

PhD position in Marie Skłodowska Curie ITN «ConCO<sub>2</sub>rde»

## ESR 3 | Metabolic Engineering of *C. necator* to exploit lipid de novo synthesis for OH-fattyacid ester production

RWTH Aachen University, Institute of Applied Microbiology (Application number 33080)

### OUR PROFILE

**Rheinisch-Westfälische Technische Hochschule** (RWTH Aachen University) was established in 1870 and with its 45,628 students enrolled in 162 degree programs is the largest technical university in Germany. More than 7,000 students and more than 900 doctoral students graduate annually from RWTH Aachen University. The high number of international students (11,280 students from 137 countries), as well as the excellent global network (of formalized collaborations) with over 100 universities worldwide, highlight the university's strong international reputation. The university has always had strong ties with industry, creating one of Germany's hubs for university spin-off companies and engineering firms.

The position we offer will be embedded in the Institute of Applied Microbiology (iAMB) part of the Aachen Biology and Biotechnology department and will benefit from their researchers' enthusiasm, a brought range of expertise and equipment of all seven highly specialized institutes. The aim of research at the iAMB is the development of efficient universal pro- and eukaryotic cell factories using systems analysis, metabolic engineering, synthetic biology, and cultivation intensification. These platform organisms are then able (depending on the integrated synthesis modules) to produce fuels or industrially relevant chemicals from renewable resources or alternative carbon sources.

### YOUR PROFILE

We are looking for a highly motivated and talented PhD student (Early Stage Researcher; f/m/d)

- Holding an outstanding M.Sc. degree in Synthetic Biology, Biological Chemistry, Biotechnology, Biochemistry, or related field
- Research experience in molecular biology, analytical methods (HPLC, GC, MS), experience in gas fermentation and metabolic modelling is a plus
- Ability to work in an international team, Inter- and multidisciplinary thinking,
- An integrative and cooperative personality with excellent communication and social skills,
- Fluency in English – written and oral.

The following eligibility rules apply for participation in a Marie Skłodowska Curie Innovative Training Network:

ESRs must not have resided in the country of the recruiting beneficiary for more than 12 months in the 3 years immediately before the recruitment date (and not have carried out their main activity (work, studies, etc.) in that country) — unless as part of a procedure for obtaining refugee status under the Geneva Convention 1. In addition, local regulations of the host countries may apply.

The salary is based on standard living, mobility and family allowances which are adapted to the respective country of recruitment.

### YOUR DUTIES AND RESPONSIBILITIES

The main part of the PhD research will be carried out at the **RWTH Aachen University** under supervision of **Prof. Lars M. Blank** at the **iAMB**. Academic research stays of six, and three months, resp., will be spent at the **University of Groningen** (RUG, The Netherlands) under the supervision of **Assist. Prof. Dr. Sandy Schmidt** in the **Dep. of Chemical and Pharmaceutical Biology at Groningen Research Institute of Pharmacy**.

The H2020 Marie Skłodowska-Curie Actions (MSCA) – Innovative Training Network (ITN) project starts in January 2021. The date of recruitment and start of the PhD project is planned for May 2021 and the latest in December 2021. **Your PhD** degree will be awarded based on successful completion of the research work from **two universities** (RWTH Aachen University and University of Groningen). You will also be required to participate in the **training events and workshops** organized by the ITN-European Joint Doctorates (EJD) program. As a MSCA fellow, you are also expected to **contribute your time in the dissemination of your PhD project's result** through public engagement and other scientific platforms.

**The PhD research will focus on:**

- i. Interdisciplinary project on metabolic engineering, synthetic biology, metabolic flux analysis,
- ii. Optimization OH-fattyacid ester production under autotrophic conditions
- iii. Metabolite analysis of engineered strains in small-scale cultivations using GC/LC-MS/MS
- iv. Isotope-based metabolic flux analysis of mixoautotrophic growth
- v. Establish novel synthetic biology tools of *C. necator* (secondment)
- vi. Design fed-batch process (secondment).

**WHAT WE OFFER**

The position is till 30.06.2024 (3 years in total) and is to be filled by July 1, 2021. This is a full-time position.

The successful candidate has the opportunity to pursue a doctoral degree.

The salary corresponds to pay grade TV-L 13 of the German public service salary scale (TV-L).

RWTH is a certified family-friendly University. We support our employees in maintaining a good work-life balance with a wide range of health, advising, and prevention services, for example university sports. We also offer a comprehensive continuing education scheme and a public transportation ticket available at a significantly reduced price. RWTH is an equal opportunities employer. We therefore welcome and encourage applications from all suitably qualified candidates, particularly from groups that are underrepresented at the University. All qualified applicants will receive consideration for employment and will not be discriminated against on the basis of national or ethnic origin, sex, sexual orientation, gender identity, religion, disability or age. RWTH is strongly committed to encouraging women in their careers. Female applicants are given preference if they are equally suitable, competent, and professionally qualified, unless a fellow candidate is favored for a specific reason. As RWTH is committed to equality of opportunity, we ask you not to include a photo in your application. You can find information on the personal data we collect from applicants in accordance with Articles 13 and 14 of the European Union's General Data Protection Regulation (GDPR) at <http://www.rwth-aachen.de/dsgvo-information-bewerbung>.

**CONTACT**

If you have any questions, please contact

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Please send your application by February 15, 2021 to

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Applicants are invited to submit their applications via email to [hendrik.ballerstedt@iamb.rwth-aachen.de](mailto:hendrik.ballerstedt@iamb.rwth-aachen.de). For data protection reasons, however, we recommend sending applications via mail.



Innovative Training Network – European Joint Doctorates

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