



4TH FOOD STRUCTURE AND FUNCTIONALITY SYMPOSIUM
19-20 OCTOBER 2021, ONLINE LIVE AND ON-DEMAND

STRUCTURING FOODS FOR A SUSTAINABLE WORLD



NB: All times below are UTC +1 (Ireland/UK)

Tuesday, 19 October 2021	
10:00-11:00	FREE Author Workshop - Open to non-attendees of the conference and hosted on Elsevier's Research Academy Register here: https://researcheracademy.elsevier.com/workshop/685130e4-ab93-46da-ac34-b70ba718f72f
Introduction and session 1: Designing food structures for human health	
Session Chairs - Sean Hogan, D�errick Rousseau	
12:00-12:15	Welcome
12:15-12:45	KN01 In vitro and in vivo gastro-intestinal digestion: Food structure matters Andr�e Brodkorb <i>Teagasc Food Research Centre, Moorepark, Ireland</i>
12:45-13:00	O.01 Synergistic interactions of plant protein microgels and cellulose nanocrystals at the interface and their inhibition of the gastric digestion of pickering emulsions S. Zhang, B. S. Murray, N. Suriyachay, M. Holmes, R. Ettelaie, A. Sarkar <i>University of Leeds, UK</i>
13:00-13:15	O.02 Impact of mycoprotein matrix on in vitro carbohydrate digestion: alpha-amylase diffusion through the fungal cell wall, enzyme entrapment, and physiological significance R. Colosimo ¹ , F.J. Warren ¹ , C.H. Edwards ¹ , T.J. Finnigan ² , P.J. Wilde ¹ ¹ Quadram Institute, UK. ² Marlow Foods Ltd, UK
13:15-13:30	O.03 Protective efficacy of self-assembly monoglyceride structures on probiotic bacteria survival during food processing, storage and in vitro digestion S. Melchior, M. Marino, F. D'Este, N. Innocente, M.C. Nicoli, S. Calligaris <i>University of Udine, Italy</i>
13:30-14:00	Break
Session 2: Food structuring for a sustainable world	
Session Chairs - Andr�e Brodkorb, Christophe Schmitt	
14:00-14:30	KN02 Small angle scattering: An essential tool for our future food system Amparo L�opez-Rubio ¹ , M. Mart�nez-Sanz ² , E. P. Gilbert ² ¹ IATA-CSIC, Paterna, Spain. ² Australian Nuclear Science and Technology Organisation, Kirrawee, Australia
14:30-14:45	O.04 Novel applications of Quorn fermentation co-product extracts as oil-lowering emulsifiers and partial egg white replacers J. Lonchamp ¹ , P.S. Clegg ² , S.R. Euston ³ ¹ Queen Margaret University, UK. ² University of Edinburgh, UK. ³ Heriot-Watt University, UK
14:45-15:00	O.05 Colloidal structures created using surface-engineered viable lactic acid bacteria as building blocks X. Jiang, E. Shekarforoush, M. Kedir Muhammed, N. Arneborg, J. Risbo <i>University of Copenhagen, Denmark</i>
15:00-15:15	O.06 Valorisation of marine biomass for the development of polysaccharide-based hydrogels M. Mart�nez-Sanz ¹ , C. Fontes-Candia ¹ , A. Str�m ² , P. Lopez-Sanchez ³ , S.H. Knutsen ⁴ , S. Ballance ⁴ , H.K. Zobel ⁴ , A. Sokolova ⁵ , E.P. Gilbert ⁵ , A. Lopez-Rubio ¹ ¹ IATA-CSIC, Spain. ² Chalmers University of Technology, Sweden. ³ RISE Research Institutes, Sweden. ⁴ Nofima AS, Norway. ⁵ Australian Nuclear Science and Technology Organisation, Australia
15:15-15:45	KN03 Protein-based particles for designing clean label food products Christophe Schmitt, L. Amagliani, C. Philip, A. F�eroussier, L. Bovetto <i>Nestl�e, Switzerland</i>
15:45-16:15	Break

Session 3: Food structuring for improved functionality	
	Session Chairs – Marcel Paques, Julie Hirsch, Prieră Panescu
16:15-16:45	KN04 The future of meat: Sustainably meeting future demand with plant-based meat Prieră Panescu <i>The Good Food Institute, Washington, DC, USA</i>
16:45-17:00	O.07 Whey protein aggregates and caseins to control the texture of dairy emulsions in a large range of protein concentrations without non-dairy additives M. Chevallier ¹ , T. Loiseleux ² , C. Lopez ¹ , C. Garnier ¹ , A. Riaublanc ¹ , T. Croguennec ¹ ¹ INRAE STLO, France. ² UR INRAE BIA, France
17:00-17:15	O.08 Structural properties of plant and dairy proteins for optimized functional properties B. Devnani, L. Ong, S. Gras <i>The University of Melbourne, Australia</i>
17:15-17:30	O.09 Modelling inward-diffusion of salt in renneted casein gels using time-lapse confocal laser scanning microscopy P. Sharma ^{1,2} , J.J. Sheehan ¹ , J. Flourey ³ ¹ Teagasc Food Research Centre, Ireland. ² Utah State University, Logan, USA. ³ STLO, INRA, France
17:30-17:45	Poster Flash Presentations PF.01 Structural changes of infant formula through three different processing methods and its influence on powder physical properties and functionalities J. Han ^{1,2} , J. Fitzpatrick ² , K. Cronin ² , S. Miao ¹ ¹ Teagasc Food Research Centre, Ireland. ² University College Cork, Ireland PF.02 Controlling particle wettability to destabilize particle-stabilized water-in-oil emulsions M. El-Aooiti, A. de Vries, D. Rousseau <i>Ryerson University, Canada</i> PF.03 Low-sugar ice cream by use of plant-based ice-structuring proteins D. Middendorf, V. Lammers, A. Juadjur, U. Bindrich <i>DIL German Institute of Food Technologies, Germany</i> PF.04 Gastric devolution of rennet- and transglutaminase-induced casein gels using the DIDGI dynamic digestion model A. Logan ¹ , O. Ménard ² , E. Rakshi ² , Y. Le Gouar ² , M. Bayrak ^{1,3} , J. Flourey ² ¹ CSIRO, Australia. ² STLO, INRAE, France. ³ RMIT University, Australia PF.05 A cocktail of multiple emulsions rich in bioactive substances to increase the individual immunity of elderly A. Markowska-Radomska ¹ , E. Dluska ¹ , E. Gorska-Horczyk ¹ , M. Zalewska ² ¹ Warsaw University of Technology, Poland. ² Department of Technique and Food Development, Institute of Human Nutrition Sciences, Warsaw University of Life Sciences, Poland
17:45-18:15	KN05 From choice architecture to food architecture for sustainable world Julie Hirsch, Marjorie Welchoff <i>Ingredion Incorporated, USA</i>
18:15-18:25	Young scientist award When food structure is not too much to digest Tara Grauwet <i>KU Leuven, Belgium</i>
18:25-19:25	Poster Session Dedicated time for attendees to view posters and videos

Wednesday, 20 October 2021

07:00-08:00	Poster Session Dedicated time for attendees to view posters and videos
	Introduction and session 4: New methodologies for food structure characterization
	Session Chairs – Marcel Paques, Karin Schroen
08:00-08:15	Introduction and Housekeeping
08:15-08:45	KN06 Food structure, oral processing & energy intake: Challenges and opportunities <u>Ciaran Forde</u> <i>Wageningen University, Wageningen, The Netherlands</i>
08:45-09:00	O.10 Real-time visualization of transformations in food materials exemplified by the formation of zein stabilized oleogels <u>S. Keshanidokht</u> ¹ , .M. Alejandro Via ² , .J. Risbo ¹ , Y. Falco ¹ , M. Porsmose Clausen ² ¹ <i>University of Copenhagen, Denmark.</i> ² <i>University of Southern Denmark, Denmark</i>
09:00-09:15	O.11 In situ monitoring of casein gel microstructure during enzymatic digestion by small-angle neutron scattering <u>M. Bayrak</u> ^{1,2} , J. Mata ³ , A.E. Whitten ³ , C.E. Conn ² , J. Floury ⁴ , A. Logan ¹ ¹ <i>CSIRO Agriculture and Food, Australia.</i> ² <i>RMIT University, Australia.</i> ³ <i>Australian Nuclear Science and Technology Organisation (ANSTO), Australia.</i> ⁴ <i>STLO, INRAE, France</i>
09:15-09:30	O.12 Image analysis for characterization of microstructure of non-fat acidified milk model systems with added milk protein ingredients <u>R. Li</u> , A.B. Hougaard, R. Ipsen <i>University of Copenhagen, Denmark</i>
09:30-10:00	KN07 Microtechnology for rapid development of new and sustainable food products <u>Karin Schroen</u> <i>Wageningen University, The Netherlands</i>
10:00-10:30	Break
	Session 5: Shaping the proteins of tomorrow
	Session Chairs – Christoph Gregson, Robin Dando
10:30-11:00	KN08 Taste, obesity and our response to foods <u>Robin Dando</u> <i>Cornell University, Ithaca, NY, USA</i>
11:00-11:15	O.13 Water redistribution determined by time domain NMR explains rheological properties of dense fibrous protein blends at high temperature <u>F.K.G. Schreuders</u> ¹ , I. Bodnár ² , P. Erni ² , R.M. Boom ¹ , A.J. van der Goot ¹ ¹ <i>Wageningen University, The Netherlands.</i> ² <i>Firmenich, Switzerland</i>
11:15-11:30	O.14 Emulsion gelation and oleogelation of canola protein isolate-stabilized concentrated oil-in-water emulsions <u>Y. Tang</u> , <u>S. Ghosh</u> <i>University of Saskatchewan, Canada</i>
11:30-11:45	O.15 Towards recombinantly produced dairy products: Emulsifying properties of genetically engineered whey protein beta-lactoglobulin variants <u>J.K. Keppler</u> <i>et al</i> <i>Wageningen University, The Netherlands. Kiel University, Germany</i>
11:45-12:15	Break
	Session 5: Shaping the proteins of tomorrow – continued...
	Session Chairs – André Brodkorb, Sean Hogan, Dérick Rousseau
12:15-12:45	KN09 Dynamic measurement of protein based food structures - convergence of technologies <u>Mark Fenelon</u> <i>Teagasc Food Research Centre, Moorepark, Ireland</i>
12:45-13:05	Poster Awards Closing Remarks