

Program

Syntactic and Composite Foams

August 1-5, 2004

Banff Centre for Conferences
Banff, Alberta, Canada

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Gary M. Gladysz
Los Alamos National Laboratory, USA

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Sunday, August 1, 2004

16:00 – 17:30	Registration
17:30 – 18:30	Welcome Reception
18:30 – 19:30	Opening Dinner

Monday, August 2, 2004

- 07:00 – 08:00 Breakfast
- 08:00 – 08:15 Welcome
Gary Gladysz, Conference Chair
Norman Stoloff, ECF Liaison
- 08:15 **SESSION I: Reinforcement Processing and Characterization**
Session Chairs: Uzi Mann (Texas Tech University)
Brian Perry (Honeywell FM&T)
- 08:15 – 09:00 **A Unique Process for Production of Carbon Microspheres** (Invited)
Terence B. Walker
Honeywell International, USA
- 09:00 - 09:30 **Complex Graphitic Structures by Design**
Martin Nemer
Los Alamos National Laboratory, USA
- 09:30 - 10:00 **Properties of Hollow Glass Microspheres in Polymer Composites for Structural Applications**
Andrew DSouza
3M Company, USA
- 10:00 – 10:30 Coffee Break
- 10:30 - 11:15 **Compression Properties of Microballoons: A Comparison of Techniques and Materials** (Invited)
K.K. Chawla
University of Alabama at Birmingham, USA
- 11:15 - 11:45 **Production of Hollow Micros Polymeric Spheres**
Uzi Mann
Texas Tech University, USA
- 11:45 - 12:15 **Microstructure and Compressive Properties of Carbon Microballoons**
K. B. Carlisle
University of Alabama at Birmingham, USA
- 12:15 – 12:30 Discussion
- 12:30 – 13:30 Lunch
- 14:00 – 18:00 *ad hoc* discussions, free time
- 18:00 – 19:00 Dinner

Monday, August 2, 2004 (continued)

19:00

SESSION II: Processing

Session Chairs: Cynthia Sandoval (Los Alamos National Lab),
Malcolm Spence (AWE)

19:00 – 19:30

**Process Scale-Up for the Manufacture of Three-Phase Syntactic
Foams: Precipitation Coating of BMI Pre-Polymer On Carbon
Microballoons**

G. Gladysz
LANL, USA

19:30 – 20:00

**Bioactive polymer/Bioglass composite foams for tissue
engineering applications**

J. Blaker
Imperial College London, UK

20:00 – 20:30

**Foam Forming Abilities and Surface Tension of Polymer-
Surfactant Composition**

S.B. Aidarova
Al-Faraby Kazakh National University, Kazakhstan

20:30 – 21:30

Social Hour

Tuesday, August 3, 2004

- 07:00 – 08:00 Breakfast
- 08:00 **SESSION III: Characterization I**
Session Chairs: Eyassu Woldesenbet (LSU)
Mark Koopman (UAB)
- 08:00 - 08:45 **Magneto-Mechanical Bone Growth Stimulation By Actuation of Highly Porous Ferromagnetic Fiber Arrays** (Invited)
T.W. Clyne
Cambridge University, UK
- 08:45 – 09:15 **Effect of SiC And TiH₂ Content on The Morphology of Al Foams**
Roberto Montanari
Department of Mechanical Engineering, Università di Roma Tor Vergata, Italy
- 09:15 - 09:45 **Investigation of Cell Size Effects in an Idealized Closed Cell Foam Using A Syntactic Foam Model System**
Daniel Mendoza
Los Alamos National Laboratory, USA
- 09:45 - 10:15 Break
- 10:15 - 10:45 **Enhancement of High Strain Rate Damage Tolerance of Syntactic Foams by Rubber Particle Fillers**
Phillip E. Rivers
Southern University, USA
- 10:45 - 11:15 **Foaming and Compression Behavior of SiC-Particulate Aluminum Closed-Cell Foams Produced by Powder Compacts**
Mustafa Guden
Izmir Institute of Technology, Turkey
- 11:15 – 11:30 Discussion
- 12:00 – 13:15 Lunch
- 13:15 – 18:00 *ad hoc* discussions, free time
- 18:00 – 19:00 Dinner

Tuesday, August 3, 2004 (continued)

- 19:00 **SESSION IV: Characterization II**
Session Chairs: L. Thompson (Y-12)
 David Hess (ARC-Technologies)
- 19:00 - 19:45 **Reinforcement of Al-Foams and Metallic Cellular Structures**
(Invited)
H.Peter Degischer
Institute of Materials Science and Testing, Vienna University of
Technology, Austria
- 19:45 - 20:15 **Fiber Reinforced Kerimid 601 Carbon Microballoon Syntactic
Foam and Its Shear Properties**
Gregory Chavez
University of New Mexico, USA
- 20:15 - 20:30 Break
- 20:30 – 21:00 **Shear Properties of APO-BMI Carbon Micro Balloon Syntactic
Foam**
Patrick Reser
University of New Mexico, USA
- 21:00– 22:00 Social Hour

Wednesday, August 4, 2004

- 07:00 – 08:00 Breakfast
- 08:00 **SESSION V: Characterization III/Modeling**
Session Chairs: Matt Lewis (LANL),
Norman Stoloff (ECI)
- 08:00 - 08:45 **Approaches for Modeling Brittle, Crushable, Granular Syntactic Foams** (Invited)
Matthew Lewis
Los Alamos National Laboratory, USA
- 08:45 - 09:15 **Characterisation of Epoxy Syntactic Foams by Dynamic Mechanical Analysis**
S. Sankaran
Aeronautical Development Establishment, India
- 09:15 - 09:45 **Three Phase Syntactic Foams: Structure-Property Relationships**
Brian Perry
Honeywell FM&T, USA
- 09:45 – 10:15 Coffee Break
- 10:15 - 10:45 **Crack Propagation and Damage Accumulation in 3-Phase Syntactic Foams**
M. Koopman
University of Alabama at Birmingham, USA
- 10:45 - 11:15 **Novel Syntactic Foams for Thermal Insulation in Deep Water: Degradation Mechanisms and Modeling of Hygrothermal Aging**
V. Sauvant-Moynot
Institut Français du Pétrole, France
- 11:15 – 11:45 Discussion
- 12:00 – 13:15 Lunch
- 13:15 – 17:00 *ad hoc* discussions, free time

Wednesday, August 4, 2004 (continued)

17:00 –19:00

Session VI: Poster Session

Session Chairs: Mustafa Guden (Izmir Institute of Technology)
Uday Vaidya (University of Alabama at Birmingham)

Diffusion of Water and Degradation of Epoxy/Amine/Glass Syntactic Foams

V. Sauvant-Moynot
Institut Français du Pétrole, France

Properties of Hollow Glass Microspheres in Polymer Composites for Structural Applications

Andrew DSouza
3M Company, USA

Use of Composite Materials in Protecting and Maintaining Subsea Equipment

Wen-Tsuen Wang
Cuming Corp, USA

The Foaming of Polymer-Surfactant Compositions

Aidarova Saule
Al-Faraby Kazakh National University, Kazakhstan

Foam Formulations in Solutions of Thermo-Sensitive Polymers

M.O. Issakhov
Al-Faraby Kazakh National University, Kazakhstan

Thermal Conductivity of Mullite Foams Processed from Starch Granules

P. Miranzo
Instituto de Ceramica y Vidrio, Spain

Complex Graphitic Structures by Design

M. Nemer
Los Alamos National Laboratory, USA

Characterization of Low Density Polymer Foams

Douglas Faith
Atomic Weapons Establishment, UK

Methods of Production of In-situ Low Density Acrylate Foams for Laser Targets

Wigen Nazarov
University of Dundee, Scotland

19:00

Banquet

Thursday, August 5, 2004

- 07:00 – 08:00 Breakfast
- 8:00 **Session VII: Applications**
Session Chairs: Warren Steckle (LANL),
 Daniel Mendoza (LANL)
- 8:00 - 8:30 **Metallic Foam for Blast Mitigation Applications**
Uday Kashalikar
Foster-Miller, Inc., USA
- 8:30 - 9:00 **Dopeable Styrenic Foams Used in Inertial Fusion Targets**
Warren P. Steckle, Jr.
Los Alamos National Laboratory, USA
- 9:00 - 9:30 Break
- 9:30 – 10:00 **A Syntactic Foam for High Temperature Applications Requiring High Strength and Dimensional Stability**
LeRoy Whinnery
Sandia National Labs, USA
- 10:00 – 10:30 **Blast Impact of Aluminum Foam Sandwich Composites**
Uday Vaidya
University of Alabama at Birmingham, USA
- 10:30 - 12:30 **SESSION VIII: Round Table Discussions**
Session Chairs: G.M. Gladysz and K.K. Chawla
- 12:30 – 13:30 Lunch
- 13:30 Departure