

June 2010, #23

## WELCOME

Welcome to the June ANU Integration News. The aim of this newsletter is to provide information about events, conferences and publications relevant to research integration and implementation which may be of interest to faculty and students across the ANU campus.

Gabriele Bammer and Peter Deane

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- **Badham, Jennifer.** (2010). *A Compendium of Modelling Techniques*. Integration Insights #12, May.
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## NEWS & EVENTS

### 27 May 2010, 5.00-6.15pm, The ANU Integration Network Meeting: 'Modelling as a Tool for Research Integration'.

Nineteen faculty and students from across campus attended the first meeting of the ANU Integration Network for 2010. Tony Jakeman from The Fenner School of Environment and Society and Jennifer Badham from the National Centre for Epidemiology and Population Health led off the proceedings, which involved all those attending briefly presenting their approaches to modeling, especially in terms of synthesis of disciplinary and stakeholder knowledge, dealing with unknowns and providing decision support.

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## New Conference Announcements

- 28-29 June 2010, Interdisciplinary Graduate Conference - Diverse engagement: Drawing in the margins, Cambridge, UK (<http://igc2010.co.uk/>)
- 31 August-2 September 2010, UK Systems Society Conference 2010 - Perceptions of Systems: The Nature of Management, Communication & Creativity, Oxford, UK (<http://www.first-pages.com/ukss/events/conference>)

## Upcoming Conference Reminders

- 16-18 June 2010, Regional Environmental Governance Workshop: Interdisciplinary Approaches, Theoretical Issues, Comparative Designs (REGov), Geneva, Switzerland (<http://www.reg-observatory.org/index.html>)
- 16-19 June 2010, International Symposium: Research Across Boundaries - Advances in Theory-building, Luxembourg (<http://dica-lab.org/rab/>)
- 29 June-2 July 2010, International Institute of Informatics and Systemics (IIIS) conferences (of note), Orlando, Florida, USA ([http://www.iiis.org/iiis/IIISConferences\\_july\\_2010.asp](http://www.iiis.org/iiis/IIISConferences_july_2010.asp)):
  - Sub-conference: 14th World Multi-Conference on Systemics, Cybernetics and Informatics: WMSCI 2010 (<http://www.sysconfer.org/wmsci>)
  - Sub-conference: International Symposium on Design and Research in the Artificial and the Natural Sciences: DRANS 2010 (<http://www.sysconfer.org/drans>)
  - Sub-conference: The 4th International Multi-Conference on Society, Cybernetics and Informatics: IMSCI 2010 ([www.sysconfer.org/imsci](http://www.sysconfer.org/imsci))
  - Sub-conference: The 8th International Conference on Politics and Information Systems, Technologies and Applications: PISTA 2010 (<http://www.sysconfer.org/pista>)
- 2 July 2010, Swiss Conference of Inter- and Transdisciplinarity 2010 (ITD10), Suisse Sion, Switzerland (<http://www.iukb.ch/index.php?id=301>)
- 5-7 July 2010, Australian Universities Community Engagement Alliance (AUCEA) National Conference: Communities Partnership and Participation, Launceston, Tasmania (<http://aucea.com.au/events/2010-aucea-national-conference>)
- 15-17 July 2010, Industrial Transformation Project (IT) Asia-Pacific Network for Global Change Research Conference: Experiments, System Innovation and Sustainability Transitions in Asia, Chiang Mai, Thailand (<http://www.sea-user.org/uweb.php?pg=36>)
- 18-23 July 2010, 54th Annual Meeting of the International Society for the Systems Sciences: Governance for a Resilient Planet, Waterloo, Canada ([http://iss.org/world/Waterloo\\_2010](http://iss.org/world/Waterloo_2010))
- 21-23 July 2010, 1st International Workshop on Complexity and Real World Applications: Using the Tools and Concepts from the Complexity Sciences to Support Real World Decision-making Activities, Botleigh Grange (near Southampton), England (<http://www.decisionmechanics.com/1st-international-workshop-on-complexity-and-real-world-applications-first-call-for-interest/>)
- 21-25 July 2010, Annual Meeting of the Society for Values in Higher Education, Making Choices: Sustainability in a World of Conflicting Values, Portland, USA (<http://www.svhe.org/content/call-papers>)

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- 25–30 July 2010, International Conference of the System Dynamics Society: Beyond the Crisis: Greening Society, the Economy and the Future, Seoul, Korea (<http://www.systemdynamics.org/conferences/current/index.htm>)
- 29 July-2 August 2010, Cybernetics: Art, Design, Mathematics—A Meta-Disciplinary Conversation, New York, USA (<http://www.asc-cybernetics.org/2010/>)
- 2-5 August 2010, Fifth International Conference on Interdisciplinary Social Sciences, Cambridge, UK (<http://www.SocialSciencesConference.com>)
- 6-9 September 2010, 8<sup>th</sup> World Action Learning and Action Research Congress, Melbourne (<http://www.alara.net.au/files/World%20Congress%202010%203rd%20Announcement.pdf>)
- 7-9 September 2010, OR52, the Operational Research Society's 52nd annual conference, Egham, Surrey, UK ([http://www.theorsociety.com/orshop/\(yzwopcu2eu0zvhm4wyhzb55\)/orcontent.aspx?inc=or52\\_main.htm](http://www.theorsociety.com/orshop/(yzwopcu2eu0zvhm4wyhzb55)/orcontent.aspx?inc=or52_main.htm))
- 14-16 September 2010, XVII International Conference on Systems Science, Wroclaw, Poland (<http://www.icss.pwr.wroc.pl/>)
- 15 September 2010, European Conference on Complex Systems, Lisbon, Portugal (<http://eccs2010.eu/>):
  - Satellite Session: Modelling the Non-separability of a Very Complex World (<http://www.per.marine.csiro.au/staff/Fabio.Boschetti/context.htm>)
- 15-17 September 2010, td-conference 2010: Implementation in Inter- and Transdisciplinary Research, Practice and Teaching, Geneva, Switzerland (<http://www.transdisciplinarity.ch/e/Conference/international/2010/index.php>)
- 26-30 September 2010, Australian Association for Environmental Education Conference: Leading Change – Living for One Planet, Australian National University, Canberra ([https://www.conferenceco.com.au/aaee/Abstract\\_Submission\\_Information.asp](https://www.conferenceco.com.au/aaee/Abstract_Submission_Information.asp))
- 30 September-2 October 2010, sponsored by the National Science Foundation and the University of Idaho, Enhancing Communication in Cross-Disciplinary Research (ECCDR), Coeur d'Alene, Idaho, USA (<http://www.cals.uidaho.edu/toolbox/conference.asp>)
- 7-10 October 2010, AIS 32<sup>nd</sup> Annual Conference 2010: Interdisciplinary Approaches to Integrating Ethics and Sustainability, San Diego, California, USA (<http://www.units.muohio.edu/aisorg/Conference/2010CFP.shtml>)
- 26-29 October 2010, Environment Institute of Australia and New Zealand: From Discovery to Delivery: Science, Policy, Leadership and Action, Wellington, New Zealand (<http://www.confer.co.nz/eianz2010/>)
- 28-29 October 2010, Tentative Governance In Emerging Science and Technology: Actor Constellations, Institutional Arrangements & Strategies, Enschede, The Netherlands ([http://www.igs.utwente.nl/international\\_conference\\_tenta/](http://www.igs.utwente.nl/international_conference_tenta/))
- 8-10 November 2010, Systems Thinking in Action: Fueling New Cycles Of Success, Boston, Massachusetts (<http://pegasus.prod.ifpeople.net/overview>)
- 11-13 November 2010, Creativity, Inquiry, and Discovery: Undergraduate Research In and Across the Disciplines, Durham, North Carolina, USA ([http://www.aacu.org/meetings/undergraduate\\_research/2010/cfp.cfm?utm\\_source=meetings&utm\\_medium=blast&utm\\_campaign=undergradresearch2#themes](http://www.aacu.org/meetings/undergraduate_research/2010/cfp.cfm?utm_source=meetings&utm_medium=blast&utm_campaign=undergradresearch2#themes))

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- 20-23 April **2011**, XVIIIth International Conference of the Society for Human Ecology, Human Responsibility & Environmental Change: Planning, Process, and Policy, Lake Las Vegas, Nevada, USA  
([http://www.societyforhumanecology.org/final%20program\\_files/CallForPapers.html](http://www.societyforhumanecology.org/final%20program_files/CallForPapers.html))

## ANU INTEGRATION NETWORK MEMBER PUBLICATIONS

**Bammer, Gabriele** (Ed.). (2010). *Dealing with Uncertainties in Policing Serious Crime*. ANU E Press: Canberra, [online] URL: [http://epress.anu.edu.au/dealing\\_citation.html](http://epress.anu.edu.au/dealing_citation.html).

Grappling with uncertainties is at the heart of investigating serious crime. At a time when such crime is becoming more complex and resources are increasingly stretched, this book draws together research and practice perspectives to review fruitful approaches to uncertainties and to chart the way forward. Scene setting chapters describe the consequences of globalisation and the spread of sophisticated information technologies (Sue Wilkinson), as well as advances in understanding and managing uncertainty (Michael Smithson). Ways of enhancing responses from statistics (Robyn Attewell), risk analysis (Richard Jarrett and Mark Westcott) and the psychology of decision making (Mark Kebell, Damon Muller and Kirsty Martin) follow. These are complemented by insights from law (the Hon. Tim Carmody SC), politics (the Hon. Carmen Lawrence) and business (Neil Fargher), which all have significant intersections with policing. Synthesis is provided by the four final chapters which present the outlooks of the investigating officer and investigation manager (Peter Martin), the provider of policing higher education (Tracey Green and Greg Linsdell), the capacity-building consultant (Steve Longford), and the leader of a law enforcement agency (Alastair Milroy).

**Gabriele Bammer** is a Professor at the National Centre for Epidemiology and Population Health.

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**Badham, Jennifer**. (2010). *A Compendium of Modelling Techniques*. Integration Insights #12 May. [online] URL: [http://i2s.anu.edu.au/sites/default/files/integration-insights/integration-insight\\_12.pdf](http://i2s.anu.edu.au/sites/default/files/integration-insights/integration-insight_12.pdf).

This Integration Insight provides a brief overview of the most popular modelling techniques used to analyse complex real-world problems, as well as some less popular but highly relevant techniques. The modelling methods are divided into three categories, with each encompassing a number of methods, as follows:

- 1) Qualitative Aggregate Models (Soft Systems Methodology, Concept Maps and Mind Mapping, Scenario Planning, Causal (Loop) Diagrams),
- 2) Quantitative Aggregate Models (Function fitting and Regression, Bayesian Nets, System of differential equations / Dynamical systems, System Dynamics, Evolutionary Algorithms) and
- 3) Individual Oriented Models (Cellular Automata, Microsimulation, Agent Based Models, Discrete Event Simulation, Social Network Analysis).

Each technique is broadly described with example uses, key attributes and reference material.

**Jennifer Badham** is a Research Fellow at the National Centre for Epidemiology and Population Health.

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**Brown, Valerie; Harris, John and Russell, Jacqui.** (Eds.). (In-press - August 2010). *Tackling Wicked Problems Through the Transdisciplinary Imagination*. Earthscan, UK.

From climate change to GM foods, we are increasingly confronted with complex, interconnected social and environmental problems that span disciplines, knowledge bases and value systems. *Tackling Wicked Problems* provides readers with a framework that will guide the design and conduct of their own open-ended enquiries. In this approach, academic disciplines are combined with personal, local and strategic understanding and researchers are required to recognise multiple knowledge cultures, accept the inevitability of uncertainty, and clarify their own and others' ethical positions. The authors then comment on fifteen case studies of practising imaginative transdisciplinarity, which provide real life examples of how researchers have engaged with the opportunities and challenges of conducting transdisciplinary inquiries.

**Valerie Brown** is a Visiting Fellow at The Fenner School of Environment and Society.

**Jacqui Russell** is a Postdoctoral Fellow at the School of Politics & International Relations in the Research School of Social Sciences.

## JOURNAL PROFILE

### *Society & Natural Resources - An International Journal*

*Society and Natural Resources* is a multi- and inter-disciplinary journal that brings together social science research on environmental and natural resource issues. A broad range of natural resource management issues are covered in the journal, from, for example, acid rain to bio-diversity in agriculture; from waste disposal to issues in forestry, fishery, soil management and water degradation. The journal caters to a wide audience: "...social and biological scientists; wildlife, fisheries, forestry, park, environmental, and natural resource managers; planners, impact assessors, and policy formulators; and international donor and development agency personnel, both public and private".

\* Website: <http://www.informaworld.com/smpp/title~db=all~content=t713667234>

\* Impact factor (2008): 1.167

## ABOUT ANU INTEGRATION NEWS

This newsletter aims to share updates on events, visitors, activities, opportunities and resources among ANU staff and students with an interest in research integration (or inter- or trans-disciplinarity).

Back issues are available at <http://i2s.anu.edu.au/i2s-publications/anu-integration-news>. To contribute material or to subscribe or unsubscribe from the newsletter, please contact Peter Deane at [ra.iis@anu.edu.au](mailto:ra.iis@anu.edu.au) or [peter.deane@anu.edu.au](mailto:peter.deane@anu.edu.au).