



Shaping change: this is what drives us at Forschungszentrum Jülich. As a member of the Helmholtz Association with some 7,600 employees, we conduct interdisciplinary research into a digitalized society, a climate-friendly energy system, and a sustainable economy. We focus on the natural, life, and engineering sciences in the fields of information, energy, and bioeconomy. We combine this with expertise in high-performance computing and artificial intelligence using unique scientific infrastructures.

Higher alcohols are valuable intermediates that can serve as bio-based fuels, fuel additives, and chemical building blocks. Their synthesis from renewable feed stocks such as methanol, ethanol contributes to sustainable energy solutions and the production of green chemicals, reducing dependence on fossil resources. The master's thesis will be conducted at the Institute of Energy Technologies - Electrochemical Process Engineering (IET-4).

We offer you to the next possible date an exiting

Master Thesis - Heterogeneous Catalysis for Higher Alcohols Synthesis

Your Job:

- Literature research and process understanding of higher alcohol synthesis
- Catalyst preparation, characterization, and performance testing
- Reaction parameter optimization (temperature, pressure, feed composition, etc.)
- Product analysis (GC, MS, etc.) and interpretation of results
- Data analysis and reporting of results
- Thesis writing and presentation of findings

Your Profile:

- Current Master's student in Chemistry, Chemical Engineering, or a related discipline
- Basic knowledge in catalysis, surface chemistry, or reaction engineering
- Practical laboratory skills and interest in reaction mechanisms
- Motivation to work in an interdisciplinary team
- Very good command of written and spoken English (at least B2 level according to the CEFR: <https://go.fzj.de/languagerequirements>), ideally supported by a certificate confirming the language level

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:

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

- **MEANINGFUL TASKS:** Your thesis deals with a future-oriented, socially relevant topic with direct practical relevance in an international environment
- **PRACTICAL RELEVANCE:** With us, you will gain valuable practical experience alongside your studies and actively participate in interdisciplinary projects
- **SCIENTIFIC ENVIRONMENT:** You can expect excellent scientific equipment, modern technologies, and qualified support from experienced colleagues
- **PERSONAL RESPONSIBILITY:** You organize your tasks independently—from preparation to implementation
- **WORK-LIFE BALANCE:** We offer flexible working hours to help you balance your professional and personal life. You also have the option of flexible working (in terms of location), which is generally possible after consultation and in line with upcoming tasks and (on-site) appointments
- **FLEXIBILITY:** Flexible working hours make it easier for you to balance work and study
- **PERSPECTIVE:** If you have the appropriate qualifications and funding is available, the institute offers the opportunity to do your PhD after completing your master`s thesis
- **FAIR REMUNERATION:** We will pay you a reasonable remuneration for your thesis
- **FIXED-TERM:** The position is initially for a fixed term of 6 months

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>