

WELCOME

Welcome to the first I2S News for 2016, which features new additions to the resources on the I2S website (<http://i2s.anu.edu.au>).

In the November/December 2015 issue we announced the launch of the Integration and Implementation Insights blog at <http://i2insights.org/> and invited you to join a global community blogging about research integration and implementation practices.

There are now 11 posts on the blog and we also invite you to join the discussion by commenting on them. Each I2S News will now also include the titles and links to the latest blog posts.

We hope 2016 is off to a good start.

Gabriele Bammer and Peter Deane

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FEATURED TOOLS

Ethical Matrix

The ethical matrix provides a structured process for identifying, weighing and integrating different, and potentially conflicting, values among the various stakeholders concerned with an issue or problem. The matrix has three principles - well-being, autonomy and justice - on the horizontal axis, with the various stakeholders affected by the problem and decision-making listed on the vertical axis. The task then is to identify and document the ethical impacts of the matter under consideration in each cell of the matrix.

Once the cells have been filled in, the relative importance of the issues identified needs to be weighed to assist in making a decision taking the different values into account, although the process for achieving this is not well articulated.

The ethical matrix can be used as a dialogue method or a desktop tool or a combination of the two.

- Reference: Ben Mepham, cited in McDonald, D., Bammer, G. and Deane, P. (2009). *Research Integration Using Dialogue Methods*. ANU Press: Canberra, Australia. Online: <http://press.anu.edu.au?p=60381>

Unknowns: Three Kinds

The matrix below provides a useful way of distinguishing between three primary categories of unknowns. The most familiar is ignorance that we are aware of, the 'known unknowns'. Most research addresses this kind of ignorance, seeking to fill known knowledge gaps.

Another kind of unknown is knowledge that we do not know we have, the 'unknown knowns' or tacit knowledge. Culturally appropriate behaviour is a good example.

The third kind of ignorance is what we do not know we do not know, the 'unknown unknowns'. We generally become aware of unknown unknowns in two ways. On a societal level unknown unknowns are exposed through hindsight, after an event, for instance, has caught us by surprise. For example before 2003, the communicable disease SARS was an unknown unknown - as a society we did not know that such a disease was developing and would strike. On an individual or community level, unknown unknowns can be exposed by interacting with people outside our usual circles, opening the potential for their knowledge to reveal an unknown unknown. For example, if I 'know' there is only one kind of rice, mixing with people from an ethnic culture or occupation (eg chefs) that use various varieties of rice can expose my unknown unknown.

	Known	Unknown
Known	Known knowns	Known unknowns (conscious ignorance)
Unknown	Unknown knowns (tacit knowledge)	Unknown unknowns (meta-ignorance)

Adaptation by Michael Smithson of Kerwin (1993), published in Bammer et al., (2008); Also described in Bammer (2013).

- References:
 - Bammer, G. (2013a). *Disciplining Interdisciplinarity: Integration and Implementation Sciences for Researching Complex Real-World Problems*. ANU Press: Canberra, Australia (Online: <http://press.anu.edu.au?p=222171>)
 - Bammer G., Smithson, M. and the Goolabri Group. (2008). The Nature of Uncertainty. In Bammer, G. and Smithson, M. (eds.) *Uncertainty and Risk: Multi-Disciplinary Perspectives*. Earthscan: London, United Kingdom, pp: 289-303
 - Kerwin, A. (1993). None too Solid: Medical Ignorance. *Science Communication*, **15**, 2: 166-185

For these and more tools, such as

- Scenario Method for Integrating Knowledge
- Rapid Outcome Mapping Approach: A Guide to Policy Engagement and Influence

See: <http://i2s.anu.edu.au/resources/tools>

FEATURED VIDEO

Transdisciplinary Research: Mixing Methods

Transdisciplinary research is based on the objects of integration and implementation. The research process aims to create space for common thinking, mutual learning and joint action between partners from diverse disciplines and societal fields in order to create knowledge, understanding and induce transformation. Therefore, an integrative methodology has to be set up consisting of a series of different types of methods which are mixed and coupled in transdisciplinary research.

These methods range from cooperation methods providing conditions for integration on a social and cognitive level to assessment and deliberative methods for systematically dealing with diverse sources of knowledge, interests, values and norms; they include management and evaluation methods as well as respective disciplinary or interdisciplinary research methods. Due to the idiographic character of transdisciplinary research, these combinations and adaptations vary according to the research setting and issue of concern. As a consequence, transdisciplinary research methodologies have to be arranged specifically for each research project. Thus, to consolidate transdisciplinary research it is important to clarify the dynamics and diversities of mixing and coupling methods.

This video covers different types of methods which are applied in transdisciplinary research, as well as how new inter- and transdisciplinary methods emerge. The presentation also includes an epistemological order of methods for transdisciplinary research and a conceptual model for a reflexive transdisciplinary research process.

This video "Mixing and Coupling Methods in Transdisciplinary Research and Research-Based Learning" presented by Ulli Vilsmaier and Matthias Bergmann was a plenary talk at the First Global Conference on Research Integration and Implementation held in Canberra, Australia, online and at co-conferences in Germany, the Netherlands and Uruguay, 8-11 September, 2013. Watch on YouTube at: <https://youtu.be/pfyqX8u7fpY>.

LATEST I2INSIGHTS BLOG POSTS

The [I2Insights blog](#) has recently featured posts on:

- Three options for research impact: informing, driving, triggering (<http://i2insights.org/2016/02/03/three-options-for-research-impact/>)
- Can mapping mental models improve research implementation? (<http://i2insights.org/2016/01/27/mental-models-and-research-implementation/>)
- Supporting academics' learning to design, teach and research transdisciplinary programs in higher education: what's the state of play? (<http://i2insights.org/2016/01/20/transdisciplinary-programs-in-higher-education/>)
- The promise of using similar methods across disciplines (http://i2insights.org/2016/01/13/using_methods_across_fields/)
- Where to publish? Journals for research integration and implementation concepts, methods and processes (<http://i2insights.org/2016/01/06/where-to-publish-research-integration-implementation/>)
- Practicality In Complexity (reblogged) (<http://i2insights.org/2016/01/04/practicality-in-complexity/>)
- Reinventing science? From open source to open science (<http://i2insights.org/2015/12/16/reinventing-science-from-open-source-to-open-science/>)
- Co-creation, co-design, co-production, co-construction: same or different? (<http://i2insights.org/2015/12/10/building-consensus-on-co-processes/>)

RECENT LINKEDIN GROUP POSTS AND DISCUSSIONS

The [LinkedIn Global Network for Research Integration and Implementation](#) has recently featured the following posts:

- Are you taking your professional relationships for granted? (blog post by Tamika Heiden) (<http://www.linkedin.com/groups/4888295/4888295-6082282776470511619>)
- L&D Opportunity (blog post and course advertisement for Jan/Feb by Lewis Atkinson) (<http://www.linkedin.com/groups/4888295/4888295-6089236134662000644>)
- Agile branding as an essential component of business strategy (blog post and course advertisement for Jan/Feb by Lewis Atkinson) (<http://www.linkedin.com/groups/4888295/4888295-6091139222897451008>)
- For agile leaders (blog post and course advertisement for Jan/Feb by Lewis Atkinson) (<https://www.linkedin.com/pulse/leaders-innovation-coaches-lewis-atkinson>)
- Knowledge Translation for Researchers (course advertisement for Feb 25 by Tahna Pettman) (<http://www.linkedin.com/groups/4888295/4888295-6093348934455943169>)
- Research impact: a big deal to funders (blog post by Tamika Heiden) (<http://www.linkedin.com/groups/4888295/4888295-6095798790088843268>)

FEATURED JOURNALS AND JOURNAL NEWS

Action Learning and Action Research Journal (ALARj)

The *Action Learning and Action Research Journal* (ALARj) "promotes the study and practice of Action Learning (AL), Action Research (AR) and related approaches," as well as fostering networking amongst Action Learning and Action Research communities globally. "The ALARj contains project reports, reflections on seminars and conferences, papers related to the theory and practice of action learning, action research and related approaches, and reviews of recent publications."

ALARj is the journal of the Action Learning, Action Research Association (ALARA).

- Website: http://www.alarassociation.org/pages/publications#gsuser_journal

Journal of Environmental Studies and Sciences (JESS)

"The *Journal of Environmental Studies and Sciences* offers a venue where relevant interdisciplinary research, practice and public policies can be recognized and evaluated. Increasingly, environmental studies integrate many different scientific and professional disciplines. Thus the journal seeks to set a rigorous, credible standard for specifically interdisciplinary environmental research. The *Journal of Environmental Studies and Sciences* is the official publication of the newly formed Association of Environmental Sciences and Studies (AESS)."

It publishes some papers relevant to I2S. For example in 2015 this included a review of deliberative engagement. Online first articles for publication in 2016 cover model based reasoning and key parameters for providing educational training for ecologists (translational ecology).

- Website: <http://www.springer.com/environment/journal/13412/PSE>

GAIA column on 'Toolkits for Transdisciplinarity'

The journal GAIA has recently published: Bammer, G. (2015). 'Toolkits for Transdisciplinarity - Toolkit #2: Engaging and Influencing Policy'. *GAIA*, **24**, 4: 221 [online] URL: <http://dx.doi.org/10.14512/gaia.24.4.2>.

For these and more journals, such as

- Human Ecology Review
- Journal of Public Deliberation

See: <http://i2s.anu.edu.au/resources/journals>

FEATURED NETWORKS

Knowledge Brokers' Forum (KBF)

The *Knowledge Brokers' Forum* (KBF) aims to build a global community supporting knowledge brokers in their work, as they foster "links, interaction, understanding and collaboration between knowledge producers, knowledge users and other stakeholders".

The focus is on knowledge brokers working in international development. The “long-term goal is to identify good practice, tools and techniques in knowledge brokering that can support existing players and newcomers to the field”.

The KBF website provides a set of resources, access to an online community, a wiki on knowledge brokering, and a blog to which members and visitors can contribute. A founding date for the KBF is not provided.

- Website: <http://www.knowledgebrokersforum.org/home>

Evidence-Based Policy in Development Network (ebpdn)

The *Evidence-Based Policy in Development Network* (ebpdn) is “a community of development professionals interested in the intersection between evidence, policy and practice... This network aims to establish a worldwide community of practice for think tanks, policy research institutes and similar organisations working in international development, to promote more evidence-based, pro-poor development policies.” It is hosted by the Overseas Development Institute (ODI), which provides a range of resources on topics such as policy engagement, advocacy, and understanding evidence.

The main activity of ebpdn is an active listserv, which has contributors from around the world. It provides notification of new resources, conferences, courses and other relevant materials, as well as being a forum for discussion. A founding date for ebpdn is not provided.

- Website: <https://partnerplatform.org/ebpdn/>

For this and more professional associations & networks, such as

- Hellenic Society for Systemic Studies
- European Association for Decision Making

See: http://i2s.anu.edu.au/resources/associations_networks

FEATURED CONFERENCE

Science of Team Science (SciTS) 2016 Conference

“Science of Team Science (SciTS) is a rapidly growing cross-disciplinary field of study that aims to build an evidence-base and to develop translational applications to help maximize the efficiency and effectiveness of team-based research”.

“The 2016 conference will review the current state of knowledge in the SciTS field, highlight applications for enhancing team science, and discuss future directions for advancing SciTS to improve the global scientific enterprise. Thought leaders in the SciTS field, scientists engaged in team-based research, institutional leaders who promote collaborative research, policymakers, and federal agency representatives will be in attendance”.

“This year’s event will highlight the interface of the SciTS field with current hot topics and emerging trends, including diversity in science teams, big data, citizen science, open data, and research networking. The conference will feature invited speakers in addition to submitted panels, papers, and posters”.

Abstract submission deadline is February 26, 2016.

The conference will be held in Phoenix, Arizona, United States of America on 16-19 May 2016.

For further details, please see:

- <http://www.scienceofteams.org/>

Other Upcoming Conferences

Conferences which have not been listed in previous newsletters are marked [NEW].

Interdisciplinarity, Transdisciplinarity and Action Research Methods

- [NEW] 7 April 2016, Interdisciplinary Learning and Teaching: Frameworks and Practice, Sheffield, United Kingdom (www.sheffield.ac.uk/als/current/interdisciplinarity)
- [NEW] 29 May - 2 June 2016, The Academy of Transdisciplinary Learning and Advanced Studies (ATLAS): Transdisciplinary-Transnational-Transcultural(T3) Conference on Design, Process & Systems, Suzhou, China (http://www.theatlas.org/index.php?option=com_content&view=article&id=166&Itemid=155)
- [NEW] 16-18 June 2016, Action Research Network of the Americas 2016 Conference, Knoxville, Tennessee, United States of America (<http://www.arnacconnect.org/conferences/2016-arna-conference>)
- [NEW] 27-30 October 2016, 38th Association for Interdisciplinary Studies (AIS) Conference, Ottawa, Canada (<http://www.oakland.edu/ais/conferences/annualconference/>)

Systems, Modelling and Simulation

- [NEW] 30 March - 1 April 2016, European Meeting on Cybernetics and Systems Research (EMCSR) avantgarde: Future Vision! What Life Do We Want? Vienna, Austria (<http://emcsr.net/general-information/emcsr-2016/>)
- 3-6 April 2016, Symposium on Theory of Modeling and Simulation (within the 2016 Spring Simulation Multi-conference), Pasadena, California, United States of America (<http://tms-devs.org/>)
- 11-13 April 2016, 8th Simulation Workshop (SW16), Stratford, United Kingdom (<http://www.theorsociety.com/Pages/Conferences/SW16/SW16.aspx>)
- 19-20 May 2016, 21st Coalition Theory Network Workshop, Venice, Italy (<http://www.coalitiontheory.net/section-annual-workshop>)
- 22-26 May 2016, 9th Chaotic Modeling and Simulation International Conference (CHAOS), London, United Kingdom (<http://www.cmsim.org/chaos2016.html>)
- 31 May - 3 June 2016, 30th European Conference on Modelling and Simulation (ECMS 2016), Regensburg, Germany (<http://www.scs-europe.net/conf/ecms2016/>)
- 3-6 June 2016, 28th European Conference on Operational Research, Poznań, Poland (<http://www.euro2016.poznan.pl/>)
- 12-16 June 2016, 11th International Conference on Systems of Systems Engineering (SoSE): SoSE and Cyber Physical Systems, from Academia to Application and Back, Kongsberg, Norway (<http://2016.sosengineering.org/>)
- 14-15 June 2016, Innovations in Collaborative Modeling: Addressing Complex Social and Environmental Problems through Systems Modeling Techniques, East Lansing, Michigan, United States of America (<http://modeling.outreach.msu.edu/>)

- 28 June – 1 July 2016, 9th International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction (SBP16), Washington DC, United States of America (<http://sbp-conference.org/sbp2016/about/>)
- 10-14 July 2016, Session on *Sociocybernetics, Simulation and Anticipation: Paradigms and Challenges*, in the 3rd ISA Forum of Sociology (RC51 Sociocybernetics), Vienna, Austria (<https://isaconf.confex.com/isaconf/forum2016/webprogrampreliminary/Session6970.html>)
- 13-17 July 2016, 24th Conference on User Modeling, Adaptation and Personalization, Halifax, Canada (<http://www.um.org/umap2016/>)
- 17-21 July 2016, 34th International Conference of the System Dynamics Society: Black Swans and Black Lies: System Dynamics in the Context of Randomness and Political Power-play, Delft, The Netherlands (<http://conference.systemdynamics.org/>)
- [NEW] 18-21 July 2016, International Council on Systems Engineering (INCOSE) International Symposium, Edinburgh, United Kingdom (<http://www.incose.org/symp2016/home/when-where>)
- 24-29 July 2016, 60th Meeting of the International Society for the Systems Sciences: Unity in Diversity - Humanity in Technology, Boulder, Colorado, United States of America (<http://iss.org/world/node/625>)
- 6-8 September 2016, Operational Research (OR) 58 Annual Conference, Portsmouth, United Kingdom (<http://www.theorsociety.com/Pages/Conferences/OR58/OR58.aspx>)
- [NEW] 7-9 September 2016, XIX International Conference on Systems Science, Wroclaw, Poland (<http://www.icss.pwr.wroc.pl/>)
- 19-23 September 2016, European Conference on Complex Systems (CCS'16), Amsterdam, The Netherlands (<http://www.ccs2016.org/>)
- [NEW] 19-23 September 2016, Social Simulation Conference 2016, Rome, Italy (<http://ssc2016.cnr.it/>)
- [NEW] 13-14 December 2016, 7th French Conference on Complex Systems Design & Management (CSD&M), Paris, France (<http://www.2016.csdm.fr/>)

Team Science and Project Management

- 9-11 May 2016, Project Management Institute (PMI) Global Congress 2016, Barcelona, Spain (<http://www.pmi.org/events/emea-2016.aspx>)
- 16-19 May 2016, Science of Team Science 2016 Conference, Phoenix, Arizona, United States of America (<http://www.scienceofteamspace.org/>)
- 14-16 July 2016, 11th Annual INGroup Conference, Helsinki, Finland (<http://www.ingroup.net/conference.html>)

Uncertainty, Risk and Decision Making

- [NEW] 20-22 June 2016, Conference 2016 - Society for Risk Analysis Europe (SRA-E): Understanding Risk: From Theory to Application in Policy and Practice, Bath, United Kingdom (<http://www.bath.ac.uk/ipr/events/news-0171.html>)
- 20-24 June 2016, 16th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, Eindhoven, The Netherlands (<http://is.ieis.tue.nl/ipmu/>)
- 10-14 July 2016, Session on *Epistemic Uncertainty and Complexity Theories*, in the 3rd ISA Forum of Sociology (RC51 Sociocybernetics), Vienna, Austria (<https://isaconf.confex.com/isaconf/forum2016/webprogrampreliminary/Session6650.html>)
- 10-14 July 2016, Thematic Group on Sociology of Risk and Uncertainty (TG04) at the 3rd International Sociological Association (ISA) Forum of Sociology, Vienna, Austria (<http://www.isa-sociology.org/forum-2016/tg/tg.php?n=TG04>)

- [NEW] 21-23 September 2016, 10th International Conference on Scalable Uncertainty Management (SUM 2016), Nice, France (<http://sum2016.unice.fr/>)
- [NEW] 30 November - 2 December 2016, 5th International Symposium on Integrated Uncertainty in Knowledge Modelling and Decision Making (IUKM), Da Nang, Vietnam (<http://www.jaist.ac.jp/IUKM/IUKM2016/>)
- [NEW] 11-15 December 2016, Society for Risk Analysis (SRA) Annual Meeting, San Diego, California, United States of America (<http://www.sra.org/events/sra-2016-annual-meeting>)

Bridging the Gap from Research to Policy and Practice

- [NEW] 28-29 June 2016, Canadian Knowledge Mobilization Forum, Toronto, Canada (<http://www.knowledgemobilization.net/event/2016-canadian-knowledge-mobilization-forum-forum-canadien-sur-la-mobilisation-des-connaissances>)
- 5-6 October 2016, 3rd Biennial Australian Implementation Conference, Melbourne, Australia (<http://www.ausimplementationconference.net.au/>)
- [NEW] 20-21 June 2017, Global Implementation Conference: Expanding Implementation Perspectives - Engaging Systems, Toronto, Canada (<http://gic.globalimplementation.org/>)

Other (including Sustainability Science)

- 11-15 May 2016, 8th International Conference for the Humanities, Arts, Science, and Technology Alliance and Collaboratory (HASTAC): Impact, Variation, Innovation, Action, Tempe, Arizona, United States of America (<http://www.hastac2016.org/>)
- 16-18 May 2016, 23rd Annual International Symposium on Sustainable Systems and Technologies, Phoenix, Arizona (<http://issst2016.net/>)
- 26-29 June 2016, Society for Ecological Economics (ISEE) 2016 Conference: Transforming the Economy - Sustaining Food, Water, Energy and Justice (<http://www.isecoeco.org/isee-2016-conference/>)
- [NEW] 18-19 July 2016, 13th International Conference of Engaged Scholars and Practitioners, Melbourne, Australia (<http://www.engagementaustralia.org.au/conference>)
- 26-29 July 2016, International Association for Conflict Management 2016 Conference, New York City, New York, United States of America (<http://www.iacm-conflict.org/>)
- 2-4 August 2016, 11th International Conference on Interdisciplinary Social Sciences: An Age and its Ends: Social Science in the Era of the Anthropocene, London, United Kingdom (<http://thesocialsciences.com/2016-conference/>)
- 17-19 August 2016, 7th Annual VIVO 2016 Conference, Denver, Colorado, United States of America (<http://vivoconference.org/>)
- 12-15 October 2016, XXI International Conference of the Society for Human Ecology: Shaping a Liveable Future: Research – Education – Policy, Santa Ana, California, United States of America (<http://societyforhumanecology.org/call-for-participation/>)

ABOUT I2S NEWS

The aim of this newsletter is to provide regular (bi-monthly) updates about new resources added to the Integration and Implementation Sciences website (<http://i2s.anu.edu.au/resources>). These resources are useful for researchers interested in Integration and Implementation Sciences (I2S), which underpins the investigation and tackling of complex real world problems, by:

- Synthesizing knowledge from different disciplines and stakeholders,
- Understanding and managing diverse unknowns, and
- Providing integrated research support for policy and practice change.

In general, each issue features tools (concepts and methods), case studies and/or approaches relevant to I2S - either a useful compilation or one or more examples of note. We also provide information about

journals, professional associations & networks, professional development courses and conferences where researchers can learn from others, report their findings and interact with like-minded peers. The newsletter also reports on discussions in the LinkedIn group "Global Network for Research Integration and Implementation": <http://www.linkedin.com/groups/Global-Network-Research-Integration-Implementation-4888295>.

I2S News is archived at: <http://i2s.anu.edu.au/what-i2s/i2s-publications/i2s-news>.

Useful links:

- I2S website: <http://i2s.anu.edu.au>
- I2S on YouTube: <https://www.youtube.com/user/i2sTalks>
- LinkedIn group "Global Network for Research Integration and Implementation": <http://www.linkedin.com/groups/Global-Network-Research-Integration-Implementation-4888295>
- I2Insights blog: <http://I2Insights.org>

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