

July/August 2010, #24

WELCOME

Welcome to the July/August ANU Integration News.

There are no new events to report, but, as always, we provide information about conferences that may be of interest, publications by network members and journals that are receptive to papers on integration. Please do not be shy about sending in publications. We contact a small group of members every month about their publications, but you do not have to wait to be called! One of this month's publications is in the recently-published *The Oxford Handbook of Interdisciplinarity* and the book itself may also interest some.

Gabriele Bammer and Peter Deane

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ANU Integration Network Member Publications

- **Hirsch Hadorn, Gertrude., Pohl, Christian and Bammer, Gabriele.** (2010). Solving Problems through Transdisciplinary Research, In Frodeman, R. (Ed.), Klein J. T. and Mitcham, C. (Assoc. Eds.), *The Oxford Handbook of Interdisciplinarity*. Oxford University Press: Oxford, 431-452.
- **Jakeman, Anthony J., Voinov, Alexey A., Rizzoli, Andrea E. and Chen, Serena H.** (Eds). (2008). *Environmental Modelling, Software and Decision Support: State of the Art and New Perspectives*, Vol. 3. Elsevier, Amsterdam, Netherlands.
- **Ritter, Alison and Bammer, Gabriele.** (2010). Models of Policy-Making and their Relevance for Drug Research. *Drug and Alcohol Review*, **29**, 352-357.

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NEWS & EVENTS

New Conference Announcements

- 11-13 November 2010, The Science in Society Conference, Madrid, Spain (<http://science-society.com/conference-2010/>)
- 1-4 December 2010, Interdisciplinary Congress: Gendered Ways of Knowing? Gender, Natural Sciences and Humanities, Trento, Italy (<http://gender2010.fbk.eu/>)

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- 4 June **2011**, Inter And Transdisciplinary Issues Of Economic Behavior, Bucharest, Romania (http://itchannel.ro/faa-sesiune/sites/default/files/Call_for_papers_W_ITIEB_2011.pdf)

Upcoming Conference Reminders

- 2-5 August 2010, Fifth International Conference on Interdisciplinary Social Sciences, Cambridge, UK (<http://www.SocialSciencesConference.com>)
- 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>)
- 6-9 September 2010, 8th 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/\(yzwopcu2eu0zvvhm4wyhzb55\)/orcontent.aspx?inc=or52_main.htm](http://www.theorsociety.com/orshop/(yzwopcu2eu0zvvhm4wyhzb55)/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)
- 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, Association for Integrative Studies 32nd 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/)
- 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

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(http://www.aacu.org/meetings/undergraduate_research/2010/cfp.cfm?utm_source=meetings&utm_medium=blast&utm_campaign=undergradresearch2#themes)

- 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)

ANU INTEGRATION NETWORK MEMBER PUBLICATIONS

Hirsch Hadorn, Gertrude, Pohl, Christian and Bammer, Gabriele. (2010). Solving Problems through Transdisciplinary Research, In Frodeman, R. (Ed.), Klein J. T. and Mitcham, C. (Assoc. Eds.), *The Oxford Handbook of Interdisciplinarity*. Oxford University Press: Oxford, 431-452.

"Problem solving in the real world is an important driver for integrative and collaborative research. Problem directed research transgresses academic cultures and engages in mutual learning with societal actors in order to account for barriers in real-life and possible unintended effects of problem solving. This chapter explores two approaches of integrative and collaborative research: Transdisciplinary Research from Europe, and Integration and Implementation Sciences from Australia.

Transdisciplinary research (TR) aims at better fitting academic knowledge production to societal needs for solving, mitigating or preventing problems such as violence, disease or environmental pollution. TR strives to grasp the relevant complexity of a problem, taking into account the diversity of both everyday world and academic perceptions of problems, linking abstract and case-specific knowledge, and developing descriptive, normative and practical knowledge for the common interest. Integration is a core feature and major challenge of TR. Practitioners of TR call for a recursive approach to problem solving, focusing on problem identification and structuring, investigation, and bringing results to fruition as the three phases of the TR process."

"...Integration and Implementation Sciences lays out five core concepts, a set of five methods, and an overall framework for describing and planning integration. The concepts are: a systems approach, attention to problem framing and boundary setting, attention to values, a sophisticated understanding of ignorance and uncertainty, and understanding the nature of collaborations. The methods are dialogue-based, model-based, product-based, vision-based, and common metric based. The overall framework involves six questions that focus on aims, processes, actors, context, and outcomes."

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

Jakeman, Anthony J., Voinov, Alexey A., Rizzoli, Andrea E. and Chen, Serena H. (Eds). (2008). *Environmental Modelling, Software and Decision Support: State of the Art and New Perspectives*, Vol. 3. Elsevier: Amsterdam, Netherlands. [online] URL: <http://www.sciencedirect.com/science/book/9780080568867>.

"The complex and multidisciplinary nature of environmental problems requires that they are dealt with in an integrated manner. This is a challenging task for which modelling and software have become key instruments used to promote sustainability and improve environmental decision processes. This

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role can especially be one that facilitates systematic integration of various knowledge and data, that fosters learning and helps to make predictions. This book presents the current state of the art in environmental modelling and software and identifies the future challenges in the field ... Modelling can perform a range of valuable roles, from being a process of sharing and structuring knowledge to providing a means of investigating tradeoffs or increasing system understanding. Without full appreciation of their limitations and capabilities, however, there is a risk of models being misused or their outputs misinterpreted. On the other hand, model uncertainty cannot be totally eliminated but it can be understood, communicated and managed.

The common problems in modelling that must be understood by modellers and users, and approaches to address them are discussed in the first few chapters. This section of chapters highlights the need for better standards in modelling practice, appropriate handling of uncertainty and improvement of model usability. The next section of the book explores generic and sectoral issues in modelling in the context of the state of the art in modelling tools and approaches, and thereby identifies future research, development and practice needs. Challenges pervasive in various modelling fields include the need for more credible and purposeful models, for better uncertainty management and for more support of an open and collaborative modelling process. Overall a much stronger emphasis on the modelling and software process is warranted."

Anthony J Jakeman is the Director of the Integrated Catchment Assessment and Management Centre at The Fenner School of Environment and Society.

Serena Chen is a PhD Scholar at The Fenner School of Environment and Society.

Ritter, Alison and Bammer, Gabriele. (2010). Models of Policy-Making and their Relevance for Drug Research. *Drug and Alcohol Review*, **29**, 352-357.

"Introduction and Aims. Researchers are often frustrated by their inability to influence policy. We describe models of policy-making to provide new insights and a more realistic assessment of research impacts on policy. Design and Methods. We describe five prominent models of policy-making and illustrate them with examples from the alcohol and drugs field, before drawing lessons for researchers. Results. Policy-making is a complex and messy process, with different models describing different elements. We start with the incrementalist model, which highlights small amendments to policy, as occurs in school-based drug education. A technical/rational approach then outlines the key steps in a policy process from identification of problems and their causes, through to examination and choice of response options, and subsequent implementation and evaluation. There is a clear role for research, as we illustrate with the introduction of new medications, but this model largely ignores the dominant political aspects of policy-making. Such political aspects include the influence of interest groups, and we describe models about power and pressure groups, as well as advocacy coalitions, and the challenges they pose for researchers. These are illustrated with reference to the alcohol industry, and interest group conflicts in establishing a Medically Supervised Injecting Centre. Finally, we describe the multiple streams framework, which alerts researchers to 'windows of opportunity', and we show how these were effectively exploited in policy for cannabis law reform in Western Australia. Discussion and Conclusions. Understanding models of policy-making can help researchers maximise the uptake of their work and advance evidence-informed policy."

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

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JOURNAL PROFILE

Wiley Interdisciplinary Reviews: Climate Change

This is a new free on-line journal. "Climate change has become one of the most visible phenomena in the world today, recognized through the changes occurring to physical climates, natural and managed environments and social organizations, and also through deliberations about ethical responsibility and public policy. *Wiley Interdisciplinary Reviews: Climate Change* offers a unique platform for exploring current and emerging knowledge from the many disciplines that contribute to our understanding of this phenomenon – environmental history, the humanities, physical and life sciences, social sciences, engineering and economics. This publication has been developed in association with the Royal Meteorological Society and the Royal Geographical Society (with IBG) in the UK and provides an important new encyclopedic reference for climate change scholarship and research. It also acts as a forum for gaining a wider set of perspectives about how climate change is understood, analyzed and contested around the world." The editorial board can assess papers covering:

- Climate, History, Society, Culture
- Paleoclimates and Current Trends
- Climate Models and Modeling
- Assessing Impacts of Climate Change
- Climate, Ecology and Conservation
- Perceptions, Behavior and Communication of Climate Change
- Climate Economics
- Climate, Nature and Ethics
- Integrated Assessment of Climate Change
- Vulnerability and Adaption to Climate Change
- The Carbon Economy and Climate Mitigation
- Climate Development
- Policy and Governance
- The Social Status of Climate Change Knowledge

* Website: <http://www3.interscience.wiley.com/journal/123201100/home>

* Impact factor (2008): N/A

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 or peter.deane@anu.edu.au.