

The **Cluster of Excellence “Physics of Life” (PoL)** offers two positions in the **Technology Development Group Bio-image Analysis**, as

**Research Associate in Bio-Image Data Science**

(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 to 36 months. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). Balancing family and career is an important issue. The posts are generally suitable for candidates seeking part-time employment. Please note that in your application. The positions offer the chance to obtain further academic qualification.

The Cluster of Excellence PoL (<https://physics-of-life.tu-dresden.de/en>) is an interdisciplinary research center for biology, biophysics and computer science, which is funded by the German Research Foundation (DFG) and offers a wide range of support structures. You will be part of the Bio-image Analysis (BiA) Technology Development Group at PoL and work in a highly interdisciplinary environment. The mission of the BiA group is to develop modern and sustainable bio-image data analysis, big-image-data management and image-data-mining solutions. Projects are typically conducted in small interdisciplinary teams. Like all BiA group members, you know how to work independently, you take the initiative if necessary, you are a team player, and are comfortable with leading a project team. Knowledge exchange plays a major role, especially when working in teams that span multiple technology development and research groups and multiple disciplines.

**Tasks:** Your research and technology development work will ideally focus on one of these two fields

- **Big image data mining:** Scientists at PoL produce large amounts of imaging and simulation data. BiA develops, evaluates, deploys, and operates infrastructure for storing, analyzing, and visualizing this data. You will spearhead data science operations for implementing FAIR principles (findable, accessible, interoperable, reproducible) for research data, code, documentation, and any other digital entity of science. You will be in charge of setting up cloud and cluster software infrastructure, maintaining it and training PoL users in getting the most out of high performance computing, research data management and data science.
- **Research software engineering:** Image data science in the biological imaging context involves multiple programming languages, processing platforms, algorithms, file formats, and more. You will work on streamlining processes to enable PoL scientists and collaborators to assemble advanced image data analysis and machine learning workflows. This includes algorithms from high-performance computing and methods from virtual/augmented reality.

You will work in close collaboration with the IT services of the Center for Molecular and Cellular Bio-engineering (CMCB), the Center for Information Services and High Performance Computing of the TU Dresden (ZIH), the Center for Scalable Data Analytics and Artificial Intelligence (ScaDS.AI) Dresden/Leipzig, the Center for Systems Biology Dresden (CSBD), international collaborators, and PoL members.

We invite applications from open-minded candidates who value knowledge sharing and building bridges between disciplines. We encourage scientists to apply who do not yet have deep expert knowledge in biomedical image data science but strive to acquire that knowledge and skills.

### Formal Requirements:

- University degree (M.Sc., Diplom, or Ph.D. in Computer Science, Mathematics, Engineering, Bioinformatics, Data Science or related fields)
- Experience in programming languages such as ImageJ Macro, Python, Matlab, R, C++, Java, bash and willingness to strengthen programming skills
- Experience in image/data science projects and/or software such as ImageJ, Fiji, QuPath, CellProfiler, Cytomine, Icy, DeepLabCut, ilastik, scikit-image, scikit-learn, Tensorflow, Keras, PyTorch, Galaxy, SnakeMake, Omero, MicroManager, MorphoGraphX, napari or SR-Tessler
- English communication skills (B2)
- Experience in open-source software development, skills in microscopy and/or experience in biophysics, wet-lab biology, computational biology, or systems biology is a plus.

### What we offer

We offer an interdisciplinary and international research environment of high standing and visibility with challenging mid-term projects on diverse research topics. You will be part of the PoL community, the Dresden Campus, and our extensive international network. We offer the opportunity to work on novel approaches to image data science, combined with the possibility to develop your academic or professional career. We provide the possibility to acquire project management skills, team leading skills, and teaching skills. Employment conditions include a comprehensive package with full social benefits, and remuneration according to the State Tariff for Civil Servants (TV-L).

Applications from women are particularly welcome. The same applies to people with disabilities.

Please submit your application, including a cover letter explaining your motivation to apply for this position, a CV including a list of your publications and/or open-source projects, and a copy of the certificate of your highest academic degree by regular mail until **April 1, 2021** (stamped arrival date applies) to: **TU Dresden, Exzellenzcluster „Physik des Lebens“, z.H. Herrn Dr. Robert Haase, Tatzberg 47/49, 01307 Dresden** or preferably by email in one single PDF document via the SecureMail Portal of the TU Dresden, <https://securemail.tu-dresden.de> to [recruiting.pol@tu-dresden.de](mailto:recruiting.pol@tu-dresden.de) (subject line 'Research Associate in Bio Image Data Science'). Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.



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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>