

**Proceedings of the KI 2013
Workshop on Visual and Spatial
Cognition**

KIK – KI & Kognition Workshop Series

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Koblenz, 17-Sep-2013

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Preface

The ability to process spatial information is crucial for various tasks as diverse as navigation, planning, and managing abstract concepts. Research issues in spatial cognition range from the investigation of human spatial cognition to mobile robot navigation. Much of that research effort has been experimental, putting little stress on precise models of the involved representations and processes. Obviously, spatial cognition is closely related to visual cognition of places and scenes in general. Different visualization techniques and reasoning formalisms serve to analyze spatial cognition processes. They can be used to achieve a more general cognitive model.

Since eye tracking devices became cheaper and their handling more comfortable during the last decade, eye tracking experiments are used in a wide field of user experiments for studying visual cognition. Many questions, however, remain open, for instance from an efficient analysis of recorded eye movements to the development of unified visual and cognitive models.

This workshop continues a series of successful workshops initiated by the Special Interest Group "Cognition" in the GI (German Society for Informatics). This sixth workshop, which is held in conjunction with KI 2013, aims at bringing together researchers from artificial intelligence, computer science, cognitive psychology, cognitive robotics, and visualization to foster a multidisciplinary exchange. The call was open for different topics and we received a variety of papers: from discussing the usage of low-level features for vision-based localization, to extracting spatial relations among objects for failure detection during plan execution of a robot, to challenges in using semantic knowledge for 3D object classification and semantic object recognition with segment faces. This interdisciplinary discussion of spatial and semantic models is enriched with contributions from eye tracking data visualization.

Our wish is that new inspirations and collaborations between the contributing disciplines will emerge from this workshop.

The organizers of this workshop would like to thank the organizers of the KI 2013 conference, especially Ute Schmid, and the Spatial Cognition Research Center SFB/TR 8 for their excellent support. We also would like to thank the members of the program committee for their help in selecting and improving the submitted papers, and finally all participants of the workshop for their contributions.

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