



PROGRAM

version of April 12

Thursday April 12

Tutorial Day

09:00 –17:00 FR 2511*

Developing CLARION-based Agents Using the New CLARION Library

Michael Lynch

09:00 –17:00 FR 2011*

Scaling models of cognition to the real world: Complexity-theoretic tools for dealing with intractability

Iris van Rooij, Johan Kwisthout, Todd Wareham, Mark Blokpoel, Daniel Reichman, Jakub Szymanik

09:00 –12:15 FR 2536*

Cognitive Robotics: The Symbolic and Sub-symbolic Robotics Intelligence Control System

Troy Kelley

13:45 –17:00 FR 2018*

Heuristic models of judgment and decision-making: Implementations and applications

Lael Schooler & Hansjoerg Neth

13:45 –17:00 FR 2536*

Understanding cognitive processes through language use

Thora Tenbrink

*Room numbers may be subject to last-minute changes. Check for updates.

08:00 Horst-Wagon-Saal
H1012 Registration

09:00 Horst-Wagon-Saal
H1012 Welcome

09:10 Horst-Wagon-Saal
H1012 **Invited Lecture** **The Nature and Transfer of Cognitive Skill**
Niels Taatgen

10:10-10:30 Coffee Break

10:30 Horst-Wagon-Saal
H1012 **Session I**

Decision Making, Prototypes and Analogies

Modeling Intuitive Decision Making in ACT-R

William Kennedy

Dynamic Use of Multiple Analogies in the AMBR Model Causing Re-Representation of the Target

Boicho Kokinov

A Cognitive Model For Predicting Aesthetical Judgements As Similarity to Dynamic Prototypes

Ute Schmid

An ACT-R Approach to Reasoning about Spatial Relations with Preferred and Alternative Mental Models

Sven Brüssow

A multinomial model of applying recognition to judge between multiple alternatives

Phillip Beaman

12:10 – 13:50

Lunch

13:50

Horst-Wagon-Saal
H1012

Session 2

Learning and Problem Solving

Data Acquisition Dynamics and Hypothesis Generation

Nicholas Lange

A cognitive architecture-based model of graph comprehension

David Peebles

Cognitive modelling of early music reading skill acquisition for piano

Bruno Emond

An account of cognitive flexibility and inflexibility for a complex dynamic task

Alberto De Obese Orendain

15:10 – 15:30

Tea Break

15:30

Horst-Wagon-Saal
H1012

Symposium

Cognitive Modeling of Processes “Beyond Rational”

*William Kennedy, Frank Ritter, Christian Lebiere, Ion Juvina
Alessandro Oltramari, Jonathan Gratch, Richard Young*

17:00

Lichthof

Poster Session

with Beer & Pretzels

08:30 Horst-Wagon-Saal
H1012 Registration

09:00 Horst-Wagon-Saal
H1012 **Invited Lecture** **Modelling Working Memory**
Klaus Oberauer

10:10 – 10:30 Coffee Break

10:30 Horst-Wagon-Saal
H1012 **Session 3**

Memory & Learning

A Rational Analysis of Memory Search Termination

Eddy Davelaar

Modeling representational shifts in learning the number line

Leif Kåre Lende

Oscillatory Basis of Individual Differences in Working Memory Capacity

Adam Chuderski

Modeling the Temporal Dynamics of Visual Working Memory

Johannes Lohmann

12:00 – 13:30 Lunch

13:30 Horst-Wagon-Saal
H1012 **Session 4a**

Architectures, I

A Reinforcement Learning Model of Bounded Optimal Strategy Learning

Xiuli Chen

Bridging the Gap between Theory and Practice of Approximate Bayesian Inference

Johan Kwisthout

Competence-Preserving Retention of Learned Knowledge in Soar's Working and Procedural Memories

Nate Derbinsky

Pre-attentive and Attentive Vision Module

Enkhbold Nyamsuren

14:50 -15: 20

Tea Break

15:20 Horst-Wagon-Saal
H1012 **Session 4b**

Architectures, II

ACTR-QN: Integrating Queueing Network and ACT-R Cognitive Architectures

Shi Cao

15:40 Horst-Wagon-Saal
H1012 **Session 5**

Decomposing Cognition

Relating ACT-R buffer activation to EEG activity during an attentional blink task

Marieke van Vugt

One Model, Two Tasks: Decomposing the Change Signal Task

Larry Moore

16:20 Lichthof **Poster Session**

with Beer & Pretzels

08:30 Horst-Wagon-Saal
H1012 Registration

09:00 Horst-Wagon-Saal
H1012 **Symposium**

Human Performance Modeling

*Wayne Gray, David Kaber, Guk-Ho Gil, Sang-Hwan Kim, Naom Ben-Asher,
Joachim Meyer, Shi Cao, Yili Liu, Cleotilde Gonzalez,
Glenn Gunzelmann, Kevin Gluck*

10:30 – 10:50 Coffee Break

10:50 Horst-Wagon-Saal
H1012 **Invited Lecture**

**The Emerging Toolbox of Cognitive
Engineering Models**

Alex Kirlik

12:00-12:15 End of Conference

Poster Session 1

Fri 17:00 - 19:00

1. Computational Simulation of Visual Distraction Effects on Car Drivers' Situation Awareness
Jean-Charles Bornard, Pierre Mayenobe, Jean-Christophe Paris, Dominique Gruyer, Bernard Claverie
2. SimPilot: An exploration of modeling a highly interactive task with delayed feedback in a multitasking environment
Michael Schoelles, Wayne Gray
3. Cognitive Re-Use via Emergic Networks
David Pierre Leibovitz, Robert West
4. Hierarchical Bayesian Modeling of Manipulation Sequences from Bimodal Input
Alexandra Barchunova, Jan Moringen, Robert Haschke, Helge Ritter
5. Modeling the User Belief about the State of a Spoken Dialog System
Klaus-Peter Engelbrecht
6. A four factor model of landmark salience - A new approach
Florian Röser, Antje Krumnack, Kai Hamburger, Markus Knauff
7. Modeling the Effects of Base-rates on Cyber Threat Detection Performance
Varun Dutt, Young-Suk Ahn, Noam Ben-Asher, Cleotilde Gonzalez
8. Exploring Feature Collocation for Semantic Concept Identification
Meng Yu
9. Uses, Abuses and Misuses of Computational Models in Classical Conditioning
Alonso Eduardo, Mondragon Plaza

10. How WM load influences pronoun interpretation
Jacolien van Rijn, Hedderik van Rijn, Petra Hendriks
11. An ACT-R Model of Credibility Judgment of Micro-blogging Web Pages
Q. Vera Liao Liao, Peter Pirolli, Wai-Tat Fu
12. Computationally Efficient Forgetting via Base-Level Activation
Nate Derbinsky, John Laird
13. A Change for the Better? Assessing the Computational Cost of Re-Representation
Todd Wareham, Robert Robere, Iris van Rooij
14. Defining Factors of Interest for Large-Scale Socio-Cognitive Simulations
Ryan Kaulakis, Changkun Zhao, Jonathan Morgan, Jeremiah Hiam, Joseph Sanford, Frank Ritter
15. Emotion Detection by Event Evaluation using Fuzzy Sets as Appraisal Variables
Michael Kotzyba, Barbara Deml, Hendrik Neumann, Stefan Gluege, Kim Hartmann, Ingo Siegert, Andreas Wendemuth, Harald Traue, Steffen Walter
16. Modeling behavior and performance of air traffic controllers using coloured Petri nets
Hardy Smieszek
17. A Framework for Task Accomplishment Using an ACT-R Simulation
Michael Beckmann, Ulas Yilmaz, Gloria Pöhler, Anne Wegerich
18. Performance Modelling of Interface Dynamism in Motor Skills Acquisition
Olurotimi Richard Akinlofa, Patrik O'Brian Holt, Eyad Elyan
19. Explorations in ACT-R Based Language Analysis – Memory Chunk Activation, Retrieval and Verification without Inhibition
Jerry Ball
20. Prospective Memory and Working Memory: A Hierarchical Modeling Approach
Nina R. Arnold, Ute J. Bayen, Rebekah E. Smith
21. Non Inversion of Similarity and Dissimilarity in Judging Faces
Ludovica Lorusso, Enrico Grosso

22. Towards optimal payoff manipulations
Christian Janssen, Andrew Howes, Duncan Brumby
23. What Can (and Can't) Make Problem Solving by Insight Possible? A Complexity-Theoretic Investigation
Todd Wareham
24. A Concept of a Cognitive System of Motivation
Andreas Ammann
25. A Computational Model for Forms of Selective Attention based on Cognitive and Affective Feelings
Luis Macedo
26. A process model of immediate inferences
Sangeet Khemlani, Greg Trafton, Max Lotstein, Phil Johnson-Laird
27. Cognitive Robotics: Analysis of Preconditions and Implementation of a Cognitive Robotic System for Navigation Tasks
Stefano Bennati, Marco Ragni
28. Accumulation of Evidence and Information Search in Experiential Decisions
Katja Mehlhorn, Varun Dutt, Noam Ben-Asher, Cleotilde Gonzalez
29. A Computational Model of Collective Sensemaking: Differential Effects of Communication Network Structure on Collective Sensemaking Abilities
Paul Smart
30. Using Support Vector Machines to Determine Linear Separability
Bram Van Rensbergen, Eef Ameel, Fons Van Assche, Gert Storms

Poster Session 2

Sat 16:20 - 18:00

1. Verbalization of problem solving processes in unaided object assembly
Linn Gralla, Thora Tenbrink
2. Modeling Risky Decision Making by Cellular Automata
Kenryo Indo
3. Conditioning for Least Action
Eduardo Alonso, Michael Fairbank, Esther Mondragon
4. Annual Cognitive Modeling Competition
Kevin Gluck
5. Choices, choices: task selection preference during concurrent multitasking
Menno Nijboer, Niels Taatgen, Hedderik van Rijn
6. Extending and Evaluating a Multiplicative Model for Semantic Composition in a Distributional Semantic Model
Akira Utsumi
7. Towards Pinpointing the Neural Correlates of ACT-R: a Conjunction of Two Model-Based fMRI Analyses
Jelmer Borst, John Anderson
8. Qualitative and Quantitative Individual Differences in Semantic Categorization
Steven Verheyen, Gert Storms
9. Modeling Efficiency-guided Modality Choice in Voice and Graphical User Interfaces
Stefan Schaffer, David Reitter
10. A First Approach to Generate Hybrid Animations for Maintenance Tasks in IPS²
Ulrike Schmuntzsch, Ulaş Yılmaz, Ralf Reichmuth, Matthias Rötting

11. Abstraction in Natural Language Categories
Loes Stukken, Wouter Voorspoels, Gert Storms, wolf vanpaemel
12. Semantic Cognition: A Re-examination of the Recurrent Network "Hub" Model
Olivia Guest, Rick Cooper
13. Memory and Contextual Change in Causal Learning
Uwe Drewitz, Stefan Brandenburg
14. Functional Modeling of Personality Properties Based on Motivational Traits
Joscha Bach
15. Model-Based Prediction of Between-Trial Fluctuations in Response Caution From EEG Data
Udo Boehm, Leendert van Maanen, Birte Forstmann, Hedderik van Rijn
16. Cognitive Model of Drivers Attention
Kerstin Haring, Marco Ragni, Lars Konieczny
17. Cognitive modeling of different processing modes in task switching: toward an explanation of the effect of aging on switching cost
Stephane Deline, Jacques Juhel
18. A LIDA-based Model of the Attentional Blink
Tamas Madl, Stan Franklin
19. Self-Organization and Associative Learning as a Basis for Cognitive and Sensorimotor Modeling of Speech Production, Perception, and Acquisition
Bernd Kroeger, Cornelia Eckers, Christiane Neuschaefer-Rube
20. The Role of Memory in MHP/RT: Organization, Function and Operation
Muneo Kitajima, Makoto Toyota
21. Modeling Behavior of Attention-Deficit-Disorder Patients in a N-Back Task
Jonathan Kottlors, Daniel Brand, Marco Ragni
22. Combining cognitive modeling and EEG to predict user behavior in a search task
Felix Putze, Johannes Meyer, Joscha Borné, Tanja Schultz, Daniel Holt, Joachim Funke

23. Towards a 50 msec Cognitive Cycle in a Graphical Architecture
Paul Rosenbloom
24. Practical Optimal-Solution Algorithms for Schema-based Analogy Mapping
Robert Hamilton, Todd Wareham
25. Extending the Computational Belief-Desire Theory of Emotions to Fantasy Emotions
Rainer Reisenzein
26. Dual-route Connectionist model of Greek Spelling
Ioanna Katidioti, Ian Simpson, Athanassios Protopapas
27. Matching Results of Latent Dirichlet Allocation for Text
Andreas Niekler, Patrick Jähnichen
28. A self-organized neuronal comparator
Guillermo Luduena, Claudius Gros

Dinner & Locations

Saturday April 14

Second Conference Day

19:30

Brauhaus Mitte

Evening Event

Conference Dinner and Prize Ceremony

Conference Locations

Tutorials:

Franklingebäude (Franklin Building)

Franklinstrasse 28-29, 10587 Berlin

Presentations:

Horst-Wagon-Saal H1012

Hauptgebäude (Main Building), Straße des 17. Juni 135, 10623 Berlin

Poster Sessions:

Lichthof

Hauptgebäude (Main Building), Straße des 17. Juni 135, 10623 Berlin

Conference Dinner:

Brauhaus Mitte

Karl-Liebknecht-Str. 13, 10178 Berlin-Mitte (close to the Fernsehturm)