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](http://www.sfbtr8.uni-bremen.de)

The SFB/TR 8 is funded by the German Research Foundation (DFG).

The SFB/TR 8 advertises the following positions (all positions offer the opportunity to pursue a PhD):

### 1 Doctoral Research Assistant / Postdoctoral Researcher
SFB/TR 8 project A5-[ActionSpace], Universität Bremen - under the condition of job release-
(TVL 13, approx. € 35,000 to € 50,000 p.a. gross)

The research project A5-[ActionSpace] is concerned with the development of a multi-hierarchical sensorimotor representation which will be implemented and tested in a mobile agent which operates in a VR environment. The agent will be able to perform exploratory localization and navigation using sensorimotor features established by actions (movements of the agent and of his sensors) and by more complex sensory properties (nonlinear wavelet features, multisensory information).

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

In particular, the applicant should have qualifications and/or interests in the following fields:

- Spatial processing e.g. topological maps, SLAM, navigation
- Development of VR-based agent systems
- Spatial processing e.g. SLAM, topological maps, navigation
- Decisions strategies, reasoning, Theory of Evidence
- Management of uncertain knowledge (e.g. Belief networks, cycl. Bayesian networks)
- Experience in software development and programming in Java, Python, C, Linux

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.

As the University of Bremen intends to increase the proportion of female employees in science women are particularly encouraged to apply.

In case of equal personal aptitudes and qualification disabled persons will be given priority.

The position is available from 15 May 2008, subject to the availability of the funds, until the end of 2010. Extension is possible. Application deadline: 20 April 2008 (or until a suitable candidate is found).

Please address questions about the position and send your application under the reference number A 48/08 (preferably by email) to:
We would be very grateful, if you could submit your application documents as copies (no folders), we can not send your documents back because of cost reasons; after the application process the documents will be destroyed.