



# 2010 GLASS & OPTICAL MATERIALS DIVISION ANNUAL MEETING

May 16-20, 2010

Corning, NY

Radisson Hotel Corning

## FINAL PROGRAM

# Presenting Author List

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
<b>A</b>					Guo, X.	19-May	11:45AM	Cayuga	16
Adkins, L.	17-May	1:45PM	Cayuga	10	Gupta, P.	18-May	11:30AM	Cayuga	13
Affatigato, M.	19-May	9:45AM	Keuka	17	Gupta, P.	19-May	3:15PM	Cayuga	18
Agarwal, U.	17-May	4:00PM	Cayuga	10	<b>H</b>				
Aitken, B.	18-May	2:00PM	Keuka	15	Hall, D.	18-May	1:15PM	Seneca	14
Akkopru, B.	18-May	10:30AM	Seneca	13	He, X.	19-May	8:45AM	Seneca	16
Allan, D.C.	18-May	2:00PM	Cayuga	14	Heuer, A.	17-May	10:00AM	Cayuga	9
Araujo, R.J.	19-May	4:30PM	Cayuga	18	Hobbs, L.	19-May	1:15PM	Carder	19
Auguste, J.	19-May	4:45PM	Seneca	19	Hoeland, W.	17-May	9:30AM	Seneca	9
<b>B</b>					Hu, J.	19-May	1:45PM	Seneca	18
Baek, I.	18-May	4:45PM	Seneca	15	Huang, L.	17-May	10:45AM	Cayuga	9
Ballato, J.	19-May	3:45PM	Seneca	18	<b>I</b>				
Banerjee, J.	18-May	2:30PM	Carder	15	lhinger, P.D.	17-May	11:15AM	Keuka	9
Bauchy, M.	19-May	9:15AM	Cayuga	16	Inagaki, Y.	19-May	1:45PM	Carder	19
Bauer, J.F.	18-May	2:00PM	Carder	15	Inoue, H.	17-May	2:00PM	Cayuga	10
Belwalkar, A.A.	17-May	4:30PM	Keuka	10	Ito, S.	18-May	1:45PM	Keuka	15
Belwalkar, A.A.	18-May	4:30PM	Cayuga	14	Iyer, K.	17-May	3:45PM	Seneca	11
Bhosle, S.	19-May	9:30AM	Cayuga	16	<b>J</b>				
Billings, A.L.	19-May	2:30PM	Carder	19	Jacobsohn, L.G.	17-May	11:45AM	Seneca	10
Boolchand, P.	18-May	9:30AM	Cayuga	13	Jain, H.	17-May	1:30PM	Keuka	10
Boratav, O.	19-May	9:15AM	Seneca	16	Jain, H.	19-May	8:00AM	Keuka	17
Brandily-Anne, M.L.	19-May	3:30PM	Seneca	18	Johnson, B.R.	19-May	2:45PM	Seneca	18
Bras, W.	17-May	10:00AM	Seneca	9	Johnson, W.W.	19-May	9:00AM	Seneca	16
Brill, R.H.	19-May	8:15AM	Carder	17	<b>K</b>				
Bruno, G.	17-May	10:45AM	Seneca	9	Kandasamy, V.	18-May	11:15AM	Cayuga	13
Bulla, D.	19-May	2:30PM	Seneca	18	Kim, C.	17-May	10:15AM	Seneca	9
<b>C</b>					Klein, L.C.	18-May	2:45PM	Seneca	14
Cai, B.	17-May	11:30AM	Cayuga	9	Kob, W.	17-May	9:30AM	Cayuga	9
Carlie, N.	19-May	2:15PM	Seneca	18	Koike, A.	18-May	11:30AM	Keuka	14
Champagnon, B.	18-May	3:15PM	Cayuga	14	Kojima, S.	19-May	2:45PM	Cayuga	18
Chan, A.G.	17-May	9:45AM	Keuka	9	Komai, T.	17-May	1:45PM	Seneca	11
Charpentier, F.	19-May	3:15PM	Seneca	18	Komatsu, T.	17-May	2:00PM	Keuka	10
Chen, G.	18-May	10:45AM	Cayuga	13	Kovalskiy, A.	19-May	2:00PM	Seneca	18
Chen, G.	19-May	3:15PM	Keuka	19	Kreski, P.K.	17-May	2:15PM	Seneca	11
Christensen, R.	18-May	4:30PM	Keuka	15	Kubicki, J.D.	19-May	11:30AM	Carder	17
Chubynsky, M.V.	18-May	10:00AM	Cayuga	13	<b>L</b>				
Collier, A.	17-May	4:15PM	Cayuga	10	Lanford, W.A.	17-May	3:15PM	Keuka	10
Comte, M.	17-May	11:15AM	Seneca	10	Li, Y.	19-May	9:45AM	Cayuga	16
Conradt, R.	19-May	8:15AM	Seneca	16	Lim, J.	18-May	3:15PM	Keuka	15
Cormack, A.	19-May	10:30AM	Carder	17	Loucks, R.J.	17-May	10:30AM	Cayuga	9
Criscenti, L.J.	19-May	3:00PM	Carder	19	Loucks, R.J.	19-May	4:15PM	Cayuga	18
<b>D</b>					Lucas, P.	18-May	11:00AM	Cayuga	13
Da, N.	18-May	2:15PM	Cayuga	14	Lucas, P.	19-May	8:45AM	Keuka	17
Davis, M.	17-May	2:45PM	Keuka	10	Lucas, P.	19-May	9:15AM	Keuka	17
DeLiso, E.M.	17-May	4:15PM	Keuka	10	Lumeau, J.	19-May	11:00AM	Keuka	17
Dejneka, M.	17-May	2:00PM	Seneca	11	Lumeau, J.	19-May	11:45AM	Seneca	17
Deubener, J.	18-May	1:15PM	Cayuga	14	<b>M</b>				
Deubener, J.	18-May	2:00PM	Seneca	14	Manghnani, M.H.	19-May	1:15PM	Keuka	19
Drabold, D.	19-May	8:00AM	Cayuga	16	Marques, P.	18-May	3:30PM	Carder	15
Du, J.	17-May	2:30PM	Cayuga	10	Martin, V.	18-May	4:00PM	Keuka	15
Du, J.	18-May	1:15PM	Keuka	15	Massobrio, C.	19-May	8:30AM	Cayuga	16
Du, J.	18-May	9:45AM	Seneca	13	Masuno, A.	17-May	11:30AM	Seneca	10
<b>E</b>					Mauro, J.C.	18-May	1:45PM	Cayuga	14
Eapen, J.	19-May	11:30AM	Cayuga	16	Mauro, J.C.	19-May	4:00PM	Cayuga	18
Erb, J.	17-May	4:30PM	Seneca	11	McCaughey, J.W.	17-May	1:15PM	Seneca	11
Esham, B.D.	19-May	4:45PM	Cayuga	18	McCloy, J.	19-May	2:00PM	Keuka	19
Evis, Z.	17-May	2:30PM	Keuka	10	McCloy, J.	19-May	3:45PM	Cayuga	18
<b>F</b>					McGahay, V.J.	17-May	3:45PM	Keuka	10
Faeghi Nia, A.	17-May	12:00PM	Seneca	10	Mellott, N.P.	18-May	3:15PM	Carder	15
Feldman, A.	18-May	3:45PM	Seneca	14	Michaelis, V.K.	19-May	2:45PM	Keuka	19
Ferlat, G.	17-May	3:15PM	Cayuga	10	Micoulaut, M.	18-May	10:30AM	Cayuga	13
Fletcher, L.B.	19-May	11:15AM	Keuka	17	Moesgaard, M.	18-May	10:15AM	Keuka	13
Frugier, P.	19-May	9:30AM	Carder	17	Morena, R.	18-May	2:30PM	Seneca	14
Fu, Q.	18-May	10:00AM	Seneca	13	Morris, S.	19-May	11:15AM	Seneca	16
Fu, Q.	18-May	10:15AM	Seneca	13	Mousseau, N.	19-May	9:00AM	Cayuga	16
<b>G</b>					Mueller, C.R.	17-May	11:15AM	Cayuga	9
Goetschius, K.	19-May	10:45AM	Seneca	16	Mueller, K.T.	19-May	3:30PM	Keuka	19
Gomez, S.	17-May	2:30PM	Seneca	11	Müller, C.R.	18-May	4:15PM	Cayuga	14
Grandinetti, P.	18-May	9:30AM	Keuka	13	<b>N</b>				
Greaves, N.	17-May	1:15PM	Cayuga	10	Nagakane, T.	18-May	3:30PM	Seneca	14
Gueguen, Y.	19-May	9:00AM	Keuka	17	Naylor, M.	18-May	2:15PM	Seneca	14
Guery, G.	18-May	2:15PM	Keuka	15	<b>O</b>				
Guin, J.	18-May	3:45PM	Carder	15	Ollier, N.	19-May	11:00AM	Seneca	16
Guin, J.	19-May	1:30PM	Keuka	19					
Gulati, S.	17-May	4:45PM	Seneca	11					
Gunasekera, K.	19-May	10:00AM	Cayuga	16					

# Presenting Author List

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
<b>P</b>					<b>T</b>				
Pandey, P.C.	18-May	11:15AM	Seneca	13	Takada, A.	19-May	5:00PM	Cayuga	18
Pantano, C.	18-May	1:00PM	Carder	15	Tandia, A.	17-May	4:30PM	Cayuga	10
Phillips, J.C.	19-May	11:00AM	Cayuga	16	Tang, Z.	17-May	4:00PM	Seneca	11
Pierce, E.M.	19-May	2:45PM	Carder	19	Thompson, L.M.	18-May	10:45AM	Keuka	13
Ponader, C.W.	19-May	2:30PM	Keuka	19	Tomozawa, M.	17-May	10:45AM	Keuka	9
Prasai, B.K.	17-May	2:15PM	Cayuga	10	Tomozawa, M.	19-May	11:00AM	Carder	17
<b>R</b>					<b>U</b>				
Reimanis, I.	17-May	4:15PM	Seneca	11	Trachenko, K.	19-May	1:45PM	Cayuga	18
Roemich, H.	19-May	10:00AM	Carder	17	Trivelpiece, C.L.	19-May	4:15PM	Seneca	19
Rufflé, B.	19-May	1:45PM	Keuka	19	<b>V</b>				
Ryan, J.V.	19-May	2:15PM	Carder	19	Upadhyay, A.K.	17-May	2:45PM	Cayuga	10
Rygel, J.L.	18-May	3:30PM	Keuka	15	<b>W</b>				
<b>S</b>					<b>Y</b>				
Savoy, E.	17-May	4:45PM	Cayuga	11	Vargheese, K.D.	17-May	11:45AM	Cayuga	9
Schmidt, M.	18-May	3:45PM	Cayuga	14	Vitale, A.	18-May	11:00AM	Keuka	13
Schmitt, M.L.	18-May	4:00PM	Carder	15	Vu, M.	17-May	10:30AM	Seneca	9
Schneider, Z.	19-May	10:00AM	Keuka	17	<b>Z</b>				
Sen, S.	18-May	11:45AM	Keuka	14	Wallenberger, F.T.	19-May	9:30AM	Seneca	16
Sen, S.	18-May	2:30PM	Keuka	15	Wang, R.	18-May	11:45AM	Cayuga	13
Serivalsatit, K.	19-May	11:30AM	Seneca	16	Webb, J.	18-May	1:45PM	Seneca	14
Serra, J.	18-May	4:00PM	Seneca	14	Weber, R.J.	18-May	10:00AM	Keuka	13
Shackelford, J.F.	17-May	10:30AM	Keuka	9	Witcher, J.J.	19-May	9:30AM	Keuka	17
Shelby, J.E.	17-May	10:00AM	Keuka	9	Wondraczek, L.	18-May	4:15PM	Seneca	14
Shih, G.H.	19-May	4:30PM	Seneca	19	Woodman, R.	19-May	11:30AM	Keuka	17
Sidebottom, D.	19-May	2:15PM	Cayuga	18	Wu, J.	18-May	10:30AM	Keuka	13
Simmons-Potter, K.	19-May	10:15AM	Seneca	16	Wu, X.	18-May	11:15AM	Keuka	14
Simon, S.	19-May	10:30AM	Cayuga	16	<b>Z</b>				
Simon, S.	19-May	2:30PM	Cayuga	18	Yasumori, A.	19-May	5:00PM	Seneca	19
Smedskjaer, M.M.	17-May	11:45AM	Keuka	9	Youngman, R.	18-May	2:45PM	Keuka	15
Smektala, F.	19-May	1:15PM	Seneca	18	Yue, Y.	18-May	2:30PM	Cayuga	14
Smith, C.M.	19-May	10:30AM	Keuka	17	<b>Z</b>				
Smith, N.J.	19-May	4:00PM	Seneca	18	Zakharian, A.	17-May	11:00AM	Cayuga	9
Stebbins, J.F.	19-May	1:15PM	Cayuga	18	Zakharian, A.	17-May	3:45PM	Cayuga	10
Strachan, D.	19-May	9:00AM	Carder	17	Zhang, L.	18-May	3:45PM	Keuka	15
Stucky, G.D.	18-May	10:45AM	Seneca	13	Zhang, M.	18-May	3:15PM	Seneca	14
Subhash, G.	17-May	3:15PM	Seneca	11	Zhao, D.	19-May	8:30AM	Keuka	17
Sukumaran, V.	18-May	11:30AM	Seneca	13	Zwanziger, J.	19-May	2:15PM	Keuka	19

## Poster Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
Adams, B.M.	17-May	6:00PM	Carder	12	Li, C.	17-May	6:00PM	Carder	11
Affatigato, M.	17-May	6:00PM	Carder	12	Lin, H.	17-May	6:00PM	Carder	12
Akkopru, B.	17-May	6:00PM	Carder	12	Ma, L.	17-May	6:00PM	Carder	12
Berbano, S.	17-May	6:00PM	Carder	12	McConnell, M.	17-May	6:00PM	Carder	12
Cai, B.	17-May	6:00PM	Carder	11	Michel, M.J.	17-May	6:00PM	Carder	12
Chapman, C.	17-May	6:00PM	Carder	11	Moesgaard, M.	17-May	6:00PM	Carder	12
Coughlan, A.	17-May	6:00PM	Carder	12	Mullenbach, T.	17-May	6:00PM	Carder	12
Dararutana, P.	17-May	6:00PM	Carder	12	Nam, J.	17-May	6:00PM	Carder	12
Davis, M.	17-May	6:00PM	Carder	11	North, J.	17-May	6:00PM	Carder	12
Dey, K.K.	17-May	6:00PM	Carder	11	Ollier, N.	17-May	6:00PM	Carder	12
Ding, L.	17-May	6:00PM	Carder	11	Olson, G.	17-May	6:00PM	Carder	11
Esham, B.D.	17-May	6:00PM	Carder	11	Ortiz Rivera, L.	17-May	6:00PM	Carder	11
Faeghi Nia, A.	17-May	6:00PM	Carder	12	Schmitt, M.L.	17-May	6:00PM	Carder	11
Furusawa, S.	17-May	6:00PM	Carder	12	Shaoqian, Z.	17-May	6:00PM	Carder	12
George, J.	17-May	6:00PM	Carder	12	Smedskjaer, M.M.	17-May	6:00PM	Carder	12
Gipson, K.G.	17-May	6:00PM	Carder	12	Stone, A.	17-May	6:00PM	Carder	12
Heffner, W.R.	17-May	6:00PM	Carder	12	Thamma, U.	17-May	6:00PM	Carder	12
Hogue, C.L.	17-May	6:00PM	Carder	11	Wachtel, P.F.	17-May	6:00PM	Carder	12
Horst, S.A.	17-May	6:00PM	Carder	12	Wang, J.	17-May	6:00PM	Carder	12
Ishikawa, Y.	17-May	6:00PM	Carder	12	Wang, S.	17-May	6:00PM	Carder	12
Jain, H.	17-May	6:00PM	Carder	12	Wren, A.W.	17-May	6:00PM	Carder	12
Jain, R.H.	17-May	6:00PM	Carder	12	Yuan, F.	17-May	6:00PM	Carder	11
Lamberson, L.	17-May	6:00PM	Carder	11	Zhao, D.	17-May	6:00PM	Carder	11
Lee, P.	17-May	6:00PM	Carder	12	Zhao, Q.	17-May	6:00PM	Carder	11
Lezzi, P.J.	17-May	6:00PM	Carder	12					

## Monday, May 17, 2010

## Stookey Lecture of Discovery Award

Room: Keuka

8:00 AM

**Symposium I: Robert H. Doremus Memorial Symposium****Robert H. Doremus Memorial Session I**

Room: Keuka

Session Chairs: Mark Davis, Schott North America, Inc.; Minoru Tomozawa, RPI

9:30 AM

**Opening Remarks**

Mark Davis, Schott North America, Inc.; Minoru Tomozawa, Rensselaer Polytechnic Institute

9:45 AM

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

A. G. Chan\*, Shore Chan Bragalone LLP, United States

10:00 AM

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

J. E. Shelby\*, Alfred University, United States

10:30 AM

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

J. F. Shackelford\*, University of California - Davis, United States

10:45 AM

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

M. Tomozawa\*, RPI, United States

11:15 AM

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

P. D. Ihinger\*, University Wisconsin-Eau Claire, United States

11:45 AM

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

M. M. Smedskjaer\*, Aalborg University, Denmark; J. C. Mauro, Corning Incorporated, United States; J. Deubener, Clausthal University of Technology, Germany; Y. Yue, Aalborg University, Denmark

**Symposium II: Glass Science****Atomistic Modeling of Glass I. Techniques**

Room: Cayuga

Session Chair: Ulrich Fotheringham, Schott AG

9:30 AM

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

W. Kob\*, Universite Montpellier II, France; A. Carré, Deutsches Zentrum für Luft und Raumfahrt (DLR), Germany; J. Horbach, Universite Montpellier II, France; S. 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)**

A. 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**

R. J. Loucks\*, Alfred University, United States; J. C. Mauro, Corning Incorporated, United States; P. K. Gupta, Ohio State University, United States

10:45 AM

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

L. Huang\*, F. Yuan, Rensselaer Polytechnic Institute, United States

11:00 AM

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

A. Zakharian\*, D. Vargheese, P. Diep, Corning Incorporated, United States

11:15 AM

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

C. R. Mueller\*, Technische Universität Ilmenau, Germany; M. Schuch, P. Maass, Universität Osnabrück, Germany; V. Petkov, Central Michigan University, United States

11:30 AM

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

D. A. Drabold, B. Cai\*, Ohio University, United States; A. Goodwin, Oxford University, United Kingdom

11:45 AM

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

K. D. Vargheese\*, A. Tandia, J. C. Mauro, D. Phong, A. Rovelstad, Corning Inc, United States

**Symposium III: Glass Technology****Glass-Ceramics**

Room: Seneca

Session Chairs: Robert Schaut, Corning Incorporated; Linda Pinckney, Corning Incorporated (ret.)

9:30 AM

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

W. Hoeland\*, V. Rheinberger, C. Ritzberger, E. Apel, Ivoclar vivadent AG, Liechtenstein

10:00 AM

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

W. Bras\*, Netherlands Organization for Scientific research (NWO), France; N. Greaves, Aberystwyth University, United Kingdom; S. Clark, M. Kunz, Lawrence Berkeley National Laboratory, United States; S. Nikitenko, Netherlands Organization for Scientific research (NWO), France; G. Bruno, Corning SAS, France; V. Radmilovic, Lawrence Berkeley National Laboratory, United States

10:15 AM

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

C. Kim\*, C. Kim, Inha Univ., Republic of Korea

10:30 AM

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

M. Vu\*, A. Terekhov, G. Murray, University of Tennessee Space Institute, United States; S. Schweizer, Fraunhofer Institute, Germany; R. Weber, Materials Development Inc., United States; C. Johnson, J. Johnson, University of Tennessee Space Institute, United States

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**

C. Fernandez-Martin, G. Bruno\*, P. Pradeau, M. Comte, Corning SAS- CETC, France

\*Denotes Presenter

**11:00 AM****(GOMD-SIII-007-2010) Influence of zirconium and titanium on the crystallization of a calcium aluminosilicate melt**

E. Strukej, Corning SAS, France; M. Roskosz, Université Lille 1, France; M. Comte\*, Corning SAS, France; P. Richet, IPGP, France

**11:15 AM****(GOMD-SIII-008-2010) Second harmonic generation and giant dielectric response in BaTi<sub>2</sub>O<sub>5</sub> glass-ceramics**

A. Masuno\*, Y. Kikuchi, H. Inoue, Y. Watanabe, The University of Tokyo, Japan; J. Yu, Japan Aerospace Exploration Agency, Japan

**11:30 AM****(GOMD-SIII-009-2010) Fluoride Nanoscintillators**

L. G. Jacobsohn\*, K. Sprinkle, C. J. Kucera, T. L. James, T. A. DeVol, J. Ballato, Clemson University, United States

**11:45 AM****(GOMD-SIII-010-2010) Preparation of Apatite-Wollastonite-Phlogopite glass-ceramic composites by powder sintering method**

A. Faeghi Nia\*, Tabriz university, Islamic Republic of Iran

**Symposium I: Robert H. Doremus Memorial Symposium****Robert H. Doremus Memorial Session II**

Room: Keuka

Session Chairs: Mark Davis, Schott North America, Inc.; Minoru Tomozawa, RPI

**1:30 PM****(GOMD-SI-007-2010) Gold in glass: A new state of conduction? (Invited)**

H. Jain\*, Lehigh University, United States; R. Böhmer, O. Kanert, R. Kuechler, Technical University of Dortmund, Germany

**2:00 PM****(GOMD-SI-008-2010) Morphology and Optical Properties of Laser-Patterned Crystals in Glasses (Invited)**

T. Komatsu\*, T. 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**

Z. Evis\*, S. Toker, A. Tezcaner, D. Keskin, Middle East Technical University, Turkey

**2:45 PM****(GOMD-SI-010-2010) Contributions of Robert H. Doremus in the Field of Crystallization Kinetics**

M. Davis\*, SCHOTT North America, Inc., United States

**3:00 PM**

Break

**3:15 PM****(GOMD-SI-011-2010) MeV Ion Beam Analysis of Glass and Ceramic Surfaces (Invited)**

W. A. Lanford\*, University at Albany SUNY, United States

**3:45 PM****(GOMD-SI-012-2010) Novel Glasses for On-Chip Microelectronic Applications (Invited)**

V. J. McGahay\*, IBM Corporation, United States

**4:15 PM****(GOMD-SI-013-2010) Viscosity of Germania-Doped High Purity Fused Silica Glass**

E. M. DeLiso\*, Stanton Advanced Ceramics, Inc., United States

**4:30 PM****(GOMD-SI-014-2010) Extrusion of Tellurite Glass for Optical Fiber Preforms (Invited)**

A. A. Belwalkar\*, W. Z. Misiolek, J. Toulouse, Lehigh University, United States

**4:45 PM****Closing Remarks**

Mark Davis, Schott North America, Inc.; Minoru Tomozawa, Rensselaer Polytechnic Institute

**Symposium II: Glass Science****Atomistic Modeling of Glass II. Applications**

Room: Cayuga

Session Chair: Jincheng Du, University of North Texas

**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)**

N. 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**

L. Adkins\*, A. N. Cormack, Alfred University, United States

**2:00 PM****(GOMD-SII-011-2010) Local structure around Eu(III) ions in aluminate glasses**

H. Inoue\*, K. Ohno, Y. Watanabe, A. 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**

B. K. Prasai\*, B. Cai, D. A. Drabold, Ohio University, United States

**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**

J. Du\*, L. Kokou, University of North Texas, United States

**2:45 PM****(GOMD-SII-014-2010) Influence of the Modifier Cation Type on the Infrared Spectral Response of Multi-Component Glasses**

A. K. Upadhyay\*, K. Becker, J. Kieffer, University of Michigan, United States

**3:00 PM**

Break

**3:15 PM****(GOMD-SII-015-2010) First-principles simulations of glasses: Establishing the rings statistics in B<sub>2</sub>O<sub>3</sub> and B<sub>2</sub>S<sub>3</sub> (Invited)**

G. Ferlat\*, Université Paris VI, France

**3:45 PM****(GOMD-SII-016-2010) Monte Carlo Simulations of Inert Gas Solubility in Silicate Glasses and Melts**

A. Zakharian\*, A. Tandia, D. Vargheese, P. Diep, Corning Incorporated, United States

**4:00 PM****(GOMD-SII-017-2010) Glass-like dislocation dynamics of degenerate 2D dimer crystals**

U. Agarwal\*, S. J. Gerbode, I. Cohen, F. A. Escobedo, Cornell University, United States

**4:15 PM****(GOMD-SII-018-2010) MD simulations of soda lime silicate glasses with increasing calcia content**

A. Cormack, A. Collier\*, Alfred University, United States

**4:30 PM****(GOMD-SII-019-2010) Molecular Scale Characterization of Mechanical and Structural Properties of xAl<sub>2</sub>O<sub>3</sub>-(1-x)SiO<sub>2</sub>**

A. Tandia\*, K. Vargheese, Corning Incorporated, United States

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**

E. Savoy\*, Corning, Inc, United States; F. Escobedo, Cornell University, United States

## Symposium III: Glass Technology

### High-Strength Glasses

Room: Seneca

Session Chairs: Arun Varshneya, Alfred University; William LaCourse, Alfred University; Murlu Manghnani, University of Hawaii; Tanguy Rouxel, Universite De Rennes 1

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)**

E. Strassburger, Ernst-Mach-Institut (EMI), Germany; P. Patel, Army Research Laboratory, United States; A. Varshneya, Alfred University, United States; J. W. McCauley\*, Army Research Laboratory, United States

1:45 PM

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

T. Komai\*, Nippon Electric Glass Co.,Ltd, Japan

2:00 PM

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

M. Dejneka\*, Corning, United States; C. Chapman, Corning, United States; S. Gomez, Corning, United States; K. Rossington, Corning, United States

2:15 PM

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

P. K. Kreski\*, Alfred University, United States; A. K. Varshneya, Saxon Glass Technologies, Inc., United States

2:30 PM

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

S. Gomez\*, M. J. Dejneka, R. M. Morena, L. A. Lamberson, Corning Incorporated, United States

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)**

G. Subhash\*, University of Florida, United States

3:45 PM

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

K. Iyer\*, Exponent, Inc., United States

4:00 PM

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

Z. Tang\*, R. K. Brow, Missouri S&T, United States; C. R. Kurkjian, University of Southern Maine, United States; N. P. Lower, Rockwell Collins, Inc., United States

4:15 PM

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

I. Reimanis\*, J. A. Jones, Colorado School of Mines, United States; R. A. Schaut, Corning Incorporated, United States

4:30 PM

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

J. Erb\*, A. Kovalskiy, H. Moawad, B. Koel, H. Jain, Lehigh University, United States

4:45 PM

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

S. Gulati\*, B. Suman, Corning Inc., United States

### Posters

Room: Carder

6:00 PM

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

B. D. Esham\*, Alfred University, United States; J. C. Mauro, Corning Incorporated, United States; R. J. Loucks, G. J. McGowan, Alfred University, United States

**(GOMD-SII-P002-2010) Electronic Structure Evolution of Phase Change Memory Materials: Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub>**

D. A. Drabold, B. Cai\*, Ohio University, United States; S. R. Elliott, Cambridge University, United Kingdom

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

C. L. Hogue\*, A. J. Ellison, S. E. Koval, R. E. Youngman, Corning Incorporated, United States

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

C. Li\*, M. Tomozawa, J. D. Price, E. Watson, Rensselaer Polytechnic Institute, United States

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

C. Chapman\*, T. Seward, N. Borrelli, M. Dejneka, Corning Incorporated, United States

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

D. Zhao\*, Lehigh University, United States; P. R. Pedreira, L. C. Malacarne, M. L. Baesso, Maringá State University, Brazil; H. Jain, Lehigh University, United States

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

G. Olson\*, R. Christensen, S. W. Martin, Iowa State University, United States

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

K. K. Dey\*, D. Kaseman, M. Davis, P. J. Grandinetti, The Ohio State University, United States

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

L. Ding\*, H. Jain, Lehigh University, United States; G. 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**

L. Huang, F. Yuan\*, Rensselaer Polytechnic Institute, United States

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

L. Huang, Q. Zhao\*, Rensselaer Polytechnic Institute, United States

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

L. Lamberson\*, Corning Incorporated, United States

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

L. Ortiz Rivera\*, D. L. Suchy, K. T. Mueller, Penn State University, United States

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

M. L. Schmitt\*, R. K. Brow, Missouri S&T, United States

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

M. Davis\*, K. Sanders, D. Kaseman, S. Parvani, K. K. Dey, P. J. Grandinetti, Ohio State University, United States

**(GOMD-SII-P016-2010) EPR study of Ti<sup>3+</sup> ions formed under ionizing irradiation in oxide glasses**

P. Lombard, N. Ollier\*, B. Boizot, CEA, France

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

P. J. Lezzi\*, M. Tomozawa, RPI, United States

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

M. McConnell\*, K. Tholen, J. Berkowitz, M. Affatigato, S. Feller, Coe College, United States; T. Kemp, D. Holland, M. Smith, University of Warwick, United Kingdom

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

S. Feller, J. North\*, A. Ramm, H. Feller, J. Maldonis, Coe College, United States; J. McKnight, B. Baker, P. Buntun, William Jewell College, United States; V. Michaelis, S. Kroeker, University of Manitoba, Canada; M. Vu, M. Affatigato, Coe College, United States

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

T. Mullenbach\*, Coe College, United States; M. Pierson-Stull, R. Youngman, T. Kiczenski, Corning Incorporated, United States

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

W. R. Heffner, S. A. Horst\*, Lehigh University, United States

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

W. R. Heffner\*, Lehigh University, United States

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

W. R. Heffner, H. Jain\*, Lehigh University, United States

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

A. Stone\*, H. Jain, V. Dierolf, Lehigh University, United States; K. Miura, K. Hirao, Kyoto University, Japan

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

A. Faeghi Nia\*, Tabriz University, Islamic Republic of Iran; M. Vafaiefard, Mining Investment Insurance Corporation, Islamic Republic of Iran

**(GOMD-SIII-P026-2010) Zinc and Silver Glass Polyalkenoate Cements: An Evaluation of their Antibacterial Nature**

A. Coughlan\*, M. Towler, Alfred University, United States

**(GOMD-SIII-P027-2010) The Antibacterial Properties and Ion Release Profiles of a novel Zinc based Glass Polyalkenoate Cement**

A. W. Wren\*, M. R. Towler, Alfred University, United States

**(GOMD-SIII-P028-2010) Fluorescent glass patterning on a sheet window glass by screen printing and low temperature heat treatment**

Y. Ishikawa\*, Y. Ohara, T. Kishi, A. 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**

S. Furusawa\*, T. Nakagawa, T. Kishi, A. Yasumori, Tokyo University of science, Japan

**(GOMD-SIII-P030-2010) Transition Metal Oxide Coatings on Glass**

B. M. Adams\*, N. P. Mellott, Alfred University, United States

**(GOMD-SIII-P031-2010) Dependence of osteoblast cell response on the surface roughness of 45S bioactive glass**

R. H. Jain\*, S. Wang, H. M. Moawad, M. M. Falk, H. Jain, Lehigh University, United States

**(GOMD-SIII-P032-2010) Simulation of Fluid Flow and Temperature on the Glass Sheet Forming for Overflow Fusion Process**

H. Wu, Ming Chi University of Technology, Taiwan; H. Lin\*, National United University, Taiwan

**(GOMD-SIII-P033-2010) Conversion of europium and lanthanum doped lithium borate glass to rare earth phosphate compounds**

J. George\*, R. Brow, Missouri University of Science and Technology, United States

**(GOMD-SIII-P034-2010) Chromium-doped transparent calcium germinate glass-ceramics toward nano-Ca<sub>2</sub>GeO<sub>4</sub> in fiber**

J. Wang\*, Z. 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**

J. Nam\*, C. Kim, Inha university, Republic of Korea

**(GOMD-SIII-P036-2010) Rare-Earth-Doped Amorphous Nanocomposite Polymers for Optoelectronic Applications**

K. G. Gipson\*, B. Ellerbrock, K. Stevens, P. Brown, J. Ballato, Clemson University, United States

**(GOMD-SIII-P037-2010) Barium Vanadate Microspheres**

S. Yosinski, L. Tweeton, S. Feller, M. Affatigato\*, Coe College, United States

**(GOMD-SIII-P038-2010) Antibacterial Properties of Silver and Zinc doped 45S Bioactive Glass**

M. J. Michel\*, Lehigh University, United States

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

M. Moesgaard\*, Aalborg University, Denmark; L. Kirkegaard, D. Herfort, Aalborg Portland, Denmark; Y. Yue, Aalborg University, Denmark

**(GOMD-SIII-P040-2010) Formation of SiO<sub>2</sub>-Rich Surface Layer on Glass Fibers**

M. M. Smedskjaer\*, Aalborg University, Denmark; J. Deubener, Clausthal University of Technology, Germany; S. Morup, Technical University of Denmark, Denmark; Y. Yue, Aalborg University, Denmark

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

J. Jackson, P. F. Wachtel\*, D. Musgraves, K. Richardson, Clemson University, United States

**(GOMD-SIII-P042-2010) Structural and thermal studies of 70Li<sub>2</sub>S + (30-x)P<sub>2</sub>S<sub>5</sub> + xAl<sub>2</sub>S<sub>3</sub> with x = 1 or 3 mol%**

S. Berbano\*, Iowa State University, United States; K. Minami, A. Hayashi, M. Tatsumisago, Osaka Prefecture University, Japan

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

S. Wang\*, M. M. Falk, H. Jain, Lehigh University, United States

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

S. Wang\*, Lehigh University, United States; A. C. Marques, R. M. Almeida, ICEMS, Instituto Superior AU1 Tecnico/TULisbon, Portugal; H. Jain, Lehigh University, United States

**(GOMD-SIII-P045-2010) Processing of S520 glass for nano-macro porous bioactive fibers**

U. Thamma\*, H. M. Moawad, H. Jain, Lehigh University, United States

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

Z. Shaoqian\*, X. Zhang, university of Rennes1, France

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

B. Akkopru\*, Alfred University, United States; C. Durucan, Middle East Technical University, Turkey; N. P. Mellott, Alfred University, United States

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

L. Ma\*, M. L. Schmitt, R. K. Brow, Missouri University of Science and Technology, United States

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

P. Lee\*, National Taiwan Ocean University, Taiwan

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

P. Dararutana\*, The Royal Thai Army Chemical Department, Thailand; Y. Thongkam, Silpakorn University, Thailand; K. Won-in, Kasetsart University, Thailand

**Tuesday, May 18, 2010**

**George W. Morey Award Lecture**

Room: Keuka

**8:00 AM**

**Symposium II: Glass Science**

**Topology and Rigidity I**

Room: Cayuga

Session Chair: Normand Mousseau, Université de Montréal

**9:30 AM**

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

P. Boolchand\*, D. I. Novita, M. Malki, M. Micoulaut, B. Goodman, Univ of Cincinnati, United States

**10:00 AM**

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

M. V. Chubynsky\*, University of Ottawa, Canada

**10:30 AM**

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

M. Micoulaut\*, Université Pierre et Marie Curie, France; M. Malki, Université Pierre et Marie Curie, France, Université Pierre et Marie Curie, France; CNRS Orléans, France

**10:45 AM**

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

K. Li, G. Chen\*, F. Inam, D. Drabold, Ohio University, United States

**11:00 AM**

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

P. Lucas\*, E. King, University of Arizona, United States; B. Bureau, Université de Rennes 1, France; O. Gulbiten, University of Arizona, United States

**11:15 AM**

**(GOMD-SII-026-2010) Intermediate phase in sodium borate glasses**

P. Boolchand, V. Kandasamy\*, Univ of Cincinnati, United States

**11:30 AM**

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

P. Gupta\*, The Ohio State University, United States

**11:45 AM**

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

R. Wang\*, The Australian National University, Australia

**Symposium III: Glass Technology**

**Glasses for Medicine and Biotechnology**

Room: Seneca

Session Chair: Matthew Hall, Alfred University

**9:15 AM**

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

M. Towler\*, Alfred University, United States

**9:45 AM**

**(GOMD-SIII-023-2010) Effect of strontium on the atomic structure and ion diffusion of bioactive glasses: a molecular dynamics simulation**

J. Du\*, Y. Xiang, University of North Texas, United States

**10:00 AM**

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

Q. Fu\*, M. N. Rahaman, Missouri University of Science and Technology, United States

**10:15 AM**

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

Q. Fu\*, E. Saiz, A. P. Tomsia, Lawrence Berkeley National Laboratory, United States

**10:30 AM**

**(GOMD-SIII-026-2010) Multifunctional, TiO<sub>2</sub>-based Coatings on Glass**

B. Akkopru\*, Alfred University, United States; C. Durucan, Middle East Technical University, Turkey; N. P. Mellott, Alfred University, United States

**10:45 AM**

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

G. D. Stucky\*, UCSB, United States

**11:15 AM**

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

P. C. 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**

V. Sukumaran\*, Q. Chen, N. Kumbhat, F. Liu, S. Min, V. Sundaram, R. Tummala, Georgia Institute of Technology, United States

**Symposium V: Glass Structure and Properties**

**Glass Structure and Properties I: Silicates**

Room: Keuka

Session Chair: Sabyasachi Sen, University of California - Davis

**9:30 AM**

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

P. Grandinetti\*, N. Trease, Ohio State University, United States; J. Stebbins, Stanford University, United States; S. Sen, University of California, Davis, United States

**10:00 AM**

**(GOMD-SV-002-2010) Structure and bonding in CaO-SiO<sub>2</sub> liquids and glasses**

R. J. Weber\*, Materials Development, Inc., United States; C. J. Benmore, Argonne National Laboratory, United States; J. B. Parise, Stony Brook University, United States; M. C. Wilding, Aberystwyth University, United Kingdom; J. Du, University of North Texas, United States

**10:15 AM**

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

M. Moesgaard\*, R. Keding, Aalborg University, Denmark; J. Skibsted, Aarhus University, Denmark; Y. Yue, Aalborg University, Denmark

**10:30 AM**

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

J. Wu\*, J. Stebbins, Stanford University, United States

**10:45 AM**

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

L. M. Thompson\*, J. F. Stebbins, Stanford University, United States

**11:00 AM**

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

A. Vitale\*, M. Affatigato, S. Feller, Coe College, United States; G. Lehr, Monmouth College, United States; D. Holland, M. Smith, University of Warwick, United Kingdom; A. Hannon, E. Barney, Rutherford Appleton Lab, United Kingdom



**11:15 AM****(GOMD-SV-007-2010) Tracer Diffusion of Sodium in Sodium Borosilicate Glasses**

X. Wu\*, R. Dieckmann, Cornell University, United States

**11:30 AM****(GOMD-SV-008-2010) Mechanical properties in pseudo-binary system of Pyrex and soda-lime-silica glass**

A. Koike\*, S. Ito, Asahi Glass Co., Ltd., Japan

**11:45 AM****(GOMD-SV-009-2010) Short-range Structure of Invert Glasses Along the Join MgSiO<sub>3</sub>-Mg<sub>2</sub>SiO<sub>4</sub>**

S. Sen\*, University of California - Davis, United States; H. Maekawa, Tohoku University, Japan; G. Papatheodorou, ICEHT-FORTH, Greece

**Norbert J. Kreidl Award Lecture**

Room: Keuka

**12:00 PM****Symposium II: Glass Science****Rheology**

Room: Cayuga

Session Chair: Lothar Wondraczek, Universitat Erlangen-Nurnberg

**1:15 PM****(GOMD-SII-029-2010) Rheology of heterogeneous liquids (Invited)**

J. Deubener\*, Clausthal University of Technology, Germany

**1:45 PM****(GOMD-SII-030-2010) Viscosity of Glass-Forming Liquids**

J. C. Mauro\*, Corning Incorporated, United States; Y. Yue, Aalborg University, Denmark; A. J. Ellison, Corning Incorporated, United States; P. K. Gupta, The Ohio State University, United States; D. C. Allan, Corning Incorporated, United States

**2:00 PM****(GOMD-SII-031-2010) Modeling the Nonequilibrium Viscosity of Glass**

D. C. Allan\*, J. C. Mauro, M. Potuzak, Corning Incorporated, United States

**2:15 PM****(GOMD-SII-032-2010) Viscosity and softening behaviour of alkali zinc phosphosulphate glasses**

N. Da\*, L. Wondraczek, Universitat Erlangen-Nurnberg, Germany

**2:30 PM****(GOMD-SII-033-2010) Progress in the Rheology of Inorganic Glass-Forming Melts (Invited)**

Y. Yue\*, Aalborg University, Denmark

**3:00 PM**

Break

**3:15 PM****(GOMD-SII-034-2010) Boson peak, inhomogeneity and pressure experiments in SiO<sub>2</sub> and GeO<sub>2</sub> glasses (Invited)**

B. Champagnon\*, D. Thierry, M. Christine, Université Lyon1-CNRS, France

**3:45 PM****(GOMD-SII-035-2010) Pressure-assisted flow of glass melts in narrow capillaries (Invited)**

M. Schmidt\*, L. Wondraczek, P. Russell, Max Planck Institute 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**

P. Maass, Universität Osnabrück, Germany; C. R. Müller\*, Technische Universität Ilmenau, Germany; M. Schuch, Universität Osnabrück, Germany

**4:30 PM****(GOMD-SII-037-2010) Viscosity of Tellurite Glass: 75TeO<sub>2</sub>-20ZnO-5Na<sub>2</sub>O**

A. A. Belwalkar\*, W. Z. Misiolek, J. Toulouse, Lehigh University, United States

**Symposium III: Glass Technology****Glasses for Energy and Environmental Applications**

Room: Seneca

Session Chairs: Joachim Deubener, Clausthal University of Technology; Dean Thelen, Corning Incorporated

**1:15 PM****(GOMD-SIII-030-2010) Specialty Glass for Thin Film Solar Cell Applications (Invited)**

D. Hall\*, Corning Incorporated, United States

**1:45 PM****(GOMD-SIII-031-2010) Specialty Thin Glass for PV Modules: Mechanical Reliability Considerations**

J. Webb\*, Corning Incorporated, United States

**2:00 PM****(GOMD-SIII-032-2010) Sintering of nanoporous anti-reflective coatings for concentrated solar power applications**

A. Mös, G. Hellsch, J. Deubener\*, Clausthal University of Technology, Germany

**2:15 PM****(GOMD-SIII-033-2010) Viscous Sealants for Solid Oxide Fuel Cell Application**

M. Naylor\*, J. Shelby, S. Mixture, Alfred University, United States

**2:30 PM****(GOMD-SIII-034-2010) Vanadium phosphate glasses as frits for laser-sealing**

R. Morena\*, L. A. Lamberson, CORNING Incorporated, United States

**2:45 PM****(GOMD-SIII-035-2010) Sealing Glasses for Applications below 200°C**

L. Gambino, Rutgers University, United States; A. Jitianu, Lehman College-CUNY, United States; L. C. Klein\*, Rutgers University, United States

**3:00 PM**

Break

**3:15 PM****(GOMD-SIII-036-2010) Lithium ion diffusion in silicon-Lithium battery materials**

M. Zhang\*, D. A. Drabold, Ohio University, United States

**3:30 PM****(GOMD-SIII-037-2010) Development of LiFePO<sub>4</sub> glass-ceramic for cathode material of lithium ion battery**

T. Nagakane\*, H. Yamauchi, K. Yuki, A. Sakamoto, Nippon Electric Glass Co., Ltd., Japan; T. Honma, T. Komatsu, Nagaoka University of Technology, Japan; M. Zou, Y. Okumura, T. 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**

A. Feldman\*, J. Kieffer, University of Michigan, United States

**4:00 PM****(GOMD-SIII-039-2010) Dielectric Breakdown of Alkali-Free Boroaluminosilicate Glass Thin Films**

J. Serra\*, M. Lanagan, C. Pantano, Penn State University, United States

**4:15 PM****(GOMD-SIII-040-2010) Transition- and Post-Transition Metal doped Glasses and Glass Ceramics for Energy Efficient Lighting (Invited)**

L. Wondraczek\*, M. Peng, Universitat Erlangen-Nurnberg, Germany

4:45 PM

**(GOMD-SIII-041-2010) Removal of Chromium(VI) Ion from a Solution by Barium Borosilicate Glass**  
I. Baek\*, C. Kim, Inha University, Republic of Korea

## Symposium IV: Glass Corrosion

### Short-term Corrosion Issues I

Room: Carder

Session Chair: Nathan Mellott, Alfred University

1:00 PM

**(GOMD-SIV-001-2010) Glass Corrosion 101 (Invited)**  
C. Pantano\*, Pennsylvania State University, United States

2:00 PM

**(GOMD-SIV-002-2010) Practical Aspects of Corrosion in Glass Fiber (Invited)**  
J. F. Bauer\*, J. Bauer Consulting, United States

2:30 PM

**(GOMD-SIV-003-2010) Effects of leaching at glass/polymer interfaces**  
J. Banerjee\*, Pennsylvania State University, United States; J. Hamilton, Johns Manville, United States; C. Pantano, Pennsylvania State University, United States

2:45 PM

Break

### Short-term Corrosion Issues II

Room: Carder

Session Chair: Nathan Mellott, Alfred University

3:15 PM

**(GOMD-SIV-004-2010) On the Mechanisms of Corrosion Induced Roughening of Silicate Glass Surfaces**  
N. P. Mellott\*, K. Kalac, Alfred University, United States; C. G. Pantano, The Pennsylvania State University, United States

3:30 PM

**(GOMD-SIV-005-2010) Acid-induced alteration of Alkali Borosilicate frit**  
P. Marques\*, R. M. Morena, Corning Sas, France

3:45 PM

**(GOMD-SIV-006-2010) Aqueous corrosion of the GeSe<sub>4</sub> chalcogenide glass: surface properties and corrosion mechanism**  
Y. Niu, J. Guin\*, T. Rouxel, CNRS-Université de Rennes 1, France; A. Abdelouas, Ecole des mines de Nantes, France; J. Troles, Université de Rennes 1, France; F. Smektaia, Université de Bourgogne, France

4:00 PM

**(GOMD-SIV-007-2010) Analytical modeling of the aqueous dissolution behavior of phosphate glasses**  
M. L. Schmitt\*, L. Ma, R. Brow, Missouri S&T, United States

## Symposium V: Glass Structure and Properties

### Glass Structure and Properties II: Simulations and Chalcogenides

Room: Keuka

Session Chair: Randall Youngman, Corning Incorporated

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)**  
J. Du\*, University of North Texas, United States

1:45 PM

**(GOMD-SV-011-2010) Mechanical Behavior of Water-Containing Glass by MD simulation**  
S. Ito\*, T. Taniguchi, Asahi Glass Co., Ltd, Japan

2:00 PM

**(GOMD-SV-012-2010) Structural Association of Ga and P in Selenide Glass**  
B. Aitken\*, S. Currie, R. Youngman, C. Ponader, Corning Inc., United States

2:15 PM

**(GOMD-SV-013-2010) Influence of iso-structural substitutions on physical properties in Ge(As,Sb)(S,Se) glasses**  
G. Guery\*, D. Musgraves, K. Richardson, L. Petit, clemson university, United States; E. Fargin, University of Bordeaux, France

2:30 PM

**(GOMD-SV-014-2010) High-resolution 77Se NMR investigation of the structure of GexSe100-x glasses**  
E. L. Gjersing, S. Sen\*, University of California Davis, United States; B. Aitken, Corning Inc., United States

2:45 PM

**(GOMD-SV-015-2010) Impact of Chalcogen Deficiency in GeAsPS and GeGaPS Glasses**  
R. Youngman\*, B. Aitken, S. Currie, Corning Incorporated, United States

3:00 PM

Break

### Glass Structure and Properties III: Phosphates

Room: Keuka

Session Chair: Randall Youngman, Corning Incorporated

3:15 PM

**(GOMD-SV-016-2010) Properties and Structures of Tin Phosphate Glasses modified with Ga<sub>2</sub>O<sub>3</sub> and Sb<sub>2</sub>O<sub>3</sub>**  
J. Lim\*, R. K. Brow, Missouri S&T, United States; H. Yang, National United University, Taiwan

3:30 PM

**(GOMD-SV-017-2010) Structure-Property Relationships in Cerium Aluminophosphate and Silicophosphate Glasses**  
J. L. Rygel\*, C. G. Pantano, The Pennsylvania State University, United States

3:45 PM

**(GOMD-SV-018-2010) Raman Spectra and the Structure of Iron-Phosphate Compounds and Glasses**  
L. Zhang\*, J. Lim, R. K. Brow, M. E. Schlesinger, Missouri S&T, United States

4:00 PM

**(GOMD-SV-019-2010) Structural and Dispersive Aspects of the Photoelasticity of Glass**  
V. Martin\*, S. Thomas, V. Dickinson, B. Chen, U. Werner-Zwanziger, R. Dunlap, J. Zwanziger, Dalhousie University, Canada

4:15 PM

**(GOMD-SV-021-2010) Structure of Sodium Borophosphate Glasses**  
R. Christensen\*, G. Olson, Iowa State University, United States; A. Matic, Chalmers University of Technology, Sweden; V. Petkov, Central Michigan University, United States; S. W. Martin, Iowa State University, United States

### Otto Schott Research Award

Room: Carder

5:00 PM

**The Brittle to Ductile Transition in Glass: Fundamental and Technological Challenges**  
Tanguy Rouxel, University of Rennes 1, France

## Wednesday, May 19, 2010

Symposium II: Glass Science**Topology and Rigidity II**

Room: Cayuga

Session Chair: Matthieu Micoulaut, Université Pierre-et-Marie Curie

**8:00 AM****(GOMD-SII-038-2010) Spatial correlations in amorphous networks and their electronic consequences: an emerging theory of the Urbach tail (Invited)**

D. Drabold\*, Ohio University, United States; F. Inam, International Center for Theoretical Physics, Italy; Y. Li, Ohio University, United States

**8:30 AM****(GOMD-SII-039-2010) The non-trivial structure of disordered network-forming materials unraveled by first-principles molecular dynamics (Invited)**

C. Massobrio\*, IPCMS, France

**9:00 AM****(GOMD-SII-040-2010) Evolution of the potential-energy surface of amorphous silicon**

H. Kallel, N. Mousseau\*, F. Schiettekatte, Université de Montréal, Canada

**9:15 AM****(GOMD-SII-041-2010) Characterizing the sodium environment in amorphous silicates**

M. Bauchy\*, M. Micoulaut, Université Pierre et Marie Curie, France

**9:30 AM****(GOMD-SII-042-2010) Molecular structure of ideal chalcogenide glasses**

P. Boolchand, S. Bhosle\*, Univ of Cincinnati, United States

**9:45 AM****(GOMD-SII-043-2010) Hidden structure in amorphous and glassy materials Y Li, S. Chakraborty and D A Drabold**

Y. Li\*, S. Chakraborty, D. Drabold, Ohio University, United States

**10:00 AM****(GOMD-SII-044-2010) Intermediate phase in ternary GexSbxSe100-2x bulk alloy glasses**

P. Boolchand, K. Gunasekera\*, P. Chen, Univ of Cincinnati, United States

**10:15 AM**

Break

**Glass Transition and Relaxation I**

Room: Cayuga

Session Chair: Prabhat Gupta, The Ohio State University

**10:30 AM****(GOMD-SII-045-2010) Structural Relaxation in the Glassy State: Further Evidence for the Path Dependence of the Relaxation Time (Invited)**

F. Begum, S. Simon\*, Texas Tech University, United States

**11:00 AM****(GOMD-SII-046-2010) Microscopic Aspects of Stretched Exponential Relaxation (SER) (Invited)**

J. C. Phillips\*, Rutgers, United States

**11:30 AM****(GOMD-SII-047-2010) Logarithmic Relaxation of Stress Correlator in Supercooled Liquids**

J. Eapen\*, North Carolina State University, United States

**11:45 AM****(GOMD-SII-048-2010) Modeling the enthalpy relaxation of glasses far from equilibrium**

X. Guo\*, Aalborg University, Denmark; J. Mauro, Corning Incorporated, United States; Y. Yue, Aalborg University, Denmark

Symposium III: Glass Technology**Melting & Process Modeling**

Room: Seneca

Session Chairs: Olus Boratav, Corning Incorporated; Li Yang, Corning Incorporated

**8:15 AM****(GOMD-SIII-042-2010) The batch-to-melt conversion - mineralogical, caloric and kinetic aspects (Invited)**

R. Conradt\*, RWTH Aachen University, Germany

**8:45 AM****(GOMD-SIII-043-2010) Full conversion of glass furnace to oxygen-fuel combustion**

X. He\*, M. J. Watson, M. E. Habel, Air Products and Chemicals, Inc., United States; J. Rossi, Fiberglass Industries, Inc., United States

**9:00 AM****(GOMD-SIII-044-2010) Bubble Concentration Model**

W. W. Johnson\*, Corning Incorporated, United States

**9:15 AM****(GOMD-SIII-045-2010) Draw Resonance in Viscous Sheets**

O. Boratav\*, Z. Zheng, Corning Incorporated, United States; A. Amosov, Corning Incorporated, Russian Federation

**9:30 AM****(GOMD-SIII-046-2010) The Liquidus Temperature; its Critical Role in Glass Manufacturing (Invited)**

F. T. Wallenberger\*, A. Smrček, Consultant, United States

**10:00 AM**

Break

**Optical Materials I**

Room: Seneca

Session Chairs: Hong Li, Schott North America, Inc.; Amanda Young, Sandia National Laboratories

**10:15 AM****(GOMD-SIII-047-2010) Optical Materials for Harsh Ionizing-Radiation Environments (Invited)**

K. Simmons-Potter\*, University of Arizona, United States

**10:45 AM****(GOMD-SIII-048-2010) Use of Gadolinium Oxide for Neutron Detection in Glasses**

K. Goetschius\*, J. Shelby, Alfred University, United States; A. Huston, S. Rychnovsky, B. Wright, Naval Research Laboratory, United States

**11:00 AM****(GOMD-SIII-049-2010) Yb-doped oxide glasses under ionizing irradiation: a relaxation processes study**

N. Ollier\*, V. Puhkhaya, LSI, France; J. Doualan, R. Moncorgé, CIMAP, France

**11:15 AM****(GOMD-SIII-052-2010) Crystalline Semiconductor Core Optical Fibers**

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

**11:30 AM****(GOMD-SIII-051-2010) Sub-Micron Grained Highly Transparent Y<sub>2</sub>O<sub>3</sub> Ceramics: Synthesis, Processing, and Properties**

K. Servalisatit\*, B. Kokuoz, B. Yazgan Kokouz, M. Kennedy, J. Ballato, Clemson University, United States

11:45 AM

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

G. P. Souza, V. Fokin, C. Baptista, E. D. Zanotto, Federal University of San Carlos, Brazil; J. Lumeau\*, L. Glebova, L. B. Glebov, University of Central Florida, United States

**Symposium IV: Glass Corrosion****Ancient and Analogue Glasses**

Room: Carder

Session Chair: Joseph Ryan, Pacific Northwest National Laboratory

8:15 AM

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

R. H. Brill\*, Corning Museum of Glass, United States

9:00 AM

**(GOMD-SIV-009-2010) Some thoughts on the use of ancient glasses in performance assessment of nuclear waste glass disposal (Invited)**

D. Strachan\*, Pacific Northwest National Laboratory, United States; R. Brill, Corning Museum of Glass, United States

9:30 AM

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

S. Gin, CEA, France; A. Verney-Carron, CNRS, France; P. Frugier\*, CEA, France

10:00 AM

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

H. Roemich\*, New York University, United States

10:15 AM

Break

**Modeling**

Room: Carder

Session Chair: Joseph Ryan, Pacific Northwest National Laboratory

10:30 AM

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

A. Cormack\*, Alfred University, United States; A. Tilocca, University College London, United Kingdom

11:00 AM

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

M. Tomozawa\*, RPI, United States

11:30 AM

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

J. D. Kubicki\*, The Pennsylvania State University, United States

**Symposium V: Glass Structure and Properties****Photoinduced Structural Changes in Glass**

Room: Keuka

Session Chair: Pierre Lucas, University of Arizona

8:00 AM

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

H. Jain\*, A. Kovalskiy, R. Golovchak, Lehigh University, United States

8:30 AM

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

D. Zhao\*, H. Jain, Lehigh University, United States

8:45 AM

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

P. Lucas\*, F. Lin, Z. Yang, University of Arizona, United States

9:00 AM

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

Y. Gueguen\*, J. Sangleboeuf, V. Keryvin, T. Rouxel, Université de Rennes 1, France; C. Boussard-Plédel, B. Bureau, J. Troles, UMR CNRS 6226, France; P. Lucas, University of Arizona, United States

9:15 AM

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

P. Lucas\*, E. Lepine, Z. Yang, University of Arizona, United States; Y. Gueguen, J. Sangleboeuf, B. Bureau, X. Zhang, University of Rennes I, France

9:30 AM

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

J. J. Witcher\*, L. Fletcher, N. Troy, D. Krol, UC Davis, United States

9:45 AM

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

M. Affatigato\*, R. Dongol, L. Tweeton, C. Faris, S. Feller, Coe College, United States

10:00 AM

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

Z. Schneider\*, K. Simmons-Potter, B. G. Potter, University of Arizona, United States; T. Boyle, Sandia National Laboratories, United States

10:15 AM

Break

10:30 AM

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

C. M. Smith\*, N. F. Borrelli, J. E. Tingley, Corning Incorporated, United States

11:00 AM

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

K. Chamma, J. Lumeau\*, L. Glebova, L. B. Glebov, University of Central Florida, United States

11:15 AM

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

L. B. Fletcher\*, J. J. Witcher, D. M. Krol, University of California Davis, United States; R. K. Brow, Missouri University of Science and Technology, United States

11:30 AM

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

R. Woodman\*, J. Belcher, C. Ferreira, L. Gonzalez, Infocscitex Corporation, United States; C. Pantano, J. Rygel, The Pennsylvania State University, United States; J. Du, L. Kokou, University of North Texas, United States

**Symposium II: Glass Science****Glass Transition and Relaxation II**

Room: Cayuga

Session Chair: Prabhat Gupta, The Ohio State University

**1:15 PM****(GOMD-SII-049-2010) Structural Aspects of Relaxation in Oxide Glasses (Invited)**

J. F. Stebbins\*, Stanford University, United States

**1:45 PM****(GOMD-SII-050-2010) Understanding liquids and glass transition on the basis of elastic waves (Invited)**

K. 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**

D. Sidebottom\*, R. Fabian, Creighton University, United States

**2:30 PM****(GOMD-SII-052-2010) The Glass Transition at the Nanoscale**

Y. P. Koh, S. Simon\*, Texas Tech University, United States

**2:45 PM****(GOMD-SII-053-2010) Universality of Boson Peaks in Lithium Borate Glasses**

S. Kojima\*, Y. Matsuda, M. Kawashima, S. Aramomi, University of Tsukuba, Japan; M. Kodama, Sojo University, Japan

**3:00 PM****Break****Glass Transition and Relaxation III**

Room: Cayuga

Session Chair: Roger Loucks, Alfred University

**3:15 PM****(GOMD-SII-054-2010) Landscape View of Sub-Tg Relaxation (Invited)**

P. Gupta\*, J. Mauro, The Ohio State University, United States

**3:45 PM****(GOMD-SII-055-2010) Cadmium manganese telluride: optical & magnetic properties**

J. McCloy\*, T. Droubay, B. Riley, J. Ryan, Pacific Northwest National Laboratory, United States

**4:00 PM****(GOMD-SII-056-2010) Nonmonotonic Evolution of Density Fluctuations During Glass Relaxation**

J. C. Mauro\*, Corning Incorporated, United States; S. Soyer Uzun, University of California—Davis, United States; W. Bras, Netherlands Organization for Scientific Research (NWO), France; S. Sen, University of California—Davis, United States

**4:15 PM****(GOMD-SII-057-2010) Fictive Temperature and the Glassy State**

R. J. Loucks\*, Alfred University, United States; J. C. Mauro, Corning Incorporated, United States; P. K. Gupta, The Ohio State University, United States

**4:30 PM****(GOMD-SII-058-2010) The Thermodynamic Significance of Order Parameters**

R. J. Araujo\*, J. C. Mauro, Corning Incorporated, United States

**4:45 PM****(GOMD-SII-059-2010) Heat Capacity, Enthalpy Fluctuations, and Configurational Entropy in Broken Ergodic Systems**

B. D. Esham\*, Alfred University, United States; J. C. Mauro, Corning Incorporated, United States; S. Sen, University of California—Davis, United States; R. J. Loucks, G. J. McGowan, Alfred University, United States

**5:00 PM****(GOMD-SII-060-2010) Residual entropy : harmonization of statistical mechanics and thermodynamics**

A. Takada\*, Asahi Glass Company, Japan

**Symposium III: Glass Technology****Optical Materials II**

Room: Seneca

Session Chairs: Hong Li, Schott North America, Inc.; Amanda Young, Sandia National Laboratories

**1:15 PM****(GOMD-SIII-053-2010) Low losses highly non linear As<sub>2</sub>S<sub>3</sub> suspended core microstructured optical fibers (Invited)**

F. Smektala\*, M. El Amraoui, J. Jules, G. Gadret, J. Fatome, Université de Bourgogne, France; C. Polacchini, I. Skrypatchev, Y. Messadeq, Instituto de Quimica, Brazil; G. Renversez, Institut Fresnel, France; M. Szpulak, Institute Of Physics, Poland; J. Troles, Sciences Chimiques de Rennes, France; L. 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**

J. Hu\*, Massachusetts Institute of Technology, United States; N. Carlie, L. Petit, Clemson University, United States; A. Agarwal, L. C. Kimerling, Massachusetts Institute of Technology, United States; K. Richardson, Clemson University, United States

**2:00 PM****(GOMD-SIII-055-2010) Grayscale Lithography Using Chalcogenide Glass Resists**

A. Kovalskiy\*, Lehigh University, United States; M. Vlcek, University of Pardubice, Czech Republic; J. Cech, H. Jain, Lehigh University, United States

**2:15 PM****(GOMD-SIII-056-2010) Optimization of spin-coating parameters for optical quality chalcogenide thin films in the As-Ge(Sb)-System**

N. Carlie\*, L. Petit, J. D. Musgrave, K. Richardson, Clemson University, United States

**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**

D. Bulla\*, R. Wang, S. Prasad, A. V. Rode, S. J. Madden, B. 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**

J. McCloy, B. J. Riley, S. K. Sundaram, A. Qiao, J. V. Crum, B. R. Johnson\*, Pacific Northwest National Lab, United States

**3:00 PM****Break****3:15 PM****(GOMD-SIII-059-2010) Chalcogenide optical fibers used for CO<sub>2</sub> detection**

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

**3:30 PM****(GOMD-SIII-060-2010) Chalcogenide waveguides integrated microfluidic sensor device**

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

**3:45 PM****(GOMD-SIII-061-2010) Utilizing Rare Earth Doped Nanoparticles to Tailor Emission Spectrum of Optical Fiber**

T. L. James, C. Kucera, B. Kokuoz, E. Garber, D. Edmonson, Clemson university, United States; D. Griese, M. Miller, E. Chasteen, M. Goodson, Furman University, United States; A. James, Clemson university, United States; W. Baker, Furman University, United States; J. Ballato\*, Clemson university, United States

**4:00 PM****(GOMD-SIII-062-2010) Structural and Compositional Modification of Glass Surfaces by Thermal Poling**

N. J. Smith\*, C. G. Pantano, Pennsylvania State University, United States

**4:15 PM****(GOMD-SIII-063-2010) Fabrication and Applications of Thin, Free-Standing Borophosphosilicate Glass (BPSG) Films**

C. L. Trivelpiece\*, J. S. Brenizer, C. G. Pantano, The Pennsylvania State University, United States

**4:30 PM****(GOMD-SIII-064-2010) Nanophase semiconductor-transparent conductive oxide composite thin films for photovoltaic applications**

G. H. Shih\*, C. G. Allen, B. G. Potter, University of Arizona, United States

**4:45 PM****(GOMD-SIII-065-2010) Development of an original process for the realization of multi-materials optical fibres**

S. Leparmentier, J. Auguste\*, G. Humbert, F. Gérôme, C. Restoin, J. Blondy, XLIM, France; B. Desruelle, DGA, France

**5:00 PM****(GOMD-SIII-066-2010) Photo luminescence properties of copper ion doped alkali borosilicate glasses in metastable immiscibility region**

A. Yasumori\*, F. Tada, D. Takemoto, N. Matsui, T. Kishi, Tokyo University of Science, Japan

**Symposium IV: Glass Corrosion****Long-term Corrosion Testing**

Room: Carder

Session Chair: Joseph Ryan, Pacific Northwest National Laboratory

**1:15 PM****(GOMD-SIV-015-2010) Modeling Alteration of Borosilicate High-Level Waste Glass Networks in a Radiation Environment (Invited)**

L. Dewan, L. Hobbs\*, Massachusetts Institute of Technology, United States; R. Cherifi, Université Pierre et Marie Curie, France; J. Delaye, CEA Valrhô-Marcoule, France

**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)**

Y. Inagaki\*, H. Makigaki, Kyushu University, Japan; S. Mitsui, JAEA, Japan; K. Idemitsu, T. Arima, Kyushu University, Japan; K. Noshita, Hitachi, Ltd, Japan

**2:15 PM****(GOMD-SIV-017-2010) Isotopic Enrichment Studies to Determine Elemental Diffusion Profiles Through an Established Alteration Layer**

J. V. Ryan\*, A. Mitroshkov, D. M. Strachan, Pacific Northwest National Laboratory, United States

**2:30 PM****(GOMD-SIV-018-2010) Long-Term Durability Testing of Glasses for the Stabilization of Closed Nuclear Fuel Cycle Waste Streams**

A. L. Billings\*, J. C. Marra, C. C. Crawford, Savannah River National Laboratory, United States

**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**

E. M. Pierce\*, Pacific Northwest National Lab, United States

**3:00 PM****(GOMD-SIV-020-2010) Molecular Modeling of Aluminosilicate Glass Dissolution for High-Level Nuclear Waste Repository Science**

L. J. Criscenti\*, Sandia National Laboratories, United States; J. D. Kubicki, S. L. Brantley, Pennsylvania State University, United States

**Panel Discussion**

Room: Carder

Session Chair: Joseph Ryan, Pacific Northwest National Laboratory

**3:30 PM****Panel Discussion**

with specialists on waste glass, modeling, geochemistry, and ancient glass

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

Room: Keuka

Session Chair: Morten Smedskjaer, Aalborg University

**1:15 PM****(GOMD-SV-034-2010) Elasticity, Compression Behavior, and Vibrational Properties of Silicate Glasses under High Pressures: A Review (Invited)**

M. H. Manghnani\*, University of Hawaii, United States

**1:30 PM****(GOMD-SV-035-2010) A chemical probe for measuring glass densification under sharp contact?**

J. Guin\*, Y. Niu, T. Rouxel, CNRS-Université de Rennes 1, France; A. Abdelouas, Ecole des mines de Nantes, France

**1:45 PM****(GOMD-SV-036-2010) High frequency sound and boson peak in glasses**

B. Rufflé\*, University Montpellier II, France

**2:00 PM****(GOMD-SV-037-2010) Optical basicity revisited: theory and application to optical properties and crystallization (Invited)**

J. McCloy\*, Pacific Northwest National Laboratory, United States

**2:15 PM****(GOMD-SV-038-2010) Correlation of Network Structure with Devitrification Mechanism in Lithium and Sodium Diborate Glasses**

B. Chen, U. Werner-Zwanziger, J. Zwanziger\*, Dalhousie University, Canada; M. Nascimento, L. Ghussn, E. 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**

C. W. Ponader\*, K. Adib, B. G. Aitken, Corning Incorporated, United States

**2:45 PM****(GOMD-SV-040-2010) Vanadium-51 and Boron-11 NMR Study of Ionically Conducting Alkali Borovanadate Glasses**

V. K. Michaelis\*, University of Manitoba, Canada; J. North, A. Ramm, S. Feller, Coe College, United States; S. Kroeker, University of Manitoba, Canada

**3:00 PM****Break****3:15 PM****(GOMD-SV-041-2010) Intermediate-range Order in Nanostructured Silica**

G. Chen\*, C. Wan, B. Prasai, D. A. Drabold, Ohio University, United States

**3:30 PM****(GOMD-SV-042-2010) Interactions of Small Molecules with Oxide Surfaces: Models for Polymer Binding on Glass Fibers**

K. T. Mueller\*, L. Ortiz-Rivera, D. L. Suchy, J. Stapleton, C. G. Pantano, Penn State University, United States