

PhD candidate (m/f/x)

Online seit 28.10.2025 | 2025-10-28-943898 | Wissenschaftliche:r Mitarbeiter:in

Stellenbeschreibung

**Faculty of Physics and Astronomy:
Experimental Physics II**

In order to fill a **fixed-term position in part-time (29.87 hours/week = 75%) 16.01.2026**, we are looking for 1

PhD candidate (m/f/x)

The research activities of the Chair for Experimental Physics II – Reactive Plasmas focus on a broad spectrum of plasma science ranging from fundamental studies to applied plasma technologies. Low-pressure plasmas are investigated with regard to their use in coating, etching, and the development of advanced materials, while atmospheric-pressure plasmas are explored in terms of their non-equilibrium behavior and versatile applications. Furthermore, the group studies plasma catalysis as a means to support the energy transition, aiming to convert industrial off-gases such as CO₂ from steel production into valuable chemical feedstocks using renewable energy. Pulsed high-power plasmas under extreme conditions are utilized to synthesize nanostructured functional films with tailored properties such as wear resistance or protective barriers. EP II focuses on transient atmospheric-pressure plasmas and their interactions with liquids and solids, bridging plasma physics, surface science, chemistry, biotechnology, and engineering. This work includes topics such as plasma-activated catalytic surfaces, plasma-driven biocatalysis, electrochemical processes, novel approaches to energy conversion, and environmentally relevant applications like the decomposition of hazardous organic compounds.

The main focus is on the identification of species and the determination of species concentrations in a He/n-butane/O₂ plasma combined with MnO₂ using FTIR. In addition, further catalysts such as BaTiO₃ are being tested.

Your tasks:

- Influence of oxygen vacancies on species concentration in plasma
- OES characterization of capacitively coupled He/n-butane/O₂ plasma combined with the catalyst
- Preparation of publication

Anforderungsprofil & Qualifikationen

Your profile:

- Master in physics
- Knowledge about plasma physics, especially in the field of He/n-butane/O₂ plasma catalysis

We offer:

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- Employment at one of the largest universities in Germany within the University Alliance Ruhr
- Collaboration in a committed and appreciative team
- Extensive training and professional development opportunities
- A job in the heart of the lively Ruhr metropolitan region with its diverse cultural offerings
- A workplace in a green environment with direct access to the botanical garden of Ruhr University Bochum
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Further information:

The position is salaried and based on the collective agreement of the Länder (TV-L). If the personal and collective agreement requirements are met, the employee will receive pay grade E13 TV-L.

Further information can be found at <https://oeffentlicher-dienst.info/> (in German).

The place of work is Ruhr University Bochum.

RUB sees itself as a university with an international presence. The campus languages are German and English. Competence in at least one of the two languages and the willingness to learn the other are a prerequisite. RUB provides corresponding free courses for employees.

German language courses are offered by the University Language Center (ZFA) in the field of German as a Foreign Language (DaF).

<https://www.daf.ruhr-uni-bochum.de/sbgk/index.html.en>

The Staff Council has the right to participate in all selection interviews. At the request of a candidate (m/f/x), it will ensure its participation in the entire procedure. Please contact wpr@rub.de.

The Ruhr-Universität Bochum is one of Germany's leading research universities, addressing the whole range of academic disciplines. A highly dynamic setting enables researchers and students to work across the traditional boundaries of academic subjects and faculties. To create knowledge networks within and beyond the university is Ruhr-Universität Bochum's declared aim.

The Ruhr-Universität Bochum stands for diversity and equal opportunities. For this reason, we favour a working environment composed of heterogeneous teams, and seek to promote the careers of individuals who are underrepresented in our respective professional areas. The Ruhr-Universität Bochum expressly requests job applications from women. In areas in which they are underrepresented they will be given preference in the case of equivalent qualifications with male candidates. Applications from individuals with disabilities are most welcome.

Contact persons for further information:

von Keudell, Achim Tel.: +49 234 32 23680

Travel costs, accommodation costs and loss of earnings or other application costs for job interviews can unfortunately not be reimbursed.

We look forward to receiving your application via our **online application portal by 2025-11-10**. Please make sure to mention the reference number ANR 5069.

Vorteile für Mitarbeitende

- Vergünstigtes Jobticket
- Arbeitsplatz in lebendiger Metropolregion

Stellenmerkmale

Beschäftigungsart	Wissenschaftliche:r Mitarbeiter:in
Beschäftigungsumfang	Teilzeit (befristet)
Home Office	Nein
Bewerbungslink	https://jobs.ruhr-uni-bochum.de/jobposting/44bfc5b2edb1aede1bc58fb57db0ef6957f0e7a3?ref=stellenwerk

Kontaktdaten

Firma/Hochschule	Ruhr-Universität Bochum
Anschrift	Universitätsstraße 150 44801 Bochum
Kontakt	Achim von Keudell
Telefon	 +49234 32 23680
E-Mail	
Webseite	https://uni.ruhr-uni-bochum.de/de/stellenangebote