Friedrich-Alexander-Universität
Erlangen-Nürnberg

Doctoral researcher in solid-state nuclear magnetic resonance spectroscopy of semiconductors (m/f/d)

Friedrich-Alexander-Universität, Erlangen, TV-L E 13, Voll- oder Teilzeit, Befristete Anstellung: 36 Monate, Bewerbungsschluss: 12.08.2025

Your Workplace

A position for a doctoral researcher (m/f/d) is open at the Erlangen Center for Interface Research and Catalysis in the solid-state NMR group of Dr. Dorothea Wisser at Friedrich-Alexander-Universität Erlangen-Nürnberg. We develop new solid-state nuclear magnetic resonance (NMR) methods including in situ/operando and light-irradiated solid-state NMR under Magic Angle Spinning, and apply these techniques to gain a molecular level understanding of advanced materials and heterogeneous catalysts. We are a young and motivated international team, working together closely and supporting each other. Our group operates a 500 MHz spectrometer, various Magic Angle Spinning (MAS) probes, an MAS probe for high temperature experiments under gas flow, and a probe for light irradiation under MAS. A broad range of analytic techniques including X-ray diffraction, EPR spectroscopy, vibrational spectroscopy and physisorption techniques are available.

Benefits: We Have a Lot To Offer

- Regular promotion to the next level and increase in salary pursuant to the collective bargaining agreement for the public service of the German Länder (TV-L) or remuneration pursuant to the Bavarian Public Servants Remuneration Act (BayBesG) plus an additional annual bonus
- 30 days annual leave at five working days per week with additional free days on December 24 and 31
- Occupational pension scheme and asset accumulation savings scheme

The project is part of the Collaborative Research Center 1719 “ChemPrint. Next-generation printed semiconductors: Atomic level engineering via molecular surface chemistry”. The doctoral researcher in this position will be a member of the integrated Research Training Group (iRTG) of CRC 1719 within the Graduate School “Engineering of Advanced Materials”. This framework offers to the doctoral researchers a strong network for interdisciplinary collaboration and training, dual mentoring, the possibility for a research exchange in international institutions and opportunities for your own personal and professional development.

Your Tasks

In this research project, you will contribute to rethinking the way semiconductors can be manifactured. In interdisciplinary collaboration with researchers in chemistry and material science, you will investigate semiconductors generated by new, chemically controlled techniques, for a broad range of applications in optoelectronic, photovolvatic, or sensing devices. As a central focus of the project, you

will use solid-state NMR spectroscopy under Magic Angle Spinning to understand on a molecular level semiconductor formation and growth mechanisms, the influence of defects and interactions between different phases. You will implement and apply advanced pulse sequences for challenging MAS NMR experiments and you will develop new solid-state NMR methodologies to investigate semiconductor materials in real time at high temperatures or under light irradiation. The structural insight thus gained will be essential to finally design better and more efficient devices.

Your Profile

- Completed or almost completed academic university degree (Master/Diploma [University]) in Chemistry, Physics, Chemical Engineering, Materials Science, or a closely related subject, with competitive grades
- Strong interest and preliminary experience in (solid-state) NMR spectroscopy
- Very good English skills (C1 level)
- German skills (C1 level) are beneficial though not essential
- High level of independence and diligence

Additional Information

The position is to be filled as soon as possible. The application should include a letter of motivation, a CV, a list of publications (if applicable), the contact of two referees, and transcripts of degrees and grades.

Interessiert?

Die vollständige Stellenausschreibung sowie alle Infos zum Bewerbungsverfahren finden Sie hier: