UNIVERSITÄT HOHENHEIM | Computational Science Hub

Prof. Dr. Jens Vogelgesang · CSH Study Program Director · j.vogelgesang@uni-hohenheim.de

Registration now open for the

CSH Method School 2026
Using Response-Item Networks to Study Social Belief Systems

with Dr. Adrian Lüders, Dr. Dino Carpentras, and Dr. Philip Warncke
March 25-27, 2026
Hohenheim

Overview

Belief systems such as worldviews, normative systems, and ideologies not only provide people with assumptions about which beliefs typically "go together", but also key associations about which beliefs "belong" to which social groups. However, because belief systems evolve dynamically and are fundamentally context-dependent, they are difficult to capture with conventional psychometric methods.

Belief Network Analysis (BNA) offers a data-driven approach to modeling structural relationships between beliefs. Response-Item Networks (ResIN, Carprentras et al., 2024) are a novel type of BNA developed to investigate variations in the composition of belief systems across different groups and to examine belief-driven intergroup polarization. To this end, ResIN models belief systems based on co-selected item responses in a spatially interpretable network. Examplatory applications of ResIN involve topics such as public health (Carpentras et al., 2022) and political polarization (Lüders et al., 2024).

The workshop provides a beginner-friendly introduction into belief-network modelling based on the ResIN R package (Warncke et al., 2025). No prior experience in Network-Modelling is required, but basic familiarity with R is helpful.

Literature Examples

Carpentras, D., Lueders, A. & Quayle, M. (2024). Response Item Network (ResIN): A network-based approach to explore attitude systems. *Humanit Soc Sci Commun* 11, 589. https://doi.org/10.1057/s41599-024-03037-x

Carpentras, D., Lüders, A. & Quayle, M. Mapping the global opinion space to explain antivaccine attraction. *Sci Rep* 12, 6188 (2022). https://doi.org/10.1038/s41598-022-10069-3#

Lüders, A., Carpentras, D., & Quayle, M. (2024). Attitude networks as intergroup realities: Using network-modelling to research attitude-identity relationships in polarized political contexts. *British Journal of Social Psychology*, 63, 37–51. https://doi.org/10.1111/bjso.12665

Warncke, P., Chen, Y., Speer, A., de Bruin, B., Lüders, A., & Carpentras, D. (2025). ResIN: A new method to analyze socio-political attitude systems. In: *Springer Series Computational Social Science of Social Cohesion and Polarization*. Ed. by M. Keijzer, J. Lorenz and M. Bojanowski. https://doi.org/10.1007/978-3-032-01373-6

Lecturers

Dr. Adrian Lüders (Department of Communication Science, University of Hohenheim) is head of the junior research group Digital Transformation & Social Change. His research focuses on social-psychological mechanisms in polarization with a particular focus on online ecosystems

Dr. Dino Carpentras is a Postdoc at the Computational Social Science group at ETH Zurich, Switzerland. His research revolves around opinions and collective intelligence, using cutting-edge methodologies such as network- and agent-based modelling.

Dr. Philip Warncke is associated with the Department of Psychology, University of Limerick, Ireland. He is a comparative political psychologist and methodologist studying the origins, properties, and consequences of political belief systems, and a developer of conceptual and computational methods for latent constructs that are often tricky to capture with conventional statistics.

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The Schedule

University of Hohenheim, 70599 Stuttgart, PC room 5 (Building 02.71, Kirchnerstr. 5, Alte Botanik, 2nd upper level).

Day 1: March 25, 2026, 9h00 - 17h00:

9h00 - 10h30	Lecture: The Social Functions of Attitudes
10h30 - 11h00	Coffee Break
11h00 - 12h30	Lecture: Belief Networks and Response-Item Networks
12h30 - 13h30	Lunch Break
13h30 - 15h00	Lecture: Understanding Network Metrics in ResIN
15h00 - 15h30	Coffee Break
15h30 - 17h00	Exercise: Modelling Attitude Spaces with the ResIN R Package

Day 2: March 26, 2026, 9h00 - 17h00:

9h00 - 10h30	Exercise 1: How to spot groups that are connected by shared attitudes?
10h30 - 11h00	Coffee Break
11h00 - 12h30	Exercise 2: How to explore asymmetrical attitude-connections
12h30 - 13h30	Lunch Break
13h30 - 15h00	Exercise 3: How to detect attitudes that separate/bridge opposing camps?
15h00 - 15h30	Coffee Break
15h30 - 17h00	Exercise 4: How to use networks to explore individual-level differences?

Day 3: March 27, 2026, 9h00 - 12h30:

9h00 - 10h30	Lecture: Advanced Applications of ResIN
10h30 - 11h00	Coffee Break
11h00 - 12h00	Publication Strategies & Open Discussion
12h00 - 12h30	Workshop Ending

Target Audience

The workshop addresses researchers from all fields and career stages who are interested in structural relationships between attitudes (e.g., belief-networks, public opinion, opinion-based groups) as well as their social and psychological functions.

The workshop will be conducted in English.

Fees, Devices and Credits

Interested participants can register via weiterbildung.uni-hohenheim.de for the workshop until March 15, 2026.

For external participants, the following tuition fee structure applies:

Group	**Through March 1, 2026** (prices in EUR)	**After March 1, 2026** (prices in EUR)
Students	50.00	100.00
PhD students / Staff Members	120.00	150.00
PostDocs	160.00	200.00
Professors	240.00	300.00

Outstanding fees have to be wired as indicated in the payment instructions. An email with detailed payment instructions will be sent to participants after registration and before the workshop. Registration is binding. Fees transferred are non-refundable.

Participants should bring their own laptop (incl. charger) with a working Linux, Mac or Windows/WLS installation. In preparation for the workshop, participants are asked to install the latest version of R and RStudio, as well as the ResIN R package.

At the conclusion of the Spring School, participants will receive a certificate for the number of hours attended. No ECTS credits can be awarded for participation.

Contact

For any further information, please contact:
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