

18th International Hydrocolloids Conference, Mar. 30-April 2,
Tokyo University of Marine Science and Technology
Shinigawa Campus, Tokyo, Japan

Draft Program, Jan. 22, 2026

Subject to Change

(Colour Codes are explained at the bottom of this document)

Monday, 30th March, Registration and Welcome Reception

Tuesday 31st March			
	Room1	Room2	Room3
8:20-8:35	Opening		
8:35-9:10	Plenary1 Eiichi Saitoh The landscape of dysphagia management		
9:10-9:45	Plenary2 Jianshe Chen		

9:45-10:20	Plenary3 David Julian McClements		
10:20-10:40	----- Coffee break -----		
10:40-11:00	Keynote1 Koichiro Matsuo Process Model of Feeding: Linking Oral Physiology, Bolus Properties, and Dysphagia Rehabilitation	Keynote4 Costas Nikiforidis Stimuli-responsive natural lipid droplets for selective lipid trafficking	
11:00-11:15	Oral1 1099 Surface-Mediated Enzymatic Reactions of Banana Starches: Quantifying Amylase Interaction and Inhibition Effect	Oral16 1041 Plant proteins as alternative natural emulsifiers in food emulsions	Oral31 1174 Polysaccharide structures and their impact on gut microbiome: mechanistic evidence from date and carob plant-based case studies
11:15-11:30	Oral2 1042 Disentangling viscosity from non-catalytic binding in α -amylase inhibition	Oral17 1002 Preparation of size-controllable sustainable pulse protein microgels with high emulsifying performance	Oral32 1051 How food macrostructure affects the nutritional properties: An example of pulse cell wall
11:30-11:45	----- Short break -----		
11:45-12:00	Oral3 1184 Intact Legume Cells as Substitutes for Refined Flour: Implications for Glycaemic Control and Gut Health	Oral18 1150 Influence of ultrasound treatment on the emulsifying properties of Tenebrio molitor-based ingredients displaying different protein content	Oral33 1163 Application of Hydrocolloids in Nutritionally Fortified Cereal Beverage in China

12:00-12:15	Oral4 1013 Resistant starch alleviates AGEs-induced NAFLD via restoration of gut homeostasis and normalization of hepatic lipid metabolism	Oral19 1003 Impact of various physical treatments on physicochemical and microstructural characteristics of vegetable oil-based whipped cream stabilised by faba bean protein isolate	Oral34 1136 Sol-gel like transition of semi-dilute suspension of rod-like cellulose nanoparticles
12:15-12:30	Oral5 1149 Deep Neural Networks Predict Sensory Perception Ratings of Texture-Modified Plant-Based Smoothies from a Synthetic Dataset	Oral20 1148 Protein-starch interactions in emulsion-filled hydrogels limit protein-enrichment of plant-based cheese alternatives	Oral35 1147 Optimum compositions for shear-induced gel formation in model colloid-polymer systems
12:30-14:00	---- LUNCH & Poster ----		
14:00-14:20	Keynote2 Tetsu Kamiya Simulation of Chewing and Swallowing: Experimental and Numerical Approaches to Bolus Formation and Flow		Keynote5 Lester Geonzon
14:20-14:35	Oral6 1071 Effect of adding thickened aqueous fluid to cooked, minced chicken breast meat on in vitro digestibility using human Gastric Digestion Simulator	Oral21 1202 High Internal Phase Emulsion of Sardine Oil Stabilized by Sodium Caseinate–Carrageenan Complexes: A Colloidal Approach to Omega-3 Enrichment in Freshwater Fish Surimi	Oral36 1194 Ultrafast gelation of hyaluronan hydrogels via alternate compression-decompression
14:35-14:50	Oral7 1189 Effect of pectin on calcium release from acid-induced pea protein gels during dynamic in vitro digestion	Oral22 1197 Cellulose-based foam-mat freeze-dried clove essential oil nanoemulsion as a natural food preservative	Oral37 1023 Soft Lubrication of Model Absorbing Polysaccharide Solutions

14:50-15:05	<p>Oral8 1066 Impact of deep eutectic solvent-tailored nanocellulose on the stability and in vitro semi-dynamic digestion behavior of β-carotene conveying Pickering emulsions</p>	<p>Oral23 1167 Development of Emulsion-based Confectionery product: Understanding the Role of High Sugar Concentration in the Formation, Stability and Rheology of Emulsions</p>	<p>Oral38 1160 The Competitive Water Absorption Mechanism of the Arabinoxylan in the Wheat Flour Dough Making</p>
15:05-15:20	----- Short break -----		
15:20-15:40	<p>Keynote3 Aaron Goh Suk Meng Hydrocolloids in Novel Foods for Dysphagia</p>	<p>Keynote6 Matsumiya</p>	
15:40-15:55	<p>Oral9 1177 Construction of a pH-driven self-assembled soy protein-α-lecithin microcage embedded in a κ-carrageenan hydrogel for weight-management</p>	<p>Oral24 1112 High-yield and scalable preparation of lignin nanoparticles with uniform surface properties for stable Pickering emulsions</p>	<p>Oral39 1209 Elucidating the Sugar-Reduced Acid Gelation Mechanism of Nicotiana glauca physalodes (Linn.) Gaertn. Pectin: Insights from Molecular Structure and Comparison with Commercial Pectins</p>
15:55-16:10	<p>Oral10 1159 Evaluation of polysaccharides from Malvaceae as sustainable excipients for sustained-release oral tablets</p>	<p>Oral25 1091 Characterization of pickering emulsions stabilized by WPI-pectin microgel particles and their application in reduced-fat mango mousse: Effect of pectin types and concentrations</p>	<p>Oral40 1026 Effects of Drying Methods on Physicochemical and Functional Properties of Lemon Basil Seed Mucilage</p>

16:10-16:25	<p>Oral11 1062 Decorating probiotics with a silk fibroin and oxidized konjac glucomannan nanocoating to enhance oral stability and colon targeting</p>	<p>Oral26 1192 Fish Gelatin/Chitosan Microfiber-Based 3D Porous Scaffolds Constructed with Pickering Emulsion and 3D Printing for Cell-Cultivated Meat</p>	<p>Oral41 1056 Modulation of interfacial and foaming properties of cow milk under non-rancid lipolytic conditions</p>
16:25-16:45	----- Coffee break -----		
16:45-17:00	<p>Oral12 1007 Hybrid Carrageenans in Food and the Human Gut</p>	<p>Oral27 1006 Flavor controlled release behavior from novel high internal phase Pickering emulsion gels stabilized by zein-chitin nanocrystals complex coacervates: the models on phase equilibria and mass transfer</p>	<p>Oral42 1057 Physicochemical properties of barley lipid transfer protein 1 contributing to beer foam quality</p>
17:00-17:15	<p>Oral13 1052 Structural characterization and mechanistic insights into the anti-colitis effects of fucoidan from Ascophyllum nodosum</p>	<p>Oral28 1045 Designing Natural Co-Emulsifier Systems: Modified Porous Starch and Soy Lecithin for Egg-Yolk-Free Mayonnaise</p>	<p>Oral43 1060 Characterization of gel-forming components derived from mushrooms</p>
17:15-17:30	<p>Oral14 1122 The fabrication of hyaluronic acid hydrogel and its application for the treatment of inflammatory bowel disease</p>	<p>Oral29 1178 Functional properties of cold-set agar-based emulsion gel for fat replacer in fish sausages</p>	<p>Oral44 1073 Investigating covalent interactions between 11S glycinin and genistein following thermal treatment</p>
17:30-17:45	<p>Oral15 1201 Fabrication and characterization of electrospun nanofiber mats using Dillenia indica mucilage for active food packaging</p>	<p>Oral30 1079 Structure, microstructure and rheological properties of a novel whey protein-hyaluronic acid emulsion gel for 3D printing: effects of hyaluronic acid content and molecular weight</p>	<p>Oral45 1092 Interactions of whey protein isolate and sodium caseinate with different kinds of mild preheating treatments</p>

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Wednesday 1st April			
	Room1	Room2	Room3
8:30-9:05	Plenary4 Beiwei Zhu		
9:05-9:40	Plenary5 Erik van der Linden Physics ready to bite into complex soft matter.		
9:40-10:15	Plenary6 Hidemitsu Furukawa		
10:15-10:35	----- Coffee break -----		

10:35-10:55	Keynote7 Stefan Kasapis Controlled delivery of bioactive compounds from natural polymers across the concentration range of industrial application	Keynote9 Hyun Jin Park Nano-encapsulation technology of functional food ingredients using by 3-D printer for improving bioavailability	
10:55-11:10	Oral46 1033 Gelation mechanism and network structure of gellan gum in low and high concentration of sucrose solutions	Oral61 1022 Developing functionally enhanced pea proteins as innovative food ingredients	Oral76 1032 <i>Pediococcus acidilactici</i> MY-5 exopolysaccharide: purification, structural characterization and its alleviation of cadmium toxicity in intestinal cells
11:10-11:25	Oral47 1085 Macadamia husk phenolic-loaded liposomes: In vitro digestibility and potential as yogurt-based delivery systems	Oral62 1009 Production and functional characteristics of low-sodium high-calcium soy protein for the development of healthy soy-based foods	Oral77 1028 Food-grade coatings based on <i>Mesona chinensis</i> polysaccharide/zein nanoparticles: Boosting probiotic stability and yogurt rheological/storage properties
11:25-11:40	----- Short break -----		
11:40-11:55	Oral48 1095 Physicochemical and Functional Properties of Wet-Type Grinder-Treated Vegetables as Natural Hydrocolloids	Oral63 1187 Designing insect protein ingredients: Processing strategies as drivers of techno-functionality for targeted food applications	Oral78 1030 Enhanced delivery and bitterness masking of appetite-suppressing hop bioactives using hydrocolloid microgels: A structure-function design for enhanced palatability, stability, and bioaccessibility
11:55-12:10	Oral49 1015 Advanced optics and image analysis for food hydrocolloid gel characterization	Oral64 1068 Enhancing Nutritional Value of Baked Products Using Fermented Lucerne (<i>Medicago sativa</i>) Flour as an Alternative Protein Source	Oral79 1196 Biomedical Polysaccharide-X Attenuates Atopic Dermatitis Through Broad Anti-Inflammatory Actions

12:10-12:25	Oral50 1021 Effect of high hydrostatic pressure treatment on lectin conformational structures and starch digestion in intact pulse cells	Oral65 1210 From Molecules to Interfaces: Protein-Polysaccharide Conjugates in Food Structure Innovation	Oral80 1054 Polyphenols modulate faecal fermentation of dietary fibre depending on polysaccharide chemistry and supramolecular assembly
12:25-14:00	---- LUNCH & Poster ----		
14:00-14:20	Keynote8 Hongbin Zhang	Keynote10 Jin-Kyu Rhee Multi-Dimensional Food Fabrication: A Bottom-Up Approach to Structuring Alternative and Cultivated Meats	
14:20-14:35	Oral51 1093 Study on the rheology of cellulose nanocrystal suspensions and their interaction with polysaccharide solutions	Oral66 1034 Protein dry spinning as a bottom-up approach for the design strategy of anisotropic structures in plant-based meat analogues.	Oral81 1067 Advances in understanding the metabolic and hydrocolloidal relevance of fiber-rich fraction from chia seeds
14:35-14:50	Oral52 1005 Xanthan Gum–Driven Modulation of Physical Properties in Dairy Matrices for Enhanced 3D Food Printing	Oral67 1135 Development of protein-based biodegradable food packaging material by valorization of rice milling by-products	Oral82 1142 Selective detoxification of digesta revealed how apple pomace modulate transepithelial glucose transport and stimulate GLP-1 secretion
14:50-15:05	Oral53 1020 Effects of Spray-Drying Carrier on Physical Properties of Mucilage Powder Extracted from Lemon Basil Seed Using Ultrasonic-Assisted Extraction	Oral68 1055 Modified marama bean concentrate as an alternative to gluten protein	Oral83 1126 Encapsulation to interface engineering of hydrocolloids for optimal nutrition design and functional food applications(by Laxmikant Badwaik)
15:05-15:20	----- Short break -----		

15:20-15:40		Keynote11 Nakamori	Keynote12 Yong-Cheng Shi Modulating starch digestion: strategies for healthier starch-rich food development
15:40-15:55	Oral54 1008 Elucidating the regulatory effects of chickpea protein on the physicochemical properties of chickpea starch	Oral69 1036 Title: The physical properties and microstructure of hybrid processed cheese formulated with plant protein ingredients and rennet casein	Oral84 1115 Acorn flour enriched bread: in vitro starch digestion and colonic fermentation
15:55-16:10	Oral55 1025 Maillard Reaction control in condensed biopolymer/co-solute model systems	Oral70 1024 Enzymatic Crosslinking of Arabinoxylan with Plant Proteins: a novel hydrocolloid system for meat analogues	Oral85 1175 Short-soluble amylose chains inhibit long-term retrogradation and modulate in vitro digestion of waxy corn starch gels
16:10-16:25	Oral56 1011 Structural and mechanical characterisation of microgels fabricated using spray gelation method	Oral71 1199 Enhancing structure formation in pea protein systems through sequential thermomechanical processing for sustainable meat alternatives	Oral86 1191 Bioaccessibility of white mugwort (<i>Artemisia lactiflora</i>) polyphenol extract in the system with brown rice flour and inulin revealing by static in-vitro digestion model
16:25-16:40	----- Short break -----		

16:40-16:55	Oral57 1139 The structural and physicochemical properties of sunflower pectin	Oral72 1001 Novel interpenetrating hydrogels as scaffolds for cell cultured meat	Oral87 1082 Influence of apple pomace to modulate the starch and polyphenol bioaccessibility of wheat bread co-formulated with pomace and soluble polysaccharides
16:55-17:10	Oral58 1145 Influence of thermal processing on extraction efficiency and properties of tamarind xyloglucans	Oral73 1208 From nano to bite: The role of dietary fibers in plant-based meat alternatives	Oral88 1131 Effects of Cowpea Protein Isolates and Stearic Acid on the Physicochemical and In Vitro Starch Digestibility of High Amylose Maize Starch
17:10-17:25	Oral59 1198 Multimodal Fusion of Image, Textural and Colorimetric Features for Prediction of Bread Shelf-Life and Texture Decay	Oral74 1031 Towards a Kinetic Understanding for Protein–Phenolic Interactions in the High Temperature Regime	Oral89 1003 Effect of chaotropic and kosmotropic natural deep eutectic solvents on the chitin separation and from <i>H. Illucens</i> pupae molt shells
17:25-17:40	Oral60 1166 Evaluating Cohesiveness of Hydrocolloid Solutions Using Filament Stretching Extensional Rheometry (FISER): Insights and Literature Comparison with CaBER	Oral75 1146 The textural and structural characteristics of curdlan-potato protein gel and its potential application in fat substitutes	Oral90 1158 Microwave-assisted extraction of chickpea protein isolate: Impact on structural and physicochemical properties
18:00-21:00	Dinner, Katsuyoshi Nishinari Honorary Speaker, Next Conference Announcement, Poster Award		

Thursday 2nd April			
	Room1	Room2	Room3

8:30-8:55	Phillips1 Shaoping Nie Prospects for the Relationship of the Structure of Bioactive Polysaccharides and Their Multifunctional Effects		
	Phillips2 Qingbin Guo		
	Phillips3 Yapeng Fang The intracellular biological effects of food-derived nanoparticles		
	Plenary7 Sylvie Turgeon From purified hydrocolloids to complex ingredients: a sustainable alternative in food applications		
10:20-10:40	----- Coffee break -----		
10:40-11:00		Keynote13 Chaiwut Gamonpilas Harnessing Mung Bean Proteins for Future Foods: Extraction, Modification, and Techno-functionality	Keynote15 Sushil Dhital Structure Matters: Tailoring Plant Proteins for Functional Food Applications
11:00-11:15	Oral91 1004 Predicting food hydrocolloids techno-functionality: more accurate data & smarter physics-based models	Oral103 1203 Ultrasound-assisted extraction and colloidal properties of protein isolates from neglected Sicilian black chickpeas	Oral115 1004 Tailoring bilayer structure of nanoliposomes with whey isolate protein for enhanced stability and prolonged release of curcumin

11:15-11:30	<p>Oral92 1200 Bigdata-driven approach for food texture analysis</p>	<p>Oral104 1169 Protein extraction of Pereskia aculeata leaves – effects of ultrasounds and Ohmic heating on their physical-chemical and acid gelling properties</p>	<p>Oral116 1076 Rheological, structural, and functional properties of β-glucan from barley and oat</p>
11:30-11:45	----- Short break -----		
11:45-12:00	<p>Oral93 1097 Synergistic Cross-linking in Amino Acid-Modified Pectin: A Sustainable Strategy for Next-Generation Probiotic Encapsulation</p>	<p>Oral105 1186 Protein Composition and Purity Modulates Structural Transitions of Sunflower and Lupin Proteins During Hydrothermal Processing</p>	<p>Oral117 1059 Transforming Watermelon Rind and Pea Protein into a Functional Snack</p>
12:00-12:15	<p>Oral94 1053 Modeling and simulation of phase inversion processes going from fresh cream to butter via whipped cream by a complex systems approach with Coupled Map Lattice</p>	<p>Oral106 1012 Canola Proteins at the Air–Water Interface</p>	<p>Oral118 1047 Hot-Alkali Modification of High-Calcium Soybean 11S Globulin: A Strategy to Enhance Functional and Nutritional Properties</p>
12:15-12:30	<p>Oral95 1049 Sustainable active packaging from chitosan infused with extract from pulsed electric field-treated microalgae to preserve quality of chicken fillet</p>	<p>Oral107 1075 Role of globulins and albumins in oil-water interface properties of coconut meal proteins</p>	<p>Oral119 1171 Fermentation-assisted extraction and structural characterization of β-glucans from shiitake mushroom by-products</p>
12:30-13:40	---- LUNCH ----		
13:40-14:00		<p>Keynote15</p>	<p>Keynote16 Pedro Fardim Pullulan-based gels for protein encapsulation and cell therapies</p>

14:00-14:15	Oral96 1087 Wet-type grinder-treated rice bran as a natural hydrocolloid alternative for improving gluten-free rice bread quality	Oral108 1157 Exploration of electrospinning technique for producing food-grade nanofibers from legume protein concentrates and pullulan	Oral120 1164 Enhancing the bioaccessibility of lutein and anthocyanins by loading into food-grade biopolymer gels using 3D food printing
14:15-14:30	Oral97 1117 Textural engineering of analog rice using sago and fermented kidney bean flour hydrocolloids	Oral109 1016 From cow to bioreactor: physicochemical properties of native and precision fermentation-derived bovine β -casein for dairy analogue applications	Oral121 1029 Plant cell wall-polyphenol interactions modulate starch functionality, digestibility and the prebiotic outcomes of the tertiary system
14:30-14:45	Oral98 1181 Development of a Double-Network CaCO ₃ -GDL Crosslinked Bioink for Cell-Compatible and Edible Scaffolds in Cultivated Fish	Oral110 1156 Bio-impact reformulation of “Caldo verde” soup with microalgae incorporation	Oral122 1195 Interaction and Barrier Mechanism between Intestinal Mucus and Protein Nanofibrils with Different Physicochemical Properties
14:45-15:00	----- Short break -----		
15:00-15:15	Oral99 1182 Development of 3D-Printable Marine-Derived Gels for Senior-Friendly Seafood Analogues	Oral111 1183 Tensile-Spun Gelatin-Chitosan Composite Scaffolds for Exploring Architecture-Cell Interaction Relationships	Oral123 1040 Fabrication and characterization of a novel Lactobacillus rhamnosus-loaded sulfhydryl-modified pectin-chitosan oligosaccharide composite hydrogel: a dual strategy for enhanced viability and mucoadhesion
15:15-15:30	Oral100 1100 Tailoring hydrocolloid-based fluid gels for fat replacement: the role of sucrose in agar systems	Oral112 1017 Toward meltable plant-based cheese: mechanistic insights for product innovation	Oral124 1048 Electrostatic Modulation of Polyphenol-Starch Interactions: Role of Phenolic Hydroxyl Number in RS5 Formation and α -amylase Inhibition

15:30-15:45	<p>Oral101 1044 Fractionating cereal brans into functional polysaccharides through subcritical water extraction</p>	<p>Oral113 1180 Chlorella Polysaccharides as Compositional Modulators of Network Organization in Edible Fiber Scaffolds</p>	<p>Oral125 1063 GSH-responsive polysaccharide nanocoating for targeted delivery of probiotics to colon tumors</p>
15:45-16:00	<p>Oral102 1138 Effects of debranching and ultrasound treatment on starch nanoparticles fabrication: a structure-functional analysis</p>	<p>Oral114 1111 Reimagining Dairy Texture Through Seed Oil Bodies: A Structural and Sensory Perspective</p>	<p>Oral126 1090 Formation mechanism and anti-aging effects of EGCG-OVA self-assembled spheres</p>
16:00-16:15	----- Short break -----		
16:15-16:30	<p>Closing</p>		

16:50-20:50	Excursion

Colour Codes refer to the following program themes:

Innovative hydrocolloid design for delivering optimal nutrition and functional foods
Bioactive polysaccharides for human health
Physical properties of food hydrocolloids for enhanced product development
Behavior of food biopolymers during digestion
Polysaccharide structures and their impact on gut microbiome
Functional hydrocolloids for plant-based dairy and meat alternatives.
Innovating with alternative proteins in new product development.
Role of hydrocolloids in pharmaceuticals and health/personal care products

Hydrocolloids in emulsions and as emulsifiers