

Conference Programme

Sunday, 6th October 2024

17:00 - 18:00	Registration Location: Auditorium Foyer
18:00 - 19:00	Welcome Drinks Reception Location: Auditorium A & Foyer

08:00 - 09:00	Registration Location: Auditorium Foyer
09:00 - 10:00	Opening Session Location: Auditorium B Presentation type: Oral 09:00–09:15 Welcome Remarks: Koen Dewettinck, <i>Ghent University, Belgium</i> , Chairman, <i>Food Structure and Functionality Forum</i> 09:15 - 10:00 [PL.01] Can food structure design help meet today's sustainability needs? <u>Derick Rousseau</u> <i>Toronto Metropolitan University, Canada</i>
10:00 - 10:30	Session 1: Biotechnology: Opportunities for Formulation and Food Structuring Location: Auditorium B Chair: Ulf Andersen, David Welch [KN.01] Solving alternative protein formulation and food structuring challenges with biotechnology <u>David Welch</u> <i>Synthesis Capital, USA</i>
10:30 - 11:00	Refreshment Break Location: Auditorium A & Foyer
11:00 - 12:00	Session 1: Biotechnology: Opportunities for Formulation and Food Structuring (Continued) Location: Auditorium B Chair: Ulf Andersen, David Welch 11:00 - 11:20 [OA1.01] The road towards high-quality vegan cheese with recombinant casein: Production and design of artificial casein micelles <u>Laurens Antuma</u> , Remko Boom, Julia Keppler <i>Wageningen University Laboratory of Food Process Engineering, Wageningen, The Netherlands</i> 11:20 - 11:40 [OA1.02] Plant-powered cultured meat: Crafting a fat containing hybrid hamburger composed of cell-laden microcarriers. <u>Indi Geurs</u> ¹ , Maria Olenic ² , Elly De Vlieghere ¹ , Charlotte Grootaert ¹ , Koen Dewettinck ¹ , Lieven Thorrez ² , Stefaan De Smet ¹ , Sandra Van Vlierberghe ¹ , John Van Camp ¹ ¹ <i>Ghent University, Gent, Belgium.</i> ² <i>KU Leuven - Kulak Kortrijk Campus, Kortrijk, Belgium</i> 11:40 - 12:00 [OA1.03] Unveiling the techno-functional properties of precision fermentation-derived beta-casein <u>Dana Chezan</u> ^{1,2} , Philipp Fuhrmann ³ , Belinda Dewi ² ¹ <i>Department of Food Science and Technology, Institute of Food Science, BOKU University, Muthgasse 18, 1190 Vienna, Wien, Austria.</i> ² <i>Fermify GmbH, Vienna, 1210, Austria.</i> ³ <i>Department of Food Science and Technology, Institute of Food Science, BOKU University, Muthgasse 18, 1190 Vienna, Austria</i>
12:00 - 12:30	Poster Flash Presentations Location: Auditorium B 12:00 - 12:05 [FT1.01] Structure of milk fat globules separated from Raw Milk by Membrane Filtration using Silicon Carbide Ceramic Membranes <u>Tobias Roland Dons</u> ¹ , Victor Candelario ² , Ulf Anderse ³ , Lilia Arhné ¹ ¹ <i>University of Copenhagen, København, Denmark.</i> ² <i>University of Seville, Seville, Spain.</i> ³ <i>Arla Foods amba, Viby, Denmark</i> 12:05 - 12:10 [FT1.02] Cell wall materials functionalised towards potential texturizing agents: the impact of physical collapse in relation to relaxation phenomena <u>Jelle Van Audenhove</u> , Novita Putri, Ann Van Loey, Marc Hendrickx <i>KU Leuven, Leuven, Belgium</i> 12:10 - 12:15 [FT1.03] Insect lecithin as a chocolate ingredient: lecithin extraction and chocolate production <u>An Li</u> , Koen Dewettinck, Davy Van de Walle, Ikenna Okehie, Daylan Amelia Tzompa Sosa <i>Ghent University, Gent, Belgium</i>
12:30 - 13:00	Lunch Location: Auditorium A & Foyer
13:00 - 14:00	Poster Session 1 Location: Auditorium A

14:00 - 15:30	Session 2: Sustainable Raw Materials and Processes Location: Auditorium B Chair: Sonia Calligaris, Koen Dewettinck 14:00 - 14:30 [KN.02] The role of food structure in advancing sustainability goals <u>Koen Dewettinck</u> <i>Ghent University, Belgium</i> 14:30 - 14:50 [OA2.01] Swept surface heat exchange processing of wax/triglyceride blend lipid gels <u>Christopher Greggson</u>, Matthew Sillick, Kelly Marks, Katrina Nguyen-DeMary <i>Paragon Pure, USA</i> 14:50 - 15:10 [OA2.02] Plant protein textures through freeze-structuring <u>Evelyn Tait</u>¹, Bettina Wolf¹, Mark Simmons¹, Isabel Fernandez² ¹<i>University of Birmingham, Birmingham, UK.</i> ²<i>Heura Foods, Spain</i> 15:10 - 15:30 [OA2.03] Developing fish-filet analogs from seaweeds <u>Yoav D. Livney</u>¹, Samaa Alasibi¹, Meital Kazir¹, Alvaro Israel² ¹<i>Technion Israel Institute of Technology, Haifa, Israel.</i> ²<i>Israel Oceanographic and Limnological Research Institute, Haifa, Israel</i>
15:30 - 16:00	Refreshment Break Location: Auditorium A & Foyer
16:00 - 16:40	Session 2: Sustainable Raw Materials and Processes (Continued) Location: Auditorium B Chair: Sonia Calligaris, Koen Dewettinck 16:00 - 16:20 [OA2.05] How fibrillar structures and spatial configurations define the texture of plant-based anisotropic matrices using additive manufacturing <u>Robert Fribus</u>, Ahmed Raouf Fahmy, Mario Jekle <i>University of Hohenheim, Department of Plant-based Foods (150d), Germany</i> 16:20 - 16:40 [OA2.06] Structure and mechanical properties of biopolymer gels obtained via unidirectional freezing <u>Raphael De Henau</u>¹, Auke de Vries², Derick Rousseau¹ ¹<i>Toronto Metropolitan University, Toronto, ON, Canada.</i> ²<i>New School Foods, Canada</i>
16:40 - 17:40	Elsevier Author Workshop: Publishing with Food Structure Location: Auditorium B Join us for an insightful session led by the esteemed Editor-in-Chief, Professor Sonia Calligaris, and our dedicated Associate Editors, including Dr. Laura Mascaraque. They will share valuable insights into the publishing process with Food Structure, offering attendees a unique opportunity to learn about common submission issues and best practices to enhance the quality of their manuscripts. Key Highlights: Whether you are a seasoned researcher or new to academic publishing, this workshop is designed to provide you with practical advice and insider knowledge to navigate the complexities of publishing in a high-impact journal. Don't miss this chance to gain a competitive edge in your research career. We look forward to your participation!
19:00 - 21:00	Networking Event for Students and Early-Career Researchers Location: Ottentic

07:30 - 08:00	Breakfast (sponsored by LS Instruments AG and provided for all participants with advance workshop registration)
08:00 - 08:45	Workshop – Food Rheology and Microstructure Characterization Using Microrheology - Presented by LS Instruments AG
09:00 - 10:30	Session 3: Beyond Cook 'n' Look - Mechanistic Approaches to Food Structure Design Location: Auditorium B Chair: Marcel Paques, Elke Scholten 09:00 - 09:30 [KN.03] Food design: How to control functionality by understanding structural development <u>Elke Scholten</u> <i>Wageningen University, Wageningen, The Netherlands</i> 09:30 - 09:50 [OA3.01] Oil-continuous capillary suspensions using whey protein aerogel particles Lorenzo De Berardinis ¹ , Stella Plazzotta ¹ , D��rick Rousseau ² , Sonia Calligaris ¹ , Lara Manzocco ¹ ¹ University of Udine, Udine, Italy. ² Toronto Metropolitan University, Toronto, ON, Canada 09:50 - 10:10 [OA3.02] Manipulating lubrication via oleosomes: effect of structural design <u>Lei Ji</u> , Jack Yang, Elke Scholten, Costas Nikiforidis <i>Wageningen University & Research, Wageningen, The Netherlands</i> 10:10 - 10:30 [OA3.03] Formation of anisotropic whey protein-agar gels via unidirectional freezing <u>D��rick Rousseau</u> ¹ , Rapha��l De Henau ¹ , Auke deVries ² ¹ Toronto Metropolitan University, Toronto, ON, Canada. ² New School Foods, Canada
10:30 - 11:00	Refreshment Break Location: Auditorium A & Foyer
11:00 - 12:00	Session 3: Beyond Cook 'n' Look - Mechanistic Approaches to Food Structure Design (Continued) Location: Auditorium B Chair: Marcel Paques, Elke Scholten 11:00 - 11:20 [OA3.04] A new multiscale approach to understand oil-water interface stabilization using microfluidics and spectroscopic imaging Sandra Beyer Gregersen ¹ , <u>Dionysios Neofytos</u> ¹ , Milena Corredig ² ¹ Aarhus University Department of Food Science, Aarhus, Denmark. ² Aarhus University, Aarhus, Denmark 11:20 - 11:40 [OA3.05] Rheological properties and printability of emulsions: towards high-quality 3D printed meat analogues <u>Elise Caron</u> , Davy Van de Walle, Koen Dewettinck, Fl��vio H. Marchesini <i>Ghent University, Gent, Belgium</i> 11:40 - 12:00 [OA3.06] Three-dimensional printing as a structurization tool for soy-based meat analogue product <u>Nathaniel Hendrik</u> ¹ , Rishika Batra ^{2,1} , Sophia Morsten ^{2,1} , Thekla Alpers ² , Thomas Becker ³ ¹ TUMCREATE, Singapore, Singapore. ² Research Group Cereal Technology and Process Engineering, Chair of Brewing and Beverage Technology, Technical University of Munich, Germany. ³ Research Group Cereal Technology and Process Engineering, Chair of Brewing and Beverage Technology, Technical University of Munich, Singapore, Germany
12:00 - 12:30	Poster Flash Presentation Location: Auditorium B 12:00 - 12:05 [FT2.01] The Influence of Pressure on the Formation of Macroscopic & Microscopic Gas Hydrate Structures and Concentration Efficiency in Coffee Solutions <u>Robyn Megan Sutter</u> ^{1,2} , Vincent Meunier ¹ , Christoph Hartmann ^{1,2} ¹ Nestl�� Research Center, Lausanne, Switzerland. ² TU Berlin University, Berlin, Germany 12:05 - 12:10 [FT2.02] Universality in the thermo-mechanical properties of proteins in co-plasticizers solution <u>stefano renzetti</u> , Irene van den Hoek, Panayiotis Voudouris, Jolanda Henket, Ruud van der Sman <i>Wageningen University & Research, Wageningen, The Netherlands</i> 12:10 - 12:15 [FT2.04] Development and application of innovative techniques to characterize structures of dairy-free cheese alternatives <u>Elham Alehosseini</u> ¹ , Paul L.H. McSweeney ² , Song Miao ¹ ¹ Teagasc Food Research Centre Moorepark, Moorepark, Ireland. ² University College Cork, Cork, Ireland
12:30 - 13:00	Lunch Location: Auditorium A & Foyer
13:00 - 14:00	Poster Session 2 Location: Auditorium A

14:00 - 15:30	Session 4: Novel Methods for Characterisation of Food Structure and Functionality Location: Auditorium B Chair: Sylvio Barbon Junior, Chris Gregson 14:00 - 14:30 [KN.04] In silico food: AI in the loop for Food Structure and Functionality Sylvio Barbon Junior <i>University of Trieste, Italy</i> 14:30 - 14:50 [OA4.01] Quantifying sub-micron structure in plant-protein extrudates using rotated fourier transform Martijn Gobes¹, Ruud van der Sman^{1,2}, John van Duynhoven^{3,4}, Johannes Hohlbein^{3,5} ¹<i>Wageningen University, Wageningen, The Netherlands.</i> ²<i>Wageningen Food & Biobased Research, Wageningen, The Netherlands.</i> ³<i>Wageningen University & Research, Wageningen, The Netherlands.</i> ⁴<i>Unilever Plc, London, UK.</i> ⁵<i>Wageningen Microscopy Research Facility, The Netherlands</i> 14:50 - 15:10 [OA4.02] Structure and functionality relationships expressed by information networks using AI Marcel Meinders¹, Jack Yang², erik van der Linden² ¹<i>Wageningen Research, Wageningen, The Netherlands.</i> ²<i>Wageningen University, Wageningen, The Netherlands</i> 15:10 - 15:30 [OA4.03] Quantification of fibrousness in meat analogues across length scales Miek Schlangen^{1,2}, Yizhou Ma¹, Atze Jan van der Goot¹, Mathias Porsmose Clausen³ ¹<i>Wageningen University, Wageningen, The Netherlands.</i> ²<i>University of Southern Denmark, Denmark.</i> ³<i>University of Southern Denmark, Odense, Denmark</i>
15:30 - 16:00	Refreshment Break Location: Auditorium A & Foyer
16:00 - 17:00	Session 4: Novel Methods for Characterisation of Food Structure and Functionality (Continued) Location: Auditorium B Chair: Sylvio Barbon Junior, Chris Gregson 16:00 - 16:20 [OA4.04] Super-resolution and fluorescence lifetime microscopy of dairy gels with pectin reveals changes in microstructure and molecular dynamics Vinay Mishra¹, Flemming Møller², Frederik W. Lund¹, Jonathan Brewer¹, Matias Via³, Morten Frendø Ebbesen¹, Ulf Andersen³, Adam Cohen Simonsen¹ ¹<i>University of Southern Denmark, Odense, Denmark.</i> ²<i>IFF Nutrition & Biosciences Brabrand, Brabrand, Denmark.</i> ³<i>Arla Foods amba, Viby, Denmark</i> 16:20 - 16:40 [OA4.05] Monitoring Oleogel Stability Through Crystalline Network Evolution: A Non-Invasive Approach Using Deep Learning Ingrid Alves de Moraes^{1,2}, Leonardo Arrighi², Sylvio Barbon Junior², Rosiane Lopes da Cunha¹, Douglas Fernandes Barbin¹ ¹<i>State University of Campinas, CAMPINAS, Brazil.</i> ²<i>University of Trieste, Trieste, Italy</i> 16:40 - 17:00 [OA4.06] Characterization of the anisotropy in proteinaceous semi-solid food matrices through polarized fluorescence spectroscopy Harshkumar Patel¹, Clara Barnés-Calle², Åsmund Rinnan¹, Søren Balling Engelsen¹, Frans W. J. van den Berg¹ ¹<i>Department of Food Science, Faculty of Science, University of Copenhagen, Rolighedsvej 26, 1958 Frederiksberg C, Denmark.</i> ²<i>Institute of Agrifood Research and Technology (IRTA). Food Quality and Technology program. Finca Camps i Armet, s/n, 17121 Monells, Girona, Spain</i>
18:30 - 22:00	Conference Dinner (Ticketed Event) Location: Brouwerij De Halve Maan

09:00 - 10:30	Session 5: Improving Health Through Food Structuring Location: Auditorium B Chair: Didier Dupont, Sean Hogan 09:00 - 09:30 [KN.05] The structure of the food matrix at different length scales drives the mechanism of digestion and the nutrient bioavailability <u>Didier Dupont</u> <i>INRAE, l'Institut Agro, STLO, Rennes, France</i> 09:30 - 09:50 [OA5.01] Effect of pea protein gel structure on in vitro protein digestibility and calcium bioaccessibility <u>Wenbo Ren</u>¹, Sarah Verkempinck², Deniz Z Gunes², Tara Grauwet², Lilia Ahrné² ¹<i>University of Copenhagen, København, Denmark.</i> ²<i>KU Leuven, Leuven, Belgium</i> 09:50 - 10:10 [OA5.02] Utilization of dispersed phase-mediated gelation in pulse protein-stabilized emulsions to replace structured hard fat in food applications Oluwafemi Jeremiah Coker, Phyllis Shand, <u>Supratim Ghosh</u> <i>University of Saskatchewan College of Agriculture and Bioresources, Saskatoon, SK, Canada</i> 10:10 - 10:30 [OA5.03] Sex-based differential digestibility of food emulsions: A study into the digestion of MCT emulsions stabilized by different emulsifiers. <u>Mijal Perez</u>, Uri Lesmes <i>Technion Israel Institute of Technology, Haifa, Israel</i>
10:30 - 11:00	Refreshment Break Location: Auditorium A & Foyer
11:00 - 12:00	Session 5: Improving Health Through Food Structuring (Continued) Location: Auditorium B Chair: Didier Dupont, Sean Hogan 11:00 - 11:20 [OA5.04] Food structure impacts the kinetics of calcium release during in vitro gastric digestion <u>Xinya Wang</u>, Aiqian Ye, Harjinder Singh, Alejandra Acevedo-Fani <i>Massey University Riddet Institute, Palmerston North, New Zealand</i> 11:20 - 11:40 [OA5.05] Altering pea protein structural and digestive properties by understanding the implications of extraction and processing conditions <u>Sarah Verkempinck</u>, Jessica Guevara-Zambrano, Tara Grauwet <i>Katholieke Universiteit Leuven Faculty of Bioscience Engineering Laboratory of Food Technology, Heverlee, Belgium</i> 11:40 - 12:00 [OA5.06] Development of highly stable phytosterol oleogel particle-based emulsions with improved bioaccessibility of β-carotene Areen Ashkar, <u>Maya Davidovich-Pinhas</u> <i>Technion Israel Institute of Technology Faculty of Biotechnology and Food Engineering, Haifa, Israel</i>
12:00 - 12:30	Poster Flash Presentations Location: Auditorium B 12:00 - 12:05 [FT3.01] Mutual interaction between probiotic microorganisms and food structure: the active role of live probiotic microorganisms in affecting the structure of monoglyceride gelled emulsions <u>Sofia Melchior</u>, Nadia Innocente, Marilena Marino, Maria Cristina Nicoli, Sonia Calligaris <i>University of Udine Department of Agricultural, Food, Environmental, and Animal Sciences, Udine, Italy</i> 12:05 - 12:10 [FT3.02] A hybrid approach to oil structuring – interpenetrating fat crystals and capillary suspension networks <u>Selvyn Simoes</u>¹, Dérick Rousseau² ¹<i>v, Canada.</i> ²<i>Toronto Metropolitan University, Canada</i> 12:10 - 12:15 [FT3.03] Model-controlled structuring of functional casein microparticles Ronald Gebhardt, Calvin Hohn, <u>Thomas Pütz</u> <i>RWTH Aachen University, Chair of Soft Matter Process Engineering, Germany</i>
12:30 - 13:00	Lunch Location: Auditorium A & Foyer
13:00 - 14:00	Poster Session 3 Location: Auditorium A & Foyer

14:00 - 15:30	Session 6: Food as a Soft Material Location: Auditorium B Chair: Filip van Bockstaele, Bettina Wolf 14:00 - 14:30 [KN.06] Stabilisation of soft solid food microstructures <u>Bettina Wolf</u> <i>University of Birmingham, Birmingham, UK</i> 14:30 - 14:50 [OA6.01] From nucleation to fat crystal network: the effect of shear on fat crystallization in suspensions <u>Fien De Witte</u>¹, Andre Skirtach¹, Filip Van Bockstaele², Koen Dewettinck² ¹<i>Ghent University, Belgium.</i> ²<i>Ghent University, Gent, Belgium</i> 14:50 - 15:10 [OA6.02] Structural design of wax oleogels and oleogel (double) emulsions as fat mimetics <u>Filip Van Bockstaele</u>^{1,2}, Ivana Penagos¹, Kato Rondou¹, Thao Nguyen Trinh¹, Zijian Zhi¹, Koen Dewettinck¹ ¹<i>Ghent University, Gent, Belgium.</i> ²<i>Vandemoortele Centre, Belgium</i> 15:10 - 15:30 [OA6.03] Improving the efficiency and sustainability of chocolate production by applying insights from soft-matter physics <u>Thomas Curwen</u>¹, Carole Elleman², Beth Green¹, Fred Gates², Rim Harich² ¹<i>Mondelez International UK Ltd, Uxbridge, UK.</i> ²<i>Reading Scientific Services Ltd, Reading, UK</i>
15:30 - 16:00	Refreshment Break Location: Auditorium A & Foyer
16:00 - 17:15	Award Lectures & Closing Session Location: Auditorium B 16:00 - 16:20 [YSA Young Scientist Award Lecture] Insights on the gastrointestinal digestion of food from a mechanistic and structural perspective <u>Marta Martínez-Sanz</u>¹, Laura Díaz-Piñero¹, Cynthia Fontes-Candia², Patricia López-Sánchez³, Isidra Recio¹ ¹<i>Institute of Food Science Research, Madrid, Spain.</i> ²<i>Teagasc Food Research Centre Moorepark, Moorepark, Ireland.</i> ³<i>University of Santiago de Compostela, Santiago de Compostela, Spain</i> 16:20 - 16:50 [Dr Isaac Heertje Distinguished Scientist Award Lecture] From food microstructure to the food matrix <u>Jose Miguel Aguilera</u> <i>Pontifical Catholic University of Chile, Santiago, Chile</i> 16:50-17:15 Presentation of Poster Awards and Closing Remarks