



CONFERENCE PROGRAM

FOAMS® 2025

Sept. 30–Oct. 3, 2025 • Naples, Italy

Hosted by the University of Naples Federico II



INSPIRING
PLASTICS
PROFESSIONALS

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Thursday October 2, 2025

day one

8:00 - 8:05

Welcome to FOAMS 2025
Ernesto Di Maio, Conference Chair

8:05 - 8:35

Keynote: Ultra melt strength polypropylene as an enabler for lightweighting in different industries
Enrico Troisi, SABIC, Netherlands

SESSION 1 FOAM CIRCULAR ECONOMY Moderator Cristina Saiz–Arroyo	8:35 - 8:55	Valorization of undervalued mixed color rPET by supercritical CO2-assisted extrusion foaming Daniel Vadas, Fundación CIDAUT, Spain
	8:55 - 9:10	Microwave assisted foaming of acrylated epoxydized soybean oil Salvatore Iannace, National Research Council, Milan, Italy
	9:10 - 9:25	Reuse of ground polyurethane foam and the granulated composite of polyurethane reinforced with glass fiber Michele Limuti, Cannon Afros, Italy
	8:55 - 9:10	Study and development of fully recyclable and very light Vacuum Insulated Panels based on open-cell foam and end-of-life ground foam Simone Bechi, Cannon Afros, Italy.
	9:40 - 10:15	<i>Coffee Break / Exhibit</i>

10:15 - 10:35	Flexible High-Frequency Polymer Foam Welding Makrina Chairopoulou, adidas AG, Germany	SESSION 2 SUSTAINABLE AND BIOBASED FOAMS Moderator Judith Martin
10:35 - 10:55	AlgiFoam: an innovative bio-based foam with outstanding properties Rodolphe Sonnier, IMT Mines Alès, France	
10:55 - 11:15	From Forest to Foam: A Sustainable Solution for Thermal Insulation Mónica Simões, Alma Science CoLAB, Portugal	
11:15 - 11:30	Characteristics of novel bio-based foams from PLA-copolymers with enhanced flexibility and elasticity Victoria Bernardo, U. Valladolid, Spain	
11:30 - 11:45	PLA/CNC nanocomposite foams produced by supercritical CO2 method Ana Beatriz Valim Suquisaqui, Federal U. São Carlos, Brazil	
11:45 - 12:00	Influence of chemical chain modification on the foamability of poly(hydroxyalkanoates) Janne-Constantin Albrecht, Fraunhofer ICT, Germany	
12:00 - 13:30	<i>Lunch</i>	

SESSION 3 FOAM SCIENCE AND MODELING Moderator Ernesto Di Maio	13:30 - 13:50	Visual observation and modeling of heterogeneous bubble nucleation in physical polymer foaming Kentaro Taki, Kanazawa U., Japan
	13:50 - 14:10	Deep learning and advanced imaging for the characterization of cellular polymers Jorge Torre-Ordás, U. Valladolid, Spain
	14:10 - 14:30	Coarse-Grained Particle Modeling of CO2 Nanobubble Nucleation in Polycarbonate Hajime Kimizuka, Nagoya U., Japan
	14:30 - 14:45	Optimizing computational accuracy in polymer foam bubble growth simulation Shu-Kai Yeh, Taiwan Tech, Taiwan
	14:45 - 15:00	Study of the influence of supercritical nitrogen content on the microstructure and creep behavior of HDPE foams produced by MuCell injection molding process Achref Elhasni, INSA Lyon, France
	15:00 - 15:15	New insights into the molecular confinement and ageing of nanocellular Polymers Javier Pinto, Jorge Torre, U. Valladolid, Spain
	15:15 - 15:50	<i>Coffee Break / Exhibit</i>

15:50 - 16:10	How often can Styropor (EPS) be recycled? Ingo Bellin, BASF SE, Germany	SESSION 4 FORMULATIONS AND ADDITIVES Moderator Shu Kai Yeh
16:10 - 16:30	Reactive flame retardant for polyester polyol Micaela Lorenzi, GreenChemicals, Italy	
16:30 - 16:45	Rheology and foaming of linear and branched polyolefins Salvatore Costanzo, U. Naples Federico II, Italy	
16:45 - 17:00	Advanced Reinforcement Strategies for Flexible Polyurethane Foams: From Recycled Materials to Nanoscale Enhancement Zeynep Iyigundogdu, U. Adana Alparslan Türkeş, Turkey	
17:00 - 17:15	Influence of nucleating agents on the foam morphology of high consistency silicon rubber Tobias Hornig, U. Kassel, Germany	
17:15 - 17:30	Rheological Characterization of Flow-Induced Crystallization in Extensional Flow: Implications for Polymer Foaming Mahmoud Embabi, U. Toronto, Canada	
17:30 - 17:45	An advanced molding process for boiler insulation Andrea Castelnovo, Cannon Tipos, Italy	
18:00 - 21:00	<i>Exhibitor Reception & Poster Session</i>	

Friday October 3, 2025

day two

8:00 - 8:30

TPM&F Outstanding Achievement Award Keynote
(award presented by Prof. Chul B. Park)
Stephane Costeux, DuPont, USA

SESSION 5 ENHANCED MECHANICAL PROPERTIES Moderator Chul B. Park	8:30 - 8:50	Modeling and mechanical response of PEBA foam microstructures under compression Edouard Duriez, Arkema S.A., France
	8:50 - 9:10	The ballistic application of microcellular TPU Judith Martín-de León, U. Valladolid, Spain
	9:10 - 9:30	Aging mechanisms in EVA foams reinforced with bio-sourced nanofillers: Insights from X-ray microtomography Dimitri Ferré Sentis, Decathlon, France
	9:30 - 9:45	Polypropylene-based formulations to produce lightweight parts with high-impact resistance Cristina Saiz-Arroyo, Cellmat Technologies, Spain
	9:45 - 10:20	<i>Coffee Break / Exhibit</i>

10:10 - 10:40	Foam extrusion – a controlled process Krischan Jeltsch, Promix Solution AG, Switzerland	SESSION 6 FOAMING PROCESS INNOVATION Moderator Miguel A. Rodriguez Perez
10:40 - 11:00	New experimental approaches to explore the dynamics of expansion and relaxation in foaming with physical blowing agents: A unique foaming mold with expandable boundaries Erdogan Kiran, Virginia Tech, USA	
11:00 - 11:15	New polyamide foam extrusion process Geerds, Jan, Fraunhofer ICT, Germany	
11:15 - 11:30	Exploring Foaming Routes to Reduce the Cell Size in PS Foams Victoria Bernardo, U. Valladolid, Spain	
11:30 - 11:45	The role of the critical radius in expanded polypropylene processing Chul B. Park, U. Toronto, Canada	
11:45 - 12:00	Bayesian Optimization and Inverse Design for Developing Low-Density Polyamide 12 Foams Karim Ali Shah, U. Bayreuth, Germany	
12:00 - 13:30	Award Luncheon - Students awards and Poster competition results	

SESSION 7 FUNCTIONAL AND ANISOTROPIC FOAMS Moderator Erdogan Kiran	13:30 - 13:50	Mechanical and morphological characterization of polystyrene anisotropic foams Dino Ferri, Versalis S.p.A., Italy
	13:50 - 14:10	DESIRE research project: mono-material multi-graded semicrystalline polymer foams Maria Laura Di Lorenzo, National Research Council, Italy
	14:10 - 14:25	Investigating the uniaxial compressive mechanics of graded polymer foams via in-situ synchrotron X-ray microtomography Paolo Iaccarino, Scuola Superiore Meridionale, Naples, Italy
	14:25 - 14:40	Dual drug release mechanism in graded PCL foams Paolo Trucillo, U. Naples Federico II, Italy
	14:40 - 14:55	Developing electrochemical sensors from electrospun microfibers by gas dissolution foaming Suset Barroso-Solares, U. Valladolid, Spain
	14:55 - 15:10	Polyester aerogels as a carrier of drug-saturated hydrogel Anna Trusek, Wroclaw Tech, Poland
	15:10 - 15:45	<i>Coffee Break / Exhibit</i>

15:45 - 16:05	In-situ foam 3D-printing of lightweight structures utilizing a physically loaded, biobased filament and the manufacturing process of it Moritz Becker, Fraunhofer ICT, Germany	SESSION 8 FORMULATIONS AND ADDITIVES Moderator Stephane Costeux
16:05 - 16:25	Foam Additive Manufacturing: tailored foam structures produced via material extrusion Andrea Detry , U. Milan, Italy	
16:25 - 16:40	Hierarchical porous PEEK via combined physical foaming and additive manufacturing: bringing circularity to advanced engineering materials Lucía Doyle, IMDEA Materials, Spain	
16:40 - 16:55	The influence of nozzle diameter on the foaming mechanism in in-situ foam 3D printing Márton Tomin, Budapest U. Technology & Economics, Hungary	
16:55 - 17:10	Foamability of thermoplastic polyurethanes: influence of processing conditions Lorenzo Miele, U. Naples Federico II, Italy	
17:10 - 17:20	Best paper award, adjourn FOAMS 2025 and FOAMS 2026 announcement Ernesto Di Maio	