PhD position in de novo protein design & experimental protein biophysics characterization.

Milles lab at the LMU Munich Gene Center and MPI of Biochemistry Martinsried
https://www.biochem.mpg.de/milles

De novo protein design has experienced a machine learning-fueled revolution, vastly expanding our ability to design complex and functional proteins beyond those found in nature. Our research group works at the intersection of *de novo* protein design, deep learning and fundamental biophysics of protein function, doing both computational design and wet lab biophysical characterization.
We aim to deconstruct biological function by reconstructing such function *de novo.* Using deep learning-based protein design, we construct proteins free from evolutionary constraints that incorporate desired functions to better understand their underlying biological mechanism. Among other areas, we are interested in mechanisms at the host-pathogen interface:

We are an interdisciplinary group, welcoming applicants with backgrounds in biology, physics, (bio-) chemistry, engineering or computer sciences. Candidates will perform both computational and wet lab work during their PhD.

This position is part of the Graduate School Quantitative and Molecular Biosciences Munich

The Graduate School prepares young life scientists for the emerging era of quantitative, systems-oriented bioscience. Its innovative, international PhD program bridges traditionally separate disciplines—ranging from biochemistry and medicine to bioinformatics, experimental and theoretical biophysics, and applied mathematics. While maintaining a strong foundation in their primary discipline, QMB students gain expertise in multiple approaches, learn to think across fields, and develop the ability to communicate and collaborate effectively with scientists from diverse backgrounds.

Key components of the QMB program include:

- An interdisciplinary research project
- A structured program of coursework
- Professional skills training

Requirements
Applicants must hold a completed Master's degree (or equivalent) in a relevant field before starting the PhD. Full details of our requirements are available here:
https://qbm.genzentrum.lmu.de/application/requirements/

Applications must be submitted in English via our online tool:
https://www.portal.graduatecenter.uni-muenchen.de/ocgc/qmb

Timeline

- Application opens: August 21, 2025
- Application deadline: October 6, 2025
- Reference deadline: October 14, 2025
- Interviews: scheduled individually
- Notification of results: December 2025

For questions, please contact: office-qbm@genzentrum.lmu.de

QMB is a joint initiative of leading scientists from Ludwig-Maximilians-University Munich, the Technical University of Munich, the Max Planck Institute of Biochemistry, and Helmholtz Center Munich. Employment contracts are issued either by Ludwig-Maximilians-University Munich or one of the partner institutions.