



Conducting research for a changing society: This is what drives us at Forschungszentrum Jülich. As a member of the Helmholtz Association, we aim to tackle the grand societal challenges of our time and conduct research into the possibilities of a digitized society, a climate-friendly energy system, and a resource-efficient economy. Work together with around 7,500 employees in one of Europe's biggest research centres and help us to shape change!

At the Institute for Advanced Simulation – Civil Safety Research (IAS-7) at Forschungszentrum Jülich, we are researching the complex dynamics of crowds. Our goal is to make situations with high population density – such as train stations, public venues, or events – safer and more comfortable.

For the ERC-funded Synergy Grant project CrowdING, we are assembling a new interdisciplinary research team. Together, we aim to understand when and why people change their behavior in large groups—for example, when a crowd that is initially waiting calmly becomes impatient. A team from the fields of physics, computer science, and social psychology is developing new approaches to describe crowd dynamics. The research is supported by large-scale laboratory experiments with numerous participants, state-of-the-art analysis methods and a powerful simulation environment. You can find out more about us and our research here: <https://www.fz-juelich.de/en/ias/ias-7>

Join our team as

Postdoc – Crowd Dynamics & Data Analysis

Your Job:

As a postdoctoral researcher, you will take on a central role in advancing and integrating the research approaches within CrowdING. You will work closely with two doctoral researchers who focus on agent-based modeling and the quantitative analysis of spatial structures in experimental data. In doing so, you will develop your own research focus, support conceptual work, and contribute to scientific coordination within the project. Your tasks will include:

- Further development and integration of quantitative approaches for analyzing crowd dynamics
- Scientific support and, where applicable, co-supervision of two doctoral projects
- Development of your own research ideas at the interface of modeling, data analysis, and social-psychological concepts

The job will be advertised until the position has been successfully filled. You should therefore submit your application as soon as possible. We look forward to receiving your application via our

Online-Recruitment-System!

Questions about the vacancy?

Get in touch with us by using **our contact form**.

Please note that for technical reasons we cannot accept applications via email.

www.fz-juelich.de

- Collaboration in the planning, implementation, and evaluation of crowd experiments
- Publication of research results in international journals
- Presentations at international conferences and participation in project workshops in Wuppertal and Groningen (NL)
- Exchange and close collaboration with partners from physics, computer science, and social psychology

Your Profile:

- Completed master's degree followed by a doctorate in physics, computer science, mathematics, data science, computational science or cognitive science
- Desirable, but not essential: Experience in agent-based modelling, Analysis of spatial or temporal movement data, Interest or initial experience in the use of geometric or morphological methods (e.g., Voronoi analyses, clustering methods, Minkowski functionals)
- Very good programming skills (e.g., in Python, C++, or comparable languages)
- Interest in social psychological concepts of group and crowd behavior and in collaborating with colleagues from social psychology
- Enthusiasm for combining and expanding methodological approaches and developing new measures or models
- Willingness to collaborate with doctoral students and interest in scientific supervision
- Very good written and spoken English
- Independent, creative, and structured scientific working style with motivation to set your own research priorities in the project

Our Offer:

We work on highly topical, socially relevant issues and offer you the opportunity to actively shape change! You can expect a wide range of opportunities:

- **MEANINGFUL TASKS:** The position offers a varied and diverse role in an international environment and freedom to pursue your own research ideas within the project context
- **KNOWLEDGE & FURTHER TRAINING:** Your further development is important to us – we offer a structured research environment with excellent opportunities for scientific advancement
- **WORK-LIFE BALANCE:** Optimal conditions for balancing work and private life, as well as a family-friendly company policy. The option of flexible working (in terms of location) is generally available after consultation and in accordance with upcoming tasks and (on-site) appointments
- **VACATION:** You will receive 30 days of vacation plus additional days off (e.g. between Christmas and New Year's)
- **FLEXIBILITY:** Flexible working time models, including options close to full-time (<https://go.fzj.de/near-full-time>), allow you to tailor your working hours to suit your individual needs
- **FAIR REMUNERATION:** Depending on your existing qualifications and the tasks assigned to you, you will be classified in pay grade 13 of the TVöD-Bund (Collective Agreement for the Public Service). All information on the TVöD-Bund collective agreement can be found on the BMI website: <https://go.fzj.de/bmi.tvloed> . The monthly salaries in euros can be found on page 69 of the PDF download
- **PERSPECTIVE:** After a 3-year fixed-term contract, our goal is to retain you for the long term. Let's use this time together to find out how well we fit together.

In addition to exciting tasks and a collegial working environment, we offer you much more: <https://go.fzj.de/benefits>

We welcome applications from people with diverse backgrounds, e.g. in terms of age, gender, disability, sexual orientation / identity, and social, ethnic and religious origin. A diverse and inclusive working environment with equal opportunities in which everyone can realize their potential is important to us.

The following links provide further information on diversity and equal opportunities:

<https://go.fzj.de/equality> and on specific support options for women:

<https://go.fzj.de/womens-job-journey>