Conference

A Crisis of Expertise?

Legitimacy and the challenge of policymaking

15 & 16 February 2018
Arts West, Forum Theatre
University of Melbourne

Melbourne School of Government
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A Crisis of Expertise?
Legitimacy and the challenge of policymaking

Melbourne School of Government
University of Melbourne, Parkville
Arts West, Forum Theatre

Thursday 15 February 2018
9.30am-6.15pm

Conference Dinner from 6.30pm
(University House, Professors Walk, Main Dining Room)

Friday 16 February 2018
9.30am-3.30pm
Welcome message from the Director  
Melbourne School of Government

It is with great pleasure that I welcome you to ‘A Crisis of Expertise? Legitimacy and the challenge of policymaking’, a conference hosted by the Melbourne School of Government at the University of Melbourne. Please accept my sincere thanks for your attendance and participation in this conference.

We look forward to two days of stimulating and provocative presentations and discussions. These are interesting and challenging times. The economic, social and environmental governance challenges facing contemporary societies have grown in severity, scope and complexity, and policymaking is changing accordingly. At the same time, public trust in experts and their knowledge claims, and the authority of established institutions appears to be under pressure.

Some have achieved electoral success in part by playing on these doubts and by rejecting the claims of experts to specialised knowledge and authority. ‘People in this country have had enough of experts’ was the view of leading UK politician Michael Gove in 2016. US President Donald Trump has called global warming ‘bullshit’ and a ‘Chinese hoax’. Australia is not immune from these trends. We have seen some parliamentarians assert that vaccination causes autism, or that climate change is a fabrication, despite strong evidence to the contrary. We have seen a special commissioner appointed to investigate ‘Wind Turbine Syndrome’ despite no expert believing such a syndrome exists.

This conference is motivated by a sense that we need to probe deeply and self-critically into what is happening. It is too easy to lament ‘ignorant’ publics and call for improved communication of established knowledge, or bemoan politicians selectively choosing the evidence needed to justify the prior policy choices. We also need to examine expert practices and acknowledge that expert knowledge claims are often less secure and more tentative than they are sometimes presented. What knowledge claims and which expertise counts? What knowledge enhances social progress and contributes to social cohesion?

It is today widely understood that policymaking is much more complex than getting the facts right and then deciding the policy. Facts and values are deeply entwined and policies are almost always sociotechnical rather than simply technical. Power relations – including power in science – may be relevant too, not to mention public engagement in policymaking. The linear model where science is imagined to speak ‘truth to power’, where the facts ‘speak for themselves’, and where more expertise is equated with better policymaking, is a difficult one to sustain in practice. We need to ask what policymaking entails in the changing context within which we find ourselves?

These are the issues which this conference seeks to address. At the most abstract level we seek to understand the ways in which knowledge is developed/conscripted, to inform/shape policy and attendant regulation, and the effectiveness (or otherwise) of its implementation. At the more practical level we do this in the hope that better ways of generating policy and policy-relevant knowledge are possible.

Professor John Howe
Director
Melbourne School of Government
About the Melbourne School of Government

The Melbourne School of Government brings together disciplinary expertise from across the University and combines it with the knowledge and skills of practitioners from politics and government. Together, this vibrant community works to generate workable and shared solutions to the most significant policy and governance challenges of our time. We engage in innovative inter-disciplinary teaching and research. Our programs inspire and nurture future leaders from Australia, our region and the world. We support students and graduates to pursue new ideas, take wiser decisions and build more effective public institutions.

The foundation disciplines for the Melbourne School of Government are political science, economics and law. In these three fields, the University of Melbourne boasts long traditions, producing distinguished graduates including Prime Ministers and Premiers, public service leaders and many distinguished citizens in business and the wider community.

The Melbourne School of Government is also responsive to the breadth of public questions facing society. Through every discipline within the University, from architecture to zoology, public questions are asked and debated. The School draws on the comprehensive character of a university with deep expertise in many knowledge areas, to talk about how academics can better contribute to public conversations, and societies' collective wisdom.

By bringing together expertise from across the University and various disciplines including, but not limited to, economics, political science, international relations, sociology, development studies, philosophy and law, the School seeks to unite policy makers, industry leaders and citizens through ideas that are both actionable and that provide lasting solutions.

Acknowledgements

We acknowledge the Traditional Owners of the land on which this event is taking place, the land of the Wurundjeri and pay respect to their Elders and families.

The Conference Academic Committee

Professor John Howe, Director, Melbourne School of Government, University of Melbourne
Professor Jon Pierre, University of Gothenburg & Melbourne School of Government, University of Melbourne
Professor Lars Coenen, City of Melbourne Chair of Resilient Cities, University of Melbourne
Professor Robyn Eckersley, School of Social and Political Sciences, University of Melbourne
Dr Jeremy Baskin, Melbourne School of Government, University of Melbourne
Dr Daniel McCarthy, School of Social and Political Sciences, University of Melbourne

and acknowledgements and thanks to Professor Andrew Walter and Dr Avery Poole, both from the Melbourne School of Government, University of Melbourne, for their contributions to the initial conference planning and design.

The Conference Coordinator

We would also like to thank Christine Lancaster for organising and coordinating the many logistical and administrative details that go into making a conference a success. Thanks also to Troy Hunter and his team at the Melbourne Law School for their assistance in publicising and supporting the event.
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KEYNOTE ADDRESS DAY 1: Sheila Jasanoff

Chair: James Parker
University of Melbourne

JAMES PARKER is a senior lecturer at Melbourne Law School, where he is also Director of the research program ‘Law, Sound and the International’ at the Institute for International Law and the Humanities. James’ research addresses the many relations between law, sound and listening, with a particular emphasis at the moment on sound’s weaponisation. He was recently a Visiting Research Fellow with the Program on Science, Technology and Society at Harvard.

Professor Sheila Jasanoff
Pforzheimer Professor of Science and Technology Studies, Harvard Kennedy School

Toward a Post-Modern Constitution: Reason and Representation in the 21st Century

Three hundred years of scientific advancement bred confidence in a form of government whose political foundations eroded as its reach and ambitions grew. This was government by expertise and reason rather than by the consent of the people. Secure in the faith that knowledge stands above politics, experts the world over increasingly came to believe not only that they could give answers to the questions asked by politicians and publics—speaking truth to power—but also, increasingly, that they could define the very questions that democratic societies should be addressing as their priorities. I argue that today’s so-called crisis of expertise is in reality a crisis of democracy, as people have come to question the founding myths of expert authority: the separation of facts and values and the neutrality and objectivity of scientific facts. To regain a workable, progressive balance between knowledge and power, it will be necessary to tend to the invisible constitutional foundations of government by expertise, in short, to repair the connections between good reason and good representation.

SHEILA JASANOFF is Pforzheimer Professor of Science and Technology Studies at the John F. Kennedy School of Government at Harvard University. Previously, she was founding chair of Cornell University’s Department of Science and Technology Studies. At Harvard, she founded and directs the Program on Science, Technology and Society. Jasanoff’s research centres on the interactions of law, science, and politics in democratic societies. She has written more than 120 articles and book chapters and authored or edited more than 15 books including The Fifth Branch, Science at the Bar, and Designs on Nature. An edited volume, Dreamscapes of Modernity, was published in 2015. Her newest book, The Ethics of Invention, appeared in 2016.

Jasanoff has held numerous distinguished professorships in the US, Europe, Australia, and Japan. She was a Fellow of the Wissenschaftskolleg zu Berlin and Karl W. Deutsch Guest Professor at the Wissenschaftszentrum Berlin. Her awards include a Guggenheim fellowship, the Austrian Government’s Ehrenkreuz, the George Sarton Chair of the University of Ghent, the Bernal award of the Society for Social Studies of Science, and an honorary doctorate from the University of Twente. She is a foreign member of the Royal Danish Academy of Sciences and Letters and a member of the Council on Foreign Relations. She holds an A.B. in Mathematics from Harvard College, a Ph.D. in Linguistics from Harvard University, and a J.D. from Harvard Law School.
ROBYN ECKERSLEY is Professor and Chair of the Discipline of Political Science in the School of Social and Political Sciences at the University of Melbourne. She has published widely in the fields of environmental politics, political theory and international relations, with a special focus on the ethics and governance of climate change. Her recent books include *The Oxford Handbook of International Political Theory* (2018, co-edited with C. Brown); *Globalization and the Environment* (2013) (co-authored P. Christoff); *Special Responsibilities: Global Problems and American Power* (2012, co-authored with M. Bukovansky, I. Clark, R. Reus-Smit, D. Price & N. Wheeler). Her book *The Green State: Rethinking Democracy and Sovereignty* (2004) was co-winner of the Melbourne Woodward Medal in 2005 for the best research in Humanities and Social Sciences and was runner up in the International Studies Association’s Sprout Award for 2005 for the best book on Environmental Studies. She was elected as Fellow of the Academy of the Social Sciences in Australia in 2007.

Darrin Durant  
University of Melbourne  
*Expertise and the Goldilocks principle*

There are many good reasons why experts should be thought of as best suited to playing the role of democracies handmaiden rather than democracies boss. But there are also some good reasons for thinking that expertise in a completely subservient role is not good for democracy. Many of us can imagine contexts in which it is best experts remain servants and contexts in which it is helpful for experts to play a more leading role, and many of us are therefore probably tempted by some Goldilocks Principle that establishes ‘just enough’ expertise. In this paper, I suggest that only one type of application of the Goldilocks Principle holds promise for achieving a kind of ‘just enough’ use of expertise in a democracy. Those committed to limiting expertise to a handmaiden role in democracies do not deny the ‘just enough’ intuition, but ultimately push for a kind of watertight compartmentalisation between expertise and democracy. The view that expertise ought to be a handmaiden to democracy rightly worries about experts illegitimately narrowing the scope of political debate, but is unreflexive about an implicit guiding ideal, that ideally we would have watertight compartmentalisation between experts and democracy. In contrast to the handmaiden view of expertise, which trades on an opposition between authority relations and democracy, I suggest we need to further cultivate truly deliberative conceptions of expertise. Authority relations are functional for complex democracies, and expertise forms part of deliberative mechanisms rather than standing aside from them. This latter application of the Goldilocks Principle agrees that watertight compartmentalisation of expertise from democracy is not possible, but counsels some complacency about some of the ‘leakage’, lest we be accidentally saddled with a populist epistemic regime. Put differently, to retain the ideal of expertise informing democracy without dominating democracy, we need to deny watertight compartmentalisation of functions as an ideal.

DR DURANT is Lecturer in Science and Technology Studies at the University of Melbourne and unconvinced by those who argue that authority relations and democracy trade off against one another. He pursues this idea across several cases, like nuclear waste disposal, climate change, green manufacturing, energy policy, and theories of deliberative democracy. Recently he has taken to saying we need deliberative systems not populism, and that an unholy trinity of Mumford-Marcuse-Gouldner might correct the slide into post-truth populism.

Colin Wight  
University of Sydney  
*Post-truth, politics, and dealing with uncertainty*

The crisis of expertise is part of what has come to be known as post-truth discourse. Many of the discussions of post-truth miss what is new about the phenomenon. In this talk, I will explore the concept of post-truth, and distinguish between the production of falsehoods, lies, bullshit, and propaganda, which are not new, and the manner in which publics respond to falsehood, lies, bullshit, and propaganda, which is new. Understanding post-truth in this way allows us to illuminate its causes and requires us to examine our understandings of truth, facts, and uncertainty in both science and policy-making.

COLIN WIGHT is Professor and Chair of Government and International Relations in the School of Social and Political Sciences at the University of Sydney, Australia. His research area is the philosophy of social science, with a focus on the scientific status of Political Science. His Cambridge University Press book, *Agents, Structures and International Relations*, examines the manner in which differing theories conceptualise the key units of analysis that are claimed to contribute...
to the processes of International Relations, and attempts to show how these understandings play a role in substantive empirical research and the practice of international politics. He is also interested in all aspects of political violence and has recently published *Rethinking Terrorism: Terrorism, Violence and the State* (Palgrave, 2015). He is a founding member of the Post-Truth Initiative at the University of Sydney. He moved to Sydney in January 2011, having previously worked at Exeter, Sheffield and Aberystwyth. He also served as the Editor in Chief of the *European Journal of International Relations* from 20008-2013.

**Helen Sullivan**  
**Australian National University**  
*Nostalgia, nirvana and the painful persistence of ‘unknown knowns’ in public policy*

The prevailing narrative that describes the ‘new normal’ of public policy making references among other things, to global and domestic political turbulence, loss of faith in institutions, economic instability, and policy challenges that resist our best efforts to address them. ‘Complexity, uncertainty, and ambiguity’ are the keywords in the policy analyst’s lexicon. The phrase ‘digital disruption’ raises existential questions, and for some, existential threats. New, better, faster ways of making public policy are insisted upon and there is no shortage of ‘knowledge brokers’ offering advice on how to achieve this.

The public policy landscape is littered with approaches, models, and instruments that purport to deal with the contemporary condition. They include but are not limited to: evidence-based policy (or evidence-informed policy), post-normal science, wicked problems, theory-based evaluation, realist analysis, the art of the policy narrative, or storytelling, behavioural economics, a focus on ‘big data’, quantification and experimentation. Their advocates argue for greater or lesser permeability of the knowledge-policy interface, more or less ‘contestability’ of policy advice, and a widening or narrowing of the conception of ‘the public’ in public policy making.

This presentation explores the proliferation and co-existence of these competing and sometimes conflicting approaches. It argues that a determination of the utility of any or all of these approaches requires our understanding a constant tension in public policy analysis; the longing for the certainty of the past (nostalgia), and the desire for the techno-political perfection of the future (nirvana). That tension is resolved in different ways at different points in time so enabling particular public policy approaches to gain ascendency.

Any resolution is also informed, shaped or undercut by another feature of the knowledge-policy interface, the ‘unknown knowns’. These are defined by Slavoj Žižek as those things we are unaware of knowing, or choose not to know, but either way they form the background of our public values. Delineating these ‘unknown knowns’ provides insight into the potential and limits of ‘our’ public policy knowledge and raises questions about truth, trust and expertise claims.

**PROFESSOR HELEN SULLIVAN** is a leading public policy thinker and academic whose work has shaped understanding of the changing nature of state-society relationships and their implications for public governance. As Director of the Australian National University’s Crawford School of Public Policy, she heads Asia-Pacific’s leading public policy school. Helen is widely published and appears regularly in print and online media commenting on contemporary public policy issues. She is committed to bridging the gap between research and policy and has led and supported successful innovations in this area in both the UK and Australia. In 2018 she was appointed National Fellow of the Institute of Public Administration Australia.
SESSION 2.1: Public institutions and social imaginaries in knowledge production
Chair: Daniel McCarthy
University of Melbourne

DANIEL R MCCARTHY is Lecturer in International Relations in the School of Social and Political Sciences, University of Melbourne. His research examines the role of technology in global politics and the politics of transparency. He is author of Power, Information Technology, and International Relations Theory: The Power and Politics of US Foreign Policy and the Internet (Palgrave 2015) and editor of Technology and World Politics: An Introduction (Routledge 2017).

Georgia Miller
University of New South Wales

Securing state sponsorship for nanotechnology: The divergent form and work of sociotechnical imaginaries in the United States and Australia

Late-modern capitalist states are often assumed to share an imaginary in which technological strength underpins their economic and military standing and, relatedly, to be enthusiastic sponsors of new technology development. However, these assumptions may not always be supported. A comparative study of efforts to consolidate state support for nanotechnology in the early 2000s reveals significant variation in the extent to which political elites imagine technological innovation to be necessary to national competitiveness. As United States (US) proponents worked to make promissory claims for nanotechnology persuasive to political audiences, they benefited by evoking an imaginary in which US technological leadership – underwritten by state support – was vital to the nation’s prosperity and progress. Yet as their counterparts sought to establish a national nanotechnology strategy in resource-rich Australia, they lacked comparable discursive and ideational resources with which to build credibility for their claims. Australian advocates for nanotechnology encountered an absent imaginary regarding technology’s economic significance and its role in nation building, an ostensibly competing imaginary in which the country’s economy would rely in perpetuity on the export of mining commodities, and difficulties in appealing to the Australian nation as ‘imagined community’. The study illuminates the situated nature of work to render promissory claims for new technologies salient to political audiences, and the importance of discursive resources in such efforts. It suggests also that the assumed form and sites of sociotechnical imaginaries’ expression merits greater investigation.

GEORGIA MILLER was recently awarded her PhD in Science & Technology Studies. Her thesis explored how particular fields of technoscience become singled out for priority funding and political support, and how certain imaginations of the future condition states’ development of innovation policy, using political and policy responses to nanotechnology in Australia and the United States as case studies. Georgia is currently a research assistant for the ARC Centre of Excellence in Convergent Bio-Nano Science & Technology (UNSW), investigating sociopolitical dimensions of bio-nano medicines development and health and medical research policy.

Jon Pierre
University of Gothenburg (Sweden) and University of Melbourne

Trust and expertise: The institutional dimension of expertise

Citizens’ engagement with public sector experts is only rarely an interaction person-to-person but more commonly an exchange between the client and a public institution. Public sector institutions could be seen as reservoirs of expertise created to deliver high-quality public services and efficient and responsive regulation. The degree to which a client trusts a public sector expert depends to a large extent to which s/he trusts the institutions that the expert represents. Institutional trust, in turn, is closely linked to institutional performance. Geet Bouackert (2012) argues that ‘good performance does not necessarily lead to more trust, but bad performance certainly will erode trust’.

This presentation will report an analysis of institutional trust in Sweden, often described as a quintessential high-trust society. While a high level of institutional trust remains emblematic to the Swedish society, growing differences in the level of trust in different institutions have emerged over the past 10-15 years. This pattern raises important questions about the sources of institutional trust, and, by extension, citizens’ trust in public sector expertise. The analysis draws on survey data collected by the SOM Institute over the past two decades.

JON PIERRE is Professor of Political Science at the University of Gothenburg, Sweden and Professor of Public Governance, Melbourne School of Government, University of Melbourne. He is also Adjunct Professor at the University of Pittsburgh. His most recent books in English include Governing the Embedded State (Oxford University Press, 2015) (with Bengt Jacobsson and Göran Sundström); (ed) The Oxford Handbook of Swedish Politics (Oxford University Press, 2015); and Comparative Governance (Cambridge University Press, 2017) (with B. Guy Peters). His work has also
appeared in journals such as Administration and Society, Journal of Public Administration Research and Theory, Public Administration and Journal of Politics.

Ruth O’Connor¹ and Wendy Russell ¹,²
The Australian National University (¹)
Double Arrow Consulting (²)

How expert knowledge is valued and communicated in the natural resource management sector

If we assume that public policy informed by the latest expertise including science is a worthwhile goal we need to understand who institutionalised decision-makers are, how they access expertise and what that expertise consists of. In the natural resource management (NRM) sector in both Australia and South Africa there are multiple levels of NRM governance and a variety of decision making roles. These include the familiar political appointees and the less familiar public servants working at national, state/provincial or local levels. My case studies and previous research on these less familiar groups in the sector show they are both targeted audiences for science communication as well as initiators of communication processes with scientists. While scientists may offer advice in these contexts, institutionalised advisory groups are uncommon. Instead there is a push, particularly from academia, toward various processes of research collaboration and knowledge co-production that can ultimately inform decisions.

My case studies indicate that NRM decision-makers deal with highly complex management issues and generally have a positive attitude to science as a legitimate source of knowledge to address these issues. What is perhaps less widely understood is the value of the decision-makers’ own knowledge and communication processes that can elicit that knowledge and combine it with other expertise to tackle natural resource management issues. Decision-maker expertise includes knowledge of local ecosystems and stakeholders built up over time as well as the practical application of science in their institutional context. Rather than a lack of trust in experts, the crisis in NRM may be the loss of this decision-maker expertise through institutional instability and shifting political priorities.

RUTH O’CONNOR is undertaking a PhD in science communication at the Centre for the Public Awareness of Science at the Australian National University. She also has over ten years’ experience as a knowledge broker in multidisciplinary research groups. Ruth’s PhD research is inspired by her work with institutionally based decision-makers seeking to apply science. Her research focuses on the nature of decision-maker publics and the values associated with their engagement with science through communicative processes.

DR WENDY RUSSELL is a sessional academic at the Australian National Centre for the Public Awareness of Science at the Australian National University, where she convenes a course in Science Dialogue, and is an associate of the Centre for Deliberative Democracy and Global Governance, University of Canberra. She is also Director of Double Arrow Consulting, a Canberra business specialising in two-way engagement. Wendy previously worked in the Commonwealth Department of Industry, Innovation, Science and Research, managing the Science & Technology Engagement Pathways (STEP) program. Before this, she was Senior Lecturer in Biological Sciences at the University of Wollongong, where she researched social aspects of biotechnology, transdisciplinary inquiry, and technology assessment.

SESSION 2.2: Politics and discourses of expertise

Chair: Gyorgy Scrinis
University of Melbourne

DR GYORGY SCRINIS is Senior Lecturer in Food Politics and Policy in the School of Agriculture and Food at the University of Melbourne. His research examines the scientific, technological and political dynamics of food systems, with a focus on the philosophy of nutrition science, nutrition policy, processed food quality, agricultural technologies, food corporations, food labelling and animal welfare issues. He is the author of Nutritionism: The Science and Politics of Dietary Advice (Columbia University Press, 2013).

Mark Badger
Australian National University

The facts can’t speak for themselves: why politics and persuasion are essential to science

Many in the scientific and economic communities seem perennially perplexed and frustrated by the difficulties in getting their advice taken seriously by policy makers due to what they see as irrational, and even anti-rational, tendencies that are increasingly prevalent in public debates. One response has been to advocate for experts themselves to develop a better understanding of the political nature of policy making, and to learn to ‘package’ their advice more effectively so as to be more persuasive. Although this approach is gaining some traction, for many experts talk of ‘packaging’ and ‘politics’ represents an affront to their epistemic authority and risks compromising scientific values by
persuasion is already everywhere in science: even the most rigorous inferential process inevitably harbours inferential ‘gaps’ that are only resolved through subjective interpretations and judgments that are not warranted on strictly epistemic grounds. I make a pragmatic case for the inevitability of inferential gaps in a way that both preserves the epistemic values of scientific inquiry and shows that persuasion is an integral part of good science, and can be embraced as a responsible way of engaging in public debates.

MARK BADGER is an Academic Skills Advisor with the Crawford School of Public Policy at the Australian National University, where he endeavours to inculcate a sense of reflective and critical thinking within the student body. He once began a PhD in the philosophy of language, but was distracted by the many disciplines with which it shares boundaries, and now spends his spare time trying to think of ways in which understanding how humans make sense of the world might be relevant to the study of public policy.

Wendy Russell
Australian National University

Crisis of discourse? Citizen deliberation as an intervention to bring needed virtues into practice

Low trust in experts and political decision-makers is related, at least in part, to the poor quality of public discourse. We observe politicians and bureaucrats as strategic and self-serving, and reactive rather than responsive; experts as superior, self-promoting, but also conflicted and contestatory; citizens as increasingly ill-informed but more strident, with no deference to expertise or authority; and media, business and lobby groups and activists as distorting, dealing and dissembling. There is poor quality discourse wherever you look!

This is an issue not just of knowledge and expertise, but of practice and conduct. Practices of knowledge production, political decision-making, and public debate are competitive, adversarial, siloed and reactive. I argue that what is missing are some key virtues or qualities of practice: integrity, humility, generosity and vulnerability. Their absence results in abuse or neglect of expert knowledge, but is not caused by this abuse nor remedied by reinstatement of the authority of expertise. Developing these virtues is key to reinstating trust, and necessary to developing the care approach recently advocated by various scholars.

Citizen deliberation processes, such as citizens’ juries, are applauded as forums in which policy issues are debated in ways that are more inclusive of diverse voices, better informed by relevant evidence and expertise, and more reasoned through structured and facilitated deliberation. In my experience, beyond these self-evidently good features, citizen deliberation is compelling and transformative by virtue of the integrity, humility, generosity and vulnerability that they invoke in practice. I will discuss the role of citizen deliberation in democracy and in relation to the ‘crisis of expertise’. Rather than presenting such forums as the solution to improving discourse, I present them as an intervention to develop and promote virtues in discourse generally.

DR A WENDY RUSSELL is a sessional academic at the Australian National Centre for the Public Awareness of Science at the Australian National University, where she convenes a course in Science Dialogue, and is an associate of the Centre for Deliberative Democracy and Global Governance, University of Canberra. She is also director of Double Arrow Consulting, a Canberra business specialising in two-way engagement. Wendy previously worked in the Commonwealth Department of Industry, Innovation, Science and Research, managing the Science & Technology Engagement Pathways (STEP) program. Before this, she was Senior Lecturer in Biological Sciences at the University of Wollongong, where she researched social aspects of biotechnology, transdisciplinary inquiry, and technology assessment.

Jeremy Baskin
University of Melbourne

The sound of extinction: affect and expertise in an age of risk management

The Christmas Island pipistrelle is a small species of bat endemic to that island. It was listed as ‘endangered’ in 2001, as ‘critically endangered’ in 2006, and became extinct in 2009.

I will trace the scientific expertise mobilised in the effort to prevent this grim outcome and the policy lessons which experts have drawn since this extinction event. I will share the recording of the last call of the last individual on its last night, and examine the feelings elicited by the recording in the context in which I first heard it.

I use this case to explore the difficulties traditional expert forms of knowledge have with accommodating human emotions and values, and the efforts which go into maintaining the objective/rational and subjective/irrational distinction. When translated into policy advice this can restrict the imagination about what is possible, lead to narrowly-conceived policy proposals, prioritise information over knowledge, and preclude wisdom.
SESSION 2.3: Ways of seeing: Legitimacy, authority and the creation of expertise

Chair: Terry MacDonald
University of Melbourne

Terry MacDonald is a Senior Lecturer in International Relations at the University of Melbourne, having previously held positions at Merton College, Oxford University, the Centre for Applied Philosophy and Public Ethics at the ANU, and Monash University. She is the author of Global Stakeholder Democracy: Power and Representation Beyond Liberal States (Oxford University Press, New York: 2008) and co-editor of Global Political Justice (Routledge, London: 2013). She has published further on topics of global democracy, legitimacy, and political justice in journals including Ethics & International Affairs, International Theory, the European Journal of International Law, Political Studies, and the European Journal of Political Theory.

David Mercer
University of Wollongong

The crisis of expertise? Continuities and discontinuities in the processes of legitimating and challenging the authority of experts

There has been a recent proliferation of academic and popular commentaries pre-occupied with ‘the crisis of expertise’: a crisis signified by an apparent recent decline in the political and social authority of scientific and technical expertise in western societies. A flagship for these concerns has been the considerable opposition in educated wealthy nations such as Australia and the United States to the scientific consensus on Anthropogenic Global Warming (AGW). This opposition is often explained as part of growing ‘anti-science’, even post- modern cultural ‘turn’, which tolerates the vagaries of a world of ‘post- truth’ interpretations ahead of scientific facts. I will suggest that these types of explanations frequently fail to consider the way many nominally ‘anti-science’ groups such as climate sceptics, frequently appeal to traditional scientific arguments drawn from ‘pop’ philosophy of science to attempt to legitimate their claims and (deviant?) expertise. As a case study I will analyse the use of frequent references to ‘pop’ versions of the ‘classic’ philosophy of Sir Karl Popper in traditional media and blogosphere in the AGW debate by climate sceptics and also some notable promoters of the AGW consensus (see David Mercer ‘Why Popper Can’t Solve the Problem of Global Warming’, Public Understanding of Science, 2016). These current appeals to Popper and ‘pop’ philosophy of science follow longer standing patterns in the ways science and expertise have been legitimated and challenged in public, legal and regulatory settings. It will be suggested that whilst it is appropriate for analysts to be pre-occupied with the ways perceptions of science and expertise are being re-shaped in an age of populism, globalization and social media, they also need pay attention to longer standing continuities surrounding the ways expertise is legitimated and challenged and carefully define what they mean by ‘anti –science’ and ‘the crisis of expertise’.

David Mercer is Associate Professor in Science and Technology Studies at the University of Wollongong, Australia. He has published widely on topics involving the sociology and politics of expertise with a particular focus on law and expertise and the critical public understanding of science and scientific controversies. Case studies have included: Expert Evidence; Juries; Creation Science; Climate Change; the EMF debate; Evidence Based Medicine; and Toxic Torts (Pharmaceuticals and Asbestos).

Declan Kuch
University of New South Wales

Subjects, numbers, narratives: The limits of QALY and tCO2-e as regulatory devices

Abstract metrics designed to govern and regulate healthy populations and economic activity have proliferated in recent decades. This presentation critically considers the implementation of two such regulatory metrics, namely the ‘Quality Adjusted Life Year’ (QALY), and tonnes of Carbon Dioxide-equivalent (tCO2-e) in Australia. The QALY assigns a ‘utility’ value to states of health based on 1.0 (full health) to 0 (death); whilst tCO2-e commensurates a range of gases with...
carbon-dioxide to allow their common regulation, especially through trading on carbon markets. We examine the subjects implied, or sometimes rendered explicit, in these metrics through key policy episodes: the decision to include Herceptin on the Pharmaceutical Benefits Scheme; and inclusion of carbon offset provisions in Australian climate policy. In these episodes, we trace uneven and troubled trajectories whereby science policy instruments encode motifs of distributive justice, expert judgement and rational economization (Çalışkan and Callon, 2009). We close with a discussion of how STS scholarship can make sense of the frictions between politically palatable measures and those designed with fairness and equity in mind by considering the trans-national nature of these contemporary issues.

DECLAN KUCH is a Research Fellow in the School of Humanities at the University of New South Wales. As a sociologist of science and technology, his research is motivated by the problem of how to reconcile public values with economic democracy. His research covers climate change, energy policy and the social dimensions of the life sciences. His main role is co-leader of the Social Dimensions stream of ARC Centre of Excellence in CBNS. He also co-ordinates the Outreach Committee, which involves producing the Centre’s ‘Biomedical Futures’ events. He is currently researching the social, ethical and political dimensions of precision medicine. He has also published widely on topics related to climate change policy and energy, including ‘The Rise and Fall of Carbon Emissions Trading’ (2015, Palgrave McMillan’s Energy and Environment Series). He has consulted to the Australian Council of Learned Academies on public engagement with technology.

Rey Tiquia
University of Melbourne

Clinical evidence, medical expertise and Traditional Chinese Medicine

‘Without evidence, there will be no credence; and without evidence, the people will not follow’, says a quote from the Doctrine of the Golden Mean Zhong Yong (Hu Shih, 1950). And generating evidence which demonstrates that a particular medical practices work contributes to the accretion of medical expert knowledge. The development of an evaluation system that can generate clinical evidence on the efficacy of Traditional Chinese Medicine (TCM) is a pressing contemporary issue. TCM is a dynamic and growing body of knowledge. It incorporates systematic forms of evaluation which support innovation. To this point in time there is no widespread recognition that systematic clinical evaluation is already embedded in TCM practice of bian zheng lun yao which is the practice of ‘differentiating clinical patterns/ evidence to associate appropriate yao wu (medicinal substances/medicines or routine practices designed to move and transform qi ie. nature’s breath). This clinical practice in turn embeds a performative metaphysical value which holds a ‘macroscopic-microscopic view of man as the universe contained in the individual’ (Chang Chungyuan, 1963). It sees nature and the ‘natural body’ enacting practices that are a usual and normal part of the whole organism. In this regard, I propose that the practice of clinically evaluating the efficacy of the yao wu (bian zheng ping yao) be adopted as a suitable and sustainable evaluation model for TCM. A set of clinical trial protocols evaluating yao that is based on standardising clinical records should be established. A translational case study of a child afflicted with A H1N1 whose condition was diagnosed as Winter Warm Factor Disorder dong wen in Melbourne, Australia in 2009 will be presented to demonstrate how this system of evaluation that generates clinical evidence works.

DR REY TIQUIA is a technoscientist researcher with the School of Historical and Philosophical Studies, University of Melbourne. He is a practitioner of Traditional Chinese Medicine. He received his BA from Manuel Luis Quezon University, Manila, Philippines, and his MSc and PhD degrees in History and Philosophy of Science from the University of Melbourne. His dissertation was entitled Traditional Chinese Medicine as an Australian tradition of health care (2005) wherein he proposed the construction of a symmetrical translating knowledge space between Traditional Chinese Medicine and Western scientific medicine in Australia. He is an Honorary Professor at Shanxi College of TCM, China.
SESSION 2.4: Mini MSoG Lab: Trust in experts: understanding barriers and drivers

Kate Neely
University of Melbourne

The Melbourne School of Government (MSoG) presents a Mini MSoG Lab. MSoG Labs provide participants with the opportunity to map their understanding of the drivers of, and barriers to, complex social and political challenges. The process is useful for anyone seeking to develop a response to these problems, particularly where the response requires input from a variety of different stakeholders.

This Mini MSoG Lab will be a hands-on, transdisciplinary ‘taster’ session. It will introduce participants to the basic principles of the approach, and will also provide an opportunity to collaborate across the sectors represented at the conference. The Mini MSoG Lab will combine group model building processes with system dynamics to develop a mutual understanding of issues that don’t fit neatly into organisational or disciplinary boundaries.

This session will focus specifically on the main conference theme – trust in experts. Previous MSoG labs have been successfully used in response to diverse issues, including water supply, health in cities, urban surveillance, and transitions to renewable energy. Labs are fun, challenging, and useful ways to test assumptions, represent knowledge, and see how others think.

THIS SESSION IS LIMITED TO 20 PARTICIPANTS
PLEASE REGISTER YOUR EXPRESSION OF INTEREST AT THE REGISTRATION DESK

KATE NEELY is Director of the Research Translation Program at the Melbourne School of Government, University of Melbourne. Kate is a systems thinking specialist working across the research translation and international development fields. Kate’s work is based in a social justice paradigm that acknowledges the expertise of participants from diverse fields and backgrounds and strives to include the voices of those most marginalised yet most affected by policy failures.
**POLICY IN PRACTICE**

**SESSION 3: What knowledge counts when making policy? A conversation**

**Chair: Sundhya Pahuja**  
University of Melbourne

**SUNDHYA PAHUJA** is Professor of International Law at the Melbourne Law School and Director of the Institute for International Law and the Humanities at the University of Melbourne. Her work centres on the history, theory and political economy of international law. Her most recent projects are International Law and the Cold War, and International Law and Global Corporations.

**Richard Denniss**  
Australia Institute

**RICHARD DENNISS** is the Chief Economist and former Executive Director of The Australia Institute. He is a prominent Australian economist, author and public policy commentator, and a former Adjunct Associate Professor in the Crawford School of Public Policy at the Australian National University. His recent books include *Economabble and Curing Affluenza*. Dr Denniss was described by Mark Kenny in the *Sydney Morning Herald* as ‘a constant thorn in the side of politicians on both sides due to his habit of skewering dodgy economic justifications for policy’.

**Gordon de Brouwer**  
University of Canberra

**GORDON DE BROUWER** has over 30 years’ experience in public policy, including Australia’s place in the world. He has worked in senior leadership in the Australian Government and public institutions for over 20 years, including the federal Environment and Energy Department (as Secretary), Prime Minister’s Department (including as Associate Secretary and G20 Sherpa), Treasury, the Australian National University and Reserve Bank. His areas of expertise include sustainable natural resource management, climate change and energy policies, macro-financial and international economics and policy, international organisations (especially G20), institutional design and governance, and public-sector management and reform. He has a PhD in economics from the Australian National University and is an Adjunct Professor at the University of Canberra.

**Kerry Arabena**  
University of Melbourne

**PROFESSOR KERRY ARABENA** is Chair for Indigenous Health and Director of the Indigenous Health Equity Unit at The University of Melbourne. A descendent of the Meriam people from the Torres Strait, she has a Doctorate in Human Ecology and a degree in Social Work. She is Executive Director and Lead Investigator on the First 1000 Days Australia, an interventions based pre-birth multigenerational cohort study designed with and for Aboriginal and Torres Strait Islander families. The model aims to provide a coordinated, comprehensive strategy to strengthen Aboriginal and Torres Strait Islander families so they can address their children’s needs from pre-conception to two years of age, thereby laying the best foundation for their future health and wellbeing. With an extensive background in public health, administration, community development and research, her work has made significant contributions in areas such as sexual and reproductive health, family violence, gender issues, access and equity, service provision, and harm minimisation. Professor Arabena is currently a member of the Aboriginal Economic Board in Victoria, OzChild, Indigenous Community Volunteers, Kinnaway Aboriginal Chamber of Commerce and the Victorian Aboriginal Economic Board of Development. She is an author and business owner; a mother and a grandmother with interests in achieving equity for all Australians.

**Joan Leach**  
Australian National University

**PROFESSOR JOAN LEACH** (BA Hons, BSc, MA, PhD) is Director of the Australian National Centre for Public Awareness of Science at The Australian National University. She is President of Australian Science Communicators and Chair of the National Committee for History and Philosophy of Science at the Australian Academy of Science. Her research centres on public engagement with science, medicine and technology and she has been active in the Australian government’s recent initiatives toward ‘Inspiring Australia’. She is currently researching the role of popular science in the globalization of science since the 1960s, a project funded by the Australian Research Council. She has published extensively about science communication, including Rhetorical Questions of Health and Medicine, and was editor of the International journal, *Social Epistemology*. Professor Leach has won numerous academic awards for her research and community engagement, including being a Science Journalism Laureate at Purdue University (USA). While remaining transfixed by science, she advocates for better science communication that critically examines the social impacts of science, technology and biomedicine.
SESSION 4.1: Experts, evidence and hierarchies of expertise

Chair: Stephanie Lavau
University of Melbourne

DR STEPHANIE LAVAU is a Lecturer in Interdisciplinary Environmental Practice, in the Office for Environmental Programs and the School of Ecosystem and Forest Sciences at the University of Melbourne. Her research focuses on knowledge practices in environmental management and biodiversity conservation, in urban and rural contexts. She works with ideas, sensibilities and methods from science and technology studies, human geography and cultural anthropology in exploring ecologies of knowing, policy-practice relations, and contemporary nature-cultures. She is a member of the Melbourne Waterway Research-Practice Partnership, leading the Community Engagement theme and Melbourne Water funded projects on socio-cultural aspects of urban water management.

Rebecca Pearse
University of Sydney

Climate change economics has never been post-political: Expert dissensus and the failure of Australia’s emissions trading scheme

In recent years, two lines of analysis have become popular in the critical literature on climate change and the role of expert economists. The first relates to the political-ideological influence of economists in the marketisation of climate policy. It has been shown that expert economic advice has been essential to the global market turn in climate policy, where the idea of market-based instruments like emissions trading and carbon taxation being uniquely efficient and pro-growth has become hegemonic. Meanwhile, in a second line of critical analysis, some have argued that the political consequences of this marketised expert common-sense has created an undemocratic, post-political condition. This presentation questions these critical appraisals of expert knowledge and climate policy, and offers counter examples from the Australian debate over a briefly instituted emissions trading scheme (ETS) between 2012-2014. Drawing on content analysis of policy documents, economic expert representations to senate hearings and the media, I illustrate considerable political dissensus among the expert class on the topic of carbon pricing. The presentation demonstrates that ideological differences among economists is best understood with regard to the ongoing politicisation of carbon pricing, particularly emissions trading, and the broader political economy of the state’s ongoing mismanagement of the climate crisis.

BECK PEARSE is a Lecturer in the Department of Political Economy, University of Sydney. Her research spans environmental political economy, social movement studies, feminist political economy, and the sociology of knowledge.

Kari Lancaster
University of New South Wales

Problematising the ‘evidence-based’ policy paradigm

‘Evidence-based’ policy and practice has become the dominant organising paradigm for policymaking in the western world. To date, the focus of much of ‘evidence-based’ policy scholarship has been on finding ways to bridge the divide between two communities: ‘policy decision-makers’ and ‘knowledge producers.’ Efforts have centred on the production of ‘gold-star’ evidence and increasing its uptake through ‘research translation’ activities. Implementation science has also emerged as a sub-discipline with a focus on developing methods which promote the integration of ‘evidence’ into policy and practice, and understanding how social contexts shape the delivery of ‘evidence-based’ interventions. However, such pursuits are underpinned by a range of ontological assumptions about the stability of ‘evidence’ and ‘interventions’ as experts and policymakers investigate the ‘transferability’ or ‘translation’ of these presumed-to-be fixed objects into new sites. Drawing on poststructuralist approaches to policy analysis and insights from science and technology studies, this presentation will explore ‘evidence’ and ‘interventions’ as objects in-the-making, and reflect critically on practices of evidence-making. It will propose engagement with an ‘evidence-making intervention’ approach which assumes there to be no clean distinction between knowledge and practice, or context and content, and takes both ‘evidence’ and ‘interventions’ as objects produced and remade locally through implementation practices. Here, ‘evidence’ can be said to emerge immanently, a transient effect of its connections and disconnections with multiple other bodies of knowledge and a range of material-discursive practices, including those associated with science and policy. By problematising assumptions about the stability (and in turn, the taken-for-granted primacy and legitimacy) of ‘evidence’ for policymaking, this presentation aims to raise questions about how the ‘evidence-based’ policy paradigm might be reconsidered and remade in other ways.

KARI LANCASTER is a Scientia Fellow at the Centre for Social Research in Health, University of New South Wales. Kari’s research uses critical policy studies approaches (including those informed by poststructural theory and science and technology studies) to contribute to contemporary discussions about emerging issues of political and policy significance.
in the fields of drugs and viral hepatitis. Kari’s research has examined how drug policy problems and policy knowledges are constituted, and the dynamics of ‘evidence-based’ policy.

Cosmo Howard  
Griffith University

Statistical bargains: Relationships between politicians and statisticians

Modern governments depend on experts, and few experts are more necessary to the state than statisticians. Government statisticians produce official statistics, which are essential sources of evidence for policy making, as well as major resources for democratic accountability. There has long been cross-partisan acceptance in the democratic world that official statistics must be free from political interference. Yet, cracks are appearing in this consensus. The Trump administration stands accused of deliberately undermining the national population census through budget cuts to the independent US Census Bureau. Canada’s former federal government simply cancelled its census. In both cases, the heads of the national statistical agencies resigned in protest. This talk presents results of a comparative study of statistical agencies in Australia, Canada, Sweden, the United Kingdom and the United States. It addresses the following questions: what is the nature of relationships between politicians and statisticians, and why do relationships take the forms that they do? The presentation applies Christopher Hood and Martin Lodge’s theory of public service bargains to understand the nature and drivers of relationships in official statistics. Focusing on the Australian case and drawing on in-depth interviews with senior Australian government statisticians, I argue that relationships between statisticians and politicians can be understood as statistical bargains. In these bargains, statisticians and politicians try to maximise their respective utilities, but their positions are shaped by established institutional frameworks and prevailing political conditions. My research shows that statisticians have considerable agency to shape the content of statistical bargains. This finding challenges the claim that experts are invariably under siege from political encroachment, and adds to our knowledge of how relationships between experts and politicians are evolving.

DR COSMO HOWARD is a Senior Lecturer in the School of Government and International Relations and a member of the Centre for Governance and Public Policy at Griffith University. He has training in political science, public policy and economics. He specialises in public policy processes, public sector reform and public service autonomy. He has recently published articles on these topics in Governance and Public Administration.

Ronlyn Duncan¹, Melissa Robson² and Sarah Edwards²
Manaaki Whenua Landcare Research, Lincoln, New Zealand (¹), Lincoln University, New Zealand (²)

Examining co-production and the role of brokers within New Zealand’s ‘science advisory ecosystem’

Responses to the apparent crisis of expertise have taken the shape of calls for intermediaries to bridge what are characterised as formidable boundaries between the spheres of science and policy. In a ‘post truth’ era, brokers are deemed essential for translating science into policy-useable knowledge. In New Zealand, brokers are conceived as inhabiting a ‘science advisory ecosystem’ – a complex array of institutions, organisations and roles through which advice makes its way (or not) to policymakers. The vision for New Zealand’s science advisory ecosystem is for policy to be ‘evidence-informed’ rather than ‘evidence-based’ in a move to garner its legitimacy by scientists not stepping into the political realm of making value judgements. From a Science & Technology Studies perspective, this boundary work can entrench the demarcation between science and policy. As such, the broader co-production of science and policy is ignored as well as the power relations that constitute the identities and positions of scientists within the ecosystem, and the role brokers, can play. To begin to understand the science advisory ecosystem that is gaining currency in New Zealand and internationally, and the role of brokers within it, we examine two examples of knowledge governance used in the Canterbury region of the South Island to implement water policy reforms. We will argue from these examples that the broker does not simply act as a conduit for information to flow from experts to policy-makers, but must actively participate in the co-production of policy-useable knowledge. As such, conventional conceptions of ‘science’ and ‘expertise’ will be shown to be too narrow, since the knowledge required for making decisions is distributed across an array of experts, institutions and organisations. These examples illustrate the multiple scales at which knowledge co-production works and the multi-faceted role of the broker within the ecosystem.

DR RONGLYN DUNCAN has been engaging with and using STS for over two decades to interrogate a range of contested environmental issues including climate change, hydro-electricity and conservation in Tasmania and, most recently, water policy and diffuse pollution management in New Zealand. With a focus on knowledge politics and understanding the challenges, limitations and opportunities of knowledge governance, boundary concepts and co-production, her STS work has been published in Australia, New Zealand and internationally.
DR MELISSA ROBSON is an environmental scientist. After a PhD in plant and soil science and an MSc in integrated water management, she specialised in farm to catchment scale management of diffuse pollution. Melissa has led interdisciplinary teams to support community and policy processes for setting environmental limits and currently leads the Collaboration Lab, a research program in New Zealand’s National Science Challenge, Our Land and Water.

DR SARAH EDWARDS is a lecturer in Environmental Management at Lincoln University, New Zealand. Her research is focused on the use of social theory in the study of environmental issues, with a particular emphasis on the interface between science, society, and decision-making processes. She is currently part of a team of researchers working on a government-funded National Science Challenge: Building better homes, towns and cities.

SESSION 4.2: Publics and participation
Chair: Jim Falk
University of Melbourne

PROFESSOR JIM FALK is a Professorial Fellow in the Melbourne Sustainable Society Institute at the University of Melbourne and Emeritus Professor at the University of Wollongong. His PhD is in theoretical physics, but over the last 35 years he has specialised in Science and Technology Studies. His research has focussed particularly on issues associated with globalisation, technological change and the environment, nuclear technology, arms races and militarisation, and information and communication technology in their social settings. His most recent research has focussed on the evolution of governance, and policy issues associated with climate change.

Richard Hindmarsh
Griffith University

The crisis of expertise and civic participation in the making of public policy through the public inquiry on science, technology, and environmental change

The adequacy of the public inquiry as an authoritative and effective ‘advisory mechanism’ is increasingly questioned; here, on the benefits and controversial (socio-) environmental impacts of ‘big’ science and technology developments in Australia. For example, regarding the environmental release of genetically modified organisms, and development and siting aspects of wind farms, coal seam gas wells, and nuclear waste dumps. An embedded problem in the public inquiry (subset) on science, technology, and environmental change (STE) is an over-reliance on expert knowledge (often narrow) and an under-representation of civic interests and also, broader expert knowledge. Studies highlight associated problems of the public inquiry as: (i) unduly politicised in largely representing legitimisation exercises of pre-determined policy; (ii) adversarial; (iii) difficult for the public to make submissions vis-a-vis expert and industry stakeholders due to time, money, and lack of other supportive resource constraints; (iv) having narrow terms of reference and scope, which overly neglect/diminish environmental and interrelated social and community concerns about the topic under inquiry; and (v) panel members lacking depth and balance of knowledge to sufficiently critically analyse the topic under inquiry. Such issues deepen when the STE public inquiry is decoupled from ‘new governance’ contexts regarding enhanced (expert/lay, science/society, cross-boundary, or transdisciplinary) participatory conduits. Although participatory governance has strengthened internationally to enhance legitimacy, trust, transparency, and relevant information; and subsequently, policy effectiveness; the public inquiry has been left largely behind, thus revealing a major policy gap, especially in Australia. This presentation will (i) outline my current project with the aim to strengthen the Australian public inquiry through participatory interventions embedded in new governance contexts; (ii) summarise the methods, and (iii) provide some preliminary and illustrative findings regarding participatory aspects and issues around the 2015 South Australian Royal Commission on the Nuclear Fuel Cycle, as a key case study.

RICHARD HINDMARSH is Professor of Environmental Politics and Science, Technology and Society (STS) Studies at Griffith School of Environment, and Centre for Governance and Public Policy, Griffith University, Brisbane, Australia. Following his PhD thesis as the first Australian one on the politics and regulation of the controversial environmental release of genetically modified organisms (GMOs) – and an associated Australian Research Council Post-Doctoral Fellowship – he became Lecturer at the University of Queensland in 1999, where he developed the Technoscience and Nature area at the Humanities Department. In 2003, he moved back to Griffith University to focus more on STS and environmental politics. Major research topics include GMOs, wind energy, community engagement, and new governance contexts. Lesser ones include forensic DNA profiling and databasing, water management, climate change adaptation, the Fukushima disaster, and the Australian coal seam gas controversy. He has produced 145 publications, with 90 peer-reviewed, including eight books, and has so far supervised 18 PhDs. Journals published in include Environmental Politics, Environmental Policy and Planning, Local Environment, Nature, and Social Studies of Science. Recent books include Nuclear Disaster at Fukushima Daiichi: Social, Political and Environmental Issues (Routledge NY, 2013); and The Fukushima Effect: A New Geopolitical Terrain (Routledge NY, 2016, co-edited with Rebecca Priestley). Richard also co-founded the Asia-Pacific STS Network in late 2008, and was lead Convenor until 2012, and in 2017 returned to lead it. Currently, the APSTSN (https://apstsn.org/) has some 500 members from 10 Asia-Pacific countries.
Coal seam gas (CSG) is a contentious energy source in Australia. For some, it is essential, plentiful and profitable, capable of generating dependable incomes for farmers and significant revenue for both companies and governments. For others, it threatens livelihoods and leaves a toxic legacy of environmental damage and social dislocation. This presentation explores the way proponents and opponents framed CSG operations as either threatening or benign through empirical research into energy company AGL’s foray into, and ultimately disinvestment from, CSG exploration in New South Wales. The analysis highlights critical relationships between evidence of the risk of the technology itself, expertise and social markers of civility. Unpicking these relationships began with exploring the binary of the familiar and the strange that provided a way for both sides to shape community attitudes towards CSG. Gas companies conducted community visits to drill sites to make them familiar places and framed drilling liquids as safe by equating their toxicity as less than that of dishwashing liquid. Community liaison officers often played a central role in these activities that brought company experts together with community members. Liaison officers, in turn, were chosen by gas companies because of their familiarity with both local conditions and the fossil fuel industry. Their role tied evidence to expertise through civility and belonging to the local community. Opponents in contrast identified the strangeness and menace of CSG ‘fracking’ operations where rivers could be set alight and strangers could come onto farms without invitation. Incivility was tied to the threat posed by fracking. For opponents, ‘fracking’ captured not just a specific technology associated with gas extraction but the menacing nature of CSG operations as a whole, its destructiveness and the potential for catastrophic consequences to water, to land and hence to livelihoods.

**Fiona Haines**, **Martin Bortz** and **Sara Bice**  
University of Melbourne

*The familiar and the strange: Understanding the connection between science, technology and social protest around coal seam gas in Australia*

Coal seam gas (CSG) is a contentious energy source in Australia. For some, it is essential, plentiful and profitable, capable of generating dependable incomes for farmers and significant revenue for both companies and governments. For others, it threatens livelihoods and leaves a toxic legacy of environmental damage and social dislocation. This presentation explores the way proponents and opponents framed CSG operations as either threatening or benign through empirical research into energy company AGL’s foray into, and ultimately disinvestment from, CSG exploration in New South Wales. The analysis highlights critical relationships between evidence of the risk of the technology itself, expertise and social markers of civility. Unpicking these relationships began with exploring the binary of the familiar and the strange that provided a way for both sides to shape community attitudes towards CSG. Gas companies conducted community visits to drill sites to make them familiar places and framed drilling liquids as safe by equating their toxicity as less than that of dishwashing liquid. Community liaison officers often played a central role in these activities that brought company experts together with community members. Liaison officers, in turn, were chosen by gas companies because of their familiarity with both local conditions and the fossil fuel industry. Their role tied evidence to expertise through civility and belonging to the local community. Opponents in contrast identified the strangeness and menace of CSG ‘fracking’ operations where rivers could be set alight and strangers could come onto farms without invitation. Incivility was tied to the threat posed by fracking. For opponents, ‘fracking’ captured not just a specific technology associated with gas extraction but the menacing nature of CSG operations as a whole, its destructiveness and the potential for catastrophic consequences to water, to land and hence to livelihoods.

**Fiona Haines** is Professor of Criminology in the School of Social and Political Sciences at the University of Melbourne, Adjunct Professor at the Regulatory Institutions Network at the Australian National University and Fellow of the Academy of Social Sciences in Australia. Her research, which encompasses work on industrial disasters, grievances and multinational enterprises, centres on white collar and corporate crime, globalisation and regulation. She is an internationally renowned expert in the area of regulation and compliance with published work in the area ranging from occupational health & safety and financial fraud to the impact of criminalisation of cartel conduct, challenges for regulation in the transformation of the National Electricity Market with the introduction of household solar PV and the capacity of new governance to resolve issues of human rights violations associated with the activities of multinational corporations. Her recent books include *The Paradox of Regulation: what regulation can achieve and what it cannot* (Edward Elgar, 2011) and *Regulatory Transformations: Rethinking Economy Society Interactions*, (Hart Publishing), 2015, co-edited with Bettina Lange and Dania Thomas. Her major current research projects include an analysis of how to hold multinational corporations accountable for human right’s abuse, the social impact of coals seam gas exploration and rethinking regulation in an ecologically constrained world.

**Martin Bortz** is a PhD candidate at the School of Social and Political Science at the University of Melbourne, and a Research Assistant at the Melbourne School of Government, University of Melbourne. His work explores issues related to the use of knowledge and expertise in policy processes. To that end, his PhD focuses on the ways in which management consultants are able to influence public policy. Prior to academia, Marty spent several years as a private consultant, evaluating the effectiveness and efficiency of government policies and programs, particularly in the education and health sectors. He also worked in the public service for several years. As part of this role, he advised government Ministers on effective strategies to mitigate climate change, and provided governance advice to key statutory authorities (including the Environment Protection Authority and Sustainability Victoria). Marty has undergraduate qualifications in Law and Arts (both from Monash University), and a Masters’ degree in Public Policy and Management (from the University of Melbourne).

**David Nolan¹**, **Jack Latimore²** and **Margaret Simons¹,²**  
University of Melbourne (¹), Monash University (²)

*Expertise, public opinion and Indigenous policy agendas: Shifting media assemblages and their implications*

This presentation draws on a case study of an intervention in Indigenous policy debate, and what it suggests about potential shifts in process of mediated agenda setting. In the policy process, the expertise of opinion pollsters has been a significant influence in public debates, and polling has provided an important tool through which policy actors have worked to build policy agendas. The presentation focuses on a case study of such a process in action, as mobilised by
the ‘Recognise’ campaign for constitutional recognition of Australia’s first peoples, and a subsequent controversy that occurred following an intervention by the activist digital media organisation IndigenousX. A significant criticism of both Indigenous policy making and mediated policy discussion has been its reliance on a narrow range of policy actors and voices, and the predominance of well-resourced actors that are able to mobilise institutional and economic capital to both shape and delimit Indigenous policy agendas. The production of polls, and the successful promotion of findings as the basis for news stories, has been a significant resource within Indigenous policy processes. Where the Recognise campaign’s use of polling was quite typical in this respect, its contestation by IndigenousX, through the production and publication of a second poll that disputed the findings of the first, points to a significant digital disruption of the mechanisms, relationships and ‘media ecology’ through which Indigenous news representation is produced. This paper provides an analysis of this controversy in order to trace these shifting relationships and, by doing so, reflect on what it suggests about the changing ways in which mediated policy agendas are produced and contested, and discusses a current digital action research project that seeks to further amplify a greater diversity of Indigenous voices.

DAVID NOLAN is Senior Lecturer in Media and Communications and Deputy Director of the Centre for Advancing Journalism at the University of Melbourne. His work particularly focuses on understanding change in journalism, and the role of media discourses, environments and practices in contemporary social politics. He is the author of numerous articles in leading international journals, and he is co-editor of Australian Media and the Politics of Belonging (2018, Anthem Press)

JACK LATIMORE is an Indigenous researcher currently undertaking PhD research at Monash University. He is also involved in the development of several projects aimed at improving the quality of Indigenous representation and participation in the mainstream media sphere, and is an editor and collaborator of IndigenousX. His journalism work has appeared in Koori Mail, Guardian Australia, Overland and Indigenous X.

MARGARET SIMONS is an award-winning journalist, journalism researcher and teacher, and author of 13 books. Her co-authored biography, Malcolm Fraser: The Political Memoirs (2010), won Book of the Year and the Douglas Stewart Prize for Non-Fiction at the 2011 NSW Premier’s Literary Awards. Her unauthorised biography Kerry Stokes: Self-Made Man (2013) was nominated for best non-fiction book at the 2014 Walkley Awards, and won the history prize in the WA Premier’s Literary Awards.

Rebecca Nelson
University of Melbourne

Law, science, and water under pressure: governing data in a water democracy

AFFECTED by drought, environmental crisis and perpetual public inquiries, Australian water governance has become hyperactively democratic—at least in a relative historic sense. Increasing numbers and types of actors are involved. Democratic actors need information. This presentation builds on the literatures on the use of data in policy-making by examining, from a legal perspective, its logical prerequisite: requirements for the production and development of data as policy inputs. It develops a normative framework for evaluating legal measures for producing and developing water data. The framework is informed by an inter-disciplinary combination of law and democratic principles, hydrological science and its practical requirements, and public policy scholarship on the salience, credibility and legitimacy of information. The framework deals with how and when water data and information should be produced and shared for use by project proponents, governments, expert advisers and third party participants in water policy- and decision-making processes. The presentation then explores this framework through the lens of the current political controversy over coal seam gas (CSG) extraction and coal mining and their potential impacts on the groundwater environment, which have driven a new legal regime for water data related to these impacts. The case study represents a ‘critical case’ involving the challenges of competing industries, public fear and a difficult resource: groundwater is unseen and often misunderstood, vulnerable yet historically under-regulated, and so complex that computer models and technical consultants are ever-present. Assessed against the proposed framework, the CSG and coal controversy reveals several notable gaps in the effectiveness of legal measures for water data governance, which warrant further consideration. The presentation concludes by reflecting on the significance of the proposed framework and case study for laws dealing with natural resources data more broadly.

REBECCA NELSON is a Senior Lecturer, Melbourne Law School, University of Melbourne, a Fellow (Non-Resident), Stanford Woods Institute for the Environment, and a practising lawyer. Dr Nelson’s research examines how natural resources law deals with complex, dynamic, interconnected and uncertain natural systems, particularly the regulation of cumulative environmental impacts (ARC-DECRA 2018). She is an author of Australia’s primary water law text, 6 book chapters and 17 refereed articles. Dr Nelson was the International Association of Hydrogeologists (Australia) Distinguished Lecturer (2016) and the Law Council of Australia’s Young Environmental Lawyer of the Year (2014). Dr Nelson holds a JSD (Stanford), JSM (Stanford) and BE(Environmental)/LLB (Melb).
SESSION 4.3: Climate’s science, politics and policy

Chair: Julia Dehm
La Trobe University

JULIA DEHM is a Lecturer at the La Trobe University School of Law. Her research addresses international climate change law and regulation, transnational carbon markets and the governance of natural resources as well as the relationship between human rights and economic inequality. She is the Managing Editor of the Journal of Human Rights and the Environment and has published numerous articles including in the Windsor Yearbook of Access to Justice, the Journal of Human Rights and the Environment, the London Review of International Law and the Macquarie Journal of International and Comparative Environmental Law. She received a BA, LLB (Hons), and PhD from the University of Melbourne.

Peter Tangney
Flinders University

Examining the politics of Australian climate science expertise

This presentation addresses a perennial paradox of expert advocacy so prevalent for 21st Century problems of society and the environment. Can scientists engage in political advocacy without compromising the credibility and legitimacy of their privileged expertise? Here I examine climate scientists’ advocacy through Australian media, focusing on the interplay between their consensus messages about climate disaster and the need for more and better climate science for policy. Somewhat unsurprisingly – and despite continued academic criticism – their rhetoric relies on problematic premises of linear-rational policymaking and scientists’ ability to fill a deficit of knowledge to effect political understanding. At the same time, however, scientists undermine these ideals and, arguably, their privileged status, by conflating contrasting types and uses of available evidence, as well as conflating different parts of the problem when invoking evidence and expertise.

Deconstructing climate scientists’ advocacy may be seen by some as an exercise in wilful antagonism of an already beleaguered clique, or the tacit pursuit of ‘climate denial’. However, I argue, understanding experts’ flawed rhetorical premises, expectations and assertions can help us to understand the tacit fact-value dilemmas fuelling polarised debate over climate change. This analysis can also assist in pointing scientific institutions toward honest brokerage, rather than stealth advocacy, at a time when there’s every reason to re-appraise the norms of science in society. I argue that scientists’ misrepresentation of their evidence and expertise does neither their research programme nor their politics any favours, and it may actually exacerbate polarised politics and slow the renewable energy transition. For political opponents and ‘climate deniers’, scientists’ increasingly febrile public invocations may resemble the fable of Peter and The Wolf. Misrepresenting their evidence and expertise may have unwanted implications for other imminent existential crises in need of robust scientific guidance.

PETER TANGNEY is a lecturer in science-policy studies at Flinders University, Adelaide. Before moving to Australia, he worked for a number of years in the UK as a policy advisor to government on climate change, and for the water industry on the modelling and analysis of environmental risk. In 2017, Peter was awarded the Geoff Anderson Memorial Prize by the ANZ Public Policy Network, as well as Flinders University Vice Chancellor’s Award for Early Career Researcher of 2017. His new book Climate Adaptation Policy and Evidence was published by Earthscan-Routledge in July 2017, in which he compares the politics and epistemology of climate adaptation science and policy in Australia and the UK.

Graeme I Pearman
University of Melbourne

Climate change, science and policy

For 47 years as a climate change scientist and science administrator in CSIRO I have been concerned with the conduct of Science and its purposes in modern societies. Part of that experience has been dealing with government and private-sector policy makers, providing a connection between the frontiers of climate-change science and those who build related policy. As a long-term member of the CSIRO Executive, attention has been given to the more general issue of how the interface between Science and policy development operates. This experience begs the question asked of this Conference: is humanity and its policy development, in the throes of a changing balance between constructivism and rationalism due to possible influences of:

- A greater dependence on poorly assessed information, supported by an ever-growing inter-connectiveness (e.g. the internet and social media) in the wider community but also within the policy-development community?

- The changing nature of investment in science and science education, focussing on the short-term potential for wealth generation and sectorally-determined imperatives empowered by lobbying, and less so on knowledge for knowledge sake, strategic imperatives and/or broader enlightenment?
• Externally driven beliefs in ignorance of the frontiers of scientific knowledge and the demise of investment in Science targeting the improvement of understanding of the realities of the world compared with myths that are constructed?

The presentation will explore these questions through the prism of the apparently slow response to the risk of climate change and, specifically, with reference to the following examples:

• The formulation of the 2016 Energy White Paper
• Establishment of the Australian Government expert panel on the Renewable Energy Target
• The response to the Finkel Report, and
• The setting of the investment portfolio of CSIRO research.

GRAEME PEARMAN joined CSIRO in 1971 where he was Chief of Atmospheric Research from 1992–2002. He contributed over 200 scientific papers primarily on the global carbon budget. Awards include the CSIRO Medal (1988), a UN Environment Program Global 500 Award (1989), the Australian Medal of the Order of Australia (1999) and a Federation Medal (2003). He is now a consultant, Adjunct Senior Research Fellow (Monash University) and Professorial Fellow (University of Melbourne). He has made over 500 briefings on climate-change science and sustainability to governments, peak industry bodies, public groups, and companies.

Kate Dooley and Peter Christoff
University of Melbourne

Co-producing climate policy: negative emissions, land-use and sustainable futures

Under the Paris Agreement, nations have committed to preventing dangerous global warming with a long-term global goal of net-zero emissions in the second half of this century. Scenarios for achieving net-zero emissions depend on the use of forests and bioenergy with carbon capture and storage to remove atmospheric carbon. The level of reliance on land-based mitigation could reduce the availability of productive agricultural land, and encroach on natural land, with significant attendant social and environmental consequences.

Understanding how science and policy interact to produce embedded expectations about mitigation pathways allows us to better consider the real-world impacts and constraints of proposed solutions.

Science enables a better understanding of climate causes and impacts, but also defines the ‘climate problem’ in technical terms, with technical solutions. This is evident in the recent inclusion of negative emissions technologies (NETS) in mitigation pathways modelled to meet the Paris Agreement’s temperature goals.

We evaluate the scale and type of NETs in Integrated Assessment Models for the most recent generation of 2°C scenarios under the Shared Socio-economic Pathways framework. These models assume high levels of land-based mitigation. We find their assumed mitigation-driven land-use changes exceed what may be considered socially or ecologically desirable or feasible (sustainable).

Through interviews with modellers and policy experts, we found that the perception of model-based knowledge as ‘objective science’ lends authority to outcomes that might otherwise be more critically debated and contested. Closer engagement between modellers and policy experts in the context of land-use for mitigation purposes would allow for negotiated forms of knowledge production. This might better clarify and represent the multiple objectives and interests at stake in the utilisation of limited land resources, including for mitigation.

KATE DOOLEY holds an MSc in Environmental Technology from Imperial College London and is now undertaking a PhD at the University of Melbourne, investigating the science-policy interface around terrestrial carbon science in international climate politics. Kate has previously worked with environmental non-governmental organisations on forests, climate change and human rights. She has been following these issues in the UN climate negotiations since 2009, and has published on equity and human rights, distributive climate justice, and illegal logging and trade.

PETER CHRISTOFF teaches and researches climate politics and policy in the School of Geography, University of Melbourne. He was formerly a member of the (Victoria) Premier’s Climate Change Reference Group, the Victorian Ministerial Reference Council on Climate Change Adaptation, the Assistant Commissioner for the Environment (Victoria), and Vice President of the Australian Conservation Foundation.
KEYNOTE ADDRESS DAY 2: Andy Stirling
Chair: Jeremy Baskin
University of Melbourne

JEREMY BASKIN is a Senior Research Fellow at the Melbourne School of Government, University of Melbourne, where he focuses on the legitimacy and accountability of knowledge experts in policy-making. His other research interests include climate and energy policy and associated technologies, the notion of the Anthropocene, and changing understandings of the authority of science.

Professor Andy Stirling
Science Policy Research Unit, University of Sussex

Expertise & democracy: from adversarial crisis to mutualistic renewal

Growing concerns are justified over a ‘crisis’ in relations between science and expertise on the one hand and imperatives for participation and democracy on the other. With science and technology seen to accelerate ever faster in both their promise and their impacts, increasingly assertive worldwide efforts are also accelerating towards unprecedented ambitions for global control by expert-based institutions and infrastructures. Issues proliferate around contrasting interests, values and imaginations concerning power, fairness and human wellbeing. A scientifically-defined ‘Anthropocene epoch’ envisages an apparently undifferentiated and apolitical humanity taking ‘dominion over the Earth’. What was once recognised to be irreducibly political, is increasingly represented as if it were technical.

Again highlighting the theme of control, pressures are compounded by the growingly grandiose assertion of ‘the Nexus’ of ‘grand challenges’ involving ‘collaborative governance’, ‘integrated solutions’ and modulation of ‘planetary control variables’ by ‘Earth systems management’. Rhetorics of ‘sound scientific decisions’, ‘evidence-based policy’ and ‘pro-innovation strategies’ engineer ever more subtle instruments of social control to ‘nudge’ their subjects towards ‘the grand transition’.

Amidst all the preoccupations with control, however, little attention is given to everyday experience showing these to be convenient fictions. The value of stories of control lie not in their validity, but in their expediency in justifying privilege. All this leaves little role for ordinary people – let alone those who are most marginalised. Indeed, with notions of ‘democracy’ tainted by cynical polemics and stagnant proceduralism, even a word itself is denied for the politics of challenging incumbency.

So, it is democracy itself that is most under threat. Thus stigmatised as hypocrisy, complacency or inertia, the value of democracy is increasingly directly dismissed as being a ‘failure’, a ‘luxury’ that cannot be afforded – even ‘an enemy of nature’. It is little wonder, perhaps, that there should be a backlash? But with technocracy so forcefully and pervasively asserted, remedies might as reasonably be sought for overblown expertise itself, as for the provoked populist reaction?

How then to reconcile these tensions? This talk will explore the roots equally of ‘science’ and ‘democracy’ in recognition of the importance of challenging authority. The point is not that incumbent power is necessarily intrinsically bad, but that it becomes so when it is left invisible, uninterrogated or unaccountable. And here there emerge crucial concrete grounds for hope. For instance: in the remarkably vibrant and persistent multiplicity of the Sustainable Development Goals. Rooted as they are in decades of struggle by emancipatory social movements – and emphasising the importance of political pluralism and participatory inclusion – these over crucial pivots and ratchets for articulating both expertise and collective action towards neglected forms of care, solidarity and mutualism, rather than control.

ANDY STIRLING is Professor of Science and Technology Policy in the Science Policy Research Unit at the University of Sussex. A Fellow of the UK Academy of Social Science, he is (among many research projects) Co-Director of the STEPS Centre and Director of a University Enterprise on Multicriteria Mapping.

Professor Stirling is an interdisciplinary researcher, policy advisor and teacher on issues concerning democracy and sustainability in science, technology and innovation. With an educational background in astronomy, a Masters in Archaeology and Social Anthropology and a Doctorate in Technology Policy, his research focuses on the ‘directions of progress’. This involves variously studying, knowledge and power, uncertainty, precaution and participation, ‘opening up’ social appraisal and diversity and transformation. He has contributed to 8 books/monographs, 3 edited books, 56 academic book chapters, and 53 refereed articles.
INNOVATION AND EXPERIMENTATION

SESSION 5: New approaches, new paradigms

Chair: Lars Coenen
University of Melbourne

PROFESSOR LARS COENEN is an economic geographer and scholar in innovation studies. He joined the Melbourne Sustainable Society Institute at the University of Melbourne in January 2017 as the inaugural ‘City of Melbourne Chair of Resilient Cities’, an initiative between the City of Melbourne and University of Melbourne aimed at improving the city’s resilience to sustainability challenges. Prior to this, he was full professor at CIRCLE, the Centre for Innovation, Research, and Competence in the Learning Economy at Lund University, one of the world-leading interdisciplinary research centres in innovation studies. Here he was heading a research group dealing with innovation and sustainability transitions. Professor Coenen is well-known internationally for his work on regional and urban innovation and, more recently, his pioneering research on the geography of environmental innovation and sustainability transitions. He is author of more than 30 scientific papers published in leading international journals such as Research Policy, Environment and Planning A and Economic Geography.

Kathryn Davidson
University of Melbourne

New global city governance: City networks as medium of effective urban governance experimentation in institutionalizing policy renewal?

Given the unprecedented challenges of a new ‘Urban Age’, including climate change, hypertrophic urban growth and globalisation, cities are exploring new and radically different policies that address their increasing vulnerability to an array of shocks and stresses. In times of uncertain national policy and shifting global markets, a new frontier of city leadership has emerged that actively embraces experimentation as a new mode of city governance. Here, experimentation is understood as the emergence of new forms of institutional innovation manifesting through experiments linked to the global processes of shifting public/private authority and the restructuring of local government. Typically, the new governance draws on global city networks, such as C40 Cities Climate Leadership Group (C40) and 100 Resilient Cities. Such governance is by default tentative, emergent and ‘in the making’.

DR KATHRYN DAVIDSON is a Senior Lecturer in Urban Planning at the University of Melbourne. Kathryn’s research interest are in urban governance, political ecology and resilience. Her refereed research publications feature both internationally and nationally in International Planning Studies, Global Environmental Politics, Energy Policy, Local Environment: the international journal of justice and sustainability, Australian Journal of Public Administration, Journal of Australian Political Economy and Urban Policy and Research. She has been a Chief Investigator on successful Australian Research Council grants and the project leader for CRC Low Carbon Living funded project.

Matthew Kearnes¹ and Jason Chilvers²
University of New South Wales¹, University of East Anglia (UK)²

Beyond residual realisms: four paths for remaking participation with science and democracy

In light of the contestation of the purposes and objectives of contemporary techno-political decision-making, and the emergence of a more questioning and ambivalent response to assertions of authoritative expertise, attempts to generate socially resilient political settlements across an array of policy domains have increasingly called upon the logics of ‘democratic participation’. In this context, contemporary scientific and environmental policy is increasingly characterised by institutional commitments to fostering public engagement and participation with science, together with greater transparency in the deployment of scientific expertise in decision-making. However, despite notable successes, such developments have often struggled to enhance public trust and build more socially responsive and responsible science and technology. In this presentation, we argue a central reason for this is that mainstream approaches to public engagement harbour ‘residual realist’ assumptions about participation and the public. Recent studies in ‘science and technology studies’ (STS) offer an alternative way of seeing participation as co-produced, relational and emergent. We build on these approaches by setting out a framework comprising of four interrelating paths and associated criteria for remaking public participation with science and democracy in more experimental, reflexive, anticipatory, and responsible ways. This comprises moves to: forge reflexive participatory practices that attend to their framing, emergence, uncertainties, and effects; ecologise participation through attending to the interrelations between diverse public engagements; catalyse practices of anticipatory reflection to bring about responsible democratic innovations; and reconstitute participation as constitutive of (not separate from) systems of science and democracy. We close by offering some reflections on the ways in which these approaches might be taken up in both analytically and normatively inspired work and scholarship.
**MATTHEW KEARNES** is an Australian Research Council Future Fellow, a CI with the ARC Centre of Excellence in Convergent Bio-Nano Science & Technology (CBNS) and member of the of Environmental Humanities Group at the School of Humanities and Languages, University of New South Wales. Before arriving at UNSW he held positions at the Department of Geography at the Open University and the Centre for the Study of Environmental Change/Department of Sociology at Lancaster University. Most recently he held a Research Councils UK Fellowship at the Institute of Hazard, Risk and Resilience/Department of Geography, Durham University.

Matthew’s research is situated between the fields of Science and Technology Studies (STS), human geography and contemporary social theory. His current work is focused on the social and political dimensions of technological and environmental change, including ongoing work on nanotechnology, precision medicine, geoengineering and the development of negative emission strategies to anthropogenic climatic change. He has published widely on the ways in which the development of novel and emerging technologies is entangled with profound social, ethical and normative questions. Matthew serves on the editorial board *Science, Technology and Society* (Sage) and on the advisory panel for *Science as Culture* (Taylor & Francis). Matthew is also co-convenor of the 4S 2018 conference, to be held in Sydney in August 2018.

**Brian Head**

**University of Queensland**

*Pathways to policy innovation: Nudge experiments vs collaborative design*

Public policy is fundamentally about resolving and managing collective problems. There is widespread interest in devising better processes and instruments for problem-solving. The policy innovation agenda – whether directed at economic productivity, environment, social equity or public safety – has always been subject to changing ideological fashions, intellectual paradigms, and zealous marketing of specific preferred remedies.

Two approaches to policy innovation that claim to rise above politicised partisanship and ideology are experimentalism (especially Nudge and Behavioural Insights) and collaboration across knowledge sectors. Both approaches claim to be anchored in expertise, but of very different types. The first approach is micro in orientation, with a focus on scientific understanding of individual behaviour, as a basis for designing behavioural interventions to achieve social purposes. The aim is to provide low-cost innovative approaches for targeted ‘behavioural change’. The second approach is meso- or macro-level, with a focus on facilitating greater alignment among diverse stakeholder groups in order to enhance shared understandings of goals and feasible methods for improvement.

This presentation traces the rise and diffusion of new ‘behavioural’ and experimental approaches to policy design and choice of policy instruments. Nudge and Behavioural Insights are behavioural approaches, anchored in cognitive psychology and behavioural economics, that claim to provide novel insights and measurable benefits. The intellectual pedigree of these ideas is much older, and can be traced back several decades. The ‘behavioural social sciences’ and more recently the ‘evaluation sciences’ (in psychology, marketing, economics, sociology and political science) have developed rapidly since the 1960s, especially in the USA. By focusing on the individual-level ‘micro-foundations’ that underpin how actors select information and make choices, it is assumed that program-level interventions can be better designed and managed – especially in situations where process re-design can channel or encourage desirable individual behaviours.

Behavioural approaches are increasingly influential in public policy design and evaluation. This diffusion has been encouraged by consultants, government policy units, and university-based Policy Labs in several countries. University centres are now offering professional training in ‘Influencing human behaviour: solutions for public policy’. The OECD has sponsored several conferences and surveys of international experience about Behavioural Insights and behavioural economics.

The presentation critically analyses these claims to novelty and impact, and suggests that the ‘big’ policy issues still require a full range of collaborative, regulatory and conflict-resolution techniques.

**BRIAN HEAD** is Professor of Public Policy at the University of Queensland. He also held senior roles in government prior to 2003. He has published widely on public policy, public management, social issues, and environmental policy. He has won funding for projects on research utilisation, policy innovation, wicked problems, natural resources, and social program evaluation. He has been active in building bridges between policy analysts and policy practitioners.
SESSION 6.1: Deliberation, democracy and experimentation

Chair: Kate Neely
University of Melbourne

KATE NEELLY is Director of the Research Translation Program at the Melbourne School of Government, University of Melbourne. Kate is a systems thinking specialist working across the research translation and international development fields. Kate’s work is based in a social justice paradigm that acknowledges the expertise of participants from diverse fields and backgrounds and strives to include the voices of those most marginalised yet most affected by policy failures.

Jonathan Pickering¹ and Åsa Persson²
University of Canberra (¹)
Stockholm Environment Institute (Sweden) (²)

Democratising planetary boundaries

In 2009, a team of scientists proposed a set of ‘planetary boundaries’—‘the Earth-system processes and associated thresholds which, if crossed, could generate unacceptable environmental change’ (Rockström et al. 2009)—that has generated widespread attention from policy-makers and institutions in global environmental governance. Subsequent debates about the concept recall longstanding concerns about the role of science and expertise in a democratic society. Critics of the concept contend that planetary boundaries, along with the associated notion of the Anthropocene, imply an expert-driven and highly centralised approach to governing global environmental risks. Such an approach, they argue, is at odds with democratic inclusion and the diverse range of values that citizens hold worldwide, including the development aspirations of the global South. In this presentation we explore whether planetary boundaries can be interpreted in ways that remain consistent with democratic decision-making, drawing on research on deliberative democracy and Science and Technology Studies. We present an expanded understanding of planetary boundaries that can help to prise the concept away from its common (although often misunderstood) association with technocratic evaluation. We also introduce the concept of ‘planetary goals’, which represent policy goals that aim to avoid unacceptable risks to the functioning of the Earth system. We show how an iterative, interactive process to formulate planetary boundaries and planetary goals could form the basis for a democratically legitimate division of labour among experts, citizens and policy-makers.

JONATHAN PICKERING is a Postdoctoral Fellow at the University of Canberra, Australia, based at the Centre for Deliberative Democracy and Global Governance. He is currently working with Professor John Dryzek on an Australian Research Council-funded project entitled ‘Deliberating in the Anthropocene’ (2015-19). In 2014 he received his doctorate in philosophy from the Australian National University. His research has been published in a range of journals including Climate Policy, Ecological Economics, Global Environmental Politics and World Development.

ÅSA PERSSON is Senior Research Fellow at the Stockholm Environment Institute (Sweden) and leader of the Transforming Governance theme. She currently leads a four-year research project on global governance of climate adaptation, funded by the Swedish research council Formas. Other research interests include the Sustainable Development Goals, environmental policy integration, and planetary boundaries. Her research has appeared in a range of journals including Nature, Nature Climate Change, Environment & Planning C and Ecological Economics.

Alan Ryan
Australian Civil Military Centre

No room for gifted amateurs: Why effective future policy-making needs integrated learning and cross-agency expertise

It is unreasonable to expect any individual public servant to possess all the expertise required to work across all aspects of complex policy issues. Yet government departments are still largely organised along narrow functional and hierarchical lines. To address this conundrum, government must organise itself, less in functional hierarchies and more as an adaptable learning organisation flexible enough to reconfigure to meet changing circumstances. Interagency task forces must become the norm when developing policy initiatives. Perhaps most challenging, greater cognitive diversity requires the abandonment of the generalist model of recruitment and advancement. Future public sector leaders need both broad environmental knowledge and deep subject matter expertise, but the possession of professional qualifications relevant to their employment will be non-negotiable.

ALAN RYAN is Executive Director of the Australian Civil-Military Centre, developing Australia’s capabilities to prevent, prepare for and respond to conflicts and disasters overseas. He has served as: the Principal of the Centre for Defence and Strategic Studies at the Australian Defence College; the Senior Adviser to the Minister for Defence; the Senior Research Fellow in the Land Warfare Studies Centre; and as an Assistant Dean at the University of Notre Dame.

[1] University of Canberra
[2] Stockholm Environment Institute
Amy Kaminski

National Aeronautics and Space Administration (US)

Space for the people? NASA’s experiences with democratizing innovation and decision-making

U.S. space exploration’s primary narrative is dominated by a limited set of actors: officials from the National Aeronautics and Space Administration (NASA) and other U.S. and international governmental organizations, established aerospace companies, and credentialed space scientists. A different picture of participants, however, is emerging not only as entrepreneurs build their own rocket ships but also as NASA accommodates more active roles for new entities in shaping space science and technology. Over the past several years NASA has invited the participation of publics worldwide through the use of techniques including crowdsourcing of scientific observations and space mission data analysis, the establishment of challenges and prize competitions to develop data applications and technologies, and public discussion forums, including a 2014 effort to elicit lay citizens’ values and preferences to inform decisions concerning potentially hazardous asteroid detection and mitigation as well as human exploration of asteroids and Mars. I first identify the social, political, and technological reasons behind this participatory trend, revealing that fundamental to NASA’s broadening of public participation has been a growing desire to remain relevant and legitimate in the eyes of American and global citizens. I then discuss the outcomes and opportunities the 2014 citizen deliberations and other participatory initiatives have yielded for NASA, participants, and society, while at the same time suggesting that cultural and political obstacles remain to NASA’s widespread acceptance of and reliance on public involvement in innovation and policymaking. By exploring the results and wide range of factors that have driven and constrained the visions, abilities, and approaches of NASA to engage various publics in technoscientific innovation and policy choices, this talk should sensitize scholars and practitioners as they evaluate the suitability of other government agencies and institutions in democracies using participatory approaches to innovation and policymaking.

AMY KAMINSKI serves as program executive for prizes and challenges at NASA Headquarters in Washington, DC, where she develops strategies to expand the space agency’s use of open innovation methods in pursuit of its mission. In her prior role as senior policy advisor in NASA’s Office of the Chief Scientist, she led an initiative to support NASA’s involvement of citizens as contributors to its research activities. Kaminski has also held positions at the U.S. Office of Management and Budget and U.S. Federal Aviation Administration. Kaminski holds a Ph.D. in science and technology studies from Virginia Tech.

SESSION 6.2: Locating and negotiating the distribution of expertise

Chair: John Daley

Grattan Institute

JOHN DALEY has been the Chief Executive of the Grattan Institute since it was founded nine years ago. He has published extensively on economic reform priorities, budget policy, tax reform, housing affordability, and generational inequality. This work is underpinned by themes of prioritising government initiatives, and the limits to government effectiveness.

John graduated from the University of Oxford in 1999 with a DPhil in public law after completing an LLB (Hons) and a BSc from the University of Melbourne in 1990. He has worked at the University of Oxford, the Victorian Department of Premier and Cabinet, consulting firm McKinsey and Co, and ANZ Bank in fields including law, public policy, strategy, and finance.

Hayley Pring and Helen Sullivan

Australian National University

Modelling a strategic response for universities to the rise of think tanks in Australian public policy

The rapid proliferation of think tanks throughout Australia in the turn of the century is one of many features of a more congested public policy landscape. Of the 59 identifiably Australian think-tanks, 70% of them emerged after 2000 (Fraussen & Helpin 2017) and the role of these institutions in creating and disseminating knowledge to impact public policy has challenged the primacy of academics and universities. Despite longstanding debates about the purpose of universities and their role in problem solving versus pure research (Maxwell, 2014), universities have an inveterate history of rigorous policy research. The internal organisational constraints of universities however, and the lack of adaptation to a new market of knowledge and expertise, has undermined their effectiveness in competing for influence. The literature has responded to this crisis by explaining the centrifugal forces behind this transition; from the emergence of the so-called ‘post-truth politics’ and the marketization of information, as well as the structural form of think-tanks as boundary organisations able to occupy academia, politics, the market and media (Medvetz, 2012). While

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these studies have shed light on this changing environment, so far, few scholars have developed a comprehensive strategy for how universities might navigate the new terrain. This presentation outlines a proposed study that aims to bridge this gap by evaluating the internal organisational changes and structural adaptations universities must make to maintain their relevance and authority in the knowledge-production space. Through cross-country analysis, we will be identifying and aggregating the successful and failed responses by universities to think tanks, where a similar challenge has occurred in the United States and Canada. Additionally, through a comparative analysis of the strategies employed by think tanks and universities in influencing public policy and successful responsiveness, we will suggest both changes to the internal organisation of Australian universities and their external engagement to mobilise their presence in public policy.

HAYLEY PRING is a research analyst at the Crawford School of Public Policy, the Australian National University, where she works for the director of the school, Professor Helen Sullivan. She studied the Bachelor of Philosophy/Arts at the Australian National University and graduated in 2016 with first-class honours in International Relations winning the L.F. Crisp Memorial Prize for her thesis on the design of preferential trade agreements. She tutors in the Political Science department at ANU for International Organizations and Human Rights. Prior to this she worked at a free-market think-tank in Berlin, focusing on issues of trade and political economics. She is currently the International Trade and Economy Fellow for Young Australians in International Affairs.

PROFESSOR HELEN SULLIVAN is a leading public policy thinker and academic whose work has shaped understanding of the changing nature of state-society relationships and their implications for public governance. As Director of the Australian National University’s Crawford School of Public Policy, she heads Asia-Pacific’s leading public policy school. Helen is widely published and appears regularly in print and online media commenting on contemporary public policy issues. She is committed to bridging the gap between research and policy and has led and supported successful innovations in this area in both the UK and Australia. In 2018 she was appointed National Fellow of the Institute of Public Administration Australia.

Alan Petersen
Monash University

Experts and expertise in the age of ‘evidence-based activism’: exploring the case of patient and health activists

Digital media serve to disrupt established notions of experts and expertise. This is perhaps nowhere more evident than in the sphere of internet-based health and patient activism. Health and patient activists are using digital media to produce their own content, to lobby for research, to change policies, and to challenge credentialled experts and scientific evidence. However, as the concept of ‘evidence-based activism’ (Rabeharisoa, et al., 2014) used in relation to patient and health activists, suggests, citizens’ engagements with experts and expertise are more complicated than may first appear. Citizens often combine ‘experiential knowledge’ and credentialled knowledge to advance their objectives. This presentation will explore the changing character of ‘expert’ and ‘expertise’ in the age of the internet and social media, making reference to recent Australian and overseas research. It asks, how do health and patient activists assess different credibility claims and negotiate rival sources of epistemic authority as they navigate the world of online information and advice, involving direct-to-consumer advertising and various competing claims about health, treatments, and care? The presentation will also consider the meaning and role of ‘regulation’ in this digitally mediated context—who and what should be regulated, by what means and to what ends?

ALAN PETERSEN is Professor of Sociology, School of Social Sciences, Monash University. He has researched and written extensively in the sociology of health and medicine, and science and technology studies. He is currently leading two Australian Research Council Discovery Projects; one focusing on patients’ use of digital media to access treatments, and the other on the sociocultural factors shaping the rise of testing in Australian healthcare.
Structured Expert Judgement: the art of using subjective data as objectively as possible

Quantitative models underpin all aspects of decision making, from failure probabilities of un-launched satellites, effects of pollutants or pests on the environment, to consequences of climate change. Such models require values for parameters that cannot be assessed with certainty. Decision makers increasingly recognize this uncertainty, and demand its structured quantification and propagation through the models.

Empirical data plays an important role in quantifying models; however, it is often sparse or unreliable. Whenever experimental data is not available, expert judgement is almost invariably sought. When performed rigorously, expert judgement elicitation is a very powerful method for obtaining estimates of unknown quantities and quantitative estimates of uncertainty.

Over the last years, the Centre of Excellence for Biosecurity Risk Analysis (CEBRA) has begun to experiment with new methods for structured expert judgement (SEJ) that combine the advantages of the major existing protocols. These experiments resulted in a new elicitation protocol called IDEA, which encourages experts to Investigate, Discuss, Estimate and ends with an Aggregation of the experts’ final estimates. IDEA has been tested successfully in a few cases relevant to human medicine and geopolitics, and it shows substantial promise.

In this talk I will cover a short history of SEJ, present a few applications where expert opinion is used, which run from sordid to sublime, and I’ll motivate the need for the new IDEA protocol.

ANCA HANEA is an applied mathematician and a senior researcher at the Centre of Excellence for Biosecurity Risk Analysis at the University of Melbourne. Her research interests and experience lie in high dimensional dependence modelling, risk analysis, decision theory, probabilistic graphical models, and structured expert judgement

PROFESSOR MARK BURGMAN is Director of the Centre for Environmental Policy (CEP) at Imperial College London and Editor-in-Chief of the journal Conservation Biology. Previously, he was Director of the Centre of Excellence for Biosecurity Risk Analysis (CEBRA) and Adrienne Clarke Chair of Botany at the University of Melbourne, Australia. He works on expert judgement, ecological modelling, conservation biology and risk assessment. He has written models for biosecurity, medicine regulation, marine fisheries, forestry, irrigation, electrical power utilities, mining, and national park planning. He received a BSc from the University of New South Wales (1974), an MSc from Macquarie University, Sydney (1981), and a PhD from the State University of New York at Stonybrook (1987). He worked as a consultant ecologist and research scientist in Australia, the United States and Switzerland during the 1980s before joining the University of Melbourne in 1990. He joined CEP in February, 2017. He has published over two hundred and fifty refereed papers and book chapters and seven authored books. He was elected to the Australian Academy of Science in 2006.

SESSION 6.3: Policy co-design across boundaries of experience and expertise

Chair: Kathryn Davidson
University of Melbourne

DR KATHRYN DAVIDSON is a Senior Lecturer in Urban Planning at the University of Melbourne. Kathryn's research interest are in urban governance, political ecology and resilience. Her refereed research publications feature both internationally and nationally in International Planning Studies, Global Environmental Politics, Energy Policy, Local Environment: the international journal of justice and sustainability, Australian Journal of Public Administration, Journal of Australian Political Economy and Urban Policy and Research. She has been a Chief Investigator on successful Australian Research Council grants and the project leader for CRC Low Carbon Living funded project.

Amanda Reeves and Jade Maloney
ARTD Consultants

Co-design: Repositioning expertise in policy making

Co-design by governments is on the rise. Co-design and other participatory methods shift decision-making power to end users and people with first-hand experience of the policy issue in question. These approaches have emerged because traditional policymaking methods do not always put end users at the centre of design and can fall short of meeting the needs of the people they aim to serve.

This does not represent the rejection of expertise but the repositioning and reconstruction of what constitutes expertise. Evidence can and does play a key role in co-design processes.
The role of stakeholders in shaping public policy is explored in the case of developing a strategy for Amaze, the peak body for people on the Autism spectrum in Victoria, and the Victorian Department of Education and Training to improve the learning outcomes of autistic students in schools. A group of stakeholders including autistic people, principal associations and teacher representatives, autism education specialists and peer support providers was formed to collaboratively shape the development of the strategy.

A process combining expertise and the lived experience of stakeholders identified the root causes of poor educational outcomes, prioritised areas of focus for the strategy and developed logic models for the implementation of evidence-based interventions in schools. Stakeholder perspectives on the every-day challenges of supporting autistic students guided the practical application of peer-reviewed literature and evidence-based interventions to develop feasible school-wide approaches tailored to the Victorian context. The process produced a multi-layered and holistic strategy to support departmental decision-making on how to address the issues facing autistic students in Victoria.

This case demonstrates that engaging stakeholders in the policy-making process can inform how expertise can be applied in a real-world context, enable reality testing of approaches prior to implementation and help to support broad stakeholder acceptance of policies.

JADE MALONEY is a Director at ARTD Consultants who works with government agencies, not-for-profits and citizens to co-design, communicate, evaluate and refine social policies and programs. She assists organisations to embed person-centred approaches and collect the data required to demonstrate outcomes and continuously improve service delivery.

AMANDA REEVES is a Senior Consultant at ARTD and is an experienced policy analyst and program evaluation specialist. She works collaboratively with clients to co-design policies, programs and services that deliver outcomes for service users.

Jade and Amanda are passionate about ensuring citizens have a voice in shaping the policies and services that affect their lives.

Annica Kronsell
Lund University (Sweden)

Municipalities as enablers? - On the role of municipalities in experimental governance

Climate governance is a multi-faceted policy area, and municipalities can act as agents of change in diverse roles and capacities (Bulkeley & Brodo 2012; Bulkeley & Kern 2006; van der Heijden 2015a; 2015b). This presentation explores municipalities in climate governance with specific regard to their potential role as enablers. Urban Living Labs (ULL) are used as an example of city-based innovations in climate politics. ULL can be seen as part of wider politics of experimentation in local climate and sustainability governance (Bulkeley et al 2015, Castán Broto and Bulkeley 2014, Frantzeskaki and Loorbach 2010, McCormick et al 2013). As such, they are forms of urban governance and experimentation that take on sustainability challenges (Voytenko et al 2016), often engaging in measures related to mobility, transport planning, energy use and efficiency. Moreover, ULL are generally set in a collaborative setting, where municipalities are one of many actors. Even though there has been a tendency in the literature on networks and partnerships to view municipalities as merely one of many stakeholders, current literature on multi-acting, where meta-governance is contrarily emphasizing the particular role that the state or other public actors have in these processes (Pollitt & Bouckaert 2011: 20, cf. Fenwick et al 2012: 406; Qvist 2017: 499). In these processes of meta-governance governing through over-arching frames rather than details is often emphasized (Qvist 2012: 203ff), including ‘governing mechanisms [which do] not rest solely on the authority and sanctions of government’ (Milward & Provan 2000: 239). In the literature on governance networks this has sometimes been described as policy-making in the ‘shadow of hierarchy’, where meta-governors can regulate and even reduce the autonomy of various actors (Sörensen & Torfing 2009: 236). Regarding ULL specifically, the relevant roles that have been highlighted in the literature are promoter, partner and enabler (Kronsell & Mukhtar-Landgren 2018 forthcoming). The aim is to further explore and critically analyze one of the roles – the role of enabler, using evidence from Sweden and the Netherlands. What does it entail to act as an enabler in municipal policies? How can this role be substantiated and understood?

ANNICA KRONSELL, Professor of Political Science at Lund University (Sweden) and Chair of Environmental Social Science at the School of Global Studies, Gothenburg University (Sweden), is interested in how public institutions can govern climate and sustainability issues. She is part of several multidisciplinary consortia and projects that study different dimensions of climate governance in the Scandinavian context and has published articles and books on the green state and environmental governance and on municipalities in experimental governance. She also uses feminist theorizing to study power relations in governance with publications that aim to understand how gender and intersectionality is implicated in climate governance.
Reflexive boundary work gets things done by denying its own existence

A now lengthy tradition in STS sees ‘boundary work’ as the primary means by which expertise is demarcated and coordinated in specific settings. Over recent decades definitions of boundary work have shifted – moving from the means by which scientists conduct ‘credibility contests’ to encompass the work done with language, objects, relations and institutions to constitute credibility, legitimacy and relevance of information. Taken this way, distinct practices at the boundaries between science, publics, and decision-makers become analytically useful in efforts to understand the means by which authority is shored up. Such analysis is beginning to be seen as a competency and interest of boundary practitioners themselves – practitioners who not only do boundary work but consider its implications and future application. In this presentation I explore such reflexive practice of boundary work in the relationship between Australian researchers and natural resource management (NRM) practitioners. Specifically, I unpack a project in south-eastern Australia that sought to provide expertise to assist natural resource managers to plan for climate change (2012-2016). Led by STS-informed social researchers, this inter-disciplinary project explicitly attempted to co-produce knowledge (and values) with NRM planners across nine NRM regions in south-eastern Australia. The project began as a collaborative enquiry. Processes and mutable boundary objects were used to develop research and planning questions, and learning among researchers and planners. Researchers sought to open up options for governing uncertain futures, and to envisage with planners how they might do climate adaptation in their differing settings (rather than delivering assessments of climate impacts or vulnerability). In closing down the project, participants reverted to allotted roles: providers and users of expertise. Institutionally condoned, peer-reviewed outputs were published. These articulated appropriate forms of action, and made the collaborative work – the genesis of these recommendations – largely invisible.

PEAT LEITH is a Senior Research Fellow at the Tasmanian Institute of Agriculture, University of Tasmania. His research focuses on social and institutional aspects of agriculture and natural resources management, particularly on navigating the relations between research, policy and practice. He is both a practitioner in enabling, action research and a scholar interested in contemporary forms of knowledge production for sustainability and democracy.

SESSION 7: Closing reflections and future research prospects
Sheila Jasanoff, Andy Stirling and Matthew Kearnes
In conversation with Jeremy Baskin

Conference closure: John Howe
Director, Melbourne School of Government, University of Melbourne

PROFESSOR JOHN HOWE is Director of the Melbourne School of Government, University of Melbourne, and was previously Co-Director of the Centre for Employment and Labour Relations Law at the Melbourne Law School. John’s research interests include labour market policy and regulation, regulatory theory, and corporate accountability. He has written extensively on the role of the state in regulating employment and labour markets, and on the intersection between state-based regulation and corporate governance. John is presently engaged in research concerning regulatory enforcement of minimum employment standards in Australia and the Asia-Pacific region. He is also researching how large business organisations engage in self-regulation of labour practices through internal policy and rule-making processes, and the interaction between these policies and employment laws.
'TRANSnational STS' encourages presentations, panels, and other events that deepen and extend the transnational character of the Society itself, while engaging issues invoked by both the TRANS prefix (across, beyond, to change thoroughly), and by the problematic and evolving status of “nations” in processes of global ordering.