Program

Syntactic and Composite Foams V

March 26-31, 2017

Grand Hotel Minareto
Siracusa, Italy

Conference Chair

Gary M. Gladysz
Empyreus Solutions, LLC

Conference Co-Chairs

Krishan K. Chawla
Materials Science & Engineering, University of Alabama at Birmingham, USA

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

Manabu Fukushima
National Institute of Advanced Industrial Science and Technology (AIST), Japan

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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
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Syntactic and Composite Foams II
Aug. 5 - 10, 2007
Davos, Switzerland
Conference Chair:
Gary M. Gladysz, Trelleborg Emerson & Cuming, Inc., USA
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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

Syntactic and Composite Foams IV
November 2-7, 2014
Santa Fe, NM, 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
Conference Sponsors

Dixie Chemical

SMW Wheels
NOTES

- All technical sessions will be in Archimedes Hall. Poster sessions will be in Archimedes and the foyer.
- All meals will be in the Nesos Restaurant.
- Audiotaping, videotaping and photography of presentations are prohibited.
- Speakers – Please leave at least 5 minutes for questions and discussion.
- Speakers – Please ensure your talk adheres to your given time allotment. Talks that go over their allotment reduce time for valuable discussion and can disrupt the conference program.
- Please do not smoke at any conference functions.
- Turn your cellular telephones to vibrate or off during technical sessions.
- 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.
- Please do not smoke at any conference functions.
- Please write your name in the front of this program booklet so it can be returned if misplaced.
Monday, March 27, 2017

07:30 - 09:00 Breakfast

Session 1
Chair: Nikhil Gupta, New York University, USA

09:00 - 10:00 Keynote: Composite Foams as Tissue Scaffolds: Past, Present and Future
Liliana Liverani, University of Erlangen-Nuremberg, Germany

10:00 - 10:30 Coffee break

10:30 - 11:00 Controlling the kinetics of aluminium reaction to control the porosity of foam concrete
Ailar Hajimohammadi, The University of Melbourne, Australia

11:00 - 11:30 Processing and engineering applications of structured cellular ceramics through freezing route
Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST), Japan

11:30 - 12:00 Novel curative systems for high strength, low thermal conductivity epoxy-based syntactic foams
Gary Gladysz, Dixie Chemical, USA

12:30 - 14:00 Lunch

Session 2
Chair: Kristin Hardin, University of Alabama at Birmingham, USA

14:00 - 14:30 Beyond glass microspheres, high strength, high temperature hollow shells
Carol Wedding, Deep Springs Technology, USA

14:30 - 15:00 Room temperature foaming of glass powder in aqueous environment
Doğuş Zeren, İzmir Institute of Technology, Turkey

15:00 - 15:30 Metal coating of ceramic microspheres: A new precursor for realising metal-based syntactic foams
Andrei Shishkin, Riga Technical University, Latvia

15:30 - 19:30 Ad hoc sessions / Free time

19:30 - 21:00 Dinner

21:00 - 22:00 Social Hour
**Tuesday, March 28, 2017**

07:30 - 09:00 Breakfast

**Session 3**
Chair: Carol Wedding, Deep Springs Technology, USA

09:00 - 10:00 **Keynote: Functional Foams**
Krishan Chawla, University of Alabama at Birmingham, USA

10:00 - 10:30 **Tailored surface porosities on ceramic foams**
Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST), Japan

10:30 - 11:00 Coffee break

11:00 - 11:30 **Failure behaviour of glass-microballoons/thermoset-matrix syntactic foams subject to hydrostatic loading**
Lorenzo Bardella, University of Brescia, Italy

11:30 - 12:00 **High density polyethylene matrix syntactic foams: Industrial scale fabrication and mechanical properties**
Nikhil Gupta, New York University, USA

12:00 - 12:30 **Characterization of interfacial strength of syntactic foam by unit cell finite element model**
W.J. Lee, Korea Institute of Industrial Technology, South Korea

12:30 - 14:00 Lunch

14:00 - 21:00 Excursion to Siracusa archeologic sites and Old Town / Dinner on own
Wednesday, March 29, 2017

07:30 - 09:00 Breakfast

Session 4
Chair: Krishnan Kanny, Durban University of Technology, South Africa

09:00 - 10:00 Keynote: Strain rate properties of syntactic foams
Nikhil Gupta, New York University, USA

10:00 - 10:30 Development of Silicone Room Temperature Foams for Superior Performance Applications
Leeanne Brown, Bluestar Silicons, USA

10:30 - 11:00 Coffee break

11:00 - 11:30 Processing of the ultra-light syntactic foam material Eccostock® FFP using selective laser sintering
Petra Juskova, University of Nottingham, United Kingdom

11:30 - 12:00 Proteins as Coating Materials on Bioactive Glass-based Composite Foams
Liliana Liverani, University of Erlangen-Nuremberg, Germany

12:30 - 14:00 Lunch

14:00 - 16:30 Ad hoc sessions / Free time

Session 5
Chair: Lorenzo Bardella, University of Brescia, Italy

16:30 - 17:00 Dynamic mechanical characterization and sustainability of polyurethane foam and natural fiber laminates
Krishnan Kanny, Durban University of Technology, South Africa

17:00 - 17:30 Phosphate and plaster bonded syntactic foams for collapsible cores in light metal casting
Dirk Lehmhus, University of Bremen, Germany

17:30 - 18:00 Thermoplastic syntactic foam-based composite tornado shelter: fabrication and characterization
Brian Pillay, University of Alabama at Birmingham, USA

18:30 - 20:00 Poster Session / Social Hour

20:00 - 21:30 Dinner
Thursday, March 30, 2017

07:30 - 09:00  Breakfast

Session 6  
Chair: Paolo Colombo, University of Padova, Italy

09:00 - 10:00  Keynote: Foams in composite structures: Past, present and future  
Michael Gromacki, Dixie Chemical/ACMA Board of Directors, USA

10:00 - 10:30  Development of a syntactic-based sandwich composite for blast-Resistance modular buildings  
Karana Shah, Dixie Chemical Co., USA

10:30 - 11:00  Coffee break

11:00 - 11:30  Crack bridging modelling in Bioglass® based scaffolds reinforced by polyvinyl alcohol / microfibrillated cellulose composite coating  
Luca Bertolla, Institute of Physics of Materials, Czech Republic

11:30 - 12:00  Porous Geopolymer Components  
Paolo Colombo, University of Padova, Italy

12:00 - 12:30  Development of 3D cellular silicone structures using reactive inkjet printing approach for energy absorbing application  
Aleksandra Foerster, University of Nottingham, United Kingdom

12:30 - 14:00  Lunch

14:00 - 17:00  Ad hoc sessions / Free time

Session 7  
Chair: Leeanne Brown, Bluestar Silicons, USA

17:00 - 17:30  Coated glass microballoons and syntactic foams thereof for environmental cleanup  
Krishan Chawla, University of Alabama at Birmingham, USA

17:30 - 18:00  Voids in Materials: Adding Functionality during Additive Manufacturing  
Gary Gladysz, Empyreus Solutions, LLC, USA

18:00 - 18:30  Influence of glass hollow microsphere fillers on the Rheological behavior of Epoxy resin  
Y.J. Kang, Korea Institute of Industrial Technology, South Korea

19:30 - 21:30  Reception and Banquet
**Friday, March 31, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>07:30 - 09:00</td>
<td>Breakfast</td>
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<tr>
<td>09:00 - 11:30</td>
<td><strong>Session 8: Round Table Discussion</strong></td>
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<td>10:00 - 10:30</td>
<td>Coffee break</td>
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<tr>
<td>11:30 - 12:00</td>
<td>Conclusions / Next Conference</td>
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<tr>
<td>12:30 - 14:00</td>
<td>Lunch</td>
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## Poster Presentations

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Presenter</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Antimicrobial chitosan foams with and without polyester blending as tissue engineering scaffolds</td>
<td>Lukas Gritsch, FAU Erlangen-Nuremberg, Germany</td>
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<td>2</td>
<td>A novel high temperature and flame resistant Twaron aramid foam</td>
<td>Ruud Heijmans, Teijin Aramid B.V., Netherlands</td>
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<td>3</td>
<td>Effects of production parameters on microstructure and densification of iron/glass syntactic foam by conventional powder metallurgy</td>
<td>Yi Je Cho, Pusan National University, South Korea</td>
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