



## 31st IAPRI Members' Conference on Packaging 2023, SIES School of Packaging, Navi Mumbai, India

Venue: Hotel Four Points by Sheraton, Navi Mumbai

Monday 22nd May 2023	
9.00 - 12.00	IAPRI Board Meeting - Unison 1
12.00 - 13.00	Lunch Break - Prefunction Area
13.00 - 14.00	IAPRI Communities of Practice - University Education CoP - Unison 3 Led by: Edward A. Church
14.00 - 15.00	IAPRI Communities of Practice - Distribution Packaging CoP - Unison 1 Led by: Edward A. Church
15.00 - 16.00	IAPRI Communities of Practice - Sustainable Packaging CoP - Unison 3 Chair: Carlos Diaz-Acosta

16.00 - 17.00	IAPRI Communities of Practice - Packaging & Consumers CoP and Active & Intelligent CoP- Unison 1 Chair: Selcuk Yildirim	
18.00 - 20.00	Registration - Hotel Four Points by Sheraton, Navi Mumbai - Pre-function Area	
19.00 - 22.00	Welcome reception at Hotel Four Points by Sheraton, Navi Mumbai - Unison Hall	
<b>Tuesday 23rd May 2023</b>		
09.00 – 09.30	Registration Unison Hall	
09.30 – 11.00		<p><b>Conference Opening / Inauguration</b>  <b>Chief Guest</b>  <b>Mr. Piyush Goyal,</b>  Minister of Commerce &amp; Industry, Consumer Affairs &amp;  Food &amp; Public Distribution and Textiles · Government of India</p>
11.00 – 11.30	Beverage Break	
11.30 - 12.00		<p><b>Keynote Lecture - 1</b>  <b>"Coup d'oeil - The Indian Packaging &amp; Printing Industry"</b>  <b>Ramu Ramanathan,</b> Editor,  PrintWeek India &amp; WhatPackaging?, India</p>
12.00 - 12.30		<p><b>Keynote Lecture - 2</b>  <b>"EU Packaging Regulations – forward regulatory insight update"</b>  <b>Diana Schiffer,</b> Packaging Regulatory Advisor,  The LCA Centre, Netherlands</p>
12.30 - 13.30	Lunch break - Prefunction Area	

**13.30 - 15.00** **Parallel Sessions**

**Session 01 - Distribution Packaging**  
**Chair:** Dr. Jay Singh. Cal Poly State University, USA  
 Room: Unison 1

**Session 02 - Packaging sustainability**  
**Chair:** Dr. Eric Martine. HEIG-VD, Switzerland  
 Room: Unison 3

13.30 - 13.55	1.1 Effect of Wooden Pallets Characteristics on the Compression Strength of Palletized Plastic Pails with Double Overhang. <b>Mary Paz Alvarez Valverde</b> - Virginia Tech - Center for Packaging and Unit Load Design/United States
14.00 - 14.25	*1.2 Predicting the Effect of Pallet Overhang on the Box Compression Strength. <b>Saewhan Kim</b> - Virginia Tech - Center for Packaging and Unit Load Design/United States
14.30 - 14.55	*1.3 Evaluation of Maximum Pallet Deflection Under Dynamic Forklift Handling Conditions. <b>Seth Capizzi</b> - Virginia Tech - Center for Packaging and Unit Load Design/United States

*2.1 Life cycle assessment of multiple dispensing systems used for cosmetic product packaging. <b>Shambhavi Rathore</b> - Toronto Metropolitan University /Canada
2.2 Microfibrillated cellulose as reinforcement in PLA-based packaging materials: Dry or wet addition in extrusion processes. <b>Soraya Sánchez</b> - ITENE/Spain

**15.00 – 15.15** **Break – Beverages**

**15.15 – 17.15** **Parallel Sessions**

**Session 03 - Packaging Materials**  
**Chair:** Yves Wyser. Nestlé Research Centre, Switzerland  
 Room: Unison 1

**Session 04 - Active & Intelligent Packaging**  
**Chair:** Selcuk Yildirim. ZHAW, Switzerland  
 Room: Unison 3



15.15 - 15.40	*3.1 Effect of food simulants on CuONP stability in bionanocomposite food packaging film. <b>Nattinee Bumbudsanpharoke</b> - Kasetsart University/Thailand
15.45 - 16.10	*3.2 A review on the influence of materials in heat seal layers of flexible plastic food packaging. <b>Bram Bamps</b> - U Hasselt/Belgium

*4.1 Evaluation of the Antimicrobial Activity of Sodium Alginate Films Integrated with Cinnamon Essential Oil and Citric Acid. <b>Nadine Rüegg</b> - Zurich University of Applied Sciences/Switzerland
4.2 Barrier Properties of PLA/PBAT Films Incorporating Titanium Dioxide. <b>Uruchaya Sonchaeng</b> - Kasetsart University/Thailand

16.15 - 16.40	3 3 - Effect of Consecutive Extrusion Process on the Properties of Recycled Polyethylene Terephthalate (rPET). <b>Busarin Chongcharoenyanon</b> - Kasetsart University/Thailand	4.3 Ethylene Colorimetric Ink For Monitoring Fruit Ripening. <b>Jesus Palenzuela</b> - ITENE/Spain
16.45 - 17.10		4.4 Mechanical properties of PBAT/TPS nanocomposites under UV exposure. <b>Thitiporn Kaewpetch</b> - Kasetsart University/Thailand
<b>*Peer Review PTS</b>		

19.00 – 22.00	<b>Official Dinner with Musical Performance</b> Skygrill - Open Terrace	
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**Wednesday 24th May 2023**

08.30 – 09.00	<b>Registration</b> Unison Hall	
08.30 - 09.00		<b>Keynote Lecture - 3</b> <b>"Latest research &amp; developments in the area of food packaging"</b> <b>Dr. Kirtiraj Gaikwad</b> , Asst. Professor (Packaging Tech), Indian Institute of Technology, Roorkee, India
09.00 - 09.30		<b>Keynote Lecture - 4</b> <b>"Innovation at Scale: Regenerative Packaging for a cleaner Planet"</b> <b>Dr. Ramjee Subramanian</b> , Business Head, Pakka Impact Ltd., Bengaluru, India
09.30 - 10.00	<b>Presentation by Student Scholarship Award Winner</b> <b>Marije Linders</b> from the University of Twente, The Netherlands	

10.00 - 10.30	<b>Poster Presentations</b>
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10.00 - 10.05	<b>Pitch 1</b> - Estimation of the degradation of strawberries during Rail transport from knowledge and experiences made on Roads trips by <b>Jean-Baptiste NOLOT and Philippe DELLOQUE</b> - <i>Universite de Reims Champagne-Ardenne/ France</i>
10.05 - 10.10	<b>Pitch 2</b> - Understanding silver nanoparticle leaching behavior from active biobased nanocomposites by <b>Mieke Buntinx</b> - <i>Hasselt University - MPR&amp;S Institute for Materials Research/Belgium</i>
10.10 - 10.15	<b>Pitch 3</b> - Sustainable Development of Single-Use Paper Cups for Beverage Packaging in Thailand by <b>Supawadee Theerathamakorn</b> - <i>Sukhothai Thammathirat Open University/Thailand</i>
10.15 - 10.20	<b>Pitch 4</b> - Release of Vanillin, trans-Cinnamaldehyde, and Citral from Poly(butylene succinate) Films Containing Lignin Nanoparticles by <b>Pathamawadee Nuamduang</b> - <i>Kasetsart University/Thailand</i>
10.20 - 10.25	<b>Pitch 5</b> - Novel Temperature-sensitive label based on thermochromic ink for hot food packaging and serving applications by <b>Prachi Jain</b> , <i>Indian Institute of Technology Roorkee / India</i>
10.25 - 10.30	<b>Pitch 6</b> - Natural pH sensors as a quality monitoring smart label for poultry packaging by <b>Akhila Konala</b> , <i>Indian Institute of Technology Roorkee / India</i>

10.30 - 11.00	<b>Beverage Break</b>
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11.00 - 12.30	<b>Parallel Sessions</b>	
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**Session 05 - Distribution Packaging**

**Chair:** Damien Erre. ESIREims, France

Room: Unison 1

**Session 06 - Packaging Materials**

**Chair:** Carmen Sanchez. ITENE. Spain

Room: Unison 3

11.00 - 11.25	5.1 Transport stresses in e-commerce logistics and its effects on corrugated board packaging. <b>Astrid Odeberg Glasenapp</b> - <i>RISE Bioeconomy/Sweden</i>	6.1 Biochar composites for sustainable thermal packaging applications. <b>Carlos Diaz-Acosta</b> - <i>Rochester Institute of Technology/United States</i>
11.30 - 11.55	5.2 Optimal selection of the percentage of recycled material in plastic according to the risks of distribution cycle. <b>Marta Garrido García</b> - <i>ITENE/Spain</i>	6.2 Effect of wrapping parameters and transport constraints on stretch film properties for freight transport applications. <b>Elora Leguebe</b> - <i>Metropack/France</i>
12.00 - 12.25	5.3 Understanding how vertical and multi-axial vibrations affects the load stability. <b>Manuel García-Romeu</b> - <i>Safe Load Testing Technologies/Spain</i>	6.3 Sugarcane as a source to produce paper in Mexico. Study to evaluate the feasibility for Mexican Industry. <b>Cristina Guzman</b> - <i>Universidad de Monterrey/Mexico</i>

12.30 – 13.30	Lunch Break - Prefunction Area	
13.30 - 15.30	Parallel Sessions	
	<p><b>Session 07 - Novel packaging</b> Chair: Yves Wyser. Nestlé Research Centre, Switzerland Room: Unison 1</p>	<p><b>Session 08 - Packaging sustainability</b> Chair: Cristina Guzmán. Universidad de Monterrey, Mexico Room: Unison 3</p>
13.30 - 13.55	<p>7.1 Fluorescent markers for bioplastics from encapsulated algae chlorophyll. <b>Soraya Sánchez</b> - ITENE/Spain</p>	<p>8.1 The position of refill systems in the future of supermarkets. <b>Roland ten Klooster</b> - University of Twente/ The Netherlands</p>
14.00 - 14.25	<p>7.2 Pilot-scale processing and functional properties of compostable thermoplastic gliadin/poly(ε-caprolactone) blend films. <b>Alejandro Aragón-Gutiérrez</b> - ITENE/Spain</p>	<p>8.2 Research after an innovative way to determine designs of squeeze bottles with the least leftovers. <b>Zoë Menting</b> - University of Twente/The Netherlands</p>
14.30 - 14.55	<b>Packaging for hazardous &amp; dangerous goods</b>	
	<p>*7.3 Improved criteria for evaluating impact targets in regulative drop tests of dangerous goods packagings. <b>Nikolaos Lengas</b> - BAM Federal Institute for Materials Research and Testing/Germany</p>	<p>8.3 A review of sustainable packaging trends globally and in India with changes in regulatory &amp; consumer requirements. <b>Saurabh Narawade</b> - SIES School of Packaging/India</p>
15.00 - 15.25	<p>*7.4 How to measure the angle of repose of hazardous substances in the test centres for dangerous goods packagings. <b>Eva Schlick-Hasper</b> - Federal Institute for Materials Research and Testing (BAM)/ Germany</p>	<p style="text-align: center;"><b>Active &amp; Intelligent Packaging</b></p> <p>8.4 Centrifugal fiber spinning to fabricate polyhydroxyalkanoate/zinc oxide nanocomposite films: structure-property analysis. <b>Chris Vanheusden</b> - Hasselt University - MPR&amp;S/Belgium</p>
<b>*Peer Review PTS</b>		
15.30 – 15.45	Beverage Break	

**15.45 – 17.15** **Parallel Sessions**

**Session 09 - Logistics & Supply Chain**  
**Chair:** Jay Singh. Cal Poly State University, USA  
**Room:** Unison 1

**Session 10 - Packaging machinery & systems**  
**Chair:** Roland Klooster. University of Twente, Netherlands  
**Room:** Unison 3

15.45 - 16.10	9.1 How grocery retailers can utilize learnings from meal kit delivery services to optimize their supply chain. <b>Jay Singh</b> - Cal Poly State University, Industrial Tech. and Packaging/United States
16.15 - 16.40	9.2 Logistical Challenges to Deliver in the Last Mile for Consumer, Furniture, and Military including White Glove Services. <b>Kevin Smith and Paul Singh</b> - Packaging Forensic Associates/United States
16.45 - 17.10	

10.1 Developing a design method and tool for producing customizable forming shoulders. <b>Roland ten Klooster</b> - University of Twente/ The Netherlands
<b>Packaging for Food &amp; Agriculture</b>
10.2 Use of waxes and rubbers to create SUPD-compliant coated packaging. <b>Akasha Singh</b> - VTT/Finland
10.3 Microperforated PBAT/PLA Film with Enhanced Gas Transmission Rate for Packaging of Fresh Produce. <b>Pichamon Sungdech</b> - Kasetsart University/Thailand

**19.00 – 22.00** **Social Dinner with Cultural Show**  
Unison Hall

**Thursday 25th May 2023**

**09.00 – 11.00** **Parallel Sessions**

**Session 11 - Distribution Packaging**  
**Chair:** Cristina Guzmán. Universidad de Monterrey, Mexico  
**Room:** Unison 1

**Session 12 - Packaging sustainability**  
**Chair:** Rafael Auras. School of Packaging, Michigan State University  
**Room:** Unison 3

09.00 – 09.25	11.1 High-speed camera analysis of load/pallet interface behavior in logistics unit submitted to impact. <b>Charles Tissandie</b> - Institut Clément Ader Université de Toulouse/France
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12.1 New Sustainable Inks For The Packaging Printing Industries. <b>Jesus Palenzuela</b> - ITENE/Spain
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09.30 – 09.55	11.2 Statistical study on acceleration value data recorded on roundabout, curve, during a road trip to classify them in function. <b>Baptiste Boutrige</b> - Metropack/France	12.2 Recycled Polymers: Improving recycled high density polyethylene properties through reactive extrusion. <b>Alejandro Aragón-Gutiérrez</b> - ITENE/Spain
10.00 – 10.25	11.3 Case studies for optimization and standardization of packaging references improving its environmental behaviour. <b>Marta Garrido García</b> - ITENE/Spain	12.3 A trend-based analysis of packaging material amounts per capita per day in The Netherlands. <b>Roland ten Klooster</b> - University of Twente/The Netherlands
10.30 – 10.55	<b>Active &amp; Intelligent Packaging</b>	
	11.4 Shelf-life extension of fresh-cut pineapple by sodium alginate-based active edible coating with lemongrass essential oil. <b>Darylle Ortiz</b> - DOST-Packaging Technology Division/Philippines	12.4 Accelerating the biodegradation of poly(lactic acid) at mesophilic conditions by biostimulation. <b>Rafael Auras</b> - Michigan State University, School of Packaging/ United States
11.00 – 11.30	<b>Beverage Break</b> Unison Hall	
11.30 – 12.30	<b>Conference Closure</b>	
12.30 – 13.30	<b>Lunch Break</b> - Prefunction Area	
13.30 – 14.30	<b>IAPRI General Meeting</b> Unison Hall	
<b>Optional Tours post lunch:</b>		
Visit to SIES Navi Mumbai Campus and SIES School of Packaging		
Mumbai Heritage Tour (Evening)		