



MAX PLANCK INSTITUTE
FOR SOFTWARE SYSTEMS



MAX PLANCK INSTITUTE
FOR SECURITY AND PRIVACY

MAX PLANCK INSTITUTE
FOR THE STUDY OF
CRIME, SECURITY AND LAW



MAX PLANCK INSTITUTE
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Max Planck Postdoc Positions on Artefacts for the Social Sciences



Application Deadline: April 13, 2026

The Max Planck Institute for Software Systems (Kaiserslautern and Saarbruecken), the Max Planck Institute for Security and Privacy (Bochum), The Max Planck Institute for Demographic Research (Rostock), and the Max Planck Institute for the Study of Crime, Security and Law (Freiburg) are jointly recruiting up to 8 highly qualified Postdocs interested in Computational Social Science. This application call is targeted to the broad topic of artificial intelligence, computing, and society.

Research Themes and Teams

The Network of Principal Investigators (PI) includes:

- Meeyoung Cha, Max Planck Institute for Security and Privacy, Bochum
- Christoph Engel, Max Planck Institute for Behavioral Economics, Bonn
- Krishna Gummadi, Max Planck Institute for Software Systems, Kaiserslautern and Saarbruecken



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- Jean-Louis van Gelder, Max Planck Institute for the Study of Crime, Security and Law, Freiburg
- Emilio Zagheni, Max Planck Institute for Demography, Rostock

This network focuses on “scientifically motivated engineering” to design, build, and test digital prototypes—such as machine learning models and large language models—that serve as “microscopes” for the social sciences. By developing novel infrastructures like an Internet observatory for platform audits, data analysis platforms for humanity, AI “co-pilots” for judicial decision-making, virtual twins for improving public safety, and “corrective optics” for biased digital trace data, the network aims to push the scientific frontier and explore how automation and AI reshape the social fabric. This collaborative incubator seeks to spearhead a transformation in the social sciences, moving from traditional observations toward the analysis of high-dimensional heterogeneity and the development of practicable procedures for addressing societal challenges.

Examples of themes and projects that we are interested in addressing include (but are not limited to):

- Language models are increasingly used to draft court rulings, shifting judges’ roles from writing to supervising. We aim at developing a benchmark to test whether LLMs can produce legal reasoning comparable to trained lawyers. (PIs: Engel, Gummadi)
- In the courtroom, LLMs are most powerful if the entire judicial workflow is digitized. We investigate in which ways electronic files make rulings vulnerable to purposeful manipulation, and how courts can protect their integrity. (PIs: Cha, Engel)
- This initiative develops synthetic versions of users’ ‘future selves’ as an intervention point. Using virtual reality technology in combination with AI-powered LLMs, realistic avatars of users are generated to enable meaningful interaction between them and their future self to improve their ability for future-oriented thinking (PIs: Cha, Gummadi, Van Gelder, Zagheni)
- Virtual replicas of public spaces such as train stations, squares, and neighborhoods—“virtual twins”—will be developed. AI will support the creation and modification of these environments, enabling realistic variations in features such as lighting, crowd density, and signs of disorder. This approach enables rigorous theory testing and helps identify how public safety interventions can reduce anti-social behavior and improve safety (PIs: Cha, Gummadi, Van Gelder)
- How have Artificial Intelligence and digital technologies changed the way people access information and services, communicate and interact? And what are the implications for gender and social inequalities, and for governing society? To address these questions, the project would also develop methods to combine data donation within solid statistical frameworks to generate representative observatories of online behavior. (PIs: Gummadi, Cha, Zagheni, Engel)
- Rapid advances in Machine Learning and Artificial Intelligence are opening up new opportunities to model and predict socio-demographic and economic indicators over the life course. This project would combine powerful predictive tools with approaches from causal inference to advance our understanding of socio-economic inequalities. (PIs: Gummadi, Cha, Zagheni)
- As agentic AI integrates human workers into automated workflows, it becomes important to understand the AI-human matching process under demographic bias and skillsets. This project will examine how agentic AI reshapes task allocation and labor valuation, providing critical evidence for policymakers navigating the AI-driven economy. (PIs: Cha, Gummadi)

Role and Research Environment

As a postdoc in this network, you will:

- **Conduct Independent Research:** Lead research projects that bridge social science inquiry with the engineering of digital artefacts.



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- **Collaborate Across Institutes:** While each postdoc will have a primary location at one of the participating institutes, you are expected to spend substantial time visiting and collaborating with other members across the network to facilitate seamless exchange and cross-fertilization of ideas.
- **Participate in Network Activities:** Engage in a vibrant network with a central hub at the MPI for Software Systems in Kaiserslautern to foster cross-pollination of ideas and shared technical solutions.

Program Benefits & Terms

The positions are part of the **Max Planck Postdoc Program**, offering world-class support for early-career researchers:

- **Contract & Salary:** Fixed-term, 3-year employment contracts based on the German public service wage agreement (TVöD Bund). Salaries typically range from around **€50,000 to €71,000** annually, depending on experience.
- **Professional Development:** Access to the **Planck Academy** for targeted mentoring, career coaching, and seminars on leadership, project management, and science communication.
- **Research Funding:** A generous travel allowance for conferences, workshops, and international networking.
- **Work-Life Balance:** Support for mobile work (subject to supervisor agreement and institute's guidelines), access to childcare facilities facilitated by the institutes, and comprehensive social security benefits (health, pension, and unemployment insurance).

Requirements

- A PhD in a relevant field (e.g., Computer Science, Social Sciences, Economics, Law) at the time when the position starts.
- A strong track record of research excellence and impactful publications.

How to Apply

Applications have to be in English and submitted online via [\[https://www.mpg.de/en/max-planck-postdoc-program\]](https://www.mpg.de/en/max-planck-postdoc-program) and include the following documents:

- 1) Curriculum Vitae
- 2) Letter of interest (Max 1 page)
Briefly state why you are interested in this network, how it could foster your professional development and career trajectory, and in which ways your interests and skills fit the research program of one or more institutes in the network.
- 3) Research Statement (Max 3 pages)
Briefly describe your research accomplishments, as well as ongoing and future research plans. Please also describe your technical skills, areas of expertise, as well as the type of scientific contribution that you envision making as a postdoctoral researcher.
- 4) Names and contact information for 2 academic referees
- 5) Two writing samples or publications

Our labs are committed to transparent and reproducible research. We welcome applicants who have embraced open science practices in their work and/or are enthusiastic about developing open science practices.



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The announcement will be open until the positions are filled. **In order to receive full consideration, applications should be submitted by April 13, 2026.** The starting date is flexible, but no later than early 2027. The successful applicants will be offered a 3-year contract.

The MPG is an equal opportunities employer. Respect and inclusivity are central to our work culture, where diversity in gender, background, beliefs, abilities, and identities is embraced and valued. We are committed to shaping a culture that encourages continuous development of each person's skills and potential.

We value diversity and are keen to employ individuals from minorities and under-represented groups. The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. Furthermore, the Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply.