

Spatial Cognition 2014

Bremen, 15-19 September 2014

Program

Monday, 15 September 2014

Spatial Cognition 2014 Workshops and Tutorials

08:30	Registration		
09:00	Workshop 1: Design cognition and behavior: Usability in the built environment	Workshop 2: Indoor Wayfinding Assistance	Tutorial 2: Information Visualiza- tion for Innovating Research Methods
11:00	Coffee Break		
11:30	Workshop 1: Design cognition and behavior: Usability in the built environment	Workshop 2: Indoor Wayfinding Assistance	Tutorial 2: Information Visualiza- tion for Innovating Research Methods
13:00	Lunch Break		
14:30	Tutorial 1: CogSketch Tutorial	Workshop 2: Indoor Wayfinding Assistance	Tutorial 2: Information Visualiza- tion for Innovating Research Methods
16:00	Coffee Break		
16:30	Tutorial 1: CogSketch Tutorial	Workshop 2: Indoor Wayfinding Assistance	Tutorial 2: Information Visualiza- tion for Innovating Research Methods
18:00	End of Workshop / Tutorial Day		



Tuesday, 16 September 2014

SFB/TR 8 Spatial Cognition Final Colloquium

08:30 Registration

09:00 **Welcome Addresses**

Christian Freksa, Kerstin Schill and Bernhard Nebel

09:15 Invited Talks

Remembering Spatial Location: Extending the Categorical Adjustment Model to the Real World

Nora Newcombe

Cognitive Computing, Logic, and Human Reasoning

Ulrich Furbach

10:50 Coffee Break

11:20 SFB/TR 8 Presentations

Strong Spatial Cognition

Christian Freksa

Wayfinding: Interdisciplinary Foundations and Applications

Christoph Hölscher

12:00 University Rectors' Addresses

Twelve Years SFB/TR 8 Spatial Cognition at the Universities of Bremen and Freiburg

Bernd Scholz-Reiter and Hans-Jochen Schiewer

12:20 SFB/TR 8 Presentations

Localization, Mapping, and Exploration

Cyrill Stachniss

People-Centered Spatial Design

Mehul Bhatt

13:00 Lunch Break

14:30 Posters, Demos, Lab Visits

18:00 Installation

Ada's Keepsake as Space-Time Machine *cognitive animation*

Elisabeth Weissensteiner

19:00 Welcome Reception for Spatial Cognition 2014 / SFB/TR 8 Final Colloquium



Wednesday, 17 September 2014

Spatial Cognition 2014 Conference

08:30 Registration

09:00 Keynote (*introduction: Christian Freksa*)
Green then Smart - Spatial Awareness in Plant
Stefano Mancuso

10:00 Spatial Memory I (*chair: Maria Vasardani*)

Spatial Updating in Narratives

Adamantini Hatzipanayioti, Alexia Galati and Marios Avraamides

Effects of Global and Local Processing on Visuospatial Working Memory

Holly Taylor, Ayanna Thomas, Caterina Artuso and Caroline Eastman

11:00 Coffee Break

11:30 Spatial Memory II (*chair: Dedre Gentner*)

Environment Learning from Spatial Descriptions: The Role of Perspective and Spatial Abilities in Young and Older Adults

Chiara Meneghetti, Erika Borella, Veronica Muffato, Rossana De Beni and Francesca Pazzaglia

Alignment Effects and Allocentric-Headings within a Relative Heading Task

Heather Burte and Mary Hegarty

On Egocentric and Allocentric Maps

Wai Kiang Yeap

13:00 Lunch Break

14:30 Language and Communication I (*chair: Bernhard Nebel*)

Attentional Distribution and Spatial Language

Thomas Kluth and Holger Schultheis

Boundaries and Prototypes in Categorizing Direction

Vivien Mast, Diedrich Wolter, Alexander Klippel, Jan Oliver Wallgrün and Thora Tenbrink

Spatial Language in Brazilian Portuguese as Perceived by the General Upper Model

Rodrigo de Oliveira



- 16:00 Coffee Break
- 16:30 Language & Communication II / Computational Models (*chair: Thora Tenbrink*)
- Spatial References with Gaze and Pointing in Shared Space of Humans and Robots**
Patrick Renner, Thies Pfeiffer and Ipke Wachsmuth
- Spatial Planning: An ACT-R Model for the Tower of London Task**
Rebecca Albrecht and Marco Ragni
- Spatial Numerosity: A Computational Model Based on a Topological Invariant**
Tobias Kluth and Christoph Zetsche
- 18:00 End of Conference Day

Thursday, 18 September 2014

Spatial Cognition 2014 Conference

- 08:30 Registration
- 09:00 Keynote (*introduction: Thomas Barkowsky*)
Connecting Location and Place
Stephan Winter
- 10:00 Diagrams and Maps (*chair: Kenneth Forbus*)
- Qualitative Representations of Schematized and Distorted Street Segments in Sketch Maps**
Sahib Jan, Angela Schwering, Malumbo Chipofya and Jia Wang
- Spatial Reasoning in Comparative Analyses of Physics Diagrams**
Maria Chang, Jon Wetzel and Kenneth Forbus
- 11:00 Coffee Break



- 11:30 Wayfinding and Navigation I (*chair: Ruth Dalton*)
- Lateralization of Route Continuation and Route Order**
Ineke van der Ham and Jacco van den Hoven
- Hierarchical Bayesian Cue Interaction in Human Spatial Navigation**
Xiaoli Chen and Timothy McNamara
- Cognitive Values of Place Image Detected from Spatial Distribution of Building Names**
Toshihiro Osaragi
- 13:00 Poster Session & Lunch Break
- 16:00 Excursion
- 19:00 Conference Dinner

Friday, 19 September 2014

Spatial Cognition 2014 Conference

- 08:30 Registration
- 09:00 Keynote (*introduction: Mary Hegarty*)
How to Differentiate Spatial Reference Frames
Ranxiao Frances Wang
- 10:00 Spatial Ability I (*chair: Alexander Klippel*)
- Mechanisms of Spatial Learning: Teaching Children Geometric Categories**
Linsey Smith, Raedy Ping, Bryan Matlen, Micah Goldwater, Dedre Gentner and Susan Levine
- Spatial Concepts: Sensitivity to Changes in Geometric Properties in Environmental and Figural Perception**
Toru Ishikawa
- 11:00 Coffee Break



11:30 Spatial Ability II (*chair: Holly Taylor*)

Virtual Distance Estimation in a CAVE

William E. Marsh, Jean-Rémy Chardonnet and Frédéric Merienne

Pellet Figures, the Feminine Answer to Cube Figures? Influence of Stimulus Features and Rotational Axis on the Mental-Rotation Performance of Fourth-Grade Boys and Girls

Vera Ruthsatz, Sarah Neuburger, Petra Jansen and Claudia Quaiser-Pohl

A Preliminary Study on the Role of Movement Imagery in Spatial Perception

Margaret Tarampi, Michael Geuss, Jeanine Stefanucci and Sarah Creem-Regehr

13:00 Lunch Break

14:30 Technical Approaches (*chair: Sven Bertel*)

Dimensions of Uncertainty in Evidential Grid Maps

Thomas Reineking and Joachim Clemens

Crossing the Boundary: Two Benchmarks for Qualitative Spatial Reasoning bridging Relative Directions and Mereotopology

André van Delden and Reinhard Moratz

Active Sensorimotor Object Recognition in Three-Dimensional Space

David Nakath, Tobias Kluth, Thomas Reineking, Christoph Zetzsche and Kerstin Schill

16:00 Coffee Break

16:30 Wayfinding and Navigation II (*chair: Christoph Hölscher*)

Up, Down, Turn Around: Assisted Wayfinding Involving Level Changes

Stephany Bigler, Annina Brügger, Fiona Utzinger and Kai-Florian Richter

Effect of Simplicity and Attractiveness on Route Selection for Different Journey Types

Sarah Cook and Roy A. Ruddle

The Road to Direction: The Impact of Road Asymmetry on Street-Based Network Small-Worldness

Maxime Sainte-Marie

18:00 End of Spatial Cognition 2014

