Dresden University of Technology

TUD Dresden University of Technology, as a University of Excellence, is one of the leading and most dynamic research institutions in the country. Founded in 1828, today it is a globally oriented, regionally anchored top university as it focuses on the grand challenges of the 21st century. It develops innovative solutions for the world's most pressing issues. In research and academic programs, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is a special feature, facilitating interdisciplinarity and transfer of science to society. As a modern employer, it offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop their individual abilities while empowering everyone to reach their full potential. TUD embodies a university culture that is characterized by cosmopolitanism, mutual appreciation, thriving innovation and active participation. For 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 **Cluster of Excellence "Physics of Life" (PoL)**, the **Junior Research Group Bioenergetics of Self-Organization** (Dr. Xingbo Yang) offers a position as

Research Associate / 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 until February 14, 2028, with the possibility of extension in follow-up projects. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG).

The Cluster of Excellence PoL (https://physics-of-life.tu-dresden.de/en) is an interdisciplinary research center at TUD dedicated to quantitative biology and biophysics. It is funded by the German Research Foundation (DFG) and offers a wide range of support structures, including state-of-the-art light microscopy and advanced bio-image data science facilities in the outstanding Dresden environment.

Tasks: Dr. Xingbo Yang's Junior Research Group (https://physics-of-life.tu-dresden.de/research/core-groups/yang) seeks an independent, passionate, and motivated Postdoc to take on a novel and highly interdisciplinary project on the bioenergetics of spindle self-organization. Defects in meiotic spindle are known to contribute to aneuploidy in the resulting embryos, leading to infertility, but the mechanisms remain unknown. We hypothesize that spindle defects are correlated with energy availability of the cell. This project aims to reveal quantitatively the energetic cost and sensitivity of spindle self-organization. Using mouse oocytes as the model system, the candidate will apply state-of-the-art metabolic imaging techniques, confocal imaging of spindle and biophysical modelling to map out the energy fluxes and ATP/ADP levels with subcellular resolution and explore their impact on spindle morphology and dynamics. Furthurmore, the candidate will explore how metabolic perturbations contribute to chromosome segregation errors in meiosis, with implications in infertility treatment.

Requirements:

- university and PhD degree in biology, biochemistry, physics or related fields
- experience with metabolism or cytoskeleton research is desirable but not required
- experience with mouse oocytes is an advantage
- strong interest in working in an interdisciplinary environment
- excellent communication and presentation skills in English

We offer: We offer the opportunity to shape a novel and exciting research project at the interface of biology, biochemistry and physics, while developing your academic or professional career. You will be imbedded within the highly interactive, and interdisciplinary research environment of PoL and the wider Dresden Campus, which includes other high-quality scientific institutions. You will be presented with many opportunities for collaboration with our strong local and international collaborators. You will be exposed to world-class research on diverse topics through regular scientific seminars and occasional retreats. You will have the possibility to acquire project management skills, and team leading skills. You will be supported for fellowship application and career development. Employment conditions include a comprehensive package with full social benefits. Dresden offers a high-quality of life with a relatively low cost-of-living.

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 (letter of motivation, CV with publication list, and contact details for 3 referees) by **January 14, 2026** (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 with the **subject line "2026-postdoc-spindle-energetics"** to **carolin.weichelt@tu-dresden.de** or to:

TU Dresden, Cluster of Excellence "Physics of Life" (PoL), Carolin Weichelt, Arnoldstr. 18, 01307 Dresden, Germany.

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

PoL
Physics of Life
TU Dresden

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

DRESDEN
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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.