

Technische Informationsbibliothek (TIB) - Leibniz Information Centre for Science and Technology



TIB, being part of the Leibniz Research Association, is with around 600 employees one of the largest technical information centres in Germany, having three main functions: 1. Acting in the capacity of the Leibniz Information Centre for Science and Technology, our forward-looking services secure the infrastructural requirements for providing researchers in science and industry with high-quality information and literature. 2. Carrying out cutting edge research to further expand TIB's role as a German information centre for the digitisation of science and technology. 3. Offer library services for the Leibniz University Hannover. As the German National Library of Science and Technology, our future-oriented services ensure the infrastructural requirements for a high-quality supply of information and literature for research in science and industry. With the Open Research Knowledge Graph (ORKG), we are working to revolutionise the exchange and use of scientific knowledge in the digital age.

Semantic Data Architect (m/f/d)

City: Hannover; Starting date (earliest): At the earliest possible; Duration: fixed-term for two years; Remuneration: pay scale group 13 TV-L; Reference number: 22/2026; Closing date: 13/07/26

Tasks

Your challenge

You will work in an interdisciplinary team on the development and operation of semantic research data infrastructures for chemistry, materials science, and engineering. In this role, you will serve as a bridge between scientific disciplines, ontology development, and software development. You will work independently across projects, developing cross-disciplinary semantic models, applications, and services, while also testing AI-supported approaches for efficient ontology development and curation.

Semantic Modelling:

- Collaboration with partners in chemistry, engineering, computer science, and libraries
- Evaluation and implementation of LLM-based tools for AI-assisted ontology development and curation using a human-in-the-loop approach
- Development and maintenance of domain-specific ontologies and controlled vocabularies for materials science, manufacturing engineering, process engineering, and chemistry
- Application, mapping, and alignment of established standards: Metadata4Ing, MSEO, BFO, DataCite, DCAT-AP
- Design of metadata schemas and generic protocol structures for experiments and processing workflows
- Development and maintenance of knowledge graphs (RDF, SPARQL)

Conceptual system development together with software developers and engineers:

- Coordinating the conceptual (further) development of the RDM system architecture from a “big-picture” perspective
- Collaborative requirements engineering within the team: translating domain requirements into technical specifications for applications for the semantic annotation of research data, protocols, and other data types
- Quality assurance of system implementations with regard to semantic correctness, FAIR compliance, and interoperability
- Helping to design knowledge graph interfaces and SPARQL query interfaces

Requirements

You have

- a completed academic degree (Master’s, university diploma, or equivalent) in computer science, chemistry, materials science, engineering, information science, computational linguistics, linguistics, digital humanities, data science, or a related field, provided there is a demonstrable thematic connection to knowledge modelling, semantic technologies, or information structuring.
- familiarity with the FAIR data principles and modern standards of research data management.
- knowledge of common metadata schemas such as DataCite, Schema.org, and DCAT.
- experience in modelling metadata schemas and/or controlled vocabularies.
- excellent understanding of software development processes and the ability to act as a conceptual bridge between domain experts and developers.
- knowledge of version control (Git) and CI/CD workflows.
- high degree of self-organization and ability to work independently.
- excellent written and spoken English skills.

Desirable additions to your profile

- Experience with ontologies in chemistry, materials science, or engineering
- Experience with ontology development tools such as ROBOT, ODK, or Protégé
- Knowledge of LinkML and SSSOM
- Experience with AI-supported methods of ontology development and knowledge modeling, particularly the use of large language models (LLMs) as assistive tools in ontology engineering (e.g. OntoGPT, CurateGPT, LLM-supported ROBOT workflows)
- Experience with data repositories, electronic lab notebooks, Semantic MediaWiki, or terminology services
- Knowledge of German is a plus, but not required

What we offer

The Technische Informationsbibliothek (TIB) – Leibniz Information Centre for Science and Technology – Program Area C, Research and Development, is looking to employ a

Semantic Data Architect (m/f/d)

to work in Lab Linked Scientific Knowledge at the earliest possible opportunity.

The position is initially limited to two years with envisioned extension. The regular weekly working time is 39.8 hours (full-time). The position is only suitable for part-time work to a limited extent. The remuneration is based on pay scale group 13 of the collective agreement for the public service of the German states (TV-L).

What we offer

Our mission is to keep rethinking and innovating the provision and use of research data and information. In TIB's Research and Development Department you have the opportunity to advance your career in a sizable, dynamic and excellent environment. We provide a scientifically and intellectually inspiring environment with an entrepreneurial mindset, embedded in a leading technical university and one of the largest technical information centers being part of the Leibniz Association. TIB collaborates closely with the L3S Research Center at Leibniz University Hannover, one of the world's leading research institutes in the field of Web & Data Science, within the Leibniz Joint Lab Data Science & Open Knowledge.

Last but not least, we attach great importance to an open, creative and fun work atmosphere.

Furthermore, we offer

- a job in the public service oriented towards the common good on the basis of the collective agreement for the public service of the German states (TV-L) with a salary in pay scale group 13 TV-L, provided that the personal requirements necessary for classification in pay scale group 13 TV-L are met.
- a special annual payment at the end of the year and 30 days of vacation per year with a five-day working week as well as additional days off on Christmas Eve (December 24th) and New Year's Eve (December 31st)
- flexible working time models (flexitime) as well as offers to reconcile work and family life, such as mobile and remote work options.
- a modern workplace in a central location of Hannover with a collegial, attractive and versatile working environment.
- an employer with a wide range of internal and external further education and training measures, workplace health promotion and a supplementary pension scheme for the public sector (VBL).
- Discount for employees in the canteens of the Studentenwerk Hannover as well as the possibility to use the various offers of the University Sports Hannover.
- independent and future-oriented activities that offer variety and room for personal development.
- a varied, independent and future-oriented field of activity.
- a portfolio of technology components to build on, including ORKG, OpenResearch.org, TIB AV-Portal, DBpedia.org among other.
- funding of the necessary technical equipment as well as conference and research visits.

If you are interested, questions regarding the position can be addressed to Dr. Oliver Koepler head of the Lab Linked Scientific Knowledge, by mail at oliver.koepler@tib.eu.

Application

We look forward to receiving your application. To submit your application, please use the application form on our website <https://tib.eu/bewerbungsformular-22-2026eng>.

Paper applications are also possible on an equal basis. In this case, please send your complete application documents with the subject 22/2026 before July 13, 2026 addressed to

Technische Informationsbibliothek (TIB)
Personalservice
Frau Anna Bechtloff
Welfengarten 1 B
30167 Hannover
Germany

or alternatively as a single PDF document file to bewerbung@tib.eu. For applications in digital form, please send a PDF file with a maximum size of 10 MB.

We invite you to include an indication of your annual salary expectations with your application.

In the case of foreign university degrees, it is mandatory to submit a Statement of Comparability from the Central Office for Foreign Education (ZAB) for the final assessment of the hiring requirements during the hiring process (link for more information). A fee will be charged for this. This obligation does not apply if the foreign university degree has already been assessed by an expert and is listed in the ANABIN database of the ZAB as an equivalent university degree (link to ANABIN database).

TIB is an equal opportunity employer, providing ideal working conditions, and continuously taking action to enable its employees to combine career interests with family life. It wants to promote equal career opportunities for women and men in particular and therefore urges qualified women to apply.

Severely disabled candidates and those with equivalent status will be given preferential consideration in the event of equal suitability. If you wish your rights as a person with a severe disability or as a person deemed equivalent to a person with a severe disability to be taken into account during the selection process, please inform us of this voluntarily at an appropriate place in your application (e.g. in the cover letter or CV, or at another clearly highlighted point) and enclose appropriate proof (e.g. a copy of the disability certificate).

Equal opportunity is one of our core organizational values. We therefore welcome applications regardless of nationality, ethnic and social origin, gender identity, gender expression and/or gender characteristics, religion and worldview, age, sexual orientation and identity.

Please indicate in the subject of your application which job exchange brought our offer to your attention.

Please note that your application documents will not be returned, and application and travel costs cannot be reimbursed.

More information at <https://stellenticket.de/204961/BEUTH/>
Offer visible until 13/07/26

