

AAAI 2007 Spring Symposium

# Control Mechanisms for Spatial Knowledge Processing in Cognitive / Intelligent Systems

Stanford University, California, March 26 – 28, 2007

## Program

### Monday, 26 March, 2007

- 9:00            welcome: Holger Schultheis
- Gordon Logan*  
invited talk: Title TBA
- 10:30           coffee break
- 11:00           *B. Chandrasekaran & Unmesh Kurup*  
A bimodal cognitive architecture: explorations in architectural explanation of spatial reasoning
- Marco Ragni & Felix Steffenhagen*  
A cognitive computational model for spatial reasoning
- Glenn Gunzelmann & Don Lyon*  
Cognitive architectures: valid control mechanisms for spatial information processing
- chair: Bernhard Hommel
- 12:30           lunch
- 2:00           *Hendrik Zender & Geert-Jan Kruijff*  
Multi-layered conceptual spatial mapping for autonomous mobile robots
- Joseph Modayil & Benjamin Kuipers*  
Where do actions come from? Autonomous robot learning of objects and actions
- Andreas Birk*  
Spatial knowledge processing within the reproductive perception paradigm
- chair: Benjamin Kuipers
- assignment to discussion topics and groups

- 3:30 coffee break
- 4:00 breakout discussions  
(discussion leaders: Christian Freksa, Glenn Gunzelmann, W.K. Yeap)  
report back for group discussion
- 5:30 end of sessions
- 6:00 opening reception

**Tuesday, 27 March, 2007**

- 9:00 *Michael Arbib*  
invited talk: Vision, action and language in the brain: E pluribus unum for multiple spatial representations  
chair: Thomas Barkowsky  
assignment to discussion topics and groups
- 10:30 coffee break
- 11:00 breakout discussions  
(discussion leaders: Franz Kurfess, Joseph Modayil, Marco Ragni)  
report back for group discussion
- 12:30 lunch
- 2:00 *Sven Bertel*  
Some notes on the control of attention, its modeling and anticipatory cognitive computing  
*Bernhard Hommel & Alexander Klippel*  
Embodying spatial maps  
*W.K. Yeap*  
From spatial perception to cognitive mapping: how is the flow of information controlled?  
chair: Holger Schultheis  
assignment to discussion topics and groups

- 3:30 coffee break
- 4:00 breakout discussions  
(discussion leaders: Sven Bertel, Andreas Birk, B. Chandrasekaran)  
report back for group discussion
- 5:30 end of sessions
- 6:00 – 7:30 plenary session  
(plenary session speaker for this symposium: Alexander Klippel)

**Wednesday, 28 March, 2007**

- 9:00 *Brett Bojduj & Franz Kurfess*  
Case-based reasoning for control of spatial representations
- Stefanie Tellex & Deb Roy*  
Grounding language in spatial routines
- Andrew Lovett, Morteza Dehghani, & Kenneth Forbus*  
Constructing spatial representations of variable detail for sketch recognition
- chair: Christian Freksa
- 10:30 coffee break
- 11:00 general discussion  
(discussion leaders: H. Schultheis, T. Barkowsky, B. Kuipers, B. Hommel)
- 12:30 end of symposium