

**urban and rural systems**

# **Being a Specialist in a Complex World**

*A student-facilitated  
seminar series  
promoting engagement  
across disciplines*

**2012-2013**

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# Being a Specialist in a Complex World

## A student-facilitated seminar promoting engagement across disciplines

Hosted by the Newcastle Institute for Research and Sustainability (NIReS) Urban and Rural Systems Theme, this seven-seminar series is for PhD students who will engage with a wider, non-academic public in their professional or research careers.

The interdisciplinary seminar content will expose students to a wide variety of research methods and theories, providing useful information for early-stage PhD students.

- Students will gain practical insight on working in inter-disciplinary teams from staff who have worked with stakeholders, policymakers, media, and researchers from different disciplines
- The seminar aims to promote interaction between students in social and natural science and does not require background in the topics.
- Training credits offered (10 SAgE Faculty training credits)

### **Background:**

Our world is increasingly complex. One response to this complexity has been to increase the number of specialisms in which PhD researchers are trained. However, as the number of specialisms has increased, so too has our understanding that humans interact in interlinked social, economic and ecological systems.

Navigating the science of these systems - and human behaviour within these systems - stretches the boundaries of specialist training and knowledge.

Some prominent situations where this is evident include climate change, the relationship between human health (eg obesity) and the built environment, and sustainable natural resource management.

A response to this complexity is the development of interdisciplinary research teams, multidisciplinary individual research and increased stakeholder engagement. Yet these practices are typically not part of students' PhD training.

This student-led seminar series aims to fill that gap by exposing PhD students across the University to common situations and dilemmas where interdisciplinary responses are appropriate.

It will introduce the skills, techniques and methods associated with interdisciplinary work. The benefit to you as a PhD student will be exposure to real-world situations you are likely to encounter in your post-PhD career.

## **About the seminars**

Over six meetings and one keynote discussion, the seminar series will introduce different perspectives on how researchers - who are trained as specialists - address complexity in their professional and research careers.

At each session, after introducing a topic briefly, a member of University staff ('staff discussants', see below) will introduce an example from their career, followed by discussion questions for students.

Half of each of these staff-led discussions will be reserved for student-staff discussion. The second half of the seminar meeting will be entirely student-led and will focus on how the topic introduced relates to your own research. A reading accompanies each seminar to help prepare you for the session.

At the concluding student-led discussion of the seminar series, you will each have a chance to reflect on how and if interdisciplinary work may come up in your career.

The staff will be drawn from different disciplines where complex social, economic and ecological interactions are a defining feature: Architecture, Planning and Landscape (HASS Faculty) and Agriculture, Food and Rural Development (SAgE Faculty).

The place-based work of these two Schools and the interaction with stakeholders it entails has yielded a variety of interdisciplinary techniques, such as collaborative resource management, participatory planning and 'citizen juries'.

The seminar series is hosted by the Urban and Rural Systems Theme of the Newcastle Institute for Research on Sustainability (NIReS), and will be presented at a general level where topic-specific knowledge is not necessary.

As this is the first time that this seminar series has been run, content and readings may be subject to change, but participants will be advised of this as the series continues.

## **Session dates**

***(all sessions to be held in Room G.21, Devonshire Building: further information overleaf)***

- Friday 9 November 2012, 2-4pm
- Thursday 13 December 2012, 10am-12pm
- Thursday 10 January 2013, 11am-1pm
- Thursday 7 February 2013, 1.30-3.30pm
- Wednesday 20 March 2013, 12-2pm
- Wednesday 17 April 2013, 11am-1pm

*Plus an additional session to be confirmed in May 2013*

**To book a place on any of the sessions, please email [sustainability@ncl.ac.uk](mailto:sustainability@ncl.ac.uk).**

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- **Seminar 1: Introduction - Different approaches to complex situations**  
Friday 9 November 2012, 2-4pm

### **Synopsis:**

After three years of specialist training, you're walking out into a world that is complex and will require you to work with others who have different specialties. Yet, different disciplines have different terms, processes, and priorities which may make interacting with others difficult. Disciplines which deal with a high-level of context – land use planning, sustainable resource management, public health – offer some lessons learned. This seminar introduces the series by identifying how researchers and professionals from different disciplinary backgrounds interact with practitioners and citizens to address real-world problems. The discussion paper introduces a first-person student perspective of working across natural science and social science disciplines.

### **Staff discussant:**

Dr Liz Oughton, Principal Research Associate, Centre for Rural Economy, School of Agriculture, Food and Rural Development

### **Discussion paper:**

Katherine Donovan, James D. Sidaway and Iain Stewart (2010), 'Bridging the geo-divide: reflections on an interdisciplinary (ESRC/NERC) studentship', *Transactions of the Institute of British Geographers*, 36, 9-14

- **Seminar 2: Framing the 'problem'**  
Thursday 13 December 2012, 10am-12pm

### **Synopsis:**

What is the problem? How researchers form their research questions often defines how future researchers, the public, and policymakers will understand a problem. For example, climate change was framed as 'global warming' when localized cooling was also possible. The framing of 'global warming' versus 'climate change' introduced uncertainty about public understandings of climate science. This seminar will explore the different roles of scientists as framers. The discussion paper features the perspectives of managers who coordinated projects that crossed natural and social science disciplines.

### **Staff discussant:**

Professor Simin Davoudi, Professor of Environmental Policy and Planning & NIREs Theme Coordinator, School of Architecture, Planning and Landscape

### **Discussion paper:**

To be confirmed

## - **Seminar 3: Working in interdisciplinary teams**

Thursday 10 January 2013, 11am-1pm

### **Synopsis:**

How do researchers work within interdisciplinary teams? Including the perspectives of stakeholders or researchers from other fields can often lead to unexpected outcomes, where a project's conclusions are vastly different from the initial project's assumptions. In such a situation, researchers have to 'let go' of being in control of the research's direction. What are the benefits and costs to 'giving up' or 'keeping' project control? The discussant will also explore how it feels as a researcher to 'let go' from being in control of the research's direction as a result of including other perspectives early on in the research project. The paper uses ten diverse case studies to explore the motivations for interdisciplinary work among researchers, funders and stakeholders.

### **Staff discussant:**

Dr Sharron Kuznesof, Lecturer in Food Marketing, School of Agriculture, Food and Rural Development

### **Discussion paper:**

Frances Harris, Fergus Lyon and Sarah Clarke (2008), 'Doing interdisciplinarity: motivation and collaboration in research for sustainable agriculture in the UK', *Transactions of the Institute of British Geographers*, 41(4), 374-384.

## - **Seminar 4: Who's the 'expert' when knowledge is contested?**

Thursday 7 February 2013, 1.30-3.30pm

### **Synopsis:**

Who should define a 'problem'? With so many different perspectives to an issue – yours, a colleague's from another field, your funder's interests, stakeholders, citizens, policymakers, media and journalists, corporations, advocacy groups – is there any 'right' way to approach an issue? Scientists are often called upon by policymakers, funders, the media, and the public to provide the 'expert' knowledge needed to sort out differences of opinion. The seminar identifies tools and techniques researchers have available to them to identify, capture, and synthesize multiple competing perspectives of an issue. The discussant will develop an example from the use of citizen juries in food policy making. The discussion papers consider that scientists being 'experts' is only one of many roles that a scientist can take when engaging with the public and policymakers.

### **Staff discussant:**

Dr Mary Brennan, Senior Lecturer in Food Marketing, School of Agriculture, Food and Rural Development

### **Discussion paper:**

Millstone, E. (2007), 'Can food safety policy-making be both scientifically and democratically legitimated? If so, how?', *Journal of Agricultural and Environmental Ethics*, Volume 20, Issue 5, October 2007, Pages 483-508

- **Seminar 5: Knowledge gaps - public perceptions of risk**

Wednesday 20 March 2013, 12-2pm

**Synopsis:**

When scientists communicate risk to the public, does the public understand? Do scientists understand that terms used to communicate risk (which seem acceptable to science) may not be acceptable to the public? A knowledge gap can result when scientists and the public use different terms, concepts, and methods to understand the world. The seminar introduces how research into food, health, and technology is driving the new, experimental methods to close the risk 'gap'.

**Staff discussant:**

Professor Lynn Frewer, Professor of Food and Society, School of Agriculture, Food and Rural Development

**Discussion paper:**

To be confirmed

- **Seminar 6: Indicators - measuring what counts or counting what is measurable?**

Wednesday 17 April 2013, 11am-1pm

**Synopsis:**

What counts is what is measured. Or is it the other way around, that what is measured is what is countable? Often, researchers cannot measure directly what is important to society. For example, the Gross Domestic Product may be a proxy indicator of progress, and a substitute measure of well-being. Yet, because GDP is relatively easy to measure, we may become focused on what we can count versus what is important (but more difficult) to count. The seminar explores the tensions between what indicators do and don't measure by examining one local government's attempt to use more holistic indicators. The discussion paper illustrates this same tension, but within a single research project that measured how children's pesticide exposure affected their health. By switching the type of data they collected – drawings and play instead of biochemical tests – the research team developed a low-tech rapid assessment technique suitable for a developing country context. Importantly, the use of children-provided data, in the form of drawings, offers a visually compelling method to illustrate pesticide exposure levels rather than traditional charts and tables. Both examples illustrate how working and thinking across traditional disciplinary perspectives can change research outputs and deliver accessible research.

**Staff discussant:**

Dr Karen Scott, Lord Richard Percy Research Fellow, Centre for Rural Economy, School of Agriculture, Food and Rural Development

**Discussion paper:**

Elizabeth A. Guillette, Maria Mercedes Meza, Maria Guadalupe Aquilar, Alma Delia Soto and Idalia Enedina (1998), 'An anthropological approach to the evaluation of preschool children exposed to pesticides in Mexico', *Environmental Health Perspectives*, 106(6): 347–353

**- Seminar 7: Concluding seminar - the reflective researcher**

May 2013, date and time to be confirmed

**Synopsis:**

As a PhD student, you know that knowledge is not cheap. Knowledge is hard-earned. It requires simplification to pull findings from a soup of complexity. Often we trade a bit of context for a bit of clarity. Yet, with information access increasing, such as through social media, does the wider public audience have the knowledge necessary to place your findings in context? Today, the gaps that exist between a scientist's knowledge and public knowledge create a more pronounced challenge for researchers. What implied responsibilities come with having more knowledge on a topic than others? Does it end at 'doing good science'? Does a researcher also have to practice 'good communication' and 'good engagement'? Or should people consult you, the expert? Should we just educate those who fund us – the policymakers and industry leaders? Or does our responsibility extend to the public – the voters and purchasers – who support our funders? Does wider engagement in our research 'pay-off' for the researcher? This seminar will feature a keynote speaker who is senior in his or her career and is noted for academic research and engagement outside of the research community.

**Staff discussant:**

To be confirmed

**Discussion papers:**

1. Chapters 1 and 2 from *The Honest Broker*, Roger A Pielke, Jr. (2007), Cambridge University Press.
2. Figure 2 from *Engaging stakeholders on complex, and potentially contested, science*, John Holmes (2011), Report for the Nuclear Decommissioning Authority (2012).

# Lots of Ways to Find Us!

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