



Programme

Tuesday 14 November 2023

8.30am - 12.30pm	Riddet Institute Student Colloquium	<i>Presentations only for Riddet Institute PhD students, conference delegates are welcome to attend in the audience subject to availability of seating</i>
1.15pm - 5.15pm	Master Class	<i>Separate event to the main conference, please book to attend</i>
5.45pm - 7.00pm	FSDH Conference Welcome Function	

Wednesday 15 November 2023

8.00am	Registration and tea and coffee	
Chair: Distinguished Professor Harjinder Singh		
8.30am	Welcome	Rt Hon Sir Lockwood Smith
8.40am	Plenary Session: Global food challenges. Anticipating and overcoming food system vulnerabilities in a world beset by climate change, pandemics and geopolitical strife	Prof Rickey Yada, University of British Columbia
9.20am	Opening Lecture: Food structure, digestion and health outcomes	Emer Prof Mike Gidley, University of Queensland
Session 1: Food materials and structures produced by sustainable processing Chair: Professor Alastair Roberston		
9.50am	Multi-scale food structure tailoring for nutrition and pleasure by sustainable process engineering	Prof Erich Windhab, Swiss Federal Institute of Technology Zürich
10.20am	Morning tea	

10.45AM	Developments in the manufacture and application of functional fibers in food systems	Martin O'Donovan, Socius Ingredients
11.00am	Pulsed electric field: A Proven sustainable state-of-the-art food technology for enhancing protein digestibility and palatability of edible legumes	Professor Indrawati Oey, University of Otago
11.15am	Effect of thermosonication on fibrillization, structure, and physiochemical properties of faba bean protein isolates at pH 2	Mr Yinxuan Hu, Massey University
11.30am	Fine seaweed particles as thickeners for liquid foods	Prof José Miguel Aguilera, Pontifical Catholic University of Chile
11.45am	Structural modifications of hempseed protein bodies by heating and their implications for trypsin hydrolysis	Dr Thomas Do, Riddet Institute, Massey University
12.00pm	Lunch	
Session 2: Advances in integrated models of human digestion <i>Chair: Professor Leo Cheng</i>		
1.00pm	Model-data fusion for physics-based simulations of digestion and food processing	Dr Simon Harrison, CSIRO
1.30pm	Development of dynamic <i>in vitro</i> models and correlation to <i>in vivo</i> studies	Prof Gail Bornhorst, University of California Davis
2.00pm	The next generation of the computational mouth model for oral digestion	Dr Paul Cleary, CSIRO
2.15pm	Biomimetic gastric tract simulator	Mr Gerald Olsen, Riddet Institute, Massey University
2.30pm	Investigating liquid-particulate flow and mixing in the stomach - an <i>in-silico</i> study	Dr Shouryadipta Ghosh, CSIRO
2.45pm	Investigating the impact of subject motility patterns on protein hydrolysis: A computational fluid dynamics (CFD) modelling approach	Dr Nadun Palmada, Riddet Institute, University of Auckland

Session 3: Food structure modifications in the GIT: Implications in sensory perception and nutrient absorption

Chair: Adjunct Professor David Everett

3.30pm	How much do we know about the interactions of bioactive substances and the milk matrix within the GIT?	Dr Alejandra Acevedo-Fani, Riddet Institute
4.00pm	Opportunities for Dairy: Modifying food structures for improved health outcomes	Aaron Fanning, Fonterra
4.15pm	Digestibility of plant-based meat alternative in comparison to pasture-raised and grain-finished beef	Dr Lovedeep Kaur, Riddet Institute, Massey University
4.30pm	Development and characterization of pH responsive sodium alginate hydrogel containing metal-phenolic network for anthocyanin delivery	Dr Yanming Ren, Zhejiang University
4.45pm	Differences in gastric protein digestion in piglets following consumption of cow, goat, or sheep milk	Dr Debashree Roy, Riddet Institute, Massey University
5.00pm	Wrap-up Day 1	
5.05pm-7.00pm	Poster session	

Thursday 16 November 2023

8.00am	Tea and coffee	
Chair: Professor Manohar Garg		
8.30am	Plenary Session: Nutritional science in the 21st century from an industry/consumer perspective	Dr Tsz Ning Mak, Nestlé Institute of Sciences Singapore Hub

Session 4: Impact of food structure on physiology and human health

9.10am	The food matrix effect: A new empirical paradigm to protect human health and food systems	Dr Anthony Fardet, National Research Institute for Agriculture, Food and Environment (presenting online)
9.40am	Matrix effects during milk protein digestion: Where it all comes together or all falls apart	Professor Thom Huppertz, Wageningen University & Research, FrieslandCampina (presenting online)
9.55am	pH modification during bovine dairy protein coagulation impacts on circulating amino acid appearance and gastric function in healthy female adults	Dr Amber Milan, University of Auckland
10.10am	Morning tea	
10.45am	The effects of starchy carbohydrate-based food products with different proportions of resistant starch 5 content on postprandial blood glucose response: A pilot study	Miss Adenike Adewuni, University of Surrey
11.00am	Comparing true and habitual dietary intakes with concentrations of known metabolite markers of dietary intakes: Results from a randomised crossover feeding study	Miss Aysu Shahin, University of Otago

Session 5: Foods for populations with different nutritional needs (including fortification approaches)

Chair: Distinguished Professor Paul Moughan

11.15am	Optimal vs required dietary protein intake in different populations. Is "personalised" nutrition feasible?	Prof Robert Wolfe, University of Arkansas
11.45am	An INFOGEST international consensus static <i>in vitro</i> digestion model adapted to the general older adult population and its application to dairy products	Dr Didier Dupont, INRAE
12.00pm	Mechanistic study of the oral digestion of starch-based food and influencing factors	Ms Yufeng Zhang, Zhejiang Gongshang University
12.15pm	<i>In vitro</i> dynamic gastric digestion of market-available infant formulae: Influence of whey to casein protein ratio	Faith Descallar, Riddet Institute & Shikha Pundir, Fonterra
12.30pm	Lunch	

Session 6: Foods for enhancing the gut microbiome and human health

Chair: Professor Warren McNabb

1.30pm	Gut barrier integrity, microbiome and health: The role of nutrition	Dr Cuong Tran, CSIRO
2.00pm	Quantifying the impact of gut microbial metabolism on the bioavailability and pharmacokinetics of stevioside	Dr James Chun Yup Chan, Singapore Institute of Food and Biotechnology Innovation
2.15pm	Identifying silico foods nourishing the colonic microbiota of weaning infants	Mr Vitor Geniselli da Silva, Riddet Institute, Massey University
2.30pm	Interrogating the gut-skin axis for acne and sebaceous gland health - A case study of deoxycholic acid	Dr James Chun Yip Chan, Singapore Institute of Food and Biotechnology Innovation
2.45pm	Bioactives in algae and their connection to human health	Dr Richard Ingebrigtsen, Cawthron Institute
3.00pm	Afternoon tea	
3.30pm	<p>Panel discussion: Food structure and nutrition - redefining dietary guidelines and food labelling for improved health outcomes</p> <p>Panel members: Prof Manny Noaks, GAICD Nutrition Consultant Prof Erich Windhab, Swiss Federal Institute of Technology Zürich Dr Tsz Ning Mak, Nestlé Institute of Health Sciences Singapore Hub Assoc Prof Lisa Te Morenga, Research Centre for Hauora and Health, Massey University</p>	<p>Chair: Emer Prof Mike Gidley, University of Queensland</p>
4.30pm	Wrap-up Day 2	
6.00pm - 10.00pm	FSDH Conference Dinner	

Friday 17 November 2023		
8.00am	Tea and coffee	
Chair: Dr Abby Thompson		
8.30am	Plenary Session: A glimpse into the next generation food systems Modelling and simulation tools for industrial and societal research applications: Digital twins and genome-based machine-learning	Prof Tarek Zohdi, University of California, Berkeley (presenting online)
Session 7: Advances in precision fermentation, plant biotechnology and cellular agriculture for sustainable food production		
9.10am	The plant age: Food for the future	Prof Oded Shoseyov, Hebrew University of Jerusalem (presenting online)
9.40am	Cell-based meat production and Aotearoa	Dr Laura Domigan, University of Auckland
10.10am	Morning tea	
10.30am	A kinder, greener tomorrow through precision fermentation	Dr Sunil Sukumaran, Perfect Day (presenting online)
11.00am	Applications and opportunities for precision fermentation in Australasia: A contract manufacturer's view	Prof Travis Glare, BioSouth

Session 8: Challenges in structuring alternative proteins for new product development

Chair: Professor Indrawati Oey

11.15am	Challenges using plant proteins in food: How to control functionality by understanding structural development	Assoc Prof Elke Scholten, Wageningen University and Research
11.45am	Hybrid meats: Development of superior plant-based meat analogues in combination with NZ animal proteins	Prof Jaspreet Singh, Riddet Institute, Massey University
12.00pm	Retracing 'food' steps: Exploring Australia's native legumes for novel food applications	Ms Sera Susan Jacob, ARC Training Centre for Uniquely Australia Food, QAAFI, University of Queensland
12.15pm	Lunch	
1.00pm	Crafting the perfect macadamia milk: An investigation into formulation and product characterisation	Dr Mitali Gupta, CSIRO
1.15pm	Unveiling the nutritional potential of insects via protein digestibility assessment	Dr Dongdong Ni, CSIRO
1.30pm	Alternative proteins must contribute to micronutrient adequacy	Dr Nick Smith, Riddet Institute, Massey University
1.45pm	<p>Panel discussion: Traditional and novel animal and plant proteins: A future perspective</p> <p>Panel members: Dist Prof Paul Moughan, Riddet Institute, Massey University Prof Jeremy Hill, Fonterra Co-operative Group (online) Dr Abby Thompson, Miruku Limited Dr Laura Domigan, University of Auckland Heather Riddell, Ministry for Primary Industries - Manatū Ahu Matua</p>	<p>Chair: Dr Mike Boland, Riddet Institute, Massey University</p>
2.45pm	Closing remarks	
3.00pm	Conference concludes	