The 8th Asia-Pacific Complex Systems Conference
2 – 5 July 2007

Surfers Paradise Marriott Resort
Queensland Australia

Revised Program

(Post-Conference version – 19 July 2007)

MONDAY 2 July 2007

0800–1800	**Venue: Ballroom Gallery** Registration				
0900	Venue: Elston room **Workshop 3 (half-day morning)** *Which ontology and heuristics for agent-based modelling?* **Pascal Perez and Senthold Asseng**	Venue: Waianbah Room **Tutorial 1 (half day morning)** *Non-linear dynamics: From chaos to fractals to fractional calculus* **Bruce Henry**	Venue: Verandah Room **Workshop 4 (half-day morning)** *Engineering complex software-intensive systems* **Geoff Dromey, Dan Powell, Shaun Wilson**	Venue: Hinterland Room 1 **Tutorial 2 (half-day morning)** *Introduction to modelling and simulation* **Robert Marks**	Venue: Hinterland Room 2 **Workshop 2 (full day)** *Introduction to agent-based modelling using NetLogo* **Luis Izquierdo**
1030	**Venue: Ballroom Gallery** Morning tea				
1100	**Workshop 3 (cont'd)** *Which ontology and heuristics for agent-based modelling?* **Pascal Perez and Senthold Asseng**	**Tutorial 1 (cont'd)** *Non-linear dynamics: From chaos to fractals to fractional calculus* **Bruce Henry**	**Workshop 4 (cont'd)** *Engineering complex software-intensive systems* **Geoff Dromey, Dan Powell, Shaun Wilson**	**Tutorial 2 (cont'd)** *Introduction to modelling and simulation* **Robert Marks**	**Workshop 2 (cont'd)** *Introduction to agent-based modelling using NetLogo* **Luis Izquierdo**
1230	**Venue: Garden Terrace** Lunch				
1330	**Tutorial 4 (half-day afternoon)** *How might biological learning relate to machine learning?* **Anthony Bell**	No sessions	**Workshop 5 (half-day afternoon)** *Social network analysis and the study of emergence in complex networks* **Malcolm Alexander**	No sessions	**Workshop 2 (cont'd)** *Introduction to agent-based modelling using NetLogo* **Luis Izquierdo**
1500	**Venue: Ballroom Gallery** Afternoon tea				
1530	**Tutorial 4 (cont'd)** *How might biological learning relate to machine learning?* **Anthony Bell**	No sessions	**Workshop 5 (cont'd)** *Social network analysis and the study of emergence in complex networks* **Malcolm Alexander**	No sessions	**Workshop 2 (cont'd)** *Introduction to agent-based modelling using NetLogo* **Luis Izquierdo**
	1700 Session concludes	1700 Session concludes	1700 Session concludes	1700 Session concludes	1700 Session concludes
1700–1800 1800–1900	Venue: Waianbah Room *A Prisoner's Dilemma – interactive theatre production* Venue: Garden Terrace Welcome Reception				

TUESDAY 3 July 2007	
0800–1800	Venue: Ballroom Gallery Registration
0900 0910 0950	Venue: Ballroom Chair: Prof Peter Lindsay Official opening **Prof Peter Lindsay** Conference Chair and ARC Centre for Complex Systems, The University of Queensland, Australia *Complex systems perspective on the revolution in human performance optimization* **Dr Kenneth Boff** Air Force Research Laboratory, Georgia Institute of Technology, USA *Controlling complex resources over different timeframes in process control* **Prof Penelope Sanderson** ARC Key Centre for Human Factors, The University of Queensland, Australia
1030	Venue: Ballroom Gallery Morning tea
1100 1145	Venue: Ballroom Chair: Dr Anne-Marie Grisogono *Evolution toward enterprise systems engineering: (If you don't have a billion years, will a billion dollars do?)* **Dr Joseph DeRosa** The Mitre Corporation, USA *Systems-level metabolic engineering of bacteria using genome-scale in-silico models* **Prof Sang Yup Lee** Department of Chemical and Biomolecular Engineering, Korea Advanced Institute of Science and Technology, Republic of Korea
1230	Venue: Garden Terrace Lunch
1330	Venue: Ballroom Chair: Dr Marcus Gallagher *Complex systems challenges in health care* **Prof Michael Ward** Central Clinical Division, School of Medicine, The University of Queensland, Australia

TUESDAY 3 July 2007 (cont'd)

	Venue: Elston Room **Defence & Security A** Chair: Dr Anne-Marie Grisogono	Venue: Waianbah Room **Health Panel:** Exploring the complexities of health care Chair: Prof Michael Ward	Venue: Verandah Room **Business & Economics A** Chair: Prof Ian Wilkinson	Venue: Hinterland Room 1 **General Track A** Chair: Dr Rowena Ball	Venue: Hinterland Room 2 **Computational Modelling for Biology & Chemistry A** Chair: Prof Phil Pollett	Venue: Terrace Room 1 **Complexity in Energy, Water, & Urban Development A** Chair: Dr Tim Baynes
1420	*Rosetta-II Project: Measuring national differences in complex cognition* **Dr Rik Warren** US Air Force Research Laboratory, USA	**A/Prof Cameron Bennett** Royal Brisbane and Women's Hospital **Hazel Harden** Griffith University, Australia	*ACE modelling: Does size matter?* **Paul Davis** Macquarie University, Australia	*Islets in an Ocean: Towards a philosophy of complexity* **Tony Smith** Meme Media, Australia	*Monte Carlo without Markov chains for model polymers* **A/Prof Aleks Owczarek** The University of Melbourne, Australia	*Optimal GENCO's bidding strategies under price uncertainty with bilateral contracts* **Xia Yin** Australia
1440		**A/Prof Marcus Watson** Queensland Health Skills Development Centre, Australia **Dr Marcus Gallagher** The University of Queensland, Australia	*The emergence of new markets* **Ella Reeks** The University of Queensland, Australia	*Is the fractal geometry of nature a coincidence?* **Dr Julianne Halley** CSIRO Molecular and Health Technologies, Australia		*NEMSIM: Towards practical deployment of an agent-based, scenario exploration simulation tool for the National Electricity Market* **George Grozev** CSIRO Sustainable Ecosystems, Australia
1500	*Human aspects of managing complex systems* **Prof Alex Wearing** University of Melbourne, Australia	**Prof Janet Wiles** The University of Queensland, Australia	*A review of design approaches within Schumpeterian economic simulations* **Craig Lynch** Macquarie University, Australia	*Mythological archetypes as an emergent process* **Victor MacGill** New Zealand	*Identifying fundamental principles to effectively shape social institutions in natural resource management* **Luis Izquierdo University of Burgos, Spain (in place of Ryan McAllister** CSIRO, Australia)	*Tuning the cognitive complexity in participatory modelling* **Pascal Perez** CIRAD and the Australian National University
1520			*Introduction to an agent-based model of development processes in Tanzania* **Dr Brett Parris** Monash University and World Vision Australia	*Managing linguistic complexity* **A/Prof David Butt** Macquarie University, Australia	*Modelling the import of nuclear proteins* **John Hawkins** The University of Queensland, Australia	*Impacts of Vehicle-to Grid (V2G) technologies on electricity market operations* **Dr Ariel Liebman** The University of Queensland, Australia
1540	Venue: Ballroom Gallery Afternoon tea					

TUESDAY 3 July 2007 (cont'd)

	Venue: Elston room **Defence & Security B** Chair: BRIG Andrew Smith	Venue: Waianbah Room **General Track B** Chair: David Prasser	Venue: Verandah Room **Business & Economics B** Chair: Prof Robert Marks	Venue: Hinterland Room 1 **Turbulence A** Chair: Prof Robert Dewar	Venue: Hinterland Room 2 **Computational Modelling for Biology & Chemistry B** Chair: John Hawkins	Venue: Terrace Room 1 **Complexity in Energy, Water, & Urban Development B** Chair: Dr Geoff James
1600	*Adaptive campaigning* **Lt. Col. Wade Stothart** Australian Defence Forces, Australia	*Forecasting commodities markets using agent-based modelling techniques* **Dr David Miron** CSIRO Livestock Industries, Australia	*Automatic extraction and modelling of human knowledge networks from natural language using a complex systems approach* **Dr Andrew Smith** Leximancer, The University of Queensland, Australia	*Eddy structure in the roughness sub-layer* **Dr John Finnigan** CSIRO, Australia	*Importance sampling strategies for forwards and backwards processes in population genetics* **Dr Martin O'Hely** MASCOS, Australia	*The intelligent grid project* **Dr Rene Weiskircher** CSIRO Mathematical and Information Sciences, Australia
1620		*Emerging network structure in a Darwinised data-oriented parser* **Dave Cochran** University of St. Andrews, United Kingdom	*Using Kauffman* **Prof Ian Wilkinson** University of New South Wales, Australia			*Complex behaviour among many heating, ventilation, and air-conditioning systems* **Geoff Poulton** CSIRO ICT Centre, Australia
1630	*Implementing an adaptive approach in non-kinetic counterinsurgency operations* **Lt Col Mick Ryan** CO 1CER, Australian Army					
1640		*Evolution of node-clusters in space associated with processes determined by Voronoi maps: Statistics from simulations* **Dr David Odell** MASCOS, Australia	*The cost of information acquisition in a supply network of rationally bounded negotiating agents* **Dr Rodolfo Garcia-Flores** CSIRO Mathematical and Information Sciences, Australia	*On subgrid-scale parameterizations of the eddy viscosity, stochastic backscatter and the eddy-topographic force* **Dr Terry O'Kane** Antarctic Climate & Ecosystems CRC/Quantitative Marine Sciences UTAS, Australia	*Simplified models for vibrational energy transfer in proteins* **Steven Lade** The Australian National University, Australia	*The interaction between water and energy supply and use* **Dr Tim Baynes** CSIRO, Australia
1700	*The adaptive stance* **Dr Anne-Marie Grisogono** Defence Science and Technology Organisation, Australia		*'Discovering' small worlds in potentially biased networks: A methodological critique* **Sam MacAulay** The University of Queensland, Australia	*Statistical models of a tracer plume in the complex urban canopies* **Dr Peter Dawson** Defence Science and Technology Organisation, Australia	*Suddenly-stopped flow in a curved pipe* **Dr Richard Clarke** University of Adelaide, Australia	*Water service delivery in Tarawa: Creating an agent based model for integrated analysis* **Magnus Moglia** CSIRO and The Australian National University, Australia
1720	*Dealing with battlefield complexity: A decision maker's perspective* **Dr Damien Armenis** Defence Science and Technology Organisation, Australia		*Modelling innovation changes in business networks* **Sharon Purchase** The University of Western Australia	*A world tour of dynamical systems, stability, and chaos* **Dr Rowena Ball** The Australian National University, Australia	*Interactively exploring distributed computational models of biology* **Dr James Watson** The University of Queensland, Australia	*The complex dynamics of urban systems project at CSIRO* **Dr Tim Baynes** CSIRO, Australia

5

TUESDAY 3 July 2007 (cont'd)

	Venue: Elston room **Defence & Security B** Chair: BRIG Andrew Smith		Venue: Verandah Room **Business & Economics B** Chair: Prof Robert Marks	Venue: Hinterland Room 1 **Turbulence A** Chair: Prof Robert Dewar	Venue: Hinterland Room 2 **Computational Modelling for Biology & Chemistry B** Chair: John Hawkins	Venue: Terrace Room 1 **Complexity in Energy, Water, & Urban Development B** Chair: Dr Geoff James
1740	*The importance of contextually sensitive processes in supporting ad-hoc collaborative working in complex systems* **Dr Neil Carrigan** University of Bath, United Kingdom		*Mean bad birds versus kind friendly chickens: Group selection and the evolution of cooperation* **Prof Ian Wilkinson** The University of New South Wales, Australia	*Bifurcation in resistive drift wave turbulence* **Dr Ryusuke Numata** The Australian National University, Australia	*Modelling population processes with random initial conditions* **Prof Philip Pollett** MASCOS, Australia	*Complexity of urbanization patterns and resource use in sea change communities across Australia: The interplay between pattern and structure* **Dr Kostas Alexandridis** CSIRO Sustainable Ecosystems, Australia
	1805 Session concludes	1700 Session concludes	1800 Session concludes	1800 Session concludes	1800 Session concludes	1800 Session concludes
1830 – 1930	Venue: Waianbah Room *A Prisoner's Dilemma – interactive theatre production*					
	Venue: Elston Room **Defence & Security C** Chair: Dr David Sonntag	Venue Waianbah Room **Complex Systems Engineering A** Chair: Dr Shaun Wilson	Venue Verandah Room **Business & Economics C** Chair: Prof Robert Marks	Venue Hinterland Room 1 **Anomalous Diffusion A** Chairs: A/Prof Bruce Henry and Prof Bambi Hu	Venue Hinterland Room 2 **General Track C** Chair: Dr James Watson	Venue Terrace Room 1 **General Track D** Chair: Dr Stephen Fraser
2000	*Diversity and complexity in pictures* **Prof Michael Barnsley** The Australian National University, Australia	*"So…," asks the Chief Engineer, "What do I go do?"* **Douglas Norman** The Mitre Corporation, USA	*Breaching Walras's Law: A first step to modelling endogenous money* **A/Prof Steve Keen** University of Western Sydney, Australia	*Anomalous diffusion with linear reaction dynamics* **Dr Trevor Langlands** The University of New South Wales, Australia	*Distributed task allocation with autonomous selected agents* **Kenta Oomiya** Future University-Hakodate, Japan	*Wetland ecosystems as manifestation of complex systems* **Dr Changhao Jin** Arthur Rylah Institute Australia
2020			*Combining system dynamics and choice modelling to simulate demand effects of integrated customer-centric marketing and revenue management* **Dr Christine Mathies** The University of New South Wales, Australia	*Fractional reaction diffusion along flow lines* **Dr Boris Baeumer** University of Otago, New Zealand	*Information contagion and financial prices* **Mark Bowden** The University of Queensland, Australia	*Simulating the dynamics of dryland salinity, profitability and farmers adaptation in land use in an agricultural catchment* **Dr Senthold Asseng** CSIRO, Australia
2030	*Robots for warfighting: Simplifying complexity in right and wrong ways* **Dr Patrick Hew** Defence Science and Technology Organisation, Australia					
2040		*Exploiting CAS as a 'Force Multiplier': Its application to policy, acquisition, assessment and operational employment* **Dr Patrick Beautement** QinetiQ, United Kingdom	*The use of genetic algorithms for modelling the behaviour of boundedly rational agents in economic environments: Some theoretical and computational considerations* **Dr Janice Gaffney** The University of Adelaide, Australia	*A fractional cable equation for anomalous electrodiffusion in nerve cells* **A/Prof Bruce Henry** The University of New South Wales	*Discrete Integrable Systems: The well-behaved among complex systems* **Omar Rojas** La Trobe University, Australia	*A preliminary model for studying the interactions between nephrons* **Robert Moss** University of Melbourne, Australia
2050	*Autonomic MANET management through the use of self-organizing UAVs* **Robert Hunjet** Defence Science and Technology Organisation, Australia					

TUESDAY 3 July 2007 (cont'd)

	Venue: Elston Room **Defence & Security C** Chair: Dr David Sonntag	Venue Waianbah Room **Complex Systems Engineering A** Chair: Dr Shaun Wilson	Venue Verandah Room **Business & Economics C** Chair: Prof Robert Marks	Venue Hinterland Room 1 **Anomalous Diffusion A** Chairs: A/Prof Bruce Henry and Prof Bambi Hu	Venue Hinterland Room 2 **General Track C** Chair: Dr James Watson	Venue Terrace Room 1 **General Track D** Chair: Dr Stephen Fraser
2100			*Minimalism and model-building: An assured model of the exchanges between consumers, retailers and manufacturers* **Prof Robert Marks** The University of New South Wales, Australia	*Heat conduction in nonlinear systems* **Prof Bambi Hu** Hong Kong Baptist University, Hong Kong		*A tool to analyse the long-term viability of an agricultural region by considering the interactions of socio-economic, ecological factors* **Xianfeng Su** CSIRO Plant Industry, Australia
2110	*A multi-objective genetic algorithm based method for designing low-cost complex networks resilient to targeted attacks* **George Leu** National Defense Academy, Japan					
2120		*Implementing adaptive campaigning through force development* **Col Tim Pickford** Land Warfare Development Centre, Australia	*Agent-based design considerations to ensure behaviour is emergent: A labour market simulation using RePast* **Paul Davis** Macquarie University, Australia	*Simulation study on heat conduction and beyond* **Prof Nobuyasu Ito** The University of Tokyo, Japan		*Heuristics, complexity and belief networks: a case study of an outback livelihood system* **Dr Thomas Measham, Kostas Alexandridis and Samantha Stone-Jovicich** Resource Futures Program, CSIRO Sustainable Ecosystems, Australia
2130	*Agent based models: Finding the right tool for the right job* **Matthew Berryman** Defence Science and Technology Organisation, Australia					
2140			*Two projects related to Business/Industry: Metrics for organisational performance* **Dr Bill Lawless** Paine College, USA	*Nonlocal heat transport in laser-produced plasmas* **Dr Frank Detering** The Australian National University, Australia		
2150	*A framework for decision superiority in complex organisations* **Chris Murray** ThoughtWeb Pty Ltd, Australia	*Exploring social complexity and concept evolution in war games using dialogue mapping* **Dr Cherylne Fleming** Defence Science and Technology Organisation, Australia				
2210	*Improving wargames using complex system practices* **Dr Anthonie van Lieburg** TNO, The Netherlands	*Exploration of non-reductionist models of service ecosystems* **Prof Peter Bruza** Queensland University of Technology				
	2230 Session concludes	2230 Session concludes	2200 Session concludes	2200 Session concludes	2120 Session concludes	2150 Session concludes

7

WEDNESDAY 4 July 2007

0830 – 1800	Venue: Ballroom Gallery Registration desk opens
0900 0945	Venue: Ballroom Chair: Prof Robert Dewar *Are fractal skeletons the explanation for the plankton paradox and narrowing of arteries due to cell trapping in a disturbed blood flow?* **Prof Celso Grebogi** Institute for Complex Systems, King's College, University of Aberdeen, United Kingdom *Exponential random graph models for social networks* **Prof Philippa Pattison** Department of Psychology, University of Melbourne, Australia
1030	Venue: Ballroom Gallery Morning tea
1100 1145	Venue: Ballroom Chair: Dr David Newth *Structure and dynamics of complex networks* **A/Prof Hawoong Jeong** Department of Physics, Korea Advanced Institute of Science and Technology, Republic of Korea *From words to meanings: Human knowledge as a complex system* **Dr Andrew Smith** Leximancer, The University of Queensland, Australia
1230 – 1330	Venue: Garden Terrace Lunch
1250 – 1320 1320 – 1410 1330 – 1530	Venue: Waianbah Room Chair: Dr Kevin Bryant COSNet presentation Poster highlights session Chair: Daniel Bradley Venue: Ballroom Gallery Poster session and software demonstrations
1500	Venue: Ballroom Gallery Afternoon Tea

	Venue: Elston room **Defence and Security D** Chair: Steve Quinn	Venue: Waianbah Room **General Track E** Chair: A/Prof Hussein Abbass	Venue: Verandah Room **General Track F** Chair: Adj. Prof Roger Bradbury	Venue: Hinterland Room 1 **Complex Systems in the Earth Sciences A** Chair: Dr Dion Weatherley	Venue: Hinterland Room 2 **Complex Systems Engineering B** Chair: Prof Peter Lindsay	Venue: Terrace Room 1 Social Networks and Epidemiology A Chair: Paul Walker
1530	*The importance of Complexity Theory to modelling and analysis, using a NCW example* **Dr Michael Lauren** Defence Technology Agency, NZ Defence Force, New Zealand	*Advanced data analysis methods to detect and predict the non-technical losses based on customer behaviour changes for power utility* **Anisah Nizar** The University of Queensland, Australia	*Mapping model complexity* **Dr Fabio Boschetti** CSIRO-CMAR, Australia	*Southern Hemisphere climate transitions and storm track changes* **Dr Jorgen Frederiksen** CSIRO Marine and Atmospheric Research, Australia	*Designing complex interactions: A people centred perspective* **Prof Peter Johnson** University of Bath, United Kingdom	

WEDNESDAY 4 July 2007 (cont'd)

Time	Venue: Elston room **Defence and Security D** Chair: Steve Quinn	Venue: Waianbah Room **General Track E** Chair: A/Prof Hussein Abbass	Venue: Verandah Room **General Track F** Chair: Adj. Prof Roger Bradbury	Venue: Hinterland Room 1 **Complex Systems in the Earth Sciences A** Chair: Dr Dion Weatherley	Venue: Hinterland Room 2 **Complex Systems Engineering B** Chair: Prof Peter Lindsay	Venue: Terrace Room 1 **Social Networks and Epidemiology A** Chair: Paul Walker
1550		*The optimal design of profitable renewable energy systems: A Hamiltonian based approach* **Dr Frank Horowitz** CSIRO Exploration and Mining, Australia	*Mimosa: Using ontologies for modelling and simulation of complex systems* **Dr Jean-Pierre Muller** CIRAD, France			*State estimation of complex social networks* **Dr Daniel McMichael** CSIRO, Australia
1600	*A comparative study of networked teaming* **Victor Fok** Defence Science and Technology Organisation, Australia					
1610		*Resilient extraction of renewable resources* **Dr Cameron Fletcher** CSIRO Sustainable Ecosystems, Australia	*Perils of power laws* **A/Prof Russell Standish** University of New South Wales, Australia	*Practical aspects of symbolisation and subsequent analysis of weather data* **Dr Jay Larson** The Australian National University, Australia	*Architecture characteristics required to support an evolvable model based systems engineering environment* **Christian Ross** and **Prof Peter Campbell** University of South Australia	*Social influence models* **Galina Daraganova** University of Melbourne, Australia
1620	*Team composition: Linking individual and team characteristics to team decision-making and performance* **Dr Sebastian Schäfer** Institute for Intelligent Systems, University of the Bundeswehr, Germany					
1630			*Self-avoiding walk enumeration via the lace expansion* **Dr Nathan Clisby** University of Melbourne, Australia	*Ensemble prediction of atmospheric blocking regime transitions* **Dr Jorgen Frederiksen** CSIRO Marine and Atmospheric Research, Australia	*Evaluation of conceptual models for agent based representation of behaviour in a simulation of the capability development process* **Kathy Darzanos** The University of South Australia	*Understanding social networks in free-ranging cattle* **Dr Dave Swain** CSIRO, Australia

WEDNESDAY 4 July 2007 (cont'd)						
	Venue: Elston room **Defence and Security D** Chair: Steve Quinn		Venue: Verandah Room **General Track F** Chair: Adj. Prof Roger Bradbury	Venue: Hinterland Room 1 **Complex Systems in the Earth Sciences A** Chair: Dr Dion Weatherley	Venue: Hinterland Room 2 **Complex Systems Engineering B** Chair: Prof Peter Lindsay	Venue: Terrace Room 1 **Social Networks and Epidemiology A** Chair: Paul Walker
1650	*Network-centric complex warfare* **Lt Col Mervyn Cheah** Future System Directorate, Ministry of Defence, Singapore		*Finite time ruin probability with heavy-tailed claims and constant interest rate* **Dr Dingcheng Wang** The Australian National University, Australia	*Limitations to scaling up a biophysical domain within agent based models* **Geoffrey Carlin** CSIRO, Australia	*Simulation engine for strategic planning of health services using agent-based modelling* **Ashok Kanagarajah** The University of Queensland, Australia	*Assessing uncertainty in the structure of ecological models through a qualitative analysis of system feedback and Bayesian Belief Networks* **Dr Jeff Dambacher** CSIRO, Land and Water
1710			*Complexity in Speciation: Effects of disasters on adaptive radiation in a Dual Phase Evolution model* **Greg Paperin** Monash University, Australia	*Non-equilibrium thermodynamics of coupled systems* **Dr Alison Ord** CSIRO Exploration and Mining, Australia	*Architecture trade-off analysis and multi-objective optimization strategies* **Dr Lars Grunske** The University of Queensland, Australia	*A hybrid agent-based and network modelling framework of contagion diffusion in social networks* **Dr Paul Box** CSIRO Sustainable Ecosystems, Australia
1720	*Whole-of-Government operations* **Dr Ed Smith** The Boeing Company, USA					
1730				*The emergence of patterned shear bands and fracture systems in granular materials - A numerical study* **Dr Alison Ord** CSIRO Exploration and Mining, Australia	*Towards a complex systems model of Australian air traffic management* **Dr Ariel Liebman** The University of Queensland, Australia	*Boolean networks as models of social behaviour* **Tania Leishman** Monash University, Australia
1750	Hurricane Katrina: A whole-of-Government Case Study **Mark Clemente** The Boeing Company, USA			*Complexity of earthquake occurrence and implications for earthquake prediction* **Dr Dion Weatherley** The University of Queensland, Australia	*Morphogenic systems engineering for self-configuring networks* **Dr Shane Magrath** Defence Science and Technology Organisation, Australia	*Local versus global processes on networks: Simple processes with complex dynamics* **Dr Peter Whigham** University of Otago, New Zealand
1810					*A self-organising sensing system for structural health management* **Nigel Hoschke** and **Don Price** CSIRO Industrial Physics, Australia	*Missing data in social network analysis* **Dr Johan Koskinen** University of Melbourne, Australia
	1820 Session concludes	1630 Session concludes	1730 Session concludes	1810 Session concludes	1830 Session concludes	1830 Session concludes
1900 for 1930 – 2230	Ballroom Conference Dinner					

10

THURSDAY 5 July 2007

0745	Venue: Ballroom Gallery Registration desk opens
0830 0900 - 0930	Venue: Verandah Room **Defence and Security E** Chair: Dr Axel Bender *Signatures of game dynamics for intelligence and information operation* **A/Prof Hussein Abbass** Australian Defence Force Academy, Australia *The essential thing: Enabling effective action in a complex security environment* **Col. Roger Noble** Australian Command and Staff College, Australia
0945	Venue: Ballroom Chair: Dr John Finnigan *Carbon-climate-human interactions as a complex system* **Dr Michael Raupach** CSIRO Marine and Atmospheric Research, Australia
1030	Venue: Ballroom Gallery Morning tea
1100 1145	Venue: Ballroom Chair: Prof Philippa Pattison *Towards a theory of learning across the levels of the reductionist hierarchy* **Dr Anthony Bell** Redwood Center for Theoretical Neuroscience, University of California at Berkeley USA **Questions and Answers**
1230	Venue: Garden Terrace Lunch

	Venue: Elston room **Defence and Security F** Chair: Dr Anne-Marie Grisogono	Venue¨Waianbah Rm **General Track G** Chair: A/Prof Russell Standish	Venue: Verandah Room **General Track H** Chair: Dr John Finnigan	Venue: Hinterland Room 1 **General Track I** Chair: Dr Frank Detering	Venue: Hinterland Room 2 **Social Science and Management A** Chair: Dr Stephen Fraser	Venue: Terrace Room 1 **Social Networks and Epidemiology B** Chair: Dr Garry Robins
1330	*A blueprint for reform: Towards a coherent national security strategy* **Charlie Edwards** DEMOS, United Kingdom	*Democracy's event horizon* **Adj Prof Roger Bradbury** The Australian National University, Australia	*On efficient management of complex systems* **Dr Victor Korotkikh** Central Queensland University, Australia	*Non-Hamiltonian and fractional dynamics in complex plasma* **James Stokes** The University of Sydney, Australia	*Governance by social network: A multiscale analysis of communication efficiency* **Dr Adam Dunn** Alcoa Research Centre for Stronger Communities, Australia	*Social network approaches to hepatitis C virus epidemiology: Outcomes from consecutive studies in Melbourne, Australia* **Dr Campbell Aitken** Macfarlane Burnet Institute for Medical Research and Public Health, Australia

	Venue: Elston room **Defence and Security F** Chair: Dr Anne-Marie Grisogono	Venue¨Waianbah Rm **General Track G** Chair: A/Prof Russell Standish	Venue: Verandah Room **General Track H** Chair: Dr John Finnigan	Venue: Hinterland Room 1 **General Track I** Chair: Dr Frank Detering	Venue: Hinterland Room 2 **Social Science and Management A** Chair: Dr Stephen Fraser	Venue: Terrace Room 1 **Social Networks and Epidemiology B** Chair: Dr Garry Robins
1350		*Value as a driving factor in complex human enterprises* **Dr Patrick Beautement** Tewkesbury, United Kingdom	*Harvesting heterogeneous renewable resources: Uncoordinated, selfish, team, and community-oriented strategies* **Markus Brede** CSIRO Marine and Atmospheric Research, Australia	*Zonal flow generation by modulational instability* **Prof Robert Dewar** The Australian National University, Australia	*A way for leading change in times of turbulent and consistent change* **Roderick Cross** Department of Primary Industries and Fisheries (Qld), Australia	*Complexity and the obesity epidemic* **Dr Matthew Beaty** CSIRO Sustainable Ecosystems, Australia
1410	*Examining 'Federation Learning': Assisting development of Australia's national security systems* **Dr Rick Nunes-Vaz** Defence Science and Technology Organisation, Australia	*Australia 2007 to 2025: A complex systems approach* **Dr Alison Ord** CSIRO Exploration and Mining, Australia	*Social Capital: A complex of dynamic relationships* **Angela Wardell-Johnson** The University of Queensland, Australia	*Variational principle for relaxed states of a plasma confined by a nonintegrable magnetic field* **Prof Robert Dewar** The Australian National University, Australia	*Complexity of the Australian public's orientation towards low emission technologies* **Simone Carr Cornish** CSIRO, Australia	*Epidemic spread modelling: Alignment of agent-based simulation with a SIR mathematical model* **Dr Peter Dawson** Defence Science and Technology Organisation, Australia
1430	*Effectiveness of closed-loop congestion controls for DDoS attacks* **Takanori Komatsu** National Defense Academy, Japan	*The evolution of the World trade web as a complex system* **Tim Kastelle** The University of Queensland, Australia	*Decision processes used to describe turn-off of beef cattle from Australian grazing farms* **Graham Donald** Livestock Industries CSIRO, Australia		*Hop, Step and Jump! - The application of a Self Organising Map (SOM) approach to the measurement of change in organisations* **Cameron Peake** CTRE Pty Ltd, Australia	

1450	Venue: Ballroom Gallery Afternoon tea
1520	Venue: Ballroom Prof Janet Wiles *Synchronisation and emergent intelligence in networked agents* **Prof Akira Namatame** Department of Computer Science, National Defense Academy, Japan
1605	*The colourful geometry of nature* **Prof Michael Barnsley** Mathematical Sciences Institute, The Australian National University, Australia
1650	Conference closing: **Prof Janet Wiles** The University of Queensland, Australia and **Prof Robert Dewar**, The Australian National University, Australia
1700	Conference concludes Registration desk closes

COMPLEX 07