

DC 6 | Structure-inspired engineering of new enzymes for non-natural C-C bond forming reactions

ORGANISATION

Founded in 1737, **Georg-August-Universität Göttingen** in Germany is a research University of international renown with strong focus and emphasis on research-led teaching. The University of Göttingen regards its great research tradition and subject diversity as constituting particular strengths. The Georg-August-Universität is also distinguished by being closely integrated into a network of first-class extra-university research establishments involving, amongst others, 5 Max-Planck-Institutes with Life Sciences and Natural Sciences being mainstays of research activities of the Göttingen Campus. Together, these local partners create with the University an alliance for collaboration in research and teaching arguably unique in Germany in terms of its depth and breadth. The group of Prof. Dr. Kai Tittmann is both affiliated with the Göttingen Center of Molecular Biosciences of Göttingen University and with the Max-Planck-Institute for Multidisciplinary Sciences Göttingen. The group of Kai Tittmann is internationally renowned in the areas of enzyme mechanisms, structural enzymology, drug design and biocatalysis with key contributions for various enzyme families. They solved high-resolution X-ray structures of enzymes in complex with critical reaction intermediates, which constituted the basis for biocatalytic applications or drug design. Some projects were/are running in intimate collaboration with industrial partners.

ROLES AND RESPONSIBILITIES

The main part of your PhD research (3 years in total) will be carried out at the **University of Göttingen** (UGOE, Germany) under the supervision of **Prof. Dr. Kai Tittmann** in the Department of Molecular Enzymology at the Göttingen Center for Molecular Biosciences. Within these three years, one academic research stay (3 months) will take place at the **University of Groningen** (RUG, the Netherlands) and an industrial secondment (3 months) at the company **Zymvol** (Barcelona, Spain) 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 **University of Göttingen** (UGOE, Germany). 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 structural biology, biocatalysis, and enzyme mechanisms,
- (ii) Crystallization and structure determination of C-C carbonylases with substrates and intermediates,
- (iii) Rational design of enzyme variants with improved catalytic properties and novel reactivities,
- (iv) Analysis of reaction and substrate scopes of novel variants (academic secondment),
- (v) Bioinformatics and molecular modeling for further enzyme evolution (industrial secondment),
- (vi) Crystallization and structure determination of novel enzyme variants.

Primary supervisor: Prof. Dr. Kai Tittmann (ktittma@gwdg.de; <https://www.uni-goettingen.de/en/207823.html>)

Recruiting institution: University of Göttingen (Germany)

QUALIFICATIONS

- An outstanding M.Sc. degree in Biochemistry, Biological chemistry, Biotechnology, Chemistry or related field
- Eligible as a graduate student at University of Göttingen (Germany),
- Research experience in molecular biology (molecular cloning), biophysical and analytical methods (HPLC, NMR, optical spectroscopy), structural biology (protein crystallization), enzyme expression, 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 a temporary full-time employment contract based on BGB (German Civil Code) for a maximum of three years.
- The monthly salary for the EU-Researcher as specified in the Grant Agreement No. 101073065 comprises the Living Allowance amounting to 3.400 € - adjusted by the country coefficient prescribed by the Research Executive Agency at the time the GA was concluded, the Mobility Allowance and – if applicable – the Family Allowance. Additional contributions are not granted. **Please note that these amounts reflect the employer's gross!** The obligation to pay taxes and to contribute to social insurance (health, nursing, un-employment and pension insurance) is based on the relevant regulations. The relevant employer's and employee's contributions are deducted from the above-mentioned gross amount.
- A PhD training programme is part of the agreement and the successful candidate will be enrolled in the Georg-August-University School of Science (GAUSS).

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. Kai Tittmann

The University of Göttingen 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.uni-goettingen.de/storage/userdata/flippingbook/DiversityStrategy/HTML/4/index.html>. 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 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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