

Program

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***



Engineering Conferences International
32 Broadway, Suite 314 - New York, NY 10004, USA
Phone: 1 - 212 - 514 - 6760, Fax: 1 - 212 - 514 - 6030
www.engconfintl.org – info@engconfintl.org

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

Peter Gray

Raymond McCabe

David Robinson

Jules Routbort

William Sachs

Eugene Schaefer

P. Somasundaran

Chair of ECI Conferences Committee: William Sachs

ECI Technical Liaison for this conference: Ram Darolia

ECI Director: Barbara K. Hickernell

ECI Associate Director: Kevin M. Korpics

Sunday, May 29, 2011

17:00 – 19:00	Registration
18:30 – 19:30	Welcome Reception – Sponsored by Trelleborg
19:30 – 21:30	Opening Dinner

NOTES

- Technical Sessions will be held in the Conference Building.
- Poster Sessions will be held in Conference Building.
- Audiotaping, videotaping and photography of presentations are prohibited.
- Speakers – Please leave at least 3-5 minutes for questions and discussion.
- Please do not smoke at any conference functions.
- Turn your cellular telephones to vibrate or off during technical sessions.
- Be sure to make any corrections to your name/contact information on the Master Participant List or confirm that the listing is correct. A corrected copy will be sent to all participants after the conference.

Monday, May 30, 2011

07:30 – 08:30 Breakfast

08:30 – 08:45 Conference Welcome
Gary M. Gladysz, Chair
K.K. Chawla, Co-Chair
A.R. Boccaccini, Co-Chair
Ram Darolia, ECI Technical Liaison

SESSION I: INTERFACES, REINFORCEMENTS, AND PERFORMANCE

08:45 – 09:30 ***Invited Talk***
Foams, Syntactic Foams, and Functional Foams
K.K. Chawla
University of Alabama at Birmingham, USA;
G.M. Gladysz
Trelleborg Offshore Boston, Inc., USA

09:30 – 10:15 ***Invited Talk***
Thermal Protection of Planetary-Entry Vehicles Using Low-Mass Charring Ablators-Heating to 1000 W/cm²
Bill Congdon
ARA Ablatives Laboratory, USA

10:15 – 10:45 Coffee break

10:45 – 11:15 **Quantifying the influence of Void Type in Three-Phase Syntactic Foams**
Gary M. Gladysz and K. K. Chawla
Trellegorg Offshore, USA

11:15 – 11:45 **Fabrication of Hollow Glass Microsphere Reinforced Carbon Nanofiber Paper Using Chemical Vapor Deposition Method**
Eyassu Woldesenbet
Louisiana State University and Southern University, USA

11:45 – 12:15 **Experimental and Numerical Analysis on the Thermal Anisotropy of Syntactic Hollow Sphere Structures**
Thomas Fiedler
The University of New Castle, Australia

12:15 – 12:45 Discussion

Monday, May 30, 2011 (continued)

- 13:00 – 14:00 Lunch
- 14:10 – 17:30 *ad hoc* discussions, free time
- 17:30 – 18:00 Afternoon coffee

**SESSION II: FABRICATION/CHARACTERIZATION OF PARTICLES
AND HOLLOW SPHERES**

- 18:00 – 18:45 ***Invited Talk***
Photocatalytic Degradation of Tetracycline Using Titania-Coated Hollow Glass Microspheres; Effects of Coating Thickness and Calcination Temperature
Mark Koopman
Harvard University, USA
- 18:45 – 19:15 **Fabrication of Ceramic Microballoons from Preceramic Polymers**
Paolo Colombo
University of Padova, Italy
- 19:15 – 19:45 **Silver Coated Hollow Glass Microspheres Embedded Electrically Conducting Syntactic Foam**
Samudra Dasgupta
Aeronautical Development Establishment, DRDO, India
- 19:45 – 20:15 **Controlled Deposition of Titanium Dioxide on Hollow Glass Microspheres; Surface Coating Morphology and Its Effect On the Photocatalytic Degradation of Methylene Blue**
William Ricci
Trelleborg Offshore, Inc., USA
- 20:15 – 21:45 Dinner
- 21:45 – 22:45 Social Hour

Tuesday, May 31, 2011

07:30 – 08:30 Breakfast

SESSION III: PROCESSING AND MODELING

08:30 – 09:15 ***Invited Talk***
Inorganic composite foams and hollow microcapsules produced via in-situ hydrophobization of colloidal particles
Urs Gonzenbach
ETH Zurich, Nonmetallic Inorganic Materials Switzerland

09:15 – 09:45 **Bioactive glass containing foam scaffolds: fabrication, properties and applications**
A R Boccaccini
University of Erlangen-Nuremberg, Germany

09:45 – 10:15 Coffee break

10:15 – 10:45 **On Modeling the Long Term ThermoMechanical Behavior of Field Joint of Thermally Insulated Pipeline Coated with Glass Syntactic Foam**
Van Trung Phan
Brest Laboratory of Mechanics and Systems, ENSIETA, France

10:45 – 11:30 ***Invited Talk***
A Comparison among Different Homogenization Techniques for Estimating the Effective Elastic Moduli of Syntactic Foams
Lorenzo Bardella
University of Brescia, Italy

11:30 – 12:00 **Open Discussion - Sessions I,II and III**
Modeling, ablative materials, high strain rate testing, nano-materials, cenospheres, ceramic microballoons, titania and silver coating coatings, colloidal formation of foams and particles, thermo-mechanical behavior

12:00 – 13:00 Lunch

13:00 - Optional Excursion to Diamante (or free time)

20:00 – 21:30 Dinner

21:30 – 22:30 Social Hour

Wednesday, June 1, 2011

07:30 – 08:30 Breakfast

SESSION IV: PHYSICAL PROPERTIES

- 08:30 – 09:15 ***Invited Talk***
Advances in the Development of Bioactive Composite Foams For Bone Tissue Scaffolds
Aldo R. Boccaccini and J.A. Roether
University of Erlangen-Nuremberg, Germany
- 09:15 – 09:45 **Determining Optimum Loading of Hollow Glass Microspheres In Epoxy/Anhydride Resins for Composite Shell Hollow Sphere Containing Syntactic Foam Applications**
Noel Tessier
CMT Materials, Inc., USA
- 09:45 – 10:15 **Hydrothermal Aging of Polypropylene Syntactic Foams**
Kipp B. Carlisle
Trelleborg Offshore Boson, Inc., USA
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 **Collapse Modes of Titanium Foams with Varying Pore Structure**
Nihan Tuncer
Anadolu University, Turkey
- 11:15 – 11:45 **Advances in Buoyancy Foam Using Hollow Spheres**
Todd S. Osborn
Deep Springs Technology, USA
- 11:45 – 12:15 **Development of a New Method for Production of Lead (Pb) Foams for Lead-Acid Batteries**
Umut Savaci
Izmir Institute of Technology, Turkey
- 12:15 – 13:15 Lunch
- 13:15 – 15:30 *ad hoc* discussions, free time
- 15:30 – 16:00 Afternoon coffee

Wednesday, June 1, 2011 (continued)

SESSION V: SYNTACTIC AND COMPOSITE FOAMS – CHARACTERIZATION

- 16:00 – 16:45 ***Invited Talk***
Thermosetting Syntactic Foams - An overview
S. Sankaran
DRDO Hqrs. DRDO, India
- 16:45 – 17:30 **Lightweight Composite Materials for Fire Control and Prevention in Hydrocarbon Storage Tanks**
Gary M. Gladysz
Trelleborg Offshore, USA
- 17:30 – 18:00 **Open Discussion – Session IV and V**
Bioactive glass, optimization of syntactic foams, hydrothermal aging, characterization using microtomography, water absorption, lead foams, high strain rate testing, hydrostatic testing, fire testing, future polymers matrices

SESSION VI: POSTER SESSION

- 18:00 – 20:00 **The Effect of Different Processing Routes on Lead Foam Production**
Umut Savaci
Izmir Institute of Technology, Turkey
- Flammability of flexible polyurethane foams modified with graphite and phosphorous fillers**
Anna Wolska
Warsaw University of Technology, Poland
- Solvent-Free Fabrication Of Biodegradable Ureaurethane Foam Scaffolds For Bone Tissue Engineering**
Monika Auguscik
Warsaw University of Technology, Poland
- 20:00 – 21:30 Dinner
- 21:30 – 22:30 Social Hour

Thursday, June 2, 2011

07:30 – 08:30

Breakfast

SESSION VII: COMPOSITE FOAMS

08:30 – 09:15

Invited Talk

Dynamic Mechanical Analysis of Syntactic Foams Fabricated Using Carbon Nanofiber Covered Glass Microballoons

Eyassu Woldesenbet

Louisiana State University and Southern University, USA

09:15 – 09:45

Production and Characterization of Glass Foam Using Glass Powder Waste

Yigit Attilia

Izmir Institute of Technology, Turkey

09:45 – 10:15

Coffee break

10:15 – 10:45

Novel Light Emitting Hollow Ceramic Spheres and Their Applications

Adeline Miermont-Butcher

Deep Springs Technology, USA

10:45 – 11:15

Mechanical Behavior of a Cellular Composite with Glass Foam Granules in Polymer Matrix under Quasi-Static and Cyclic Compression Loading

Sergej Diel

University of Applied Sciences Landshut, Germany

11:15 – 12:00

Novel Armor Composite with Hollow Spheres

Todd S. Osborn

Deep Springs Technology, USA

12:00 – 12:30

Open Discussion - Sessions VI and VIII

Construction and automotive applications, foams renewable/sustainable constituents, processing of metal foams, TiO₂ - biological activity, functional fillers, biodegradable foams, glass foam granules reinforcements, foams from waste streams, armor, nanofiber in syntactic foams

12:30 – 13:30

Lunch

13:30 – 17:30

ad hoc discussions, free time

Thursday, June 2, 2011 (continued)

17:30 – 18:00 Afternoon coffee

SESSION VIII: ROUND TABLE DISCUSSIONS

18:00 – 20:00 Topics:
• Bio-Applications
• Deep See Applications
• Testing/Characterization
• Processing
• Emerging Applications
• New Directions
• Wrap-Up

20:00 – 22:00 Conference Banquet

22:00 – 23:00 Social Hour

Friday, June 3, 2011

07:30 – 08:30 Breakfast

09:00 Departures