

Dirk Söffker, Organizer **Minisymposium at MATHMOD 2012**
Chair of Dynamics and Control,
University of Duisburg-Essen

Call for Papers

MathMod Minisymposium on '**Cognitive Technical Systems (CTS): Modeling and Simulation**'

MATHMOD 2012 continues the conferences series MATHMOD Vienna in February 2012.

MATHMOD 2012 - *7th Vienna International Conference on Mathematical Modelling* - takes place
February 15 - 17, 2012

Please feel invited to attend the intended sessions of the Minisymposium CTS about

- **Modeling**
 - Modeling of interaction
 - Algorithmic development concerning reasoning, learning, and planning
 - Mathematical modeling of memory/sensored experiences
 - Mathematical modeling of Human-Machine-Systems
 - Mathematical modeling of group behavior
 - Mathematical modeling of self organization of intelligent systems
 - Formal methods describing cognitive architectures
 - ...
- **Simulation**
 - Simulation of formal learning, planning, and reasoning in complex environments
 - Simulation environments for cognition of dynamical behaviors

The intended application fields includes

- Robotics, Autonomous Systems
- Intelligent, softcomputed control based on knowledge
- Cognitive interfaces
- Intelligent systems
- Automatic control, Process informatics, Control engineering
- Human-guided robotic systems,
- Assistance systems
- ...

Short description

Since a few years a formal understanding of cognition is used and applied in several disciplines realizing situational, flexible behaviors for interactions and model-based supervision. Based on cognitive functions (perception, interpretation, planning) or procedures (learning, reasoning, memorizing, ...) with the use of representations and soft-/intelligent computing techniques, tasks of control and supervision of dynamical systems are discussed in a new sense. Applications fields like Human-Machine-Systems or Cognitive Interfaces are understood in a method-oriented formal manner. Technical cognition is becoming a known term also in engineering, as well as a popular term in information science. But what is behind? This minisymposium should bring together and organize discussions of scientists on all levels related to

technical and formal-oriented cognition with respect to qualitative and quantitative modeling and simulation or related model-based applications.

What is not intended to be included

- Modeling of neuro-effects on a microscale
- Modeling based only on classical formal logic

Deadlines

- Submission/Review abstract: November 15, 2011
(Abstracts to the minisymposium should be send to the minisymposiums organizer)
- Notification of acceptance: December 1, 2011
- Final contributions: December 31, 2011
- Payment/Enrollment MathMod 2012: December 31, 2011

Details (organization conference, formats, ...) are given here: www.mathmod.at

Organizers contact data

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