

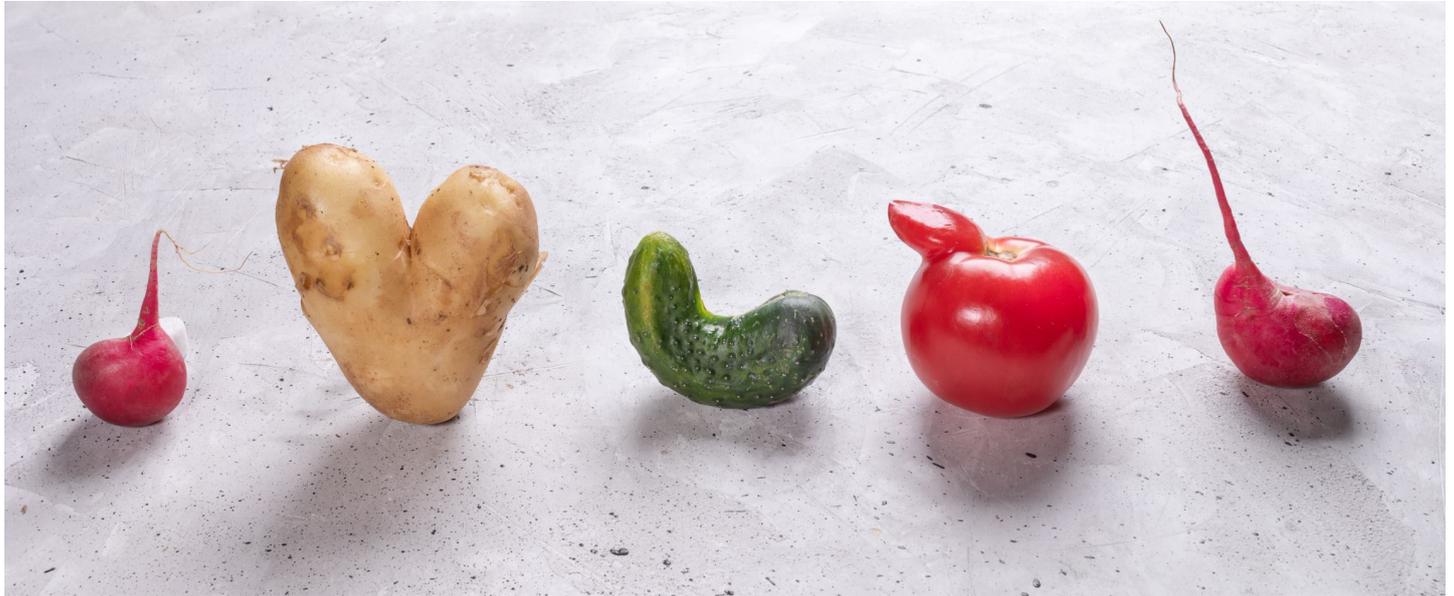
WASTE BYTES

University of Otago Food Waste Innovation Newsletter 2

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food waste
 innovation
Food Waste Technical & Social Innovations Research Group

 **UPCYCLED
 FOOD LAB**



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 sector.

Note from the director

Associate Professor Miranda Miroso

As we find ourselves yet again in lockdown, it is timely to stop and reflect on the impact of the COVID-19 pandemic

on food loss and waste (FLW). In a recent presentation to an Asia-Pacific Economic Cooperation (APEC) workshop on this topic, I was invited to speak of NZ's experiences. In this talk, I addressed a range of hurdles that could have been detrimental to the amount of FLW created. For example, loss and disruption to our export markets, short supply of critical agricultural inputs, labour shortages, backlog in meat and other processing plants, consumers panic buying and hoarding food at home. In many instances, we are seeing advocates' work on FLW reduction accelerate. **During COVID-19**, we have seen an acute public and industry awareness of the critical value of food and agriculture. In this year's Agribusiness Agenda, KPMG talks about the need for an "upcycled food system revolution." The report identifies a lack of innovative business models looking to create new markets for good quality food that doesn't meet cosmetic standards for retailers. They state that setting up these businesses in NZ is expensive, scaling is challenging, and regulation is stifling. Our group has responded by launching a



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new Upcycled Food Lab as part of our broader Research Theme. Our Lab doubles as a resource provider and connection platform to bring together researchers and industry partners to provide a range of services from research and consultancy to food product development. **On a personal note**, I am delighted to have had my contributions, including the ongoing APEC work and being made a Fellow of the NZ Institute of Food Science and Technology. But there is still so much work to be done. COVID-19 reminds us that reducing FLW is a critical pathway for improving food system resilience. We must all continue to grow following this adversity and persist, more assertive and bolder than ever before, with our food waste reduction mission. *Ngā mihi nui, Miranda*

RESEARCHER SPOTLIGHT

Professor Sheila Skeaff
Human Nutrition



What is your background?

Originally from Canada, I completed a BSc in Human Biology and MSc in Nutritional Biochemistry at the University of Guelph. I then moved to Dunedin and completed a PhD in Human Nutrition at the University of Otago.

What is your leading research focus?

My research has focused on the trace elements; iodine and fluoride, and research on sustainable foods and diets, including food waste. Within the theme, I am the leader of the sub-theme Metrics and Management. We need to know the quantity of food waste in New Zealand, including where and why. I have been part of research measuring retail food waste; my main interest in this space is the amount of food lost in primary production. I am also interested in the intersection of nutrition and "waste" food ingredients in upcycled foods.

What are you working on at the moment?

I am currently involved in several projects undertaken by MSc and PhD students in the Food Waste Innovation Theme. One of these projects aims to identify and reduce food loss in the agricultural sector. Another looks at the Social Return on Investment in the food rescue sector.

What interests you about food waste?

The International Bill of Human Rights recognises the right to adequate food as an essential part of the right to an acceptable standard of living. Currently, enough nutritious food is produced to feed everyone, but millions of people still go hungry; food waste is a part of the solution.

POSTGRADUATE SPOTLIGHT

Disney Kariyawasam, PhD Student
Accountancy and Finance



What is your research topic?

My research topic is "The application of management control systems in waste management practices of the supermarkets in New Zealand", supervised by Dr Sriya Kumarasinghe, Assoc. Prof. Ros Whiting and Dr Dinithi Ranasinghe.

What brought you to the University of Otago?

I hold a BA degree (Honours) in Economics and Statistics in Sri Lanka. I moved to NZ to complete my postgraduate degree in Business Administration. After completing my degree, I started a job as an Account Administrator in a well-reputed company. When the New Zealand government decided to have a mandatory phase-out of single-use plastic bags in 2019, my research interest was piqued. I decided to continue my studies at the University of Otago, looking at waste management in supermarkets.

What is the purpose of your research?

When conducting my literature review, I found a gap in the literature for research in waste management from an accounting point of view, which is what my research aims to do.

What does your research involve?

I have selected Foodstuffs NZ as my case study. I am investigating how they manage waste in their accounting and how these costs may be affecting their business. Furthermore, I explore how these supermarkets manage internal and external pressures. I plan to conduct semi-structured interviews with stakeholders within the supermarket industry and review the Foodstuffs annual reports and other relevant documents.

NZ INTERNATIONAL SCIENCE FESTIVAL - UPCYCLED FOOD DINING EXPERIENCE

In collaboration with Everybody Eats, Food Waste Innovation put on an upcycled food dining experience as part of the New Zealand International Science Festival last month. The event was an entirely vegan meal, using food destined for waste, held at a local vegan cafe called Kind Company. Local food rescue organisation KiwiHarvest donated most of the ingredients for the evening, and Everybody Eats chefs and volunteers transformed these foods into a high-quality three-course meal. Amongst the three courses were products developed by our Food Waste Innovation's Upcycled Food Lab, which had been processed from food by-products otherwise destined for waste. These products included crackers made from wonky carrots, fruit snacks made from blemished persimmons, tomato paste made from damaged tomatoes, and beer and ginger beer made using surplus bread.



The evening received very positive feedback and was acknowledged by local and national media (see the stories linked below). Thank you to the team at Everybody Eats, KiwiHarvest, NZ International Science Festival, and Kind Company, as well as our Food Waste Innovation team members, who helped make this event a great success.



Throughout the evening, experts from the theme spoke to guests about food waste and the science behind the upcycled products guests were sampling. After the evening, guests were welcome to donate whatever amount they chose for the meal, with all proceeds going back to KiwiHarvest and Everybody Eats.



Otago Daily Times: [Great Taste No Waste](#)

RNZ: [Feasting on Recycled Food](#)

NZ International Science Festival: [Highlight reel](#)

OTHER NEWS

Food Waste Flat Hacks Market: What is the best way to educate students about food waste? With a sliced bread mountain, a bicycle-powered blender and a worm farm, according to the 'Food Waste Flat Hacks' team. A group of Food Science students, Steph, Tailah, and Hannah, put on a market event on International Stop Food Waste Day as part of their fourth-year food waste module. The aim of the event was to educate students about food waste and reduce food waste in their flats. With ~300 people in attendance, we'd say they did just that!

Science Teller Festival: This was held at the Otago Museum in July and organised by the Dept of Science Communication and the Centre for Sustainability at the University of Otago to promote science storytelling. Miranda spoke on the food panel in the morning and our team set up a fun interactive food waste stall as part of the market day in the afternoon.

AFRA Research Symposium: Theme leaders, Mirosa and Sheila attended the Aotearoa Food Rescue Alliance's (AFRA) Research Symposium in July. Miranda spoke on behalf of the theme to showcase our group's research activities happening in the food rescue sector and to promote further research collaborations moving forward. Ngā mihi Tessa Vincent and the team at AFRA for hosting.

To access the AFRA Research Symposium recording - [click here](#)



NEW RESOURCES

We have recently added several new resources to our website as outputs of research projects. Firstly, [a crisis management toolkit](#) designed for food rescue organisations to help them manage future crises. Grace Clare developed this resource from her research looking at the impacts of COVID-19 on the sector. Theme researchers, Professor Phil Bremer, AP Graham Eyres and Pat Silcock, Grace Clare, and Citizen Collective have collaboratively developed [a recipe for home-brew beer](#) that utilises surplus bread. Finally, a team led by Fiona Nyhof from the Food Science have developed [a guide for upcycled food manufacturers](#) to help them get their products onto supermarket shelves. The research assistant on the project, Margaret Thorsen, conducted interviews with product category managers at Foodstuffs NZ to understand their decision-making process when considering which items will go on their supermarket shelves. You can find all of these resources and others on our [website](#).

