

29TH iapri 
Symposium on
Packaging

UNIVERSITY OF TWENTE.



PROGRAM

Serving society
*Innovative
perspectives on
packaging*

29th IAPRI Symposium on Packaging 2019, Enschede, University of Twente, The Netherlands

Tuesday 11th June 2019

9.00-12.00	IAPRI Board Meeting - De Horst Building - Room Z203
12.00-13.00	PTS Editorial Meeting - De Horst Building - Room Z109
13.00-14.00	IAPRI Working Group Meeting - Packaging and Consumers - De Horst Building - Room Z203
14.00-15.00	IAPRI Working Group Meeting - Distribution Packaging - De Horst Building - Room Z203
15.00-16.00	IAPRI Working Group Meeting - Sustainable Packaging - De Horst Building - Room Z203
16.00-17.00	IAPRI Working Group Meeting - Active & Intelligent Packaging - De Horst Building - Room Z203
17.00-20.00	Registration - U Park Hotel - Campus of University of Twente
18.00-20.00	Welcome reception at U Park Hotel - Campus of University of Twente

Sponsors



The IAPRI prices are sponsored by Lansmont



The Career Start Award is sponsored by Paul Singh



Wednesday 12th June 2019

8.00-8.30	Welcome and registration		
8.30-9.00	Opening - C101		
9.00-9.45	Keynote Lecture Patrick van Baal FrieslandCampina - C101		
9.45-10.30	Keynote Lecture Agnieszka van Batavia The LCA Centre - C101		
10.30-11.00	Coffee break		
	Session 1 - Distribution Packaging Chair: Damien Erre Room OH111	Session 2 - Packaging Materials Chair: Renee Wever Room OH113	Session 3 - Active & Intelligent Packaging Chair: Vanee Chonhenchob Room OH115
11.00-11.25	<p><u>1.1 Pitch 1</u> - Record and Analysis ... by Jean-Baptiste Nolot - Université de Reims Champagne Ardenne / France</p> <p><u>1.1 Pitch 2</u> - Biobased Biodegradable ... by Stanislav Landa (replacing Karina Kjeldgaard-Nielsen) - Danish Technological Institute / Denmark</p> <p><u>1.1 Pitch 3</u> - Characterization of Horizontal ... by Kyle Dunno - RIT - Packaging Science Program / United States</p> <p style="text-align: center;">Sustainable Packaging</p> <p><u>1.1 Pitch 4</u> - Alternative Approach for ... by Dries Gevers - Hasselt University / Belgium</p>	<p><u>2.1 Pitch 1</u> - Evaluation of Moulded ... by Anton Hagman - RISE / Sweden</p> <p><u>2.1 Pitch 2</u> - Production of Tea Bag ... by Nucharin Luangsa-Ard - King Mongkut's University of Technology Thonburi / Thailand</p> <p><u>2.1 Pitch 3</u> - Toxicological Profile of ... by Arantxa Ballesteros Riaza - ITENE / Spain</p> <p><u>2.1 Pitch 4</u> - Study of Physical ... by Pradtana Muangprakaew - King Mongkut's University of Technology Thonburi / Thailand</p> <p><u>2.1 Pitch 5</u> - Injection-molded packaging ... by Rangrong Yoksan - Kasetsart University / Thailand</p>	<p><u>3.1 Pitch 1</u> - Development of Capacitive ... by Mieke Buntinx (replacing Indranil Basak) - Hasselt University, Belgium</p> <p><u>3.1 Pitch 2</u> - Fabrication of Novel ... by Kanthika Nantapreecha - Kasetsart University, Thailand</p> <p><u>3.1 Pitch 3</u> - Modeling of the biopolymer ... by Xi Chen - Jiangnan University / China</p> <p><u>3.1 Pitch 4</u> - Functional Coatings, Inks ... by Lluís Pascual (replacing Inmaculada Lorente) - ITENE / Spain</p>
11.30-11.55	<p><u>1.2</u> A Numerical Model for Predicting the Vibratory Behaviour Road Transport Vehicles Matthew Lamb Victoria University / Australia</p>	<p><u>2.2</u> Next Level of Corrugated Board Research Astrid Odeberg Glasenapp RISE / Sweden</p>	<p><u>3.2</u> Active Edible Packaging: Solution for Lipid Oxidation? Fernanda Vilarinho (replacing Frederico Castro) National Institute of Health Dr. Ricardo Jorge / Portugal</p>
12.00-12.25	<p><u>1.3</u> A Method for Predicting the Compression Strength of Any Type of Corrugated Box Takashi Takayama Kobe University / Japan</p>	<p><u>2.3</u> Perforations on Boxes – Some Fundamental Facts Anton Hagman RISE / Sweden</p>	<p><u>3.3</u> Advanced Food Packaging Applications of Modified Commercial PET-based Microwave Susceptors Alexander Bardenstein Danish Technological Institute / Denmark</p>
12.30-13.00	Research lecture Helén Williams Karlstad University / Sweden - C101		
13.00-14.00	Lunch		

Wednesday 12th June 2019 - Afternoon

Session 4 - Distribution Packaging

Chair: Gregory Batt
Room OH111

Session 5 - Machinery & Systems / Novel Packaging

Chair: Paul Singh
Room OH113

Session 6 - Packaging Materials

Chair: Eric Martine
Room OH115

14.00-14.25	4.1 Relation between Conditions of Cushioning Design and Resonant Frequencies of Cushion – Product System Kazuki Tsuda Osaka research institute of industrial science and technology / Japan	5.1 Study of the Possibilities for Developing Recyclable Plastic Films for Packaging Søren Rahbek Østergaard Danish Technological Institute / Denmark	6.1 Hygroexpansion, Lacquer Coating and Surface Roughness Affect the Electrical Resistivity and Gas Barrier of Physical Vapor Deposited Aluminum Coatings on Paper Martina Lindner Fraunhofer / Germany
14.30-14.55	4.2 Kurtosis Response Spectrum Analysis for Anti-Vibration Package Design Akira Hosoyama Osaka research institute of industrial science and technology / Japan	5.2 Flexible Low-Batch Size Manufacturing of Molded Paper Packaging with Barriers Kiril Kirilov / Alexander Bardenshtein Danish Technological Institute/ Denmark	6.2 Box compression strength of packages in different climates Gustav Marin RISE, Sweden
15.00-15.25	4.3 Accumulated Fatigue Spectra for Random Vibration Testing David Shires Wiley Journal of Packaging Technology & Science / United Kingdom	5.3 Student Sense of Belonging in a Large Classroom Introductory Packaging Course Alyssa Harben Michigan State University School of Packaging / United States	6.3 In-situ Changes of Thermo-Mechanical Properties of Poly(Lactic Acid) Film immersed in Aqueous-Alcoholic Solutions Uruchaya Sonchaeng Michigan State University School of Packaging / United States

15.30-16.00 Coffee break

Session 7 - Active & Intelligent Packaging

Chair: Selçuk Yildirim
Room OH111

Session 8 - Packaging Materials

Chair: Rafael Auras
Room OH113

Session 9 - Packaging for food / agriculture

Chair: Zhi-Wei Wang
Room OH115

16.00-16.25	7.1 Characterization of Biopolymer Blends Based on Poly(lactide) entrapped with Natural Volatile Compound for Antifungal Packaging Applications in Bakery Products Panitee Suwanamornlert Kasetsart University / Thailand	8.1 Fluorescent Bioplastic Film from Konjac Glucomannan Mixed with Chitosan and Turmeric for Security Food Packaging Suchapa Netpradit King Mongkut's University of Technology Thonburi / Thailand	9.1 Light Transmittance in Packaging Materials and Effect of Light Barrier on Greening of Folva Cultivar Potatoes (Solanum tuberosum L.) stored at 20 °C under LED Light Hanne Larsen NOFIMA, Norway
16.30-16.55	7.2 Synthesis of bio-based Cyclodextrin Metal-Organic Framework for encapsulation of Ethanol Ajay Kathuria (replacing An-Katrien Pauwels) California Polytechnic State University / United States	8.2 Diffusion of Organic Molecules in Poly Lactic Acid (PLA) Films Frank Welle Fraunhofer / Germany	9.2 Changes in Properties of Shrinkable Plastic Packaging due to the Effect of Storage Conditions Silvia Dantas (replacing Lea Oliveira) INSTITUTO DE TECNOLOGIA DE ALIMENTOS / Brazil
17.00-17.25	7.3 Ink-based Printed Susceptor for Food Packaging Applications within the Snack Sector Alicia Pinazo (replacing Nuria Herranz Solana) ITENE, Spain	8.3 Study of the Oxygen Barrier Properties of PET via Ultrasonic Spray Coating of ZnO Nanoparticles Mohsin Abbas Hasselt University / Belgium	9.3 Development of Packaging System and Transport Packaging Technology for Philippine Broccoli Daisy Tanafranca DOST-ITDI / Philippines

18.00 Depart busses from Campus - Parking Lot P2

19.00-22.30 Social Dinner at Grolsch Brewery with tour



Thursday 13th June

9.00-9.45 Keynote Lecture
Martin de Olde
Ardagh Group - C101

9.45-10.30 Keynote Lecture
Chris Bruijnes
Netherlands Institute of Sustainable Packaging (KIDV) - C101

10.30-11.00 Coffee break

Session 10 - Distribution Packaging

Chair: Jay Singh
Room OH111

Session 11 - Packaging Sustainability

Chair: Yves Wyser
Room OH113

Session 12 - Packaging Materials

Chair: Bjorn de Koeijer
Room OH115

11.00-11.25	10.2 Emergency Braking and Stability Testing, Response Analysis Manuel Garcia Romeu Safe Load Testing Technologies / Spain	11.1 Pitch 1 - Water Resistance Improvement ... by Wasin Thitsartarn - Kasetsart University / Thailand 11.1 Pitch 2 - Possibilities on Prediction ... by Anja Geburtig - BAM Federal Institute for Materials Research and Testing / Germany	12.1 Effect of Zeolite 5A Incorporation on Poly(butylene adipate-co-terephthalate)/ Thermoplastic Starch Blend Kannika Yimnak Kasetsart University / Thailand
11.30-11.55	10.2 Response Performance of Semi-Rigid Stacked Plastic Drum Units along Shock Impulses Bence Molnár István University/ Hungary	11.2 Current Issues and Advances in Consumer Research and Testing for Sustainable Packaging Ziynet Boz Packaging Technology and Research LLC / Turkey	12.2 Surface Modification of Coconut Fiber for Reinforced Thermoplastic Starch Foam Kanyapat Klairasamee kasetsart University / Thailand
12.00-12.25	10.3 Investigation of the Effect of Column Stacked Corrugated Boxes on Load Bridging using Partial Four-Way Stringer Class Wooden Pallets* Laszlo Horvath Virginia Tech / United States	11.3 Reducing Plastic by using Recyclable Materials without Compromising Quality and Shelf Life of Salmon Fillets Marit Kvalvag Pettersen NOFIMA, Norway	12.3 Improving Recycled PET Polymeric Blends through the Incorporation of Commercial Nano-reinforcements Eliezer Velasquez (replacing Carol Lopez de Dicastillo) Universidad de Santiago de Chile / Chile

12.30-12.50 Student Research Presentation
Wanjun Chu
Linköping University / Sweden - C101

12.50-14.00 Lunch

Thursday 13th June - Afternoon

Session 13 - Packaging for Food and Agriculture / Packaging Materials

Chair: Javier Zabaleta
Room OH111

Session 14 - Machinery & Systems / Novel Packaging

Chair: David Shires
Room OH113

Session 15 - Medical, cosmetic & pharmaceutical packaging / Dangerous Goods

Chair: Silvia Dantas
Room OH115

14.00-14.25	13.1 Modeling American Household Fluid Milk Consumption and their Resulting Environmental Footprint Sebastian Stankiewicz Michigan State University School of Packaging / United States	14.1 Sorting as a Key Factor for High Quality of Recycled Polypropylene Tanja Radusin NOFIMA, Norway	15.1 Methodology for Medical Packaging Design with a Social Approach Cristina Guzman-Siller Universidad de Monterrey / Mexico
14.30-14.55	13.2 Development of multilayer films with improved aroma barrier properties for durian packaging application* Charinee Winotapun National Metal and Materials Technology Center / Thailand	14.2 Replacing Conventional Laminate Material (PA/PE) with Recyclable Monomaterials (PP, HDPE): A Case Study on Hot Dogs Julie Nilsen-Nygaard NOFIMA, Norway	15.2 Pharmaceutical Packaging and Logistics for the Elderly Kevin Smith Brandman University / United States
15.00-15.25	13.3 Development of a Biodegradable Thermoformed Tray for Food Waste Handling Carlos Diaz Rochester Institute of Technology / United States	14.3 How Changes in Consumer Package Design Impact Environmental Sustainability Jonghun Park Ryerson University / Canada	15.3 Leakproofness of Dangerous Goods Packagings - Comparison of Worst-Case Limit Leakage Rates and Sensitivity of the Bubble Test* Eva Schlick-Hasper Federal Institute for Materials Research and Testing (BAM) / Germany

15.30-16.00 Coffee break

Session 16 - Packaging Materials

Chair: Søren Rahbek Østergaard

Session 17 - Packaging Sustainability / Packaging Standards and Legislation

Chair: Helén Williams

Session 18 - Packaging design, ergonomics, human factors / Logistics and Supply Chain

Chair: Cristina Guzman

16.00-16.25	16.1 Simulation and Experimental Verification of a Drop Test and Compression Test of a Gable Top Package* Mikael Nygårds RISE / Sweden	17.1 Improving the Collection of Packaging Waste through Smart Containers and Pay-as-you-throw-Systems Laura Blasco ITENE / Spain	18.1 Consumer Value for Time-Temperature Indicators in Sushi Packaging Virpi Korhonen Package Testing & Research Ltd / Finland
16.30-16.55	16.2 Evaluation and Optimization of Seal through Solid Contamination Behavior of Heat Conductively Sealed Films: I. Response Surface Method* Bram Bamps Hasselt University / Belgium	17.2 Biaxial Orientation of Biodegradable PLA/PBAT/TPS Blend for Packaging Application Porawee Katanyoota Kasetsart University / Thailand	18.2 Frustrated and Malnourished: Unwrapping Older Peoples' Food and Beverage Pack Experiences in Hospital Alison Bell University of Wollongong / Australia
17.00-17.25	16.3 Determination of the Nitrogen Gas Transmission Rate of Ethylene Vinyl Alcohol Copolymer, using a Newly Developed Permeation Measurement System Caroline Maes Hasselt University / Belgium	17.3 Migration from Food Packaging materials - Concerns and Opportunity Javiera Rubilar Parra Research Consultant / United States	18.3 Analysis of the Axial Crushing of Thin-walled Rectangular Paper Tubes with Different Strength in Tension and Compression Liao Pan (replacing Xiaogen Lian) Jiangnan University / China

18.45 Depart busses from Campus - Parking Lot P2

19.00-22.30 Official Dinner at De Wilmersberg

*Peer review stream of PTS



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Friday 14th June

Session 19 - Distribution Packaging

Chair: Vincent Rouillard
Room OH111

Session 20 - Active & Intelligent Packaging

Chair: Alexander Bardenstein
Room OH113

Session 21 - Packaging Materials

Chair: Mika Vähä-Nissi
Room OH115

9.00-9.25	19.1 Angular Accelerations, the Key to Transport Simulation Ariana Gómez Tabanera ITENE / Spain	20.1 Vanillin-Based Active Paper Packaging Influence on Shelf Life of Bakery Products Napatsorn Leabwan Kasetsart University / Thailand	21.1 Nanocellulose as Material Reinforcement and its Potential for Packaging Applications Pilar Albaladejo (replacing Rafael Sanchez Serrano) ITENE, Spain
9.30-9.55	19.2 Analysis of a Forklift Handling Course and Multiple Propositions with Evaluation of Laboratory Simulations Anne-Sophie Bonnin METROPACK, France	20.2 An Intelligent Colorimetric Indicator based Curcumin-Methylcellulose for Detecting Status of Sea Bass Fillets during Chilled Storage Condition Nawaporn Wannawisan Kasetsart University / Thailand	21.2 PLA/NR/TPS Ternary Blend: A Promising Bio-Based Material for Secondary Packaging Sukanya Wongwat Kasetsart University / Thailand
10.00-10.25	19.3 ISTA Distribution Environment Data Collection Program Brian O'Banion International Safe Transit Association / United States	20.3 Market Implementation of Active and Intelligent Packaging – Opportunities from a Socio-economic Perspective Mieke Buntinx (replacing Johanna Lahti) Tampere University / Finland	21.3 Improving Mechanical and Barrier Properties of Thermoplastic Starch-Based Blown Films for Flexible Packaging Khanh Minh Dang Kasetsart University / Thailand
10.30-11.00	Coffee Break		

Friday 14th June - Second half morning and afternoon

Session 22 - Packaging design, ergonomics & human factors

Chair: Virpi Korhonen
Room OH111

Session 23 - Logistics and Supply Chain

Chair: Kevin Smith
Room OH113

Session 24 - Packaging for Food and Agriculture

Chair: Frank Welle
Room OH115

11.00-11.25	<p>22.1 The Effect of Coplanar Sensor Spacing on Determining the Angular Acceleration of Vehicles* Gregory Batt Clemson & Purdue Universities / United States</p>	<p>23.1 Pitch 1 - Damage by Long Duration Accelerations ... by Victor Huart - METROPACK / France</p> <p>23.1 Pitch 2 - An Evaluation of Distribution Practices ... by Jay Singh - California Polytechnic State University / United States</p> <p>23.1 Pitch 3 - Study of the Strength Relation between ... by Xuejia Li - Jiangnan University, China</p>	<p>24.1 Pitch 1 - Optimization of the gas composition ... by Susanna Miescher - Zurich University of Applied Sciences / Switzerland</p> <p>24.1 Pitch 2 - Active Packaging to Preserve ... by Raúl Díaz González - ITENE / Spain</p> <p>24.1 Pitch 3 - Study of the Influence ... by Daniela Yamashita - Institute of Food Technology ITAL / Brazil</p> <p>24.1 Pitch 4 - Spoilage Bacteria on Chicken ... by Anlaug Ådland Hansen - NOFIMA, Norway</p>
11.30-11.55	<p>22.2 Pitch 1 - Methodology for Discretizing ... by Laura Esteban - ITENE / Spain</p> <p>22.2 Pitch 2 - Image and Warning Messages ... by Wannarat Wirachkul - King Mongkut's University of Technology Thonburi / Thailand</p> <p>22.2 Pitch 3 - A New Package Design Paradigm ... by Hae Chang Gea Rutgers University / United States</p> <p>22.2 Pitch 4 - Generational Preferences on Sustainable ... by Iris Borgman - University of Twente / The Netherlands</p>	<p>23.2 Equivalence between Acceleration RMS-life and Stress-life Curves for Accelerated Random Vibration Testing of Product or Packaged Product Zhi-Wei Wang Jinan University / China</p>	<p>24.2 Development of Antifungal Film to Delay Postharvest Decay in Mango Fruit Witchuda Daud National Metal and Materials Technology Center / Thailand</p>
12.00-12.25	<p>22.3 Using Mobile Eye Tracking and K-coefficients for Analyzing Usability Trials Irene Carbonell California Polytechnic State University / United States</p>	<p>23.3 Four-dimensional Concurrent Engineering - an Extended Theoretical Framework integrating Packaging Chris Dominic University of Gävle / Sweden</p>	<p>24.3 Aroma Compounds Characterization of Dried "Tom Yum" Soup Herbs in Different Packaging Materials by Gas Chromatography-Mass Spectrometry Combined with Sensory Evaluation Techniques Pimonpak Chockdamrongsuk Kasetsart University / Thailand</p>
12.30-12.55	<p>22.4 Design thinking in packaging education Javier de la Fuente California Polytechnic State University / United States</p>		

*Peer review stream of PTS

13.00-14.00	Lunch
14.00-15.00	General Meeting - OH111
15.00-16.00	<p>Visits to the labs Virtual Reality Lab 3D-Print Lab Design lab</p>