



Lectures and Special Events

Sunday, May 16, 2010

Welcome Reception

5:00 – 7:00 PM

Room: Keuka

Monday, May 17, 2010

Stookey Lecture of

Discovery

Sponsored by

Corning Incorporated

and

Coe College

8:00 – 9:00 AM

Room: Keuka

GOMD Business Meeting

5:00 – 6:00 PM

Room: Seneca

Poster Session

(includes Student Contest)

6:00 – 8:00 PM

Room: Carder

Tuesday, May 18, 2010

George W. Morey Award

Lecture

Sponsored by PPG Industries

8:00 – 9:00 AM

Room: Keuka

Norbert J. Kreidl

Award Lecture

Box Lunches Sponsored by

SCHOTT North America

12:00 – 1:00 PM

Room: Keuka

Otto Schott Research

Award

5:00 – 6:00 PM

Room: Carder

Otto Schott Reception

6:00 – 7:00 PM

Hotel Lobby

Conference Dinner

7:00 – 10:00 PM

Room: Keuka

Symposium I

Monday, May 17, 2010

Robert H. Doremus Memorial Session I

9:30 AM-12:00 PM

Room: Keuka

Session Chair(s): Mark Davis, Minoru

Tomozawa

9:30 AM

Opening Remarks

9:45 AM

**(GOMD-SI-001-2010)Dr. Doremus -
Professor of Liberal Arts (Invited)**

Alfonso Garcia Chan*, Shore Chan Bragalone
LLP, USA

10:00 AM

**(GOMD-SI-002-2010)Gases in Glasses: The
Doremus Perspective (Invited)**

James Elbert Shelby*, Alfred University, USA

10:30 AM

**(GOMD-SI-003-2010)Gas Solubility in
Glasses - The Doremus Contributions
(Invited)**

James Floyd Shackelford*, University of
California - Davis, USA

10:45 AM

**(GOMD-SI-004-2010)Water diffusion in
silica glass (Invited)**

Minoru Tomozawa*, RPI, USA

11:15 AM

**(GOMD-SI-005-2010)Diffusion of Water in
Quartz: Application to Crystal Growth
Kinetics (Invited)**

Phillip Dean Ihinger*, University Wisconsin-
Eau Claire, USA

11:45 AM

**(GOMD-SI-006-2010)Diffusion of Alkali
and Alkaline Earth Ions in Silicate Glasses
and its Correlation with Liquid Fragility
(Invited)**

Morten Mattrup Smedskjaer*, Aalborg
University, Denmark; John C Mauro, Corning
Incorporated, USA; Joachim Deubener,
Clausthal University of Technology, Germany;
Yuanzheng Yue, Aalborg University, Denmark

Robert H. Doremus Memorial Session II

1:30 PM-5:00 PM

Room: Keuka

Session Chair(s): Mark Davis, Minoru

Tomozawa

1:30 PM

**(GOMD-SI-007-2010)Gold in glass: A new
state of conduction? (Invited)**

Himanshu Jain*, Lehigh University, USA;
Roland Böhmer, Otmar Kanert, Reiner
Kuechler, Technical University of Dortmund,
Germany

2:00 PM

**(GOMD-SI-008-2010)Morphology and
Optical Properties of Laser-Patterned
Crystals in Glasses (Invited)**

Takayuki Komatsu*, Tsuyoshi Honma,
Nagaoka University of Technology, Japan

2:30 PM

**(GOMD-SI-009-2010)An investigation of
microstructure, mechanical and
biocompatibility characteristics of yttrium
and fluoride doped nano hydroxyapatite**

Zafer Evis*, Sidika Mine Toker, Aysen
Tezcaner, Dilek Keskin, Middle East Technical
University, Turkey

2:45 PM

**(GOMD-SI-010-2010)Contributions of
Robert H. Doremus in the Field of
Crystallization Kinetics (Invited)**

Mark Davis*, SCHOTT North America, Inc.,
USA

3:00 PM

Break

3:15 PM

**(GOMD-SI-011-2010)MeV Ion Beam
Analysis of Glass and Ceramic Surfaces
(Invited)**

William A Lanford*, University at Albany
SUNY, USA

3:45 PM

**(GOMD-SI-012-2010)Novel Glasses for On-
Chip Microelectronic Applications (Invited)**

Vincent J McGahay*, IBM Corporation, USA

4:15 PM

**(GOMD-SI-013-2010)Viscosity of
Germania-Doped High Purity Fused Silica
Glass (Invited)**

Evelyn M. DeLiso*, Stanton Advanced
Ceramics, Inc., USA

4:30 PM

**(GOMD-SI-014-2010)Extrusion of Tellurite
Glass for Optical Fiber Preforms (Invited)**

Amit A Belwalkar*, Wojciech Z Misiolek, Jean
Toulouse, Lehigh University, USA

4:45 PM

Closing Remarks

Symposium II

Monday, May 17, 2010

Atomistic Modeling of Glass

I. Techniques

9:30 AM-12:00 PM

Room: Cayuga

Session Chair: Ulrich Fotheringham

9:30 AM

(GOMD-SII-001-2010)Developing effective potentials from ab initio simulations of amorphous systems (Invited)

Walter Kob*, Universite Montpellier II, France; Antoine Carré, Deutsches Zentrum für Luft und Raumfahrt (DLR), Germany; Juergen Horbach, Universite Montpellier II, France; Simona Ispas, Deutsches Zentrum für Luft und Raumfahrt (DLR), Germany

10:00 AM

(GOMD-SII-002-2010)Energy Landscapes and Beyond: A Systematic Approach to Understand the Properties of Supercooled Liquids (Invited)

Andreas Heuer*, O. Rubner, C. Rehwald, Institut für Physikalische Chemie, Germany

10:30 AM

(GOMD-SII-003-2010)Achieving Long Time Scales in Energy Landscape Simulations using Metabasin Partitioning

Roger J. Loucks*, Alfred University, USA; John C Mauro, Corning Incorporated, USA; Prabhat K Gupta, Ohio State University, USA

10:45 AM

(GOMD-SII-004-2010)Simulations of Network Glasses with Multiple Coordination States using a Reactive Force Field

Liping Huang*, Fenglin Yuan, Rensselaer

Polytechnic Institute, USA

11:00 AM

(GOMD-SII-005-2010)Parallel Atomistic Monte Carlo Computations

Aramais Zakharian*, Deena Vargheese, Phong Diep, Corning Incorporated, USA

11:15 AM

(GOMD-SII-006-2010)Reverse Monte Carlo Structures: Evaluation by Molecular Dynamics Simulations

Christian Robert Mueller*, Technische Universität Ilmenau, Germany; Michael Schuch, Philipp Maass, Universität Osnabrück, Germany; Valeri Petkov, Central Michigan University, USA

11:30 AM

(GOMD-SII-007-2010)Electronic structure based material design: application to a-Si

David A Drabold, Bin Cai*, Ohio University, USA; Andrew Goodwin, Oxford University, United Kingdom

11:45 AM

(GOMD-SII-008-2010)Origin of Dynamical Heterogeneities in Calcium Aluminosilicate Liquids

Kochuparambil Deenamma Vargheese*, Adama Tandia, John C Mauro, Diep Phong, Amy Rovelstad, Corning Inc, USA

Atomistic Modeling of Glass

II. Applications

1:15 PM-5:00 PM

Room: Cayuga

Session Chair: Jincheng Du

1:15 PM

(GOMD-SII-009-2010)Spatial and dynamic correlations in alkali transport in silicate glasses by atomic simulation and virtual reality modelling (Invited)

Neville Greaves*, Aberystwyth University,
United Kingdom

1:45 PM

(GOMD-SII-010-2010) A Molecular Dynamics Study of the Structure and Elastic Properties of Sodium Silicate and Sodium Aluminosilicate Glasses

Laura Adkins*, Alastair N Cormack, Alfred University, USA

2:00 PM

(GOMD-SII-011-2010) Local structure around Eu(III) ions in aluminate glasses

Hiroyuki Inoue*, Koutarou Ohno, Yasuhiro Watanabe, Atsunobu Masuno, The University of Tokyo, Japan

2:15 PM

(GOMD-SII-012-2010) Ab initio calculation of mixed ion dynamics in Silver/Copper doped chalcogenide glass

Binay K Prasai*, Bin Cai, David A Drabold, Ohio University, USA

2:30 PM

(GOMD-SII-013-2010) The environments of cerium ions in cerium-doped aluminophosphate and phosphosilicate glasses: combining molecular dynamics simulations and ab initio DFT calculations

Jincheng Du*, Leopold Kokou, University of North Texas, USA

2:45 PM

(GOMD-SII-014-2010) Influence of the Modifier Cation Type on the Infrared Spectral Response of Multi-Component Glasses

Arun K Upadhyay*, Katherine Becker, John Kieffer, University of Michigan, USA

3:00 PM

Break

3:15 PM

(GOMD-SII-015-2010) First-principles simulations of glasses: Establishing the rings statistics in B₂O₃ and B₂S₃ (Invited)

Guillaume Ferlat*, Université Paris VI, France

3:45 PM

(GOMD-SII-016-2010) Monte Carlo Simulations of Inert Gas Solubility in Silicate Glasses and Melts

Aramais Zakharian*, Adama Tandia, Deena Vargheese, Phong Diep, Corning Incorporated, USA

4:00 PM

(GOMD-SII-017-2010) Glass-like dislocation dynamics of degenerate 2D dimer crystals

Umang Agarwal*, Sharon J Gerbode, Itai Cohen, Fernando A Escobedo, Cornell University, USA

4:15 PM

(GOMD-SII-018-2010) MD simulations of soda lime silicate glasses with increasing calcia content

Alastair Cormack, Adam Collier*, Alfred University, USA

4:30 PM

(GOMD-SII-019-2010) Molecular Scale Characterization of Mechanical and Structural Properties of xAl₂O₃-(1-x)SiO₂

Adama Tandia*, K. Deenamma Vargheese, Corning Incorporated, USA

4:45 PM

(GOMD-SII-020-2010) Molecular simulations to explore the energy landscape of surface wetting transitions of an oily fluid on a rough surface

Elizabeth Savoy*, Corning, Inc, USA; Fernando Escobedo, Cornell University, USA

Tuesday, May 18, 2010

Topology and Rigidity I

9:30 AM-12:00 PM

Room: Cayuga

Session Chair: Normand Mousseau

9:30 AM

(GOMD-SII-021-2010)Intermediate Phases in Solid Electrolyte glasses (Invited)

Punit Boolchand*, Deassy I Novita, M. Malki, M. Micoulaut, Bernard Goodman, Univ of Cincinnati, USA

10:00 AM

(GOMD-SII-022-2010)Intermediate phases in simple models of elastic network self-organization (Invited)

Mykyta V Chubynsky*, University of Ottawa, Canada

10:30 AM

(GOMD-SII-023-2010)Elastic behavior and fast-ion conduction in glasses

Matthieu Micoulaut*, Mohammed Malki, Université Pierre et Marie Curie, France

10:45 AM

(GOMD-SII-024-2010)Electronic Signature of the Intermediate Phase in GexSe1-x Glasses

Kuangmin Li, Gang Chen*, Fakhar Inam, David Drabold, Ohio University, USA

11:00 AM

(GOMD-SII-025-2010)Bimodal phase percolation model for the structure of Ge-Se glasses by Raman and NMR

Pierre Lucas*, Ellyn King, University of Arizona, USA; Bruno Bureau, Université de Rennes I, France; Ozgur Gulbiten, University of Arizona, USA

11:15 AM

(GOMD-SII-026-2010)Intermediate phase

in sodium borate glasses

Punit Boolchand, Vignarooban Kandasamy*, Univ. of Cincinnati, USA

11:30 AM

(GOMD-SII-027-2010)Constraints, Iso-Tg Regimes, and Phase Separation

Prabhat Gupta*, The Ohio State University, USA

11:45 AM

(GOMD-SII-028-2010)Transition features in GexAsySe1-x-y Glasses

Rongping Wang*, The Australian National University, Australia

Rheology

1:15 PM-4:45 PM

Room: Cayuga

Session Chair: Lothar Wondraczek

1:15 PM

(GOMD-SII-029-2010)Rheology of heterogeneous liquids (Invited)

Joachim Deubener*, Clausthal University of Technology, Germany

1:45 PM

(GOMD-SII-030-2010)Viscosity of Glass-Forming Liquids

John C. Mauro*, Corning Incorporated, USA; Yuanzheng Yue, Aalborg University, Denmark; Adam J Ellison, Corning Incorporated, USA; Prabhat K Gupta, The Ohio State University, USA; Douglas C Allan, Corning Incorporated, USA

2:00 PM

(GOMD-SII-031-2010)Modeling the Nonequilibrium Viscosity of Glass

Douglas C. Allan*, John C Mauro, Marcel Potuzak, Corning Incorporated, USA

2:15 PM

(GOMD-SII-032-2010)Viscosity and softening behaviour of alkali zinc phosphosulphate glasses

Ning Da*, Lothar Wondraczek, Universitat Erlangen-Nurnberg, Germany

2:30 PM

(GOMD-SII-033-2010)Progress in the Rheology of Inorganic Glass-Forming Melts (Invited)

Yuanzheng Yue*, Aalborg University, Denmark

3:00 PM

Break

3:15 PM

(GOMD-SII-034-2010)Boson peak, inhomogeneity and pressure experiments in SiO₂ and GeO₂ glasses (Invited)

Bernard Champagnon*, Deschamps Thierry, Martinet Christine, Université Lyon1-CNRS, France

3:45 PM

(GOMD-SII-035-2010)Pressure-assisted flow of glass melts in narrow capillaries (Invited)

Markus Schmidt*, Lothar Wondraczek, Philip Russell, Max Planck Insitute for the Science of Light, Germany

4:15 PM

(GOMD-SII-036-2010)On the Origin of the Mixed Glass Former Effect: Varying Coulomb Traps of Network Forming Units

Philipp Maass*, Universität Osnabrück, Germany; Christian R Müller, Technische Universität Ilmenau, Germany; Michael Schuch, Universität Osnabrück, Germany

4:30 PM

(GOMD-SII-037-2010)Viscosity of Tellurite Glass: 75TeO₂-20ZnO-5Na₂O

Amit A Belwalkar*, Wojciech Z Misiolek, Jean Toulouse, Lehigh University, USA

Wednesday, May 19, 2010

Topology and Rigidity II

8:00 AM-10:30 AM

Room: Cayuga

Session Chair: Matthieu Micoulaut

8:00 AM

(GOMD-SII-038-2010)Spatial correlations in amorphous networks and their electronic consequences: an emerging theory of the Urbach tail (Invited)

David Drabold*, Ohio University, USA; Fakharul Inam, International Center for Theoretical Physics, Italy; Yuting Li, Ohio University, USA

8:30 AM

(GOMD-SII-039-2010)The non-trivial structure of disordered network-forming materials unraveled by first-principles molecular dynamics. (Invited)

Carlo Massobrio*, IPCMS, France

9:00 AM

(GOMD-SII-040-2010)Evolution of the potential-energy surface of amorphous silicon

Housseem Kallel, Normand Mousseau*, François Schiettekatte, Université de Montréal, Canada

9:15 AM

(GOMD-SII-041-2010)Characterizing the sodium environment in amorphous silicates

Mathieu Bauchy*, Matthieu Micoulaut, Université Pierre et Marie Curie, France

9:30 AM

(GOMD-SII-042-2010)Molecular structure

of ideal chalcogenide glasses

Punit Boolchand, Siddhesh Bhosle*, Univ of Cincinnati, USA

9:45 AM

(GOMD-SII-043-2010)Hidden structure in amorphous and glassy materials Y Li, S. Chakraborty and D A Drabold

Yuting Li*, Sudeshna Chakraborty, David Drabold, Ohio University, USA

10:00 AM

(GOMD-SII-044-2010)Intermediate phase in ternary GeSbSe_{100-2x} bulk alloy glasses

Punit Boolchand, Kapila Gunasekera*, Ping Chen, Univ of Cincinnati, USA

10:15 AM

Break

Glass Transition and Relaxation I

10:30 AM-12:00 PM

Room: Cayuga

Session Chair: Prabhat Gupta

10:30 AM

(GOMD-SII-045-2010)Structural Relaxation in the Glassy State: Further Evidence for the Path Dependence of the Relaxation Time (Invited)

Fatema Begum, Sindee Simon*, Texas Tech University, USA

11:00 AM

(GOMD-SII-046-2010)Microscopic Aspects of Stretched Exponential Relaxation (SER) (Invited)

James C Phillips*, Rutgers, USA

11:30 AM

(GOMD-SII-047-2010)Logarithmic Relaxation of Stress Correlator in

Supercooled Liquids

Jacob Eapen*, North Carolina State University, USA

11:45 AM

(GOMD-SII-048-2010)Modeling the enthalpy relaxation of glasses far from equilibrium

Xiaoju Guo*, Aalborg University, Denmark; John Mauro, Corning Incorporated, USA; Yuanzheng Yue, Aalborg University, Denmark

Glass Transition and Relaxation II

1:15 PM-3:15 PM

Room: Cayuga

Session Chair: Prabhat Gupta

1:15 PM

(GOMD-SII-049-2010)Structural Aspects of Relaxation in Oxide Glasses (Invited)

Jonathan F. Stebbins*, Stanford University, USA

1:45 PM

(GOMD-SII-050-2010)Understanding liquids and glass transition on the basis of elastic waves (Invited)

Kostya Trachenko*, University of Cambridge, United Kingdom

2:15 PM

(GOMD-SII-051-2010)Viscoelastic dynamics of network-forming sodium ultraphosphate liquids: a dynamic light scattering study

David Sidebottom*, Roberto Fabian, Creighton University, USA

2:30 PM

(GOMD-SII-052-2010)The Glass Transition at the Nanoscale

Yung P Koh, Sindee Simon*, Texas Tech University, USA

2:45 PM

(GOMD-SII-053-2010)Universality of Boson Peaks in Lithium Borate Glasses

Seiji Kojima*, Yu Matsuda, Mitsuru Kawashima, Shunsuke Aramomi, University of Tsukuba, Japan; Masao Kodama, Sojo University, Japan

3:00 PM

Break

Glass Transition and Relaxation III

3:15 PM-5:15 PM

Room: Cayuga

Session Chair: Roger Loucks

3:15 PM

(GOMD-SII-054-2010)Landscape View of Sub-Tg Relaxation (Invited)

Prabhat Gupta*, John Mauro, The Ohio State University, USA

3:45 PM

(GOMD-SII-055-2010)Cadmium manganese telluride: optical & magnetic properties

John McCloy*, Timothy Droubay, Brian Riley, Joseph Ryan, Pacific Northwest National Laboratory, USA

4:00 PM

(GOMD-SII-056-2010)Nonmonotonic Evolution of Density Fluctuations During Glass Relaxation

John C. Mauro*, Corning Incorporated, USA; Sezen Soyer Uzun, University of California—Davis, USA; Wim Bras, Netherlands Organization for Scientific Research (NWO), France; Sabyasachi Sen, University of California—Davis, USA

4:15 PM

(GOMD-SII-057-2010)Fictive Temperature and the Glassy State

Roger J. Loucks*, Alfred University, USA; John C Mauro, Corning Incorporated, USA; Prabhat K Gupta, The Ohio State University, USA

4:30 PM

(GOMD-SII-058-2010)The Thermodynamic Significance of Order Parameters

Roger J Araujo*, John C. Mauro, Corning Incorporated, USA

4:45 PM

(GOMD-SII-059-2010)Heat Capacity, Enthalpy Fluctuations, and Configurational Entropy in Broken Ergodic Systems

Benjamin Daniel Esham*, Alfred University, USA; John C Mauro, Corning Incorporated, USA; Sabyasachi Sen, University of California—Davis, USA; Roger J Loucks, Garrett J McGowan, Alfred University, USA

5:00 PM

(GOMD-SII-060-2010)Residual entropy : harmonization of statistical mechanics and thermodynamics

Akira Takada*, Asahi Glass Company, Japan

Symposium III

Monday, May 17, 2010

Glass-Ceramics

9:30 AM-12:15 PM

Room: Seneca

Session Chair(s): Robert Schaut, Linda Pinckney

9:30 AM

(GOMD-SIII-001-2010) Controlled nucleation and crystallization of glass-ceramics (Invited)

Wolfram Hoeland*, Volker Rheinberger, Christian Ritzberger, Elke Apel, Ivoclar vivadent AG, Liechtenstein

10:00 AM

(GOMD-SIII-002-2010) The early stages of glass ceramics devitrification

Wim Bras*, Netherlands Organization for Scientific Research (NWO), France; Neville Greaves, Aberystwyth University, United Kingdom; Simon Clark, Martin Kunz, Lawrence Berkeley National Laboratory, USA; Sergey Nikitenko, Netherlands Organization for Scientific Research (NWO), France; Giovanni Bruno, Corning SAS, France; Velimir Radmilovic, Lawrence Berkeley National Laboratory, USA

10:15 AM

(GOMD-SIII-003-2010) Crystallization of Lithium silicate Glass-ceramics for artificial teeth

Chul Min Kim*, Cheol Y Kim, Inha Univ., Korea, Republic of

10:30 AM

(GOMD-SIII-004-2010) A secondary ion mass spectroscopy (SIMS) and Mössbauer study of modified ZBLAN glasses

Manh Vu*, Alexander Terekhov, George

Murray, University of Tennessee Space Institute, USA; Stefan Schweizer, Fraunhofer Institute, Germany; Richard Weber, Materials Development Inc., USA; Charles Johnson, Jacqueline Johnson, University of Tennessee Space Institute, USA

10:45 AM

(GOMD-SIII-005-2010) Nucleation and growth of glass-ceramics by in-situ High-Temperature X-ray diffraction and Small Angle Neutron Scattering

Cristina Fernandez-Martin, Giovanni Bruno*, Philippe Pradeau, Monique Comte, Corning SAS- CETC, France

11:00 AM

(GOMD-SIII-006-2010) Nucleation and growth behavior of Tellurite-based glasses

Jonathan Massera*, Clemson University, USA; Jean Remond, INSA, France; Iona Moog, Institut de Chimie de la Matière Condensée de Bordeaux (ICMCB), CNRS UPR 9048, France; Laetitia Petit, Clemson University, USA; Mark J Davis, SCHOTT North America, USA; Scott Mixture, Inamori School of Engineering, USA; Kathleen Richardson, Clemson University, USA

11:15 AM

(GOMD-SIII-007-2010) Influence of zirconium and titanium on the crystallization of a calcium aluminosilicate melt

Eozen Strukelj, Corning SAS, France; Mathieu Roskosz, Université Lille 1, France; Monique Comte*, Corning SAS, France; Pascal Richet, IPGP, France

11:30 AM

(GOMD-SIII-008-2010) Second harmonic generation and giant dielectric response in BaTi₂O₅ glass-ceramics

Atsunobu Masuno*, Yuichi Kikuchi, Hiroyuki

Inoue, Yasuhiro Watanabe, The University of Tokyo, Japan; Jianding Yu, Japan Aerospace Exploration Agency, Japan

11:45 AM

(GOMD-SIII-009-2010)Fluoride

Nanoscintillators

Luiz G. Jacobsohn*, Kevin Sprinkle, Courtney J Kucera, Tiffany L James, Timothy A DeVol, John Ballato, Clemson University, USA

12:00 PM

(GOMD-SIII-010-2010)Preparation of Apatite-Wollastonite-Phlogopite glass-ceramic composites by powder sintering method

Aida Faeghi Nia*, Tabriz university, Iran, Islamic Republic of

High-Strength Glasses

1:15 PM-5:00 PM

Room: Seneca

Session Chair(s): Arun Varshneya, Tanguy Rouxel, Murli Manghnani, William LaCourse

1:15 PM

(GOMD-SIII-011-2010)Edge-on Impact Investigations of Stress and Damage Propagation in Monolithic and Novel Laminate Glass and Glass Ceramics (Invited)

Elmar Strassburger, Ernst-Mach-Institut (EMI), Germany; Parimal Patel, Army Research Laboratory, USA; Arun Varshneya, Alfred University, USA; James W McCauley*, Army Research Laboratory, USA

1:45 PM

(GOMD-SIII-012-2010)Strength of chemically strengthened glass

Takako Komai*, Nippon Electric Glass Co.,Ltd, Japan

2:00 PM

(GOMD-SIII-013-2010)Environmentally Friendly Chemically Strengthened Glasses

Matt Dejneka*, Christy Chapman, Sinue Gomez, Katherine Rossington, Corning, USA

2:15 PM

(GOMD-SIII-014-2010)Influence of Edge Preparation on Impact Resistance of Thin Chemically Strengthened Glass

Patrick K Kreski*, Alfred University, USA; Arun K Varshneya, Saxon Glass Technologies, Inc., USA

2:30 PM

(GOMD-SIII-015-2010)Effect of different alkalis on the ion-exchange ability of high strength glasses

Sinue Gomez*, Mathew J Dejneka, Robert M Morena, Lisa A Lamberson, Corning Incorporated, USA

2:45 PM

General discussion

3:00 PM

Break

3:15 PM

(GOMD-SIII-016-2010)Damage propagation in high strength glasses rods due to high velocity ball impact (Invited)

Ghatu Subhash*, University of Florida, USA

3:45 PM

(GOMD-SIII-017-2010)On the Measurement of Design-Relevant Fracture Properties of Structural Glasses and Ceramics

Kaushik Iyer*, Exponent, Inc., USA

4:00 PM

(GOMD-SIII-018-2010)Using two-point bend technique to predict failure strength

of glass fibers

Zhongzhi Tang*, Richard K Brow, Missouri S&T, USA; Charles R Kurkjian, University of Southern Maine, USA; Nathan P Lower, Rockwell Collins, Inc., USA

4:15 PM

(GOMD-SIII-019-2010)Flaw Distribution Measurements in High Strength Glass via the Hertzian Cone Crack Test

Ivar Reimanis*, James A Jones, Colorado School of Mines, USA; Robert A Schaut, Corning Incorporated, USA

4:30 PM

(GOMD-SIII-020-2010)Crack Propagation in a Soda-Lime Phosphosilicate Glass in Relation to Devitrification

Jonathan Erb*, Andriy Kovalskiy, Hassan Moawad, Bruce Koel, Himanshu Jain, Lehigh University, USA

4:45 PM

(GOMD-SIII-021-2010)What's New in Thermal Tempering of Silicate Glasses?

Suresh Gulati*, Balram Suman, Corning Inc., USA

Tuesday, May 18, 2010

Glasses for Medicine and Biotechnology

9:15 AM-11:45 AM

Room: Seneca

Session Chair: Matthew Hall

9:15 AM

(GOMD-SIII-022-2010)Bioactive, Antibacterial Cements for Skeletal Applications (Invited)

Mark Towler*, Alfred University, USA

9:45 AM

(GOMD-SIII-023-2010)Effect of strontium

on the atomic structure and ion diffusion of bioactive glasses: a molecular dynamics simulation

Jincheng Du*, Ye Xiang, University of North Texas, USA

10:00 AM

(GOMD-SIII-024-2010)Novel Bioactive and Biodegradable 13-93 Glass Scaffolds for Bone Tissue Engineering

Qiang Fu*, Mohamed N Rahaman, Missouri University of Science and Technology, USA

10:15 AM

(GOMD-SIII-025-2010)Direct Write Assembly of Bioactive Glass Scaffolds for Bone Tissue Engineering

Qiang Fu*, Eduardo Saiz, Antoni P Tomsia, Lawrence Berkeley National Laboratory, USA

10:30 AM

(GOMD-SIII-026-2010)Multifunctional, TiO₂-based Coatings on Glass

Betul Akkopru*, Alfred University, USA; Caner Durucan, Middle East Technical University, Turkey; Nathan P Mellott, Alfred University, USA

10:45 AM

(GOMD-SIII-027-2010)Systems and Interfaces: Controlling Bio Processes (Invited)

Galen D. Stucky*, UCSB, USA

11:15 AM

(GOMD-SIII-028-2010)Electropolymerization of aniline within redox-mediated organically modified silicate

Prem Chandra Pandey*, Banaras Hindu University, Institute of Technology, India

11:30 AM

(GOMD-SIII-029-2010)Glass as an

Electronic Package Substrate for Consumer and Biomedical Applications

Vijay Sukumaran*, Qiao Chen, Nitesh Kumbhat, Fuhan Liu, Sunghwan Min, Venky Sundaram, Rao Tummala, Georgia Institute of Technology, USA

Glasses for Energy and Environmental Applications

1:15 PM-5:00 PM

Room: Seneca

Session Chair(s): Joachim Deubener, Dean Thelen

1:15 PM

(GOMD-SIII-030-2010) Specialty Glass for Thin Film Solar Cell Applications (Invited)

Doug Hall*, Corning Incorporated, USA

1:45 PM

(GOMD-SIII-031-2010) Specialty Thin Glass for PV Modules: Mechanical Reliability Considerations

Jim Webb*, Corning Incorporated, USA

2:00 PM

(GOMD-SIII-032-2010) Sintering of nanoporous anti-reflective coatings for concentrated solar power applications

Andrea Mös, Gundula Hensch, Joachim Deubener*, Clausthal University of Technology, Germany

2:15 PM

(GOMD-SIII-033-2010) Viscous Sealants for Solid Oxide Fuel Cell Application

Mark Naylor*, James Shelby, Scott Misture, Alfred University, USA

2:30 PM

(GOMD-SIII-034-2010) Vanadium phosphate glasses as frits for laser-sealing

Robert Morena*, Lisa A Lamberson, CORNING Incorporated, USA

2:45 PM

(GOMD-SIII-035-2010) Sealing Glasses for Applications below 200°C

Louis Gambino, Rutgers University, USA; Andrei Jitianu, Lehman College-CUNY, USA; Lisa C Klein*, Rutgers University, USA

3:00 PM

Break

3:15 PM

(GOMD-SIII-036-2010) Lithium ion diffusion in silicon-Lithium battery materials

MingLiang Zhang*, David A Drabold, Ohio University, USA

3:30 PM

(GOMD-SIII-037-2010) Development of LiFePO₄ glass-ceramic for cathode material of lithium ion battery

Tomohiro Nagakane*, Hideo Yamauchi, Ken Yuki, Akihiko Sakamoto, Nippon Electric Glass Co.,Ltd., Japan; Tsuyoshi Honma, Takayuki Komatsu, Nagaoka University of Technology, Japan; Meijing Zou, Yasue Okumura, Tetsuo Sakai, National Institute of Advanced Industrial Science and Technology, Japan

3:45 PM

(GOMD-SIII-038-2010) Proton Conduction of Sol-Gel Derived Monolithic Electrolytes for use in Mid-Temperature Proton Exchange Fuel Cells

Arthur Feldman*, John Kieffer, University of Michigan, USA

4:00 PM

(GOMD-SIII-039-2010) Dielectric Breakdown of Alkali-Free Boroaluminosilicate Glass Thin Films

Jessica Serra*, Michael Lanagan, Carlo Pantano,

Penn State University, USA

4:15 PM

(GOMD-SIII-040-2010)Low-G glasses in architecture (Invited)

Lothar Wondraczek*, Universitat Erlangen-Nurnberg, Germany; Michael Wild, Interpane Glasgesellschaft mbH, Germany

4:45 PM

(GOMD-SIII-041-2010)Removal of Chromium(VI) Ion from a Solution by Barium Borosilicate Glass

Il Hee Baek*, Cheol.Y Kim, Inha University, Korea, Republic of

Wednesday, May 19, 2010

Melting & Process Modeling

8:15 AM-10:15 AM

Room: Seneca

Session Chair(s): Olus Boratav, Li Yang

8:15 AM

(GOMD-SIII-042-2010)The batch-to-melt conversion - mineralogical, caloric and kinetic aspects (Invited)

Reinhard Conradt*, RWTH Aachen University, Germany

8:45 AM

(GOMD-SIII-043-2010)Full conversion of glass furnace to oxygen-fuel combustion

XIaoyi He*, Matthew J Watson, Michael E Habel, Air Products and Chemicals, Inc., USA; John Rossi, Fiberglass Industries, Inc., USA

9:00 AM

(GOMD-SIII-044-2010)Bubble Concentration Model

William W Johnson*, Corning Incorporated, USA

9:15 AM

(GOMD-SIII-045-2010)Draw Resonance in Viscous Sheets

Olus Boratav*, Zheming Zheng, Corning Incorporated, USA; Alexey Amosov, Corning Incorporated, Russian Federation

9:30 AM

(GOMD-SIII-046-2010)The Liquidus Temperature; its Critical Role in Glass Manufacturing (Invited)

Frederick T. Wallenberger*, Antonín Smrček, Consultant, USA

10:00 AM

Break

Optical Materials I

10:15 AM-12:00 PM

Room: Seneca

Session Chair(s): Hong Li, Amanda Young

10:15 AM

(GOMD-SIII-047-2010)Optical Materials for Harsh Ionizing-Radiation Environments (Invited)

Kelly Simmons-Potter*, University of Arizona, USA

10:45 AM

(GOMD-SIII-048-2010)Use of Gadolinium Oxide for Neutron Detection in Glasses

Kathryn Goetschius*, James Shelby, Alfred University, USA; Alan Huston, Steve Rychnovsky, Barb Wright, Naval Research Laboratory, USA

11:00 AM

(GOMD-SIII-049-2010)Yb-doped oxide glasses under ionizing irradiation: a relaxation processes study

Nadège Ollier*, Vera Puhkhaya, LSI, France; Jean-Louis Doualan, Richard Moncorgé, CIMAP, France

11:15 AM

(GOMD-SIII-050-2010)Effect of Bromine on NaF Crystallization in Photo-Thermo-Refractive Glass

Guilherme P Souza, Vladimir Fokin, Carlos Baptista, Edgar D Zanotto, Federal University of San Carlos, Brazil; Julien Lumeau*, Larissa Glebova, Leonid B Glebov, University of Central Florida, USA

11:30 AM

(GOMD-SIII-051-2010)Sub-Micron Grained Highly Transparent Y₂O₃ Ceramics: Synthesis, Processing, and Properties

Karn Serivalsatit*, Baris Kokouoz, Basak Yazgan Kokouoz, Marian Kennedy, John Ballato, Clemson University, USA

11:45 AM

(GOMD-SIII-052-2010)Crystalline Semiconductor Core Optical Fibers

Stephanie Morris*, John Ballato, Thomas Hawkins, Paul Foy, Colin McMillen, Roger Stolen, Clemson University, USA; Robert Rice, Northrop Grumman Space Technology, USA

Optical Materials II

1:15 PM-5:15 PM

Room: Seneca

Session Chair(s): Hong Li, Amanda Young

1:15 PM

(GOMD-SIII-053-2010)Low losses highly non linear As₂S₃ suspended core microstructured optical fibers (Invited)

Frederic Smektala*, Mohammed El Amraoui, Jean Charles Jules, Gregory Gadret, Julien Fatome, Université de Bourgogne, France; Cesar Polacchini, Igor Skrypatchev, Younes Messadeq, Instituto de Quimica, Brazil; Gilles Renversez, Institut Fresnel, France; Marcin Szpulak, Institute Of Physics, Poland; Johann Troles, Sciences Chimiques de Rennes, France;

Laurent Brilland, Perfos, France

1:45 PM

(GOMD-SIII-054-2010)Towards low loss, high-index-contrast chalcogenide glass photonics: thermal reflow and overlayer spin-coating

Juejun Hu*, Massachusetts Institute of Technology, USA; Nathan Carlie, Laetitia Petit, Clemson University, USA; Anu Agarwal, Lionel C Kimerling, Massachusetts Institute of Technology, USA; Kathleen Richardson, Clemson University, USA

2:00 PM

(GOMD-SIII-055-2010)Grayscale Lithography Using Chalcogenide Glass Resists

Andriy Kovalskiy*, Lehigh University, USA; Miroslav Vlcek, University of Pardubice, Czech Republic; Jiri Cech, Himanshu Jain, Lehigh University, USA

2:15 PM

(GOMD-SIII-056-2010)Optimization of spin-coating parameters for optical quality chalcogenide thin films in the As-Ge(Sb)-System

Nathan Carlie*, Laetitia Petit, Jonathan D Musgrave, Kathleen Richardson, Clemson University, USA

2:30 PM

(GOMD-SIII-057-2010)Effects of deposition parameters on the optical properties and stability of thermally evaporated Ge-As-Se thin films

Douglas Bulla*, Rongping Wang, Smrita Prasad, Andrei V Rode, Steve J Madden, Barry Luther-Davies, Australian National University, Australia

2:45 PM

(GOMD-SIII-058-2010)Structure-Optical

Property Correlations for Arsenic-Sulfide Glasses in the Visible, Infrared, and Sub-millimeter Regions

John McCloy, Brian J Riley, S. K Sundaram, Amy Qiao, Jarrod V Crum, Bradley R Johnson*, Pacific Northwest National Lab, USA

3:00 PM

Break

3:15 PM

(GOMD-SIII-059-2010) Chalcogenide optical fibers used for CO₂ detection

Frederic Charpentier*, S. Maurugeon, J. Troles, V. Nazabal, L. Brilland, Universite de Rennes 1- CNRS, France; P. Camy, J. L Doualan, CIMAP, France; C. Boussard-Pledel, X. H Zhang, P. Lucas, B. Bureau, Universite de Rennes 1- CNRS, France

3:30 PM

(GOMD-SIII-060-2010) Chalcogenide waveguides integrated microfluidic sensor device

M. L. Brandily-Anne*, Universite de Rennes, France; F. Charpentier, Universite de Rennes 1, France; H. Lhermitte, Universite de Rennes, France; J. Charrier, FOTON, France; B. Bureau, V. Nazabal, Universite de Rennes 1, France

3:45 PM

(GOMD-SIII-061-2010) Utilizing Rare Earth Doped Nanoparticles to Tailor Emission Spectrum of Optical Fiber

Tiffany L James, Courtney Kucera, Baris Kokuoz, Erin Garber, Dale Edmonson, Clemson university, USA; David Griese, Michael Miller, Emily Chasteen, Matthew Goodson, Furman University, USA; Andrew James, Clemson University, USA; William Baker, Furman University, USA; John Ballato*, Clemson University, USA

4:00 PM

(GOMD-SIII-062-2010) Structural and Compositional Modification of Glass Surfaces by Thermal Poling

Nicholas J Smith*, Carlo G Pantano, Pennsylvania State University, USA

4:15 PM

(GOMD-SIII-063-2010) Fabrication and Applications of Thin, Free-Standing Borophosphosilicate Glass (BPSG) Films

Cory L Trivelpiece*, Jack S Brenizer, Carlo G Pantano, The Pennsylvania State University, USA

4:30 PM

(GOMD-SIII-064-2010) Nanophase semiconductor-transparent conductive oxide composite thin films for photovoltaic applications

Grace H Shih*, Cary G Allen, B. G Potter, University of Arizona, USA

4:45 PM

(GOMD-SIII-065-2010) Development of an original process for the realization of multi-materials optical fibres

Stéphanie Leparmentier, Jean-Louis Auguste*, Georges Humbert, Frédéric Gérôme, Christine Restoin, Jean-Marc Blondy, XLIM, France; Bruno Desruelle, DGA, France

5:00 PM

(GOMD-SIII-066-2010) Photo luminescence properties of copper ion doped alkali borosilicate glasses in metastable immiscibility region

Atsuo Yasumori*, Fumitake Tada, Daisuke Takemoto, Naoko Matsui, Tetsuo Kishi, Tokyo University of Science, Japan

Symposium IV

Tuesday, May 18, 2010

Short-term Corrosion Issues I

1:00 PM-3:00 PM

Room: Carder

Session Chair: Nathan Mellott

1:00 PM

**(GOMD-SIV-001-2010)Glass Corrosion 101
(Invited)**

Carlo Pantano*, Pennsylvania State University,
USA

2:00 PM

**(GOMD-SIV-002-2010)Practical Aspects of
Corrosion in Glass Fiber (Invited)**

Jon F Bauer*, J Bauer Consulting, USA

2:30 PM

**(GOMD-SIV-003-2010)Effects of leaching at
glass/polymer interfaces**

Joy Banerjee*, Pennsylvania State University,
USA; James Hamilton, Johns Manville, USA;
Carlo Pantano, Pennsylvania State University,
USA

2:45 PM

Break

Short-term Corrosion Issues II

3:15 PM-4:15 PM

Room: Carder

Session Chair: Nathan Mellott

3:15 PM

**(GOMD-SIV-004-2010)On the Mechanisms
of Corrosion Induced Roughening of
Silicate Glass Surfaces**

Nathan P. Mellott*, Krista Kalac, Alfred
University, USA; Carlo G Pantano, The
Pennsylvania State University, USA

3:30 PM

**(GOMD-SIV-005-2010)Acid-induced
alteration of Alkali Borosilicate frit.**

Paulo Marques*, Robert M Morena, Corning
Sas, France

3:45 PM

**(GOMD-SIV-006-2010)Aqueous corrosion
of the GeSe₄ chalcogenide glass:surface
properties and corrosion mechanism**

Yi Fan Niu, Jean-Pierre Guin*, Tanguy Rouxel,
CNRS-Université de Rennes 1, France;
Abesselam Abdelouas, Ecole des mines de
Nantes, France; Joann Troles, Université de
Rennes 1, France; Frédéric Smektala, Université
de Bourgogne, France

4:00 PM

**(GOMD-SIV-007-2010)Analytical modeling
of the aqueous dissolution behavior of
phosphate glasses**

Melodie L Schmitt*, Lina Ma, Richard Brow,
Missouri S&T, USA

Wednesday, May 19, 2010

Ancient and Analogue Glasses

8:15 AM-10:30 AM

Room: Carder

Session Chair: Joseph Ryan

8:15 AM

**(GOMD-SIV-008-2010)The Morphology of
Weathering on Ancient Glasses (Invited)**

Robert H Brill*, Corning Museum of Glass,
USA

9:00 AM

(GOMD-SIV-009-2010)Some thoughts on

the use of ancient glasses in performance assessment of nuclear waste glass disposal (Invited)

Denis Strachan*, Pacific Northwest National Laboratory, USA; Robert Brill, Corning Museum of Glass, USA

9:30 AM

(GOMD-SIV-010-2010)The use of Roman glass to predict the long-term behavior of HLW (Invited)

Stephane Gin*, CEA, France; Aurelie Verney-Carron, CNRS, France

10:00 AM

(GOMD-SIV-011-2010)The surface and beyond: new insights in old glass

Hannelore Roemich*, New York University, USA

10:15 AM

Break

Modeling

10:30 AM-12:00 PM

Room: Carder

Session Chair: Joseph Ryan

10:30 AM

(GOMD-SIV-012-2010)Interaction of Water with Multi-Component Silicate Glass Surfaces (Invited)

Alastair Cormack*, Alfred University, USA; Antonio Tilocca, University College London, United Kingdom

11:00 AM

(GOMD-SIV-013-2010)Delayed failure of oxide glasses (Invited)

Minoru Tomozawa*, RPI, USA

11:30 AM

(GOMD-SIV-014-2010)DFT MD Simulations of Proton Attack on a Silica

Surface (Invited)

James D Kubicki*, The Pennsylvania State University, USA

Long-term Corrosion Testing

1:15 PM-3:15 PM

Room: Carder

Session Chair: Joseph Ryan

1:15 PM

(GOMD-SIV-015-2010)Modeling Radiation-Induced Alteration of Borosilicate High-Level Waste Glass (Invited)

Linn Hobbs*, Massachusetts Institute of Technology, USA

1:45 PM

(GOMD-SIV-016-2010)Initial dissolution rate of P0798 simulated HLW glass as a function of pH and temperature measured by using micro-reactor flow-through test (Invited)

Yaohiro Inagaki*, Hikaru Makigaki, Kyushu University, Japan; Sei-ichiro Mitsui, JAEA, Japan; Kazuya Idemitsu, Tatsumi Arima, Kyushu University, Japan; Kenji Noshita, Hitachi, Ltd, Japan

2:15 PM

(GOMD-SIV-017-2010)Isotopic Enrichment Studies to Determine Elemental Diffusion Profiles Through an Established Alteration Layer

Joseph V Ryan*, Alexandre Mitroshkov, Denis M Strachan, Pacific Northwest National Laboratory, USA

2:30 PM

(GOMD-SIV-018-2010)Long-Term Durability Testing of Glasses for the Stabilization of Closed Nuclear Fuel Cycle Waste Streams

Amanda L Billings*, James C Marra, Charles C Crawford, Savannah River National Laboratory,

USA

2:45 PM

(GOMD-SIV-019-2010)Evaluating the long-term weathering of minerals and engineered materials across a range of spatial and temporal-scales

Eric M. Pierce*, Pacific Northwest National Lab, USA

3:00 PM

(GOMD-SIV-020-2010)Molecular Modeling of Aluminosilicate Glass Dissolution for High-Level Nuclear Waste Repository Science

Louise J Criscenti*, Sandia National Laboratories, USA; James D Kubicki, Susan L Brantley, Pennsylvania State University, USA

Panel Discussion

3:30 PM-5:00 PM

Room: Carder

Session Chair: Joseph Ryan

3:30 PM

Panel Discussion

Symposium V

Tuesday, May 18, 2010

Glass Structure and Properties I: Silicates

9:30 AM-12:00 PM

Room: Keuka

Session Chair: Sabyasachi Sen

9:30 AM

(GOMD-SV-001-2010) Determination of Structural Distributions in Densified Silica Using O-17 NMR (Invited)

Philip Grandinetti*, Nicole Trease, Ohio State University, USA; Jonathan Stebbins, Stanford University, USA; Sabyasachi Sen, University of California, Davis, USA

10:00 AM

(GOMD-SV-002-2010) Structure and bonding in CaO-SiO₂ liquids and glasses

Richard J Weber*, Materials Development, Inc., USA; Chris J Benmore, Argonne National Laboratory, USA; John B Parise, Stony Brook University, USA; Martin C Wilding, Aberystwyth University, United Kingdom; Jincheng Du, University of North Texas, USA

10:15 AM

(GOMD-SV-003-2010) Structural heterogeneity in calcium aluminosilicate glasses

Mette Moesgaard*, Ralf Keding, Aalborg University, Denmark; Jørgen Skibsted, Aarhus University, Denmark; Yuanzheng Yue, Aalborg University, Denmark

10:30 AM

(GOMD-SV-004-2010) Temperature dependent structural changes in aluminoborosilicate melts

Jingshi Wu*, Jonathan Stebbins, Stanford

University, USA

10:45 AM

(GOMD-SV-005-2010) Counting Non-Bridging Oxygens in Calcium and Potassium Aluminosilicate Glasses with Oxygen-17 NMR

Linda M Thompson*, Jonathan F Stebbins, Stanford University, USA

11:00 AM

(GOMD-SV-006-2010) A Multispectroscopic Study of Lead Silicate Glass Atomic Structure

Adam Vitale*, Mario Affatigato, Steve Feller, Coe College, USA; Gloria Lehr, Monmouth College, USA; Diane Holland, Mark Smith, University of Warwick, United Kingdom; Alex Hannon, Ema Barney, Rutherford Appleton Lab, United Kingdom

11:15 AM

(GOMD-SV-007-2010) Tracer Diffusion of Sodium in Sodium Borosilicate Glasses

Xinwei Wu*, Ruediger Dieckmann, Cornell University, USA

11:30 AM

(GOMD-SV-008-2010) Mechanical properties in pseudo-binary system of Pyrex and soda-lime-silica glass

Akio Koike*, Setsuro Ito, Asahi Glass Co., Ltd., Japan

11:45 AM

(GOMD-SV-009-2010) Short-range Structure of Invert Glasses Along the Join MgSiO₃-Mg₂SiO₄

Sabyasachi Sen*, University of California - Davis, USA; Hideki Maekawa, Tohoku University, Japan; George Papatheodorou, ICEHT-FORTH, Greece

Glass Structure and Properties II: Simulations and Chalcogenides

1:15 PM-3:15 PM

Room: Keuka

Session Chair: Randall Youngman

1:15 PM

(GOMD-SV-010-2010) Understanding the structures and properties of silicate and aluminosilicate glasses from classical and ab initio molecular dynamics simulations (Invited)

Jincheng Du*, University of North Texas, USA

1:45 PM

(GOMD-SV-011-2010) Mechanical Behavior of Water-Containing Glass by MD simulation

Setsuro Ito*, Taketoshi Taniguchi, Asahi Glass Co., Ltd, Japan

2:00 PM

(GOMD-SV-012-2010) Structural Association of Ga and P in Selenide Glass

Bruce Aitken*, Stephen Currie, Randy Youngman, Carl Ponader, Corning Inc., USA

2:15 PM

(GOMD-SV-013-2010) Influence of iso-structural substitutions on physical properties in Ge(As,Sb)(S,Se) glasses

Guillaume Guery*, David Musgraves, Kathleen Richardson, Laeticia Petit, clemson university, USA; Evelyne Fargin, University of Bordeaux, France

2:30 PM

(GOMD-SV-014-2010) High-resolution ^{77}Se NMR investigation of the structure of $\text{Ge}_x\text{Se}_{100-x}$ glasses

Erica Lee Gjersing*, Sabyasachi Sen, University of California Davis, USA; Bruce Aitken,

Corning Inc., USA

2:45 PM

(GOMD-SV-015-2010) Impact of Chalcogen Deficiency in GeAsPS and GeGaPS Glasses

Randall Youngman*, Bruce Aitken, Steve Currie, Corning Incorporated, USA

3:00 PM

Break

Glass Structure and Properties III: Phosphates

3:15 PM-4:45 PM

Room: Keuka

Session Chair: Randall Youngman

3:15 PM

(GOMD-SV-016-2010) Properties and Structures of Tin Phosphate Glasses modified with Ga_2O_3 and Sb_2O_3 .

Jong Wook Lim*, Richard K Brow, Missouri S&T, USA; Hsiwen Yang, National United University, Taiwan

3:30 PM

(GOMD-SV-017-2010) Structure-Property Relationships in Cerium Aluminophosphate and Silicophosphate Glasses

Jennifer L Rygel*, Carlo G Pantano, The Pennsylvania State University, USA

3:45 PM

(GOMD-SV-018-2010) Raman Spectra and the Structure of Iron-Phosphate Compounds and Glasses

Liyang Zhang*, Jong Wook Lim, Richard K Brow, Mark E Schlesinger, Missouri S&T, USA

4:00 PM

(GOMD-SV-019-2010) Structural and Dispersive Aspects of the Photoelasticity of

Glass

Vincent Martin*, Stephanie Thomas, Victoria Dickinson, Banghao Chen, Ulrike Werner-Zwanziger, Richard Dunlap, Josef Zwanziger, Dalhousie University, Canada

4:15 PM

(GOMD-SV-020-2010)Effect of fictive temperature and structural orientation on flow and fracture of metaphosphate glasses

Narayanan Janakiraman*, Joachim Deubener, Technical University of Clausthal, Germany

4:30 PM

(GOMD-SV-021-2010)Structure of Sodium Borophosphate Glasses

Randilynn Christensen*, Garrett Olson, Iowa State University, USA; Aleksandar Matic, Chalmers University of Technology, Sweden; Valeri Petkov, Central Michigan University, USA; Steve W Martin, Iowa State University, USA

Wednesday, May 19, 2010 Photoinduced Structural Changes in Glass

8:00 AM-11:45 AM

Room: Keuka

Session Chair: Pierre Lucas

8:00 AM

(GOMD-SV-022-2010)Determination of structural defects in chalcogenide glasses by high-resolution XPS (Invited)

Himanshu Jain*, Andriy Kovalskiy, Roman Golovchak, Lehigh University, USA

8:30 AM

(GOMD-SV-023-2010)In situ Observation of the Photoinduced Atomistic Changes in Chalcogenide Glasses

Donghui Zhao*, Himanshu Jain, Lehigh University, USA

8:45 AM

(GOMD-SV-024-2010)Photosensitivity in As-S-Se mixed chalcogen glasses: the relative role of selenium versus sulfur.

Pierre Lucas*, Fang-Yin Lin, Zhiyong Yang, University of Arizona, USA

9:00 AM

(GOMD-SV-025-2010)Dynamic equilibrium under light irradiation shown through photoinduced fluidity

Yann Gueguen*, Jean Christophe Sangleboeuf, Vincent Keryvin, Tanguy Rouxel, Université de Rennes 1, France; Catherine Boussard-Plédel, Bruno Bureau, Johan Troles, UMR CNRS 6226, France; Pierre Lucas, University of Arizona, USA

9:15 AM

(GOMD-SV-026-2010)Photofluidity and Optical Microfabrication of Tapers in Low-Loss Chalcogenide Fibers

Pierre Lucas*, Eric Lepine, Zhiyong Yang, University of Arizona, USA; Yann Gueguen, Jean Christophe Sangleboeuf, Bruno Bureau, Xiang-Hua Zhang, University of Rennes I, France

9:30 AM

(GOMD-SV-027-2010)Dynamics of femtosecond laser modification in glass

Jonathan J. Witcher*, Luke Fletcher, Neil Troy, Denise Krol, UC Davis, USA

9:45 AM

(GOMD-SV-028-2010)Mechanisms of Laser Induced Modification of Lead and Barium Vanadate Glasses

Mario Affatigato*, Ruhil Dongol, Landon Tweeton, Cory Faris, Steve Feller, Coe College, USA

10:00 AM

(GOMD-SV-029-2010)Photoinduced Molecular Assembly in Dip-Coated Films via In-Situ Illuminations

Zachary Schneider*, Kelly Simmons-Potter, B. G Potter, University of Arizona, USA; Tim Boyle, Sandia National Laboratories, USA

10:15 AM

Break

10:30 AM

(GOMD-SV-030-2010)Polarized infrared studies of silica glass exposed to polarized excimer laser irradiation (Invited)

Charlene M Smith*, Nicholas F Borrelli, James E Tingley, Corning Incorporated, USA

11:00 AM

(GOMD-SV-031-2010)Study of ionization of cerium in multicomponent silicate glasses

Karima Chamma, Julien Lumeau*, Larissa Glebova, Leonid B Glebov, University of Central Florida, USA

11:15 AM

(GOMD-SV-032-2010)Femtosecond Laser Waveguide Writing in Erbium Doped Phosphate Glass

Luke B Fletcher*, Jon J Witcher, Denise M Krol, University of California Davis, USA; Richard K Brow, Missouri University of Science and Technology, USA

11:30 AM

(GOMD-SV-033-2010)Analysis of Radiation-Induced Darkening in Ce-doped Phosphate Glasses

Robert Woodman*, James Belcher, Carrie-Ann Ferreira, Lebzylisbeth Gonzalez, Infoscitex Corporation, USA; Carlo Pantano, Jennifer Rygel, The Pennsylvania State University, USA; Jincheng Du, Leopold Kokou, University of North Texas, USA

Glass Structure and Properties IV: More Fun with the Vitreous State

1:15 PM-3:45 PM

Room: Keuka

Session Chair: Morten Smedskjaer

1:15 PM

(GOMD-SV-034-2010)Elasticity, Compression Behavior, and Vibrational Properties of Silicate Glasses under High Pressures: A Review

Murli H Manghnani*, University of Hawaii, USA

1:30 PM

(GOMD-SV-035-2010)A chemical probe for measuring glass densification under sharp contact?

Jean-Pierre Guin*, Yi Fan Niu, Tanguy Rouxel, CNRS-Université de Rennes 1, France; Abesselam Abdelouas, Ecole des mines de Nantes, France

1:45 PM

(GOMD-SV-036-2010)High frequency sound and boson peak in glasses

Benoit Rufflé*, University Montpellier II, France

2:00 PM

(GOMD-SV-037-2010)Optical basicity revisited: theory and application to optical properties and crystallization

John McCloy*, Pacific Northwest National Laboratory, USA

2:15 PM

(GOMD-SV-038-2010)Correlation of Network Structure with Devitrification Mechanism in Lithium and Sodium Diborate Glasses

Banghao Chen, Ulrike Werner-Zwanziger, Josef

Zwanziger*, Dalhousie University, Canada;
Marcio Nascimento, Luciana Ghussn, Edgar
Zanotto, Federal University of Sao Carlos,
Brazil

2:30 PM

**(GOMD-SV-039-2010) Structural Studies of
Alkali Tungstate and Molybdate Glasses by
X-ray Absorption Spectroscopy**

Carl W Ponader*, Kaveh Adib, Bruce G
Aitken, Corning Incorporated, USA

2:45 PM

**(GOMD-SV-040-2010) Vanadium-51 and
Boron-11 NMR Study of Ionically
Conducting Alkali Borovanadate Glasses**

Vladimir K Michaelis*, University of
Manitoba, Canada; Joseph North, Alex Ramm,
Steve Feller, Coe College, USA; Scott Kroeker,
University of Manitoba, Canada

3:00 PM

Break

3:15 PM

**(GOMD-SV-041-2010) Intermediate-range
Order in Nanostructured Silica**

Gang Chen*, Congshang Wan, Binay Prasai,
David A Drabold, Ohio University, USA

3:30 PM

**(GOMD-SV-042-2010) Interactions of Small
Molecules with Oxide Surfaces: Models for
Polymer Binding on Glass Fibers**

Karl Todd Mueller*, Lymaris Ortiz-Rivera,
Daniel L Suchy, Josh Stapleton, Carlo G
Pantano, Penn State University, USA

Poster Session

Monday, May 17, 2010

6:00 PM-8:00 PM

Room: Carder

(GOMD-SII-P001-2010)The Application of Constraint Theory to Self-Organization of Naturally-Occurring Molecules

Benjamin Daniel Esham*, Alfred University, USA; John C Mauro, Corning Incorporated, USA; Roger J Loucks, Garrett J McGowan, Alfred University, USA

(GOMD-SII-P002-2010)Electronic Structure Evolution of Phase Change Memory Materials: Ge₂Sb₂Te₅

David A Drabold, Bin Cai*, Ohio University, USA; Stephen R Elliott, Cambridge University, United Kingdom

(GOMD-SII-P003-2010)Q_n Speciation in Binary Alkali Silicate Glasses

Carrie L Hogue*, Adam J Ellison, Shari E Koval, Randall E Youngman, Corning Incorporated, USA

(GOMD-SII-P004-2010)Intermediate glass prepared by high pressure and temperature treatment of silica glass

Chia-Ying Li*, Minoru Tomozawa, Jonathan D Price, E. Bruce Watson, Rensselaer Polytechnic Institute, USA

(GOMD-SII-P005-2010)Thermally Darkening Photochromic Glasses for Visible Polarizers

Christy Chapman*, Tom Seward, Nick Borrelli, Matt Dejneka, Corning Incorporated, USA

(GOMD-SII-P006-2010)Photothermal Effects in Chalcogenide Glasses

Donghui Zhao*, Lehigh University, USA;

Paulo R Pedreira, Luis C Malacarne, M. L Baesso, Maringá State University, Brazil; Himanshu Jain, Lehigh University, USA

(GOMD-SII-P007-2010)Conductivity of Sodium Borophosphate Glasses

Garrett Olson*, Randi Christensen, Steve W Martin, Iowa State University, USA

(GOMD-SII-P008-2010)A New 2D MAS approach for quantifying Q(n) species in oxide glass

Krishna K Dey*, Derrick Kaseman, Michael Davis, Philip J Grandinetti, The Ohio State University, USA

(GOMD-SII-P009-2010)Fabrication of novel SbSI-based IR-transparent ferroelectric glass-ceramic

Lihua Ding*, Himanshu Jain, Lehigh University, USA; Guorong Chen, East China University of Science and Technology, China

(GOMD-SII-P010-2010)Properties of high density silica glass prepared by high pressure quenching routes

Liping Huang, Fenglin Yuan*, Rensselaer Polytechnic Institute, USA

(GOMD-SII-P011-2010)Glasses with temperature and/or pressure independent elastic moduli

Liping Huang, Qing Zhao*, Rensselaer Polytechnic Institute, USA

(GOMD-SII-P012-2010)Colloidal Behavior of Alkali Borosilicate Glasses

Lisa Lamberson*, Corning Incorporated, USA

(GOMD-SII-P013-2010)Understanding Oxide-Polymer Interfaces Using Solid-State NMR and Inverse Gas Chromatography

Lymaris Ortiz Rivera*, Daniel L Suchy, Karl T

Mueller, Penn State University, USA

(GOMD-SII-P014-2010) Analytical thermodynamic modeling of the iron redox ratio in phosphate glasses

Melodie L Schmitt*, Richard K Brow, Missouri S&T, USA

(GOMD-SII-P015-2010) Quantifying Q(n)-species in a potassium disilicate glass by ²⁹Si magic angle flipping nuclear magnetic resonance

Michael Davis*, Kevin Sanders, Derrick Kaseman, Sahar Parvani, Krishna K Dey, Philip J Grandinetti, Ohio State University, USA

(GOMD-SII-P016-2010) EPR study of Ti³⁺ ions formed under ionizing irradiation in oxide glasses

Pierre Lombard, Nadège Ollier*, Bruno Boizot, CEA, France

(GOMD-SII-P017-2010) Enthalpy of Mixing of Mixed Alkali Glasses

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

(GOMD-SII-P018-2010) An analysis of borate glasses and crystals using 10B quadrupolar NMR obtained from a field swept magnet.

Michael McConnell*, Kevin Tholen, Jack Berkowitz, Mario Affatigato, Steve Feller, Coe College, USA; Tom Kemp, Diane Holland, Mark Smith, University of Warwick, United Kingdom

(GOMD-SII-P019-2010) Physical Properties and Structure of Alkali Borovanadate Glasses

Steve Feller, Joseph North*, Alex Ramm, Heidi Feller, Jason Maldonis, Coe College, USA; Jennifer McKnight, Blane Baker, Pat Bunton, William Jewell College, USA; Vladimir Michaelis, Scott Kroeker, University of

Manitoba, Canada; Mahn Vu, Mario Affatigato, Coe College, USA

(GOMD-SII-P020-2010) An Al-27 MAS NMR study of the Ca-Al binary metallic glass forming system and related alloys.

Tyler Mullenbach*, Coe College, USA; Michelle Pierson-Stull, Randy Youngman, Tj Kiczenski, Corning Incorporated, USA

(GOMD-SII-P021-2010) Crystallization in Sugar Glass and Its Melts - Low Cost Experiments in Glass

William R. Heffner, Sarah A Horst*, Lehigh University, USA

(GOMD-SII-P022-2010) A Low-Cost Student Built DTA for Exploring the Glass Transition

William R. Heffner*, Lehigh University, USA

(GOMD-SII-P023-2010) Low-cost, hands-on activities in glass science

William R. Heffner, Himanshu Jain*, Lehigh University, USA

(GOMD-SIII-P024-2010) Lattice orientation analysis of single crystal architecture created in LaBGeO5 glass by femtosecond laser

Adam Stone*, Himanshu Jain, Volkmar Dierolf, Lehigh University, USA; Kiyotaka Miura, Kazuyuki Hirao, Kyoto University, Japan

(GOMD-SIII-P025-2010) Effect of flour source on sintering and crystallization of Fluoro-Phlogopite glass-ceramic

Aida Faeghi Nia*, Tabriz University, Iran, Islamic Republic of; M. Vafaeifard, Mining Investment Insurance Corporation, Iran, Islamic Republic of

(GOMD-SIII-P026-2010) Zinc and Silver Glass Polyalkenoate Cements: An

Evaluation of their Antibacterial Nature.
Aisling Coughlan*, Mark Towler, Alfred University, USA

(GOMD-SIII-P027-2010)The Antibacterial Properties and Ion Release Profiles of a novel Zinc based Glass Polyalkenoate Cement
Anthony William Wren*, Mark R Towler, Alfred University, USA

(GOMD-SIII-P028-2010)Fluorescent glass patterning on a sheet window glass by screen printing and low temperature heat treatment
Yuki Ishikawa*, Yuji Ohara, Tetsuo Kishi, Atsuo Yasumori, Tokyo University of science, Japan

(GOMD-SIII-P029-2010)Preparation of gold nanoparticles supported on a super-hemispherical lens by using a surface-tension mold technique for chemical sensing
Shinichi Furusawa*, Tomohiro Nakagawa, Tetsuo Kishi, Atsuo Yasumori, Tokyo University of science, Japan

(GOMD-SIII-P030-2010)Transition Metal Oxide Coatings on Glass
Brian M Adams*, Nathan P Mellott, Alfred University, USA

(GOMD-SIII-P031-2010)Dependence of osteoblast cell response on the surface roughness of 45S bioactive glass
Raina H Jain*, Shaojie Wang, Hassan M Moawad, Matthias M Falk, Himanshu Jain, Lehigh University, USA

(GOMD-SIII-P032-2010)Simulation of Fluid Flow and Temperature on the Glass Sheet Forming for Overflow Fusion Process
Hsuan-Chung Wu, Ming Chi University of

Technology, Taiwan; Huey-Jiuan Lin*, National United University, Taiwan

(GOMD-SIII-P033-2010)Conversion of europium and lanthanum doped lithium borate glass to rare earth phosphate compounds
Jaime George*, Richard Brow, Missouri University of Science and Technology, USA

(GOMD-SIII-P034-2010)Chromium-doped transparent calcium germinate glass-ceramics toward nano-Ca₂GeO₄ in fiber
Jimmy Wang*, Zhiwei Huang, National Sun Yat-Sen University, Taiwan

(GOMD-SIII-P035-2010)Mechanism of the removal of phosphate ion from an aqueous solution by borosilicate glass
Jin-su Nam*, Cheol Y. Kim, Inha university, Korea, Republic of

(GOMD-SIII-P036-2010)Rare-Earth-Doped Amorphous Nanocomposite Polymers for Optoelectronic Applications
Kyle G. Gipson*, Brett Ellerbrock, Kathryn Stevens, Philip Brown, John Ballato, Clemson University, USA

(GOMD-SIII-P037-2010)Barium Vanadate Microspheres
Shari Yosinski, Landon Tweeton, Steve Feller, Mario Affatigato*, Coe College, USA

(GOMD-SIII-P038-2010)Antibacterial Properties of Silver and Zinc doped 45S Bioactive Glass
Matthew Joseph Michel*, Lehigh University, USA

(GOMD-SIII-P039-2010)Glassy particles as an active component in cementitious materials for the future
Mette Moesgaard*, Aalborg University,

Denmark; Lise Frank Kirkegaard, Duncan Herfort, Aalborg Portland, Denmark; Yuanzheng Yue, Aalborg University, Denmark

(GOMD-SIII-P040-2010) Formation of SiO₂-Rich Surface Layer on Glass Fibers

Morten Mattrup Smedskjaer*, Aalborg University, Denmark; Joachim Deubener, Clausthal University of Technology, Germany; Steen Mørup, Technical University of Denmark, Denmark; Yuanzheng Yue, Aalborg University, Denmark

(GOMD-SIII-P041-2010) Analysis of Interactions between Glass and Mold Tool in Precision Optical Molding

Jessica Jackson, Peter F Wachtel*, Dave Musgraves, Kathleen Richardson, Clemson University, USA

(GOMD-SIII-P042-2010) Structural and thermal studies of 70Li₂S+(30-x)P₂S₅+xAl₂S₃ with x=1 or 3 mol%

Seth Berbano*, Iowa State University, USA; Keiichi Minami, Akitoshi Hayashi, Masahiro Tatsumisago, Osaka Prefecture University, Japan

(GOMD-SIII-P043-2010) Cell response to nano-macro porous bioactive glass scaffolds prepared by the sol-gel method

Shaojie Wang*, Matthias M Falk, Himanshu Jain, Lehigh University, USA

(GOMD-SIII-P044-2010) Tailoring and Characterization of Nanopores Networks of Nano/Macro Dual Porous Sol-Gel Bioactive Glasses

Shaojie Wang*, Lehigh University, USA; Ana C Marques, Rui M Almeida, ICEMS, Instituto Superior AU1 Tecnico/TULisbon, Portugal; Himanshu Jain, Lehigh University, USA

(GOMD-SIII-P045-2010) Processing of S520

glass for nano-macro porous bioactive fibers

Ukrit Thamma*, Hassan M Moawad, Himanshu Jain, Lehigh University, USA

(GOMD-SIII-P046-2010) Single-mode waveguide of chalcogenide glasses by burying a fiber in substrates

Zhang Shaoqian*, Xianghua Zhang, university of Rennes1, France

(GOMD-SIV-P047-2010) Transition Metal Oxide (TMO) Silicate Glasses: Processing and Materials Properties

Betul Akkopru*, Alfred University, USA; Caner Durucan, Middle East Technical University, Turkey; Nathan P Mellott, Alfred University, USA

(GOMD-SIV-P048-2010) The relationship between phosphate glass dissolution and experimentally determined dissolution enthalpies for phosphate compounds

Lina Ma*, Melodie L Schmitt, Richard K Brow, Missouri University of Science and Technology, USA

(GOMD-SIV-P049-2010) Corrosion Behavior of Ti-Based Bulk Metallic Glass Composites Containing Carbon Nanotubes

Pee-Yew Lee*, National Taiwan Ocean University, Taiwan

(GOMD-SIV-P050-2010) Corrosion of ancient glass bead samples excavated from prehistoric sites in southern Thailand

Pisutti Dararutana*, The Royal Thai Army Chemical Department, Thailand; Yatima Thongkam, Silpakorn University, Thailand; Krit Won-in, Kasetsart University, Thailand