In cooperation with the Helmholtz-Zentrum Berlin für Materialien und Energie (HZB), Freie Universität Berlin is currently seeking to fill the following professorship in conjunction with an institute leadership position at the HZB:

University Professor of Data-Driven Material Research

Department of Mathematics and Computer Science

Salary grade: W3 or equivalent

Reference code: FUB-HZB Data-Driven Material Research

The Helmholtz-Zentrum Berlin für Materialien und Energie (HZB) is one of eighteen Helmholtz centers financed by the Federal Republic of Germany and the federal states of Berlin, Thuringia, and Bavaria. At the HZB, more than 1,200 employees work together with researchers from national and international partner organizations (universities, industrial companies, and research centers) on the discovery and development of new materials and technologies for a climate-neutral energy supply of the future.

As one of the leading institutions in research into the fundamental properties of matter and functional materials, the HZB is driving forward the development and application of a diverse range of data science methods for digital materials research. The joint appointment between Freie Universität Berlin and the HZB is intended to strengthen efforts to interlink existing activities at the two institutions with planning for future IT infrastructures.

The interdisciplinary position combines the role of institute leader tasked with establishing its own field of research with the role of chief information/data officer (CIO/CDO) at the HZB. The position also offers the successful candidate the opportunity to make significant contributions to the design of the new data science building planned at the HZB and to use those facilities once completed. The new professor may also participate in the further development of the synchrotron radiation source BESSY II and its successor BESSY III, and/or advance the use of the unique large data sets generated by almost 100 research groups at the HZB through a variety of methodologies.

At Freie Universität Berlin, the professorship will be assigned to the Institute of Mathematics at the Department of Mathematics and Computer Science. The successful applicant will be expected to conduct research, cover a teaching load of two weekly credit hours, and supervise bachelor's and master's theses as well as doctoral candidates' dissertations.

Responsibilities:

The successful applicant will cover research and teaching in the field of data-driven material research with a reduced teaching load of two weekly credit hours at Freie Universität Berlin. The professorship includes the opportunity of establishing and leading a newly founded Institute for Data-Driven Material Research (working title) as well as the central responsibility of chief information/data officer (CIO/CDO) at the Helmholtz-Zentrum Berlin (HZB). The successful applicant will also represent the research field "Information" as a member of the extended Board of Directors at the HZB.

Appointment requirements:

Governed by Section 100 of the Berlin Higher Education Act (*Berliner Hochschulgesetz* – BerlHG).

Additional requirements for the appointment include:

The successful applicant

- has several years of proven professional experience in leadership and management roles.
- has an excellent, distinguished scientific profile in mathematics or a mathematical focus in a related scientific discipline such as physics, chemistry, computer science, materials science, or other related fields.
- is internationally visible in interdisciplinary applications of data science and moves competently in the multi-perspectivity of this dynamically developing field.
- has theoretically and methodologically sound and diverse expertise in one or more of the following fields of research: methods in the field of artificial intelligence and/or machine learning (ML), including neural networks (deep learning), data-based modeling, simulation and optimization, big data storage and management, high-performance computing (HPC), foundation models/natural language processing (NLP), materials informatics, digital material design, and related areas.
- preferably, has experience in applying competencies from the broad range of methods in mathematics and information technology to materials science (e.g., high-throughput tomography and 3D imaging as well as image reconstruction algorithms for digital material research, etc.).
- has experience in acquiring and leading externally funded research projects, possibly including interdisciplinary projects and projects with a focus on practical applications.
- has teaching experience at the university level, preferably including international teaching experience, or equivalent experience in non-academic areas of work.
- has very good knowledge of German and/or English and the ability to teach in the respective language.

Expectations:

In addition to professional expertise, the successful candidate is expected to promote building networks for Freie Universität Berlin and the HZB with external cooperation partners. They should demonstrate initiative in this area and strive for continuity as a goal of these networks. This means that they will

- Establish and intensify the content-related cooperation between the HZB, the Department of Mathematics and Computer Science at Freie Universität Berlin, and the Zuse Institute Berlin (ZIB) in the long term
- Actively participate in collaborative research projects, especially within the MATH+ Cluster of Excellence
- Advance partnerships within the Berlin University Alliance through their own activities
- Support the HZB Board of Directors in developing research activities in the research field “Information” and act as the HZB’s representative of the research field “Information” within the Helmholtz Association
- Make active and innovative contributions to teaching, especially to courses in the data science and/or mathematics degree programs at Freie Universität Berlin
- Demonstrate willingness to acquire missing German language skills within a period of three years from the date of employment, if applicable
- Take gender and diversity aspects as well as sustainability issues into account in research, teaching, and administration and do so in a sensitive manner

Further information:

Applications should include a CV, copies of all certificates of academic qualification in German or English (please enclose translations where necessary), a list of publications, a list of courses previously taught, and evidence of teaching aptitude. Please include information on involvement in ongoing and future research endeavors, joint research projects, and externally funded projects. If necessary, please include language certificates. If applicable, please give information on experience in primary and secondary education, partnerships with industry, inventions/patents, and spin-offs.

Please submit all application materials electronically via the appointment portal **by the above-mentioned application deadline**. Be sure to include a personal postal address and email, as well as the reference code for the position. For formal purposes (i.e., for formatting application documents), you may use the following postal address:

Freie Universität Berlin
Department of Mathematics and Computer Science
Dean’s Office
Attn: Ms. Üzel
Arnimallee 14
14195 Berlin

Application documents will be deleted from our servers after the legal retention period has lapsed.

The regulations defined by the Berlin Higher Education Act that are relevant to professorships (Sections 99, 100, 101, 102a, 102c BerlHG) can be found online: https://www.fu-berlin.de/en/sites/berufungen/index.html.