



Keynote and invited speakers

(as at 30 October 2017)



Professor Bård Harstad

Bård Harstad was the Max McGraw Chair in Environment and Management at Kellogg School of Management, Northwestern University, USA, 2004-2013. He has since been a professor at the University of Oslo in his native Norway. Harstad's research focuses on applied theory, political economics, and environmental economics, and in particular the intersection between these fields.

Opening plenary: “**Compliance Technology and Self-enforcing Agreements**”

Abstract: A dynamic game is presented in which countries are both polluting and investing in technologies. The framework can shed light on the three-way interaction between the development of new green technology, emission quantities, and negotiations. While folk theorems point out that the first best can be sustained as a subgame-perfect equilibrium when the players are sufficiently patient, technology will play a crucial role when they are not. The best subgame-perfect equilibrium is distorted in that countries over-invest in technologies that are "green" (i.e., strategic substitutes for polluting) but under-invest in adaptation and "brown" technologies (i.e., strategic complements to polluting). Particularly countries that are small or benefit little from cooperation must be required to invest in this way. With uncertainty, such strategic investments reduce the need for a long, costly punishment phase and the probability that it will be triggered. The framework is consistent with the evolution from the 1997 Kyoto Protocol to the 2015 Paris Agreement.



Professor Ross Garnaut (AC)

Professor Garnaut is a Professorial Research Fellow in Economics at the University of Melbourne. He is the author of numerous publications in scholarly journals on international economics, public finance and economic development, particularly in relation to East Asia and the Southwest Pacific. Recent books include *The Great Crash of 2008* (with David Llewellyn-Smith, 2009) and *Dog Days: Australia After the Boom* (2013).

Professor Garnaut has had longstanding and successful roles as policy advisor, diplomat and businessman. He was the senior economic policy official in Papua New Guinea's Department of Finance in the years straddling Independence in 1975, principal economic adviser to Australian Prime Minister Bob Hawke 1983-1985, and Australian Ambassador to China 1985-1988.

He is the author of a number of influential reports to the Australian Government, including *Australia and the Northeast Asian Ascendancy*, *The Garnaut Climate Change Review*, and *The Garnaut Review 2011: Australia and the Global Response to Climate Change*.

Professor Garnaut has chaired the boards of major Australian and international companies since 1988. In 2015, he became Chairman of ZEN Energy Technologies Pty Ltd.

Opening plenary: "Making Australia the Energy Superpower of the Low Carbon World Economy"

Abstract: Australia once had a competitive advantage in energy intensive industry based on its rich coal and gas natural resources. It has lost this advantage in the 21st century, through internationalisation of domestic coal and gas markets, a blow out in energy distribution costs and oligopolistic markets. Australia's relative natural resource position is similarly strong in the emerging low carbon world economy. Price advantages in renewable energy are less likely to be removed by globalisation of markets because international transport costs are higher for electricity than for coal and gas. Turning natural advantage in renewable energy into comparative advantage in energy intensive industry, requires unwinding the regulatory errors of the past two decades.



Professor Ana María Ibáñez

Ana María Ibáñez is Professor at the School of Economics in Universidad de los Andes. She is the former Dean of the School of Economics at Universidad de los Andes. Ana María studied a Masters and PhD in Agricultural and Resource Economics from the University of Maryland at College Park. Professor Ibáñez' research studies the economic consequences of internal conflict, in particular the costs of war and conflict upon the civil population. Her research has been published on *Economic Development and Cultural Change*, *Journal of Development Studies*, *Journal of Economic Geography*, *Journal of Peace Research*, *International Regional Science Review*, *World Development*, *The Economics of Peace and Security Journal* and *Economía*. She has published chapter in nine books. In 2008, she published a book on the economic consequences of forced displacement in Colombia and in 2014 she edited a book on the economic and social costs of the Colombian conflict. Ana María Ibáñez has been awarded with the *Japanese Award for Outstanding Research on Development* of *Global Development Network* (2005), an honorable mention from the "Fundación Alejandro Ángel Escobar" (2009) and the Juan Luis Londoño award in 2010, a medal given biannually to a Colombian economist younger than 40 years that has contributed to improve the social conditions of Colombians. She is member of the Advisory Group of the United Nations Peace Building Fund and the Board of Directors of Grupo Éxito and Bank BBVA-Colombia.

Distinguished Fellows Address: **"Agricultural Production Amid Conflict: Separating the Effects of Conflict into Shocks and Uncertainty"**

Abstract: This paper examines the effect of conflict on agricultural production of small farmers. First, an inter-temporal model of agricultural production is developed in which the impact of conflict is transmitted through violent shocks and uncertainty brought about by conflict. We test the model using a unique household survey applied to 4,800 households in four micro-regions of Colombia. Our findings suggest households learn to live amid conflict, albeit at a lower income trajectory. When presence of non-state armed actors prolongs, farmers shift to activities with short-term yields and lower profitability from activities that require high investments. If violence intensifies in regions with presence of non-state armed actors, farmers concentrate on subsistence activities.

Co-authors: María Alejandra Arias, Andrés Zambrano



Professor Tava Olsen

Dr Tava Olsen is Professor of Operations and Supply Chain Management and Head of Department of Information Systems and Operations Management at the University of Auckland Business School. Prior to joining Auckland, she was Professor of Operations and Manufacturing Management in the Olin Business School at Washington University in St. Louis. Tava's research interests include supply chain management; pricing and inventory control; and stochastic modelling of manufacturing, service, and healthcare systems. Among other journals, her publications have appeared in *Management Science*, *Operations Research*, *Manufacturing and Service Operations Management (M&SOM)*, and the *Journal of Applied Probability*.

Tava is currently an Associate Editor for *Management Science*, *M&SOM*, and *Operations Research*, is a senior editor of *Production and Operations Management*, and is the Topical Editor for *Supply-Chain Management* for the *Wiley Encyclopedia of Operations Research and Management Science*. She is a past president of the *Manufacturing and Service Operations (MSOM)* society and has twice been awarded the Auckland Business School's research excellence award.

Invited presentation: "Modelling Contracts and Incentives in Agricultural Cooperative Supply Chains"

Abstract: In agricultural marketing co-operatives (co-ops), a group of farmers, or growers, collaborate under a single cooperative organisational structure to process and market their products. The trade-offs faced within the supply chain are often different to those faced by traditional investor-owned firms. For example, most co-ops pledge to take all product produced by farmers, rather than being able to place specific orders with suppliers. Further, operational and financial decisions become inseparable because capital investment decisions are linked to the co-op's economic transactions with its members. This is particularly true for so-called proportional investment co-ops, where farmers' equity is required to be in proportion to their patronage. That is, farmers who supply a greater quantity of the given product are required to supply a proportionately higher amount of equity for the co-op. Supply yield uncertainty adds another dimension to the difficulty of coordinating the supply chain. In this talk, I consider contracts and incentives in agricultural supply chains. I discuss my recent research in this area and highlight possibilities for future research.



Professor Peter Cramton

Peter Cramton is Professor of Economics at the University of Maryland and on the International Faculty at the University of Cologne. Since 1983, he has conducted widely-cited research on auction theory and practice. The main focus is the design of auctions for many related items. Applications include auctions for radio spectrum, electricity, financial securities, rough diamonds, pollution emissions, and timber. He has introduced innovative market designs in many industries. He has advised numerous governments on market design and has advised dozens of bidders in major auction markets. He received his B.S. in Engineering from Cornell University and his Ph.D. in Business from Stanford University.

Invited presentation: **“The challenges of electricity market design as we transition to 100% renewable energy”**

Abstract: Electricity markets are designed to provide reliable electricity at least cost to consumers. This paper describes how the best designs satisfy the twin goals of short-run efficiency—making the best use of existing resources—and long-run efficiency—promoting efficient investment in new resources. The core elements are a day-ahead market for optimal scheduling of resources and a real-time market for security-constrained economic dispatch. Resources directly offer to produce per their underlying economics and then the system operator centrally optimizes all resources to maximize social welfare. Locational marginal prices, reflecting the marginal value of energy at each time and location, are used in settlement. This spot market provides the basis for forward contracting, which enables participants to manage risk and improves bidding incentives in the spot market. There are important differences in electricity markets around the world, reflecting different economic and political settings. Electricity markets are undergoing a transformation as the resource mix transitions from fossil fuels to renewables. The main renewables, wind and solar, are intermittent, have zero-marginal cost, and lack inertia. These challenges can be met with battery storage and improved demand response. However, good governance is needed to assure the market rules adapt to meet new challenges.



Professor Juan-Pablo Montero

Juan-Pablo Montero is Professor of Economics at the Pontificia Universidad Católica de Chile (PUC-Chile) and has held visiting positions at the MIT Sloan School of Management, Harvard's Kennedy School and Stanford's Center for Latinamerican Studies and Economics. He received a Civil Engineering degree from PUC-Chile and M.Sc. and Ph.D. degrees in Economics from MIT. His research work concentrates on industrial organization, environmental economics and resource economics and has appeared in leading journals including the American Economic Review and the Journal of Political Economy.

Invited presentation: **“Driving Restrictions: Lessons for local air pollution and perhaps for greenhouse gases”**

Abstract: Driving restrictions — limits on car use based on some combination of the last digit of a vehicle's license plate and colored stickers displayed on its windshield — are becoming increasingly popular forms for dealing with local air pollution (particulates, carbon monoxide, ground-level ozone, etc). We have seen them implemented in Mexico-City, Santiago, Sao Paulo, Bogota, Beijing, Berlin, Paris, Manila, New Delhi, to name a few. We will discuss when they work and when they don't and why, and how they compare, both in term of economic efficiency and political feasibility, to alternative instruments such as scrappage subsidies and pollution-based taxes. We will conclude with lessons for dealing with carbon dioxide emissions in the transport sector.



Professor Maureen Cropper

Maureen Cropper is a Distinguished University Professor of Economics at the University of Maryland, Senior Fellow at Resources for the Future, and a former Lead Economist at the World Bank. She is a member of the National Academy of Sciences, a Research Associate of the National Bureau of Economic Research, and a Fellow of the Association of Environmental and Resource Economists.

Invited presentation: **“Why We Need a Social Cost of Carbon”**

Abstract: One approach to climate policy is to specify a maximum allowable increase in mean global temperature and then determine a path of carbon emissions that will satisfy that target. This approach, adopted by the High-Level Commission on Carbon Prices, suggests that carbon should be priced to achieve a temperature-based emissions target. In the United States emphasis has been put on estimating the Social Cost of Carbon—the damages associated with emitting an additional ton of carbon dioxide. Dr. Cropper’s talk will focus on why we should calculate a Social Cost of Carbon (SCC), on the role it should play in climate policy, and on recent progress in estimating the SCC.



Professor Lata Gangadharan

Lata Gangadharan is a Professor of Economics at Monash University. She is an experimental economist and uses experiments to evaluate the effectiveness of environmental policies and to understand the implications of positive (charitable giving) and negative social preferences (envy, corruption). Her papers have been published in general interest and field journals, such as, *Science*, *Nature Communications*, *American Economic Review*, *European Economic Review*, *Journal of Public Economics*, *Journal of Environmental Economics and Management*, *American Journal of Agricultural Economics* and *Experimental Economics*. She is currently a Co-Editor of *Experimental Economics* and is a Fellow of the Academy of the Social Sciences in Australia.

Invited presentation: “Inequality and Normative conflict in Environmental Dilemmas: Insights from Experiments”

Abstract: Tensions between private and social interests give rise to social dilemmas. When some individuals enjoy greater benefits from the environmental public good than others, contributions to the public good can increase both efficiency and inequality. The tension between private and social interests can be aggravated in such groups because of increased inequality and the presence of normative conflicts regarding what one ought to do in such circumstances. Individuals’ concerns for equality in such instances can limit the ability of mechanisms, such as peer communication, to promote efficiency. We provide evidence for this from a public good experiment. Our results suggest that normative conflict can be difficult to overcome, imposing limits on the ability of heterogeneous populations to reach efficient outcomes through self-governance. Next, using a common pool resource experiment, we show that an environmental tax and redistribution mechanism can help resolve the trade-off between efficiency and inequality and also eliminate the observed perverse effect of social information and observability on cooperation.



Professor Scott Swinton

Scott Swinton is Professor in the Department of Agricultural, Food, and Resource Economics at Michigan State University and President of the Agricultural and Applied Economics Association. His research examines how technology, information, and incentives shape farmer decisions and their environmental consequences. He teaches in the areas of managerial economics, ecological economics, and applied microeconomics. Besides his work on U.S. farming, he has extensive experience with agricultural and natural resource management in Latin America and Africa.

Invited presentation: “Matching Analytic Methods to Compelling Arguments in Applied Economics”

Abstract: Compelling arguments address timely, relevant questions with sound data and methods. The most suitable method will depend upon the research question and resources available. This presentation will review microeconomic research topics and match them to appropriate empirical methods, ranging from case studies to optimization to econometrics.



Professor John Gibson

John Gibson is Professor in the Department of Economics, University of Waikato. He taught previously at the University of Canterbury, and the Economics Department and Center for Development Economics at Williams College. Since receiving his Ph.D. from Stanford University he has worked in the following countries: Cambodia, China, Fiji, India, Papua New Guinea, Russia, Samoa, Solomon Islands, Thailand, Tonga, Vanuatu, and Vietnam. His teaching and research interests are in microeconomics and in the micro econometric aspects of development, labour and the international economy. His other research interests include poverty measurement, where he was a member of an expert group advising the United Nations Statistical Division, and the design and analysis of household survey data, and economic development, especially in China and other Asian and Pacific economies. His recent publications have appeared in the *Economic Journal*, *Review of Economics and Statistics*, and *Journal of Development Economics*. He is co-editor of the *Australian Journal of Agricultural and Resource Economics*.

Invited presentation: “**Are You Estimating the Right Thing?**”

Abstract: A key theme of applied econometric practice over the last decade has been the use of research designs that can plausibly identify the causal effect that covariates have on outcome(s) of interest. Most discussion focuses on choice of methods, such as instrumental variables (IV) or regression-discontinuity designs (RDD), and increasingly on the use of randomized control trials (RCTs). However, the issue of researchers estimating and reporting coefficients that are not for the population parameters that they think they are identifying is potentially broader than this. In this talk I provide some examples of applied practices where what is estimated is unlikely to identify what is wanted (or somewhat equivalently, a lack of clarity in what it is that the researcher is wanting to estimate increases doubt about the mismatch between what is estimated and what is wanted):

- Using observational data and regression or matching methods that are unlikely to identify causal effects when unobservable characteristics are likely to be relevant to outcomes and correlated with key covariates
- Using latent variable, binary outcome models when the underlying data are continuous and observed

- Estimating coefficients for latent variables when unconditional expectations of observed variables are required
- Mixing together responses on quality and quantity margins when elasticities of quantity demand are required
- Estimating models of inherently spatial phenomena that ignore the significant spillover and feedback effects