

## Research Associate (m/f/x)

Online seit 11.06.2025 | 2025-06-11-933783 | Wissenschaftliche:r Mitarbeiter:in

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### Stellenbeschreibung

Faculty of Mechanical Engineering:

Carbon Sources and Conversion Sustainable Carbon Sources

In order to fill a **fixed-term position in part-time, full-time (39.83 hours/week)** at the **earliest possible date**, we are looking for 1

#### Research Associate (m/f/x)

Carbon Sources and Conversion at the Faculty of Mechanical Engineering, Ruhr-Universität Bochum, develops sustainable technologies for utilising carbon from renewable, industrial, and domestic sources. Our research aims to close anthropogenic carbon cycles by converting underutilised carbon streams into valuable products. We combine fundamental scientific research with process engineering to develop ecologically and economically viable solutions. Our work is interdisciplinary, integrating expertise in catalysis, biomass conversion, and CO<sub>2</sub> utilisation.

We are looking for a motivated PhD candidate (m,f,x) to develop innovative methods for the selective depolymerization and functionalization of lignin. The project explores pathways to convert lignin into value-added products. The candidate will investigate fundamental aspects of lignin transformation at the laboratory scale, including work with high-pressure reactors and advanced instrumental analytics to characterise biomass-derived oligomeric intermediates and polymeric materials. The goal is to establish a strong scientific and engineering foundation for future industrial-scale applications in sustainable carbon valorisation.

#### Your tasks:

- Conducting experimental work on the conversion of lignin into value-added products using high-pressure reactor systems
- Performing chemical functionalisation of lignin and optimising reaction conditions and catalyst performance
- Characterising lignin feedstocks, intermediates, products, and catalysts using advanced analytical techniques (HPLC, GC, NMR, IR, UV-Vis, titrimetry)

- Developing research plans, documenting experimental results, and determining kinetic and reaction engineering parameters
- Assembling modular laboratory setups using standard glass components for typical chemical conversions
- Supporting the conversion of a batch-operated steel high-pressure reactor to continuous operation
- Contributing to process simulations and data modelling as required

## Anforderungsprofil & Qualifikationen

### Your profile:

- MSc degree in environmental, chemical or process engineering, chemistry, or a related field, with a strong focus on biomass conversion and catalysis
- Proficiency in handling chemical compounds and operating high-pressure reactors, with familiarity in chromatographic and spectroscopic analytical techniques
- Solid understanding of organic compounds and catalysts, with hands-on experience in chemical characterisation
- Background in reaction engineering, preferably in the context of biomass valorisation
- Proficiency in data recording, analysis, and modelling including LabVIEW, Excel, MATLAB and (optionally) ASPEN
- Willingness to collaborate with industrial partners in a multidisciplinary environment
- Good command of English (minimum B2 level); knowledge of German is an advantage but not a requirement.

### We offer:

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- Challenging and varied tasks with a high level of independence
- Collaboration in a committed and appreciative team
- A job in the heart of the lively Ruhr metropolitan region with its diverse cultural offerings
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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.

A willingness to develop German language skills is expected. If the position is funded by third-party funds the employee has no teaching obligation. The position is generally suitable for part-time work.

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](mailto: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:**

Dr.-Ing. Giampiero P. Sorrentino Phone: +49 234 32 26689

Prof. Dr. Thomas E. Müller Phone: +49 234 32 26390

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 2025-07-08**. Please make sure to mention the reference number ANR 4670.

## Vorteile für Mitarbeitende

- Vergünstigtes Jobticket
- Arbeitsplatz in lebendiger Metropolregion

## Stellenmerkmale

Beschäftigungsart	Wissenschaftliche:r Mitarbeiter:in
Beschäftigungsumfang	Teilzeit (befristet)
Home Office	Nein
Bewerbungslink	<a href="https://jobs.ruhr-uni-bochum.de/jobposting/d524d662469ff8e277862bea0615f03e4122fb13?ref=stellenwerk">https://jobs.ruhr-uni-bochum.de/jobposting/d524d662469ff8e277862bea0615f03e4122fb13?ref=stellenwerk</a>

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## Kontaktdaten

Firma/Hochschule	Ruhr-Universität Bochum
Anschrift	Universitätsstraße 150 44801 Bochum
Kontakt	Giampiero Sorrentino
Telefon	 +49 234 32 26689
E-Mail	
Webseite	<a href="https://uni.ruhr-uni-bochum.de/de/stellenangebote">https://uni.ruhr-uni-bochum.de/de/stellenangebote</a>