Technische Universität Berlin offers an open position:

**Research Assistant - salary grade 13 TV-L Berliner Hochschulen**

under the reserve that funds are granted - part-time employment may be possible

**Faculty III - Institute of Biotechnology / Bioprocess Engineering**

**Reference number:** III-157/20 (starting at the earliest possible / until 30/04/23 / closing date for applications 08/05/20)

**Working field:** The KIWI-biolab is a coordinated effort of 11 international excellent scientists to tackle existing issues and exploit the potential of emerging ML and AI tools. We aim to create an intelligent lab able to conceive and perform experimental campaigns for the development of biomanufacturing processes for new products without human intervention.

To this aim, the main objectives of the KIWI-biolab are:

- Building an international group of excellent scientists in AI for biotechnological applications
- Creating and developing new tools required to boost the development of sustainable and environmentally friendly production processes
- Keeping Germany in the lead regarding autonomous operation of parallel cultivation robots
- Broadening and consolidating an international network for a long-term operation of the KIWI-biolab

3 PhD candidates will work in different task forces in the project.

i. Blind Signal Separation (BSS) for complex spectral data with high background noise.

ii. Spectral unmixing by (Bayesian) non-negative matrix factorization and matrix completion, where spectra of components may be partially known.

iii. Supervised learning of relevant properties of spectra/images from annotated data using deep learning.

As a result, classification techniques will be used to optimize bioprocesses inline. PhD thesis preparation is possible.

**Requirements:**

- successfully completed university degree (Master, Diplom or equivalent) in biotechnology, bioprocess engineering, computer science, mechanical engineering, control engineering or comparable courses of studies
- sound Python programming knowledge
- experience in the field of biotechnology and fermentation
- very good knowledge of written and spoken English

**Desirable are:**

- teamspirit
- strong interest in microscopy
- data analysis/machine learning and optimization
- practical experience
  - with Laboratory Information and Management Systems (LIMS)
  - with the integration and digital control of laboratory equipment
  - in the field of laboratory automation, especially liquid handling
  - with model-based experimental design, Design of Experiments
  - in the simulation of kinetic models
  - with cultivation systems on a laboratory and small scale
  - in the field of fermentation on a laboratory scale
  - in data analysis/ machine learning and optimization

Please send your written application with the **reference number** and the usual documents (in particular curriculum vitae, job references and proof of qualification) to Technische Universität Berlin - Der Präsident - Fakultät III, Institut für Biotechnologie, FG Bioverfahrenstechnik, Prof. Dr. Peter Neubauer, Sekr. ACK24, Ackerstraße 76, 13355 Berlin or by e-mail peter.neubauer@tu-berlin.de.

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities.

Please send copies only. Original documents will not be returned.

The vacancy is also available on the internet at http://www.personalabteilung.tu-berlin.de/menue/jobs/