



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!

You would like to use your engineering skills to make an effective contribution to solving the major challenges facing society? You would like to be involved in design, development and manufacturing scientific and technical devices, systems and processes for which no technical or commercial solution yet exist? Then join us at the Institute of Technology and Engineering (ITE).

We are looking to recruit a

Bachelor Thesis - Validation of Pressure Front Propagation Flow Simulations for Leak-Induced Shock Waves in Vacuum Tubes

Your Job:

- Building and improving the existing measurement setup
- Performing controlled "leak" experiments and collecting high-speed data
- Working in high vacuum applications such as Einstein Telescope (ET)
- Calibrating piezoelectric force sensors and pressure sensors
- Analyzing pressure-front propagation and comparing with simple gas-dynamics models
- Assisting in the design or testing of protective mechanical components (e.g. fast shutters)
- Preparing visualizations, reports and documentation for future experiments

Your Profile:

- Very good grades in your current bachelor studies in mechanical engineering, electrical engineering or comparable
- A good knowledge of sensors, experimental setups and adjustment
- Programming knowledge in Python for evaluation and validation
- Experience in measurement technology in general

We look forward to receiving your application until 14.01.2026 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

- Self-motivated approach to work
- Willingness to familiarize yourself with new topics (e.g. Einstein Telescope & vacuum)
- Good knowledge of written and spoken English is mandatory, knowledge of German would be an advantage

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:

- **MEANINGFUL TASKS:** Your thesis deals with a future-oriented, socially relevant topic with direct practical relevance in an international environment
- **SCIENTIFIC ENVIRONMENT:** You can expect excellent scientific equipment, modern technologies, and qualified support from experienced colleagues
- **FLEXIBILITY:** Flexible working hours make it easier for you to balance work and study
- **CAMPUS EXPERIENCE:** Our research campus in the countryside creates ideal conditions for collegial exchange and sporting activities right on site. Our cafeteria offers a wide range of options—you can enjoy a relaxing lunch break with a lake view
- **FAIR REMUNERATION:** We will pay you a reasonable remuneration for your thesis

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:

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