

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.spatial-cognition.de](http://www.sfbtr8.spatial-cognition.de)

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

The SFB/TR 8 advertises the following positions in the SFB/TR 8 project I5-[DiaSpace], Universität Bremen (all positions offer the opportunity to pursue a PhD):

## **2 Doctoral Research Assistants / Postdoctoral Researchers**

(TVL 13, approx. € 35,000 to € 50,000 p.a. gross)

## **1 Doctoral Research Assistant / Postdoctoral Researcher**

(TVL 13 50%, approx. € 17,000 to € 25,000 p.a. gross)

The Natural Language Interaction Group I5-[DiaSpace] at the University of Bremen has several positions open for computational linguists specialising in dialogue systems. Excellent candidates at both doctoral and post-doctoral levels are invited to apply to work within our Collaborative Research Center on Spatial Cognition, where we are designing and building dialogue systems for interacting with users performing a variety of spatially-related tasks. Successful candidates will have: (i) programming experience in the areas central to dialogue systems, e.g., dialogue control mechanisms, contextualisation and speech act interpretation, analysis and generation systems, as well as general architectures for dialogue systems, and (ii) experience in relating empirical and corpus-based dialogue studies to computational implementation. Successful candidates will work on, and develop further, our current dialogue system. This system has a state-of-the-art information-state based architecture combining formal control of dialogue, CCG-based analysis, SFG-based generation, ontology-driven interaction and embedding with spatially-aware applications and therefore offers a rich foundation for many independent research topics in central areas of computational dialogue theory, implementation, and application. Since our dialogue applications require interactions in both English and German, knowledge of German is strongly desirable.

The Natural Language Interaction Group is a highly multidisciplinary team combining discourse analysts, psycholinguists, computational linguists and ontological engineers. We work in close cooperation with several projects within the Collaborative Research Center, which spans cognitive science, neurocognition, perception, formal spatial calculi, architecture, and AI. The environment is international and at the cutting edge of several related disciplines. The positions are available for an initial period of two years and will be filled as quickly as possible. Although centrally research positions, it will also be possible to teach courses in Computational Linguistics in our undergraduate linguistics and informatics programs if desired.

Necessary qualifications:

- completed first degree in computational linguistics, artificial intelligence, linguistics, informatics or similar

- experience with analysing naturally occurring dialogue and modern approaches to dialogue corpora
- good programming skills (Java and/or Lisp, Perl, etc.)
- good English writing skills
- ability to work both independently and in a team in a multidisciplinary environment

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 December 2008 until the end of 2010. Extension is possible. Application deadline: 30. October 2008 (or until a suitable candidate is found).

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.

Applications and questions about the position should be sent (preferably by email including the above mentioned position number A 175/08) to:

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