

7th International Conference on

FOOD CHEMISTRY AND TECHNOLOGY

November 08-10, 2021 | Virtual

Time zone: Paris, France Local Time



Time zone: Paris, France Local Time

07:50 – 08:00 Zoom Joining and AV Check

08:00 – 08:10 Welcome & Introduction to **FCT-2021****Session I – Food Chemistry****Chairs:** Pierluigi Plastina, University of Calabria, Italy

Maya Davidovich-Pinhas, Technion - Israel Institute of Technology, Israel

Keynote Talks08:10 – 08:40 **Cocoa - from Bean to Bar to Human**

Nikolai Kuhnert, Jacobs University, Germany

08:40 – 09:10 **From Molecular Assemblies to Nutritional Food Products**

Maya Davidovich-Pinhas, Technion - Israel Institute of Technology, Israel

09:10 – 09:40 **Novel Regioselective Synthesis of Urolithin Glucuronides, Human Gut Microbiota Metabolites of Food Ellagitannins and Ellagic Acid**

Francisco A. Tomás-Barberán, CEBAS-CSIC, Spain & Taif University, Saudi Arabia

09:40 – 10:10 **Pickering Emulsions and Janus Particles for Food and Agriculture**

Guy Mechrez, Volcani Center, ARO, Israel

10:10 – 10:20 **Short Break**10:20 – 10:40 **Identification of Bioactive Lipophenols in Olive Oil**

Pierluigi Plastina, University of Calabria, Italy

10:40 – 11:00 **NMR-Based Metabolomic Approach to Study Olive Oils**

Luisa Mannina, Sapienza University of Rome, Italy

11:00 – 11:20 **Novel Method Based-on Oxidase-like Nanozyme for Total Antioxidant Capacity Assay of Fruit and vegetable Food**

Wentao Zhang, Northwest A&F University, China

11:20 – 11:40 **Cleaner and Sustainable Production of Biobased Surfactants using Ion-Exchange Resin Catalyst**

Naomi Shibasaki-Kitakawa, Tohoku University, Japan

11:40 – 12:00 **High Throughput Method for Quantifying Androstenone and Skatole in Adipose Tissue from Uncastrated Male Pigs by Laser Diode Thermal Desorption-Tandem Mass Spectrometry**

Birgitte Winther Lund, Danish Technological Institute, Denmark

12:00 – 12:20 **Efficient and Sustainable Extraction of Marine Collagens from Starfish Using High Shear Homogenization and Ultrasound**

Naveen Kumar Vate, Chalmers University of Technology, Sweden

12:20 – 12:40 **Active Polymeric Sheets for Plant Protection based on Pickering Emulsion Templating**

Karthik Ananth Mani, Volcani Center, ARO, Israel

- 12:40 – 12:50 **The Interference of Dietary Fibre with Lipolysis Depends on the Type of Administration of B-Glucans by Means of Different Solubilisation Processes**
Kathrin Haider, Quadram Institute Bioscience, United Kingdom
- 12:50 – 13:00 **Protein Extraction from BSF Flour, Analysis of Composition and Protein Profile**
Lucas Sales Queiroz, Denmark Technical University (DTU), National Food Institute, Denmark
- 13:00 - 13:10 **The Understanding of Sensory Descriptors of Wine by Australian-Italian and Vietnamese Non-Expert Consumers**
Thuy Hang Truong Christina, University of Verona, Italy
-
- 13:00 – 13:20 **Short Break**
-
- 13:20 – 13:40 **Optimization of Volatile Compounds Extraction and Evaluation of the Antioxidant Activity Potential of Pineapple and Celery By-Products**
Arantzazu Valdes Garcia, University of Alicante, Spain
- 13:40 – 13:50 **Typicality of French Ossau-Iraty Cheeses by Direct Injection Mass Spectrometry**
Marine Reyrolle, The University of Pau and the Adour Region, France
- 13:50 – 14:00 **Triple Detector for Characterization of Antioxidants in *Olea europaea***
Yubin Ding, Free University of Bolzano, Italy
- 14:00 – 14:20 **NMR Spectroscopy in Lipid Analysis**
Emmanuel Hatzakis, Ohio State University, OH, USA
- 14:20 – 14:40 **Variation in the Essential Oil Composition of Turmeric Varieties Grown in North Alabama, USA**
Srinivasa Rao Mentreddy, Alabama A&M University, AL, USA
- 14:40 – 15:00 **Antioxidant Pectins and Fibers Rescued from Agro-Industrial Residues Useful for Food Preservation**
Ana Maria Rojas, University of Buenos Aires, Argentina
- 15:00 – 15:20 **Development of a Method for Measuring Chymotrypsin Inhibitor Activity in Soybeans and Other Legume Products**
Keshun Liu, US Dept. of Agriculture, Washington, USA

15:20 – 15:30 **Short Break**

Session II – Food Microbiology, Safety and Preservation

Chair: Ronald de Vries, Westerdijk Fungal Biodiversity Institute, Netherlands

Keynote Talks

- 15:30 – 16:00 **The Potential of Fungal Enzymes for Production of Specific Pre-biotic Oligosaccharides**
Ronald de Vries, Westerdijk Fungal Biodiversity Institute, Netherlands
- 16:00 - 16:30 **Active or Passive Chemical Approaches for Control of Food Spoilage- and Crop Disease- Fungi**
Simon Avery, University of Nottingham, United Kingdom
- 16:30 - 16:50 **Reaction between Amino Acids and Polyphenols with Reactive Aldehydes in Foods and Their Safety Concerns**
Jie Zheng, Jinan University, China

- 16:50 - 17:10 **Rapid Authentication of Meat Components Based on the Molecular Amplification Integrated Protocols**
Wei Chen, Hefei University of Technology, China
- 17:10 - 17:30 **Formation of the Adducts Formed Between Acrylamide and Amino Acid in Foods**
Caihuan Huang, Jinan University, China
- 17:30 - 17:50 **Application of High-Resolution Mass Spectrometry for the Evaluation of Migrating Chemicals Coming from Plastic Food Packaging Materials**
Maria Jose Gomez Ramos, University of Almeria, Spain
- 17:50 - 18:10 **Rapid Control of Undeclared Sources of Meat in Foods: Recombinase Polymerase Amplification with Test Strip Detection to Identify Presence of Chicken and Pig Meat**
Anatoly V. Zherdev, Research Centre of Biotechnology of the Russian Academy of Sciences, Russia
- 18:10 - 18:30 **Effect of *Porophyllum linaria* Essential Oil with Antifungal Activity on Flour and Baked Product Quality**
Zaida N. Juárez, Popular Autonomous University of the State of Puebla, Mexico
- 18:30 - 18:50 **Challenges to Using Recycled Post-Consumer Polyolefins as Food Contact Materials (FCMs)**
Greg Curtzwiler, Iowa State University, IA, USA
- 18:50 - 19:10 **Combinatorial Peptides Extract from Probiotics Reduce the Deterioration of Ready-To-Eat Mango Wedges**
Gabriela N. Tenea, Technical University of the North, Ecuador
- 19:10 - 19:20 **From Starter-Assisted to Fermentome-Driven: A Paradigm Shift in Sourdough Fermentation**
Hana Ameer, Free University of Bolzano, Italy
- 19:20 - 19:30 **From *Cynara cardunculus* Biomass to Active Protein-Based Films**
Seyedeh Fatemeh Mirpoor, University of Naples, Italy

19:30 - 20:00 **Poster Presentations**

- P-01 **Influence of Ultrasounds on Wine Microbiota**
Raquel Munoz-Garcia, University of Castilla-La Mancha, Spain
- P-02 **Application of NIR Spectroscopy for Estimating Density, Polyphenol Content and Antioxidant Capacity of Natural Cork Stoppers**
Manuel López-Viñas, University of Castilla-La Mancha, Spain
- P-03 **NADES-based Surfactant-Free Microemulsions for Solubilization and Extraction of Curcumin from *Curcuma longa***
Verena Huber, University of Regensburg, Germany
- P-04 **Role of Bile Salt in Lipid Digestion Process**
Natalia Łozińska, Gdańsk University of Technology, Poland
- P-05 **Bioaccessibility and Intestinal-Epithelial Transport of Bread-Melanoidins Extracted with 10 kDa Polyethersulfone Membrane**
Gonzalo Salazar-Mardones, University of Burgos, Spain

20:00 - 20:10 **Closing Remarks**

Time zone: Paris, France Local Time

07:50 – 08:00 Zoom Joining and AV Check

08:00 – 08:10 Welcome & Introduction

Session III – Symposium on Food Hydrocolloids

Chairs: **Elena Poverenov**, Agriculture Research Organization, The Volcani Center, Israel
Fotis Spyropoulos, University of Birmingham, United Kingdom

Keynote Talk

08:10 – 08:40 **Post Consumption Hydrocolloid Interactions Affecting Digestion Kinetics**
Alan Mackie, University of Leeds, United Kingdom

08:40 – 09:00 **Active Edible Coatings to Enhance Quality and Storability of Fresh Food Products**
Elena Poverenov, Agriculture Research Organization, The Volcani Center, Israel

09:00 – 09:20 **Innovative Food Ingredients Based on the Chitosan-Milk Protein Complex Particles for the Fortification of Food with Essential Lipids**
Maria Semenova, N. M. Emanuel Institute of Biochemical Physics of Russian Academy of Sciences, Russian Federation

09:20 – 09:40 **Application of Interfacial Covalent Interaction in the Formation of Emulsions**
Yan Li, Huazhong Agricultural University, China

09:40 – 10:00 **Effect of pH on the Mechanical, Interfacial, and Emulsification Properties of Chitosan Microgels**
Chen Huang, Hubei University of Technology, China

10:00 – 10:20 **Realistic Computer Simulation for Analyzing Food Flow during Swallowing**
Yukihiro Michiwaki, Japanese Red Cross Musashino Hospital, Japan

10:20 – 10:30 **Short Break**

10:30 – 10:50 **Study on Gelation Mechanisms and Network Structures in Carrageenan Gels from Macro and Microscopic Viewpoints**
Shingo Matsukawa, Tokyo University of Marine Science and Technology, Japan

10:50 – 11:10 **Viscoelastic Properties of Durum Wheat Doughs Enriched with Soluble Dietary Fibres in Relation to Pasta-Making Performance and Glycaemic Response of Pasta**
Donatella Peressini, University of Udine, Italy

11:10 – 11:30 **Modulating the Adsorbance of Particles at the Interface of Water in Water Emulsions**
Taco Nicolai, Université du Maine, Le Mans, France

11:30 – 11:50 **Seed Coat Mucilages: Structural, Functional/Bioactive Properties and Genetic Information**
Qingbin Guo, Tianjin University of Science and Technology, China

11:50 – 12:10 **Alginate Fluid Gels for the Encapsulation and Release of Small Molecular Weight Model Actives**
Fotis Spyropoulos, University of Birmingham, United Kingdom

12:10 – 12:30 **Rheological Assessment of the Effect of Additives on the Stability of Chia (*Salvia hispanica* L.) Mucilage Suspensions**
Francesca Cuomo, University of Molise, Italy

12:30 – 13:00 Lunch

Keynote Talk

13:00 – 13:30 **Bioactive Hydrocolloids: Structures, Bioactivities and Applications**
Steve W. Cui, Guelph Research and Development Centre, Canada

13:30 – 13:50 **Extraction of Virial Coefficients from Phase Diagrams**
Arjen Bot, Unilever Foods Innovation Centre, Netherlands

13:50 – 14:10 **Alginates and Obesity**
Matthew Wilcox, Newcastle University, United Kingdom

14:10 – 14:30 **Emulsion Stabilising Properties of Maillard Conjugates Formed by Fragmented Vegetable Proteins and Polysaccharides**
Rammile Ettelaie, University of Leeds, Kingdom

14:30 – 14:50 **Water-in-Water (W/W) Emulsions Obtained by Condensation Methods**
Jordi Esquena, IQAC-CSIC, Spain

14:50 – 15:10 **Encapsulation of Curcumin in Liquid Lipid Nanocapsules**
Julia Maldonado-Valderrama, University of Granada, Spain

15:10 – 15:30 **Spruce Galactoglucomannan Stabilizers: Effect of Their Characteristics on Stability and Rheological Properties of Emulsion**
Minh Thao Ho, University of Helsinki, Finland

15:30 – 15:40 **Adsorption Kinetics and Interfacial Rheology of Whey Protein Isolate at Oil-Water Interfaces: Effects of Protein Concentration, pH, and Heat Treatment**
Beibei Zhou, Teagasc Food Research Centre, Ireland

15:40 – 15:50 **Propolis Nanoparticles Offering Pickering Stabilisation and Antimicrobial Activity onto O/W Emulsions**
Nelli Chourmouziadi Laleni, University of Birmingham, United Kingdom

15:50 - 16:00 Short Break

Session IV Functional Foods & Functionality

Chair: Maria Hayes, Teagasc Food Research Centre, Ireland

16:00 – 16:20 **Suppressive Effect of Fermented Brown Rice and Rice Bran on Spontaneous Type 1 Diabetes in NOD Mice**
Keiko Kataoka, University of Tokushima, Japan

16:20 – 16:40 **Seaweeds and Marine Animals as Protein Sources: Generation of Hydrolysates and Characterisation of Bioactivities, Iodine Content and Protein Digestibility**
Maria Hayes, Teagasc Food Research Centre, Ireland

16:40 – 17:00 **Development of Pumpkin-Based Beverage Fermented by Mature Coconut Water Kefir Brew Using Response Surface Methodology**
Koh Wee Yin, Universiti Malaysia Sabah (UMS), Malaysia

- 17:00 – 17:20 ***In-Vitro* Digestion Nullified the Differences Triggered by Roasting in Phenolic Composition and α -Glucosidase Inhibitory Capacity of Coffee**
Marilisa Alongi, University of Udine, Italy
- 17:20 – 17:40 **Protective Effects of Cabbage Seed Extract on Muscle and Brain in Accelerated Aging Rodent Model**
Debora Esposito, North Carolina State University, NC, USA
- 17:40 – 18:00 **Development of Polyphenol-Rich Berry Fruit Beverages and their Effect on Hepatic Steatosis in Obese Rats**
Iza F Pérez-Ramírez, Autonomous University of Querétaro, Mexico
- 18:00 – 18:10 **The Advantages of Using *Scutellaria baicalensis* and Its Flavonoids for the Management of Non-viral Hepatocellular Carcinoma**
Chen Minting, Hong Kong Baptist University, China
- 18:10 – 18:20 **Microgreens from *Pennisetum typhoides*: Functional Foods with Opportunities for Novel Research**
Ratnika Sharma, GGS Indraprastha University, India
- 18:20 – 18:30 **Evaluation of Belgian Endive Dietary Fibre Concentrate in Plant-Based Food Prototype Products**
Anna Twarogowska, Flanders Research Institute for Agriculture, Fisheries and Food, Belgium
- 18:30 – 18:40 **Mycoprotein Structure Influences Carbohydrate and Lipid Digestion In vitro**
Raffaele Colosimo, Quadram Institute Bioscience, United Kingdom
- 18:40 – 18:50 **Sourdough Fermentation as a Tool to Enhance the Nutritional and Functional Features of *Triticum aestivum* Bread**
Kashika Arora, Free University of Bolzano, Italy

18:50 - 19:20 **Poster Presentations**

- P-06 **Chitosan-WPI Electrostatic Complex as a Nanocontainer for Essential Lipids**
Sergey Chebotarev, Emanuel Institute of Biochemical Physics of Russian Academy of Sciences, Russia
- P-07 **High-Power Ultrasound for the Efficient Extraction of Pectin Fractions from Discarded Carrots (*Daucus carota*) and Eggplant (*Solanum melongena*) Fruit Exocarp**
Ana Maria Rojas, University of Buenos Aires, Argentina
- P-08 **Effect of Addition of Amaranth Seed and Sprout Flours on Tilapia Minced Restructured**
Miguel A. Martínez-Maldonado, Huichapan Institute of Technology and Higher Education-ITESHU, Mexico
- P-09 **The Impact of Environment on Micro and Macronutrients in Meat**
Sofia Skoumpa, Institute of Technology Carlow, Ireland
- P-10 **Predicting Functional Properties of Whey with Front-Face Fluorescence of Tryptophan**
Paulina Andrea Freire Vasconez, University of Barcelona, Spain

19:20 - 19:30 **Closing Remarks**

Time zone: Paris, France Local Time

07:50 – 08:00 Zoom Joining and AV Check

08:00 – 08:10 Welcome & Introduction

Session V – Food Technology**Chairs:** **Kirsi S. Mikkonen**, University of Helsinki, Finland**Antonio Derossi**, University of Foggia, Italy**Keynote Talk**

08:10 – 08:40 **Nanobiosensors for Contaminants Detection**
Arben Merkoçi, Catalan Institute of Nanoscience and Nanotechnology, Spain

08:40 – 09:00 **Novel Applications of Quorn Fermentation Co-Product Extracts as Oil-Lowering Emulsifiers and Partial Egg White Replacers**
Julien Lonchamp, Queen Margaret University, United Kingdom

09:00 – 09:20 **Macromolecular Properties Underlying Carrageenan Implications on Digestive Proteolysis, Bioaccessibility of Bioactive Peptides and Colonic Microbiota**
Uri Lesmes, Technion - Israel Institute of Technology, Israel

09:20 – 09:40 **Effect of pH Na⁺ and Extractant on Emulsifying Properties of Soy Hull Polysaccharide**
Hong Song, Bohai University, China

09:40 – 10:00 **High Pressure Processing for Structure Modification of Meat and Milk Proteins**
Vibeke Orlien, University of Copenhagen, Denmark

10:00 – 10:10 **Short Break**

10:10 – 10:30 **Tailoring Functionalities of Plant-based Foods: Fermented Dairy Alternatives**
Rene Floris, Division Manager FOOD, NIZO, Netherlands

10:30 – 10:50 **Plant Proteins – Processing and Nutritional Quality**
Iben Lykke Petersen, University of Copenhagen, Denmark

10:50 – 11:10 **The Effect of Processing on Gastrointestinal Digestion of Infant Milk Formula**
Linda Giblin, Teagasc Food Research Centre, Ireland

11:10 – 11:30 **Soybean Okara Byproduct: Physicochemical and Conformational Changes Induced by Ultrasound-Driven Protein Extraction**
Gilda Aiello, The San Raffaele University of Rome, Italy

11:30 – 11:50 **Active Polysaccharide Matrices for Extending the Shelf-life of Fresh Plant Products**
Kirsi S. Mikkonen, University of Helsinki, Finland

11:50 – 12:10 **Protein Structural Changes and Physical Parameters of Abalone (*Haliotis rufescens*) Muscles Treated by High Hydrostatic Pressure**
Yamira Cepero Betancourt, University of the Bío-Bío, Chile

- 12:10 – 12:30 **Evaluation of Non-Equilibrium Dynamic Changes in Food Structure to Manage Appearance, Functionality and Stability**
Pilar Buera, University of Buenos Aires, Argentina
- 12:30 – 12:40 **Chemical Profile of Colorful Bean (*Phaseolus Vulgaris* L) Flours: Changes Influenced by the Cooking Method**
Juliana Aparecida Bento, Federal University of Goiás, Brazil
- 12:40 – 12:50 **Modeling and Optimization of High-Pressure Homogenization of Not from Concentrate Juice: Achieving Better Juice Quality Using Sustainable Production**
Jianing Liu, Wageningen University & Research, Netherlands
- 12:50 - 13:00 **Changes in Network Structure of Agarose during Gelation Studied by Multiple Particle Tracking Method and NMR**
Hwabin Jung, Tokyo University of Marine Science and Technology, Japan

13:00 - 13:20 **Short Break**

Keynote Talks

- 13:20 - 13:50 **New Enabling Technologies in Food Extraction and Processing**
Giancarlo Cravotto, University of Turin, Italy
- 13:50 - 14:20 **Food Aroma – The Latest Technologies to Identify the Chemistry of Smell**
Eberhardt R. Kuhn, Shimadzu Scientific Instruments, MD, USA
- 14:20 - 14:50 **Microbiological Methods for Reducing Mycotoxins in Dairy Products**
Carlos Humberto Corassin, University of São Paulo, Brazil
- 14:50 - 15:10 **On-Demand Food Manufacturing Through 3D Food Printing**
Antonio Derossi, University of Foggia, Italy
- 15:10 - 15:30 **Effects of Dietary Proteins from Different Origins on Intestinal Glucose Transport**
Bennoit Cudenneq, University of Lille, France
- 15:30 - 15:50 **Microfluidic-Based Tools to Assess the Efficiency and Safety of Engineered Nanomaterials for Food Applications**
Catarina Gonçalves, International Iberian Nanotechnology Laboratory, Portugal

15:50 - 16:00 **Short Break**

Session VI – Nutraceuticals and Nutrition

Chair: Carlos Humberto Corassin, University of São Paulo, Brazil

Keynote Talks

- 16:00 -16:30 **Probiotics and Panbiotics Balance the Food Uptake and Gut Defences**
Elias Hakalehto, CEO, Finnoflag Oy, Finland
- 16:30 - 17:00 **Role of the Microstructure in the Design of Foods for Future**
Franco Pedreschi Plasencia, The Pontifical Catholic University of Chile, Chile
- 17:00 - 17:20 **Polyphenol Rich Extract Produced by Ohmic Heating of Vine Pruning Residue Has Anti-Colorectal Cancer Activity and Increases Sensitivity to the Chemotherapeutic Drug 5-FU**
Cristina Pereira-Wilson, University of Minho, Portugal

- 17:20 - 17:40 **Isolation and Molecular Identification of Lactic Acid Bacteria from *D.sap*, A New Grape Fermented Solution**
Hossein Dezhakam, Kharazmi Institute of Higher Education, Iran
- 17:40 - 18:00 **The Effect of Aromatic Rice (Joha) Phytonutrient(S) in High Fat High Carbohydrate (HFHC) Diet Induced Insulin Resistance In Vivo Model System**
Rajlakshmi Devi, Institute of Advanced Study in Science & Technology, India
- 18:00 - 18:20 **Tryptophan Fluorescence and Functional Properties of Whey**
Paulina Andrea Freire Vasconez, University of Barcelona, Spain

18:20 - 18:50 **Poster Presentations**

- P-11 **Morphological, Organoleptic and Sensory Characterization of Almond Cultivars**
Carmen Jurado Manogil, Centre of Edaphology and Applied Biology of Segura (CEBAS-CSIC), Spain
- P-12 **Fish Processing with Honey for Taste Component Maintenance**
Hiroko Seki, Tokyo University of Technology, Japan
- P-13 **Inhibition of Bacterial Tyrosine Phenol-Lyase by Sesame (*Sesamum indicum L.*) Lignans**
Daiki Oikawa, Tohoku University, Japan
- P-14 **Analysis of Underivatized Amino Acids in Wines by Solid Phase Extraction and HILIC-MS**
Soo Hyun Park, Thermo Fisher Scientific, Germany
- P-15 **The Microbial Interaction and Stability in Taiwanese Ropy Fermented Milk during Fermentation and Successive Subcultures**
Sheng-Yao Wang, National Taiwan University, Taiwan

18:50 - 19:00 **Concluding Remarks**



We wish to see you again in
FCT-2022



8105, Rasor Blvd - Suite #112, Plano, TX 75024, USA

Phone: +1-408-426-4832/33

Email: foodchem@uniscigroup.org

Web: www.foodchemconference.com