

CONFERENCE PROGRAM



FOAMS[®] 2025

Sept. 30–Oct. 3, 2025 • Naples, Italy

Hosted by the University of Naples Federico II



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

9:25 - 9:40

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

Coffee Break / Exhibit

10:15 - 10:35

Flexible High-Frequency Polymer Foam Welding

Makrina Chairiopolou, adidas AG, Germany

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, AlmaScience CoLAB, Portugal

11:15 - 11:30

Characteristics of novel bio-based foams from PLA-copolymers with enhanced flexibility and elasticity

Christian A. Backhaus, Fraunhofer ICT, Germany

11:30 - 11:45

PLA/CNC nanocomposite foams produced by supercritical CO₂ method

Ana Beatriz Valim Suquizaqui, 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

Lunch

SESSION 2

SUSTAINABLE AND BIOBASED FOAMS

Moderator Judith Martín de León

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

Coffee Break / Exhibit

15:50 - 16:10

How often can Styropor (EPS) be recycled?

Ingo Bellin, BASF SE, Germany

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

Exhibitor Reception & Poster Session

SESSION 4

FORMULATIONS AND ADDITIVES

Moderator Shu-Kai Yeh

Friday October 3, 2025

day two

8:00 - 8:30

TPM&F Outstanding Achievement Award Keynote
(award presented by Prof. Chul B. Park)
Stéphane 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 Ferre 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>

10:20 - 10:40

Foam extrusion – a controlled process
Krischan Jeltsch, Promix Solution AG, Switzerland

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
Jan Geerds, 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 6

FOAMING PROCESS INNOVATION

Moderator Miguel Angel Rodríguez Pérez

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

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

SESSION 8

FORMULATIONS AND ADDITIVES

Moderator Stéphane Costeux



INSPIRING
PLASTICS
PROFESSIONALS

ID: guestpartenope
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