



24.04.2017

The Zuse Institute Berlin (ZIB) is a non-university research institute under public law of the state of Berlin. The division "Mathematics for Life and Materials Sciences" is offering a

research position (f/m)
reference code IWA 17/17
pay grade E 13 TV-L Berlin

in the research group "Bioinformatics in Medicine" of the department Visual Data Analysis. The position is offered at the earliest possible date and will be a fixed-term contract until 31.12.2018.

Job description

The main goal of the project "Data-Driven Modelling of Cellular Processes" is the development, analysis, and optimization of numerical methods for the identification of complex cellular reaction networks (CRNs) from simulation data. Recently, different purely data-driven methods for the approximation of dynamical systems have been proposed. In a first step, these methods will be extended to enable the identification of CRNs.

Further tasks include:

- Identification of appropriate basis functions.
- Analysis of the influence of noise on the network model.
- Application of the developed methods to raw data from single-cell transcriptomics experiments.
- Validation of the resulting networks and comparison with other state-of-the-art methods.

The applicant is expected to collaborate closely with the cooperation partners from industry and Freie Universität Berlin.

Requirements

- University degree in computer science, mathematics, bioinformatics, or related disciplines
- good programming skills (preferably Matlab)
- experience in some or all of the following areas is essential: dynamical systems (transfer operators, stochastic processes, model reduction), probability theory, ordinary differential equations, reaction networks
- applicants are expected to be highly motivated, self-reliant, and able to collaborate and work with collaboration partners from molecular biology
- good command of written and spoken English is essential
- we expect creativity and a high degree of commitment in solving problems

What we offer

We offer a friendly working atmosphere, excellent equipment, and a challenging professional environment. We offer scientists in all career stages opportunities for further qualification and support and expect research on top level with international visibility.

We particularly welcome the application of women, since women are generally underrepresented in information technology, mathematics and physics and ZIB strives to increase their proportion in this research area.

Persons with disabilities will be given preference when equally qualified.

Please send your application, quoting the reference code **IWA 17/17**, including a CV and complete documents to:

Zuse Institute Berlin (ZIB)

- Administration -
Takustr. 7
14195 Berlin

or electronically to: jobs@zib.de. Closing date for applications is **01st of May, 2017** as date of receipt.

For further information about the position please see our website www.zib.de or contact Prof. Dr. Tim Conrad (conrad@zib.de).

Please find other job offers at www.zib.de.