

DC 8 | Towards N-N bond formation via N-hydroxylation in a biocatalytic cascade

ORGANISATION

Founded in the early sixties of the last century to address the challenges of structural change in the region, the **Ruhr University Bochum** (RUB) has developed into one of Germany's largest research universities (over 41,000 students distributed among 21 Faculties). It hosts the full spectrum of academic disciplines on its campus – the humanities and social sciences, the natural sciences and medicine as well as engineering. Collaborative research across traditional disciplinary boundaries, a university-wide Research School for early career researchers and knowledge networks at the local, regional, and international level highlight RUB's distinct institutional research profile.

The position we offer will be embedded in the **Microbial Biotechnology** group (MBT) within the Faculty of Biology and Biotechnology (Faculty, <https://www.biologie.ruhr-uni-bochum.de/biodek/index.html.en>). Researchers at our Faculty perform interdisciplinary research in all fields of biology from a fundamental as well as from an applied point of view. Cross-discipline cooperations provide an exciting and inspiring environment which is complemented by state-of-the-art infrastructure such as mass spectrometry facility, imaging facility, the centre for protein diagnostics and the centre for system-based antibiotic research among other initiatives.

ROLES AND RESPONSIBILITIES

The main part of your doctoral research (3 years in total) will be carried out at the **Ruhr University Bochum** (RUB, Germany) under the supervision of **Prof. Dr. Dirk Tischler** in the Microbial Biotechnology group (MBT) at the Faculty of Biology and Biotechnology. Within these three years, one academic research stay (up to 4 months) will take place at the **University of Groningen** (RUG, the Netherlands) under the supervision of **Assist. Prof. Dr. Sandy Schmidt**. Additionally, an industrial secondment at the company **ChiralVision** (Den Hoorn, the Netherlands) is foreseen. The Horizon Europe Marie Skłodowska-Curie Actions (MSCA) – Doctoral Network (DN) project starts in January 2023. The date of recruitment and start of the PhD project is planned for May 2023 and latest in December 2023. Your **Dr. rer. nat.** or **Ph.D. degree** will be awarded based on successful completion of the research work from **Ruhr University Bochum** (RUB, Germany). To fulfil all criteria but also to broaden your knowledge and prove competences you will be enrolled in our graduate school, the International Graduate School of Biosciences (IGB). You will also be required to participate in the **training events and workshops** organized by the DN program. As a MSCA fellow, you are also expected to **contribute your time in the dissemination of your doctoral project's result** through public engagement and other scientific platforms.

The research will focus on:

- (i) Interdisciplinary project on bioinformatics, enzymology, and biocatalysis
- (ii) Genome-guided identification of novel N-hydroxylating enzymes and formate dehydrogenases
- (iii) Cloning, expression and biochemical characterization of identified candidates,
- (iv) Stabilization of enzymes by means of immobilization strategies (industrial secondment),
- (v) Application of enzymes in cascades with N-N-forming enzymes or chemical catalysts (academic secondment),
- (vi) Scale-up of best cascade in rotating bed reactor

Primary supervisor: Prof. Dr. Dirk Tischler (dirk.tischler@rub.de, <https://www.mbt.ruhr-uni-bochum.de/index.html.en>)

Recruiting institution: Ruhr University Bochum (Germany)

QUALIFICATIONS

- An outstanding M.Sc. degree in Biological Chemistry, Biotechnology, Biochemistry, Chemistry or related field
- Eligible as a graduate student at Ruhr University Bochum (Germany),
- Research experience in molecular biology (molecular cloning), analytical methods (HPLC, GC, MS, NMR etc.), enzyme purification and assays, protein immobilization
- Ability to work in an international team,
- Inter- and multidisciplinary thinking,
- High motivation,
- An integrative and cooperative personality with excellent communication and social skills,
- Fluency in English – written and oral.

CONDITIONS OF EMPLOYMENT

We offer you in accordance with the regulations of the state North Rhine-Westphalia

- a fully supported PhD project
- RUB offers a topping-up of allowances financed by the EU to allow for payment according to the salary scale for scientific staff (TVL 13).
- If the position is funded by third-party funds the employee has no teaching obligations.
- It is possible to participate in the training and to supervise students (B.Sc. and M.Sc. level).
- A respective training program is part of the agreement and the successful candidate will be enrolled in the International Graduate School of Biosciences (IGB).

The (fulltime) appointment is temporary for a specified period of three years. The preferred starting date is between May 1st and July 1st 2023.

APPLICATION PROCEDURE

To apply for the position, kindly provide:

- (i) A letter of motivation including a statement of your research interests, relevant skills and experience and an explanation for the choice of position(s);
- (ii) A CV including publication list (if applicable);
- (iii) Names and contact details of three referees willing to write confidential letters of recommendation;
- (iv) Copies of relevant diplomas including explanation of international grades.

Please upload applications only according to instructions at www.biodeccodinng.eu.

Address applications to: Prof. Dr. Dirk Tischler.

The RUB Research School served as a blueprint for the Research Academy Ruhr, which has been set up as a cross-university early career researcher's platform of the University Alliance Ruhr (UA Ruhr), our strategic alliance with the University of Duisburg-Essen and Technical University Dortmund. Around 10,000 young scientists benefit from the services of the RAR. As one of the largest platforms of its kind in Germany, the RAR offers advanced Master's students, doctoral students and postdocs up to junior professorships the opportunity to establish and expand cross-university networks, strengthen competencies and shape their own career paths in research, business and society. Our ongoing efforts to foster equal opportunity and diversity concentrate especially on the decided support and the monitoring of the recruitment of women professors as well as other female faculty and staff. Well-established equal opportunity measures are Target Agreements with faculties, incentive and award programs, and a guideline on gender appropriate appointment procedures. At RUB, we wish to promote women in areas in which they are underrepresented, and would like to encourage female candidates to send us their applications. Applications by suitable candidates with severe disabilities and other applicants with equal legal status are likewise most welcome. Our selection procedure follows the European Commission's European Code of Conduct for recruitment of researchers, <https://euraxess.ec.europa.eu/jobs/charter/code>.

Unsolicited marketing is not appreciated.

APPLICATION DEADLINE

You may apply until 10th of January 11:59pm / before 11th of January 2023 German local time (CET) for this position by means of the online application form (click on "Apply" below on the advertisement on the BiodeCCodiNng website).

MARIE SKŁODOWSKA-CURIE ACTIONS

Doctoral Networks (DN)



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