of social influence.

Peer Review Communication Research, JASSS, Springer

Conference contributions → Computational social science: Social Simulation conference [2024](#), [2023](#), [2022](#); Opinion Dynamics and Collective Decision Workshop [2023](#)
→ Complexity science: Conference of Complex Systems [2022](#)
→ Climate science: [EGU General Assembly 2019](#), [DPG 2019](#)

Teaching (at university level) _____

Co-supervisor → for a master thesis on modelling decision-making under social influence (Uni Bremen, 2023)
→ for a master thesis on modelling the coral-algae symbiosis under stress (Uni Bremen, 2021)

Lecturer → for ‘Data Science Tools in python’ (Constructor University, 2023) with [Jan Lorenz](#)

Guest Lectures → on ‘Agent-based model of the Covid-19 pandemic’ as part of ‘Modelling and analysis of complex systems’ by Agostino Merico (Constructor University, 2020, 2022, 2023)
→ on ‘Introduction to Python for the Social Sciences’ ([BIGSSS](#), 2024)

Teaching assistant → for ‘Modelling and analysis of complex systems’ by Agostino Merico (Constructor University, 2020–22)

→ for [winter schools](#) on ‘Mathematical modelling of ecological and socioeconomic systems’ at [AIMS Senegal](#) (2020, 2022) and at [ACECoR Ghana](#) (2025)

→ for ‘Theoretical physics 2: Electrodynamics’ by Florian Marquardt at FAU (2015/16)

Further research experience and education _____

Research stays → at UC Merced and the Santa Fe Institute (2023, three months)
→ at Imperial College London and Grantham Institute (2016, three months)
policy briefing paper ‘[Novel policy tools to assess the environmental impacts of air pollutants](#)’ with [Apostolos Voulgarakis](#) and [Alyssa Gilbert](#)

Science communication → [interview](#) on noise and ambiguity in communication (2024)
→ [radio interview](#) on global warming through anthropogenic heat emissions (2024)
→ ‘[Wissenschaft persönlich](#)’—interview for the Bremen city administration (2023)
→ ‘[Science goes PUBLIC](#)’—informal science talks in pubs, by the Bremen city administration (2023)
→ ‘[Book-a-scientist](#)’—conversations with the general public, by the Leibniz Association (2020–22)

Other relevant skills and interests _____

Programming Python (advanced), R, NetLogo (all beginner)

Student politics → active member in ‘Students for Future’ (2019), the Green university group (2012–2017), and the physics student association (2012–2017)

→ elected member of the student councils on faculty and university level (2013/14)

Teaching → intensive math courses to prepare high school students for A-level exams ([abiturma](#), 2018–2024)