JÜLICH
Forschungszentrum

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!

DYNAVERSE is a new Cluster of Excellence lead by the Universities of Cologne and Bonn. Forschungszentrum Jülich is partner in Dynaverse, which is a world-class hub of researchers with expertise in Astrophysics, Computer Science and Mathematics. State-of-the-art research facilities to which this team has priority access combined with the expertise in high-performance computing, and data-analytics will generate new ground-breaking opportunities. The two positions advertised here are located at the Jülich Supercomputing Centre (JSC) which operates one of the most advanced supercomputing infrastructures for scientific applications in Europe – including JUPITER, the first exascale supercomputer in Europe. The "Sim & Data Lab Astronomy and Astrophysics" (SDLAA) is a research and support structure that provides an interface between the Supercomputer facilities and the Astrophysics communities, with a research focus on star and planet formation, in particular solar system formation, interstellar objects and young star cluster dynamics.

Join our team from 01.01.2026 as

Postdoc for Trans-Neptunian Objects

Your Job:

The project focusses on Tans-Neptunian objects. The key objective is to develop ML tools that provide a quantitative assessment for the quality of fit between observed properties of Trans-Neptunian objects for the various suggested theoretical models. The developed workflow should also be applicable to the other discovery science projects in Dynaverse. Your tasks in detail:

- Perform scientific work on the research topic, in collaboration with SDLAA members.
- Cooperate with partners in Dynaverse on relevant adjacent topics.
- Prepare and publish results in collaboration meetings, workshops and conferences and the preparation of project reports.
- Develop and apply software tools.
- Documentations of software and data according to the FAIR data principles.
- Contributions to workshops and training activities.

We look forward to receiving your application until 15.09.2025 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

Your Profile:

- Master and PhD degree in astronomy, physics, computer science or equivalent fields of study.
- Proven experience in N-body simulations and the comparison of simulation and observation results.
- Machine Learning skills to automise comparison process.
- Unbiased approach to different theoretical models.
- Experience in HPC system usage and parallel/distributed computing.
- Knowledge in GPU-based programming would be considered an asset.
- Proven record in publication of results in high-impact journals.
- Programming experience in at least one the following: C, C++, Fortran.
- Proven background in software development.
- Great ability to work in a multidisciplinary team of scientists with heterogeneous backgrounds solving scientifically challenging problems on large computers.
- Self-motivated personality with very good command of written/spoken English and ideally a very good command of German.

Our Offer:

We work on the very latest issues that impact our society and are offering you the chance to actively help in shaping the change! We support you in your work with:

- Comprehensive training courses and individual opportunities for personal and professional further development
- Extensive company health management
- Ideal conditions for balancing work and private life, as well as a family-friendly corporate policy
- Flexible work (location) arrangements, e.g. remote work
- Flexible working hours in a full-time position with the option of slightly reduced working hours (https://go.fzj.de/near-full-time)
- 30 days of annual leave and provision for days off between public holidays and weekends (e.g. between Christmas and New Year)
- A large research campus with green spaces, offering the best possible means for networking with colleagues and pursuing sports alongside work
- Targeted services for international employees, e.g. through our International Advisory Service

In addition to exciting tasks and a collaborative working atmosphere at Jülich, we have a lot more to offer: https://go.fzj.de/benefits

The position is initially for a fixed term of 2 years. Salary and social benefits will conform to the provisions of the Collective Agreement for the Public Service (TVöD-Bund), pay group 13, depending on the applicant's qualifications and the precise nature of the tasks assigned to them. All information about the Collective Agreement for the Public Service (TVöD-Bund) can be found on the BMI website: https://go.fzj.de/bmi.tvoed The monthly salaries in euro can be found here: https://go.fzj.de/bmi.tvoed.entgelt

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.

Further information on diversity and equal opportunities: https://go.fzj.de/equality