

## SCIENTIFIC PROGRAMME

### MONDAY – MAY 20<sup>th</sup> 2024

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|---------------|---|
| 9.00 – 10.00  | <b>Welcome coffee and Registration</b>  |
| 10.00 - 10.30 | <b>Opening Ceremony and Welcome addresses</b>   |
|               | <b>SESSION: SHELF LIFE ASSESSMENT AND PREDICTION</b>  |
| 10.30 – 11.00 | <b>KEYNOTE LECTURE</b><br><b>Packaging design for reducing food waste</b><br><i>Helén Williams, Karlstad University, Sweeden</i>  |
| 11.00 – 11.20 | <b>Accelerated Photostability Testing Using Filtered Xenon-Arc Chambers</b><br><i>Oliver D. Rahaeuser, Atlas MTT GmbH, Germany</i>  |
| 11.20 – 11.40 | <b>Smell fish freshness by e-nose</b> ( <i>Grassi S., Benedetti S., Pianezzola A., Ubaldi G., Buratti S.</i> )<br><i>Silvia Grassi, University of Milan, Italy</i>  |
| 11.40 – 12.00 | <b>The shelf life dilemma: facing mismatching sensory indicators in food undergoing oxidation</b> ( <i>Alongi M., Lopriore M., Calligaris S., Manzocco L., Nicoli M.C.</i> )<br><i>Marilisa Alongi, University of Udine, Italy</i>  |
| 12.00 – 12.20 | <b>Foodomics for Quality and Safety and Shelf Life Evaluation of High-Pressure Processed European Sea Bass Fillets</b> ( <i>Anjos L., Pinto P., Tsironi T., Sousa C., Loukissas A., Dimopolous G., Taoukis P., Canário A., Power D.</i> )<br><i>Liliana Anjos, Centre of Marine Sciences, Portugal</i>                              |
| 12.20 – 12.40 | <b>Rapid and Chemical-free Method for Monitoring Quality of Dried Shrimp Using Machine Learning-Assisted Hyperspectral Imaging</b> ( <i>Siripatrawan U., Makino Y.</i> )<br><i>Ubonrat Siripatrawan, Chulalongkorn University, Thailand</i>   |
| 12.40 – 13.00 | <b>Volatile organic compounds associated with spoilage bacteria isolated from blue mussels (<i>Mytilus edulis</i>) packed under modified atmospheres</b> ( <i>Ratnawati S.E., Kuuliala L., Cnockaert M., Vandamme P., Walgraeve C., Demeestere K., Devlieghere F.</i> )<br><i>Susana Endah Ratnawati, Ghent University, Belgium</i> |
| 13.00 – 14.30 | <b>Lunch &amp; Poster Session</b>   |
|               | <b>SESSION: SHELF LIFE ASSESSMENT AND PREDICTION</b>  |
| 14.30 – 14.50 | <b>A food requirement-driven approach for packaging design: starting from food needs and target shelf-life to develop tailor-made solutions</b> ( <i>Pignères E., Coffigniez F., Gaucel S., Angellier-Coussy H., Guillard V.</i> )<br><i>Emma Pignères, University of Montpellier, France</i>                                       |
| 14.50 – 15.10 | <b>Quantification of microbial spoilage in packaged foods based on in situ detection of quorum sensing autoinducers acyl-homoserine lactones and autoinducer-2 by whole cell bioreporters</b> ( <i>Ionita C., Cooksey K.</i> )<br><i>Claudia Ionita, Clemson University, USA</i>  |
| 15.10 – 15.30 | <b>Shelf Life Extension of Protein-Fortified Gluten-Free Fresh Pasta by Modified Atmosphere Packaging</b> ( <i>Kongkaew N., Jinakap P., Tongdeesoontorn W., Homthawornchoo W.</i> )<br><i>Wantida Homthawornchoo, Mae Fah Luang University, Thailand</i>  |
| 15.30 – 15.50 | <b>Assessing the Impact of Multilayer Recyclable PE-Based Materials on Ground Coffee Preservation through Accelerated Shelf-Life Testing</b> ( <i>Bassi V., Gobbi S., Ponzelletti M., Buratti S., Benedetti S., Limbo S.</i> )<br><i>Vittorio Bassi, University of Milan, Italy</i>   |
| 15.50 – 16.45 | <b>Coffee Break &amp; Poster Session</b>  |
| 16.45         | <b>Visit at food companies</b> ( <i>ItalPizza or Villani Salumi</i> )   |

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### TUESDAY – MAY 21<sup>st</sup> 2024

| SESSION: INNOVATIVE TECHNOLOGIES FOR SHELF LIFE EXTENSION |   |
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| 09.00 – 09.30   | <b>KEYNOTE LECTURE</b><br><b>Active packaging and waste valorization: a real opportunity for food sustainability?</b><br><i>Sara Limbo, University of Milan, Italy</i>  |
| 09.30 – 09.50   | <b>Mathematical Modeling for Atmospheric Dynamics in Active Package of Roasted Coffee Beans</b> ( <i>Lee D.S., An D.S., Jung S.Y., Kim S.C., Yu H.k.</i> )<br><i>Dong Sun Lee, Kyungnam University, South Korea</i>   |
| 09.50 – 10.10   | <b>Control of microbial spoilage of fresh beef meat with a diacetyl-based active packaging</b> ( <i>Rupérez D., Nerín C., Silva F.</i> )<br><i>David Rupérez, University of Zaragoza, Spain</i>   |
| 10.10 – 10.30   | <b>Effect of the inclusion of hazelnut skin and extruded linseed in lamb diet on lipid oxidation during cooking and in vitro digestion of meat</b> ( <i>Cattivelli A., Zannini M., Tagliacucchi D., D’Ambra K., Trovato R., Minelli G., Musati M., Luciano G., Priolo A., Natalello A., Conte A., Lo Fiego D.P.</i> )<br><i>Alice Cattivelli, University of Modena and Reggio Emilia, Italy</i> |
| 10.30 – 10.50   | <b>Efficacy of hyperbaric storage in preventing color changes in food: A kinetic study on enzymatic and non-enzymatic browning</b> ( <i>Basso F., Manzocco L., Saraiva J.A.M., Nicoli M.C.</i> )<br><i>Federico Basso, University of Udine, Italy</i>   |
| 10.50 – 11.40   | <b>Coffee Break &amp; Poster Session</b>  |
| SESSION: INNOVATIVE TECHNOLOGIES FOR SHELF LIFE EXTENSION |   |
| 11.40 – 12.00   | <b>Enhancing hass avocado preservation: comprehensive analysis of modified atmosphere packaging and cinnamaldehyde-based activesystems with special emphasis on fat profile</b> ( <i>Fuenmayor C.A., Ramírez S.L., Cortés C.E., González I.A., García J., González A., Zuluaga-Domínguez C.M., Castellanos D.A.</i> )<br><i>Carlos Alberto Fuenmayor, National University of Colombia</i>       |
| 12.00 – 12.20   | <b>Carbon Dot Enhanced Active Polyvinyl Alcohol Film for Antifungi in Biodegradable Packaging for Sweet Bread</b> ( <i>Thanawutthiphong P., Bumbudsanpharok N.</i> )<br><i>Pornchanok Thanawutthiphong, Kasetsart University, Thailand</i>  |
| 12.20 – 12.40   | <b>Optimizing UV-C Treatment through Computational Fluid Dynamics for Sustainable Postharvest Orange Preservation: Balancing Safety and Microbial Inactivation</b> ( <i>Jothi J.S., Tanaka F., Tanaka F.</i> )<br><i>Jakia Sultana Johti, Kyushu University, Japan</i>  |
| 12.40 – 13.00   | <b>Temperature Responsive Dynamic O<sub>2</sub> Control in Fresh Produce Modified Atmosphere Transport container: parameter variability and sensitivity analysis</b> ( <i>Kalnar Y.B., Weltzien C., Mahajan P.V.</i> )<br><i>Yogesh B. Kalnar, ATB- Leibniz Institute for Agricultural Engineering and Bioeconomy, Germany</i>  |
| 13.00 – 13.20   | <b>Effect of plasma-activated water and active packaging on alteration kinetics of minimally processed fennel stored at different temperatures</b> ( <i>Shah M.H.S., Cavella S., Volpe S., Colonna F., Verardo V., Razola-Diaz M.d.C., Torrieri E.</i> )<br><i>Syed Mudabbar Hussain Shah, University of Napoli Federico II, Italy</i>  |
| 13.20 – 14.40   | <b>Lunch &amp; Poster Session</b>   |

| SESSION: INNOVATIVE TECHNOLOGIES FOR SHELF LIFE EXTENSION |  |
|---|--|
| 14.40 – 15.00   | <b>Engineering antibacterial plasma polymerized polyethylene glycol/ZnO nanocomposite coatings for extending pork sausage shelf life</b> ( <i>Zabihzadeh Khajavi M., Nikiforov A., Devlieghere F., Ragaert P., De Geyter N.</i> )<br><i>Maryam Zabihzadeh Khajavi, University of Gent, Belgium</i> |
| 15.00 – 15.20   | <b>Pulsed electric field technology in food processing: insights into treatment protocol optimization</b> ( <i>Genovese J.</i> )<br><i>Jessica Genovese, University of Milan, Italy</i>  |

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| 15.20 – 15.40 | <b>Valorization of spent coffee ground through the development of active alginate-chitosan films: physical properties and release kinetics</b> ( <i>Borriello A., Basile G., Miele N.A., Volpe S., Cavella S., Romano R., Torrieri E.</i> )<br><i>Nicoletta Antonella Miele, University of Naples Federico II, Italy</i> |
| 15.40 – 16.00 | <b>Shelf-life extension of packaged strawberries using a bio-based antimicrobial foam</b> ( <i>Riederer A., Beaudry R., Almenar E.</i> )<br><i>Eva Almenar, Michigan State University, USA</i>   |
| 16.00 – 16.20 | <b>Active coating formulation utilizing carboxymethyl cellulose, zinc oxide, and silver nanoparticles to extend the shelf life of mango</b> ( <i>Saekow M., Hamazu Y, Tongdeesoontorn W.</i> )<br><i>Wirongrong Tongdeesoontorn, Mae Fah Luang University, Thailand</i>  |
| 16.20 – 16.40 | <b>Exploring the science behind releasing active food biopackaging with by-products and plant-derived extracts</b> ( <i>Sanches Silva A.</i> )<br><i>Ana Sanches Silva, University of Coimbra, Portugal</i>  |
| 16.40 – 17.40 | <b>Coffee Break &amp; Poster Session</b>   |
| From h. 18.00 | <b>Cultural visit of the historical center of Reggio Emilia</b>  |
|               | <b>Social Dinner at Chiostrì di San Pietro (Reggio Emilia city center)</b>   |

### WEDNESDAY – MAY 22<sup>nd</sup> 2024

| SESSION: TRENDS IN PACKAGING MATERIALS DEVELOPMENT |  |
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| 09.00 – 09.30                                      | <b>KEYNOTE LECTURE</b><br><b>Chemical safety and risk assessment on bioplastics for food contact</b><br><i>Ana Rodríguez Bernaldo de Quirós, University of Santiago de Compostela, Spain</i>   |
| 09.30 – 09.50                                      | <b>Evaluation of salami, packaged in recyclable and eco-sustainable material</b> ( <i>Giombelli A., Principato L., Galli R., Gumus-Bonacina C.E., Bassani A., Spigno G.</i> )<br><i>Cansu Ekin Gumus-Bonacina, Università Cattolica del Sacro Cuore, Italy</i>   |
| 09.50 – 10.10                                      | <b>Tailoring PBAT/TPS Blend Films for Sustainable Bread Packaging: Investigation of TPS Grade and Its Implications</b> ( <i>Pertiwi Nurhadi R., Thanawutthiphong P., Bumbudsanpharok N.</i> )<br><i>Nattinee Bumbudsanpharok, Kasetsart University, Thailand</i>   |
| 10.10 – 10.30                                      | <b>Tannins as Multifunctional Additives for Polyhydroxyalkanoates to Develop Smart Food Packaging</b> ( <i>Ferri M., Papchenko K., Degli Esposti M., Tondi G., De Angelis M.G., Morselli D., Fabbri P.</i> )<br><i>Martina Ferri, University of Bologna, Italy</i>   |
| 10.30 – 10.50                                      | <b>Valorization of solid and liquid fractions obtained from an anaerobic fermentation process using fruits and vegetables waste, as a carbon source, for the development of sustainable food packaging materials</b><br>( <i>Aloui H., Arbi M., Khwaldia K.</i> )<br><i>Hajer Aloui, Institut National de Recherche et d'Analyse Physico-chimique, Tunisia</i> |
| 10.50 – 11.40                                      | <b>Coffee Break &amp; Poster Session</b>   |
| SESSION: TRENDS IN PACKAGING MATERIALS DEVELOPMENT |  |
| 11.40 – 12.00                                      | <b>Poly(butylene adipate-co-terephthalate)/Thermoplastic Starch/Zinc Oxide Bio-nanocomposite: Sustainable Alternative to Replace Commodity Perforated Plastic for Absorbent &amp; CO<sub>2</sub> Emitting Sachet</b><br>( <i>Pertiwi Nurhadi R., Bumbudsanpharok N.</i> )<br><i>Rineta Pertiwi Nurhadi, Kasetsart University, Thailand</i>                     |
| 12.00 – 12.20                                      | <b>Production and Characterization of Bacterial Cellulose from Pineapple Juice</b> ( <i>Peengern N., Sasanatayart R.</i> )<br><i>Rungarun Sasanatayart, Mae Fah Luang University, Thailand</i>   |
| 12.20 – 12.40                                      | <b>Evaluation of PLA and PBAT based biocomposites plasticized with different citric acid esters of mono and diglycerides (CITREMS)</b> ( <i>Mena-Prado I., Navas-Ortiz E., Fernández-García M., Limbo S., Rollini M., del Campo A., Muñoz-Bonilla A.</i> )<br><i>Ignacio Mena-Prado, Centro de Investigación y Tecnología Agroalimentaria de Aragón, Spain</i> |

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| 12.40 – 13.00 | <b>From orange by-products to edible and active films using electrohydrodynamic atomization</b> ( <i>Mariño-Cortegoso S., Silva P., Martins V.D.F., Rodríguez Bernaldo de Quirós A., Sendón R., Barbosa-Pereira L., Pastrana L., Bourbon A.I.</i> )<br><i>Sandra Mariño-Cortegoso, University of Santiago de Compostela, Spain</i> |
| 13.00 – 13.00 | <b>Montmorillonite/Graphene Oxide and Chitosan-based Nanocoatings with Improved Oxygen Barrier Properties</b> ( <i>Cabrini A., Fisher S.G., Iverson E.T., Lavorgna M., Cerruti P., De Nardo L., Gentile G., Grunlan J.C.</i> )<br><i>Alessia Cabrini, National Research Council (CNR), Italy</i>                                   |
| 13.20 – 14.30 | <b>Lunch &amp; Poster Session</b>  |

| SESSION: TECHNICAL AND SAFETY ISSUES OF RECYCLED AND SUSTAINABLE PACKAGING |   |
|--|---|
| 14.30 – 15.00  | <b>KEYNOTE LECTURE</b><br><b>Safety assessment of mechanical recycling processes of PET to be used for materials and articles in contact with food</b><br><i>Remigio Marano (EFSA)</i>  |
| 15.00 – 15.20  | <b>Effect of mechanical recycling and reprocessing of water bottles on the physical properties of poly(lactic acid) biopolymer</b> ( <i>Martinez-Arjona P., Velásquez E., Hernández-Muñoz P., Gavara G., López-de-Dicastillo C.</i> )<br><i>Carol López-de-Dicastillo, Institute of Agrochemistry and Food Technology (IATA), Spain</i>   |
| 15.20 – 15.40  | <b>Development of an enzymatic hydrolysis and microbial conversion process for the valorisation of single-use bioplastics</b> ( <i>Myburgh M.W., Rocher D.F., Viljoen-Bloom M., Favaro L.</i> )<br><i>Lorenzo Favaro, University of Padua, Italy</i>  |
| 15.40 – 16.00  | <b>Biodegradation behavior of Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) containing phenolic compounds in seawater in laboratory testing conditions</b> ( <i>La Fuente Arias C.I., González-Martínez C., Chiralt A.</i> )<br><i>Carla I. La Fuente Arias, Universitat Politècnica de València, Spain</i>  |
| 16.00 – 16.20  | <b>A study on the main parameters affecting the migration of mineral oil hydrocarbons from recycled paperboard</b> ( <i>Barp L., Conchione C., Suman M., Lambertini F., Moret S.</i> )<br><i>Laura Barp, University of Udine, Italy</i>   |
| 16.20 – 16.40  | <b>Recyclable flexible films with enhanced gas barrier for sustainable packaging</b> ( <i>Olivieri F., Castaldo R., Avolio R., Cocca M., Errico M.E., Senatore V., Carfagna C., Gentile G.</i> )<br><i>Federico Olivieri, National Research Council (CNR), Italy</i>  |
| 16.40 – 17.00  | <b>Identification of NIAS migrating from inner coatings of metallic cans – Toward provisional risk assessment of oligoesters</b> ( <i>Cariou R., Godéré M., Covès P., Rivière M., Mathé-Allainmat M., Lebreton J., Tessier A., Tatol C., Pieters G., Bemrah N., Teste B., Rodríguez-Bernaldo A., Barbosa-Pereira L., Séverin I., Chagnon M.C., Person E., Cabaton N., Le Bizec B., Dervilly G.</i> )<br><i>Ronan Cariou, Oniris, INRAE, LABERCA, France</i> |
| 17.00 – 17.20  | <b>Shelf life study of biobased lacquer from tomato by-products for food metal packaging</b> ( <i>Chierici S., Zurlini C., Cigognini I.M., Gelati S.</i> )<br><i>Serena Chierici, Stazione Sperimentale per l'Industria delle Conserve Alimentari (SSICA), Italy</i>  |
| 17.20 – 18.30  | <b>Concluding remarks</b><br><i>Parmigiano Reggiano Experience</i>  |
| 18.30  | <b>Guided sightseeing</b> ( <i>optional, in collaboration with Comune di Reggio Emilia</i> )  |

### THURSDAY – MAY 23<sup>rd</sup> 2024

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| 8.30-15.00 | <b>Guided visits at food companies</b> ( <i>Barilla and Acetaia Giusti</i> ) |
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