

Centre for Sustainability

NEWSLETTER 6 – JUNE 2018



The Centre for Sustainability is a University of Otago premier research centre with an international reputation for its innovative interdisciplinary research on local and global sustainability challenges.

We collaborate closely with communities, iwi, industry and government agencies and form teams with other researchers from across New Zealand and internationally to generate high-quality research.

Director to lead climate adaptation project

Centre Director Janet Stephenson is to lead a new Deep South National Science Challenge project in response to a report highlighting key gaps in our understanding about how climate change will impact New Zealand's diverse communities.

The Climate-Adaptive Communities project is using case studies in the Hutt Valley and Dunedin to investigate how communities are responding to actual or potential climate change impacts, and how councils are engaging with these communities.

"We will explore how community groups, iwi, businesses and NGOs are involved in self-motivated adaptation actions, and the intersection with councils' mandated roles and responsibilities," says Janet.

"Our project also focuses on more vulnerable community members to consider whether additional actions – not just engagement – are needed to ensure they are not further marginalised by adaptation processes."

The project will ultimately offer recommendations for policy, process and adaptation practice.

For more information about Deep South Challenge go to deepsouthchallenge.co.nz

“Interdisciplinary research on sustainability challenges”

The New Zealand Sustainability Dashboard

Postdoctoral Fellow **Dr James Hale** discusses his involvement in The New Zealand Sustainability Dashboard.

Dr James Hale's interest in the sociology of food, agriculture, and the environment – particularly concerning issues of resilience and sustainability – has made him a natural fit for the New Zealand Sustainability Dashboard (NZSD).

The NZSD is a transdisciplinary, cross-sectoral effort that aims to improve the social, economic, and environmental sustainability of New Zealand agriculture.

"A primary way the project works to achieve this is through a variety of online platforms that allow end users – such as farmers and industry professionals – to compare their own sustainability practices against others," says James.

"It's assumed that through such a comparison, a 'benchmarking' effect will take place in which producers and industries will work to catch-up with those ahead of them, leading to a kind of race to being more sustainable."

The project incorporates researchers from a range of universities and consultancy groups as well as Māori organisations and industry representatives, such as Zespri International and New Zealand Wine.

"As sociologists, Dr Katharine Legun, Professor Hugh Campbell and I play a lead role in the development of social sustainability indicators and measures," says James.

"Our current primary tasks include developing a performative orientation toward social sustainability indicators, studying the accountability and legitimacy in water governance networks; and examining social sustainability in the kiwifruit industry, particularly those related to labour practices.

James, who is originally from Colorado in the United States, has a PhD in Sociology from Colorado State University. He has been a Peace Corps agroforestry volunteer in Malawi and has helped spearhead alternative food projects throughout the Rocky Mountain Region. His plans for the future include studying community development, environmental sociology, sociology of food and agriculture, and alternative forms of social organisation.

*For more information about the NZSD go to otago.ac.nz/centre-sustainability/research/otago048896.html



Postdoctoral Fellow
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Director's Notes



"It is a fantastic institute of just the right size" (visiting researcher).

"It's really cool to be in a place where sociologists, artists, geographers, physicists etc get to come together every single day" (visiting postgraduate student).

International visitors have been attracted to the Centre since its inception in 2000, but their numbers seem to be increasing every year, with 17 researchers and 4 postgraduate students visiting in 2017. In April 2018 we reached 'peak visitor' with four long-term visiting international researchers and three postgraduate students, each staying from between a few months to two years. Some researchers are here on sabbatical, one on a prestigious two-year visiting fellowship, and visiting postgraduates are usually funded by scholarships.

Why do they come? I asked our visitors and here is what they said.

A big drawcard is our interdisciplinarity. We are a place where different disciplines 'poke and prod each other'; where linkages are generated 'across subjects, projects and people leading to new ideas and opportunities'. One visitor described the environment as 'post-disciplinary'.

Our visitors also value the quality of the Centre's research and its 'thorough grounding in science'. They appreciate the opportunity to work with leading researchers and across disciplinary boundaries.

Another attraction is the culture and working environment of the Centre – 'the social inclusiveness and friendly atmosphere, which really makes people at all levels develop and bloom to the best of their academic potential'. Another visitor talked about the 'highly civilised and supportive work culture and practices conducive to productive work'.

If I am honest, another attraction is our location in the beautiful Otago region. All our visitors spend time enjoying the wild coasts and mountains. And we seem to be particularly attractive to visitors from the northern hemisphere during their winter months!

And what do we get out of it as a Centre? We soak in ideas and knowledge from our visitors, who generously share their expertise through seminars, discussions and workshops. We build and strengthen research relationships, write papers together, and often collaborate in developing new research grant applications. And we develop warm and lasting friendships that extend beyond the academic realm.

As with our alumni, these long-term relationships with our visitors mean that they remain part of our extended whanau. So the Centre is much more than a small group of people at Otago University: it is enriched by these connections to remarkable people all over the world.

Hei konā mai
Janet

NZ considered for Coolcrowd

A Norwegian-based project assessing the potential of crowdfunding to assist farmers in reducing greenhouse gas emissions will also be explored for the New Zealand farming industry.

Director **Janet Stephenson** is an investigator with the Coolcrowd project, which is examining options in Norway for linking personal carbon offsetting (e.g. from transport use) with farmers keen to invest in climate-friendly technologies. The idea is to make climate reduction projects directly visible and relevant to people's lives – thus providing a greater motivation for investment.

"Coolcrowd also wants to look at farmer interest in such a scheme in NZ and I will be working on that aspect later this year when the project leader Pia Otte comes out here," says Janet.

*For more about the Coolcrowd project, go to coolcrowd.no/en/

Norwegian feast



Centre staff and students were recently treated to the delights of Norwegian cuisine at a special feast hosted by visitors Rob Burton, Tor Håkon Jackson Inderberg, Martin Frank Hohmann-Marriott and Lillian Hansen. Pictured here, PhD candidate Jefferson Dew and visitors Martin and Tor brew lamb and cabbage on the stove – one of the many interesting items on the menu.

Awards for summer student

Former summer scholarship recipient **Leigh McKenzie** has been recognised for the work she carried out during her internship at the centre.

Leigh's project, which involved mapping the greater South Dunedin to identify what and who are most vulnerable to sea level rise, has led to her being granted the New Zealand Esri Young Scholar award for 2017 and a nomination for the New Zealand Emerging Spatial Professional award.

"Our project was short-listed to the second round, which meant we were invited to the awards night in Wellington. Unfortunately, we didn't receive the category award, but what an experience sitting with the leading spatial professionals of New Zealand," says Leigh.

After working as a summer student, Leigh completed a MSc in Environmental Management and is now working for the Dunedin City Council as the Waste Minimisation Officer.

*For more about Leigh's project and awards, go to otago.ac.nz/centre-sustainability/news/



QuakeCoRE: The Oamaru tourism precinct



In our last newsletter we looked at Centre Deputy Director **Dr Caroline Orchiston's** Resilience to Nature's Challenges work. This time we feature her QuakeCoRE project, which is concerned with the issues around Oamaru's earthquake-prone heritage buildings.

A workshop bringing together key stakeholders in Oamaru's tourism precinct has marked the completion of the Centre's latest QuakeCoRE project.



Photo: Jason Ingham (University of Auckland)

The historic Council Chambers building in Oamaru.

The project has sought to understand the current heritage tourism product in Oamaru and to examine the progress of owners in undertaking seismic assessments within the tourism precinct in the wake of the 2016 Building (Earthquake Prone Building) Amendment Act.

"Our objectives are looking at tourism aspects of the heritage precinct - the value Oamaru is getting out of it and how the precinct is driving tourism growth," says Dr Caroline Orchiston.

"But alongside that, these buildings are old, unreinforced and potentially seismically unsafe. That means building owners who are trying to develop their tourism product have decisions to make about how they spend their money. 'Do I develop my business or do I look at the risk involved if an earthquake hit my building and it was damaged and caused harm to tourists etc...?'"

The one-year project, completed at the end of March, culminated in a workshop with key stakeholders (precinct tenants, heritage managers, councillors and residents) to promote collaboration and decision making towards developing a more resilient Oamaru heritage tourism precinct. The workshop highlighted the different perspectives on the tourism product in Oamaru, with diverse views on future opportunities, such as developing a World Heritage area, or building a zipline from the hillside south of the township.

The workshop helped these different views to be heard, and also provided an opportunity to hear other people's thoughts and opinions, says Caroline.

This is the Centre's second QuakeCoRE project. In 2016, Caroline led a project that focussed on tourist behaviour following major seismic events, using the Canterbury earthquakes (2010-2011) as a case study. Key findings were that tourist expenditure dropped significantly in Canterbury, as expected, after the February earthquake. But the tourism spend was largely redistributed around the country, with the North Island and parts of the South Island receiving increased expenditure in the weeks following the earthquake.

Caroline has recently been made a Deputy Flagship 5 Leader of the Pathways to Societal Resilience programme, and has also been invited to join the QuakeCoRE Leadership team, which means she will be more involved in working out how QuakeCoRE research will look in the future.

She has also been asked to lead a 3-year project using Wellington as a case study, investigating a future Wellington earthquake.

"We'll be looking at the lessons learned from the Christchurch CBD and what the implications of a Wellington cordon around the CBD might be".

- *Caroline's work is funded by Resilience to Nature's Challenges and QuakeCoRE*

*For more information about these projects go to otago.ac.nz/centre-sustainability/research/environment-people/

*Caroline was also recently interviewed about her AF8 work. The article can be found at i.stuff.co.nz/national/103970504/videos-show-devastating-impact-across-south-island-if-alpine-fault-ruptures

Highlighted Publications

Ford, R., Walton, S., Stephenson, J., Rees, D., Scott, M., King, G., Williams, J., & Wooliscroft, B. (2017). Emerging energy transitions: PV uptake beyond subsidies. *Technological Forecasting and Social Change*. 117, 138-150. <https://ourarchive.otago.ac.nz/handle/10523/8031>

Haerewa, N., Stephenson, J., & Hopkins, D. (2018). Shared mobility in a Māori community. *Kotuitui: New Zealand Journal of Social Science Online*. <https://ourarchive.otago.ac.nz/handle/10523/8040>

Orchiston, C., Mitchell, J., Wilson, T., Langridge, R., Davies, T., Bradley, B., Johnston, D., Davies, A., Becker, J., and McKay, A. (2018). Project AF8: Developing a coordinated, multi-agency response plan for a future great Alpine Fault earthquake. *New Zealand Journal of Geology and Geophysics*. DOI: 10.1080/00288306.2018.1455716

Stephenson, J., Orchiston, C., et al. (2018). Communities and Climate Change" Vulnerability to rising seas and more frequent flooding. Motu Economic and Public Policy Research, Wellington. [https://motu.nz/our-work/environment-and-resources/climate-change-](https://motu.nz/our-work/environment-and-resources/climate-change-impacts/communities-and-climate-change-vulnerability-to-rising-seas-and-more-frequent-flooding/)

[impacts/communities-and-climate-change-vulnerability-to-rising-seas-and-more-frequent-flooding/](https://motu.nz/our-work/environment-and-resources/climate-change-impacts/communities-and-climate-change-vulnerability-to-rising-seas-and-more-frequent-flooding/)

Stephenson, J., Spector, S., Hopkins, D., McCarthy, A. (2018). Deep Interventions for a Sustainable Transport Future. *Transportation Research Part D: Transport and Environment*.

Stevenson, J., Becker, J., Cradock-Henry, N., Johal, S., Johnston, D., Orchiston, C. & Seville, E. (2017). Economic and social reconnaissance: Kaikoura earthquake 2016. *Bulletin of the New Zealand Society for Earthquake Engineering*, 50 (2): 343-351

Vallis, S., Ingham, J., Orchiston, C. (2018). Classical temples and industrial stores: survey analysis of historic unreinforced masonry (URM) precincts to inform urban seismic risk mitigation. *International Journal of Architectural Heritage*.

Our visitors



The Centre has welcomed a range of International visitors recently, including Lillian Hansen, Martin Frank Hohmann-Marriott and Rob Burton from the BioSmart project.

BioSmart visitors

For the past three months, the Centre has hosted three visitors connected to the Norwegian BioSmart project. The BioSmart project looks at transitions to a 'smart' and sustainable bioeconomy, which means shifting from an economy based on non-renewable resources to an economy based on resources that can be grown (forestry) or farmed (farming, fisheries).

Dr Rob Burton, a research professor from Ruralis - Institute for Rural and Regional Research, Norway, will be working with Director Janet Stephenson and Hugh Campbell while at the Centre. Rob has a particular interest in farmer agency, including the influence of identity and cultural factors on decision-making.

Martin Frank Hohmann-Marriott is an Associate Professor in Microbial Biotechnology at the Norwegian University of Science and Technology in Trondheim, Norway. His primary area of research is photosynthesis, which has led to his interest in understanding the flow and conversion of energy within systems.

Also from Ruralis, PhD candidate **Lillian Hansen** has been working on her PhD while at the Centre, including a case study of salmon farming as part of the bioeconomy.

Also visiting

Canadian PhD candidate **Jan Jones**, from the University of Guelph, has lived in Yukon for 25 years working mainly as a consultant in the area of Indigenous health and well-being. Her current work examines how mechanisms governing extractive industries account for and address continuities of colonization, particularly as it impacts Yukon First Nations. She has been at the Centre for four months, working with other researchers looking at issues of sustainability.

Dr Tor Håkon Jackson Inderberg is Director European Programme and Senior Research Fellow at the Fridtjof Nansen Institute in Norway. His work is concerned with policy development and changes related to energy and climate change and is mainly focused on Norway and the Nordic countries, EU policy, the UK, and New Zealand. At CSAFE he plans to work on a wind power licencing project, prosuming policy, and the development of new projects.

Masters student **Ben Tombs**, from the University of Edinburgh, is currently completing an internship with CSAFE and the University of Otago's Law faculty while also writing his dissertation on Global Environmental and Climate Change Law. Ben is interested in how contemporary legal structures and reasoning react and engage with the unprecedented effects of climate change. His work here looks at what compensation claims for climate change attributed sea level rise look like now, and what they could/should look like in future.



Food for thought

Postgraduate research

Karly Burch's PhD thesis studies the experiences of people living in the Kansai region of Japan, exploring how their everyday eating practices are being coordinated since the onset of Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Plant disaster in 2011.



"A lot of times people focus on the big changes but I'm interested in what the little changes look like - the messiness of everyday life that is often smoothed over or ignored," she says.

Karly's research reveals how nuclear disasters are not isolated incidents.

"The ruling relations involved in nuclear energy and disaster clean-up 'erupt' in the everyday lives of people, even those living 600 kilometers from the disaster itself. Focusing on food becomes an entry point into people's everyday realities."

"In Japan, radiation and food safety is a very taboo subject. You're not supposed to talk about any concerns you have because it's supposed to be safe, or that's what the news says. I had someone explain to me all the things she's allowed to say to the different groups of people she associates with, which can get very complicated. She told me this was the first time she'd told anyone all of it."

The "stories" provided by the Japanese government and other institutions and organizations active within the transnational nuclear assemblage were inconsistent with many of the experiences of Karly's participants, she says. For example, pregnant women who were told not to drink herbal tea or take certain supplements were being told by the television and their doctors that eating radionuclides was not a problem.

"This creates a feeling of disjuncture or konran (disorder). The way these stories are being deployed through ruling texts and discourses leave little space for the experiences of my participants to exist. Thus, their experiences are muted and ignored, or categorized away as 'anxious' or 'irrational.'"

"My research attempts to disrupt this blunt categorization and silencing, exploring ways for different heterogeneous experiences to co-exist."

After submitting her PhD, Karly plans to return to Japan to share her findings with her participants.

"I'm really looking forward to receiving feedback from them and hope my findings will provide them with some insights into their embeddedness within complex material relations - ruling and otherwise."

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