

Oral Program

Sunday 3 June 2018	
12:00	Conference registration Grand Salon C Foyer
13:00–13:30	<p>Conference welcome Grand Salon Opera AB Dérick Rousseau, (Conference Chair), <i>Ryerson University, Canada</i> Koen Dewettinck, <i>Ghent University, Belgium</i> David W. Everett, <i>Dairy Innovation Institute, USA</i> Sylvie Turgeon, <i>Université Laval, Canada</i></p> <p>Introduction of session and conference co-chairs</p> <p>Student activities Supratim Ghosh, <i>University of Saskatchewan, Canada</i></p>
<p>Session 1 Grand Salon Opera AB Conference Topic: Structuring and de-structuring of dispersed food systems Session Co-Chairs: Koen Dewettinck and Elisabeth Guichard</p>	
13:30–14:00	<p>[KN01] Koen Dewettinck <i>Ghent University, Belgium</i> Innovative chocolate products: What you see is what you get?</p>
14:00–14:15	<p>[O.01] Controlled micro-scale clustering of oil droplets enhances sensory perception of oil related attributes in o/w emulsions P.L. Fuhrmann^{*1,2}, G. Sala^{1,2}, E. Scholten^{1,2}, M.A. Stieger^{1,2}, ¹<i>Ti Food & Nutrition, The Netherlands</i>, ²<i>Wageningen University & Research, The Netherlands</i></p>
14:15–14:30	<p>[O.02] Rheology and stability of fat crystal-stabilized water-in-oil emulsions—the role of droplet size and interfacial crystallization Ruby Rafanan, Dérick Rousseau*, <i>Ryerson University, Canada</i></p>
14:30–14:45	<p>[O.03] The effect of surfactant crystallization on the stability of O/W emulsions L. Goibier^{*1,2}, F. Leal Calderon^{1,2}, C. Faure^{1,2}, ¹<i>Université de Bordeaux, CBLN, UMR 5248, France</i>, ²<i>CNRS, CBMN, UMR 5248, France</i>,</p>
14:45–15:00	<p>[O.04] Enhancing bioaccessibility of curcumin using nanoporous starch aerogels A. Ubeyitogullari, R. Moreau, O.N. Ciftci*, <i>University of Nebraska-Lincoln, USA</i></p>
15:00–15:15	<p>[O.05] Physical stability of iron-loaded double emulsions with fat crystals and different hydrophilic emulsifiers P. Duque Estrada*, W. Bax, A.J. van der Goot, C. Berton-Carabin, <i>Wageningen University & Research, The Netherlands</i></p>
15:15–15:30	<p>[O.06] Microstructural elucidation of the fat crystal network in oil droplets towards a mechanistic understanding of partial coalescence K. Moens*, K. Dewettinck, <i>Ghent University, Belgium</i></p>
15:30–16:00	Refreshment Break Grand Salon C
16:00–16:30	<p>[KN02] Matt Golding <i>Massey University, New Zealand</i> Aerated emulsions – New routes for old structures</p>
16:30–16:45	<p>[O.07] Evaluation of structural characteristics determining the surface and foaming properties of animal and plant proteins J. Dombrowski^{*1}, U. Kulozik², ¹<i>Technical University of Munich, Germany</i>, ²<i>ZIEL - Institute for Food & Health, Germany</i></p>
16:45–17:00	<p>[O.08] Influence of structure on the function of naturally-derived saponins used as new surfactants T. Ralla^{*1}, H. Salminen¹, M. Edelmann², C. Dawid², T. Hofmann², J. Weiss¹, ¹<i>University of Hohenheim, Germany</i>, ²<i>Technical University Munich, Germany</i></p>
17:00–17:15	<p>[O.09] Foams and emulsions stabilized by living probiotic bacteria: Towards microbiological cells as structural building blocks of food materials J. Risbo¹, N. Arneborg¹, C. Falco^{*1}, X. Jang¹, M. Cardenas², ¹<i>University of Copenhagen, Denmark</i>, ²<i>Malmö University, Sweden</i></p>
17:15–17:20	<p>[FP.01] Characterizing the effect of particulate fillers on the physical properties of food matrices A.J. Gravelle*, S. Barbut, A.G. Marangoni, <i>University of Guelph, Canada</i></p>

17:20-17:25	[FP.02] Surfactant effects on fat crystallization at the oil-water interface N.L. Green ^{*1} , S.R. Euston ² , D. Rousseau ¹ , ¹ Ryerson University, Canada, ² Heriot-Watt University, UK
17:25-17:30	[FP.03] The effect of tempering on the foamability and stability of food-grade oil foams R. Heymans*, I. Tavernier, P. Van der Meeren, K. Dewettinck, Ghent University, Belgium
17:30-19:00	Welcome drinks reception and poster viewing Grand Salon C
19:00	End of day 1
Monday 4 June 2018	
Session 2 Grand Salon Opera AB	
Conference Topic: Structuring and de-structuring of food systems containing hydrocolloids, crystals and gels	
Session Co-Chairs: Christoph Hartmann and Marco Morgenstern	
08:30-08:45	[O.10] Development of mixed organogels through the interaction of monoglycerides, phosphatidylcholine and water J.F. Toro-Vazquez*, M. Aguilar-Zárate, F.M. Álvarez-Mitre, M.A. Charó-Alonso, Universidad Autónoma de San Luis Potosí, Mexico
08:45-09:00	[O.11] Exploitation of k-carageenan aerogels as templates for edible oleogel preparation L. Manzocco*, F. Valoppi, S. Plazzotta, S. Calligaris, M.C. Nicoli, University of Udine, Italy, University of Helsinki, Finland
09:00-09:15	[O.12] Oleogelation using pulse protein-stabilized foams A. Mohanan*, Y. Tang, M.T. Nickerson, S. Ghosh, University of Saskatchewan, Canada
09:15-09:30	[O.13] Protein oleogels - A direct approach M. Davidovich-Pinhas*, I. Nephomnyshy, Technion - Israel Institute of Technology, Israel
09:30-09:45	[O.14] FTIR-analysis of stress-sensitive proteins at oil/water-interfaces H. Schestkova*, A.M. Oechsle, S. Drusch, Technische Universität Berlin, Germany
09:45-10:00	[O.15] Non-gluten, water insoluble proteins improve the properties of soy protein gels with microbial transglutaminase K.D. Mattice*, A.G. Marangoni, University of Guelph, Canada
10:00-10:15	[O.16] Impact of solid lipid nanoparticles on protein gel properties and their behavior during gel preparation V. Wiedenmann ^{*1,2} , U. van der Schaaf ² , H. Karbstein ² , K. Oehlke ¹ , ¹ Max Rubner-Institut, Germany, ² Karlsruhe Institute of Technology, Germany
10:15-10:30	[O.17] Understanding fiber formation in a concentrated soy protein isolate - pectin blend B.L. Dekkers*, R.M. Boom, A.J. van der Goot, Wageningen UR, The Netherlands
10:30-11:00	Refreshment Break Grand Salon C 
11:00-11:15	[O.18] Adsorption and structure of wheat proteins film at the air-water interface A. Poirier*, A. Banc, A. Stocco, M. In, L. Ramos, Université de Montpellier, France
11:15-11:30	[O.19] Evidence linking processing of insect flours to their techno-functionality and digestibility: The case of silk moth pupae (<i>Bombyx mori</i>) and crickets (<i>Acheta domesticus</i>) T. David- Birman*, H. Moshe, U. Lesmes, Technion- Israel institute of technology, Israel
11:30-11:45	[O.20] Viscoelastic properties of SPI-pectin blends: Richer than a simple composite material B.L. Dekkers*, R.M. Boom, A.J. van der Goot, Wageningen UR, The Netherlands
11:45-11:50	[FP.04] Removal of excess emulsifier transformed a liquid nanoemulsion into viscoelastic nanogel K. Kadiya*, S. Ghosh, University of Saskatchewan, Canada
11:50-11:55	[FP.05] Understanding water holding capacity of multi-phase gels used as meat analogues S.H.V. Cornet*, R.G.M. van der Sman, A.J. van der Goot, Wageningen University, The Netherlands
11:55-12:00	[FP.06] Epitaxial Growth of PMF Crystals on Sorbitan Esters with Different Fatty Acid Moieties H. Hondoh*, C. Ishibashi, S. Ueno, Hiroshima University, Japan
12:00-12:30	[KN03] Christoph Hartmann Nestlé Research, Switzerland Understanding food oral breakdown to guide structure design
12:30-14:00	Lunch buffet & poster Session 1 Grand Salon C 
12:45-13:45	Author Workshop Grand Salon Opera AB

Session 3 Grand Salon Opera AB Conference Topic: Food structure design across the lifespan and for healthcare and medical applications Session Co-Chairs: Julie Cichero and David Mela	
14:00–14:30	[KN04] Marco Morgenster <i>New Zealand Institute for Plant & Food Research, New Zealand</i> Oral processing as a link between product structure and consumer preference
14:30–14:45	[O.21] 3D printing of porous food structures contain <i>Lactobacillus plantarum</i> WCFS1 L. Zhang* ^{1,2} , R.M. Boom ¹ , X.D. Chen ² , M.A.I. Schutyser ¹ , ¹ <i>Wageningen University, The Netherlands</i> , ² <i>Soochow University, China</i>
14:45–15:00	[O.22] Digestive fates of dietary carrageenan: Linking biopolymer characteristics to effects on digestive proteolysis and gut functions in infants, adults and the elderly S. David*, N. Avidan, A. Shmueli, L. Fahoum, E.G. Meyron-Holtz, U. Lesmes, <i>Technion, Israel</i>
15:00–15:15	[O.23] A closer look to cell structural barriers affecting starch digestibility in beans A.M. Rovalino-Córdova*, V. Fogliano, E. Capuano, <i>Wageningen University and Research, The Netherlands</i>
15:15–15:30	[O.24] Toppings facilitate oral processing behavior of bread and crackers A.C. van Eck* ^{1,2} , V. Fogliano ^{1,2} , E. Scholten ^{1,2} , M.A. Stieger ^{1,2} , ¹ <i>TI Food and Nutrition, The Netherlands</i> , ² <i>Wageningen University, The Netherlands</i>
15:30–16:00	Refreshment Break Grand Salon C 
16:00–16:30	[KN05] Julie Cichero <i>University of Queensland, Australia</i> Making every mouthful count: Designing food for people with chewing or swallowing difficulties
16:30–16:45	[O.25] The role of emulsifier physical state on the <i>in vitro</i> digestion of model oil-in-water emulsions Q. Guo*, N. Bellissimo, D. Rousseau, <i>Ryerson University, Canada</i>
16:45–17:00	[O.26] Influence of colloidal interface structuration on formulation and fatty acid bioaccessibility C. Bourgeois* ^{1,2} , A. Gomaa ¹ , L. Couedelo ² , M. Subirade ¹ , M. Cansell ² , ¹ <i>INAF-University Laval, Canada</i> , ² <i>CBMN-University of Bordeaux, France</i>
17:00–17:30	[KN06] David Mela <i>Unilever, The Netherlands</i> Structuring for nutritional benefits in commercial foods and beverages: From the lab to the marketplace
17:30	End of day 2
Tuesday 5 June 2018	
Session 4 Grand Salon Opera AB Conference Topic: IDF Session 1: Constructing dairy matrices for oral and gut functionality Session Co-Chair: Matt Golding	
09:00–09:30	[KN07] Jason Stokes <i>University of Queensland, Australia</i> Towards rational food structure design
09:30–09:45	[O.27] Mechanistic understanding of yogurt texture by linking data from instrumental methods to sensory attributes and creating a global texture model C.E.P. Maljaars*, M.M.W.B. Hendriks, A. Sein, M. Nijmeijer, M.E.F. Schooneveld, J. Loos, D.I. Jacobs, O. May, <i>DSM Biotechnology Center, The Netherlands</i>
09:45–10:00	[O.28] Supramolecular characteristics, morphology and functional properties of commercial fat-filled powders from cow milk, goat milk and soy M.G. Reis*, C. Wang, D. Harland, V. Novotna, M.M. dos Reis, <i>AgResearch, New Zealand</i>
10:00–10:15	[O.29] Influence of temperature and homogenisation pressure on molecular and structural modification of whole bovine milk M.G. Reis*, P. Harris, H. Nguyen, B. Haigh, M. Weeks, <i>AgResearch, New Zealand</i>
10:15- 10:30	[O.30] Screening adhesive interactions between lactic acid bacteria and dairy components for designing functional food matrices F. Gomand*, F. Borges, J. Burgain, J. Guerin, C. Gaiani, <i>Université de Lorraine, France</i>
10:30–10:45	[O.31] Measuring real-time dairy powder hydration using video microscopy imaging and a new confocal microscopy technique V.A. Maidannyk* ¹ , E. Lutjes ^{1,2} , S. Montgomery ¹ , N. McCarthy ¹ , M.A.E. Auty ¹ , ¹ <i>Teagasc Food Research Centre, Ireland</i> , ² <i>Wageningen University, The Netherlands</i>

10:45–11:15	Refreshment Break Grand Salon C
11:15–11:30	[O.32] Affecting casein micelles by PEF for inclusion of lipophilic organic compounds D. Middendorf*, U. Bindrich, S. Töpfl, V. Heinz, <i>German Institute of Food Technologies, Germany</i>
11:30–11:45	[O.33] Microstructure and properties of Mozzarella cheese assessed using high resolution FTIR microspectroscopic techniques A.P. Pax ^{1,2} , L. Ong ^{1,2} , J. Vongsvivut ³ , M.J. Tobin ³ , S.E. Kentish ¹ , S.L. Gras ^{*1,2} , <i>¹The University of Melbourne, Australia, ²The Bio21 Institute, Australia, ³Infrared Microspectroscopy Beamline Australian Synchrotron, Australia</i>
11:45–12:00	[O.34] Polyphenol fortification of yoghurt: Structure and texture effects A. Acevedo-Fani ^{*1} , S.M. Loveday ¹ , A. Renault ² , H. Singh ¹ , <i>¹Massey University, New Zealand, ²ENSAIA, Nancy, France</i>
12:00–12:15	[O.35] How proteins aggregates can modulate the texture of emulsified and acidified dairy model systems P. Gélébart ^{*1} , M.H. Famelart ² , A. Riaublanc ¹ , M. Anton ¹ , C. Garnier ¹ , <i>¹BIA, France, ²STLO, France</i>
12:15–12:30	[O.36] A mechanistic understanding of why sodium caseinate, but not whey protein isolate, forms viscoelastic nanogels from nanoemulsions A. Patel, S. Ghosh*, <i>University of Saskatchewan, Canada</i>
12:30–12:45	[O.37] Using low frequency ¹H-NMR and digital microscopy to describe yoghurt gel structure and serum entrapment A. Gilbert ^{*1,2} , L-E. Rioux ^{1,2} , D. St-Gelais ^{2,3} , S.L. Turgeon ^{1,2} , <i>¹Université Laval, Canada, ²STELA Dairy Research Center, Institute of Nutrition and Functional Foods, Canada, ³Food Research and Development Center, Agriculture and Agri-Food Canada, Canada</i>
12:45–14:15	Lunch buffet & poster Session 2 Grand Salon C
Session 5 Grand Salon Opera AB	
Conference Topic: IDF Session 2: Deconstructing dairy matrices for release of nutrient and flavor components	
Session Co-Chair: Jason Stokes	
14:15–14:45	[KN08] Sylvie Turgeon Université Laval, Canada Is the dairy matrix structure modulating nutrients bioaccessibility and their health effects?
14:45–15:00	[O.38] Homogenisation and heat treatment of bovine milk affect in vitro gastric digestion A-I. Mulet-Cabero ^{*1,2} , A. Mackie ³ , P. Wilde ¹ , M. Fenelon ² , A. Brodkorb ² , <i>¹Quadram Institute Bioscience, UK, ²Teagasc Food Research Centre, Ireland, ³University of Leeds, UK</i>
15:00–15:05	[FP.07] Understanding shear-induced calcium caseinate fibrous structures - the role of air incorporation Z. Wang*, R. Boom, A.J. Van der Goot, <i>Wageningen University and Research Center, The Netherlands</i>
15:05–15:10	[FP.08] Pulsed electric field treatment to introduce protective solutes in probiotics for enhanced processing robustness E.M.J. Vaessen*, H.M.W. den Besten, T. Patra, N.T.M. van Mossevelde, R.M. Boom, M.A.I. Schutyser, <i>Wageningen University, The Netherlands</i>
15:10–15:15	[FP.09] Stability of fat globules in UHT milk during proteolysis C. Zhang*, E. Bijl, K. Hettinga, <i>Wageningen University & Research, The Netherlands</i>
15:15–15:20	[FP.10] Covalent modification of whey proteins: Physicochemical and functional properties J.K. Keppler ^{*1} , A. Steffen-Heins ¹ , S.C. Wilde ² , M-H. Ropers ³ , B. Murphy ¹ , C. Berton-Carabin ⁴ , V.M. Haramus ⁵ , T. Coenye ⁶ , K. Schwarz ¹ , <i>¹Kiel University, Germany, ²Nestlé Product Technology Centre Dairy, Switzerland, ³INRA Nantes, France, ⁴Wageningen University, The Netherlands, ⁵Helmholtz-Zentrum Geesthacht, Germany, ⁶Ghent University, Belgium</i>
15:20–15:25	[FP.11] USAXS data and some modelling predictions for fluid milks and creams as well as fat-rich dairy products F. Peyronel ^{*1} , A. Marangoni ¹ , D. Pink ^{1,2} , <i>¹University of Guelph, Canada, ²St. Francis Xavier University, Canada</i>
15:25–15:30	[FP.12] Morphology development during sessile single droplet drying of milk components and maltodextrin E.M. Both*, R.M. Boom, M.A.I. Schutyser, <i>Wageningen University, The Netherlands</i>
15:30–16:00	Refreshment Break Grand Salon C

16:00–16:30	[KN09] Elisabeth Guichard <i>INRA, France</i> Food composition and structure, in-mouth breakdown, oral physiology and sensory perception: example of dairy products
16:30–16:45	[O.39] The structure of dairy products, as modified by processing, drives the kinetics of proteolysis and lipolysis in the GI tract and the bioavailability of nutrients D. Dupont*, O. Menard, J. Floury, A. Deglaire, <i>INRA, France</i>
16:45–17:00	[O.40] Biophysical aspects of lipid digestion in human breast milk and infant formulas M.A. Rogers, <i>University of Guelph, Canada</i>
17:00–17:15	[O.41] The effect of protein concentration and skim to pea protein isolate ratio on yoghurt microstructure, texture and sensorial attributes for dysphagia A. Logan* ¹ , L. Reynaud ^{1,2} , A. Puvanenthiran ¹ , M. Broch ¹ , I. Appelqvist ¹ , ¹ <i>CSIRO Agriculture and Food, Australia</i> , ² <i>AGROSUP Dijon, France</i>
17:15–17:30	[O.42] Aroma analysis of a foamed dairy matrix by headspace gas chromatography-ion mobility spectrometry (HS-GC-IMS) C. Thomas*, E. Scheef, Y. Zhang, J. Hinrichs, <i>University of Hohenheim, Germany</i>
17:30	End of day 3
19:00–22:00	Conference dinner (Optional–Ticketed Event) Venue SLK Rd.
Wednesday 6 June 2018	
Session 6 Grand Salon Opera AB Conference Topic: Linking structure and functionality in foods using novel experimental and modelling approaches Session Co-Chairs: Richard Ludescher and Andrew Mackey	
08:30–09:00	[KN10] Richard Ludescher <i>Rutgers University, USA</i> Edible luminescent probes of food quality and stability
09:00–09:15	[O.43] A high-throughput discovery platform targeting proteins with valuable functionality in food applications J. Proulx, <i>Hampton Creek Inc., USA</i>
09:15–09:30	[O.44] Observation of glassy state relaxation during freezing and drying of sugar solutions by X-ray computed tomography K. Nakagawa, <i>Kyoto University, Japan</i>
09:30–09:45	[O.45] Use of molecular modelling in structural analysis of soy and egg anti-nutrients S.K. Vanga*, J. Wang, Y. Zhu, V. Raghavan, <i>McGill University, Canada</i>
09:45–10:05	[A.1] Young scientist award Andrew Gravelle, <i>University of Guelph, Canada</i> From fats to fillers: Two paths to recovering functionality in food matrices
10:05–10:35	Refreshment Break Grand Salon C
10:35–11:05	[A.2] Dr Isaac Heertje Distinguished Scientist Award Winner
11:05–11:20	[O.46] Dependency of chocolate gloss on properties of contact materials K. Franke*, D. Middendorf, U. Bindrich, <i>DIL e.V., Germany</i>
11:20–11:35	[O.47] Molecular structures of phospholipids in chocolate and their rheological impact - a molecular dynamics approach M. Kindlein*, E. Elts, H. Briesen, <i>Technical University of Munich, Germany</i>
11:35–11:50	[O.48] Imaging molecular protein at oil droplet interfaces for spoonable dressings W.J. Borchert, M. Sillick*, <i>Ingredion Inc., USA</i>
11:50–12:00	Closing remarks
12:00–13:00	Lunch Grand Salon C
13:00	End of conference