

**Workshop Models and Mechanisms:**  
**Special Focus on Cognitive Science**



Tilburg, 06.12.2012 - 07.12.2012

## Synopsis

The development of models and the investigation of mechanisms are often deeply related across scientific research. Modelling plays a range of roles in directing research into mechanisms, ranging from suggesting very general computational frameworks to studying low-level features of a mechanism. Partly due to such prominence, recent years have witnessed an increasing amount of interest by philosophers and by scientists alike in the distinctive roles that models and mechanisms play in scientific explanation. In spite of much attention, however, many outstanding issues about the relationship between models, investigations of mechanisms and scientific explanation remain. The aim of this workshop is to address some such outstanding issues by exploring the multifaceted relationship between modelling and mechanisms paying special attention to practice in the cognitive sciences.

**Organizers:** Mateo Colombo, Tilburg University

## Keynote Speakers

Stuart Glennan (Butler University), Andreas Hüttemann (University of Cologne), Iris van Rooij (Radboud University)

## Program

### Thursday 06.12.

	Room CZ 186	Room CZ 123
09:00 - 09:20	Registration	
09:20 - 09:30	Welcome and Introduction	
09:30 - 11:00	Keynote Stuart Glennan: <i>Mechanisms and their models</i>	
11:00 - 11:30	Coffee (and registration)	
11:30 - 12:15	Raoul Gervais: <i>How do mechanistic models generalize? A reappraisal of the covering-law model in cognitive science</i>	Serge Thill: <i>Why model cognitive mechanisms in embodied cognitive science?</i>
12:15 - 01:00	Catherine Stinson: <i>Abstract models, generic mechanisms</i>	Marcin Mikowski: <i>Robotic models of cognition from the mechanistic perspective</i>
01:00 - 02:00	Lunch	
02:00 - 02:45	Marion Vorms & David Lagnado: <i>The role of models in mind and science</i>	Mark Blokpoel et al.: <i>Bayesian models and mechanisms of communication</i>
02:45 - 03:30	Filip Buekens: <i>Freud, Psychoanalysis and the emergence of mechanistic explanations in psychopathology</i>	Scott Thomas: <i>Mechanisms of language in generative linguistics</i>
03:30 - 04:00	Coffee	
04:00 - 05:30	Keynote: Andreas Hüttemann: <i>Mechanism, emergence and reduction</i>	
05:30	Drinks and conference dinner	

**Friday 07.12.**

	Room DZ 5	Room DZ 7
10:15 - 11:00	Carlos Zednik & Frank Jäkel: ” <i>The heuristic and justificatory role of Bayesian task-analysis in mechanistic explanation</i>	Mieke Boon: <i>Why modeling mechanisms matters in the engineering sciences</i>
11:00 - 11:30	Coffee	
11:30 - 12:15	Johan Kwisthout & Iris van Rooij: <i>Intractable Bayesian models and approximation: Neither placebo nor panacea</i>	Stephan Guettinger: <i>How do they do it? Mechanistic models as guides for experimentation</i>
12:15 - 01:00	Maria Serban: <i>Beyond mechanistic explanation: Reconsidering the role of mathematical models</i>	Robert van Iersel et al.: <i>Models, mechanisms and coherence</i>
01:00 - 02:00	Lunch	
02:00 - 02:45	Felipe Romero: <i>Why there isnt inter-level causation in mechanisms</i>	Pieter Ruys: <i>The Architecture of Living Organisms and Organizations</i>
02:45 - 03:00	Short break	
03:00 - 04:30	Keynote: Iris van Rooij: <i>Are rational explanations free from mechanistic constraints?</i>	
04:30 - 05:00	Concluding remarks	

## Acknowledgement

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