

Table of Contents

Preface.....	vi
--------------	----

Invited talks

Marcel Just, <i>Modeling neural function and high level cognition</i>	3
Erik Altmann, <i>Mechanisms and implications of pervasive episodic memory</i>	4
René Amalberti, <i>Why operators' cognitive models are hard to incorporate into design: The case of human reliability models</i>	12

Papers

T. R. Johnson, <i>Acquisition and transfer of declarative and procedural knowledge</i>	15
R. Sun, E. Merrill & T. Peterson, <i>Skill learning using a bottom-up hybrid model</i>	23
C. P. Beaman & J. Morton, <i>Modelling memory updating characteristics of 3- and 4-year olds</i>	30
S. Watt, <i>Modelling common-sense psychology and the false belief test</i>	36
G. Jones & F. E. Ritter, <i>Initial explorations of modifying architectures to simulate cognitive and perceptual development</i>	44
G. M. G. Jongman, <i>How to fatigue ACT-R?</i>	52
A. Sloman & B. Logan, <i>Architectures and tools for human-like agents</i>	58
C. Bartl & D. Dörner, <i>PSI: A theory of the integration of cognition, emotion and motivation</i>	66
J. Richardson, A. Howes & S. J. Payne, <i>Modelling an empirical investigation into memory and learning in simple interactive search tasks</i>	74
M. Kitajima, R. Soto & P. G. Polson, <i>LICAI+: A comprehension-based model of the recall of action sequences</i>	82
D. K. Busse & C. W. Johnson, <i>Modelling human error within a cognitive theoretical framework</i>	90
M. Fjeld, S. Schluep & M. Rauterberg, <i>Automatic, action driven classification of user problem solving strategies by statistical and analytical methods: A comparative study</i>	98
C. Niessen, S. Leuchter & K. Eyferth, <i>A psychological model of air traffic control and its implementation</i>	104
K. Balakrishnan, R. Bhatt & V. Honavar, <i>Spatial learning and localization in animals: A computational model and behavioral experiments</i>	112
E. Pessa & M. P. Penna, <i>A connectionist model of perceptual field dynamics in homogeneous stimulus areas</i>	120
E. Burattini, M. de Gregorio & G. Tamburini, <i>Generating and classifying recall images by neurosymbolic computation</i>	127
A. A. Petrov & B. N. Kokinov, <i>Influence of mapping on analog access: A simulation experiment with AMBR</i>	135
C. Brouard, B. Bouchon-Meunier & C. A. Tijus, <i>Modelling the interpretation of verbal commands with fuzzy logic and semantic networks</i>	143
P. Saariluoma & T. Laine, <i>Chess players' early recall of chess positions: An empirical and simulative investigation</i>	151
N. Chaignaud & A. Nguyen-Xuan, <i>Problem solving with incomplete information: Experimental study and computer simulation</i>	159

Symposia

Cognitive models at work (Organiser: Simon Goss).....	169
S. Goss, S. Waugh, A. Pearce & T. Menzies, <i>Learning and testing cognitive models</i>	170
S. E. Finnie & R. M. Taylor, <i>The cognitive cockpit: The application of an adaptive cognitive model</i>	172
F. Glenn, <i>Military applications of cognitive models with COGNET</i>	173
Modelling conceptual changes in mechanics (Organiser: Marc Champsme)	
S. Vosniadou, C. Ioannides, A. Dimitracopoulou, D. Kayser, M. Champsme, F. Esposito, G. Semeraro, D. Malerba & S. Ferilli, <i>Modelling conceptual change in mechanics: An interdisciplinary perspective</i>	175
Implicit and explicit learning in ACT-R (Organiser: Christian Lebière)	
C. Lebière, D. Wallach & N. Taatgen, <i>Implicit and explicit learning in ACT-R</i>	183

Poster abstracts

J.-B. Auriol & J.-L. Dessalles, <i>Separation of logical and calculation capabilities in a problem solving task</i>	193
H. Hyötyniemi & P. Saariluoma, <i>Simulating chess players' recall: How many chunks and what kind can they be?</i>	195
R. Kovordányi, <i>Is mental imagery symbolic? Exploratory simulations in an interactive activation model</i>	197
P. Monaghan, <i>Modelling individual differences in reasoning</i>	199
F. van Overwalle & D. van Rooy, <i>A feedforward connectionist account of causal discounting and augmentation</i>	201
F. E. Ritter & D. P. Wallach, <i>Models of two-person games in ACT-R and Soar</i>	202
D. van Rooy, <i>A connectionist account of illusory correlation</i>	204
U. Schmid, <i>Analogical problem solving by adaptation of schemes</i>	206
W. Schoppek, <i>Toward a theory of the control of dynamic systems</i>	208
S. Surcin, <i>A semi-symbolic cognitive model of usage polysemy</i>	210
E. Valencia, J.-L. Giavitto & J.-P. Sansonnet, <i>ESQIMO: Modelling analogy with topology</i>	212
Author index	215