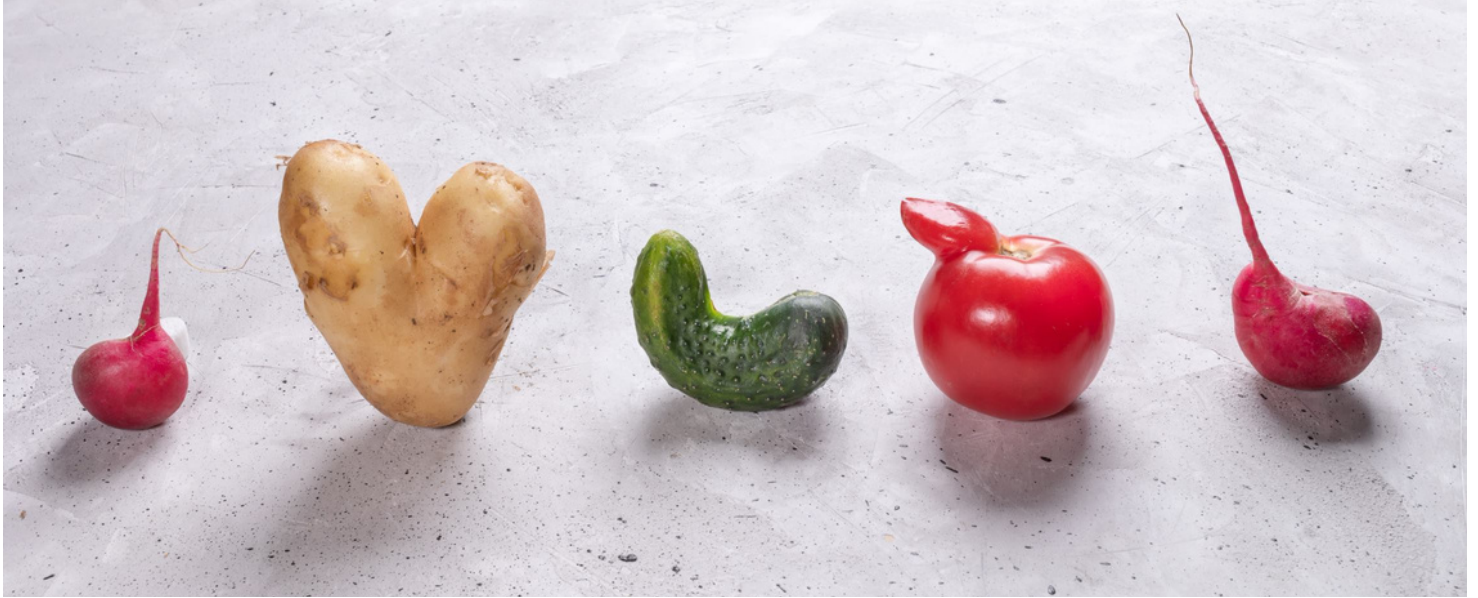


WASTE BYTES

University of Otago Food Waste Innovation Newsletter 4



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.

IN THIS ISSUE

Page 1:

- Note from the Director

Page 2:

- Researcher spotlight: Fiona Nyhof
- Postgraduate spotlight: Jessica O'Connor

Page 3:

- 2021 impact report
- Student update

Page 4:

- New resources
- Other news



Note from the Director

Associate Professor Miranda Miroso

As an Academic, delivering prepared lecture content is my bread and butter. However, I recently found myself outside of this comfort zone when asked to participate (virtually) in an event at the

World Expo held in Dubai during the 'Food, Agriculture and Livelihoods' themed week. This event brought together ten globally recognised thought leaders from across the food supply chain in a moderated discussion about tackling food waste. Participants included a food producer, a significant global manufacturer, a chef, a British MP, a sustainability consultant, and a food rescue practitioner. There were no presentations or prepared speeches with the conversation live-streamed and open to both a virtual and physical audiences. The discussion format was inspired by the long-established Emirati and Arab tradition of the majlis – a place inherited from the people of the desert, gathering in their tent or around a campfire, sitting together in conversation, sharing ideas about issues and prospects for the future. Interestingly, the majlis has been inscribed in the UNESCO Intangible Cultural Heritage of Humanity. This discussion reminded me that conversation can be a powerful force in creating our futures. As we rush around like headless chickens in our immediate action-orientated worlds, we risk forgetting to take the time to stop and partake in the art of conversation about issues we care about and the future we want. While there are already some opportunities to participate

in meaningful conversations about food futures, with one example being the Aotearoa Food Systems Dialogues, we need to create many more opportunities. Our Food Waste Innovations Research Theme aims to spark dialogue amongst our university food waste community this year by creating a monthly lunchtime 'social space' to eat together and discuss the common goal of food waste reduction. There will be no set agenda and no research presentations, just coffee and the good old art of conversation! I challenge you to think about how you might create a 'food waste' conversation space in your workplace, among your whānau and friends. Ensuring diversity in these conversations is critical. After all, collaboration is vital for our transition to a less wasteful food system, so we must include people who have a broad range of viewpoints, experiences, roles and responsibilities at these tables.

Ngā mihi, Miranda

SPOTLIGHTS

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RESEARCHER SPOTLIGHT

Fiona Nyhof
Food Science



What is your background?

I've been working for the University Department of Food Science for more than 20 years, and this is my second career! I studied food science and pursued a career as a food product developer, plant manager, quality advisor and now 'Professional Practice Fellow'. I've applied my experience to the Department's

capstone paper, FOSC 311, 'Food Product Development', I'm passionate about 'walking the talk' and I love the opportunity to help students into their future careers in the food industry.

What is your leading research focus?

I carry out product research for commercial clients and work with our students to create ideas, solve formulation and manufacturing issues, test consumer acceptance and assess costs, packaging shelf life and safety. I've noticed a rise in interest to add value to by-products. Last year, students worked on innovative solutions for produce gluts, developed fruit products using cosmetically blemished persimmons and created much excitement around the potential for using 'wonky' carrots in healthy upcycled snacks. I was a supervisor for the 2020/21 summer project 'Retail category managers advice to upcycled food manufacturers', this project produced a blueprint for best practice in product development and saw upcycled foods as an emerging food product category. This year I've supervised research to investigate how and why carrot growers experience issues with second and process grade carrots.

What are you working on at the moment?

I'm currently working on a high nutritional value plant and meat product, using only New Zealand grown sustainably farmed produce. I'm also working on a flaxseed bar product. I'm finding projects from industry sponsors for our students, organising a careers event, a seminar for entrepreneurs about product development, and helping to complete the report for the Food Waste Innovation team on the investigation into carrot surpluses.

What interests you about food waste?

Food Waste Innovation has highlighted awareness of food waste issues. This is stimulating exciting new research and development for innovative and economically viable solutions and the emergence of a potential for a new category of upcycled food products.

POSTGRADUATE SPOTLIGHT

Jess O'Connor, PhD Student
Food Science



What is your research topic?

My Ph.D. is funded by an AgResearch project looking to progress New Zealand food systems towards a circular economy. This complements the objectives of reducing and eliminating food loss and waste. My research aims to quantify and understand the drivers for food loss and waste in NZ dairy and beef. This will help in understanding where the best opportunities are for transitioning into a circular economy.

What brought you to the University of Otago?

In my previous role at AgResearch, I pivoted from quantitative genetics and plant breeding into a project on the Circular Bioeconomy and onto this Ph.D. opportunity. I took the step into food loss and waste research because our growing awareness of the amount and impact of food related waste and the possibility of solutions having wide reaching positive impacts. The University of Otago is an exciting place to undertake my Ph.D. studies as I get to be involved in the growing Food Waste Innovation research theme and its expertise in the food waste space.

What is the purpose of your research?

My research aims to address gaps in knowledge in New Zealand's Beef and Dairy industries. Despite producing over 700 thousand ton of beef and 21 billion litres of milk annually, we currently don't know much about what is wasted, where this waste occurs, and what causes it to happen. My research aims to fill this gap by providing baselines from the beef and dairy case studies and assessing the incidental and systemic drivers that cause it to happen. My research will also highlight where the opportunities are for progressing into a circular economy.

What does your research involve?

Using a case study (a processor and associated farmers) from each of the beef and the dairy industries, I am collecting quantitative data on waste streams, by-products, and their destinations during the on-farm and processor stages. This data will provide baselines and to observe total and seasonal variations in quantities and destination options used. I am also conducting semi-structured interviews with participants within each case study to understand the rationale behind waste stream and by-product generation and their eventual destination options (e.g. rendering, animal feed, landfill etc.). Understanding the drivers will help to identify systemic drivers that could be addressed through circular economy practices.

THEME NEWS

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NEW RESOURCES

New publication: A quantitative and qualitative study of food loss in glasshouse-grown tomatoes: Recently graduated Masters student Margaret Thorsen, along with supervisors Associate Professor Miranda Miroso and Professor Sheila Skeaff recently published a paper looking at food loss in the tomato industry. This research is particularly notable as it is one of the first studies looking at food loss in primary production in New Zealand. You can find the article and Maragret's thesis in our [Resource Centre](#).



Margaret Thorsen onsite during data collection.



Professor Sheila Skeaff

Food, nutrition, and waste lecture: Professor Sheila Skeaff presented the Nutrition Society NZ's annual Muriel Bell Lecture in December. The lecture was titled "Lick the plate clean: the intersection of food, nutrition, and waste". The recording is now available in our resource centre. See the resource [HERE](#).

Upcycled Food Lecture: This video is a recording of a lecture given by Assoc. Prof. Miranda Miroso as part of the New Zealand Institute of Food Science and Technology's AGM. Miranda discusses the future of upcycled food for consumers, the food industry, and of course, for the food waste problem. See the resource [HERE](#).

New visual and talking abstracts added to existing resources: We have created several infographics and short video interviews with authors to help communicate our resources. Have a look through the [our resources](#) to see these.

OTHER NEWS

Slow Food Youth Otago student group: Food Waste Innovation is supporting new student group on campus Slow Food Youth Otago. Their mission is; "a food-focused group that facilitates education and action surrounding food systems, food waste and planet-healthy food production (nourishing not only ourselves but Papatūānuku as well!). No food knowledge is needed, just the love of kai!" This group was born out of a desire for students to be more involved in food waste and food systems issues around campus, and beyond. SFYO's first activity will be a pot luck picnic in the Dunedin Botanic Gardens on Thursday 7th of April at 5:30pm. Come along if you are a student interested in being involved. For more information and a wet weather back up plan visit their page on the [OUSA clubs](#) website and keep an eye on their [Facebook page](#).



Professor Phil Bremer

Professor Phil Bremer appointed acting director of the New Zealand Food Safety Science and Research Centre: Food Waste Innovation steering committee member and food scientist Professor Phil Bremer is taking on a new role for the first six months of this year as Acting Director of the New Zealand Food Safety Science and Research Centre. We congratulate Phil and look forward to his contribution to the role.

Four Otago students part of 2022 NZ Citizens of 12.3 cohort: NZ Citizens of 12.3 have chosen their cohort for 2022 and among the 12 food waste enthusiasts from around the country are four University of Otago students. Trixie Croad continues on as a citizen, while Grace Clare, Gabby Arnott and Steph McLeod join the group for the first time. This group is a grassroots branch of the NZ Food Waste Champions of 12.3 organisation comprises of 12 passionate individuals who meet monthly and learn as well as advocate for community-oriented change within the food waste space.

