Conference: Computational Methods in Science Communication Research – Opportunities, Challenges, and Current Applications

📅 September 25–26, 2025
📍 Location: Campus Landau, RPTU Kaiserslautern-Landau

Computational methods are gaining increasing importance in social and behavioral science research. In the field of science communication research, innovative Computational Social Science (CSS) approaches enable the efficient analysis of large text corpora—such as identifying scientific actors and topics in traditional and digital media, classifying scientific uncertainty, or examining the politicization of science. Techniques such as web crawling and web scraping for data collection, followed by dictionary-based text analysis, machine learning, and network analysis, play a crucial role in systematically investigating extensive communication data.

The SCOPE (Societal COmmunication in times of PErmacrisis, https://rptu.de/s/scopeLD) potential area at RPTU invites researchers to an interdisciplinary conference focused on opportunities and challenges of computational methods in science communication research. SCOPE promotes the interdisciplinary integration of innovative methods to better understand societal communication dynamics in times of crisis. The conference primarily focuses on methodological exchange around innovative CSS approaches in the context of science communication research. We invite scholars from various disciplines to present their research on content, dynamics, and effects of science communication using CSS. The conference provides a unique opportunity to share experiences, discuss methodological challenges, and explore future directions for CSS in science communication research.

Keynote and Workshop

We are pleased to welcome Dr. Maximilian Weber (Goethe University Frankfurt) as keynote speaker and workshop leader on **25 September**. His work focuses on computational social science and natural language processing[1]. In his **keynote** titled "**Generative AI for Social Science Research**", he will discuss opportunities and challenges of using LLMs in social and communication research.

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[1] Gruber, J. B., & Weber, M. (2024). *rollama: An R package for using generative large language models through Ollama*. arXiv. https://doi.org/10.48550/arXiv.2404.07654

Weber, M., & Reichardt, M. (2023). *Evaluation is all you need. Prompting Generative Large Language Models for Annotation Tasks in the Social Sciences. A Primer using Open Models*. arXiv. https://doi.org/10.48550/arXiv.2401.00284

Weber, M., Grunow, D., Chen, Y., & Eger, S. (2024). Social solidarity with Ukrainian and Syrian refugees in the twitter discourse. A comparison between 2015 and 2022. European Societies, 26(2), 346-373. https://doi.org/10.1080/14616696.2023.2275604

In addition to his keynote, he will engage with participants by responding to selected methodological challenges in a **hands-on workshop** "**Textual Data Annotation in R with the rollama R Package**". Interested participants will learn how to annotate textual data directly within R. rollama is an interface to Ollama, enabling users to run large language models (LLMs) such as Llama locally. Participants will learn how to use open-source and open-weight LLMs for tasks such as annotation, summarization, and content extraction, all while maintaining full control over their data. The workshop focuses on empirical applications such as classifying news articles or extracting information from political communications. Participants will be guided through the installation and configuration of Ollama and rollama, followed by practical exercises. We will also explore how prompt design shapes model output and how responses can be parsed into data frames for further analysis. Throughout the session, we will reflect on the methodological and ethical implications of using LLMs in research, including transparency, bias, and reproducibility. By running models locally, researchers gain a transparent alternative to commercial APIs—especially valuable when working with sensitive or protected data. **Prerequisites:** Basic familiarity with R and a Google Colab account. No prior experience with large language models required. **Registration:** If you are interested in attending the workshop session, please register by July 14, 2025 via zhdl-mz-sekretariat@rptu.de, as spots will be limited.

Call for Contributions

We invite colleagues to share their experiences and ongoing projects through presentations. Please submit your abstract (max. 300 words) to zhdl-mz-sekretariat@rptu.de. Submissions should focus on the application of computational methods in science communication research. Work in progress is welcome. We explicitly encourage contributors to share methodological challenges they are facing, as these will serve as a basis for mutual reflection and exchange within the framework of the event.

📌 **Submission Deadline**: July 14, 2025
📌 **Review and Notification**: August 18, 2025

Target Audience

This conference is aimed at researchers from communication science, political science, sociology, computer science, and related disciplines who are already working with computational methods or plan to apply them in science communication research.

Contact

For any questions regarding the conference or the submission process, please feel free to get in touch with Dr. Ines Welzenbach-Vogel (Center for University Teaching and Didactics Landau, Media Center, ines.vogel@rptu.de), Dr. Berend Barkela (Institute for Communication Psychology and Media Education, berend.barkela@rptu.de), or Jun.Prof. Dr. Freya Gassmann (Empirical Social Research Group, freya.gassmann@rptu.de).

Postal Address & Conference Venue

RPTU University Kaiserslautern-Landau, Landau Campus
Fortstraße 7
76829 Landau, Germany