

**The Transregional Collaborative Research Center
SFB/TR 8 Spatial Cognition: Reasoning, Action, Interaction
at the Universities of Bremen and Freiburg, Germany**



pursues interdisciplinary long-term research in Spatial Cognition. Particular emphasis is given to:

- **Spatial Reasoning:** Knowledge representation, human spatial thinking, computational modeling, diagrammatic reasoning, cognitive and computational complexity, qualitative spatio-temporal calculi;
- **Action in Space:** Cognitive robotics, explorative localization and mapping, robot navigation, human navigation and wayfinding, sensorimotor representations of spatio-temporal structures, embodied cognition;
- **Communication and Interaction in Space:** Formal methods, spatial and linguistic ontologies, computational linguistics, environmental cognition, integration of spatial methods.

A description of the current research projects of the SFB/TR 8 can be found at

www.sfbtr8.uni-bremen.de

The SFB/TR 8 is funded by the Deutsche Forschungsgemeinschaft (DFG).

The SFB/TR 8 advertises the following position:

1 Doctoral Research Assistant / Postdoctoral Researcher

SFB/TR 8 project I1-[OntoSpace], Universität Bremen
(BAT IIa, approx. € 35,000 to € 50,000 p.a. gross)

The research project I1-[OntoSpace] is concerned with the development of computational ontologies that support diverse reasoning and natural communicative interaction about all aspects of space. Working within and extending established foundational ontologies, the project is developing ontology modules that describe physical environments, linguistic resources, routes and navigation possibilities, and spatial calculi. Formal underpinnings for ontology development, for constructing morphisms between ontologies, and for relating ontologies to representations of knowledge and embodied agents form central research goals. The resulting ontologies are to be implemented and instantiated within the spatial assistance agents of the collaborative research center. A successful applicant should have a strong background in ontology or formal knowledge representation, be able to implement specifications within usable computational components, and have a strong interest in the uses of such ontologies for supporting reasoning, dialogic natural language and multimodal interaction, and real-world modeling.

The applicant should have a degree in computer science, computational linguistics, or a related field (diploma, master's, or Ph.D.). Strong interest in cognitive science research and in interdisciplinary collaboration is expected.

Especially, applicants should have qualifications and/or interests in the following fields:

- Artificial intelligence and cognitive science
- Computational linguistics and dialogic interaction
- Knowledge representation and reasoning
- AI-programming methods and languages

We offer the opportunity to gain research experience in a modern and enthusiastic research environment with strong interdisciplinary and international links. Responsibilities include project work and research, publication of research results, supervision of student projects, participation in the activities of the SFB/TR 8, and contribution to research proposals.

The position is available from 1.1.2006 and is initially available for 4 years. Extension is possible. Application deadline: 1. December (or until a suitable candidate is found). Universität Bremen is an equal opportunity employer. Women are especially encouraged to apply. Handicapped applicants with equal qualifications will be given preferential treatment.

More information about this project can be found at www.sfbtr8.uni-bremen.de/i1. More information about the Bremen Ontology Research Group run by the project can be found at www.fb10.uni-bremen.de/ontology,

Please address questions about the position and send your application (preferably by email) to:

Prof. Dr. John A. Bateman <bateman@uni-bremen.de>

SFB/TR 8 - Spatial Cognition

Universität Bremen

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