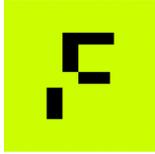


Freie Universität Berlin - Fachbereich Physik - Institut für Theoretische Physik AG Clementi



Our group works on the definition and implementation of strategies to study complex biophysical processes on long timescales. We use data-driven methods for systematic coarse-graining of macromolecular systems, to bridge molecular and cellular scales. We work on a theoretical formulation to exploit the complementary information that can be obtained in simulation and experiment, to combine the approximate but high-resolution structural and dynamical information from computational models with the "exact" but lower resolution information available from experiments.

Research assistant (postdoc) (m/f/d)

full-time position limited to 30.09.2027 Salary grade (Entgeltgruppe) 13 TV-L FU
reference code: 630

City: Berlin; Starting date (earliest): At the earliest possible; Duration: befristet bis zum 30.09.2027; Remuneration: Entgeltgruppe 13 TV-L FU; Reference number: 630

Tasks

The Clementi's group in the Physics Department at Freie Universität Berlin seeks a postdoctoral researcher (100%) to work on the development and application of coarse-graining methodologies to study macromolecular dynamics with machine learning, statistical mechanics, molecular simulations, and experimental data.

The joint project "FAIME – Flexible and Efficient AI-driven Molecular Simulation Engine" is part of the Clementi Group's research and is funded by the German Federal Ministry of Education and Research. The goal is to develop a novel simulation method for studying protein dynamics and function using innovative artificial intelligence (AI) techniques. The consortium uses machine learning to accelerate computer simulations of proteins, thus enabling the direct investigation of protein dynamics. The approach is based on describing only a few representative protein atoms. The consortium uses "graph neural networks" to learn the interactions. This approach is also supported by physical theories.

Your task will be to use machine learning approaches (deep neural network architectures) to design representations and transferable energy models for proteins. Various resolutions will be investigated in the process. The models will then be used in collaboration with experimental groups to investigate specific protein systems.

You will use statistical physics and machine learning to create efficient and transferable models for representing protein dynamics and for application to protein systems in collaboration with experimental groups.

Requirements

Key Requirements

Candidates must have a PhD in Physics, Chemistry, Applied Mathematics, or related fields.

Desirable**

- English language fluent, spoken and written.
- Excellent theoretical and practical experience with machine learning methods and experience with deep neural networks.
- Previous experience with macromolecular modeling and molecular dynamics simulations. Strong motivation and work ethics

What we offer

- Salary in line with the collective agreement for the civil service at the state level (TV-L FU), plus additional one-off annual payment
- Flextime with proportional allowance of days for working from home
- good work-life balance thanks to flexible working hours makes family and care responsibilities easier to manage
- Thirty days of vacation (based on a five-day working week)
- Office closed on December 24 and December 31
- Numerous training and continuing education options for professional and personal development
- Opportunity to participate in University Sports Center courses and the health promotion program
- Discounted "Job Ticket" for public transportation

Application

If you are interested in what we have to offer,

then you can send your application materials (Letter of Intent, CV and certificates) to us directly.

Simply submit your application via the Online Recruiting Portal by clicking the "Apply now" button.

From there you will be redirected to set up a profile (only necessary for your first application).

You can also get in touch with Swantje Hartmann-Rolke via s.hartmann-rolke@fu-berlin.de

Freie Universität Berlin is an equal opportunity employer.

More information at <https://stellenticket.de/202671/BUA/>

Offer visible until 16/04/26

