

Preliminary Program
(9 April 2024)

Syntactic and Composite Foams VI

May 5 – 10, 2024

Riga, Latvia

Conference Chairs:

G.M. Gladysz, University of Alabama at Birmingham, USA
K.K. Chawla, University of Alabama at Birmingham, USA
A.R. Boccaccini, University of Erlangen-Nuremberg, Germany
Nikhil Gupta, New York University, USA
Andrei Shishkin, Riga Technical University, Latvia



Engineering Conferences International
369 Lexington Avenue, 3rd Floor #389
New York, NY 10017, USA
www.engconfintl.org – info@engconfintl.org

Sunday, May 5, 2024

17:30 – 18:30 Conference check-in

18:30 – 19:30 Welcome reception

19:30 – 21:30 Dinner

Monday, May 6, 2024

- 07:30 – 08:45 Breakfast Buffet
- 08:55 - 10:30 **Session 1: Reviews and Overview of Syntactic & Composite Foams**
- 09:00 - 09:30 **Designing syntactic foams: Opportunities provided by machine learning methods**
Nikhil Gupta and Guan Lin Chen, New York University
- 09:30 – 10:00 **A review of syntactic and composite foams**
Gary Gladysz (Los Alamos National Laboratories) and
Chris Chawla (University of Alabama at Birmingham)
- 10:00 – 10:30 **Towards modelling the mechanical behavior of syntactic foams**
Dominique Jones (University of Surrey), Nicholas Bazin (Atomic
Weapons Establishment), Matthew Oldfield (University of Surrey), Nigel
Park (Atomic Weapons Establishment), and Mark J. Whiting (University of
Surrey)
- 10:30 – 11:00 Coffee Break
- 11:00 – 12:30 **Session 2: Metal and Ceramic-based Composite Foams**
- 11:00 – 11:45 **Biocarbon-based nanocomposite for organic pollutant degradation**
Quan (Sophia) He, (Dalhousie University)
- 11:45 – 12:30 **Analysis of mechanical characterization of syntactic foam sandwich
Composite**
Olusegun Adigun Afolabi (Durban University of Technology) and Krishnan Kanny and
Turup Pandurangan Mohan (Durban University of Technology)
- 12:30 – 13:45 Lunch Buffet
- 13:45 – 16:30 *Ad hoc* discussions and Networking
- 16:30 - 17:00 Coffee Break
- 18:30 – 19:15 **Invited Talk**
- 19:30 - 21:30 Dinner followed by social period

Tuesday, May 7, 2024

- 07:30 – 08:45 Breakfast Buffet
- 09:00 - 10:30 **Session 3: Bio-materials and Applications I**
- 09:00 – 09:30 **Kirkendall effect: Its use in creating hollow and porous, inorganic, Nano- and microstructures**
Krishan Chawla (University of Alabama at Birmingham) and Daniel Rodrigues, Rachel Collino and Gary Gladysz (Los Alamos National Laboratories)
- 09:30 – 10:00 **Deformation mechanisms on the fracture behavior of glass hollow microspheres reinforcement polyurethane foams**
YeongJeong Kang, YongGuk Son, SwangJu Jang and YoungCheol Lee (Korea Institute of Industrial Technology)
- 10:00 – 10:30 **Durability of syntactic foam in deep sea environment**
Gatyhier Loubrieu (TOTAL, IFREMER)
- 10:30 – 11:00 Coffee Break
- 11:00 – 12:30 **Session 4: Biomaterials and Applications II**
- 11:00 – 11:30 **Development of the high-performance syntactic foams made of hollow Ceramic particles by spark plasma sintering method: Preparation and Characterization**
Andrei Shishkin (Riga Technical University)
- 11:30 – 12:00 **REALfoam: Process development for SLS-printed syntactic foam**
Rachel Collino (Los Alamos National Laboratories MST-7)
- 12:30 - 13:45 Lunch Buffet
- 13:45 Leave for Riga Technical University
- 14:00 - 18:00 **Tour of RTU research facilities**
- 19:00 - 21:00 Offsite dinner
- 21:00 Return to hotel

Wednesday, May 8, 2024

- 07:30 – 08:45 Breakfast Buffet
- 09:00 - 10:45 **Session 5: Syntactic Foam Development and Testing**
- 09:00 – 09:45 **Novel developments in syntactic molding at AWE**
Nicholas Bazin (AWE)
- 09:45 – 10:15 **Synthesis and characterization of aluminum syntactic foam by spark Plasma sintering**
Yong Guk Son (Korea Institute of Industrial Technology); YongHo Park (Pusan National University); and Sung Su Jung, Yeong Jeong Kang, WookJin Lee, and Young Cheol Lee (Korea Institute of Industrial Technology)
- 10:15 – 10:45 **Manufacturing of a cellular composite materials with cast polyamide matrix and studies of process compatible binding agents**
Alexander Fischer and Hubert Klaus (University of Applied Sciences Landshut, Competence Center for Lightweight Design) and Nicola Hüsing (Paris Lodron University of Salzburg, Chemistry and Physics of Materials)
- 10:45 – 11:15 Coffee break
- 11:15 – 12:30 **Session 6:** TBA
- 11:15 – 12:00 **Metal matrix composite syntactic foams (MMCSFs): A wonderful choice for Lightweight structural applications**
Shashank Kumar Srivastava (RMIT University, Australia; Academy of Scientific and Innovative Research (AcSIR), India); Joe Elambasseril (RMIT University); Gaurav Kumar Gupta, Tilak Chandra Joshi, and D. P. Mondal (CSIR-Advanced Materials and Processes Research Institute, India); and Ma Qian and Milan Brandt (RMIT University)
- 12:00 – 12:30 **Characterization of hollow thermoplastic microspheres**
Matthew E. Curd, Michael J. Smith, Parmesh Gajjar, Zeshan Yousaf and William J. Parnell (University of Manchester)
- 12:30 – 14:00 Lunch
- 14:00 – 18:00 Tour of Riga and dinner on your own

Thursday, May 9, 2024

- 07:30 – 08:45 Breakfast Buffet
- 09:00 - 10:45 **Session 7: Syntactic Foam Development and Testing II**
- 09:00 – 09:45 **Fabrication of aluminum metal fiber laminates for diverse applications**
K.G. SWagar (Jain University)
- 09:45 – 10:15 **Syntactic foam-inspired nanocomposite hydrogels for drug delivery and tissue engineering applications**
Kamil Elkhoury (NYUAD), Nikhil Gupta (NYU), and Vijayavenkataraman Sanjairaj (NYUAD)
- 10:15 - 10:45 Coffee break
- 10:45 - 12:15 **Session 8: Hollow Particle and Fiber Development and Testing**
- 10:45 – 11:30 **Mechanical performance of syntactic foam composites under various loading conditions**
Zeshan Yousaf and Matthew Curd (University of Manchester) and William Parnell (The University of Manchester)
- 11:30 – 12:15 **The 3D failure mechanism in epoxy syntactic foams: effects of strain rate and cenosphere volume fraction**
Peifeng Li (University of Glasgow)
- 12:15 – 14:00 Lunch
- 14:00 – 16:00 General discussion
- 19:00 Closing Dinner (at Riga restaurant TBA)

Friday, May 10, 2024

- 07:30 – 09:00 Breakfast Buffet
- 09:00 - 11:00 Wrap up and planning for the next conference in this series
- Departures