

Program

Syntactic and Composite Foams IV

An ECI Conference Series

**November 2 - 7, 2014
Santa Fe, New Mexico, USA**



Conference Chair:

Gary M. Gladysz (Empyreus Solutions, USA)

Conference Co-Chairs:

Krishan K. Chawla (University of Alabama at Birmingham, USA)
Aldo R. Boccaccini (University of Erlangen-Nuremberg, Germany)
Tatsuki Ohji (AIST, Japan)



**Engineering Conferences International
32 Broadway
New York, NY 10004**

www.engconfintl.org info@engconfintl.org

**Hilton Santa Fe Historic Plaza
100 Sandoval St.
Santa Fe, NM, 87501, USA
Tel: +1-505-988-2811**

Engineering Conferences International (ECI) is a not-for-profit global engineering conferences program, originally established in 1962, that provides opportunities for the exploration of problems and issues of concern to engineers and scientists from many disciplines.

ECI BOARD MEMBERS

Barry C. Buckland, President
Mike Betenbaugh
Peter Gray
Michael King
Raymond McCabe
David Robinson
William Sachs
Eugene Schaefer
P. Somasundaran

Chair of ECI Conferences Committee: William Sachs

ECI Technical Liaison for this conference: Ram Darolia

ECI Executive Director: Barbara K. Hickernell

ECI Associate Director: Kevin M. Korpics

Organizing Committee Members

Paolo Colombo, University of Bologna, Italy

Sergej Diel, University of Applied Sciences Landshut, Germany

Nikhil Gupta, NYU Polytechnic School of Engineering, USA

Mark Koopman, University of Utah, USA

Dirk Lehmus, University of Bremen, Germany

Daniel Mendoza, Los Alamos National Laboratory, USA

Michele Modesti, University of Padova, Italy

Eyassu Woldesenbet, Louisiana State University, USA

Hans Peter Degischer, Technical University of Vienna, Austria

Lorenzo Bardella, University of Brescia, Italy

Kipp Carlisle, Trelleborg Offshore, USA

Previous conferences in this series:

Syntactic and Composite Foams

Aug. 1 - 5, 2004

Banff, Alberta, Canada

Conference Chair:

Gary M. Gladysz, Trelleborg Emerson & Cuming, Inc., USA

Conference Co-Chairs:

Krishan K. Chawla, University of Alabama at Birmingham, USA

Aldo R. Boccaccini, Imperial College London, UK

Syntactic and Composite Foams II

Aug. 5 - 10, 2007

Davos, Switzerland

Conference Chair:

Gary M. Gladysz, Trelleborg Emerson & Cuming, Inc., USA

Conference Co-Chairs:

Krishan K. Chawla, University of Alabama at Birmingham, USA

Aldo R. Boccaccini, Imperial College London, UK

Syntactic and Composite Foams III

May 29 - June 3, 2011

Cetraro (Calabria), Italy

Conference Chair:

Gary M. Gladysz, Trelleborg Offshore Boston, Inc., USA

Conference Co-Chairs:

Krishan K. Chawla, University of Alabama at Birmingham, USA

Aldo R. Boccaccini, University of Erlangen-Nuremberg, Germany

Sunday, November 2, 2014

17:30 – 19:00	Conference check-in (Promenade)
19:00 – 20:30	Welcome Dinner

Notes

- *Technical sessions will be in sections A/B of the Mesa Ballroom, except for Friday's session which will be in The Chapel.*
- *Meals will be held in section C of the Mesa Ballroom.*
- *Audiotaping, videotaping and photography of presentations are prohibited.*
- *Speakers – Please have your presentation loaded onto the conference computer prior to the session start (preferably the day before).*
- *Speakers – Please leave at least 3-5 minutes for questions and discussion.*
- *Please do not smoke at any conference functions.*
- *Turn your mobile telephones to vibrate or off during technical sessions.*
- *Please write your name on your program so that it can be returned to you if lost or misplaced.*
- *After the conference, ECI will send an updated participant list to all participants. Please check your listing now and if it needs updating, you may correct it at any time by logging into your ECI account.*

Monday, November 3, 2014

07:30 – 09:00	Breakfast
09:00 – 09:15	Opening remarks Gary Gladysz, Conference Chair Ram Darolia, ECI Technical Liaison
09:15	<u>Session I</u>
09:15 – 10:00	Experimental study of the hydrostatic compression behavior of syntactic foams by X-ray microtomography Jerome Adrien, MATEIS, INmSA-Lyon, CNRS UMR5510, France
10:00 – 10:30	Dynamic compression imaging of syntactic foams using synchrotron x-ray computed tomography Brian M. Patterson, Los Alamos National Lab, USA
10:30 – 11:00	Coffee break
11:00 – 11:30	Multifunctionality in syntactic foams: Engineering mechanical, electrical, and thermal properties Nikhil Gupta, New York University, USA
11:30 – 12:00	Mullite-based thermal insulators prepared by gelation freezing method Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST), Japan
12:00 – 14:00	Lunch
14:00	<u>Session II</u>
14:00 – 14:45	Processing of titania-coated glass microballoons and syntactic foams thereof for environmental cleanup K. K. Chawla, University of Alabama at Birmingham, USA
14:45 – 15:15	Characterization of inclusion clusters by mechanical interactions Phil Daro Krummrich, University of Bremen, Germany
15:15 – 15:45	Coffee break
15:45 – 16:15	A CFD approach for simulation of the aluminum syntactic foam infiltration process Shizhao Li, Technical University of Denmark
16:15 – 16:45	Daily remarks and discussion of Sessions I and II
16:45 – 19:30	<i>ad hoc</i> discussions / free time
19:30 – 21:00	Dinner
21:00 – 22:00	Social hour

Tuesday, November 4, 2014

07:30 – 09:00	Breakfast
09:15	<u>Session III</u>
09:15 – 10:00	Analysis of microballoon failure in syntactic foams Maurizio Porfiri, New York University, USA
10:00 – 10:30	Development, characterization and in vitro bioactivity study of 45S5 Bioglass® scaffolds with fibrous morphology for bone tissue engineering applications Preethi Balasubramanian, University of Erlangen-Nuremberg, Germany
10:30 – 11:00	Coffee break
11:00 – 11:30	Three-dimensional Bioglass®-based scaffolds developed via replication of natural marine sponges with drug delivery capability for Tissue Engineering Elena Boccardi, University of Erlangen-Nuremberg, Germany
11:30 – 11:45	Session III discussions
11:45	Pick up boxed lunch
12:00	Departure for excursion to Bandelier National Monument Free time for those remaining in Santa Fe
18:00	Return to Santa Fe
19:00 – 20:30	Dinner
20:30 – 21:30	Social hour

Wednesday, November 5, 2014

07:30 – 09:00	Breakfast
09:15	<u>Session IV</u>
09:15 – 10:00	Microstructural characterization and simulation of cellular ceramics materials Tobias Fey, University of Erlangen-Nuremberg, Germany
10:00 – 10:30	Rapid prototyping of syntactic foams: Powder preparation, characterization, and laser sintering Thomas Robison, Honeywell FM&T, USA
10:30 – 11:00	Bioglass®-based scaffolds reinforced by composite coating: preparation and response to mechanical loading Ivo Dlouhy, Institute of Physics of Materials, Academy of Sciences of the Czech Republic
11:00 – 11:30	Coffee break
11:30 – 12:00	Microstructures and properties of macroporous ceramics by gelation freezing method Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST), Japan
12:00 – 12:30	Development of coated microballoons for additive manufacturing of syntactic foam Anna Walmsley, AWE, UK
12:30 – 13:00	Silicon carbide hollow particles and composite structures Carol Wedding, Deep Springs Technology, USA
13:00 – 14:30	Lunch
14:30 – 16:30	<i>ad hoc</i> discussions/free time
16:30 – 17:00	Coffee break
17:00	<u>Session V</u>
17:00 – 17:45	A virtual lab for understanding and designing mechanical performance of metal matrix syntactic foams: Concept and first results Dirk Lehmus, University of Bremen, Germany
17:45 – 18:15	Innovative low density silicone RT-foams Jessica Hanley, Bluestar Silicones, USA
18:15 – 19:15	Social Hour
	Free evening / Dinner on your own

Thursday, November 6, 2014

07:30 – 09:00	Breakfast
09:00	<u>Session VI</u>
09:15 – 10:00	Measurement and uncertainty quantification of elastic tensor properties of nearly-singular anisotropic metamaterials Jeffrey Cipolla, Weidlinger Associates, USA
10:00 – 10:30	High strength specialty designed Wollastonite fibers for reinforced polymers Gary C. Phillips, NYCO Minerals Inc., USA
10:30 – 11:00	Coffee break
11:00 – 11:30	A continuum damage mechanics model for the lifetime prediction of cellular composites under static and cyclic loading Sergej Diel, University of Applied Sciences Landshut, Germany
11:30 – 12:00	Tailored porosity in fiber and particles: A review of fabrication techniques, structure/property relationships and applications Gary M. Gladysz, Empyreus Solutions, USA
12:00 – 12:30	Sessions V discussion
12:30 – 19:30	Lunch on your own / <i>ad hoc</i> discussions / free time
19:30	Conference Banquet

Friday, November 7, 2014

07:30 – 09:00

Breakfast

09:00

Conference Wrap-up - All sessions
(This session will be held in The Chapel)

1. Conference Summary
2. Syntactic and Composite Foams V: Discussion and planning
 - A. Timing
 - B. Scope
 - C. Format
 - D. Venue
3. Adjourn and departures – 11AM