



Australia and New Zealand
Regional Science Association International
41st Annual Conference



**CONFERENCE
PROGRAMME**

ANZRS AI welcomes participants to its 41st annual conference, hosted this year at USQ in Toowoomba. The core theme for this year's conference focuses on:

**FOSTERING REGIONAL RESILIENCE,
ENGAGEMENT AND INNOVATION**

(TOOWOOMBA, 6-8 DECEMBER 2017)

ANZRS AI is pleased to acknowledge our conference sponsors.



Australian Government

Department of Infrastructure and Regional Development

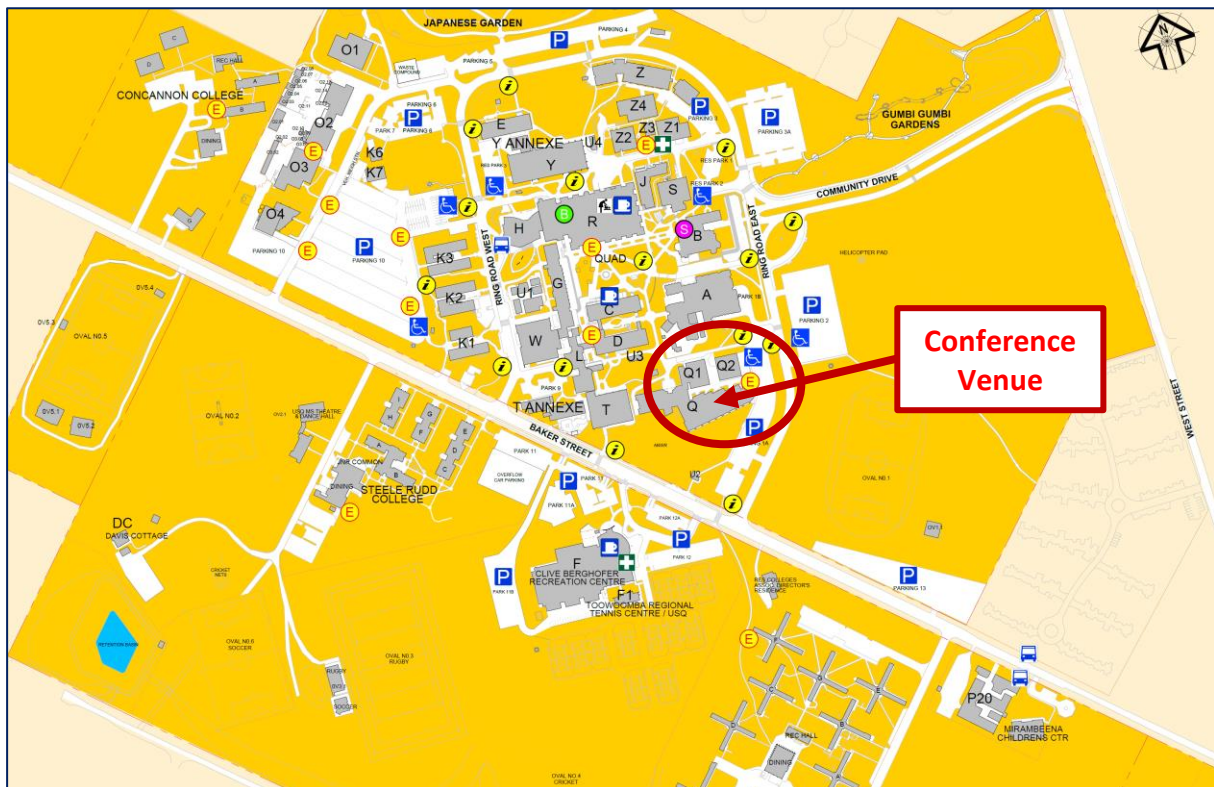
Bureau of Infrastructure, Transport and Regional Economics



Lincoln University



USQ TOOWOOMBA CAMPUS MAP



Source: <https://www.usq.edu.au/toowoomba/directions/map>.

COCKTAIL RECEPTION AND CONFERENCE DINNER

There are two social events requiring paid tickets. If you would like to purchase a ticket, please see Paul Dalziel or make an enquiry at the registration desk.

The first day of the conference concludes with a reception co-hosted by ANZRSI and the Institute for Resilient Regions. This will take place at **Inbound Brasserie**, which is in the historic railway precinct at the Toowoomba Railway Station, beginning at 6:00pm.

The conference dinner is on the evening of Thursday 7th December, at **Encores Restaurant**, located within the CBD of Toowoomba, at the Empire Theatre (56 Neil St), with pre-dinner drinks at 6:30pm. The conference dinner will include presentations of the ANZRSI Awards, sponsored by the Bureau of Infrastructure, Transport and Regional Economics.

CONFERENCE BUS TIMETABLE

The conference bus will leave the Potters Toowoomba Hotel at 8:00am on Wednesday and Thursday, and Friday. It will call into the City Golf Club Motel and the Athena Motel Apartments on the way to the conference venue. A bus will leave campus shortly after the conclusion of each day.

WELCOME FROM THE PRESIDENT

This year is the 41st annual ANZRSI Conference and so I am very pleased to welcome all participants to the vibrant regional city of Toowoomba.

ANZRSI is grateful to the Institute for Resilient Regions at the University of Southern Queensland, who are hosting us at the University's main campus in Toowoomba. I want particularly to thank on behalf of all of us the local organising committee – Jim Cavaye, Greg Jones, Khorshed Alam, Claire Beattie and Geoffrey Woolcock – for their considerable work. As usual, our Executive Officer, Paul Dalziel, has devoted many hours to arranging the conference programme.

I also thank the team of four postgraduate students who are helping with the hospitality over the two and a half days of the conference: Mohmmad Afshar Ali (also presenting a paper); Guansan Du; Rezwanul Hasan Rana; and Rula Almadadha.



I especially welcome those of you who have travelled a long way to be at our conference, and those of you for whom this is your first ANZRSI conference. The annual ANZRSI conference is an opportunity for participants to catch up with old friends, to meet new friends and to learn from each other about important regional issues.

The conference theme is *Fostering Regional Resilience, Engagement and Innovation*. This is timely, and is reflected in many of the keynote addresses, workshops, panels and contributed papers that will be presented at this conference, concluding with the session on local issues with regional leaders that will take place on the final morning.

In Australia, New Zealand and around the world, regions and the diverse communities who live and work in them face a landscape of rapid change. The concept of resilience captures the idea that communities in place are able to navigate change confidently. As regional researchers, we seek to engage with the dynamics of regions and work with regional communities to spark new sources of innovation.

Among other publication opportunities, participants are welcome to submit their paper presented at the conference for a forthcoming special edition of the Australasian Journal of Regional Studies on "Emerging Priorities in Regional Policy and Practice" to be edited by Jim Cavaye and Greg Jones.

I wish you all an enjoyable and fruitful conference.

Robyn Eversole
ANZRSI President, 2017

The Keynote Speakers

Our 41st annual conference has a full programme of special sessions and keynote speakers. The special sessions include two workshop and two panels (described on pages 6 and 7) and a workshop on Regional Economic Development organised and hosted by Professor Jim Cavaye. We are also delighted that the following five high profile regional scientists are presenting at our conference.

DR EVELYN V. COLINO

(NATIONAL UNIVERSITY OF RIO NEGRO, ARGENTINA)

Dr Evelyn Colino is Director of CIETES (Interdisciplinary Centre for Studies on Territory, Economy and Society) at the National University of Rio Negro, Argentina. She is a CONICET Fellow (Fellow of the National Research Council of Argentina). She previously worked with the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign. CIETES is a Regional Research Centre that focuses on problems of local and regional development in the Northern Patagonia region. Recent projects include “The social and solidarity economy as a catalyst for territorial development: An empirical analysis of San Carlos de Bariloche.” Evelyn is a leader in the Sustainable Regions Applied Research Network (SRARN) that links Regional Research Centres in Australia, Chile and Argentina.



ASSOCIATE PROFESSOR BUDY RESOSUDARMO

(AUSTRALIAN NATIONAL UNIVERSITY, CANBERRA)



Associate Professor Budy Resosudarmo is a member of the Crawford School of Public Policy at the Australian National University. He is an economist working on the economy-wide impact of economic and environmental policies on household incomes, analysing the impact of fiscal decentralization policies on local economies, and investigating the political economy of natural resource utilisation. Budy is President of the Regional Science Association International. His address will be on the topic of “Lagging regions in Asia and the Pacific: How regional science can contribute to address the issue”.

PROFESSOR ROBYN EVERSE
(SWINBURNE UNIVERSITY OF TECHNOLOGY, MELBOURNE)



Professor Robyn Everse is Deputy Director of the Centre for Social Impact at Swinburne University of Technology and President of ANZRSAL. She is author of *Knowledge Partnering for Community Development* (2015) and *Regional Development in Australia* (2016), both published by Routledge. An anthropologist who studies regional and local development, Robyn is involved in practical development work in Australia, Asia, and Latin America. She is a leader in the Sustainable Regions Applied Research Network (SRARN) that links Regional Research Centres in Australia, Chile and Argentina, and a Board member of the Council on Australia–Latin America Relations.

DR MANUEL PALAZUELOS MARTÍNEZ
(DG JOINT RESEARCH CENTRE, EUROPEAN COMMISSION)

Dr Manuel Palazuelos Martínez works for the European Commission, where he is Project Leader/Team Leader at the Smart Specialisation Platform of the DG Joint Research Centre. Previously, he held several relevant positions at the Directorate General of Economic and Monetary Affairs of the European Commission in Brussels. Prior to joining the Commission, Manuel Palazuelos taught for five years, at the Department of Economics of the London School of Economics, where he was awarded five annual prizes for excellence in teaching, including a national UK award. Manuel has around 35 publications in international economics.



PROFESSOR JOHN ROLFE
(CENTRAL QUEENSLAND UNIVERSITY, ROCKHAMPTON)



John Rolfe is Professor of Regional Economic Development at CQ University at Rockhampton. He is a resource economist with extensive experience with environmental, resource and development issues across Queensland and Australia. John has led more than 40 major research projects over the last ten years and is the past Editor-in-Chief for the *Australian Journal of Agricultural and Resource Economics*. He is involved in a number of technical and policy committees, and is currently the Independent Chair of the Science Panel for the Gladstone Healthy Harbour Partnership. Professor Rolfe will speak on 'Factors affecting workforce mobility in regional Australia'.

The Workshops

REGIONAL UNIVERSITIES AND REGIONAL DEVELOPMENT CENTRES – COLLABORATIVE RESEARCH WORKSHOP

WEDNESDAY, 11:15AM – 12:45PM, Room Q501



Sustainable Regions Applied
Research Network

This workshop is a collaboration between ANZRSAI and the Sustainable Regions Applied Research Network (SRARN). It invites regional research centres and other interested researchers about

developing forward-looking research collaborations with a focus on developing a shared collaborative research agenda around how universities can support rural, remote and resource-based regions. The workshop will be co-facilitated by Rolf Gerritsen and Robyn Eversole, with Evelyn Colino from the Argentinean network.

DELIVERING RESEARCH IMPACT FOR POLICY CHANGE: WORKING IN AND FOR REGIONAL ECONOMIC DEVELOPMENT

WEDNESDAY, 1:30PM – 3:30PM, Room Q501

This workshop is aimed at helping researchers increase their skills on how to design and deliver research for impact – which is now an important personal as well as institutional driver for success. The Regional Australia Institute (RAI) has recently been investigating and sharing



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INSTITUTE

insights on how to deliver research impact to policy makers. These insights have been framed for enhancing researcher impact, leading to policy change. This will be a participatory workshop that will challenge participants to think about how and why they can deliver real research impact that leads to policy change at local, state, and national levels. It will address three key themes: (1) What impact do you want to have? (2) How can you deliver impact through the research process? (3) Sharing what works and why. The workshop will be led by Dr Leonie Pearson (Research Leader at RAI) with an experienced panel of academics who have delivered real world policy change.

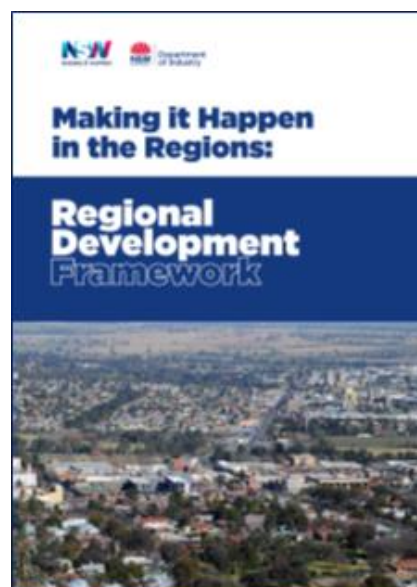
The Panels

THE NSW REGIONAL ECONOMIC DEVELOPMENT PROGRAM AND ITS DEVELOPMENT

THURSDAY, 1:30PM – 3:30PM, Room Q501

The New South Wales Department of Industry is responsible for research on regional economic development in NSW. This has included developing a framework that is being used for consultants to work with a selection of regions to undertake an economic development strategy, using a common methodology. RSAI and ANZRSAI Distinguished Fellow, Robert Stimson, has been an Expert Advisor for this process. He and representatives from the NSW Department of Premier and Cabinet will make the panel. Abstracts are provided in that section of this programme for the following panellists:

- Daniel Masters
- Robert Stimson
- Alistair Robson and Lesley Arthur
- Philip Hamson



TECHNOLOGY, DISRUPTION, AND REGIONAL FUTURES

THURSDAY, 1:30PM – 3:30PM, Room Q502

This session aims to set a provocative agenda for regional research and policy in a context of rapid technological change. It has been posited that technological changes over the next thirty years may exceed the changes during the past three hundred. Digital technologies are becoming increasingly ubiquitous, bringing with them increasing opportunities for connectivity across geographical space, as well as automation and artificial intelligence capabilities that may quickly reshape the nature of work and everyday life. What might it be like living in nonmetropolitan regions 15-20 years from now? The panellists will offer imaginative and thought-provoking appraisals for future economic and social landscapes in regional Australia, focusing on winners and losers, potential changes in cultures, lifestyles, work, employment, and industries, and how regional leadership and all tiers of government can be proactive in embracing opportunities and managing threats. Participants should come equipped with their own imaginations, ideas, and questions for the group discussion. Panellists: Tony Sorensen, Rolf Gerritsen, Neil Argent and Evelyn Colino.



CONFERENCE TIMETABLE

Wednesday 6 December

8.00am	Registration Desk Opens Level 5 of Building Q (The Phoenix Building), USQ Toowoomba	
9.00am	Welcome to the Conference Chair: Robyn Eversole Welcome from ANZRSAI (Professor Robyn Eversole, ANZRSAI President) Welcome to Country Welcome to Toowoomba (Mayor Paul Antonio, Toowoomba Regional Council) Welcome to USQ (Professor Glen Coleman, Executive Dean) Welcome to the Institute for Resilient Regions (Professor Jim Cavaye, Program Director)	Location: Q501
9.45am	First Keynote Address Chair: Robyn Eversole Dr Evelyn Colino <i>Intermediate Cities, Tourism Destinations and Resilience. The Case of Bariloche, Argentina</i>	Location: Q501
10.45am	MORNING TEA	
11.15am	Workshop Panel 1 and Parallel Sessions 1	
12.45pm	LUNCH	
1.30pm	Workshop Panel 2 and Parallel Sessions 2	
3.00pm	AFTERNOON TEA	
3.30pm	Second Keynote Address Chair: Bob Stimson Associate Professor Budy Resosudarmo <i>Lagging Regions in Asia and the Pacific: How Regional Science Can Contribute to Address the Issue</i>	Location: Q501

4.30pm	Presidential Address Chair: Paul Dalziel Professor Robyn Eversole <i>Regional Research for Impact – A Global View</i>	Location: Q501
5:30pm	A bus will leave from the University for the reception at Inbound Brasserie, which is in the historic railway precinct at the Toowoomba Railway Station.	
6.00pm	Cocktail Reception	Inbound Brasserie

Thursday 7 December

8.30am	Registration Desk Reopens	
9.00am	Third Keynote Address Chair: Bruce Wilson Manuel Palazuelos <i>Smart Specialisation Policies in the European Union</i>	Location: Q501
10.00am	MORNING TEA	
10.30am	Parallel Sessions 3	
12.30pm	LUNCH	
1.30pm	Two Panels	
	NSW Regional Economic Development Program	Location: Q501
	Technology, Disruption and Regional Futures	Location: Q502
3.30pm	AFTERNOON TEA	
4.00pm	Fourth Keynote Address Chair: Rolf Gerritsen Professor John Rolfe <i>Factors Affecting Workforce Mobility in Regional Australia</i>	Location: Q501
5:00pm	ANZRS AI AGM	Location: Q501
	All conference participants are invited to the AGM.	

5:45pm A bus will leave from the University for the Toowoomba central business district, dropping participants off at hotels along the route.

6.30pm **Conference Awards Dinner** **Location: Encores Restaurant**

Pre-dinner drinks at 6:30pm, with people invited to be seated by 7:00pm. Encores Restaurant is located within the CBD of Toowoomba, at the Empire Theatre. The Empire was built in the early 1900s, and retains many of its original heritage features. The restaurant was built in 2005, and overlooks a garden and the other buildings within the theatre precinct at 56 Neil St.

Awards at the dinner are sponsored by Department of Infrastructure and Rural Development.

Friday 8 December

Many delegates have advised us that they need to catch flights around lunchtime to make connections or return to their homes for the weekend. Consequently, the organisers have arranged for the Friday morning session to begin 30 minutes earlier, so that the conference can finish at morning tea.

8.30am **Dilemmas and Opportunities in Regional Development** **Location: Q501**
Workshop with Regional Leaders and Conference Delegates
Chair: Jim Cavaye

10.00am **MORNING TEA**

10:30am **Formal Close of Conference**

CONTRIBUTED PAPERS PARALLEL SESSIONS

	Workshops Q501	Stream A Q502	Stream B Q401	Stream C T452
Sessions 1 Wednesday 11.15-12:45	Regional Universities and Development Centres	Tourism and Place Branding	Distributional Issues in Regions	Global Trends and Regional Impacts
Sessions 2 Wednesday 1:30-3.00	Delivering Research Impact for Policy Change	Smart Specialisation in Australia	Digital Divides in Regions	Housing and Municipal Issues
Sessions 3 Thursday 10.30-12.30	Special Session: Regional Labour Markets and Agglomeration	Regional Universities	Innovation in Regions	Advances in Regional Studies



Parallel Sessions 1

Wednesday 6 December, 11.15am-12.45pm

Session 1A Tourism and Place Branding

Chair: Jim Cavaye

Location: Q502

CAVAYE, Jim

Orienting Rural Communities to Tourism

GERRITSEN, Ralph and Benxian Zeng

Intensification, Diversification or Clustering? A Natural Experiment in Tourism Growth

CARROLL, Michael and Steven Nelson

How Place Branding Creates Social Capital

Session 1B Distributional Issues in Regions

Chair: Kingsley Haynes

Location: Q401

Parajuli, Jitendra and Kingsley E. HAYNES

Poverty and Nongovernmental Organizations in Nepal: Some Distributional Observations

SARGENT, John

Microfinance Development and Growth with Emphasis on SE Asia-Pacific Region, including PNG, Solomons, Timor Leste, Cambodia, Indonesia, Vietnam and Laos

ALIMI, Omoniyi, David Maré, Jacques Poot and Les Oxley

How Does Immigration Impact on Metropolitan and Non-Metropolitan Income Distributions? Some New Zealand Findings

Session 1C Global Trends and Regional Impacts

Chair: Shanaka Herath

Location: T452

HERATH, Shanaka and Kankesu Jayanthakumaran

The Geography of Economic Composition and Structural Change in Australia, 2006-2016: Insights from a Shift-Share Analysis

HUDEEC, Oto and Monika Šiserová

Economic Vulnerability to Global Shocks: Impact of the 2007 Global Financial Crisis on the Slovak Local Units

DALZIEL, Paul and Caroline Saunders

Unleashing Export Potential: An Introduction to a New Zealand Research Programme

Parallel Sessions 2

Wednesday 6 December, 1.30pm–3.00pm

Session 2A Smart Specialisation in Australia

Chair: Bruce Wilson

Location: Q502

WILSON, Bruce

Implementing Smart Specialisation in Australia: Some Methodological Issues

WOODS, Megan

Developing and Applying the Regional Industry Value and Development (RIVAD) Framework to Enable Place-based Innovation, Entrepreneurship, Regional Industry Development and Community Resilience

DJOUMESSI MOUAFO, Armand

Constructing Regional Advantage in Non-metropolitan Regions: The Case of the Maritime Industry in Tasmania

Session 2B Digital Divides in Regions

Chair: Jim Cavaye

Location: Q401

CAVAYE, Jim

Social and Economic Issues in Internet Connection in Remote Communities

ALI, Mohammad Afshar and Khorshed Alam

The Effects of Social Exclusion and Remoteness on the Digital Divide Landscape in Australia: A Panel-VAR Approach

URBANČÍKOVÁ, Nataša, Nataliia Manakova and Oto Hudec

Regional and Socio-Economic Factors of Digital Literacy

Session 2C Housing and Land Taxes

Chair: Delwar Akbar

Location: T452

AKBAR, Delwar, Salahuddin Azad and John Rolfe

Review of Mechanisms to Improve Housing Affordability in Queensland Regional Cities

MANGIONI, Vince

Recurrent Property Taxation: Experiences and Challenges in Australia and New Zealand

TRAN, Thien Vu, Masayoshi Noguchi and Joseph Drew

Municipal Resilience Following the Global Financial Crisis 2008: An International Comparative Investigation between New South Wales and Tokyo Metropolis

Parallel Sessions 3

Thursday 7 December, 10:30am–12.30pm

Special Session Regional Labour Markets

Chair: Robert Stimson

Location: Q501

STIMSON, Robert J., Michael Flanagan, William Mitchell, Tung-Kai Shyy and Scott Baum
Modelling the Endogenous Employment Performance of Australia's Functional Economic Regions over the Decade 2001 to 2011

ALAM, Khorshed

Does Broadband Internet Stimulate Labour Supply in Rural and Regional Communities

Arkba, Delwar, Susan Kinnear, Azad RAHMAN and Rahat Hossain

Predicting Workforce Demand for Low-Carbon Energy Sector in Queensland

NAITO, Tohru

Precautionary Public Health, Ageing and Urban Agglomeration

Session 3A Regional Universities

Chair: Caroline Perkins

Location: Q502

PERKINS, Caroline

Regional Universities – Recognising their Role in Regional Development

GERMANOS, Carl

Insights into Regional Economic Development – The Role of Innovation Collaborations with SMEs and a Regional University

JONES, Greg, Claire Beattie and Graham Bowrey

Developing Entrepreneurs in Regions: The Role of Universities

AKBAR, Delwar

Research into Practice: CQUniversity's Contribution to Regional Social Infrastructure Development

Session 3B and Session 3C are on the following page.

Parallel Sessions 3 (Continued)

Thursday 7 December, 10:30am–12.30pm

Session 3B Innovation in Regions

Chair: Armand Djoumessi Mouafo

Location: Q401

DJOUMESSI MOUAFO, Armand, Shiu-Ling Chen and Stephen Cahoon

Innovation in Non-metropolitan Regions: A Review of the Literature

PEARSON, Leonie, Kylie Bourne and Emily Longstaff

Is Current Implementation of Place Based Regional Economic Development 'Thick Enough': Insights from Australia

HEFFERAN, Mike and Andrew Fern

Supporting Innovation in Australian Regions through Direct Government Support to Start-up Companies... What Evidence, What Options?

GRANDHI, Srimannarayana, Prem Chhetri and Alemayehu Molla

The IT Clusters and Open Innovation: A Comparative Study of Different Organisation Sizes

Session 3C Advances in Regional Studies

Chair: Yogi Vidyattama

Location: T452

VIDYATTAMA, Yogi and Krishna Nadimpalli

Constructing a Data Reliability Framework for The Natural Hazard Exposure Information System

MIKHAILITCHENKO, Serguei

Estimates of Productive Capital Stock for the States and Territories of Australia, 1990-2014

Dewhurst, Chris, Bligh GRANT and Lee Huuskes

Policy and Party-Politicisation in Australian Local Government: Implications for the Urban-Regional Divide

RAHMAN, Zillur, Yogi Vidyattama, Delwar Akbar and John Rolfe

The Impact of Location Factors on Housing Price Variation in Melbourne: A Case Study of Western Melbourne Metropolitan Region

ABSTRACTS

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Session 2C

Title: Review of Mechanisms to Improve Housing Affordability in Queensland Regional Cities

Co-authors: Salahuddin Azad and John Rolfe

Abstract: Despite softening rental rates and housing prices in regional Queensland cities, there are still housing affordability issues facing lower wage earners, welfare recipients, senior citizens, victims of family violence and the people with disabilities. This study aims to review the strengths and weaknesses of current mechanisms of housing affordability in regional Queensland cities through a case study of Rockhampton. It adopted qualitative methodology and interviewed representative stakeholders from Queensland Government, Real Estate agencies, community service providers and property experts. After analysing strengths, weaknesses, opportunities and threats (SWOT) of demand and supply side mechanisms of housing affordability, this study found most followed quick fixes solution and some can create more problems than they would solve. In addition, many families are becoming dependent on the welfare-led housing systems generation after generation. Therefore, this study suggests adopting community-led and place based housing strategies to deliver both affordable and social housing. Yet government should provide adequate funding in crisis housing sector.

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Session 3A

Title: Research into Practice: CQUniversity's Contribution to Regional Social Infrastructure Development

Abstract: Social infrastructure is any kind of hard or soft infrastructure that can promote community well-being, social innovation and social enterprise development – all of those help promote business with a motive of collective well-being. Regional universities in Australia have a long track record of doing research with regional issues and these universities themselves act as a social entrepreneur. CQUniversity is the largest regional university in Australia in terms of its geographical coverage and total number of students. This university has been involved with research on regional social infrastructure for the last two decades. This study analyses how CQUniversity made a significant impact on regional infrastructure by providing social and economic research to mount business cases, which eventually helped to develop social enterprises and benefit regional communities at large. This study undertook a case study approach and considered three cases to examine their research impacts on social infrastructure development.

ALAM, Khorshed
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Special Session 3

Title: Does Broadband Internet Stimulate Labour Supply in Rural and Regional Communities?

Abstract: Broadband internet is not only a communication technology but is also considered a fundamental infrastructure for the socio-economic development of any country in this digitally connected world. Broadband internet penetration rates correlate with productivity, employment and wage growth. This study uses survey data from 391 households randomly selected in the Western Downs region of Queensland, Australia, and employs the propensity score matching technique to assess the causal relationship between access to broadband internet and employment outcomes. After controlling for selection bias – a factor ignored in previous studies – this research found that the causal effect of household access to broadband internet on individuals' labour force outcomes is not statistically significant. The effect of broadband internet on employment outcomes ultimately depends on complementary factors such as digital literacy and skills. The findings suggest digital disparities will be deeper in rural and remote locations in the absence of strategies to develop these complementary factors.

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Session 2B

Title: The Effects of Social Exclusion and Remoteness on the Digital Divide Landscape in Australia: A Panel-VAR Approach

Co-author: Khorshed Alam

Abstract: Despite rapid digitalisation in the past two decades, remote parts of Australia still experience digital disadvantage. As the adoption of information and communication technology (ICT) continues to increase at a significant rate, it is pertinent to investigate underlying factors of the digital divide generally and in the context of social inequality. Though there is an extensive body of relevant literature in the international context, there is a dearth of empirical work focused on Australia. Furthermore, existing studies have severe limitations as they are based on flawed estimation techniques and an unjustified selection of predictor variables. Given these limitations, the current study captures the interdependencies between socio-demographic aspects, digital divide and remoteness. Using state-wide panel data for Australia covering the period 1998 to 2015 within a panel vector auto-regressive framework, this study finds that there exists a network of long-run causal relationships between digital divide, socio-demographic aspects and remoteness. The findings also reveal that increased penetration of ICT is a necessary condition for shaping digital inclusion policies, but not a sufficient one. To deal with the digital divide, along with infrastructural issues, the policymakers should emphasise socio-demographic factors.

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Session 1B

Title: How Does Immigration Impact on Metropolitan and Non-Metropolitan Income Distributions? Some New Zealand Findings

Co-authors: David Maré, Jacques Poot and Les Oxley

Abstract: Since the 1980s, inequality in New Zealand has been a growing concern – particularly in metropolitan areas. At the same, the encouragement of permanent and temporary immigration has led to the foreign born accounting for a growing share of the population and disproportionately so in metropolitan areas. This paper investigates the impact of immigration, by skill level and length of stay, on the distribution of income by means of decomposition methodologies (including a multivariate regression decomposition approach that accounts for age, sex, and employment status). Data are obtained from the 1996, 2001, 2006 and 2013 Census of Population and Dwellings. We find that increasing immigrant share in the population is inequality increasing but the changing distribution of migrant incomes is inequality reducing. These results apply to both metropolitan and non-metropolitan areas. These effects combine to contribute to relatively small changes in the distribution of incomes in New Zealand over the 1996 to 2013 period. These methodologies can benefit the study of income distribution changes in countries with similar immigration policies such as Australia and Canada.

CARROLL, Michael
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Session 1A

Title: How Place Branding Creates Social Capital

Co-author: Steven Nelson

Abstract: The success of place branding is judged by the economic prosperity the branding creates. When implemented successfully, place branding has a positive economic effect on the community by accomplishing the goals for which it was crafted. These goals can include attracting new businesses, increasing tourism or revitalizing a downtown. The most successful branding campaigns have a very high level of cooperation and high levels of social capital. The purpose of this paper is to show how place branding strategies can actually build social capital within a local economic development community. Further, this formation of social capital can come as an unintended consequence of the branding process. Section one provides a brief overview of social capital and defines the term for this paper. It describes how bridging and bonding aspects are fundamental in social capital formation. Section two briefly describes the fundamentals of place branding. It identifies three key principles present in successful place branding campaigns. Section three offers examples of how place branding campaigns created social capital within a region's economic development community. It describes how the increase in social capital is an unintended consequence in many place branding campaigns.

CAVAYE, Jim

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Session 1A

Title: Orienting Rural Communities to Tourism

Abstract: For many rural communities in inland regions of Australia, tourism is becoming a key additional element of the local economy. Across 10 communities in 6 local government areas in south west Queensland, over 110 people identified ways to better orient communities to tourism and have planned and conducted local actions to build local tourism. Common priorities were the formation of local tourism and business networks, increasing awareness of local tourism assets, enhancing business culture and customer service, developing local attractions and activities, developing tourism infrastructure and facilities, diversifying tourism from “Grey Nomads” and rationalising marketing. Keys to progressing tourism development have been progressing local actions simultaneously, developing local “drivers” and networks, and providing support from Regional Tourism Organisations. Challenges have been in increasing the awareness businesses of the tourism economy, maintaining local “drive”, accessing resources to support tourism and in measuring the economic contribution of tourism to the broader economy.

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Session 2B

Title: Social and Economic Issues in Internet Connection in Remote Communities

Abstract: Access to fast broadband internet and mobile phone coverage in remote rural communities will allow residents to participate in the digital economy, access services such as eHealth and to connect socially. A baseline study was conducted in five remote communities in far western Queensland to assess current digital access and its social and economic implications. This will be used to assess impacts of digital connection as broadband is rolled out. Forty two interviews were conducted with 51 people. Current internet connection was very slow and unreliable. This prevented access to basic services and businesses had no online capability. Tourists were discouraged and health clinics and schools could not send basic information. People perceived that improved internet infrastructure would allow access services, social communication, online business activity, and more options for shopping and entertainment. There was considerable interest in establishing internet-based businesses. Greater digital competence would be needed.

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Session 1C

Title: Unleashing Export Potential: An Introduction to a New Zealand Research Programme

Co-author: Caroline Saunders

Abstract: Land-based enterprise is essential for New Zealand's economic prosperity, accounting for 70 per cent of the country's exports. It also plays a crucial role in most regional economies of New Zealand outside of the five largest cities. Science research has a strong track record of increasing physical productivity in the land-based industries, but it is widely recognised that future primary sector science should be directed towards "knowledge-intensive, high value add and export growth areas". Consequently, the Agribusiness and Economics Research Unit at Lincoln University is leading a \$4 million, 5 year, research programme on "Unlocking Export Prosperity", funded by New Zealand's Ministry of Business, Innovation and Employment. This paper introduces the research context, the research team, the industry partners, and the research plan of this programme.

DJOUMESSI MOUAFO, Armand
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Session 2A

Title: Constructing Regional Advantage in Non-metropolitan Regions: The Case of the Maritime Industry in Tasmania

Abstract: The constructing regional advantage (CRA) framework has been heralded by scholars as a state-of-the art tool for analysing and promoting the competitiveness of firms in a globalising knowledge economy. This framework has however been criticised for being more adapted to metropolitan regions with strong innovation systems and endowed with the necessary preconditions for agglomeration economies. Following these limitations, some reformations have been suggested for its adaption to non-metropolitan regions. Building on these suggestions, this paper uses a reformulated CRA approach to explore the innovation dynamics and the conditions for constructing regional advantage.

DJOUMESSI MOUAFO, Armand

Session 3B

Australian Maritime College - University of Tasmania, Australia

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Title: Innovation in Non-metropolitan Regions: A Review of the Literature

Co-authors: Shiu-Ling Chen and Stephen Cahoon

Abstract: It is increasingly recognised in regional science and innovation studies that non-metropolitan regions have been overlooked in innovation studies, leading to calls for more innovation studies focusing on these types of regions. This paper argues that a clear inventory of the current state of knowledge on innovation in non-metropolitan regions is required to provide a solid foundation for future innovation research in these regions. Underpinned by this argument, the purpose of this paper is to provide a comprehensive review of the literature on innovation in non-metropolitan areas published in scholarly journals between 1998 and 2016. This review provides valuable insights for advancing innovation research in non-metropolitan regions by highlighting: (1) the authorship characteristics of scholars publishing this research; (2) the design used; (3) the scope of this research; (4) the methodologies and (5) the themes discussed.

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Session 3A

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Title: Insights into Regional Economic Development – The Role of Innovation Collaborations with SMEs and a Regional University

Abstract: The paper provides an overview of a qualitative research study into how small to medium-sized enterprises (SMEs) in a non-metropolitan region collaborate with a regional university on research and development (R&D) projects. It discusses a firm's innovation competence in terms of the 'absorptive capacity' concept, from the perspective of SMEs and from a university's participation. The study highlights initial findings of the ability of SMEs to work with a university as an important external source of knowledge to improve innovation performance. It identifies a range of innovation capabilities achieved by firms across several R&D and non-R&D related innovation activities. The research applied Zahra and George's (2002) elaboration of the absorptive capacity construct along with interrelated concepts including: dynamic firm capabilities, innovation network theory and the exchange process of knowledge and technology transfers (KTTs). Interactions between industry and universities form network ties in a Regional Innovation System (RIS) that can enhance the region's innovation capacity. The research examines the existing conditions to develop an 'open' innovation system within the Greater Geelong non-metropolitan region. The methodology adds to our understanding to how businesses develop innovation capabilities.

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Session 1A

Title: Intensification, Diversification or Clustering? A Natural Experiment in Tourism Growth

Co-author: Benxian Zeng

Abstract: Tourism usually contributes to regional economic development. We want to investigate tourism strategies in remote regions. What is the best strategy for small, discrete tourism destinations to pursue to grow tourism revenue in an environment of increased competition, changing tourism consumption patterns and economic stasis? Smaller tourist destinations in poorer regions, such as resort locations, are usually known for one product only (an attraction or event) or small-scale and simple products. This project examines two tourism “regions” to investigate whether tourism revenue growth can be best maintained or even maximized by pursuing one or more of the following strategies: intensifying (or refreshing) the current tourism attractions; diversifying by providing new tourism products; or forming a “cluster” of tourism venues. We will conduct a “natural experiment” to compare two Australian examples of tourism regions – central Australia and western Queensland. This is applying to the tourism industry a field of enquiry previously confined to development economics.

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Session 3B

Title: The IT Clusters and Open Innovation: A Comparative Study of Different Organisation Sizes

Co-authors: Prem Chhetri and Alemayehu Molla

Abstract: The open innovation paradigm has gained significant attention among researchers and industry practitioners. Earlier research focussed on large organisations, but it is becoming relevant to small and medium sized organisations due to global competition and turbulent market conditions. The open innovation model promotes use of external knowledge for internal innovation and commercialising internal innovations. However, success depends on an organisation’s capabilities to interact with others and actively participate in open innovation activities. The literature highlights the importance of location and organisation size in enabling interactions among participants and promoting collaboration. This paper presents the results of a survey on open innovation practices, conducted among Indian IT organisations within and outside an IT cluster. The results indicate that the organisations in a cluster are ahead in terms of open innovation activities. This study reveals the differences among small, medium and large IT organisations in relation to open innovation practices.

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Session 3C

Title: Policy and Party-Politicisation in Australian Local Government: Implications for the Urban-Regional Divide

Co-authors: Chris Dewhurst and Lee Huuskes

Abstract: Conceived as an element of Australia's federal polity, local government has been comparatively bereft of party politics, particularly in non-metropolitan areas. This does not imply it has been devoid of ideational politics writ large: both long-standing and contemporary scholarship has documented 'rate-payer ideology', 'localism' and 'non party-political' claims attached to Australia's varying local government systems. Moreover, contemporary reforms (including the reintroduction of plural voting in some capital cities, legislative requirements for community participation in decision-making, a growth in the use of participatory budgeting and continuing debate about the suitability of a 'Presidential' model of council leadership), all indicate that contestations about politics at the local and regional levels continue to ferment. Following an overview of politics and local government in Australia, this paper examines levels of party-politicisation in NSW local government for the elections held in 2004, 2008, 2012, 2016 and 2017 across the Department of Infrastructure and Regional Development's Australian Classification of Local Governments. Strategic implication for the sector, particularly the urban-regional divide, are explored.

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Panel A

Title: The Regional Economic Development Strategy Process: The Example of Cowra

Abstract: A practical application of a coordinated approach to creating Regional Economic Development Strategies (REDS) is discussed. This approach involves directly engaging with the community to ensure the strategy is a genuine product of the region and is readily accepted and understood. An approach is made to local council who assist in identifying local business and community leaders to participate in a multi-stage workshop. Throughout this process, information is presented to participants and feedback sought to be used in the development of REDS.

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Session 1B

Title: Poverty and Nongovernmental Organizations in Nepal: Some Distributional Observations

Co-author: Jitendra Parajuli

Abstract: Since the early 1990s, the number of nongovernmental organizations (NGOs) has been growing rapidly in Nepal but Nepal remains a very poor country. In examining the distribution of NGOS, this study finds that districts with higher poverty levels have fewer local NGOs. Although NGOs play an important role in poverty reduction, poverty itself limits their growth in various districts in Nepal. While local NGOs provide an important contribution to the margin of poverty reduction, they alone cannot engineer national poverty reduction. This paper suggests that the Government of Nepal expand its poverty reduction program, streamline foreign aid and infrastructure development, but continue to attract both national and international NGOs for help in reducing poverty.

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Session 3B

Title: Supporting Innovation in Australian Regions through Direct Government Support to Start-up Companies... What Evidence, What Options?

Co-author: Andrew Fern

Abstract: Over recent decades, Government at all levels have seen the need to broaden the economy through the development of new, knowledge intensive businesses and sectors. Initially focused in the capital cities, government-funded regional support schemes were also introduced. Given radical changes in, and downsizing of, the manufacturing sector and the endemic volatility of other major sectors, notably rural production and mining, a concentrated effort to move towards 'higher value add' activities appeared a sound economic direction. Generally supported by all major political parties, successive governments have employed initiatives ranging from targeted research and education programs to various business grant and support schemes. Any such activities no doubt produce generic benefits by raising the profile of such sectors and firms. However this paper concludes that, for programs aimed at early start-up firms, there is little evidence that the targeting of support has provided the tangible benefits envisaged. Impacts in regional areas may, indeed, be even more pragmatic. Some reconsideration and realignment of that support is now warranted and opportune.

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Session 1C

Title: The Geography of Economic Composition and Structural Change in Australia, 2006-2016: Insights from a Shift-Share Analysis

Co-author: Kankesu Jayanthakumaran

Abstract: Although mostly cushioned from any calamitous effects of the Global Financial Crisis (GFC), the Australian economy experienced significant policy changes and economic shifts from 2005/06 to 2010/11, including the peak of the mining boom, the introduction of the Fair Work Act (2009), the removal of subsidies for the manufacturing sector and the decline of the automotive industry. This paper examines the effects on industry-specific employment across Australian regions (i.e. states and capital cities). A shift-share analysis is undertaken for the periods 2005/06 – 2010/11 and 2010/11 – 2015/16 to decompose the change of employment into its component parts – i.e. a national effect, an industry-mix effect and a competitive effect – in order to account for the regional specialisation. Findings suggest: national employment growth elevated regional employment; regional specialisation brought about employment growth in certain regions such as Greater Perth, Rest of Queensland, Greater Sydney and Northern Territory; and industry-specific circumstances (e.g. removal of assistance to the automotive industry, mining boom/bust) are reflected in the sectoral changes in employment.

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Session 1C

Title: Economic Vulnerability to Global Shocks: Impact of the 2007 Global Financial Crisis on the Slovak Local Units

Co-author: Monika Šiserová

Abstract: The capacity of cities and regions to respond to severe global depressions, shocks and hazards is a crucial factor of long-term growth. Effects of the economic recession are not evenly distributed across different countries, regions or cities. The 2007 global financial and economic crisis provides an opportunity to investigate the vulnerability of municipalities to its effects, taking into account several factors such as size, prosperity or regional affiliation. The most appropriate variable for the economic recession evaluation is the unemployment rate, which was statistically recorded from its beginning to offset, during the whole period of crisis 2007-2011. All 2,891 local units in the Slovak Republic are subject to the empirical analysis, comparing their state before the start (2007) and at the end of the crisis in 2011. Prosperity has been proved in a short-term more as a disadvantage, manifested as a negative externality of vulnerability to external global disturbances. The lower ability to respond concerns mainly regional centres, larger cities and the smallest local units.

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Session 3A

Title: Developing Entrepreneurs in Regions: The Role of Universities

Co-authors: Claire Beattie and Graham Bowrey

Abstract: A broad literature relates the role of universities in enhancing regional development. A key work skill identified as necessary to for the local economy to develop and to help graduates succeed in future employment is entrepreneurship (Future Work Skills 2020). Education in the entrepreneurial field goes beyond just intending to establish new enterprises. Entrepreneurial education encourages behaviour and thinking which helps individuals develop the skills and knowledge needed to enhance career prospects and improve employability. Employability can be facilitated through initiating their own self-employment or enhancing their value as an employee. New ventures are seen as one of the key contributors to promoting growth in regional Australia. Cooke (1992) presented the concept that universities are key players in creating and developing a regions knowledge infrastructure and proposed that they have a fundamental role in advancing interactive innovation processes. This paper uses the regional innovation system approach developed by Cooke (1992) to look at the ways universities can provide the training necessary to improve students' willingness and capacity to engage in entrepreneurial activities and business start-ups.

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Session 2C

Title: Recurrent Property Taxation: Experiences and Challenges in Australia and New Zealand

Abstract: Local government rates are a recurrent tax assessed on different value bases and are the primary own-source revenue collected by local government in Australia and in New Zealand. State land tax in Australia is assessed on land (also known as site value), while rates are assessed on land/site value, capital improved value or assessed annual value. While economic theory proffers land as the most efficient base on which to assess a recurrent tax, in practice the determination of value does not always meet the principles of 'good tax design' and in particular the principles of simplicity, transparency and in some instances efficiency. In examining the determination of the most commonly used basis of value, land/site value, this paper studies valuation practices used to determine this basis of value. A hypothetical main street retail strip has been developed to monitor the practices of valuers in the valuation of land for assessment of rates in New South Wales. The paper demonstrates that if land is to be used as the bases of value for the assessment of property taxes in Australia and New Zealand, a standard methodology of valuation is essential. It concludes that the valuation of land underpins the integrity of the rating and taxing of land and that improved economic efficiency is achieved through greater uniformity, simplicity and transparency of the valuation process.

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Panel A

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Title: Outline of the Centre for Economic and Regional Economic Development: The Regional Enablers Report

Abstract: The Centre for Economic and Regional Development (CERD) was established by the NSW Government in late 2017. Headed by a Chief Economist, and advised by a panel of experts, the intent of the Centre is to lead the policy discourse in economic and regional development. The first major project of the Centre was the Regional Economic Growth Enablers Study which identified opportunities for growth in 18 regional communities of NSW. Using Functional Economic Regions (FER) as the basis for analysis, the Regional Economic Growth Enablers Study demonstrates how technical analysis, community consultation and the theory of market failure can be used to inform the investment decisions of regional development policy makers. Combining contemporary economic thought, empirical research and community consultation, the report allows non-economists to access the latest thinking in regional development.

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Session 3C

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Title: Estimates of Productive Capital Stock for the States and Territories of Australia, 1990-2014

Abstract: The article attempts to narrow the gap in capital stock data availability for the states and territories of Australia. Closely following the methodology of the Australian Bureau of Statistics and the recently developed modelling techniques in Mikhailitchenko (2017), the study presents productive capital stock series for the states and territories of Australia for the period 1990-2014, which is analogous to that used for productivity analysis for Australia as a whole. The precision of the derived series of each type is assessed by comparing the aggregated estimates with the national data published by the Australian Bureau of Statistics.

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Special Session 3

Title: Precautionary Public Health, Ageing and Urban Agglomeration

Abstract: Introducing precautionary public health policy into an overlapping generations model with migration of households between regions, this paper discusses the causality between ageing and urban agglomeration. It analyses the effect of public policy to expand longevity on an equilibrium population distribution between an urban area and a rural area in a steady state. As the result of our analysis, it is possible that the promotion of public health policy leads to enlarged wage differentials and enlarged regional disparity. This paper is a kind of theoretical approach. Particularly, we analyse the effect of public precautionary health policy on regional distribution.

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Session 3B

Title: Is Current Implementation of Place Based Regional Economic Development ‘Thick Enough’: Insights from Australia

Co-authors: Kylie Bourne and Emily Longstaff

Abstract: There are significant knowledge gaps pertaining to the process of implementing place-based economic development programs. Consequently, translating overseas outcomes into policy implementation recommendations that promote place-based collaboration for economic development in Australia remains a challenge. Our work explores the ‘thickness’ of place-based policy using critical early reflections from City Deals and Regional Jobs and Investment Packages, both current federal programs. To structure this reflection, we use an institutional approach which identifies the actors involved and the ways in which power is shared across actors in relation to the ‘rules’ and ‘practices’ of program delivery. These early insights inform a conceptual framework for designing ‘thick’ place-based economic development policy along four dimensions: space and place, short and long term, program and outcome, and direction and collaboration. Results show that program ‘thickness’ changes across rules and practices. While rules and practices do not always align, a growing trend in policy implementation is to deliver a ‘thick enough’ approach that enables some degree of inclusion of place-based issues and collaboration in regional economic development.

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Session 3A

Title: Regional Universities – Recognising their Role in Regional Development

Abstract: As anchor institutions for their regions, regional universities play a major role in their regions' economic, social and cultural development. Even more could be achieved if this economic power was better harnessed through formal recognition of the role of universities in Australian regional policy and programs, and through government initiatives in the regions working in a complementary manner. City deals, growth deals (outside city areas) and smart specialisations in the UK and Europe have been rolled-out in recognition that aspatial policy and funding frameworks do not deliver for all. Place-based policies for economic development, collaboratively developed from the bottom up by local stakeholders, give regions and cities hope for a brighter future. Universities are a driving force behind many of the initiatives. Universities are politically neutral, bring disparate parties together, and are brokers and facilitators. They can use their knowledge, research and connections, including in the international context, to inspire a vision for development for the local city or region. Australia has just started to follow the British and European models and can learn much from these examples. In Australia, regional universities are participating in the first tranche of City Deals. Other government initiatives, such as the revised Regional Development Australia committees, the new Regional Growth Fund, and innovation precincts policy, provide opportunities for further involvement of regional universities in place-based initiatives to promote regional development.

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Special Session 3

Title: Predicting Workforce Demand for Low-Carbon Energy Sector in Queensland

Co-authors: Akbar, Delwar, Susan Kinnear and Rahat Hossain

Abstract: The climate transition strategy of the Queensland Government has targeted a low carbon economy, which includes greater use of low carbon technologies. This study aims to predict low carbon workforce demand, and their skills needs, for Queensland. It uses a prediction model to forecast future workforce required for a successful transition to a low carbon economy based on the available secondary data and literature. In addition this study conducted an employer survey on the requirement of the skilled workforce and the level of professional skills. The research results indicated that more than 5,300 new workers will be required in construction, commissioning and servicing of new and/or existing power plants and facilities, with most of these being located in regional Queensland. Model outcomes and survey results suggest the need for a workforce transition policy and state-wide planning that may include retraining and upskilling the traditional workforce for the newly emerging sector.

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Session 3C

Title: The Impact of Location Factors on Housing Price Variation in Melbourne: A Case Study of Western Melbourne Metropolitan Region

Co-authors: Yogi Vidyattama, Delwar Akbar and John Rolfe

Abstract: The housing price variation is a function of spatial and economic factors over a period of time in Australian metropolitan cities. The spatial factors refer to places with accessibility of community services such as schools, neighbourhood shopping centres as well as distance from regional shopping centres, CBD and tertiary education centres. This paper examines the effects of locational factors that contribute to median house price rises in Western Melbourne Metropolitan (WMM) region in Victoria. Location factors and housing price data for each of the suburbs within WMM in 2001, 2006 and 2016 were collected from Corelogic and spatial data Victoria. This study found that rise of median house price varied among the suburbs and also was attributed to the availability, distance and distribution of location factors within WMM.

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Panel A

Title: Data and Methodology

Co-author: Lesley Arthur

Abstract: Although methods of regional analysis are familiar to economic and regional development academics, they are often less familiar to regional development practitioners in local government and community organisations. During the community consultation phase of developing the Regional Economic Development Strategies (REDS), it became obvious there is unmet demand from practitioners for simple tools to undertake regional analysis. In the first half of this session, the tools used by the Centre for Economic and Regional Development to develop the REDS area are presented as well as the provision of these on the CERD website. In addition, given the increased focus on tourism in regional areas, the CERD developed a methodology to apply tourism-related expenditure impacts to the relevant regional input output table. The table was developed using the latest Australian Bureau of Statistics (ABS) national input output table which was disaggregated to the State and regional level using the GRIT Method. Tourism Research Australia data relating to visitor numbers and distribution of expenditure by category was used to develop a profile of expenditure by purpose of visit and total expenditure by industry category which was measured as a final demand impact. The second half of this session explains the development of the expenditure estimates, the impact assessment, its uses and how it can inform development policy and action in regional areas.

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Session 1B

Title: Microfinance Development and Growth with Emphasis on SE Asia-Pacific Region, including PNG, Solomons, Timor Leste, Cambodia, Indonesia, Vietnam and Laos

Abstract: This study reviews the development of Microfinance from its generally recognised origin in 1976 in Bangladesh at the initiative of Professor Mahommed Yunus. The global progressive development of Microfinance over the subsequent 40 years to 2016 is reviewed and assessed, with emphasis on the South-East Asia-Pacific Region (SEAPR), where the author has extensive practical experience. The major principles and policies underlying this development are analysed and the main economic and social successes and failures are explored, in particular the various critiques of Microfinance. The study addresses the more recent blossoming of Microfinance in SEAPR due to factors such as technological progress and broadening the scope of Microfinance into Financial Inclusion policy and practice enhancements. Case study evidence and findings are presented, based on the author's experience in PNG, Solomons, Timor Leste, Cambodia, Indonesia, Vietnam and Laos. Finally, a brief overview is provided on Islamic/Sharia Microfinance, important in some SE Asian countries.

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Panel A

Title: A Methodological Framework for Undertaking Regional Economic Development Strategies across New South Wales

Abstract: : A methodological framework that is being applied to undertake Regional Economic Development Strategies (REDS) in a co-ordinated way across regions in New South Wales is discussed. Embedded in the new growth theory approach to regional development, it involves a 'bottom-up' approach based on building on regional core competencies, understanding regional risks and identifying economic opportunities to articulate intervention mechanisms through a strategy that seeks to enhance the capacity and capability of a region to experience the endogenous growth in achieving sustainable development.

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Special Session 3

Title: Modelling the Endogenous Employment Performance of Australia's Functional Economic Regions over the Decade 2001 to 2011

Co-authors: Michael Flanagan, William Mitchell, Tung-Kai Shyy and Scott Baum

Abstract: Patterns of spatial differentiation in endogenous regional employment performance across Australia's Functional Regions over the decade 2001 to 2011 are mapped and analysed. A range of spatial econometric models taking account of the spatial autocorrelation issue are used to investigate the factors which might explain that variation in performance, using the same approach as in previous studies of decadal inter-census periods. Implications for regional development policy are canvassed.

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Session 2C

Title: Municipal Resilience Following the Global Financial Crisis 2008: An International Comparative Investigation between New South Wales and Tokyo Metropolis

Co-authors: Masayoshi Noguchi and Joseph Drew

Abstract: Municipal resilience is an emerging field of scholarly inquiry which seeks to understand inter alia the role of regulatory constraints and management practices in determining the ability of local governments to respond to economic shocks. By comparing the budgetary response of quite dissimilar jurisdictions to a shared economic shock it should be possible to identify some of the determinants of municipal resilience. Accordingly, we compare the budgetary position of local governments in New South Wales, Australia to their peers in Tokyo, Japan for the period following the Global Financial Crisis. We find evidence that regulatory constraints, the breadth of the tax base, and management practice are important factors for mitigating volatility and deficit. We conclude by outlining public policy implications arising from our analysis along with our thoughts regarding fruitful avenues for further research.

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Session 2B

Title: Regional and Socio-Economic Factors of Digital Literacy

Co-authors: Nataliia Manakova and Oto Hudec

Abstract: The digital prosperity of society is believed to be achieved through learning and improvements of individual digital literacy, but socio-demographics factors have significant impacts on a variety of digital skills. The existing digital divide has a negative impact on social groups with specific socio-demographic profiles such as elderly people, households without young people and inhabitants of smaller settlements. A study of time-series dependencies has shown that despite overall digital literacy increasing, the digital divide remains similar in the course of time. Three research questions are studied using different regression models for cross-sectional data: Pooling model; Random effects model; Fixed-effects model; and the Item Cluster Analysis method. The paper has identified the most relevant digital skills for general digital literacy as working with a computer, the internet and digital communication skills. Working with hardware and software represent less necessary skills for a general digital literacy, having only an additional positive influence and representing skills which remain indispensable to selected groups of IT professionals.

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Session 3C

Title: Constructing a Data Reliability Framework for The Natural Hazard Exposure Information System

Co-author: Krishna Nadimpalli

Abstract: Consistent and reliable exposure information is crucial for disaster mitigation and evidence-based decision-making for bushfire and other natural hazard risks. Australian capabilities such as Geoscience Australia's National Exposure Information System (NEXIS) are not comprehensive enough to address the entire spectrum of disaster risk reduction. To manage disasters efficiently requires a nationally consistent framework that deals with the collection, collation and dissemination of exposure information for researchers and decision-makers. The aim of this research project is to develop a framework that could provide a reliability assessment for exposure information that is available to various types of users. The reliability assessment framework will help the users, providers and managers of the exposure data and information to communicate the variation in reliability or quality, and ensure they are used appropriately to assess the risk. Building on the International Standards Organisation's criteria for data quality as well as a standardised data provenance framework, we propose a data reliability framework for exposure information systems. It is recommended that the framework should be open to user input to re-evaluate the standard put in place.

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Session 2A

Title: Implementing Smart Specialisation in Australia: Some Methodological Issues

Abstract: The implementation of the smart specialisation process within the framework of EU Regional Policy has drawn attention to various methodological issues related to participatory processes, data availability and analysis. Whilst a broad map of methodological issues were outlined in the Guide to Research and Innovation Strategies for Smart Specialisation (RIS), the implementation of the new approach in Europe has provided for learning about a broad range of implementation issues. As interest grows in Australia in the value of smart specialisation in developing place-based regional innovation systems, questions arise about the relevance of learning in Europe. There is much less depth of experience to draw on in Australia than in Europe, and less opportunity for peer learning. This paper will review issues related to methodology and implementation and consider whether the experience of the EU across different types of regions is relevant in Australia. In particular, it will consider how the mapping of the regional economy and the process of entrepreneurial discovery might be framed.

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Session 2A

Title: Developing and Applying the Regional Industry Value and Development (RIVAD) Framework to Enable Place-based Innovation, Entrepreneurship, Regional Industry Development and Community Resilience

Abstract: This paper presents the Regional Industry Value and Development (RIVAD) framework and illustrates its use as a tool for examining: a) the current and potential value of a key industry in a focal region; and b) identifying opportunities to foster industry development through innovation and community entrepreneurship. Rather than viewing Australian regional industries as decontextualized economic sectors, the RIVAD approach examines the interplay between an industry and a particular regional community. By integrating insights from contemporary theories about place-based 'community capitals' and regional entrepreneurship, the RIVAD advances regional science theory and policy making by providing a new conceptual lens for strategic and contextualised regional industry development. By enabling understanding of each region's entrepreneurial characteristics and social, human, financial, natural, built, cultural and political capitals, the RIVAD advances regional science practice by helping regional leaders leverage key industries and regional resources to foster endogenous innovation and support community resilience.