



# **Spatial Cognition 2012**

## **Conference Program**

### **Thu 30.08.2012: Arrival**

- 19:00 - 20:30: **Dinner**

### **Fri 31.08.2012: Workshops & Tutorials**

#### **Schedule for the Workshops and Tutorials**

- 08:30 - 10:00: Morning Workshops/Tutorials
- 10:00 - 10:30: Coffee break
- 10:30 - 12:00: Morning Workshops/Tutorials
- 12:00 - 13:30: Lunch
- 13:30 - 14:30: Afternoon Workshops/Tutorials
- 14:30 - 15:00: Coffee break
- 15:00 - 16:30: Afternoon Workshops/Tutorials
- 16:30 - 16:50: Coffee break
- 16:50 - 18:00: Afternoon Workshops/Tutorials
- 19:00 - 20:30: Dinner

#### **List of Workshops and Tutorials**

- Full-Day Workshop: Place-Related Knowledge Acquisition Research (P-KAR)
- Morning Tutorial: CogSketch
- Morning Workshop: When is Virtual Reality Real Enough? Using VR in Spatial Cognition Research
- Afternoon Tutorial: Understanding Spatial Thought Through Language Use
- Afternoon Workshop: Spatial Knowledge Acquisition with Limited Information Displays

# Sat 01.09.2012: Main Conference - Day 1

08:50 - 10:00: **Session: Analogy, Relations, and Representation**

- Using Spatial Analogy to Facilitate Graph Learning by Linsey A. Smith and Dedre Gentner
- Assessing Similarities of Qualitative Spatio-Temporal Relations by Alexander Klippel, Jinlong Yang, Jan Oliver Wallgrün, Frank Dylla, and Rui Li
- Are left-right hemisphere errors in point-to-origin tasks in VR caused by failure to incorporate heading changes? by Bernhard E. Riecke

10:00 - 10:30: **Coffee break**

10:30 - 12:00: **Session: Language and Communication**

- Collaborating in spatial tasks: Partners adapt the perspective of their descriptions, coordination strategies, and memory representations by Alexia Galati and Marios N. Avraamides
- Towards a revision of the typology of motion verbs by Sander Lestrade and Nina Reshöft
- The mental representation derived from spatial descriptions is north-up oriented: the role of visuo-spatial abilities by Chiara Meneghetti, Francesca Pazzaglia, and Rossana De Beni
- Relevance in spatial navigation and communication by Thora Tenbrink

12:00 - 13:30: **Lunch**

13:30 - 14:30: **Invited Talk by Kevin O'Regan: Making Space**

14:30 - 15:00: **Coffee break**

15:00 - 16:30: **Session: Linguistics, ontology and communication**

- A linguistic ontology of mode: The use of locations in spatial language by Sander Lestrade
- Linguistic principles for spatial relational reasoning by Thora Tenbrink and Marco Ragni
- Extended Verbal Assistance Facilitates Knowledge Acquisition of Virtual Tactile Maps by Kris Lohmann and Christopher Habel
- Detecting Events in Video Data Using a Formal Ontology of Motion Verbs by Tommaso D'Odorico and Brandon Bennett

16:30 - 16:50: **Coffee break**

## **Sat 01.09.2012: Poster Session**

16:50 - 19:00: **Poster Session**

- The Space Between the Lines: Young Children's Understanding of 2D Diagrams of 3D Objects by Andrea Frick and Nora S. Newcombe
- Accurate 6D Localization in Multi-Level Environments by Stefan Osswald, Armin Hornung and Maren Bennewitz
- Assessing Spatial Skills Employed by Geoscientists in the Petroleum Industry by Melanie Busch, Bob Krantz, Peter Hennings, Richard Aram and Juli Hennings
- Properties and mechanisms of sensory enhancement by Sabine König et al.
- The Effects of Life Span Development on Spatial Updating of Haptic Arrays by Christopher Bennett and Nicholas Giudice
- Automated natural language description of indoor spaces by Saranya Kesavan and Nicholas Giudice
- A comparison of advanced and introductory geology students' visual behavior using eye-tracking technology by Joshua Coyan, Melanie Busch and Stephen Reynolds
- Neural Correlates in Numerical and Cartographic Scale and Magnitude by Victor Schinazi, Robert Pickett and Amy Lobben
- Unsupervised Scene Analysis Using Semiparametric Bayesian Models by Dominik Joho, Gian Diego Tipaldi, Nikolas Engelhard, Cyrill Stachniss and Wolfram Burgard
- Lifelong Localization and Dynamic Map Estimation in Changing Environments by Gian Diego Tipaldi, Daniel Meyer-Delius, Maximilian Beinhofer and Wolfram Burgard
- Cognitive strategies in impossible worlds by William E. Marsh, Tim Hantel, Christoph Zetsche, and Kerstin Schill

19:00 - 20:30: **Dinner**

## **Sun 02.09.2012: Main Conference - Day 2**

08:50 - 10:00: **Doctoral Colloquia**

- Overcoming exclusivity in long-term spatial memory by Thomas Dunn
- Location Memory Biases in 3D Spaces: Evidence for the Category Adjustment Model by Mark Holden
- Broadening Spatial Thinking by Investigating its Role in Scientific Practices by David Miller
- Saying is better than showing: Labels and maps in children's understanding of midpoint by Nina Sims
- Integration of Features and Geometric Information in Reorientation: Evidence for an Adaptive Combination Model by Alexandra Twyman

10:00 - 10:30: **Coffee break**

10:30 - 12:00: **Session: Spatial Representation**

- Integration of spatial relations across perceptual experiences by Marios N. Avraamides, Christina Adamou, Alexia Galati, and Jonathan W. Kelly
- Mental Travel Primes Place Orientation in Spatial Recall by Kai Basten, Tobias Meilinger, and Hanspeter A. Mallot
- Representing Space: Exploring the Relationship between Gesturing and Geoscience Understanding in Children by Bryan J. Matlen, Kinnari Atit, Tilbe Göksun, Martina A. Rau, and Maria Ptouchkina
- Linking Cognitive and Computational Saliences in Route Information by Makoto Takemiya and Kai-Florian Richter, and Toru Ishikawa

12:00 - 13:30: **Lunch**

13:30 - 14:30: **Invited Talk by Bastian Leibe: Dynamic Visual Scene Understanding: Where Are We and Where Should We Go Next?**

14:30 - 15:00: **Coffee break**

## **Sun 02.09.2012: Main Conference - Day 2**

### **15:00 - 16:30: Session: Object and Semantic Mapping**

- Predicting what lies ahead in the topology of indoor environments by Alper Aydemir, Erik Järleberg Samuel Prentice, and Patric Jensfelt
- Online semantic mapping of urban environments by Nikos Mitsou, Roderick de Nijs, David Lenz, Johannes Frimberger, Dirk Wollherr, Kolja Kühnlenz, and Costas Tzafestas
- Object Categorization in Clutter using Additive Features and Hashing of Part-graph Descriptors by Zoltan-Csaba Marton, Ferenc Balint-Benczedi, Florian Seidel, Lucian Cosmin Goron, and Michael Beetz
- Efficient Object Categorization with the Surface-Approximation Polynomials Descriptor by Richard Bormann, Jan Fischer, Georg Arbeiter, and Alexander Verl

### **16:30 - 16:53: Session: Wayfinding 1**

- An iPad App for Recording Movement Paths and Associated Spatial Behaviors by Nick Sheep Dalton, Ruth Conroy Dalton, Christoph Hölscher, and Gregory Kuhn Münch

### **16:55 - 20:30: Social Event**

## **Mon 03.09.2012: Main Conference - Day 3**

08:50 - 10:00: **Doctoral Colloquia**

- Creating an Affordance-based Model of Walkability by David Jonietz
- Where do you think you are? A virtual environment assessment of navigation ability by Steven Weisberg
- Human Factors in Qualitative Spatial Reasoning by Jinlong Yang
- A Haptic-Acoustic Interface for Acquiring Spatial Knowledge about Apartments by Junlei Yu
- The effect of analogy and relational language on preschooler's map learning by Lei Yuan

10:00 - 10:30: **Coffee break**

10:30 - 12:00: **Session: Mapping**

- Dense map inference with user-defined priors: from priorlets to scan eigenvariations by Paloma de la Puente and Andrea Censi
- Towards Geometric Mapping for Semi-autonomous Mobile Robots by Georg Arbeiter, Richard Bormann, Jan Fischer, Martin Hägele, and Alexander Verl
- SURE: Surface Entropy for Distinctive 3D Features by Torsten Fiolka, Jörg Stückler, Dominik A. Klein, Dirk Schulz, and Sven Behnke
- Tutorial on Quick and Easy Model Fitting Using the SLoM Framework by Christoph Hertzberg, Rene Wagner, and Udo Frese

12:00 - 13:30: **Lunch**

13:30 - 14:30: **Invited Talk by David Lubinski: Spatial Ability's Unique Role in Learning, Work, and Creativity: A 35-Year Longitudinal Study of Intellectually Precocious Youth**

14:30 - 15:00: **Coffee break**

15:00 - 16:08: **Session: Wayfinding 2**

- Wayfinding in real cities: experiments at street corners by Beatrix Emo
- Detection of Object Onset and Offset in Naturalistic Scenes by Maria J. Donaldson and Naohide Yamamoto
- Relocating Multiple Objects during Spatial Belief Revision by Leandra Bucher and Jelica Nejasnic

## **Mon 03.09.2012: Main Conference - Day 3**

16:08 - 16:30: **Session: Education and Development 1**

- Influence of Rotational Axis and Gender-Stereotypical Nature of Rotation Stimuli on the Mental-Rotation Performance of Male and Female Fifth Graders by Sarah Neuburger, Vera Heuser, Petra Jansen, and Claudia Quaiser-Pohl

16:30 - 16:50: **Coffee break**

16:50 - 18:10: **Session: Education and Development 2**

- The Effects of Visual Granularity on Indoor Spatial Learning Assisted by Mobile 3D Information Displays by Nicholas A. Giudice and Hengshan Li
- Activity effects on path integration tasks for children in different environments by Eva Neidhardt and Michael Popp
- The relationship between coordination skill and mental rotation ability by Stefanie Pietsch and Petra Jansen
- Closing Remarks

19:00 - 20:30: **Dinner**

## **Tue 04.09.2012: Going home**

- After breakfast: leaving towards Munich