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Program Schedule-at-a-Glance

Sunday, May 15, 2011

5:00 - 7:00 PM WELCOME RECEPTION on the pool deck (2nd floor)

Monday, May 16, 2011

Time	Cumberland	Ossabaw	Pulaski	Sapelo	Madison
8:00 - 9:00 AM	Stookey Award Lecture				
9:20 - Noon	Ion Conductors and Energy Storage Materials I	Glass Transition and Relaxation in Glasses and Glassforming Liquids I	Transparent Ceramics I	Non-Silicate Glasses I	
1:00 - 5:40 PM	Ion Conductors and Energy Storage Materials II	Glass Transition and Relaxation in Glasses and Glassforming Liquids II	Transparent Ceramics II	Non-Silicate Glasses II	
	Glass-Ceramics		Photosensitivity and Photomodification	Water and Glass	
5:45 - 6:30 PM	GOMD Business Meeting				
6:30 - 9:00 PM					Poster Session / Student Poster Contest

Noon - 1:00 PM STUDENT EVENT – Experiences from My First Five Years in the “Real World” – Harborview Room (15th floor)

Lunch will be available to students at no cost, on first come, first served basis.

Tuesday, May 17, 2011

8:00 - 9:00 AM	Morey Award Lecture				
9:20 - Noon	Glass Structure and Properties I	Glass Transition and Relaxation in Glasses and Glassforming Liquids III	Active Optics	Glass Corrosion I	
Noon - 1:00 PM					Kreidl Award Lecture*
1:00 - 5:40 PM	Glass Structure and Properties II	Model/Experiment: Links and Limits	Optical Absorption	Glass Corrosion II	
7:00 - 10:00 PM					Conference dinner

*Boxed lunches will be available to attendees of the Kreidl Award Lecture at no cost, on first come, first served basis.

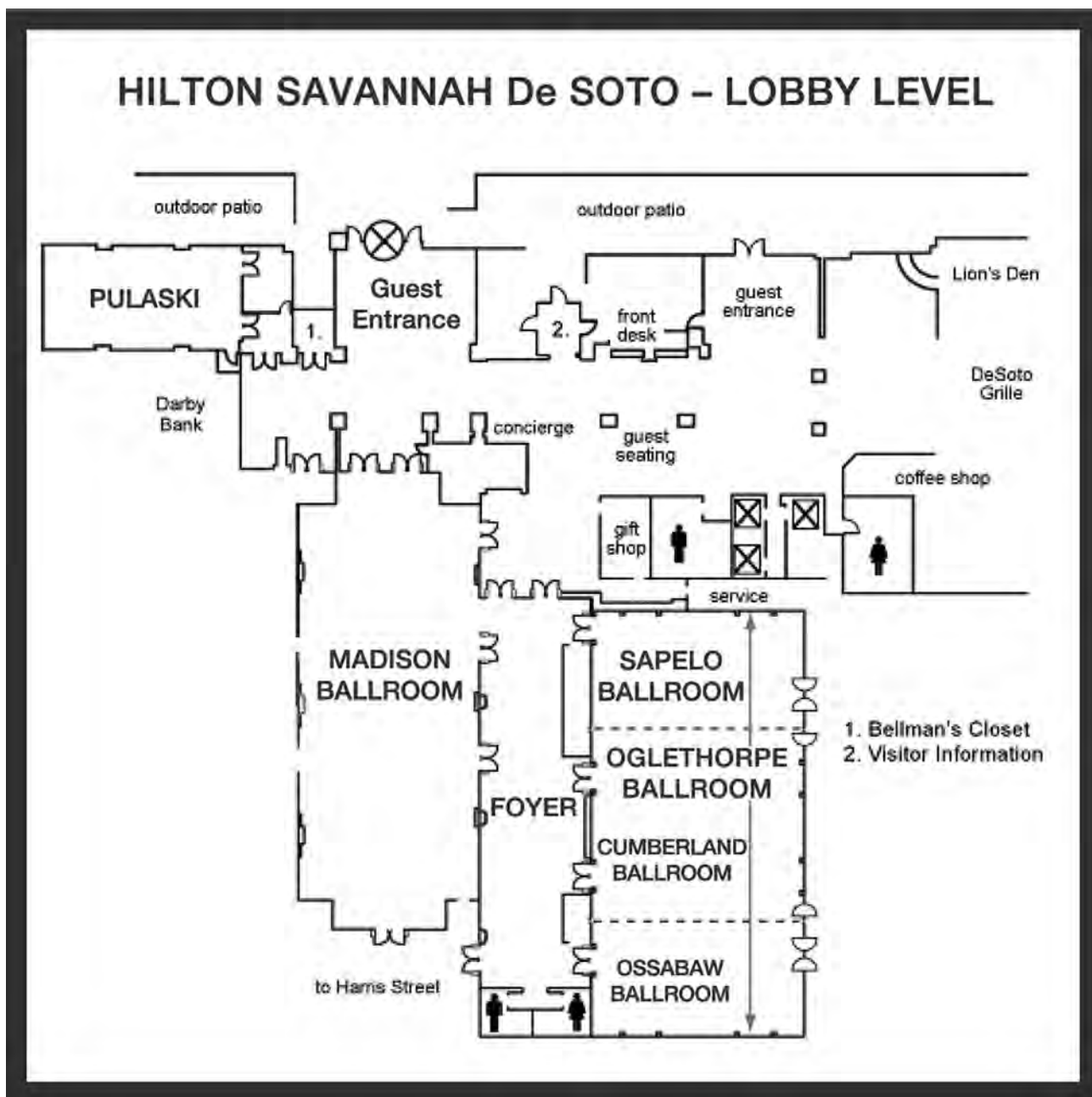
Wednesday, May 18, 2011

8:00 - Noon	Glass Strength	Topology and Rigidity	Solar Energy and Photocatalysis	Surface and Interfacial Phenomena	
	Sensors and Scintillators			Ancient Glasses	
1:00 - 5:40 PM	Glass Melting and Processing	Medium Range Order	Optical Coatings	Atomistic Modeling of Glass Structures and Interfaces	
	Liquid Synthesis and Sol-gel Derived Materials	Medium Range Order and Amorphous Metals			

Thursday, May 19, 2011

8:00 - Noon	Spin Glasses	Amorphous Metals	Glasses for Energy and Environmental Applications		
		Glasses for Medicine and Biotechnology			

Hilton Savannah De Soto Floor Plan



Experiences from My First Five Years in the 'Real World' – Student Activity

Monday, May 16th

12:00 p.m. – 1:00 p.m.

Kevin Fox, Savannah River National Laboratory

Kevin will provide insights on his first five years as a research scientist at the Savannah River National Laboratory. He'll address a range of early career topics such as technical adaptability, continuing education, tracking accomplishments, networking, professional societies, and funding opportunities. All students are invited to the presentation. Lunch will be available to students at no cost, on first come, first served basis.

Award Lectures

Monday, May 16 at 8 a.m. – Cumberland

The *Stookey Lecture of Discovery*, named in honor of materials pioneer Dr. S. Donald Stookey, recognizes an individual's lifetime of innovative exploratory work or noteworthy contributions of outstanding research on new materials, phenomena, or processes involving glass, that have commercial significance or the potential for commercial impact.

Award Winner: Delbert Day, Curators' Professor of Ceramic Engineering and Senior Research Investigator Graduate Center for Materials Research
Missouri University of Science and Technology
Rolla, Missouri, USA
Presentation Title: "Repairing the Body with Glass"
Sponsored by Corning Incorporated and Coe College

Tuesday, May 17 at 8 a.m. – Cumberland

The *George W. Morey Award* recognizes achievements in the field of glass science and technology. The award is given for an outstanding publication on glass, either scientific or technological, published during the previous year.

Award Winner: Neville Greaves, Director and Distinguished Research Professor of Institute of Mathematics and Physics
Aberystwyth University
and
Distinguished Research Fellow
University of Cambridge, United Kingdom
Presentation Title: Glass Structure, Ion Dynamics, and the Pareto Principle
Sponsored by PPG Industries Inc.

Tuesday, May 17 at 12 p.m. – Madison Ballroom

The *Norbert J. Kreidl Award for Young Scholars* recognizes excellence in research by students in the fields of glass and optical materials. Dr. Kreidl's lifelong mission was to enhance the education, achievement and advancement of young people.

Award Winner: Randilynn Christensen, MSE, Iowa State University
Ames, Iowa, USA
Presentation Title: "The Mixed Glassformer Effect in Sodium Borophosphate Glass"
Boxed Lunches* sponsored by SCHOTT North America Inc.

**Note: Boxed lunches will be available at no cost on a first come, first served basis to attendees of the Kreidl Award Lecture.*

Symposium

Glass Recycling in America – Challenges and Opportunities

Presented by the Glass Manufacturing Industry Council



Thursday, May 19
8:00 a.m. – 2:30 p.m.
Madison Ballroom

Please note that a separate registration is required to participate in the Glass Recycling in America Symposium.

Glass Recycling in America has achieved only a fraction of its potential. Glass is the only common product material with an endless life cycle, yet most glass in the U.S. is not reused. Barriers to a more robust recycling utilization include both technical and economic barriers. Many constituents have an interest in the state of glass recycling, including city and state governments, waste processors, glass industry suppliers as well as glass manufacturers. This symposium brings all stakeholders together for the common purpose of understanding how to achieve a more robust and successful recycling of glass in America.

Faculty:

- Kenneth Lovejoy - VP, Environment, Health & Safety, Owens-Illinois, Inc.
- Margaret Zahller, Senior Analyst, PE Americas
- Paul J. Smith - Global Sourcing Manager – Cullet, Owens-Brockway Glass Container Inc.
- Peter Walters - Vice President, Purchasing and Distribution, Saint-Gobain Containers
- Kathleen Flight, Manager of Cullet and Recycling Procurement, Saint-Gobain Containers
- Gerhard Glawitsch – Sales Manager, BT-Wolfgang Binder GmbH
- Daniel K. Steen - Vice President, Government Affairs, Owens-Illinois, Inc.
- Gloria Hardegree, Executive Director Georgia Recycling Coalition
- Scott Mouw, Environmental Supervisor/Section Chief, North Carolina State DIPPEA
- Frank Killoran, National Business Development Manager, Pratt Industries, Inc.
- Bill Waltz, President and CEO, Strategic Materials
- Curtis Bucey, President and COO, Strategic Materials
- David Hudson, Vice President Government Affairs, Strategic Materials
- Steve Bowles, President, Reflective Recycling

Program Committee:

- Kenneth Lovejoy – Symposium Program Committee Chairman - VP, Environment, Health & Safety, Owens-Illinois, Inc.
- Paul J. Smith - Global Sourcing Manager – Cullet, Owens-Brockway Glass Container Inc.
- Ernest P. Guter - Research Associate - Glass Batch & Melting Technology, Owens Corning
- Daniel K. Steen - Vice President, Government Affairs, Owens-Illinois, Inc.
- Peter Walters - Vice President, Purchasing and Distribution, Saint-Gobain Containers
- Joseph Cattaneo – President, Glass Packaging Institute
- Robert Weisenburger Lipetz – Executive Director, Glass Manufacturing Industry Council

Program Agenda

- 7:00 a.m. – 8:00 a.m. Continental Breakfast
- 8:00 a.m. – 8:15 a.m. *Opening Remarks* – Kenneth Lovejoy, VP, Environment, Health & Safety, Owens-Illinois, Inc.
- 8:15 a.m. – 8:45 a.m. *Higher Societal Value of Glass Recycling* – Margaret Zahller, Senior Analyst, PE Americas
- 8:45 a.m. – 9:00 a.m. Questions & Answers
- 9:00 a.m. – 9:30 a.m. *Understanding the True Valuation of Cullet* – Paul J. Smith, Global Sourcing Manager – Cullet, Owens-Brockway Glass Container Inc. and Peter Walters, Vice President, Purchasing and Distribution, Saint-Gobain Containers
- 9:30 a.m. – 9:45 a.m. Questions & Answers
- 9:45 a.m. – 10:15 a.m. Morning Break
- 10:15 a.m. – 10:45 a.m. *An Industry System for Quality Measurement* – Kathleen Flight, Manager of Cullet and Recycling Procurement, Saint-Gobain and Peter Walters, Vice President, Purchasing and Distribution, Saint-Gobain Containers
- 10:45 a.m. – 11:00 a.m. Questions & Answers
- 11:00 a.m. – 11:30 a.m. *Modern Technologies for Cullet Processing* – Gerhard Glawitsch – Sales Manager, BT-Wolfgang Binder
- 11:30 a.m. – 11:45 a.m. Questions & Answers
- 11:45 a.m. – 12:45 p.m. Lunch Provided
- 12:45 p.m. – 1:30 p.m. *State Government Perspective on Glass Recycling* – Panel Discussion - Gloria Hardegree, Executive Director Georgia Recycling Coalition, Scott Mouw, North Carolina State Recycling Program Director, and Frank Kiloran, National Business Development Manager, Pratt Industries, Inc. - Moderated by Daniel K. Steen
- 1:30 p.m. – 2:15 p.m. *Panel Discussion* – All Faculty plus Bill Waltz, President and CEO, Strategic Materials, Curtis Bucey, President and COO, Strategic Materials, David Hudson, Vice President Government Affairs, Strategic Materials, and Steve Bowles, President Reflective Recycling – Moderated by Kenneth Lovejoy
- 2:15 p.m. – 2:30 p.m. *Symposium Closing Remarks* – Kenneth Lovejoy, VP, Environment, Health & Safety, Owens-Illinois, Inc.
- 2:30 p.m. Symposium Concludes

About the Glass Manufacturing Industry Council



The Glass Manufacturing Industry Council (GMIC) is a trade association of the Glass Industry that includes among its members international representatives of all four sectors: Flat, Container, Fiber and Specialty as well as major suppliers, research institutes, universities, contractors and experienced industry professionals. GMIC promotes the interests and growth of the global glass industry.

Mission

“To facilitate, organize and promote the interests and economic growth and sustainability of the glass industry through education and cooperation in the areas of technology, productivity, innovation and the environment.”

Contact Information

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Monday, May 16, 2011**Stookey Lecture of Discovery Award**

Room: Cumberland

8:00 AMDelbert Day, Missouri University of Science and Technology
Repairing the Body with Glass**Symposium I: Glass Science****Session E: Non-Silicate Glasses I**

Room: Sapelo

Session Chair: Juejun Hu, University of Delaware

9:20 AM**(GOMD-SI-049-2011) EXAFS analysis of local structure of Ge in amorphous and crystallized Ge(x)Te(1-x) thin films**

Y. Choi*, Lehigh University, USA; B. Cheong, Korea Institute of Science and Technology, Republic of Korea; A. Kovalsky, H. Jain, Lehigh University, USA

9:40 AM**(GOMD-SI-050-2011) Structural models of Ag incorporation into As₂S₃ thin films**

A. Kovalsky, Lehigh University, USA; V. Lyubin, M. Klebanov, Ben-Gurion University of the Negev, Israel; M. Vlcek*, FCHT University of Pardubice, Czech Republic; H. Jain, Lehigh University, USA

10:00 AM**(GOMD-SI-051-2011) Analysis of Constraint Theory in Germanium Arsenic Sulfide Glasses**

P. F. Wachtel*, J. Musgraves, Clemson University, USA; N. Carlie, Schott North America, USA; J. Wilkinson, C. Ostrouchov, K. Richardson, Clemson University, USA

10:20 AM**(GOMD-SI-052-2011) Structure of S-rich Ge-S glasses by X-ray photoelectron spectroscopy**

R. Golovchak, A. Kovalsky*, H. Jain, Lehigh University, USA

10:40 AM**(GOMD-SI-053-2011) Tellurium glasses for far infrared applications**

C. Boussard-Plédel*, Glasses and Ceramics group - UMR CNRS 6226, France; B. Bureau, Glasses and Ceramics group - UMR CNRS 6226, France; C. Conseil, Glasses and Ceramics group - UMR CNRS 6226, France; X. Zhang, Glasses and Ceramics group - UMR CNRS 6226, France; J. Lucas, Glasses and Ceramics group - UMR CNRS 6226, France

11:00 AM**(GOMD-SI-054-2011) Structural environments and intra-4f-configurational transitions of trivalent Dy ions in Ge-As-S and Ge-Ga-S glasses**

Y. Choi*, Korea Aerospace University, Republic of Korea; H. Jain, Lehigh University, USA

11:20 AM**(GOMD-SI-055-2011) New Functionalities in Non-Oxide Glasses (Invited)**

S. K. Sundaram*, B. J. Riley, H. Qiao, C. F. Windisch, Jr., M. K. Murphy, J. V. Ryan, J. S. McCloy, B. R. Johnson, Pacific Northwest National Laboratory, USA

Symposium II: The Amorphous State**Session A: Glass Transition and Relaxation in Glasses and Glassforming Liquids I**

Room: Ossabaw

Session Chair: Prabhat Gupta

9:20 AM**(GOMD-SII-001-2011) The Emergence of Solid Behaviour in Amorphous Materials (Invited)**

S. Williams*, D. Evans, Australian National University, Australia

10:00 AM**(GOMD-SII-002-2011) The energy landscape of glass formers and beyond (Invited)**

A. Heuer*, C. Rehwal, O. Rubner, C. Schroer, Institute of Physical Chemistry, Germany

10:40 AM**(GOMD-SII-003-2011) The Interplay between Structure and Dynamics in Glass-forming Alloys (Invited)**

A. Widmer-Cooper*, University of Sydney, Australia

11:20 AM**(GOMD-SII-004-2011) Spatial Correlation of the Dynamic Propensity in a Glass-Forming Binary Alloy (Invited)**

M. G. Razul, G. S. Matharoo, P. H. Poole*, St. Francis Xavier University, Canada

Symposium III: Optical Materials and Devices**Session C: Transparent Ceramics I**

Room: Pulaski

Session Chair: Robert Pavlacka, US Army Research Laboratory

9:20 AM**(GOMD-SIII-016-2011) The Impact of transparent ceramic materials on future lasers (Invited)**

M. Richardson*, University of Central Florida, USA

10:00 AM**(GOMD-SIII-017-2011) Submicrometer-Grained Transparent Sesquioxide Ceramics**

J. Ballato*, K. Serivalsatit, Clemson University, USA

10:20 AM**(GOMD-SIII-018-2011) Microstructural Characterization of Optical Ceramics using Electron Backscatter Diffraction**

M. Nowell*, EDAX-TSL, USA

10:40 AM**(GOMD-SIII-019-2011) Scattering in Transparent Materials**

C. Brecher, ALEM Associates, USA; S. R. Miller, R. Gurjar*, RMD Incorporated, USA; A. Lempicki, ALEM Associates, USA

11:00 AM**(GOMD-SIII-020-2011) Crystallization and second harmonic generation surface and bulk responses of lithium niobium silicate glass ceramics**

H. Vigouroux*, E. Fargin, A. Fargues, ICMCB-CNRS, France; B. Le Garrec, CEA, France; M. Dussauze, V. Rodriguez, F. Adamietz, ISM, France; G. Mountrichas, E. Kamitsos, NHRF, Greece; S. Lotarev, V. Sigaev, D. Mendeleyev University of Chemical Technology of Russia, Russian Federation

11:20 AM**(GOMD-SIII-021-2011) The Quest for Large Optical Components in Multi Petawatt and Fusion Lasers (Invited)**

B. J. Le Garrec*, CEA-CESTA, France

Session H: Ion Conductors and Energy Storage Materials I

Room: Cumberland

Session Chair: Steve Martin, Iowa State University

9:20 AM**(GOMD-SIII-051-2011) Superionic glass-ceramic electrolytes for all-solid-state batteries (Invited)**

M. Tatsumisago*, A. Hayashi, Osaka Prefecture University, Japan

10:00 AM**(GOMD-SIII-052-2011) Predicting Glass Former Units and Transport in Ion-Conducting Network Glasses (Invited)**

P. Maass*, University of Osnabrueck, Germany

*Denotes Presenter

10:40 AM**(GOMD-SIII-053-2011) Structures and properties of ion conducting glasses (Invited)**

N. Greaves*, University of Cambridge, United Kingdom; E. Flikkema, CNRS- CEMHTI, France; Z. Zhou, University of Cambridge, United Kingdom; Y. Vaills, CNRS- CEMHTI, France

11:00 AM**(GOMD-SIII-054-2011) Structure of amorphous Na₂S+P₂S₅ prepared by melt quenching and mechanical milling**

S. S. Berbano*, I. Seo, C. M. Bischoff, K. E. Schuller, S. W. Martin, Iowa State University, USA

11:20 AM**(GOMD-SIII-055-2011) Crystalline phase content and ionic conductivity correlation in Li₂O-Al₂O₃-TiO₂-P₂O₅ glass ceramic**

S. Soman*, Indian Institute of Technology Bombay, India; Y. Iwai, J. Kawamura, Institute of Multidisciplinary Research for Advanced Materials, Japan; A. Kulkarni, Indian Institute of Technology Bombay, India

Symposium I: Glass Science**Session E: Non-Silicate Glasses II**

Room: Sapelo

Session Chair: Andriy Kovalsky, Lehigh University

1:00 PM**(GOMD-SI-056-2011) Infrared Quantum Dot Chalcogenide Films for Integrated Light Sources**

N. Patel*, S. Geyer, J. Scherer, M. Bawendi, Massachusetts Institute of Technology, USA; N. Carlie, J. D. Musgraves, K. Richardson, Clemson University, USA; J. Hu, P. Lin, P. Becla, Massachusetts Institute of Technology, USA; C. Dimas, Masdar Institute of Science, United Arab Emirates; L. C. Kimerling, A. Agarwal, Massachusetts Institute of Technology, USA

1:20 PM**(GOMD-SI-057-2011) Novel Methods for the Preparation of High Purity Chalcogenide Glass for Optical Fiber Applications (Invited)**

D. W. Hewak*, K. Huang, K. J. Knight, University of Southampton, United Kingdom

2:00 PM**(GOMD-SI-058-2011) Conductive chalcogenide glasses for sensing applications**

P. Lucas*, Z. Yang, K. Reynolds, B. Bureau, University of Arizona, USA; M. Anne, University of Rennes, France

2:20 PM**(GOMD-SI-059-2011) Solid Glass Electrolyte Enabled In-situ X-ray Absorption Spectroscopy of Electroactive Elements in Working Li-ion Batteries (Invited)**

F. Alamgir*, Georgia Institute of Technology, USA

3:00 PM

Break

Session F: Glass-Ceramics

Room: Cumberland

Session Chair: Amanda Brennecka, Sandia National Laboratories

3:20 PM**(GOMD-SI-060-2011) Crystallization behavior of chromium doped CaO-ZrO₂-SiO₂ glass-ceramics system**

M. Bahman, Imam Khomeini International University, Islamic Republic of Iran; B. Mehdikhani*, Institute of Standards & Industrial Research of Iran, Islamic Republic of Iran

3:40 PM**(GOMD-SI-061-2011) Crystallisation of powellite phase in aluminoborosilicate glasses**

T. Taurines*, B. Boizot, UMR 7642 CEA-CNRS-Ecole Polytechnique, France

4:00 PM**(GOMD-SI-062-2011) Critical assessment of DTA/DSC methods to study glass crystallization kinetics**

V. M. Fokin, A. A. Cabral, R. M. Reis, E. D. Zanotto*, Fed. University Sao Carlos, Brazil

4:20 PM**(GOMD-SI-063-2011) Fluorescence Properties of Rare-Earth Co-Doped Fluorochlorozirconate Glasses**

M. Vu*, University of Tennessee Space Institute, USA; C. Passlick, Martin Luther University of Halle-Wittenberg, Germany; J. A. Johnson, C. E. Johnson, University of Tennessee Space Institute, USA; S. Schweizer, Fraunhofer Center for Silicon Photovoltaics, Germany

4:40 PM**(GOMD-SI-064-2011) TeO₂-Bi₂O₃-ZnO glass ceramic with high transparency in NIR region**

X. Hu*, D. Musgraves, D. Vanderveer, J. Boerstler, N. Carlie, P. Wachte, Clemson University, USA; S. Raffy, University of Bordeaux, France; R. Stolen, K. Richardson, Clemson University, USA

5:00 PM**(GOMD-SI-065-2011) Glass Ceramic Waste Form Development for Combined Fission Products Waste Streams from Used Nuclear Fuel**

J. Crum*, Pacific Northwest National Lab, USA; A. Kossoy, Los Alamos National Lab, USA; B. Riley, Pacific Northwest National Lab, USA; M. Tang, Los Alamos National Lab, USA; L. Turo, Pacific Northwest National Lab, USA

Symposium II: The Amorphous State**Session A: Glass Transition and Relaxation in Glasses and Glassforming Liquids II**

Room: Ossabaw

Session Chairs: Sabyasachi Sen, University of California at Davis; Ulrich Fotheringham, SCHOTT AG

1:00 PM**(GOMD-SII-005-2011) Particle dynamics in dense colloidal suspensions with short-ranged attractive potential**

P. Haddad*, A. Latka, Saint Joseph's University, USA; P. Yunker, M. Lohr, A. G. Yodh, University of Pennsylvania, USA

1:20 PM**(GOMD-SII-006-2011) The Predictive Power of Three Parameter Viscosity Models**

U. G. Fotheringham*, F. Lenters, SCHOTT AG, Germany; D. B. Dingwell, LMU-University of Munich, Germany

1:40 PM**(GOMD-SII-007-2011) A discussion of iso-structural viscosity based on trap-dynamics**

P. Gupta*, A. Heuer, The Ohio State University, USA

2:00 PM**(GOMD-SII-008-2011) Universal characteristics of the liquid-liquid critical point (Invited)**

N. Greaves*, University of Cambridge, United Kingdom

2:20 PM**(GOMD-SII-028-2011) Heat capacity at the glass transition**

K. Trachenko*, Queen Mary University of London, United Kingdom

2:40 PM**(GOMD-SII-009-2011) Structural Relaxation Mechanism Associated with Glass Transition in Ge-Se Liquids**

T. Edwards*, S. Sen, University of California at Davis, USA

3:00 PM

Break

3:20 PM**(GOMD-SII-010-2011) Ideal glassformers and glass transition paradigms (Invited)**

C. Angeli*, V. Kapko, D. Matyushov, Arizona State University, USA

4:00 PM**(GOMD-SII-011-2011) Revisit of entropy issues in non-equilibrium states**

A. Takada*, Asahi Glass Company, Japan

4:20 PM**(GOMD-SII-012-2011) On the Dependence of the Properties of Glasses on Cooling and Heating Rates (Invited)**

J. Schmelzer*, Germany

5:00 PM**(GOMD-SII-013-2011) Energy correlations in supercooled states of silicon**

X. Mei, W. Mohamed, J. Eapen*, NC State University, USA

5:20 PM**(GOMD-SII-014-2011) Experimental and Computer Investigation of Thermal Relaxation in AsxSe1-x Glasses**

E. A. King*, R. G. Erdmann, P. Lucas, University of Arizona, USA

Session G: Water and Glass

Room: Sapelo

Session Chairs: Minoru Tomozawa, Rensselaer Polytechnic Institute; Minoru Tomozawa, Rensselaer Polytechnic Institute

3:20 PM**(GOMD-SII-059-2011) Diffusion and redox reactions of water-related species in silicate melts (Invited)**

H. Behrens*, Leipzig University of Hannover, Germany

4:00 PM**(GOMD-SII-060-2011) Effect of Water Penetration on the Strength and Toughness of Silica Glass (Invited)**

S. Wiederhorn*, NIST, USA; T. Fett, Karlsruhe Institute of Technology, Germany; J. Guin, University of Rennes, I, France

4:40 PM**(GOMD-SII-061-2011) Effect of Water on Internal Friction for a SiO₂-Al₂O₃-Na₂O-MgO Glass**

T. Tsujimura*, M. Nishizawa, A. Koike, Y. Kuroki, Asahi Glass Co., Ltd., Japan

5:00 PM**(GOMD-SII-062-2011) Nanostructure of water-containing glass by MD simulation**

S. Ito*, Tokyo Institute of Technology, Japan; T. Taniguchi, Asahi Glass Co., Ltd., Japan

5:20 PM**(GOMD-SII-063-2011) Water diffusion in silica glass and wet oxidation of Si: A new interpretation for the high speed of wet oxidation**

M. Tomozawa*, Rensselaer Polytechnic Institute, USA

Symposium III: Optical Materials and Devices**Session C: Transparent Ceramics II**

Room: Pulaski

Session Chair: Robert Pavlacka, US Army Research Laboratory

1:00 PM**(GOMD-SIII-022-2011) Ceramic Scintillators for Computed Tomography (Invited)**

H. Jiang*, J. Gent, M. Prescott, GE Healthcare, USA; S. Duclos, J. Vartuli, R. Lyons, C. Vess, R. Hagerdon, K. Mcevoy, A. Setlur, GE Global Research, USA

1:40 PM**(GOMD-SIII-023-2011) Strength-Size Scaling and Flaw Tolerance in Coarse-Grained Transparent Magnesium Aluminate Spinel Windows**

J. Swab, R. Pavlacka*, S. Kilczewski, G. Gilde, US Army Research Laboratory, USA

2:00 PM**(GOMD-SIII-024-2011) Forming Transparent Ceramics for Al-rich Formulations of MgO.nAl₂O₃ (n > 1)**

A. Sutorik*, J. Swab, G. Gilde, C. Cooper, R. Gamble, E. Shanholtz, R. Pavlacka, US Army Research Laboratory, USA

2:20 PM**(GOMD-SIII-025-2011) Highly transparent Al-rich MgO.nAl₂O₃ spinel (1 ≤ n ≤ 2.5) by reaction sintering of MgO and Al₂O₃**

K. Waetzig*, A. Krell, A. Michaelis, Fraunhofer Institute for Ceramic Technologies and Systems, Germany

2:40 PM**(GOMD-SIII-026-2011) Reversible optical properties of an infrared transparent Y₂O₃-MgO nanocomposite**

D. Jiang*, A. K. Mukherjee, University of California-Davis, USA

3:00 PM**Break****Session B: Photosensitivity and Photomodification**

Room: Pulaski

Session Chair: Pierre Lucas, University of Arizona

3:20 PM**(GOMD-SIII-010-2011) Optical agility of chalcogenide films using their photosensibility (Invited)**

V. Nazabal*, Chemistry Sciences Center of Rennes, UMR 6226, University of Rennes, France; P. Nemecek, Faculty of Chemical Technology, University of Pardubice, Czech Republic; M. Cathelinaud, UPS CNRS 2274, France; G. Boudebs, Université d'Angers, France; M. Chauvet, UMR CNRS 6174, Département d'optique, France; F. Charpentier, Chemistry Sciences Center of Rennes, UMR 6226, University of Rennes, France; M. Lequime, UMR6133, CNRS-ECM-UPCAM-UP, France; X. Zhang, Chemistry Sciences Center of Rennes, UMR 6226, University of Rennes, France

4:00 PM**(GOMD-SIII-011-2011) Atomistic nature and dynamics of optically and thermally induced changes in chalcogenide glass thin films**

D. Zhao*, H. Jain, Lehigh University, USA

4:20 PM**(GOMD-SIII-012-2011) Direct Femtosecond Laser Writing in silver-containing glass**

T. Cardinal*, K. Bourhis, ICMCB-CNRS, France; A. Royon, CPMOH-CNRS, France; M. Treguer, Y. Petit, J. Videau, ICMCB-CNRS, France; J. Choi, M. Richardson, UCF, USA; L. Canioni, CPMOH-CNRS, France

4:40 PM**(GOMD-SIII-013-2011) Ultrafast Laser Processing of Hybrid Micro- and Nano-Structures in Silicate Glasses**

P. Mardilovich*, L. Fletcher, N. Troy, S. Risbud, D. Krol, University of California, USA

5:00 PM**(GOMD-SIII-014-2011) Mechanisms of NaF growth in photo-thermo-refractive glass**

K. Chamma, J. Lumeau*, L. Glebova, L. B. Glebov, University of Central Florida, USA

5:20 PM**(GOMD-SIII-015-2011) 3D temperature distribution and crystallization mechanisms of ferroelectric LaBGeO₅ during femtosecond laser irradiation inside bulk glass**

A. Stone*, M. Sakakura, Y. Shimotsuna, Lehigh University, USA; K. Miura, K. Hirao, Kyoto University, Japan; V. Dierolf, H. Jain, Lehigh University, USA

Session H: Ion Conductors and Energy Storage Materials II

Room: Cumberland

Session Chair: Steve Martin, Iowa State University

1:00 PM**(GOMD-SIII-056-2011) Understanding the alkali dynamics in silicate systems for small and large electric fields (Invited)**

A. Heuer*, H. Lammert, L. Lühning, Institute of Physical Chemistry, Germany

1:40 PM**(GOMD-SIII-057-2011) First and second universalities in ion-conducting glasses (Invited)**

K. Funke*, University of Muenster, Germany

2:20 PM

(GOMD-SIII-058-2011) Structure/Property Correlations in the Ionic Conductivity of Mixed Glass Former Glasses in the Na₂S + GeS₂ + P₂S₅ Glass System

C. Bischoff*, K. Schuller, S. W. Martin, Iowa State University, USA

2:40 PM

(GOMD-SIII-059-2011) Structural Studies and Models of Sodium Borophosphate Mixed Glass Former Glasses

R. B. Christensen*, S. W. Martin, G. Olson, Iowa State University, USA

3:00 PM

Break

Posters

Room: Madison

6:30 PM

(GOMD-SI-P001-2011) Influence of Structural changes on the ESR Spectra of Mn²⁺ doped Lead Phosphate Glasses

C. Dayanand*, Tirumala Engineering College, India

(GOMD-SI-P002-2011) Laser Aerolevitation Manufacturing of Alkaline Earth Silicates

C. Nie*, W. Trull, P. Dulal, S. Feller, M. Affatigato, Coe College, USA

(GOMD-SI-P003-2011) The Production of Cesium Borate Glass for Use in Atomic Clocks

E. Wiese Moore*, Coe College, USA; J. Bernstein, Massachusetts Institute of Technology, USA; A. Ramm, J. North, J. Maldonis, J. Alberts, S. Feller, M. Affatigato, Coe College, USA; M. Mescher, W. Robbins, R. Stoner, B. Timmons, Massachusetts Institute of Technology, USA

(GOMD-SI-P004-2011) Alumina Effect on Enthalpy of Mixing of Mixed Alkali Silicate Glasses

P. J. Lezzi*, M. Tomozawa, RPI, USA

(GOMD-SI-P005-2011) Glass-Forming Ability of Soda Lime Borate Liquids

Q. Zheng*, Aalborg University, Denmark; J. C. Mauro, Corning Incorporated, USA; M. M. Smedskjaer, Aalborg University, Denmark; M. Potuzak, Corning Incorporated, USA; R. Keding, Max Planck Institute for the Science of Light, Germany; Y. Yue, Aalborg University, Denmark

(GOMD-SI-P006-2011) Spherical bioactive glass particles and their interaction with human mesenchymal stem cells in vitro

S. Labbat*, O. Tsigkou, M. M. Stevens, A. E. Porter, J. R. Jones, Imperial College London, United Kingdom

(GOMD-SI-P007-2011) Aqueous Corrosion of Polyphosphate Glasses

C. Smith*, R. Brow, Missouri University of Science and Technology, USA

(GOMD-SI-P008-2011) Engineered Corrosion-induced Passivation Layers for Glass Waste Forms

D. C. Skorski*, J. Ryan, Pacific Northwest National Laboratory, USA

(GOMD-SI-P009-2011) Dissolution Behavior of Na/Ca-Phosphate Glasses In in Aqueous Solutions

L. Ma*, R. K. Brow, M. E. Schlessinger, Missouri University of Science and Technology, USA

(GOMD-SI-P010-2011) Analytical modeling of thermodynamic iron redox equilibria and aqueous dissolution behavior of iron phosphate glasses

M. L. Schmitt*, R. K. Brow, Missouri S&T, USA

(GOMD-SI-P011-2011) A Raman Spectroscopy Study of the Structure of Iron Phosphate Glasses

L. Zhang*, R. Brow, Missouri University of Science and Technology, USA

(GOMD-SI-P012-2011) Microstructure and physical properties of the GexAsySe1-x-y glasses with the same mean coordination number of 2.5

R. Wang*, A. Smith, D. Choi, S. Madden, B. Luther-Davies, Australian National University, Australia

(GOMD-SI-P013-2011) Stabilization of Second Harmonic Generation in Thermally Poled, Alkali Doped Chalcogenide Glasses

T. Shoulders*, K. Richardson, Clemson University, USA; M. Dussauze, University Bordeaux 1, France; D. Musgraves, Clemson University, USA

(GOMD-SI-P014-2011) Influence of imprinting conditions on the surface morphology of chalcogenide glasses

B. Jin, Y. Choi*, Korea Aerospace University, Republic of Korea; W. Chung, Kongju National University, Republic of Korea; D. Shin, Hanyang University, Republic of Korea; H. Jain, Lehigh University, USA

(GOMD-SI-P015-2011) Thermal expansion investigation of iron sodium silicate glass

B. Mirhadi, B. Mehdikhani*, Imam Khomeini International University, Islamic Republic of Iran

(GOMD-SI-P016-2011) Optical absorption and Crystallisation of sodium desilicate glasses containing chromium oxide

B. Mehdikhani*, B. Mirhadi, Imam Khomeini International University, Islamic Republic of Iran

(GOMD-SII-P017-2011) Relaxation dynamics of supercooled silicon using molecular dynamics simulations

X. Mei*, W. Mohamed, J. Eapen, NC State University, USA

(GOMD-SII-P018-2011) A low-cost electrometer for measuring conductivity and glass transition in sugar glass

W. R. Heffner*, Lehigh University, USA; N. Ward, Oakwood University, USA

(GOMD-SII-P019-2011) Electronic Consequences of Electron-Phonon Interaction in Impurity States of Doped Semiconductors

B. Cai*, M. Zhang, D. Drabold, Ohio University, USA

(GOMD-SIII-P020-2011) Optical spectra of DIVALENT and TRIVALENT iron in sodium silicate glasses

B. Mirhadi, Imam Khomeini International University, Islamic Republic of Iran; B. Mehdikhani*, Institute of Standard and Industrial Research of Iran (ISIRI), Islamic Republic of Iran

(GOMD-SIII-P021-2011) Role of manganese as a oxidizing agent in sodium silicate glasses containing iron oxide

B. Mirhadi, B. Mehdikhani*, Imam Khomeini International University, Islamic Republic of Iran

(GOMD-SIII-P022-2011) UV-Vis spectroscopy of transition metals in sodium silicate glasses

B. Mirhadi, Imam Khomeini International University, Islamic Republic of Iran; B. Mehdikhani*, Institute of Standard and Industrial Research of Iran (ISIRI), Islamic Republic of Iran

(GOMD-SIII-P023-2011) Infrared absorption of polyvalent oxides in glass

B. Mirhadi, B. Mehdikhani*, Imam Khomeini International University, Islamic Republic of Iran

(GOMD-SIII-P024-2011) Optical properties of Mn²⁺ doped Lead phosphate Glasses

C. Dayanand*, Tirumala Engineering College, India

(GOMD-SIII-P025-2011) Does photoinduced anisotropy in chalcogenide glasses have atomic structure signature?

D. Zhao*, H. Jain, Lehigh university, USA

(GOMD-SIII-P026-2011) Laser-induced anomalous plasmonic evolution in silver nanocomposite glass: An in situ optical microspectroscopy study

J. A. Jimenez*, M. Sendova, New College of Florida, USA

(GOMD-SIII-P027-2011) Relation between structure and photochemistry of silver-containing phosphate glasses

K. Bourhis, Y. Petit, M. Treguer, C. Labrugere, J. Videau, ICMCB-CNRS, France; A. Royon, G. Papon, L. Cantoni, LCMCP-CNRS-ENSCP, France; L. Binet, D. Caurant, CPMOH-CNRS, France; B. Revel, L. Montagne, USTL-CNRS, France; T. Cardinal*, ICMCB-CNRS, France

(GOMD-SIII-P028-2011) Pulsed Laser Deposited Ga-Ge-Te Amorphous Thin Films

P. Nemeč*, University of Pardubice, Czech Republic; V. Nazabal, A. Moreac, Université de Rennes 1, France

(GOMD-SIII-P029-2011) The effects of sintering aids on defects and densification in transparent Nd:YAG ceramics

A. Stevenson*, G. L. Messing, The Pennsylvania State University, USA

(GOMD-SIII-P030-2011) Phase separation and crystallization mechanism in non linear optical LiNbO₃-SiO₂ glasses

G. Mountrichas, E. Kamitsos, NHRF, Greece; H. Vigouroux*, A. Fargues, E. Fargin, ICMCB-CNRS, France; B. Le Garrec, CEA, France; M. Dussauze, F. Adamietz, V. Rodriguez, ISM, France; S. Lotarev, V. Sigaev, D. Mendeleyev University of Chemical Technology of Russia, Russian Federation

(GOMD-SIII-P031-2011) The Effect of Silica on Emission Property of Various Cr⁴⁺-Doped Glass Ceramics

J. Wang*, F. Shen, NSYSU, Taiwan

(GOMD-SIII-P032-2011) Processing and Mechanical Properties of Transparent Lu₂O₃ Laser Host Ceramics

R. Pavlacka*, S. Kilczewski, A. Lidie, G. Gilde, US Army Research Laboratory, USA

(GOMD-SIII-P033-2011) Compositional and structural changes in thermally poled borosilicate glass and their link to non linear optical properties

T. Cremoux*, D. Marc, Univ. Bordeaux 1 - CNRS, France; E. Fargin, T. Cardinal, CNRS, France; T. Shoulders, K. Richardson, Clemson university, USA; V. Rodriguez, Univ. Bordeaux 1 - CNRS, France

(GOMD-SIII-P034-2011) Development of Pr³⁺-doped ZBLA fluoride waveguide for compact laser source emitting in visible

M. Olivier, P. Pirasteh, J. Doualan, Chemistry Sciences Center of Rennes, France; P. Camy, UMR 6252, CEA, CNRS, ENSICAEN et Université de Caen, France, UMR 6252, CEA, CNRS, ENSICAEN et Université de Caen, France; Université Rennes1, France; H. Lhermite, J. Adam, V. Nazabal*, Chemistry Sciences Center of Rennes, France

(GOMD-SIII-P035-2011) Size Effects on Properties of Novel High Z Scintillators

J. V. Branson*, P. Yang, S. Thoma, P. Doty, T. J. Boyle, L. Ottley, B. A. Hernandez-Sanchez, Sandia National Laboratories, USA

(GOMD-SIII-P036-2011) Monitoring of the geological storage of CO₂ using chalcogenide waveguides

M. Brandily*, University of Rennes1, France; V. Nazabal, F. Charpentier, Université Rennes1, France; H. Lhermite, University of Rennes1, France; J. Charrier, UMR 6082, France; C. Boussard-Plédel, B. Bureau, Université Rennes1, France; J. Doualan, P. Camy, CIMAP, France

(GOMD-SIII-P037-2011) The Effect of Gold Doping on the Conductivity of Sodium Trisilicate Glass

M. Wojciechowski*, C. Saiyasombat, H. Jain, Lehigh University, USA; R. Küchler, Technische Universität Dortmund, Germany

(GOMD-SIV-P038-2011) Chalcogen-based aerogels as a multifunctional platform for remediation of radioactive waste

B. Riley*, J. Chun, J. Ryan, S. K. Sundaram, D. Strachan, PNNL, USA

(GOMD-SIV-P039-2011) Evaluation of nepheline formation in nuclear waste glasses

C. P. Rodriguez*, M. J. Schweiger, A. E. Wenschell, J. S. McCloy, Pacific Northwest National Laboratory, USA

(GOMD-SIV-P040-2011) Utilization of a Laboratory-Scale Melter to Determine Melting Rate of Waste Glass Feeds

J. Das Gupta*, D. Kim, M. Schweiger, W. Buchmiller, J. Vienna, Pacific Northwest National Laboratory, USA

(GOMD-SIV-P048-2011) The DHS database for High Performance Materials

G. Fischman*, Future Strategy Solutions, LLC, USA

(GOMD-SIV-P049-2011) Sorting of glass, plastics and minerals

A. Schnehen*, C. Makari, Binder & Co. AG, Austria

(GOMD-SIV-P041-2011) Soda-lime silicate glass under hydrostatic pressure and indentation: a micro-Raman study

T. Deschamps*, CEA, France; C. Martinet, LPCML, Université Lyon1, France; J. Bruneel, Université Bordeaux1, France; B. Champagnon, LPCML, Université Lyon1, France

(GOMD-SIV-P042-2011) Borate Based Bioactive Glasses for Soft Tissue Regeneration

S. Jung*, Mo-Sci Corporation, USA

(GOMD-SIV-P043-2011) Effect of temperature on UV-Vis spectroscopy of sodium silicate glasses contained nanoparticle iron oxide

B. Mirhadi, B. Mehdikhani*, Imam Khomeini International University, Islamic Republic of Iran

(GOMD-SIV-P044-2011) Preparation of CaO-MgO-SiO₂ Glass-Ceramic Using Na₂SiO₃ Waste Solution

C. Yamagata, O. Z. Higa, Instituto de Pesquisas Energeticas e Nucleares, USA; A. D. Rodas, Instituto de Pesquisas Energeticas e Nucleares, Brazil; S. T. Reis*, Missouri University of Science and Technology, USA

(GOMD-SIV-P045-2011) Synthesis and Characterization of Phase-change Nanowires Confined in Periodic Mesoporous Silica

C. Ihalawela*, B. Prasai, G. Rosen, G. Chen, Ohio University, USA

(GOMD-SIV-P046-2011) Nanoparticle-incorporated indium tin oxide (ITO) thin films obtained through sol-gel process

H. Yavas*, M. T. Kesim, C. Durucan, Middle East Technical University, Turkey

(GOMD-SIV-P047-2011) Sol-gel derived silver-incorporated hybrid ITO thin films

M. T. Kesim*, H. Yavas, C. Durucan, Middle East Technical University, Turkey

Tuesday, May 17, 2011

George W. Morey Award Lecture

Room: Cumberland

8:00 AM

Neville Greaves, University of Cambridge
Glass Structure, Ion Transport, and the Pareto Principle

Symposium I: Glass Science**Session B: Glass Structure and Properties I**

Room: Cumberland

Session Chair: Randall Youngman, Corning Incorporated

9:20 AM

(GOMD-SI-010-2011) Perfect glasses with novel mechanical properties (Invited)

N. Greaves*, L. L. Greer, University of Cambridge, United Kingdom; G. Sankar, University College London, United Kingdom

10:00 AM

(GOMD-SI-011-2011) Structural characteristics of low- and high-density amorphous phases in yttrium aluminate glasses: results from multinuclear NMR spectroscopy

N. Nasikas, ICEHT/FORTH, Greece; S. Sen*, University of California at Davis, USA; G. Papatheodorou, ICEHT/FORTH, Greece

10:20 AM

(GOMD-SI-012-2011) Composition dependence of the viscosity and other physical properties in the arsenic selenide glass system

J. Musgraves*, P. Wachtel, S. Novak, J. Wilkinson, K. Richardson, Clemson University, USA

10:40 AM

(GOMD-SI-013-2011) Electrical Transport Properties of Bulk Amorphous Semiconductors

B. R. Johnson*, J. S. McCloy, B. J. Riley, J. V. Crum, J. V. Ryan, S. K. Sundaram, Pacific Northwest National Laboratory, USA; D. N. Hebert, A. A. Rockett, University of Illinois, Urbana-Champaign, USA

11:00 AM

(GOMD-SI-014-2011) Raman and X-ray Absorption Studies of the Structure of Alkali Tungstate Glasses

C. W. Ponader*, K. Adib, B. Aitken, Corning Incorporated, USA

11:20 AM

(GOMD-SI-015-2011) The Structure and Properties of Polyphosphate glasses from the ZnO-MgO-P₂O₅ and ZnO-Al₂O₃-P₂O₅ Systems

C. Smith*, R. Brow, Missouri University of Science and Technology, USA

11:40 AM

(GOMD-SI-016-2011) Structure-Property Relationships in Cerium Aluminophosphate and Silicophosphate Glasses

J. L. Rygel*, C. G. Pantano, The Pennsylvania State University, USA

Session C: Glass Corrosion I

Room: Sapelo

Session Chair: Stephane Gin, CEA

9:20 AM

(GOMD-SI-028-2011) Development of first-principles-based models for glass dissolution

P. Zapol*, H. He, J. Cunnane, Argonne National Laboratory, USA

9:40 AM

(GOMD-SI-029-2011) Filling the Gaps from Atomistic to Continuum Modeling to Better Predict Nuclear Waste Glass Dissolution

L. J. Criscenti*, Sandia National Laboratories, USA

10:00 AM

(GOMD-SI-030-2011) Modeling of Glass Dissolution with Transition-State Theory

D. Strachan*, Pacific Northwest National Laboratory, USA

10:20 AM**(GOMD-SI-031-2011) Why glasses with high dissolution rates may undergo low corrosion? (Invited)**

C. Caillaudeau*, CEA/DEN, France; F. Devreux, Ecole Polytechnique-CNRS, France; O. Spalla, CEA/DSM, France; F. Angéli, S. Gin, CEA/DEN, France

10:40 AM**(GOMD-SI-032-2011) Evidence for a New Glass Corrosion Mechanism from Isotope Tracer Experiments (Invited)**

T. Geisler*, University of Muenster, Germany; A. Janssen, Institute for Transuranium Elements, Germany; R. Denkler, University of Muenster, Germany; M. Kilburn, University of Western Australia, Australia; A. Putnis, University of Muenster, Germany

11:20 AM**(GOMD-SI-033-2011) Solid-State NMR Investigations of Nuclear Waste Glass Corrosion**

K. A. Murphy*, K. T. Mueller, C. G. Pantano, The Pennsylvania State University, USA; J. V. Ryan, N. M. Washon, Pacific Northwest National Laboratory, USA

11:40 AM**(GOMD-SI-034-2011) Kinetic evaluation of aqueous dissolution of P0798 simulated HLW glass as a function of dissolved silica concentration by using micro-channel flow-through test method**

Y. Inagaki*, K. Sakanani, Kyushu University, Japan; S. Mitsui, Japan Atomic Energy Agency, Japan; K. Idemitsu, T. Arima, Kyushu University, Japan; K. Noshita, Hitachi Ltd., Japan

Symposium II: The Amorphous State**Session A: Glass Transition and Relaxation in Glasses and Glassforming Liquids III**

Room: Ossabaw

Session Chair: Prabhat Gupta

9:20 AM**(GOMD-SII-015-2011) What have we learned from experiments about relaxation in silica glass? (Invited)**

M. Tomozawa*, Rensselaer Polytechnic Institute, USA

10:00 AM**(GOMD-SII-016-2011) What have we learned about relaxation in glass forming liquids from light scattering experiments? (Invited)**

D. Sidebottom*, Creighton University, USA

10:40 AM**(GOMD-SII-017-2011) Silicate glasses under pressure (Invited)**

B. Champagnon*, T. Deschamps, C. Martinet, C. Sonnevile, D. de Ligny, Université Lyon1, France

11:20 AM**(GOMD-SII-019-2011) Kinetic and Thermodynamic Effects of Nanoconfinement on Glass Transition in Glycerol**

S. Sen*, University of California at Davis, USA

Symposium III: Optical Materials and Devices**Session D: Active Optics**

Room: Pulaski

Session Chair: David Scrymgeour, Sandia National Laboratories

9:20 AM**(GOMD-SIII-027-2011) Nonlinear photonic crystals utilizing ferroelectric oxide thin films and their application in tunable photonic circuits (Invited)**

P. T. Lin*, MIT, USA; B. W. Wessels, Northwestern University, USA

10:00 AM**(GOMD-SIII-028-2011) Fs-Laser Micro Machining of Waveguide Amplifiers Inside Er-Yb Doped Zinc Polyphosphate Glass**

L. B. Fletcher*, J. J. Witcher, N. Troy, University of California Davis, USA; R. K. Brow, Missouri University of Science and Technology, USA; D. M. Krol, University of California Davis, USA

10:20 AM**(GOMD-SIII-029-2011) Influence of Silver ions injection and SHG by thermal poling on sodium and niobium borophosphate glasses**

E. Fargin*, A. Delestre, A. Fargues, M. Lahaye, ICMCB, France; V. Rodriguez, M. Dussauze, F. Adamietz, ISM, France; L. Canioni, A. Royon, M. Bellec, CPMOH, France

10:40 AM**(GOMD-SIII-030-2011) Thermally poled oxide glasses: correlation between polarization mechanisms and non linear optical properties**

D. Marc*, V. Rodriguez, Univ. Bordeaux 1 - CNRS, France; E. Fargin, T. Cardinal, G. Guimbretiere, CNRS, France; T. Cremoux, Univ. Bordeaux 1 - CNRS, France; T. Shoulders, Clemson university, USA; E. Kamitsos, NHRF, Greece; K. Richardson, Clemson university, USA

11:00 AM**(GOMD-SIII-031-2011) Structure and Optical Properties of Pulsed Laser Deposited Ge-Sb-Te Thin Films by Raman Scattering Spectroscopy and Spectroscopic Ellipsometry**

P. Nemeec*, University of Pardubice, Czech Republic; V. Nazabal, A. Moreac, Université de Rennes 1, France; J. Gutwirth, M. Frumar, University of Pardubice, Czech Republic

11:20 AM**(GOMD-SIII-032-2011) Crystal coherence length effects on the infrared optical response of MgO thin films (Invited)**

J. Ihlefeld*, J. C. Ginn, Sandia National Laboratories, USA; D. J. Shelton, University of Central Florida, USA; V. Matias, Los Alamos National Laboratory, USA; P. G. Kotula, M. A. Rodriguez, Sandia National Laboratories, USA; G. D. Boreman, University of Central Florida, USA; P. G. Clem, M. B. Sinclair, Sandia National Laboratories, USA

Norbert J. Kreidl Award Lecture

Room: Madison

12:00 PM

Randilynn Christensen, Iowa State University

The Mixed Glassformer Effect in Sodium Borophosphate Glass

Symposium I: Glass Science**Session B: Glass Structure and Properties II**

Room: Cumberland

Session Chair: Randall Youngman, Corning Incorporated

1:20 PM**(GOMD-SI-017-2011) Yb³⁺ doped SiO₂-Al₂O₃-P₂O₅ fiber performs: the role of Al and P on clusters dissolution**

T. Deschamps*, N. Ollier, T. Charpentier, CEA, France; H. Vezin, CNRS, Draka, France

1:40 PM**(GOMD-SI-018-2011) High-temperature ¹¹B Magic Angle Spinning Nuclear Magnetic Resonance Spectroscopy Study of Network Dynamics in Borosilicate and Borate Glass-forming Liquids**

J. Wu*, N. Kim, J. F. Stebbins, Stanford University, USA

2:00 PM**(GOMD-SI-019-2011) Diffusion of Sodium in Sodium Boroaluminosilicate Glasses: Impact of Mixed Network Formers and the Influence of Water**

X. Wu*, Cornell University, USA; Q. Zheng, J. Mauro, M. Potuzak, A. J. Ellison, Corning Incorporated, USA; R. Dieckmann, Cornell University, USA

2:20 PM**(GOMD-SI-020-2011) Sodium Environments in Binary and Ternary Oxide Glasses**

R. Youngman*, C. Hogue, J. Dickinson, A. Ellison, B. Aitken, Corning Incorporated, USA

2:40 PM**(GOMD-SI-021-2011) Comparison of the Structure and Properties of Normal, Abnormal and Intermediate Glasses**

Q. Zhao, L. Huang*, Rensselaer Polytechnic Institute, USA

3:00 PM

Break

3:20 PM**(GOMD-SI-022-2011) Structure and bonding in oxide liquids and glasses using in-situ x-ray and neutron diffraction**

R. Weber*, MDI, USA; C. J. Benmore, Argonne National Laboratory, USA; J. Neuefeind, L. Santodonato, Oak Ridge National Laboratory, USA; L. Skinner, Stony Brook University, USA; M. Wilding, Aberystwyth University, United Kingdom; S. Tumber, MDI, USA; L. Lazareva, J. B. Parise, Stony Brook University, USA

3:40 PM**(GOMD-SI-023-2011) First experiments at Nanoscale Ordered Materials Diffractometer (NOMAD) at the Spallation Neutron Source (SNS)**

J. Neuefeind*, ORNL, USA

4:00 PM**(GOMD-SI-024-2011) X-ray absorption spectroscopy analysis of formation and structure of Au nanoparticles in sodium trisilicate glass**

C. Saiyasombat*, M. Wojciechowski, H. Jain, Lehigh University, USA

4:20 PM**(GOMD-SI-025-2011) Hydrogen formation observed during high pressure treatment of silica glass**

C. Li*, J. Price, M. Tomozawa, E. Watson, Rensselaer Polytechnic Institute, USA

4:40 PM**(GOMD-SI-026-2011) Generalized thermodynamic approach for determining the fictive temperature of glasses with arbitrary thermal history**

X. Guo*, M. Potuzak, J. Mauro, D. Allan, T. Kiczanski, Corning Inc., USA; Y. Yue, Aalborg University, Denmark; R. Stewart, Corning Inc., USA

5:00 PM**(GOMD-SI-027-2011) Network Modeling of Glass Structures**

P. Kroll*, M. Mwanja, UT Arlington, USA

Session C: Glass Corrosion II

Room: Sapelo

Session Chair: Stephane Gin, CEA

1:00 PM**(GOMD-SI-035-2011) Characteristics of alteration layers formed on simulated HLW glass under silica-saturated solutions**

T. Maeda*, Japan Atomic Energy Agency, Japan; K. Hotta, Radiation Application Development Association, Japan

1:20 PM**(GOMD-SI-036-2011) Glass Corrosion in Solution Exchange Tests**

W. Ebert*, Argonne National Laboratory, USA

1:40 PM**(GOMD-SI-037-2011) Water dynamics in nuclear waste glass during corrosion: A quasi-elastic neutron scattering study**

K. J. Alvine*, J. V. Ryan, Pacific Northwest National Lab, USA; M. Tyagi, NIST, USA

2:00 PM**(GOMD-SI-038-2011) Isotopic tracing to highlight glass dissolution mechanisms**

A. Verney-Carron*, LISIA, France; S. Gin, CEA, France; G. Libourel, CRPG, France; P. Jollivet, CEA, France

2:20 PM**(GOMD-SI-039-2011) Comparison of Glass Leaching Behavior Using a Variety of Test Methods (Invited)**

I. S. Muller*, A. Papathanassiou, A. Barkatt, I. L. Pegg, The Catholic University of America, USA

3:00 PM

Break

3:20 PM**(GOMD-SI-040-2011) Reprise of Alteration of the Simulated HLW Glass at High Temperature in Beishan Underground Water (Invited)**

Z. Zhang*, China Institute of Atomic Energy, China

3:40 PM**(GOMD-SI-041-2011) The dissolution behavior of simple borate glasses in aqueous environments**

K. Goetschius*, R. K. Brow, Missouri S&T, USA

4:00 PM**(GOMD-SI-042-2011) A long-term glass leaching experiment in a granitic environment: importance of reactive-transport processes**

S. Gin*, C. Guittonneau, J. Mestre, N. Godon, CEA Marcoule, France

4:20 PM**(GOMD-SI-043-2011) Glass corrosion in cement waters**

S. Depierre*, F. Angeli, F. Frizon, S. Gin, CEA Marcoule, France

4:40 PM**(GOMD-SI-044-2011) Nuclear waste glass alteration at high pH**

K. Ferrand, K. Lemmens, M. Aertsens*, Belgian Nuclear Research Centre, Belgium

5:00 PM**(GOMD-SI-045-2011) Corrosion of Phosphate-doped Alkali Borosilicate Glasses in Alkaline Solutions**

X. Cheng*, R. K. Brow, G. Chen, Missouri University of Science and Technology, USA

Symposium II: The Amorphous State**Session B: Model/Experiment: Links and Limits**

Room: Ossabaw

Session Chair: David Drabold, Ohio University

1:00 PM**(GOMD-SII-020-2011) Electric and Magnetic Fields Applied to Materials: Computed Response by First Principles (Invited)**

J. Zwanziger*, Dalhousie University, Canada

1:40 PM**(GOMD-SII-021-2011) XAFS Study of Electrodeposited Ge-Sb-Te Phase-change Memory Materials**

B. Prasai, D. A. Drabold, G. Chen*, Ohio University, USA

2:00 PM**(GOMD-SII-022-2011) Resolving the vibrational and configurational contributions to thermal expansion in isobaric glass-forming systems**

M. Potuzak*, J. C. Mauro, T. J. Kiczanski, A. J. Ellison, D. C. Allan, Corning Incorporated, USA

2:20 PM**(GOMD-SII-023-2011) Thermal conductivity of amorphous ceramics from first principle calculations**

B. Kouchmeshky, P. Kroll*, UT Arlington, USA

2:40 PM**(GOMD-SII-024-2011) Electronic consequences of B and P in a-Si:H: an ab initio simulation**

D. Drabold*, B. Cai, Ohio U, USA

3:00 PM

Break

3:20 PM**(GOMD-SII-025-2011) Computing Transport coefficients for amorphous semiconductors using the Microscopic Response Method (Invited)**

M. Zhang*, D. A. Drabold, Ohio University, USA

4:00 PM**(GOMD-SII-026-2011) Bond Percolation in C- and N-Doped Silica Glass**

P. Kroll*, UT Arlington, USA

4:20 PM**(GOMD-SII-027-2011) Ab-initio simulation of solid electrolyte glasses**

B. K. Prasai*, D. A. Drabold, G. Chen, Ohio University, USA

4:40 PM**(GOMD-SII-018-2011) Characterization of Shear Stress Relaxation of Glass Using a Parallel Plate Viscometer**

V. Y. Blouin*, G. Vallet, H. Kadalı, J. Musgraves, K. Richardson, P. Joseph, Clemson University, USA

5:00 PM**(GOMD-SII-029-2011) Statistical mechanics of glass-forming systems**

R. J. Loucks*, Alfred University, USA; J. C. Mauro, Corning Incorporated, USA; S. Sen, University of California-Davis, USA

5:20 PM**(GOMD-SII-030-2011) Universality of the High Temperature Viscosity Limit of Glass-Forming Liquids**

Q. Zheng*, Aalborg University, Denmark; J. C. Mauro, A. J. Ellison, M. Potuzak, Corning Incorporated, USA; Y. Yue, Aalborg University, Denmark

Symposium III: Optical Materials and Devices**Session A: Optical Absorption**

Room: Pulaski

Session Chair: Mark Davis, SCHOTT North America, Inc.

1:00 PM**(GOMD-SIII-001-2011) Suppression of stimulated Brillouin scattering through multi-tone phase modulation**

J. Mauro*, S. Raghavan, A. Ruffin, Corning Incorporated, USA

1:20 PM**(GOMD-SIII-002-2011) Absorption loss management in telluride glass fibers**

P. Lucas*, Z. Yang, University of Arizona, USA; S. Jiang, T. Luo, Advvalue Photonics, USA

1:40 PM**(GOMD-SIII-003-2011) Glass-Clad Semiconductor Core Optical Fibers**

S. Morris*, J. Ballato, T. Hawkins, P. Foy, C. McMillen, R. Stolen, Clemson University, USA; R. Rice, Northrop Grumman Space Technology, USA

2:00 PM**(GOMD-SIII-004-2011) Polarized absorption characterization of spheroid-shaped nanoparticles embedded in a mesostructured silica film**

D. Vouagner, Université Lyon1, France; L. Bois, UCB LYON I, France; E. Nardou, S. Sirotkin, B. Champagnon*, Université Lyon1, France; F. Chassagneux, UCB LYON I, France

2:20 PM**(GOMD-SIII-005-2011) Studying Loss Mechanisms in Chalcogenide Glass Planar Structures**

V. Singh*, Massachusetts Institute of Technology, USA; J. Hu, University of Delaware, USA; J. Musgraves, N. Carlie, Clemson University, USA; A. Agarwal, Massachusetts Institute of Technology, USA; K. Richardson, Clemson University, USA; L. C. Kimerling, Massachusetts Institute of Technology, USA

2:40 PM

Break

3:00 PM**(GOMD-SIII-006-2011) Temperature dependent absorption and Urbach tail scaling in LuAG single crystals**

M. Letz*, Schott AG, Germany; A. Gottwald, M. Richter, Physikalisch-Technische Bundesanstalt (PTB), Germany; V. Liberman, Massachusetts Institute of Technology, USA; L. Parthier, Schott Lithotec AG, Germany

3:20 PM**(GOMD-SIII-007-2011) Absorption in photo-thermo-refractive glass: metrology, contributions and mitigation**

J. Lumeau*, K. Chamma, L. Glebova, L. Glebov, University of Central Florida, USA

3:40 PM**(GOMD-SIII-008-2011) Optical Properties of Vanadyl doped [VO₂ + (VS)] and [VO₂ + (VS)] Lead Phosphate Glass System**

C. Dayanand*, Tirumala Engineering College, India

4:00 PM**(GOMD-SIII-009-2011) Optical absorption and crystallization of Na₂O. SiO₂. V₂O₅**

B. Mehdikhani*, Institute of Standard and Industrial Research of Iran (ISIRI), Islamic Republic of Iran; B. Mirhadi, Imam Khomeini International University, Islamic Republic of Iran

4:20 PM**(GOMD-SIII-060-2011) PbS Quantum Dots Formation in Glasses Controlled by Ag Nanoclusters**

K. Xu, J. Heo*, Pohang University of Science and Technology, Republic of Korea

Wednesday, May 18, 2011**Symposium I: Glass Science****Session G: Surface and Interfacial Phenomena**

Room: Sapelo

Session Chair: Carlo Pantano, Penn State University

8:00 AM**(GOMD-SI-066-2011) Understanding and controlling environmental effects on friction and wear behaviors of silica and glass surfaces (Invited)**

S. H. Kim*, C. G. Pantano, L. C. Bradley, Z. R. Dilworth, Pennsylvania State University, USA

8:40 AM**(GOMD-SI-067-2011) Adsorption Reactions on Multicomponent Silicate Glass Fiber Surfaces**

J. Stapleton*, C. Pantano, K. Mueller, The Pennsylvania State University, USA

9:00 AM**(GOMD-SI-068-2011) Effect of glass composition on chemisorption mechanisms of probe molecules on sodium aluminosilicate glasses**

K. Adib*, J. E. Dickinson, Corning Incorporated, USA

9:20 AM**(GOMD-SI-069-2011) The Effect of the Water-Silica Interface on Enhanced Hydrionium Ion Formation and Transport**

S. Garofalini*, G. Lockwood, Rutgers University, USA

9:40 AM**(GOMD-SI-070-2011) The influence of coupling agents at a glass/polymer interface**

J. Banerjee*, J. Stapleton, C. Pantano, Pennsylvania State University, USA

10:00 AM

Break

Session D: Ancient Glasses

Room: Sapelo

Session Chair: Denis Strachan, Pacific Northwest National Laboratory

10:20 AM**(GOMD-SI-046-2011) Pattern Formation during the Alteration of Ancient Glasses: Insights from Static Corrosion Experiments (Invited)**

T. Geisler*, R. Denkler, University of Muenster, Germany; A. Janssen, Institute for Transuranium Elements, Germany; M. Kilburn, University of Western Australia, Australia; A. Putnis, University of Muenster, Germany

11:00 AM**(GOMD-SI-047-2011) Chemico-mineralogical studies on impact glass from Lonar Crater: its suitability as natural analogue for nuclear waste glass (Invited)**

N. RANI*, J. P. Shrivastava, University of Delhi, India; R. K. BAJPAI, BARC, India

11:20 AM**(GOMD-SI-048-2011) Long term alteration of archaeological slags: An analogue for nuclear waste glasses**

A. Michelin*, CEA Marcoule, France; D. Neff, CEA Saclay, France; S. Gin, CEA Marcoule, France; P. Dillmann, CEA Saclay, France

Symposium II: The Amorphous State**Session C: Topology and Rigidity**

Room: Ossabaw

Session Chairs: Pierre Lucas, University of Arizona; John Mauro, Corning Incorporated

8:00 AM**(GOMD-SII-031-2011) Understanding Glass Hardness from Constraint Theory (Invited)**

M. M. Smedskjaer*, Aalborg University, Denmark; J. C. Mauro, Corning Incorporated, USA; Y. Yue, Aalborg University, Denmark

8:40 AM**(GOMD-SII-032-2011) Topological constraints in glass from Molecular Dynamics Simulations**

M. Micoulaut*, M. Bauchy, UPMC, France

9:00 AM**(GOMD-SII-033-2011) Distribution of temperature dependent topological constraints**

B. Mathieu*, M. Micoulaut, UPMC, France

9:20 AM**(GOMD-SII-034-2011) 2D NMR in germanium-selenium chalcogenide glasses (Invited)**

M. Deschamps*, Université d'Orléans, France; C. Roiland, F. Charpentier, G. Yang, B. Bureau, Université de Rennes, France

10:00 AM

Break

10:20 AM**(GOMD-SII-036-2011) Correlation between topology and physical properties in As-Se glasses**

P. Lucas*, University of Arizona, USA; G. Yang, B. Bureau, T. Rouxel, University of Rennes, France; O. Gulbitten, University of Arizona, USA; J. Sangleboeuf, University of Rennes, France

10:40 AM**(GOMD-SII-037-2011) Effects of Rigidity Percolation on Structural Relaxation in Supercooled Germanium Selenide Liquids**

S. Sen*, E. Gjersing, University of California at Davis, USA

11:00 AM**(GOMD-SII-038-2011) Structure and Topology of Na₂O-B₂O₃-Al₂O₃-SiO₂ Mixed Network Glasses**

Q. Zheng*, Aalborg University, Denmark; R. E. Youngman, C. L. Hogue, J. C. Mauro, M. Potuzak, A. J. Ellison, Corning Incorporated, USA; M. M. Smedskjaer, Y. Yue, Aalborg University, Denmark

11:20 AM**(GOMD-SII-039-2011) Twinkling Fractal Theory of the Glass Transition: Experimental Proof and Applications (Invited)**

R. P. Wool*, University of Delaware, USA

Symposium III: Optical Materials and Devices**Session G: Solar Energy and Photocatalysis**

Room: Pulaski

Session Chair: Matthew Lloyd, NREL

8:00 AM**(GOMD-SIII-045-2011) Organic photovoltaic cells: material processing, device structure and light management (Invited)**

J. Xue*, University of Florida, USA

8:40 AM**(GOMD-SIII-046-2011) Interfaces in organic photovoltaic devices (Invited)**

B. Kippelen*, Georgia Tech, USA

9:20 AM**(GOMD-SIII-047-2011) Overcoming Degradation in Organic Photovoltaic Devices with Air Stable Electrodes**

M. Lloyd*, NREL, USA

9:40 AM**(GOMD-SIII-048-2011) Electrical and optical properties of CdTe-ZnO nanocomposite thin films as tunable optoelectronic materials for photovoltaic energy conversion**

B. G. Potter*, R. Beal, G. Shih, C. Swanborg, C. G. Allen, University of Arizona, USA

10:00 AM

Break

10:20 AM**(GOMD-SIII-049-2011) PbS and PbSe quantum dot Schottky junction and heterojunction solar cells (Invited)**

J. Luther*, National Renewable Energy Lab, USA

11:00 AM**(GOMD-SIII-050-2011) Oxyfluoride and sulfide based glass ceramics for LED lighting and for improving solar cells' efficiency (Invited)**

X. Zhang*, University of Rennes I/CNRS, France; X. Fan, Zhejiang University, China; B. Fan, C. Point, L. Calvez, J. Adam, University of Rennes I/CNRS, France

Symposium IV: Glass Technology**Session B: Glass Strength**

Room: Cumberland

Session Chair: Elam Leed, Johns Manville

8:00 AM**(GOMD-SIV-010-2011) Factors Affecting the Reliability of Glass (Invited)**

S. Freiman*, Freiman Consulting, USA

8:40 AM**(GOMD-SIV-011-2011) Using the Hertzian Ring Crack Initiation Approach to Measure Surface Flaw Size**

R. Tandon*, Sandia National Laboratories, USA

9:00 AM**(GOMD-SIV-012-2011) A Fracture Mechanics View of the Practical Strength of Glass (Invited)**

R. Bradt*, The University of Alabama, USA

9:40 AM**(GOMD-SIV-013-2011) Two Point Bend Studies of Fatigue Effects in Silicate Glasses**

Z. Tang*, R. K. Brow, Missouri S&T, USA; C. R. Kurkjian, University of Southern Maine, USA

10:00 AM

Break

Symposium III: Optical Materials and Devices**Session F: Sensors and Scintillators**

Room: Cumberland

Session Chair: Mary Bliss, Pacific Northwest National Laboratory

10:20 AM**(GOMD-SIII-040-2011) Laser formation of micro to nano-scale 2D and 3D SbSI single crystal ferroelectric features in chalcogenide glass for device integration**

P. Gupta*, A. Stone, N. Woodward, Lehigh University, USA; L. Ding, East China University of Science and Technology, China; M. Sakakura, Y. Shimotsuma, K. Miura, K. Hirao, Kyoto University, Japan; V. Dierolf, H. Jain, Lehigh University, USA

10:40 AM**(GOMD-SIII-041-2011) Novel chalcogenide glasses for nano-cavity photothermal chem-bio detection**

J. Hu*, University of Delaware, USA; D. J. Musgrave, Massachusetts Institute of Technology, USA; N. Carlie, Clemson University, USA; A. Agarwal, Massachusetts Institute of Technology, USA; K. Richardson, Clemson University, USA; L. Kimerling, Massachusetts Institute of Technology, USA

11:00 AM**(GOMD-SIII-042-2011) Fabrication and Scintillation Response of Rare Earth Doped Transparent Ceramics**

L. G. Jacobssohn*, K. Serivalsati, S. A. Roberts, Clemson University, USA; E. G. Yukihara, Oklahoma State University, USA; T. A. DeVol, J. Ballato, Clemson University, USA

11:20 AM**(GOMD-SIII-043-2011) Synthesis and Properties of Transparent (Gd,Lu)_x(Ga,Al)_yO₁₂:Ce Ceramic Scintillator**

Y. Wang*, G. Baldoni, RMD, USA; C. Brecher, W. Rhodes, ALEM Associates, USA; K. Shah, RMD, USA; N. Cherepy, J. Kuntz, S. Payne, Lawrence Livermore National Laboratory, USA

11:40 AM**(GOMD-SIII-044-2011) Scintillating glasses for slow and fast neutron detection**

M. Bliss*, D. A. Haas, S. M. Bowyer, L. Smith, D. S. Barnett, J. A. Stave, Pacific Northwest National Laboratory, USA

Symposium I: Glass Science**Session A: Atomistic Modeling of Glass Structures and Interfaces**

Room: Sapelo

Session Chair: Jincheng Du, University of North Texas

1:00 PM**(GOMD-SI-001-2011) The Role of the Water-Silica Interface on the High Thermal Expansion of Nanoconfined Water (Invited)**

S. Garofalini*, Rutgers University, USA

1:40 PM**(GOMD-SI-002-2011) Group IV Nanoclusters embedded in Silica Glass**

P. Kroll*, UT Arlington, USA; J. Du, UNT Denton, USA; K. Seino, F. Bechstedt, U Jena, Germany

2:00 PM**(GOMD-SI-003-2011) Investigation of Ion-Exchange 'Stuffed' Silicate Glass Structures by Molecular Dynamics Simulation**

P. K. Kreski*, A. N. Cormack, A. K. Varshneya, Alfred University, USA

2:20 PM**(GOMD-SI-004-2011) Structural Irregularities and Interfacial Features in Network Glasses (Invited)**

J. Kieffer*, Y. Yue, K. Becker, University of Michigan, USA

3:00 PM

Break

3:20 PM**(GOMD-SI-005-2011) Atomistic Modelling of the Mechanical Properties of Silicate Glasses (Invited)**

A. Cormack*, L. Adkins, Alfred University, USA

4:00 PM**(GOMD-SI-006-2011) Deformation Mechanisms of Densified Silica Glass**

L. Huang*, F. Yuan, Rensselaer Polytechnic Institute, USA

4:20 PM**(GOMD-SI-007-2011) A study of silica glass fiber structure using molecular dynamic simulations**

L. Adkins*, A. N. Cormack, Alfred University, USA

4:40 PM**(GOMD-SI-008-2011) Cation field strength effect on aluminum coordination in rare earth aluminosilicate glasses: a molecular dynamics study**

J. Du*, L. Kokou, University of North Texas, USA

5:00 PM**(GOMD-SI-009-2011) First-principles molecular dynamics simulations of chalcogenides liquids and glasses (Invited)**

C. Massobrio*, IPCMS, France

5:40 PM**(GOMD-SI-071-2011) Silica Molecular Dynamic Force Fields: A Practical Assessment**

T. F. Soules*, G. H. Gilmer, M. J. Matthews, J. S. Stolken, M. D. Feit, Lawrence Livermore National Laboratory, USA

Symposium II: The Amorphous State**Session D: Medium Range Order**

Room: Ossabaw

Session Chair: Paul Voyles, University of Wisconsin, Madison

1:00 PM**(GOMD-SII-040-2011) Fluctuation Electron Microscopy: Observing Subcritical Nuclei in Chalcogenide Glasses (Invited)**

J. R. Abelson*, U. Illinois at Urbana-Champaign, USA

1:40 PM**(GOMD-SII-041-2011) Nucleation Mechanisms and Ring Size Distributions in Alkali and Alkaline Earth Disilicate Glasses**

M. O. Naylor*, A. N. Cormack, Alfred University, USA

2:00 PM**(GOMD-SII-042-2011) Boson Peak of Lithium and Cesium Borate Glass Studied by Low Temperature Heat Capacity and Raman Scattering**

S. Kojima*, Y. Matsuda, M. Kodama, University of Tsukuba, Japan; N. Surovtsev, Russian Academy of Sciences, Russian Federation; H. Kawaji, T. Atake, Tokyo Institute of Technology, Japan

2:20 PM**(GOMD-SII-043-2011) Experimental and Computational Studies of Short- and Medium-Range Order on the Surfaces of Oxides**

K. Mueller*, N. Washton, Pacific Northwest National Laboratory, USA

2:40 PM**(GOMD-SII-044-2011) Modeling of Glass Durability through Advances in the Understanding of Medium Range Order (MRO)**

C. Jantzen*, J. M. Pareizs, Savannah River National Laboratory, USA

3:00 PM

Break

Session D: Medium Range Order and Amorphous Metals

Room: Ossabaw

Session Chair: Paul Voyles, University of Wisconsin, Madison

3:20 PM**(GOMD-SII-045-2011) Fluctuation Electron Microscopy for studying amorphous materials (Invited)**

M. M. Treacy*, Arizona State University, USA

4:00 PM**(GOMD-SII-046-2011) On the stability of carbon nanostructures in silicon oxycarbide materials: Part I**

J. Ryan*, Pacific Northwest National Laboratory, USA; P. Kroll, University of Texas at Arlington, USA; C. G. Pantano, The Pennsylvania State University, USA; K. Alvine, Pacific Northwest National Laboratory, USA

4:20 PM**(GOMD-SII-047-2011) On the stability of carbon nanostructures in silicon oxycarbide materials: Part II**

P. Kroll*, University of Texas at Arlington, USA; J. Ryan, Pacific Northwest National Laboratory, USA

4:40 PM**(GOMD-SII-048-2011) Reverse Monte Carlo Modeling of Fluctuation Electron Microscopy Data**

J. Hwang, University of Wisconsin, Madison, USA; Y. E. Kalay, METU, Turkey; M. J. Kramer, Ames Laboratory, USA; P. Voyles*, University of Wisconsin, Madison, USA

5:00 PM**(GOMD-SII-049-2011) Abnormal dynamics of metallic glass-forming liquids (Invited)**

Y. Yue*, Aalborg University, Denmark; C. Zhang, L. Hu, Shandong University, China; J. C. Mauro, Corning Incorporated, USA

Symposium III: Optical Materials and Devices**Session E: Optical Coatings**

Room: Pulaski

Session Chairs: S. Sundaram, NYS College of Ceramics, Alfred University; Norman Anheier, Pacific Northwest National Laboratory

1:00 PM**(GOMD-SIII-033-2011) Self-assembled multifunctional nanostructured coatings (Invited)**

H. Fan*, Sandia National Laboratories, USA

1:40 PM**(GOMD-SIII-034-2011) Solution Processed Chalcogenide Glass for Integrated Mid-Infrared Optical Elements (Invited)**

C. B. Arnold*, Princeton University, USA

2:20 PM**(GOMD-SIII-035-2011) Exploiting intrinsic material properties for improved integrated chalcogenide waveguide resonators for mid-IR sensing (Invited)**

K. Richardson*, J. Wilkinson, S. Novak, Clemson University, USA; N. Carlie, Schott North America, USA; J. Musgraves, B. Zdyrko, I. Luzinov, Clemson University, USA; V. Singh, A. Agarwal, L. C. Kimerling, Massachusetts Institute of Technology, USA; J. Hu, University of Delaware, USA; A. Canciamilla, F. Morichetti, A. Melloni, Politecnico di Milano, Italy

3:00 PM**Break****3:20 PM****(GOMD-SIII-036-2011) Nano-Macro Scale Chalcogenide Coatings by Evaporation-Condensation**

S. K. Sundaram*, B. J. Riley, B. R. Johnson, Pacific Northwest National Laboratory, USA

3:40 PM**(GOMD-SIII-037-2011) Multilayer Deposition for X-Ray Applications (Invited)**

R. Conley*, N. Bouet, Brookhaven National Laboratory, USA

4:20 PM**(GOMD-SIII-038-2011) Spectroscopic Ellipsometry for Optical Coatings (Invited)**

J. A. Woollam*, G. K. Pribil, R. A. Synowicki, T. E. Tiwald, J. A. Woollam Co., Inc., USA

5:00 PM**(GOMD-SIII-039-2011) Mid-Infrared Dispersion and dn/dT Analysis using Prism Coupling**

N. C. Anheier*, A. H. Qiao, Pacific Northwest National Laboratory, USA

Symposium IV: Glass Technology**Session D: Glass Melting and Processing**

Room: Cumberland

Session Chair: Rajiv Tiwary, PPG Industries, inc.

1:00 PM**(GOMD-SIV-019-2011) Mathematical model of cold cap**

R. Pokorny*, P. Hrma, D. Kim, Pacific Northwest National Laboratory, USA

1:20 PM**(GOMD-SIV-020-2011) Kinetics of Quartz Particle Dissolution During Glass Melting**

J. Marcial*, P. Hrma, S. H. Henager, Pacific Northwest National Laboratory, USA

1:40 PM**(GOMD-SIV-021-2011) Bench-Scale Melt Rate Testing and Modeling**

A. Choi*, D. Miller, D. Immel, Savannah River National Lab, USA

2:00 PM**(GOMD-SIV-022-2011) The Benefits of Polyalkylene Carbonate Binders (QPAC®) for Low Temperature Glass Frit or Powdered Glass in Glass Sealing Applications**

P. A. Ferraro*, S. Hanggodo, Empower Materials, USA

2:20 PM**(GOMD-SIV-023-2011) The effect of batch makeup and heating rate on the melting behavior of high level waste glass**

D. Pierce*, P. Hrma, R. Pokorny, Pacific National Northwest Laboratories, USA

2:40 PM**(GOMD-SIV-024-2011) Microwave synthesis of chalcogenide glasses in Sb-S-I system**

P. Gupta*, A. Stone, H. Jain, V. Dierolf, Lehigh University, USA

3:00 PM**Break****Session E: Liquid Synthesis and Sol-gel Derived Materials**

Room: Cumberland

Session Chair: Gang Chen, Ohio University

3:20 PM**(GOMD-SIV-025-2011) Sol-gel derived multi-porous glass scaffolds for bone regeneration (Invited)**

R. M. Almeida*, Instituto Superior Tecnico, Portugal

4:00 PM**(GOMD-SIV-026-2011) Organically Modified Siloxane Melting Gels (Invited)**

L. C. Klein*, Rutgers University, USA; A. Jitianu, Lehman College, City University of New York, USA; M. Jitianu, William Paterson University, USA

4:40 PM**(GOMD-SIV-027-2011) Water Adsorption-induced Deformation of Micro- and Mesoporous Silica**

S. Dong, G. Chen*, Ohio University, USA

5:00 PM**(GOMD-SIV-028-2011) Effect of silver incorporation on crystallization and microstructural properties of sol-gel derived TiO₂ films**

B. Akkopru Akgun*, C. Durucan, Middle East Technical University, Turkey; N. P. Mellott, Alfred University, USA

5:20 PM**(GOMD-SIV-029-2011) Improvement of sol-gel optical stacking**

X. Dieudonné*, H. Piombini, K. Vallé, P. Belleville, CEA, France

Thursday, May 19, 2011

Symposium II: The Amorphous State**Session E: Amorphous Metals**

Room: Ossabaw

Session Chair: Joseph Ryan, Pacific Northwest National Laboratory

8:00 AM**(GOMD-SII-050-2011) Structure of Zr Bulk Metallic Glasses Constrained at Short and Medium Range (Invited)**

J. Hwang, University of Wisconsin, Madison, USA; Y. E. Kalay, METU, Turkey; M. J. Kramer, Ames Laboratory, USA; P. Voyles*, University of Wisconsin, Madison, USA

8:40 AM**(GOMD-SII-051-2011) Phase selection and microstructural dynamics of devitrification in Cu-Zr (Invited)**

R. E. Napolitano*, I. Kalay, Iowa State University, USA; E. Kalay, Middle East Technical University, Turkey; T. Cullinan, M. Lamb, Iowa State University, USA

9:20 AM**(GOMD-SII-052-2011) Modeling the mechanical behavior of amorphous metals (Invited)**

E. R. Homer*, Sandia National Laboratories, USA; C. A. Schuh, Massachusetts Institute of Technology, USA

10:00 AM

Break

Session F: Spin Glasses

Room: Cumberland

Session Chairs: John McCloy, Pacific Northwest National Laboratory; Kostya Trachenko, Queen Mary University of London

8:00 AM**(GOMD-SII-053-2011) Understanding spin glass transition as a dynamic phenomenon (Invited)**

K. Trachenko*, Queen Mary University of London, United Kingdom

8:40 AM**(GOMD-SII-054-2011) Ferroelectric Relaxors: Building Bridges between Theory and Applications (Invited)**

E. Furman*, Q. Zhang, C. Randall, M. Lanagan, C. Pantano, Penn State University, USA

9:20 AM**(GOMD-SII-055-2011) Ion Irradiation Induced Property Changes in Granular Magnetite Films (Invited)**

W. Jiang*, J. S. McCloy, A. S. Lea, Pacific Northwest National Laboratory, USA; J. A. Sundararajan, Q. Yao, Y. Qiang, University of Idaho, USA

10:00 AM

Break

10:20 AM**(GOMD-SII-056-2011) First Order Reversal Curve Study of Artificially Structured Nanomagnets (Invited)**

K. Liu*, University of California, USA

11:00 AM**(GOMD-SII-057-2011) Cluster spin glass behavior in the Li-spinels (Invited)**

T. W. Heitmann*, University of Missouri, USA

11:40 AM**(GOMD-SII-058-2011) Glassy magnetic behavior in disordered Ni₂Co:CuMn₂O₄ spinels (Invited)**

J. S. McCloy*, Pacific Northwest National Laboratory, USA; C. Leslie, University of Washington, USA; W. Jiang, Pacific Northwest National Laboratory, USA

Symposium IV: Glass Technology**Session A: Glasses for Energy and Environmental Applications**

Room: Pulaski

Session Chair: Amanda Billings, Savannah River National Laboratory

8:00 AM**(GOMD-SIV-002-2011) Interactions of Viscous Glass Sealants with SOFC Stack Components**

M. O. Naylor*, J. E. Shelby, S. T. Mixture, Alfred University, USA

8:20 AM**(GOMD-SIV-003-2011) Near infrared down-conversion in chloro-sulfide glasses for the application on solar cell**

B. Fan*, C. Point, J. Adam, X. Zhang, UMR CNRS-Université de Rennes 1 "Sciences Chimiques de Rennes", Laboratory of glasses and ceramics, France

8:40 AM**(GOMD-SIV-004-2011) Sintered Glass Core/Shell Waste Forms for 129I**

T. Garino*, T. Nenoff, J. Krumhansl, D. Rademacher, Sandia National Laboratories, USA

9:00 AM**(GOMD-SIV-005-2011) Immobilization of High and Low Aluminate Waste with Borosilicate Glass**

F. C. Johnson*, Savannah River National Laboratory, USA

9:20 AM**(GOMD-SIV-006-2011) Incorporation of High TiO₂ Concentrations in High Level Waste Glass**

K. M. Fox*, F. C. Johnson, T. B. Edwards, Savannah River National Laboratory, USA

9:40 AM

Break

10:00 AM**(GOMD-SIV-007-2011) Crystal Precipitation in Nuclear Waste Glasses and the Effects on Waste Form Durability**

A. L. Billings*, J. W. Amoroso, Savannah River National Laboratory, USA

10:20 AM**(GOMD-SIV-008-2011) Effect of Composition on Vapor Hydration Test Response of Phosphate Glasses for Low Activity Waste Vitrification**

W. Lepry*, D. Kim, J. D. Vienna, Pacific Northwest National Laboratory, USA

10:40 AM**(GOMD-SIV-009-2011) Characterization of Iron Phosphate Glasses Containing Simulated Hanford Low Activity Waste**

S. T. Reis*, R. K. Brow, C. S. Ray, C. W. Kim, D. E. Day, Missouri University of Science and Technology, USA

Session C: Glasses for Medicine and Biotechnology

Room: Ossabaw

Session Chair: Brad Tischendorf, Medtronic

10:20 AM**(GOMD-SIV-014-2011) Controlling the Formation of Calcium Compounds when Bioactive Glasses React In-vivo**

S. Jung, Mo-Sci Corporation, USA; D. E. Day*, Missouri University of Science and Technology, USA

10:40 AM

(GOMD-SIV-015-2011) Effect of Microstructure on the Strength of Glass-infiltrated Ceramic Composite for Artificial Teeth

H. Lim*, C. Kim, Inha University, Republic of Korea

11:00 AM

(GOMD-SIV-016-2011) Kinetic analysis of dissolution behavior of bio-active borate and silicate glasses in aqueous solutions

J. George*, R. Brow, Missouri University of Science and Technology, USA

11:20 AM

(GOMD-SIV-017-2011) Crystallisation of Strontium Bioactive Glasses

M. D. O'Donnell*, RepRegen Ltd, United Kingdom; L. Chapman, National Physics Laboratory, United Kingdom; H. Tang, Imperial College, United Kingdom; P. Tomlins, National Physics Laboratory, United Kingdom; J. Jones, Imperial College, United Kingdom