

CAUSALITY IN COMPLEX SYSTEMS WORKSHOP

Institut des Systèmes Complexes - Paris Île-de-France (ISC-PIF), 25th – 27th November 2009

Final Program

Day 1 – Wednesday 25th November

TIME	TOPIC	CONTENT – KEY POINTS	WHO
09:00 am	Welcome and introduction	Historical background to workshop series Overview, objectives and approach	Anne-Marie Grisogono (DSTO, Australia) and David Batten (CSIRO, Australia)
09.30 am	Keynote1: Top-down causation in complex systems	Presentation with questions for clarification, followed by discussion	George Ellis (University of Cape Town, South Africa)
11:00 am	Morning break		
11:30 am	Theme: Philosophical & formal Thought-piece 1 Thought-piece 2 Discussion	Frameworks for causation What do we expect from a measure of causality?	Nicolas Brodu (LTSI, France) Anil Seth (University of Sussex, United Kingdom) All
13:00 pm	Lunch		
14:00 pm	Theme: Behavioural complexity Thought-piece 3 Thought-piece 4 Discussion	Unfolding complexity About norms, deviance and regulation: information and causality aspects	Jacques Dubucs (IPHST, France) Nils Ferrand (Cemagref, France) All
15:30 pm	Afternoon break		
16:00 pm	Theme: Risk and security Thought-piece 5 Thought-piece 6 Discussion	Xevents: a causal challenge Holistic security simulators	John Casti (IIASA, Austria) Mihaela Ulieru (University of New Brunswick, Canada) All
17:30 pm	Free Time		All
19:30 pm	Workshop dinner	Le Port du Salut restaurant	All

Day 2 – Thursday 26th November

TIME	TOPIC	CONTENT – KEY POINTS	WHO
09.00 am	Review of previous day	What did we learn? Can we build on it in our future research?	<i>David Batten</i> (CSIRO, Australia) and <i>Anne-Marie Grisogono</i> (DSTO, Australia)
09.30 am	Keynote 2: Causality, autonomy and emergence in neural systems	Presentation with questions for clarification, followed by discussion	<i>Anil Seth</i> (University of Sussex, United Kingdom)
11:00 am	Morning break		
11:30 am	Theme: Biological systems Thought-piece 7: Thought-piece 8 Discussion	Causality and complexity in adaptive neural systems Complex adaptive systems in biology	<i>David Batten</i> (CSIRO, Australia) <i>Will Chamberlain</i> (Texas Tech University, USA) All
13:00 pm	Lunch		
14:00 pm	Theme: Causation & organisation Thought-piece 9 Thought-piece 10 Discussion	Causation and organisation To be advised	<i>Fabio Boschetti</i> (CSIRO, Australia) <i>Jeff Johnson</i> (Open University, United Kingdom) All
15:30 pm	Afternoon break		
16:00 pm	Theme: Methodology & tools Thought-piece 11 Thought-piece 12 Discussion	Finding the right causal tool for the right complex job Causing and influencing patterns by designing the agents: Complex systems made simpler	<i>Matt Berryman</i> (University of South Australia) <i>René Doursat</i> (Complex Systems Institute, Paris Île-de-France) All
17:30 pm	Free Time		
19:30 pm	Dinner	Own arrangements (small groups)	All

Day 3 – Friday 27th November

TIME	TOPIC	CONTENT – KEY POINTS	WHO
09.00 am	Review of previous day	What did we learn? Can we build on it in our future research?	David Batten (CSIRO, Australia) and Anne-Marie Grisogono (DSTO, Australia)
09.30 am	Keynote 3: How do we discover and exploit attractor structures of complex systems?	Presentation with questions for clarification, followed by discussion	Anne-Marie Grisogono (DSTO, Australia)
11:00 am	Morning break		
11:30 am	Theme: Causality in practice Thought-piece 11 Discussion	Putting causality and complexity to work	Patrick Beutement and Christine Broenner (Abaci Partners, United Kingdom) All
13:00 pm	Lunch		
14:00 pm	Theme: Causality in practice Thought-piece 12 Thought-piece 13 Discussion	Causality analysis using model checking Knowledge networks and autopoiesis: Are they relevant to organisations?	Valeriy Vyatkin (University of Auckland, New Zealand) Susu Nousala (RMIT University, Australia) All
15:30 pm	Afternoon break		
16:00 pm	The next steps Discussion	Future workshops Products and outcomes	Anne-Marie Grisogono (DSTO, Australia) and David Batten (CSIRO, Australia) All
17:30 pm	Workshop close		