

DC 2 | Discovery and exploration of enzymes for Morita—Baylis—Hillman reactions

ORGANISATION

Since its founding in 1614, the **University of Groningen** has enjoyed an international reputation as a dynamic and innovative centre of higher education offering high-quality teaching and research. We encourage the 31,000 students and researchers to develop their own individual talents. Among the best research universities in Europe, we join forces with prestigious partner universities and networks around the world, the University of Groningen is truly an international place of knowledge. The position we offer will be embedded in the Groningen Research Institute of Pharmacy (GRIP) within the Department of Chemical and Pharmaceutical Biology (CPB, <https://www.rug.nl/research/grip/cpb/>). Researchers at GRIP strive to find new and innovative drugs and therapies and wish to improve the use of existing drugs. Bridging the gap between the fundamental natural sciences (such as chemistry and physics) and the medical/clinical sciences in the field of medicinal products is the one of the core activities of the institute. The CPB Department is represented by an enthusiastic group of researchers from different parts of the world. The cell as producer and target for pharmaceuticals is the main part of the research at CBP.

ROLES AND RESPONSIBILITIES

The main part of your PhD research (4 years in total) will be carried out at **the University of Groningen** (RUG, the Netherlands) under the supervision of **Prof. Gerrit J. Poelarends** in the Department of Chemical and Pharmaceutical Biology at the Groningen Research Institute of Pharmacy. Within these four years, two academic research stays (in total 6 months) will take place at the **University of Zagreb** (UZAG, HR) under the supervision of **Prof. Zvezdana Findrik Blažević**, and at the **Georg-August-Universität Göttingen** (UGOE, DE) under the supervision of **Prof. Kai Tittmann**. Additionally, an industrial secondment at the company **Enzymicals AG** (Greifswald, DE) 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 **PhD degree** will be awarded based on successful completion of the research work from the **University of Groningen** (RUG, the Netherlands). 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 PhD project's result** through public engagement and other scientific platforms.

The PhD research will focus on:

- (i) Interdisciplinary project on enzyme discovery, enzyme engineering and biocatalysis,
- (ii) Investigation of the ability of 4-oxalocrotonate tautomerase (4-OT), as well as 4-OT homologues, to promiscuously catalyze Morita—Baylis—Hillman (MBH) reactions,
- (iii) Engineering 4-OT to optimize its activity and enantioselectivity for MBH reactions,
- (iv) Characterization of the best 4-OT variants including kinetic and biotransformation studies,
- (v) Exploration of the newly engineered enzymes for large-scale synthesis of MBH products,
- (vi) Determination of crystals structures of the best enzymes in complex with non-native substrates.

Primary supervisor: Prof. Gerrit J. Poelarends (g.j.poelarends@rug.nl; <https://www.rug.nl/staff/g.j.poelarends/>)

Recruiting institution: University of Groningen (the Netherlands)

QUALIFICATIONS

- A M.Sc. degree in Biotechnology, Biochemistry, Chemistry or related field
- Eligible as a graduate student at the University of Groningen (the Netherlands),
- Research experience in molecular biology (molecular cloning, PCR), analytical methods (HPLC, GC, NMR etc.), enzyme purification and assays
- 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 Collective Labour Agreement for Dutch Universities

- a salary of € 2,541 gross per month in the first year, up to a maximum of € 3,247 gross per month in the fourth and final year
- a holiday allowance of 8% gross annual income
- an 8.3% end-of-year bonus and participation in a pension scheme for employees
- first, a temporary position of one year with the option of renewal for another three years. Prolongation of the contract is contingent on sufficient progress in the first year to indicate that a successful completion of the PhD thesis within the next three years is to be expected. A PhD training programme is part of the agreement and the successful candidate will be enrolled in the Graduate School of Science and Engineering.

The 1.0 FTE appointment is temporary for a specified period of four years. The preferred starting date is between May 1st and July 1st 2023. The conditions of employment: <https://www.rug.nl/about-us/work-with-us/>.

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. Gerrit J. Poelarends

The University of Groningen strives to be a university in which students and staff are respected and feel at home, regardless of differences in background, experiences, perspectives, and identities. We believe that working on our core values of inclusion and equality are a joint responsibility and we are constructively working on creating a socially safe environment. Diversity among students and staff members enriches academic debate and contributes to the quality of our teaching and research. We therefore invite applicants from underrepresented groups in particular to apply. For more information, see also our diversity policy webpage: [https://www.rug.nl/\(...\)rsity-and-inclusion/](https://www.rug.nl/(...)rsity-and-inclusion/). Our selection procedure follows the guidelines of the Recruitment code (NVP), <https://www.nvp-hrnetwerk.nl/sollicitatiecode/> and 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 Dutch 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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