Dresden University of Technology

The Center for Molecular Bioengineering (B CUBE, https://tu-dresden.de/cmcb/bcube) and its partner institutions, the Biotechnology Center (BIOTEC) and the Center for Regenerative Therapies (CRTD), are equipped with state-of-the-art facilities for Molecular Bioscience research (https://tu-dresden.de/cmcb/bcube/forschung-technologie/technologieplattform). They are part of a rich and collaborative environment that includes the School of Science, the Carl Gustav Carus Faculty of Medicine, the Max Planck Institute of Molecular Cell Biology and Genetics (MPI-CBG), and the Leibniz Institute of Polymer Research Dresden (IPF). For TUD Dresden University of Technology (TUD) diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

At the **Center for Molecular Bioengineering (B CUBE)**, an Institute of the Center for Molecular and Cellular Bioengineering (CMCB), the **Chair of Biomimetic Materials** (Prof. Dr. Nils Kröger, https://tu-dresden.de/cmcb/bcube/forschungsgruppen/kroeger) offers a position as

Research Associate / PhD Student / PostDoc (m/f/x)

(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting **as soon as possible**. The position is initially limited for 2 years and comprises 100% of the fulltime weekly hours (PostDoc) or 3 years (PhD student) and comprises 65% of the fulltime weekly hours with the possibility of extension. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The position offers the chance to obtain further academic qualification.

Tasks: The successful applicant will join the research project "Elucidating the Structure-Function Relationship in Silicanins and their Role in Diatom Silica Morphogenesis", funded by the German Research Foundation (DFG). This project investigates the biological formation of functional 3D mineral structures (biominerals), which is a widespread biological phenomenon and a highly active, interdisciplinary research field, spanning biology, chemistry and materials science. To date, it is poorly understood which genes are involved in the morphogenesis of complex-structured biominerals and how the encoded proteins guide this process.

The Kröger group uses diatoms as a model system to unravel the molecular mechanisms underlying lipid-bilayer mediated biomineralization. Diatoms are photosynthetic microalgae that construct intricately patterned silica-based cell walls that are from the scale of nanometers to hundreds of micrometers. They are readily amenable to genetic manipulation, and their lipid-bilayer bounded organelle for silica biogenesis can be isolated.

The successful applicant will use state-of-the-art biochemical, molecular genetic and cell biological tools to understand the role that silicanins, a large family of novel transmembrane proteins, is involved in governing silica bio-morphogenesis. The project involves a close collaboration with the Structural Biology group of Prof. Raz Zarivach (Ben Gurion University, Israel) to determine information on the 3D structure of silicanins and silicanin-based supramolecular assemblies.

Requirements: university degree (MSc.) and, if applicable, PhD degree in biochemistry, molecular genetics, molecular cell biology, or related fields. Applicants with strong research experience in protein biochemistry will be preferred. Prior experience in genome engineering or mass spectrometry is advantageous but not required. Strong writing skills with a proven track record of successful research are essential. Excellent communication skills in English are indispensable, as this is the colloquial language at the research center.

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.

Please submit your detailed application with the usual documents by **December 15, 2025** (stamped arrival date or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf file to **sandra.herrmann@tu-dresden.de** or to:

TU Dresden, B CUBE, Herrn Prof. Dr. Nils Kröger, Tatzberg 41, 01307 Dresden, Germany.

Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

TUD is a founding partner in the DRESDEN-concept alliance.

DRESDEN concept

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website: https://tu-dresden.de/karriere/datenschutzhinweis.