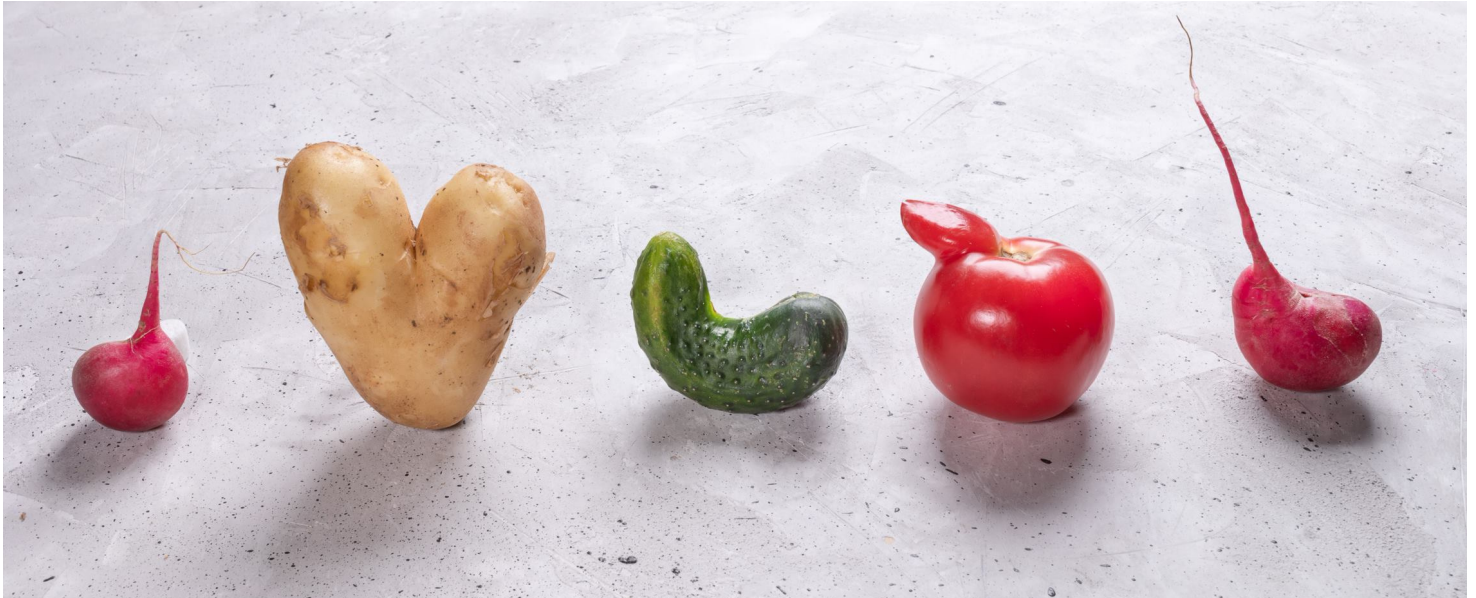


WASTE BYTES

University of Otago Food Waste Innovation Newsletter 3



REDUCING THE VOLUME AND IMPACT OF FOOD WASTE.

Food Waste Innovation measures food waste, develops reduction strategies, applies innovative technology, and works to modify producer and consumer behaviour. We work collaboratively with stakeholders and supporters in the public and private sectors.

Note from the Director

Associate Professor Miranda Miroso

The festive season is almost upon us, and at this time where a disproportionate amount of food waste occurs, it really tis' the season to ramp up our efforts to ensure a zero-food waste

Christmas. On the research front, our Theme is hosting a new cohort of summer students who choose to spend their holiday working to reduce food waste – kei runga noa atu (outstanding work!). Our Upcycled Food Lab is in full swing with scientists concocting up a super syrup made from bread waste which will have a dizzying array of applications as an ingredient for NZ's food manufacturing sector. We have also been busy promoting the value of upcycling through a series of public and industry-targeted talks that showcase several studies we've done demonstrating that consumers want more upcycled products. Of course, upcycling is not restricted to the realms of science and food manufacturing plants. Turning food scraps into something delicious is something we can all do at home. Check out our Theme's Resource Hub for our super popular bread-to-(ginger)beer step-by-step homebrewer recipes. Or, if you'd prefer to let someone else do all the hard work, check out the [Dunedin Craft Distillers](#) website, where you can buy upcycled botanical spirits. The founders have written about

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their journey in their distiller's diary, which starts with a post that refers to our Theme's research on retail-level food waste quantities. It's always awesome to see our research used in the war on waste, especially by the ever-increasing number of creative startups. I'm expecting 2022 to be the year that upcycled products (now officially certifiable by our friends at the International Upcycled Food Association) will take off here in Aotearoa. Here at Food Waste Innovation, we are excited to be providing the cutting-edge research required to make this happen. In the meantime, best wishes to you all for the holiday period; if you find yourself short of ideas on how to reduce, reuse, and recycle all that food, LoveFoodHateWaste NZ has your zero-waste Christmas sorted, so head there for inspiration. *Ngā mihi nui, Miranda.*

RESEARCHER SPOTLIGHT

Dr. Sean Connelly
Geography



What is your background?

Originally from Canada, I completed a BA in International Development at the University of Guelph, a MA in International Studies at the University of Northern BC and a PhD in Geography at Simon Fraser University.

What is your leading research focus?

My research focuses on the ways that communities respond to sustainability challenges. I am particularly interested in the diverse ways that environmental problems and solutions are defined and how that might contribute to a better understanding of our relationship to the environment. Food systems provide a good, tangible example of this. Food is something we engage with every day, but we are often quite distanced from food's environmental and social implications. Food waste is a perfect example of this. If we valued food differently, would this change the way we think about the food system generally, and food waste in particular?

What are you working on at the moment?

I'm working with postgraduate students on energy transitions, rural and regional development and alternative food systems, local food policy and food rights in the context of sustainability.

What interests you about food waste?

Food waste is indicative of a food system that is not aligned to our needs or those of the environment. I'm interested in how efforts to address food waste can move beyond symptomatic solutions to better contribute to shifting our assumptions, beliefs and values about the food system as a whole.

POSTGRADUATE SPOTLIGHT

Erin Young, PhD Student
Food Science



What is your research topic?

I am pursuing a PhD in the Department of Food Science. My thesis is looking at Chinese consumer perceptions of active and intelligent packaging, and whether they improve consumer confidence in New Zealand food exports.

What brought you to the University of Otago?

I hold a BTech (Honours) in Biotechnology and Bioprocess Engineering and a PGDipTech in Packaging Technology, both from Massey University. I also have over ten years of work experience in the industry as a packaging technologist. I have children, so I have an interest in longer-term sustainability benefits for their future.

What is the purpose of your research?

China is New Zealand's largest export market, and utilising active or intelligent packaging on the products for that market can improve quality and safety outcomes (thereby potentially reducing food waste). However, the New Zealand based industry have concerns about Chinese consumer acceptance. My research purpose was to understand further the benefits the industry saw in active and intelligent packaging, how they align with Chinese consumer perceptions, and how the technologies impact consumer confidence in our export products.

What does your research involve?

I have conducted semi-structured interviews with New Zealand food export industry stakeholders, focus groups with consumers of imported food products, a quantitative online survey, and an eye-tracking study in China. I have used thematic analysis to generate themes and build qualitative conceptual frameworks of industry interest and consumer perceptions.

THEME NEWS

INTERNATIONAL FOOD WASTE AWARENESS DAY

We teamed up with NZ Food Waste Citizens of 12.3 to recognise the International Day of Awareness of Food Loss and Waste on the 29th of September by creating visual displays on campus in Dunedin, highlighting the environmental impacts of food waste and resources wasted when we waste food. Thanks so much to our Student Action Coordinator David McKenzie and his fantastic team of volunteers for all their effort into these displays. Read more about the displays on our [website](#).



Our “Podium of Polluters” showed that food wasted in the average household is second to the average annual car emissions, which is number one and followed by cows, sitting third place.



Running 5.7 fridges for one year uses the same amount of energy as food wasted per capita in New Zealand!



We set up a visual representation of how much water is wasted when we throw away 1kg of potatoes, one of the most wasted food items in NZ homes.

The average household wastes around 3 shopping trolleys full of food each year. This wastes food, money and packaging!



NEW RESOURCE CENTRE NOW LIVE

We have officially launched our Resource Centre. The Resource Centre consists of two pages. The ‘Our Resources’ page contains research and project outputs by our Food Waste Innovation team members, which are searchable by resource type or topic. The ‘Connection Hub’ page links users to organisations, campaigns, and books & reports for further reading or investigation into food waste. This resource centre is the only of its kind in New Zealand, and we hope it will grow to eventually serve as an easy to use, one-stop-shop for food waste research in New Zealand. We look forward to building on this platform in the years to come.



INTRODUCING OUR SUMMER STUDENTS

Food Waste Innovation has an impressive cohort of students conducting food waste-related projects over the summer. These include both recipients of our 2021 seed funding grants and students who obtained other funding but are conducting food waste-related research.

Food Waste Innovation summer student projects for 2021-2022 include:

Sian Menson, supervised by Dr. Graham Eyres, is looking at brewery waste and potential for by-product optimisation, working with Emerson's Brewery.

Sydney Collin, supervised by Fiona Nyhof, is looking at industrial carrot waste and the potential for transformation into upcycled carrot crackers.

Cameron Brewitt, supervised by Assoc. Prof. Miranda Miroso, will test the feasibility of his concept 'Squirm', which aims to put worm farms in student flats.



Our postgraduate and summer students alongside our Steering Committee at our recent student morning tea.

Tessa Honeyfield, supervised by Prof. Sheila Skeaff, will map and investigate an auditing process of food waste streams on University of Otago campuses.

Briar Mills, supervised by Assoc. Prof. Miranda Miroso and Prof. Sheila Skeaff, will carry on from Tessa's project in Semester 1 2022 by conducting food waste audits on campus.

FOOD WASTE INNOVATION IN THE MEDIA

Upcycled ginger beer and beer - RNZ

One of our upcycled food lab investigators, Dr Graham Eyres, spoke on RNZs 'The Panel' about using surplus bread to make excellent homebrew beer and ginger beer. A few weeks later, he spoke to Katherine Ryan on 'Nine to Noon' about beer science and upcycling.

[Listen to the recording on RNZ the Panel](#) (Graham speaks in the last 6mins).

[Listen to the 'Nine to Noon' interview.](#)



Dr. Graham Eyres with our upcycled ginger beer.

Why food should be centre stage at COP26 – Newsroom

Our Director Assoc. Prof. Miranda Miroso weighed in on why food waste should have been profiled more at the COP26 discussions in Glasgow.

[Read the Newsroom article.](#)

Upcycled food, doing more and better - University of Otago Research Highlights

The He Kitenga: People, Place, Planet - University of Otago Research Highlight sheds light on the Upcycled Food Lab and existing lab projects.

[Read the Highlight.](#)