

Development and application of rich cognitive models and the role of agent-based simulation for policy making



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Abstract:

For the study of complex social situations, both gaming simulation and agent-based simulation have been proposed as research methods. The combination of gaming and agent-based simulation has proved useful for the formulation of theories underlying trade network processes. However, validation remains a problematic issue in that type of research. Two important sources of difficulties are the sensitivity of gaming simulations to the participants' cultural background and the complexity of the agent model. The sensitivity to culture may be managed by incorporating it in the agent model. The complexity of the agent model may be managed by compositional process modeling. However, both solutions require additional validation. This presentation proposes a validation approach for a culturally adaptive, composed, process model.

Biography:

Catholijn Jonker (1967) is full professor of Man-Machine Interaction at the Faculty of Electrical Engineering, Mathematics and Computer Science of the Delft University of Technology. She studied computer science, and did her PhD studies at Utrecht University. After a post-doc position in Bern, Switzerland, she became assistant (later associate) professor at the Department of Artificial Intelligence of the Vrije Universiteit Amsterdam. From september 2004 until september 2006 she was a full professor of Artificial Intelligence / Cognitive Science at the Nijmegen Institute of Cognition and Information of the Radboud University Nijmegen. She chaired De Jonge Akademie (Young Academy) of the KNAW (The Royal Netherlands Society of Arts and Sciences) in 2005 and 2006, and she was a member of the same organisation from 2005 to 2010.

Her recent publications address cognitive processes and concepts such as trust, negotiation, and the dynamics of individual agents and organisations. In Delft she works with an interdisciplinary team to engineer human experience through multi-modal interaction between natural and artificial actors in a social dynamic context. End 2007 her NWO-STW VICI project "Pocket Negotiator" has been awarded. In this project she develops intelligent decision support systems for negotiation.