



2ND FOOD STRUCTURE AND FUNCTIONALITY FORUM SYMPOSIUM
FROM MOLECULES TO FUNCTIONALITY

28 FEBRUARY - 2 MARCH 2016, SINGEX, SINGAPORE



Sunday 28th February 2016	
12:00	Conference registration opens Room: Pre-Function Area 1 (Peridot)
12:30 – 13:30	Author Workshop Tips for successful publishing in Food Structure and Other Elsevier Journals Room: Tourmaline 207 - 209
12:45 – 13:45	Coffee break Room: Pre-Function Area 1 (Peridot)
13:45 – 14:00	Conference welcome Koen Dewettinck, Conference Chair and Weibiao Zhou, Conference Co – Chair Room: Peridot 201 & 202
Conference Topic: New and Advanced Approaches for Functionality Characterization Session Co-Chairs: Weibiao Zhou and Koen Dewettinck Room: Room: Peridot 201 & 202	
14:00 – 14:30	[KN01] Bread structure delivering its functionality: from product quality to nutritional impact W. Zhou, <i>National University of Singapore, Singapore</i>
14:30 – 14:45	[O.01] Using image analysis to relate food microstructural information to other properties R. Ipsen ^{*1} , J.M. Amigo ¹ , P. Buldo ² , D.M. Folkenberg ² , L. Zhang ¹ , ¹ <i>University of Copenhagen, Denmark</i> , ² <i>Chr. Hansen A/S, Denmark</i>
14:45 – 15:00	[O.02] Using AFM based local thermal analysis to characterize the impact of different grinding techniques on sucrose surface properties D. Middendorf ^{*1} , U. Bindrich ¹ , P. Mischnick ² , K. Franke ¹ , ¹ <i>German Institute of Technologies, Germany</i> , ² <i>Technische Universität Braunschweig, Germany</i>
15:00 – 15:15	[O.03] Enhanced protein network analysis as a new approach for quantifying dough microstructure by CLSM I. Bernklau [*] , M. Jekle, T. Becker, <i>Technical University Munich, Germany</i>
15:15 – 15:30	[O.04] Fat crystallization observed by passive microrheology M. Bazin, G. Brambilla, R. Ramsch [*] , M. Fleury, G. Meunier, <i>Formulation, France</i>
15:30 – 16:00	Coffee break Room: Pre-Function Area 1 (Peridot)
16:00 – 16:15	[O.05] Next generation imaging techniques for dairy products - beyond the snapshot M.A.E. Auty [*] , Z. Burdikova, J.J. Sheehan, C. Hickey, M. Li, L. Zychowski, M. Fenelon, <i>Teagasc, Ireland</i>
16:15 – 16:30	[O.06] Salt migration within food matrices: Application of fluorescent probes to determine localised salt concentrations and to establish their effect on the metabolic activity of entrapped bacterial cells C.D. Hickey ^{*1,2} , V. Fallico ¹ , Z. Burdikova ¹ , M. Wilkinson ² , J.J. Sheehan ¹ , ¹ <i>Teagasc, Ireland</i> , ² <i>University of Limerick, Ireland</i>
16:30 – 16:45	[O.07] Image analysis of gluten network in bread - its impact on glycemic response

	E. Lau* ¹ , W. Zhou ² , C.J. Henry ^{1,2} , ¹ <i>Singapore Institute for Clinical Sciences, Singapore</i> , ² <i>National University of Singapore, Singapore</i>
16:45 – 17:00	[O.08] Study of dairy formulations thanks to passive microrheology R. Ramsch*, G. Brambilla, M. Bazin, M. Fleury, P. Bru, G. Meunier, <i>Formulation, France</i>
17:00 – 17:15	[O.52] Characterisation of the mechanical properties of french fries S.M. Goh* ¹ , K.W. Tee ² , M.G. Scanlon ³ , ¹ <i>Singapore Institute of Technology, Singapore</i> , ² <i>Curtin University Sarawak, Malaysia</i> , ³ <i>University of Manitoba, Canada</i>
17:15 – 18:45	Welcome drinks reception Room: Pre-Function Area 1 (Peridot)
18:45	End of day 1
Monday 29th February 2016	
Conference Topic: Colloidal and Interfacial Design and Behavior Session Co-Chairs: Jorge Toro – Vasquez and Peter Munro Room: Peridot 201 & 202	
08:30 – 09:15	[KN02] Tools to explore structure-property links in cheeses P.A. Munro* ¹ , C. Coker ² , E. Nickless ² ¹ <i>Massey University, New Zealand</i> , ² <i>Fonterra Research and Development Centre, New Zealand</i>
09:15 – 09:30	[O.09] Crystallization of phytosterols in dispersed systems L.M. Zychowski* ^{1,2} , A. Logan ³ , M.A. Augustin ³ , A.L. Kelly ² , A. Zabara ⁴ , J.A. O'Mahony ² , M.A. Fenelon ¹ , M.A.E. Auty ¹ , ¹ <i>Teagasc Food Research Centre, Ireland</i> , ² <i>University College Cork, Ireland</i> , ³ <i>CSIRO Food and Nutrition, Australia</i> , ⁴ <i>RMIT University, Australia</i>
09:30 – 09:45	[O.10] Improved stabilisation of concentrated oil-in-water emulsions by complexing soy protein with κ-carrageenan I. Tavernier*, K. Dewettinck, A.R. Patel, <i>Ghent University, Belgium</i>
09:45 – 10:00	[O.11] Morphology and internal composition of spray dried whole milk powder produced at different scales M. Nuzzo* ^{1,2} , J. Sloth ³ , A. Millqvist-Fureby ¹ , B. Bergenståhl ² , ¹ <i>SP Technical Research Institute of Sweden, Sweden</i> , ² <i>Lund University, Sweden</i> , ³ <i>GEA Process Engineering A/S, Denmark</i>
10:00 – 10:15	[O.12] Casein micro-particles as carriers for hydrophobic substances - a new isolation and characterization approach Y.Z. Zhuang*, U.K. Kulozik, R.G. Gebhardt, <i>Technische Universität München, Germany</i>
10:15 – 10:30	[O.13] Rheology and long-term stability of nanogels developed from liquid nanoemulsions S. Ghosh*, V. Erramreddy, <i>University of Saskatchewan, Saskatoon, Canada</i>
10:30 – 11:00	Coffee break Room: Pre-Function Area 1 (Peridot)
11:00 – 11:30	[KN03] Alternative routes for structuring edible oils A. Patel, <i>Ghent University, Belgium</i>
11:30 – 11:45	[O.14] Fabrication of solid lipid pickering particles for stabilisation of water-in-oil emulsions Z. George*, I. Hamilton, I. Norton, F. Spyropoulos, <i>University of Birmingham, UK</i>
11:45 – 12:00	[O.15] In-vitro digestion behaviour of water-in-oil-in-water emulsions with gelled oil-water interface J. Andrade*, M. Corredig, <i>University of Guelph, Canada</i>

12:00 – 12:15	[O.16] Novel fluid molecular architectures for delivery of bioactives and macromolecules N.G. Garti*, A.A. Aserin, <i>The Hebrew University of Jerusalem, Israel</i>
12:15 – 13:45	Lunch & Poster Session 1 Room: Pre-Function Area 1 (Peridot)
Conference Topic: New Concepts and Processes for Creating Functionality Session Co-Chairs: Remko Boom and Mitsutoshi Nakajima Room: Peridot 201 & 202	
13:45 – 14:15	[KN04] Ingredient structure: Key to more sustainable and healthier food R.M. Boom*, A.J. van der Goot, M. A.I. Schutyser <i>Wageningen University, The Netherlands</i>
14:15 – 14:30	[O.17] Understanding the impact of baking on the retention of active ingredients via a miniature bread baking approach L. Zhang* ^{1,2} , W.B. Zhou ³ , R.M. Boom ² , M.A.I. Schutyser ² , X.D. Chen ^{1,4} , ¹ <i>Soochow University, China</i> , ² <i>Wageningen University, The Netherlands</i> , ³ <i>National University of Singapore, Singapore</i> , ⁴ <i>Xiamen University, China</i>
14:30 – 14:45	[O.18] Towards understanding of the formation of layered and fibrous structures in dense biopolymer blends B.L. Dekkers*, C. Nikiforidis, A.J. van der Goot, R. Boom, <i>Wageningen UR, The Netherlands</i>
14:45 – 15:00	[O.19] A novel infant milk formula concept: Mimicking the human milk fat globule structure S. Gallier ¹ , B. Van De Heijning ¹ , D. Acton* ¹ , E.M. Van Der Beek ^{1,2} , T. Van Baalen ¹ , ¹ <i>Danone Nutricia Early Life Nutrition, New Zealand</i> , ² <i>Danone Nutricia Early Life Nutrition, Singapore</i>
15:00 – 15:15	[O.20] 3D printing of filled protein-rich structures M.A.I. Schutyser* ¹ , M. de Wit ¹ , A. Alting ² , ¹ <i>Wageningen University, The Netherlands</i> , ² <i>Friesland Campina Innovation, The Netherlands</i>
15:15 – 15:30	[O.21] High intensity ultrasound effects on whey protein isolate functionality depend on α-lactalbumin content R. Frydenberg ¹ , M. Hammershøj ¹ , U. Andersen ² , L. Wiking* ¹ , ¹ <i>Aarhus University, Denmark</i> , ² <i>Arla Foods, Denmark</i>
15:30 – 15:45	[O.22] Surfactant effects on the interfacial crystallization of shear-induced spheroidal crystal-encapsulated water-in-oil emulsions T. Tran ¹ , N. Green ¹ , S. Ghosh ² , D. Rousseau* ¹ , ¹ <i>Ryerson University, Canada</i> , ² <i>University of Saskatchewan, Canada</i>
15:45 – 16:00	[O.23] Producing water/oil emulsions using electrohydrodynamic atomization (EHDA) E. van Ginkel, T. Maarsen, F. Vrinte, A.A.C.M. Oudhuis*, L.L.F. Agostinho, <i>University of Applied Science, The Netherlands</i>
16:00 – 16:15	Coffee break Room: Pre-Function Area 1 (Peridot)
16:15 – 16:45	[KN05] Formulation of monodisperse O/W emulsions with/without functional components by asymmetric silicon and aluminium microchannels M. Nakajima*, Y. Zhang, N. Khalid, I. Kobayashi, <i>University of Tsukuba, Japan</i>
16:45 – 17:00	[O.24] Modification of wheat bran proteins by enzyme-induced cell wall degradation and microbial fermentation E. Arte* ¹ , R. Coda ¹ , C.G. Rizzello ² , E. Nordlund ³ , K. Katina ¹ , ¹ <i>University of Helsinki, Finland</i> ,

	² University of Bari Aldo Moro, Italy, ³ VTT Technical Research Centre Finland, Finland
17:00 – 17:15	[O.25] The effect of extrusion on the physicochemical properties of oat fibre S. Sayanjali* ^{1,2} , L. Sanguansri ² , D. Ying ² , R. Buckow ² , M.A. Augustin ² , S.L. Gras ¹ , ¹ University of Melbourne, Australia, ² CSIRO Food & Nutrition Flagship, Australia
17:15 – 17:30	[O.26] Dairy based ingredients for stabilisation of melted cheese emulsions without emulsifying salt A.B. Hougaard*, X.L. Geng, C. Ray, R. Ipsen, <i>University of Copenhagen, Denmark</i>
17:30 – 17:45	[O.27] The agglomeration process of milk protein powders: Influence on structure modification and rehydration behaviours J. Ji ^{1,2} , J. Fitzpatrick ² , K. Cronin ² , S. Miao* ¹ , ¹ Teagasc Food Research Centre, Ireland, ² University College Cork, Ireland
17:45 – 18:00	[O.28] Understanding the effect of vacuum frying on starch digestibility reduction using in vitro and in vivo tests I. Contardo, M. Villalón, P. Bouchon*, <i>Pontificia Universidad Católica de Chile, Chile</i>
18:00	End Day 2
Tuesday 1st March 2016	
Conference Topic: Underlying Mechanisms of Functional Behavior and Properties	
Session Co-Chairs: Katsuyoshi Nishinari and Ashok Patel	
Room: Peridot 201 & 202	
09:00 – 09:30	[KN06] Structure and texture of agar gels and sucrose release K. Nishinari*, Y. Fang, <i>Hube University of Technology, China</i>
09:30 – 09:45	[O.29] Characterization of the crystallization behavior and crystal network formation of milk fat within processed cheese at different length scales P.R. Ramel*, A.G. Marangoni, <i>University of Guelph, Canada</i>
09:45 – 10:00	[O.31] Crystallization and morphologies of added waxes in rice bran oil: An in-depth study for the engineering of wax-based oleogels C.D. Doan* ¹ , A.R. Patel ¹ , S. Danthine ² , I. Tarvenier ¹ , D. Van de Walle ¹ , K. Dewettinck ¹ , ¹ Ghent University, Belgium, ² Gembloux Agricultural University, Belgium
10:00 – 10:15	[O.32] Solvent transportation behavior of mechanically constrained agarose gels I. Kaneda*, S. Iwasaki, <i>Rakuno Gakuen University, Japan</i>
10:15 – 11:00	Coffee Break Room: Pre-Function Area 1 (Peridot)
11:00 – 11:30	[KN07] Organogels developed with selected low molecular weight gelators J.F. Toro-Vazquez, <i>Universidad Autónoma de San Luis Potosí, Mexico</i>
11:30 – 11:45	[O.33] Protein aggregates as building blocks for oil structuring A. de Vries* ^{1,2} , E. van der Linden ¹ , E. Scholten ^{1,2} , ¹ Wageningen University, The Netherlands, ² Top Institute Food and Nutrition, The Netherlands
11:45 – 12:00	[O.34] Stability of whey protein emulsions to heat treatments is mainly governed by the stability of the proteins in the aqueous phase M. Chevallier* ^{1,2} , A. Riaublanc ³ , C. Lopez ^{1,2} , P. Hamon ^{1,2} , F. Rousseau ^{1,2} , T. Croguennec ^{1,2} , ¹ INRA, UMR 1253 -STLO, France, ² Agrocampus Ouest, UMR 1253, France, ³ INRA, UR 1268 -BIA, France
12:00 – 12:15	[O.35]

	<p>Digestion of milk protein gels in simulated gastric environment: Exploration of the disintegration process and diffusion behavior of pepsin J. Floury^{*1,2}, T. Bianchi³, J. Thevenot^{1,2}, D. Dupont^{1,2}, F. Jamme⁴, E. Lutton^{5,6}, M. Panouillé^{5,6}, F. Boué^{5,6}, S. Le Feunteun^{5,6}, ¹INRA,, France, ²Agrocampus Ouest, France, ³IRTA, Spain, ⁴SOLEIL synchrotron, France, ⁵INRA, France, ⁶AgroParisTech, France</p>
12:15 – 12:30	<p>[O.36] Rational food formulation using co-texturizers: Microstructure and rheological function C.M. Gregson*, M. Sillick, X. Yang, P. Santos, L. Jegede, <i>Ingredion Inc., USA</i></p>
12:30 – 14:00	<p>Lunch & Poster session 2 Room: Pre-Function Area 1 (Peridot)</p>
<p>Conference Topic: Underlying Mechanisms of Functional Behavior and Properties continued Session Co-Chairs: Supratim Ghosh, Conference Co-Chair and Marcel Paques, Conference Co-Chair Room: Peridot 201 & 202</p>	
14:00 – 14:30	<p>[KN08] When a calorie is not a calorie; how sensory signals can be used to moderate energy intake C.G. Forde^{1,2}, ¹Singapore Institute for Clinical Sciences, Singapore, ²National University of Singapore, Singapore</p>
14:30 – 14:45	<p>[O.37] Tribological and sensory properties of fat and particle fat replacers in liquid and semi-solid foods K. Liu^{*1,2}, M. Stieger^{1,2}, E. van der Linden^{1,2}, F. van de Velde^{1,3}, ¹Ti Food & Nutrition, The Netherlands, ²Wageningen University, The Netherlands, ³NIZO Food Research, The Netherlands</p>
14:45 – 15:00	<p>[O.38] Influence of emulsion characteristics on the mechanism of partial coalescence as studied with a rheological method K. Moens*, K. Dewettinck, <i>Ghent University, Belgium</i></p>
15:00 – 15:15	<p>[O.39] Study on pepsin diffusion in protein gel digestion Q. Luo*, R.M. Boom, A.E.M. Janssen, <i>Wageningen University, The Netherlands</i></p>
15:15 – 15:30	<p>[O.40] Lupine and canola protein concentrate in fish feed: A comparative assessment of the techno-functional properties using a shear cell device and an extruder V. Draganovic^{*1}, R.M. Boom², J. Jonkers¹, A.J. van der Goot², ¹Skretting Aquaculture Research Centre, Norway, ²Wageningen University, The Netherlands</p>
15:30 – 16:00	<p>Coffee break Room: Pre-Function Area 1 (Peridot)</p>
16:00 – 16:15	<p>[O.41] Effect of food microstructure and physical properties on nutrient extraction yield -a not-so-easy topic after all X. Jin*, B.Q. Wang, X.D. Chen, <i>Soochow University, China</i></p>
16:15 – 16:30	<p>[O.42] Effects of alfa-casein on the gelation of ovalbumin and the film formation with dried egg white N. Yuno-Ohta*, T. Kato, K. Ogino, <i>Nihon University, Japan</i></p>
16:30 – 16:45	<p>[O.43] Shear induced changes in rheology and structure of a model Mozzarella-type cheese P. Sharma^{*1,3}, P.A. Munro¹, T.T. Dessev¹, P.G. Wiles², ¹Massey University, New Zealand, ²Fonterra Research and Development Centre, New Zealand, ³National Dairy Research Institute, India</p>
16:45 – 17:00	<p>[O.44] Anisotropic oil migration in chocolate H. Hondoh*, M. Ikutake, K. Shimoda, S. Ueno, <i>Hiroshima University, Japan</i></p>
17:00 – 17:15	<p>[O.45] Acid-induced soy protein isolate-carrageenan gels using simulated gastric fluid (HCl) M.S.M. Wee*, R. Yusoff, Y.Y. Xu, <i>Singapore Polytechnic, Singapore</i></p>

17:15 – 17:30	[O.46] Crystallization behaviour of blends of sunflower wax and monoglyceride as fat structuring agents in low saturated fat systems F. Davoli ¹ , D. Karleskind ² , S. Metin ¹ , P. Smith* ² , ¹ <i>Cargill Inc, USA</i> , ² <i>Cargill, Belgium</i>
17:30	End of day 3
18:00 – 22:00	Conference Dinner (Optional – Ticketed Event) Venue: Singapore Zoological Gardens Please meet outside Peridot 201 & 202 (the plenary room) at 5:45pm, coaches will depart promptly at 6.00pm.
Wednesday 2nd March 2016	
Conference Topic: Sensory and Consumer Sciences, and Food-Body Interactions Session Co-Chairs: Riette de Kock and Aaron Goh Room: Peridot 201 & 202	
08:30 – 09:00	[KN09] Sensory science: What is hot and what is not? R. de Kock, <i>University of Pretoria, South Africa</i>
09:00 – 09:15	[O.47] Effect of glass transition temperature on the texture of starch-based dry food T. Sogabe*, K. Kawai, Y. Hagura, <i>Hiroshima University, Japan</i>
09:15 – 09:30	[O.48] How structure and assembly across different length scales influence protein digestion D. Dupont* ^{1,2} , K. Nyemb ^{1,2} , C. Guerin-Dubiard ^{1,2} , F. Nau ^{1,2} , ¹ <i>INRA, France</i> , ² <i>Agrocampus Ouest, France</i>
09:30 – 09:45	[O.49] Bread structure and the dynamic process of oral processing J. Gao* ¹ , J. Henry ² , W. Zhou ¹ , ¹ <i>National University of Singapore, Singapore</i> , ² <i>Singapore Institute of Clinical Science, Singapore</i>
09:45 – 10:00	[O.50] Underlying mechanisms for sensory perception of double emulsions with gelled and non-gelled w₁ phase A.K.L. Oppermann, E. Scholten*, M. Stieger, <i>Wageningen University, The Netherlands</i>
10:00 – 10:30	Coffee break Room: Pre-Function Area 1 (Peridot)
10:30 – 11:00	Dr Isaac Heertje Distinguished Scientist Award Winner
11:00 – 11:15	[O.51] Methods to measure mucoadhesivity for food and oral care products A. Millqvist Fureby*, M. Eriksson, L. Macakova, M. Lundin Johnson, <i>SP Technical Research Institute of Sweden, Sweden</i>
11:15 – 11:30	[O.53] Artificial cat mouth: Contribution in the characterization of dry cat food products M. Cremont* ² , A. Doublet ¹ , C. Cataneo ¹ , A. de Ratuld ² , C. Prost ¹ , I. Guiller ² , ¹ <i>ONIRIS, France</i> , ² <i>SPF DIANA Petfood, France</i>
11:30 – 11:45	Closing remarks
11:45 – 12:30	Lunch Room: Pre-Function Area 1 (Peridot)
12.30	End of conference