

MuST 10: Causation and Complexity
10th Munich-Sydney-Tilburg Conference in the Philosophy of Science

1-3 March 2017
Charles Perkins Centre – D17



Munich Centre for Mathematical Philosophy (MCMP), Ludwig Maximilian University, Munich
Sydney Centre for the Foundations of Science (SCFS), University of Sydney
Tilburg Centre for Logic, Ethics and Philosophy of Science (TiLPS), University of Tilburg

In collaboration with the Centre for Complex Systems (CCS), University of Sydney

Organising Committee:

- Prof. Mikhail Prokopenko (CCS)
- Prof. Paul Griffiths (SCFS)
- Prof. Mark Colyvan (SCFS)
- Prof. Stephan Hartmann (MCMP)
- Prof. Jan Sprenger (TiLPS)

Funded by the Sydney Centre for the Foundations of Science and the Centre for Complex Systems, University of Sydney.

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Wednesday March 1st		
6.00-7.30 Keynote address CPC Hub Main Auditorium (access from forecourt)	Stuart Kauffman (Pennsylvania)	<i>The Emergence and Evolution of Life Beyond Physics</i>
Thursday March 2nd		
<i>Standard talks are 25m with 5m questions, Plenaries are 50m with 10m questions</i>		
08.50-09.00 Conference Opening CPC Hub Level 6 Seminar Room 6.01		
9.00-10.30 Parallel 1 Level 6 Seminar Room 6.01	Philosophy of causation	
	Stephan Hartmann (LMU)	<i>Conditionals, Testimony, and Causal Structure</i>
	Holger Lyre (Magdeburg)	<i>Structures, dynamics and mechanisms – an integrative account</i>
	David Kinney (LSE/ANU)	<i>Choosing a Level of Causal Description: A Pragmatic Approach</i>
9.00-10.30 Parallel 2 Picasso Room 60.03	Complex systems	
	Michael S. Harre (Sydney)	<i>Discrete Fractal Structures in Layered Erdős–Rényi Networks</i>
	George Nguyen (Queensland)	<i>Causal Patterns as Intrinsic Emergence</i>
	Sally Shrapnel (Queensland)	<i>Quantum causal modelling</i>
10.30-11.00 Coffee		
11.00-1.00 Parallel 1 Level 6 Seminar Room 6.01	Analysing causation	
	Alessio Moneta (Pisa)	<i>Variable definition and causal inference: the role of independent component analysis</i>
	Erik P. Nyberg (Monash)	<i>X-Separation: Minimising Bayesian network parameterisation for informal reasoning.</i>
	Jan Sprenger (Tilburg)	<i>Foundations of a Probabilistic Theory of Causal Strength</i>
	Cei Maslen (VUW)	<i>Degrees of Causal Contribution</i>
11.00-1.00 Parallel 2 Picasso Room 60.03	Complexity and information	
	Mikhail Prokopenko (Sydney)	<i>Information Thermodynamics of Complex Computation</i>
	Eduardo G. Altmann (Sydney)	<i>Statistical Laws in Complex Systems</i>
	Richard E. Spinney (Sydney)	<i>Transfer entropy in physical systems and the arrow of time</i>
	Emanuele Crosato (Sydney)	<i>Information Dynamics in Swarms</i>
1.00-2.00 Lunch		
2.00-4.00 Parallel 1	Causation and information	

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Level 6 Seminar Room 6.01		
	Joseph Lizier (Sydney)	<i>Differentiating information transfer and causal effect, or: Why you should be interested in more than causality</i>
	Arnaud Pocheville & Paul Griffiths (Sydney)	<i>Giving substance to biological information</i>
	Brad Weslake (NYU, Shanghai)	<i>Causation, Information and Specificity</i>
	Henning Strandin (Stockholm)	<i>Taking Control: How Our Sense Of Agency Can Be A Reliable Sense For Causation</i>
2.00-4.00 Parallel 2 Picasso Room 60.03	Causation and evidence in medicine	
	Jon Williamson (Kent)	<i>Models in Systems Medicine</i>
	Sydney Katherine Green (Antwerp)	<i>The Impossibility of Causal Claims in Psychiatry: An Analysis of the Russo-Williamson Thesis and Its Implications</i>
	Roland Poellinger (LMU)	<i>Learning from Relevant Evidence: Similarity and Analogy in Pharmacology</i>
	Barbara Osimani (LMU)	<i>Exact replication or varied evidence? Reliability, robustness and the reproducibility problem</i>
4.00-4.30 Coffee		
4.30-5.30 Plenary Speaker Level 6 Seminar Room 6.01	Kevin Korb (Monash)	Causal explanation with Bayesian networks
<i>Conferees are encouraged to continue discussion at the Garden Bar, Marlborough Hotel, Cnr of Missenden Rd and King St. This is about 10m walk from the conference venue.</i>		
Friday March 3rd		
9.00-10.00 Parallel 1 Level 6 Seminar Room 6.01	Social complexity	
	Alexander Kalloniatis (DSTO)	<i>Is there a continuing role for dynamical mathematical models to understand complexity in human organisational systems?</i>
	Patricia Palacios (LMU)	<i>Market Crashes as Critical Phenomena? Explanation, Idealization, and Universality in Econophysics</i>
9.00-10.00 Parallel 2 Picasso Room 60.03	Biological complexity	
	Rasmus Winther (UCSC)	<i>Partitioning and Explaining Complex Systems: The Brain and Oceanic Gaia</i>
	Miles MacLeod (Twente)	<i>Mesoscopic Modeling as a Cognitive Strategy for Handling</i>

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		<i>Complex Biological Systems</i>
10.00-11.00 Plenary Speaker Level 6 Seminar Room 6.01	Anne-Marie Grisogono (Flinders)	<i>The science of making sense of complex systems</i>
11.00-11.30 Coffee		
11.30-1.00 Parallel 1 Level 6 Seminar Room 6.01	Social complexity (continued)	
	Ian F. Wilkinson (Sydney)	<i>Firm internationalisation as an Emergent Property of a Complex Adaptive System</i>
	Mahendra Piraveenan (Sydney)	<i>Emergence of scale-free characteristics in socio-ecological systems with bounded rationality</i>
	Elena Walsh (Sydney)	<i>Modelling emotional phenomena as dynamic systems</i>
11.30-1.00 Parallel 2 Picasso Room 60.03	Biological complexity (continued)	
	Brett Calcott (Sydney)	<i>The role of causal influence in the evolution of the genetic toolkit</i>
	Lachlan Douglas Walmsley (ANU)	<i>Give me some space: Causal explanation, population thinking, and agent-based models</i>
	Pierrick Bourrat (Macquarie)	<i>A new physical interpretation of drift in a deterministic setup</i>
Conference ends		