

WELCOME

Welcome to the September/October i2S News! It contains information about additions and changes to the resources (tools, journals, professional associations and networks) on the i2S website (<https://i2s.anu.edu.au/resources>). The News also provides a list of the latest blog posts on the Integration and Implementation Insights blog (<https://i2insights.org>). It also features recommended and upcoming conferences from the list at <https://i2s.anu.edu.au/resources/conferences>.

Three additional items that may be of interest:

1. The launch of the ITD-Alliance – a global alliance for inter- and transdisciplinary research and education. The website is at: <http://www.itd-alliance.org/>. The plan for the next year is to focus on the formal establishment of the alliance overseen by a transitional board. Enquiries about membership by individuals and organisations are also welcome.
2. Invitation to contribute to an article collection on [Expertise in integration and implementation for transformative research](#). Contributions are welcome until December 2020 covering “the specialised knowledge, skills, competencies and dispositional attributes required to, for example, identify which disciplinary and stakeholder knowledges are relevant, synthesise different perspectives, manage power imbalances and legacies of colonisation in researching problems, and accommodate conflicting values and world views, including across different cultures.”
3. The journal *Evidence & Policy* has just published an open-access special issue on co-creation in knowledge production and implementation: <https://www.ingentaconnect.com/content/tpp/ep/2019/00000015/00000003;jsessionid=h4kl1bjp6m6lq.x-ic-live-03>.

Gabriele Bammer and Peter Deane

CONTENTS

Featured Tools

- Delphi technique
- Collaborative conceptual modelling (updated tool)

Latest i2Insights Blog Posts

- There have been 6 new contributions since the last i2S News

Featured Journal

- *Decision Analysis*

Featured Professional Associations

- International Society for Knowledge and Systems Sciences
- ITD Alliance

Featured Conferences

- Society for Decision Making Under Deep Uncertainty 2019 Annual Meeting
- International Association for Impact Assessment 2020 Conference
- 11th Annual International Science of Team Science Conference - 2020

About i2S News

- Aims and how to contribute, subscribe and unsubscribe

FEATURED TOOLS

Delphi technique

Purpose: To systematically solicit and collate expert judgments on a particular topic, which also provides a structured way for the experts to build on each other's ideas.

Description: Each expert is asked for their judgment on a topic using a questionnaire or interview; this does not require the experts to meet. The responses are collated and summarised and returned to the experts before proceeding with a second round of questions about the topic, often leading to voting on a particular question. The method is very flexible in the topics addressed, number of participants, number of iterations, whether questions are open-ended or structured and so on.

The experts are more likely to be able to come to consensus when there is a larger number of iterations.

The process is often anonymous to prevent anyone from dominating based on their reputation, authority or personality. It also makes it easier for participants to modify or change their assessments.

- **Reference:**
 - Delbecq, A. L., Van de Ven, A. H. and Gustafson, D. H. (1975). *Group techniques for program planning: A guide to nominal group and Delphi processes*. Green Briar Press: Wisconsin, United States of America. (Full text online): <https://sites.google.com/a/umn.edu/avandeven/publications/books/group-techniques-for-program-planning>

Collaborative conceptual modelling (updated tool)

Purpose: To help a research or policy-making group come to terms with the feedback dynamics of the system which characterises the problem they are interested in. The intent is to learn just enough about the way that feedback operates in the system-of-interest, that they can identify and explain its main effects. The aim is to avoid unwanted policy outcomes, despite having to work with constant change and significant levels of ignorance and uncertainty.

Description: The activities, which aim at understanding rather than prediction, are divided into two phases.

Phase I helps a group progress in developing a new, shared understanding through focused dialogue and conceptual integration.

It comprises three activities:

1. Discuss problem or situation of concern
Focus Question: What is the challenge?
2. Gather historical data to reveal patterns of change over space and time
Focus Question: What is the story?
3. Integrate individuals' mental models of cause and effect
Focus Question: Can I see how you think?

Phase II is designed to support the group's efforts to (a) develop a better understanding of the dominant dynamics of their system-of-interest, (b) identify leverage points for management interventions that can lead to effective adaptation, and (c) construct scenarios or other narratives that describe possible futures and that can guide policy making.

These correspond to the following three activities:

1. Identify dominant stock-and-flow structures
Focus Question: What drives system behaviour?
2. Identify opportunities for effective adaptation
Focus Question: Where are the leverage points?
3. Use improved understanding of system behaviour to develop 'memories of the future'
Focus Question: Can we have new eyes?

Phase II is more challenging than Phase I and requires a greater commitment of time and some level of modelling expertise.

The process is based on system dynamics, plus insights from applied history, complex adaptive systems, resilience thinking and cognitive science. It aims to balance strong guiding principles with flexibility of application. There are a number of ways to implement each activity in the process.

- **Reference:**

- Newell, B., and Proust, K. (2012). *Introduction to Collaborative Conceptual Modelling*, Working Paper, ANU Open Access Research. (Online):
<https://digitalcollections.anu.edu.au/handle/1885/9386>

Additional tools can be found at: <http://i2s.anu.edu.au/resources/tools>

LATEST i2INSIGHTS BLOG POSTS

The i2Insights blog (<http://i2insights.org>) has recently published the following posts:

Managing innovation dilemmas: Info-gap theory

by Yakov Ben-Haim

<https://i2insights.org/2019/10/08/info-gap-theory/>

10 tips for next generation interdisciplinary research

by Rachel Kelly

<https://i2insights.org/2019/10/01/10-tips-for-interdisciplinary-research/>

What do you know? And how is it relevant to unknown unknowns?

by Matthew Welsh

<https://i2insights.org/2019/09/24/knowledge-and-unknown-unknowns/>

Using a cartoon video to achieve research impact

by Darren Gray, Yuesheng Li and Don McManus

<https://i2insights.org/2019/09/17/cartoons-for-research-impact/>

How can we know unknown unknowns

by Michael Smithson

<https://i2insights.org/2019/09/10/how-can-we-know-unknown-unknowns/>

Using discomfort to prompt learning in collaborative teams

by Rebecca Freeth and Guido Caniglia

<https://i2insights.org/2019/09/03/discomfort-in-collaborative-teams/>

FEATURED JOURNAL

Decision Analysis

Decision Analysis is "dedicated to advancing the theory, application, and teaching of all aspects of decision analysis. The primary focus of the journal is to develop and study operational decision-making methods, drawing on all aspects of decision theory, decision analysis, and behavioral decision theory with the ultimate objective of providing practical guidance for decision makers. As such, the journal aims to bridge the theory and practice of decision analysis, facilitating communication and the exchange of knowledge among decision analysts in academia, business, medicine, industry, and government."

"Topics covered in *Decision Analysis* include:

- the discussion of new or existing procedures, processes, or algorithms for implementing decision analysis,
- cognitive, psychological, organizational, economic, policy, or social issues in applying decision analysis,
- innovative uses of information technology to perform decision analysis,

- issues in applying decision analysis to real-world situations, and
- other topics that further the theory and practice of decision analysis.”

As decision analysis and decision theory are interdisciplinary, the audience for *Decision Analysis* “includes specialists in decision theory, psychology, economics, statistics, forecasting, artificial intelligence, decision support systems, operations research, and management science, [as well as] practitioners of decision analysis who work as consultants or as in-house experts within organizations and those who teach courses in decision analysis or decision making in general.”

This is a journal of the [Institute for Operations Research and the Management Sciences](#) (INFORMS).

- **Website:**
 - <https://pubsonline.informs.org/journal/deca>

Additional journals can be found at: <http://i2s.anu.edu.au/resources/journals>

FEATURED PROFESSIONAL ASSOCIATIONS

International Society for Knowledge and Systems Sciences (ISKSS)

International Society for Knowledge and Systems Sciences (ISKSS) takes a broad-based and open-minded approach to the knowledge and system sciences so that they can inform each other methodologically and practically to the benefit of each. The “overall purpose of ISKSS is to promote development of knowledge science and systems science, as well as collaboration between [these] two sciences. It further seeks to encourage research and facilitate communication between ... scientists and professionals from various disciplines and professions at local, regional, national, and international levels”.

ISKSS is a membership based association, runs an annual symposium on Knowledge and Systems Sciences (KSS) and launched the [International Journal of Knowledge and Systems Science](#) (which it notes as its official journal, as does the [Information Resources Management Association](#)).

ISKSS was established in 2003 at the International Symposium on Knowledge and Systems Science in Guangzhou, China.

- **Website:**
 - <http://www.iskss.org/>

ITD Alliance

ITD Alliance is a global alliance for inter- and transdisciplinary research and education, which aims to “link networks, associations, institutions, and individuals with shared interest in inter- and transdisciplinary research [towards] addressing complex problems and questions, including real-world societal challenges.”

In this, the alliance supports those who:

- “move beyond highly specialized reductionist disciplinary efforts across fields;
- draw on and complement existing resources;
- refine, develop, and evaluate inter and transdisciplinary epistemologies, theories, methods, and interventions”

Operating as “an interconnected network... the ITD Alliance will promote research, education, and training by supporting regular networking opportunities and ongoing exchanges across science, social science, humanities, and arts. The ITD Alliance will provide a vehicle to increase visibility and coalesce work currently dispersed across continents. In this way, ITD Alliance will serve to catalyze greater collaboration focused on societal problem solving and understanding of complex issues. Its existence will also contribute toward achieving the United Nations’ Sustainable Development Goals”.

The ITD Alliance was established in 2017, at that year’s International Transdisciplinary Conference and formally launched at the 2019 conference.

- **Website:**
 - <http://www.itd-alliance.org/>

Additional professional associations and networks can be found at:

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

FEATURED CONFERENCES

Society for Decision Making Under Deep Uncertainty (DMDU) 2019 Annual Meeting: Securing Sustainable Futures - Designing, Planning, and Making Decisions on Policies, Practices, and Infrastructures under Deep Uncertainty

“Humanity is striving for a better and more sustainable future for all. Initiatives like the United Nation’s Sustainable Development Goals and the European Union’s focus on societal challenges or disaster-resilient societies exemplify this. Nevertheless, there remains a gap between agreeing on objectives, and translating these objectives into action. Whether the focus is on alleviating poverty, reducing hunger, promoting peace and justice, ensuring socially inclusive economic development, mitigating climate change, adapting to a changing climate, or protecting and restoring ecosystems, in moving from objectives to actions, deep uncertainty is omnipresent.” “Making sound and coordinated near-term decisions is critical, precisely because we live in an increasingly unpredictable dynamic world governed by competing and changing beliefs and preferences.”

This year’s theme is ‘Securing sustainable futures’ with a focuses on decision making under deep uncertainty.

The conference will be held in Delft, The Netherlands, on 5-7 November 2019.

- For further details see:
 - <http://www.deepuncertainty.org/annual-meetings/2019-annual-meeting/>

International Association for Impact Assessment (IAIA) 2020 Conference: Smartening Impact Assessment - Science, Technology and Governance Advancements toward Efficiency and Effectiveness

“Against the backdrop of digital and technological progress, this conference aims to explore related scientific, technological, and governance developments to reflect on whether the impact assessment community is getting any smarter at bridging the science and art of impact assessment. Are we communicating scientific information appropriately across the various governance tiers and to all relevant players? Do we understand what the “right” information is for decisionmakers and, indeed, how data and methodological innovation are influencing decisions? Is this leading to a new era of impact assessment and thinking? Or do we remain in the status quo? These and some other contemporary questions will help address how we can make best use of scientific innovation to address current practical challenges.”

The conference will be held in Seville, Spain, on 26-29 May 2020.

- For further details see:
 - <https://conferences.iaia.org/2020/>
 - Abstract (paper and poster) closing date: 31 October 2019

11th Annual International Science of Team Science Conference - 2020

“Building off over a decade of establishing the Science of Team Science, the 2020 conference will focus on highlighting and pursuing excellence in studying, doing, and teaching Team Science.”

The conference will be held in Durham, North Carolina, United States of America, on 1-4 June 2020.

- For further details see:
 - <https://www.inscits.org/2020-scits-conference>
 - Abstract closing date: 1 December 2019

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 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”:

<https://www.linkedin.com/groups/4888295/> (when these occur) and new entries on the Integration and Implementation Insights blog: <http://i2Insights.org>.

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”:
<https://www.linkedin.com/groups/4888295/>
- i2Insights blog: <http://i2Insights.org>

To subscribe or unsubscribe to the newsletter go to “i2S News” at <http://i2s.anu.edu.au> or contact Peter Deane at peter.deane@anu.edu.au. To contribute material please contact Peter Deane at peter.deane@anu.edu.au.