Heron Island Summer School and Research Workshop in Complex Systems Research and Methods in Business and Biology

List of Participating Faculty

Date: 09 December 2011

Dr. Madeleine Beekman *(University of Sydney) Confirmed.*

Madeleine is a Queen Elizabeth II Fellow and Director of First Year Biology. She is interested in behavioural ecology and evolutionary biology in general and uses social insects (ants and bees) and the peculiar acellular slime mould as model systems. She is interested in studying conflict and conflict resolution at different levels: within societies (using social insects) and within an organism (using acellular slime moulds). One of her current research directions is the study of conflict at the organismal level, focusing on insect societies and the acellular slime mould Physarum polycephalum. The hallmarks of her current research are (1) the innovative use of mathematical and computer simulation models in conjunction with rigorous laboratory and field experiments to address evolutionary and behavioural questions; (2) the use of genetic tools to address behavioural and evolutionary questions. Some of her recent contributions to the study of conflict within societies using genetic tools have revealed that workers of the Cape honeybee (Apis mellifera capensis) are reincarnated as queens: the majority of new queens were shown to be clonal offspring of workers and of these workers most were social parasites. The fact that offspring of social parasites are successful in taking over a colony at the detriment of the host, raises interesting questions: how do such conflicts evolve and what mechanisms are there to prevent them? Over the years she has increased her experimental expertise by incorporating new model organisms in her work. The latest addition has been the acellular slime mould Physarum polycephalum. This strange creature allows us to manipulate the inheritance of mitochondria, which means that we can create an organism in which the nucleus and mitochondria are not related. We can now study what the consequences are of mixing mitochondria and nuclei from different parents and so shed light on the question why organisms have only one mother and one father.

Dr. Terry Bossomaier *(Charles Sturt University) Confirmed.*

Terry is Professor and Director of the *Centre for Research in Complex Systems*. His early research focused on modelling information processing by animal photoreceptor arrays with Snyder and others at the Australian National University. He developed a new information theoretic approach to deal with non-uniform, non-isotropic or completely irregular detector arrays. In recent work with Michael Harre, he developed mutual information methods for finding phase transitions in financial time series data. which was published in *Europhysics Letters* and *European Physical Journal B*. Closely linked to this work was the use of information theoretic techniques to infer relationship networks amongst clients of financial planners given only investment time series. His research on the evolution of rules for cellular automata have introduced a new search paradigm and he has been developing a new serious game genre for testing scenarios and training in crisis communication management.

Terry is a co-author (with David Green) of an advanced level text on Spatial Metadata and Online GIS, co-editor of the first in-depth research text on complex systems for Cambridge University Press (also with Green), is the author of a new book (2011) on sensory information processing for computer games and virtual reality, and coeditor of a forthcoming book on complex systems applications. He was member of the program committees of internationalconferences such as the World Congress on

Evolutionary Computation, Parallel Problem Solving from Nature, Virtual Worlds, SEAL, IEEE, TENCON. He is a past chair of the Australia Transputer and Advisory Group, cofounder of the Biennial Australian Conferences in Complex Systems beginning in 1992, co-chair of the 2nd Australian Conference on Artificial Life, co-founder and an editor of the online journal, *Complexity International*, and is co-chair of the IEEE Symposium on Artificial Life, 2011. He was invited to present at the conference From Stars to Brains in honour of Paul Davies at the Australian Academy of Sciences (June 2006), was the CSU node coordinator of the ARC Network in Complex Systems (COSNet) and is a member of the ACS National Committee on Complex Systems.

Dr. Carl Chiarella *(University of Technology Sydney) Confirmed.*

Carl is Emeritus Professor and Head of Finance at the University of Technology, Sydney. He is a core member of the Quantitative Finance Research Centre. Carl completed a BSc (Hons) and MSc in applied mathematics at the University of Sydney and then a PhD in applied mathematics at the University of New South Wales in 1969 for a thesis on nuclear reactor theory.

After two years as a post-doctoral fellow at the Centre de Calcul Automatique at the University of Nancy in France, Carl joined the School of Mathematical Science at the University of Technology, Sydney in 1971 as a lecturer.

He completed the MCom (Hons) in economics at the University of New South Wales and took out a PhD in economics in 1987 from the same University for a thesis in economic dynamics. He joined the School of Banking and Finance at the University of New South Wales in 1986 as a senior lecturer and was appointed Associate Professor in 1988. He took up the position of Professor of Finance at the University of Technology, Sydney in 1989, a position from which he retired early in 2004 as an Emeritus Professor. He returned to the School as a Professor of Quantitative Finance in mid-2005.

Carl has held visiting appointments at a number of universities including University of Kyoto, Nanyang Technological University, Hitotsubashi University, Tokyo Metropolitan University, University of Bielefeld and University of Urbino.

He is the author of over 165 research articles in international and national journals and edited volumes and the author/coauthor of 8 books. Carl is a Co-Editor of the Journal of Economic Dynamics and Control and Associate Editor of Quantitative Finance, Studies in Nonlinear Dynamics and Econometrics and European Journal of Finance.

His research interests include: Derivative securities pricing, term structure of interest rates, quantitative finance techniques, disequilibrium macroeconomics, asset pricing theory and empirics.

Dr. John Crawford *(The University of Sydney) Confirmed.*

John Crawford is the inaugural Judith and David Coffey Chair in Sustainable Agriculture at the University of Sydney. He has a background in theoretical physics but has worked in life sciences for over 20 years. John is interested in the emergence of organisation in living systems and has studied this in the context of cellular biology, plant and microbial ecology, and most recently in economic systems. In his work on cancer he developed one of the most comprehensive (published) models for the cell cycle and used it to develop methods for optimising multiple drug intervention strategies. He also used the methodology to study more fundamental aspects relating to the link between network topology, parameter sensitivity and global dynamics. This approach is currently being used in studies of diet-related diseases in collaboration withe the Garvan Institute. His work on plant and microbial ecologies looked for the link between individual behaviour and community structure, particularly the origins and form of the species abundance curve. A general methodology was developed that could be applied to descriptions of the dynamics of plant and microbial ecologies including both determinate (e.g. plant) and indeterminate (e.g. fungal) systems. An outcome of the approach was an ability to link behaviour to dynamics and community function and so probe the link between biodiversity and ecosystem function. One of the most challenging systems he has looked at is the soil-microbe system where he used computational modelling approaches to show that the physical soil particles and

microbial cells formed an integrated self-organising system. The structures that form govern the macroscopic physical and biological properties of soil and so the nature of the coupled dynamics is central to questions relating to sustaining natural fertility of agricultural and native ecosystems. This work is continuing in collaboration with groups in the US, Canada, Europe, China, New Zealand and Australia. As part of this work he developed the first physiologically-based model for the fungal phenotype. Using the model and related experiments he showed the importance of both local and long-range interactions that govern biomass recycling and translocation, in determining the fungal phenotype and also the ecological fitness of the colony. the model has been further developed to build an algorithm for efficient data trafficking in information networks and seems to have superior speed and resilience over other biologically-motivated algorithms. Finally, he is dipping his toe into the application of dynamical systems approaches to develop complex economic systems models that are capable of integrating ecosystem and economic dynamics into a single sustainability economic model. The overall aim is to inform strategies for developing food systems that are both environmentally sustainable, but also deliver food that improves human health at the individual and societal level.

Dr. Robert Marks *(University of New South Wales and University of Melbourne) Confirmed.*

Bob is interested in issues associated with strategic interactions, inter alia. Recently, his research has also focused on energy and environmental policy and drug policy. His research has included the use of computer simulations of real-world, historical phenomena to analyse market interactions that would otherwise remain unexplained, such as oligopolistic behaviour in markets where brands compete, and where third parties (supermarkets) moderate their rivalry. In 1988 he was the first economist anywhere to use Genetic Algorithms (GA) to analyse the iterated Prisoner's Dilemma game. Since then he has made contributions to theory, application, and teaching, using GAs and other tools from computer science, not just to analyse, but also to synthesise, to design. He has written important papers on the use of agent-based models in designing markets, especially those for electricity, and auctions in general, supported by Australian Research Council Grants. In recent years, I have been applying techniques from complexity theory to the problem of validating simulation models in general, and agent-based models in particular. I have been invited as a visiting professor to universities in Taiwan, the U.S.A (Stanford, UC Berkeley, and MIT), the U.K. (Liverpool), and France (INSEAD), and I have been an invited participant at workshops on these topics at the Max Planck Institute, the Sorbonne, and the University of Bielefeld.

Dr. Len Fisher *(University of Bristol) Confirmed.*

Len is Fellow of the Royal Society of Chemistry, Fellow of the Royal Australian Chemical Institute, Fellow of the Institute of Physics, Fellow of the Linnean Society, Foundation Chairman of the Biophysical Chemistry Subject Group for the Royal Society of Chemistry, Member, Advisory Panel, Oxford Symposium on Food and Cookery, Invited panellist, International Research Governance Council (*panel on slow moving risks with potentially catastrophic consequences*). Australian-born, he graduated from the University of Sydney in 1964 and followed a research career in experimental physics, food science and biophysics with the Commonwealth Scientific and Industrial Research Organization before moving to the UK in 1989, first in the anatomy department at University College London and then in the Physics Department at the University of Bristol. He has been a Principal Research Scientist with the CSIRO Division of Food Research in Australia, a visiting research worker in the Physiological Laboratory at Cambridge University, an Associate Senior Research Fellow in the Anatomy Department of University College London and an Honorary Research Associate Professor in Surface Science and Mining Engineering of the University of South Australia. He is presently a Visiting Fellow in Physics at the University of Bristol. U.K.

For the past decade he has worked as a writer and broadcaster, aiming to open up the closed world of science by showing how scientists think about the problems of everyday life. His first book, *How to Dunk a Doughnut*, won an award from the American Institute of Physics for the best science book of the year in 2004. More

recently, he has focused on the problems of living in a complex world with a trilogy - Rock, Paper, Scissors: Game Theory in Everyday Life (2008); *The Perfect Swarm: The Science of Complexity in Everyday Life* (2009); and *Crashes, Crises and Calamities: How We Can Use Science to Read the Early-Warning Signs* (2011). He delivered an invited plenary lecture on the latter topic to the International Conference on Complex Systems in Boston, U.S.A., in June, 2011 and is now developing a number of research collaborations aimed at identifying and communicating the common features of modelling and predicting critical transitions in different arenas, from ecology and economics to scientific research and society.

Dr. Terrill Frantz (*Carnegie Mellon University/Peking University*) *Confirmed.*

Terrill is Assistant Professor of Management and Organizations at the HSBC Business School at Peking University (China) and a Ph.D. Candidate at the Center for Computational Analysis of Social and Organizational Systems (CASOS), School of Computer Science, Carnegie Mellon University USA). He melds Agent-Based Modeling and Social Network Analysis to develop computational models of organization behavior. These models are applied to his research in the organizational behavior aspects of post-merger Integration. Among other subjects, he teaches graduate-level courses in Organizational Network Analysis in China, USA, and Denmark. He has facilitated scores of workshops on ABM and SNA and has a progressive academic-publishing history. He holds an Ed. D. doctorate from Pepperdine University (USA), and MBA from New York University, an MS in Computer Science from Carnegie Mellon, and a BS in Business Administration from Drexel University (USA). Terrill has nearly 20 years experience in the global financial services industry.

Dr. Scott Heckbert (*Portland State University*) Confirmed

Scott Heckbert is a research assistant professor at Portland State University's Institute for Sustainable Solutions and previously worked as an environmental economist with CSIRO, Australia. Scott's research applies environmental economics using simulation modelling of integrated social-ecological systems. Research topics include economics of greenhouse gas mitigation, modelling the rise and fall of ancient societies, market-based instruments for environmental management, water quality improvement for tropical reefs, modelling patterns of urban sprawl, rangelands management, and supporting Indigenous land management for environmental and cultural benefits. Scott is currently developing complex systems models using combined agent-based, cellular automata and network models for the project Integrated History of People on Earth (IHOPE), simulating the rise and reorganization of ancient societies such as the Classic Maya and Great Zimbabwe. Scott develops spatially-explicit simulation models which represent biophysical and human processes in response to climate variability, with the goal of building quantitative metrics for resilience theory which can be used to enhance resilient support systems or warn of vulnerabilities. Scott has used agent-based modelling and experimental economics to embed human decision makers within models in order to test theories on human economic behaviour. An overall research goal has been the calibration and validation of complex systems models.

Fabian Held *(University of Sydney) Confirmed.*

Fabian is currently completing his Ph.D. thesis in Marketing at the University of Sydney. In his thesis he strives to better understand the dynamics and evolution of business relations and networks, using a complex systems perspective to provide new insights on the interplay between structure and development of networks and economic performance. He employs agent-based models and social network analysis to monitor and grow artificial business networks and conduct experiments that would otherwise not be possible in the real world.

Fabian received his M.Sc. in Statistics from the University of Munich in Germany and earned a B.A. in Philosophy & Economics from the University of Bayreuth in Germany. He is looking for a post-doc position to commence late 2012.

Dr. Joseph Lizier *(Max Planck Institute for Mathematics in the Sciences) Confirmed.*

Joseph is a Postdoctoral Researcher at the Max Planck Institute for Mathematics in the Sciences in Leipzig, Germany, where he is working in (SFI External) Prof. Juergen Jost's Dynamical Systems and Network Analysis, and Cognition and Neurosciences groups.

He received his Ph.D. in Information Technologies, from the University of Sydney in 2010 (co-supervised at CSIRO's ICT Centre). His PhD work established a quantitative framework for studying computation in complex systems in terms of information storage, transfer and modification, with a particular application to analysis of emergent structures in cellular automata (e.g. gliders). His postdoctoral work serves as an extension to investigate information dynamics and computational properties in complex networks, with a particular view to applications to brain networks. In addition to computation in complex systems and networks, his research interests include CAs, random Boolean networks (RBNs), guided self-organisation and computational neuroscience including brain-imaging analysis.

Joseph's PhD thesis received an Honourable mention in the CORE Doctoral Dissertation Awards 2010, and his recent work received a Best Paper award at IEEE ALife 2011. Prior to and during his PhD studies, he spent 5 years as a Research Technologist at Telstra Research Laboratories and 4 years as a (part-time) R&D Engineer at Seeker Wireless, primarily working on mobile services and network anomaly detection. He holds a Bachelor of Electrical Engineering (Information Systems) (Honours and university medal, 2000) as well as a Bachelor of Science (Computer Science, Physics, 1998), both from The University of Sydney.

Dr. Ben Oldroyd *(University of Sydney) Confirmed.*

Ben is Professor of Behavioural Genetics in the Behaviour and Genetics of Social Insects Laboratory at Sydney University. Prior to joining Sydney, he worked at LaTrobe University, the USDA bee lab in Baton Rouge USA and the Victorian Department of Agriculture. He is primarily interested in behavioural genetics and the evolution of social behaviour. Almost all of his research has been on honey bees, including Asian honeybees but recently Ben has been diversifying into native bees (Trigona). He started out as a quantitative geneticist, working on practical problems of bee breeding. He then got involved with the population genetics of Africanized bees in central America. Recently, Ben has been working on the mechanisms by which social cohesion is maintained in bee colonies. In particular, he has bred a unique strain of bees in which workers lay eggs with high frequency. These 'anarchistic' bees provide a superb resource for investigating the mechanisms by which worker sterility is maintained in normal colonies. By comparing the behaviour and genetics of normal and anarchistic bees, Ben’s lab tries to uncover the fundamental properties of social insects.

Dr. Paul Ormerod *(University of Durham and Volterra Partners) Confirmed.*

Paul Ormerod is the author of three best-selling books on economics, Death of Economics, Butterfly Economics, and Why Most Things Fail. He read economics at Cambridge and did the MPhil at Oxford.

In 2009 he was awarded a DSc honoris causa by the University of Durham for the 'distinction of his contribution to economics'. In 2006 he was elected a Fellow of the British Academy of Social Sciences.

Paul's main interests are in behavioural economics, networks and complex systems (www.paulormerod.com) and he publishes in a wide range of journals such as Proceedings of the National Academy of Sciences, Physica A, Advances in Complex Systems, Proceedings of the Royal Society (Biology), Behavioral Ecology and Sociobiology, Security Informatics, Diplomacy and Statecraft, Social Science and Medicine, Journal of Cultural Economics, J Economic Interaction and Co-ordination and Applied Economics

Dr. Lael Parrott *(University of Montreal) Confirmed.*

Lael is an Associate Professor in Environmental Geography and Director of the Complex Systems Laboratory at Université de Montréal. She leads an internationally recognised, multidisciplinary research program in studying ecosystems and landscapes as complex systems. She has a PhD in Agricultural and Biosystems

Engineering from McGill University (2000). She is an expert in ecological complexity, agent-based modelling of social-ecological systems and spatiotemporal analysis of ecological data. Her work has advanced methods in ecosystem and landscape modelling and analysis and led to the development of holistic, complexity-based environmental indicators. She has worked extensively with government and industrial partners to incorporate complex systems theories into natural resource management policy and practice. Her innovative approach to studying the environment has earned her the honour of being named one of 25 “movers and shakers” in Quebec, Canada, with bright ideas for the future (Canadian National News Magazine, Actualité, September 2009). Lael is an active member of the Quebec Centre for Biodiversity Science, the Centre for Forest Studies and the Compute Canada supercomputing network. She is also a founder and co-director of the Canadian inter-university training program in Modelling Forest Complexity.

Dr. Mikhail Prokopenko *(CSIRO) Confirmed.*

Dr Mikhail Prokopenko is a Principal Research Scientist in CSIRO ICT Centre. He has a strong international reputation in the areas of complex self-organising systems, with more than 110 publications and patents, including an edited book ("Advances in Applied Self-organizing Systems", Springer, 2008). He received a PhD in Computer Science (Macquarie University, 2002, Australia), MA in Economics (University of Missouri-Columbia, 1994, USA), and MSc in Applied Mathematics (Azerbaijan Institute of Petroleum & Chemistry, 1988, USSR).

Dr. Prokopenko has worked on many CSIRO cross-divisional projects including Smart Grids within Energy Transformed Flagship, Anomaly Detection for Minerals Down Under Flagship, CSIRO-NASA project on self-monitoring aerospace vehicles, and CSIRO Complex Systems Science Project on Directed Self-Assembly in Multi-Agent Networks. Project partners included NASA, Asia-Pacific Partnership on Clean Development and Climate, Boeing Phantom Works, Canon Information Systems Research Australia, Time and People Australia, Royal Australian Navy, and IBM Global Services Australia.

In November 2008, Dr. Prokopenko organised The First International Workshop on Guided Self-Organisation (GSO-08) in Sydney, followed by The GSO Workshops held in Germany (2009), USA (2010) and UK (2011), with Dr. Prokopenko co-chairing. Dr Prokopenko has worked on a number of international Program and Organising Committees; chaired 2010 and 2011 Australasian Workshops on Computation in Cyber-Physical Systems, and was a keynote speaker at The 6th International Workshop on Agent-Based Simulation (2005) and GSO-2010. Dr Prokopenko received the Japanese Society for Artificial Intelligence award (2002).

Dr Prokopenko was a founding member of ARC Network on Complex Open Systems (COSNet); and is now a member of IEEE Information Theory Society, International Societies for Adaptive Behavior (ISAB) and Artificial Life (ISAL), as well as a member of Advisory Board for Wiley book series on Nature Inspired Computing. He served as a guest editor of special issues on Guided Self-organisation in HFSP Journal (Human Frontiers Science Program, 2009), Theory in Biosciences (2011), a special issue on Complex Networks in Artificial Life (2011), and a section editor for Encyclopaedia of Machine Learning (Evolutionary Computation, 2010).

Dr. Jonathan Vos Post *(Computer Futures, USA) Confirmed.*

Jonathan Vos Post, after his years in the Space Program and executive management of internet companies, has been an Adjunct Professor of Mathematics at Woodbury University in Burbank, California. His first degree in Mathematics was from Caltech in 1973. He has been also, an Adjunct Professor of Astronomy at Cypress College in Orange County, California; Professor of Computer Science at California State University, Los Angeles; and Professor of English Composition at Pasadena City College. He is a widely published author of Science Fiction, Science (Astronomy, Biology, Chemistry, Cosmology, Economics, and Social Sciences), Poetry, Math, Drama, and other fields. A co-author with Asimov, Bradbury, Clarke, and Heinlein, he twice ran a Science Fiction and Complexity track at ICCS, the most recent time leading to a book requested by Springer USA. In his so-called spare time, he wins

elections for local political offices (Town Councils in two different states) and produced operas, as Secretary of Euterpe Opera Theatre.
His Paul Erdős Number recently dropped, which is good, from 5 to 4, meaning that he's a co-author of a co-author of a co-author of the man at the centre of the co-authorship social network of Mathematics.

Dr. Tim Schaerf *(University of Sydney) Confirmed.*

Tim is a Postdoctoral Research Fellow in the Behaviour and Genetics of Social Insects Laboratory in the School of Biological Sciences. His research has included work in collective decision making by honey bee swarms, construction of fascinating brood combs by Australian stingless bees and group behaviour of Eastern mosquitofish in groups of varying size. He teaches linear algebra, calculus, numerical methods, problem solving and communication in science and partial differential equations and waves. Other teaching duties have included teaching bridging courses for high school students matriculating to university and extensive assignment and examination marking.

Dr. Mark Tadajewski *(University of Strathclyde) Confirmed.*

Mark is Professor of Marketing, editor of the Journal of Marketing Management and Associate Editor of the Journal of Historical Research in Marketing. Mark has previously taught at the Universities of Leicester and Essex. When not engaged in his research, he is an avid reader, enjoys stand-up comedy and visiting the cinema. In the near future, Mark plans to learn a new language.
Mark's research interests are fairly eclectic. He continues to engage in research related to the history of marketing, with a specific focus on the influence of the Cold War on marketing and advertising theory. Related projects that deal with the elision or silence surrounding key issues in marketing have dealt with racism in marketing theory. In addition, with colleagues at the University of Leicester he has co-authored a textbook that introduces students to a critical perspective on marketing. This text is aimed at undergraduate and postgraduate students. One of the major changes in his academic labour this year has been his move from Associate Editor at the Journal of Marketing Management, to full Co-editor with Dr. Paul Hewer (Strathclyde). The Journal of Marketing Management is one of the major European marketing journals that publishes the full spectrum of paradigms, methods and topics in marketing, taking a fundamentally pluralistic stance in relation to determining the contribution to knowledge that any given paper provides.
More recent journal publications have also been singled out for praise. He has been described as 'arguably one of academic marketing's most productive young scholars' (Jones and Shapiro, 2010). In other places he has been called 'one of the most creative and productive young scholars in any of marketing's academic sub-disciplines' (Shapiro, forthcoming). His research has been referenced as 'an outstanding example of the history of marketing thought' (Jones and Shapiro, 2010).

Dr. Rosalind Wang (*CSIRO*) Confirmed.

Rosalind Wang is a Research Scientist at the Information and Communication Technologies Centre in Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO). She received her PhD degree in Mechatronics Engineering from the University of Sydney in 2008 on the topic of machine learning techniques to hyperspectral image classification. After joinging the ICT Centre, Rosalind has worked on many CSIRO cross-divisional projects including Smart Grids within Energy Transformed Flagship, Anomaly Detection for Sensor Networks and CSIRO-NASA project on self-monitoring aerospace vehicles using machine learning techniques and information theory measures. Rosalind's current research interest is on machine learning and information theory for artificial life.

Dr. Andy Wuensche *(DDLab http://www.ddlab.org) Confirmed.*

Andy invented reverse algorithms for cellular automata, random Boolean networks, and discrete dynamical networks in general, and created the classic software "Discrete Dynamics Laboratory" (DDLab), widely used in research and education, which he continues to develop and support. By computing "predecessor" states that flow to a successor state, DDLab is able to compute "basins of attraction" -- mathematical objects representing the convergent flow in state-space, with applications in many areas, including neural and genetic networks, theories of memory, the dynamics of order/chaos, complexity, and self-organisation.
His publications include two books, "The Global Dynamics of Cellular Automata" in the Santa Fe Institute's Studies in the Sciences of Complexity (1992), and "Exploring Discrete Dynamics" (2011).
Andy was a practising architect for 30 years, having graduated at the AA School of Architecture, London, in 1968. He received his DPhil in 1996 from the School of Cognitive and Computing Sciences, University of Sussex. He was at the Santa Fe Institute, New Mexico, 1995-2004, were he collaborated with Stuart Kauffman and Chris Langton. He is an independent academic, a visiting Professor at the International Centre of Unconventional Computing, University of the West of England, Bristol, and a visiting research fellow at the Dept. of Informatics, Universityof Sussex.

Dr. Janet Wiles *(University of Queensland) Confirmed.*

Janet is Professor at the University of Queensland's School of Information Technology & Electrical Engineering and member of their Complex & Intelligent Systems Research Group. Her research focus are complex systems and the transition from genes to minds. Her interests include Complex systems biology: modeling genetic regulatory networks, evolution of development, C. elegans lineage complexity; Computational neuroscience: human memory, hippocampus, neurogenesis in dentate gyrus; Evolution of language: evolving learnable languages, language for space, evolving robot languages; Modeling methods: Network analysis, Agent based systems, Complex Systems Patterns, Evolutionary Computation, Neural Networks, Machine Learning, Data Mining, Visualisation; Artificial Intelligence and Artificial Life: genotype to phenotype, morphology, cellular automata for active environments; and Naturally Intelligent Systems: Human memory, language and cognition.

Dr. Ian F. Wilkinson *(University of Sydney and Southern Denmark University) Confirmed.*

Ian is Professor of Marketing at the University of Sydney and Visiting Professor in Relationship Management and Entrepreneurship at the University of Southern Denmark. He is a Fellow of the Australia New Zealand Marketing Academy. He was educated in the UK and Australia and has held academic posts at various American, European, Asian as well as Australian universities, being based at the University of New South Wales for most of his academic life. He has published four books, including his latest *Business Relating Business: Managing Organisational Relations and Network,* as well as over 200 research papers. In 2005 he was awarded the Distinguished Researcher of the Year Award for his contributions to research by the Australia New Zealand Marketing Academy. His current work focuses the development and management of interfirm relations and networks in domestic and international business and the dynamics of markets and industrial networks, including an interest in complexity. This work is being carried out in cooperation with various researchers in Asia, Europe and USA. His research has been funded by grants from the Australian Research Council, the Australian Trade Commission and various University Research Grants. He was a foundation judge on the Australian Multicultural Marketing Awards, was a member of the Federal Governments Trade Policy Advisory Board, is a member of is a member of the editorial review board of

many international journals and is regional editor for the *Journal of Business and Industrial Marketing* and *Journal of Business to Business Marketing*.

Dr. Louise Young *(University of Western Sydney and Southern Denmark University) Confirmed.*

Louise is Professor of Marketing at the University of Western Sydney and Visiting Professor in Relationship Management and Entrepreneurship at the University of Southern Denmark. She was educated in the USA and Australia and has held academic posts at various American, European as well as Australian universities. She has published over 130 research papers in a wide range books, journals and conference proceedings including marketing journals such as *Journal of the Academy of Marketing Science, International Journal of Research in Marketing, Marketing Theory, Journal of Business Research* and *Industrial Marketing Management*. She has published in other areas including complexity science, international business, social policy, management, human resources and information technology. She is a member of the editorial review board of 10 international journals. Her current research focuses on the evolution and management of business relationships and networks and in particular on the psychology of the individuals co-creating them, using methods including case study, ethnography, deep qualitative interview, lexicographic semantic study and agent-based modeling. Her research has been funded by grants from the Australian Research Council, the Australian Trade Commission, the CSIRO and various University Research Grants. She also has worked extensively in applied research areas participating the generating of market research for Australian firms, Government instrumentalities and not-for-profit organizations.