

Conference Program

2018 GLASS & OPTICAL MATERIALS DIVISION ANNUAL MEETING

Hilton Palacio del Rio | San Antonio, Texas

may 20–24, 2018



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Read the first IJAGS Issue fully curated by new Editor-in-Chief Mario Affatigato

"This issue contains topics and authors that I feel will have a high impact on the readership of the field... from the use of glass in the human body, to the ever-important quest for stronger glass, to the growing role of specialty fibers, and to the singular challenge of understanding the very nature of a random, amorphous structure, this issue points to the thriving state of the field of glass science and its applications."



- **Learn how atomic network topology could contribute to flaw generation and stress-assisted growth of glass** in Arun Varshneya's article, *"Stronger glass products: Lessons learned and yet to be learned."*
- **Find out how a layer of biodegradable polymer contributes to the flexural strength of glass scaffolds for repairing bone defects** in *"Mechanical properties of bioactive glass/polymer composite scaffolds for repairing load bearing bones,"* by Ali Mohammadkhah and Delbert E. Day.
- **How does ion exchange below glass transition temperature affect glass strength?** Read about it in Guglielmo Macrelli's article, *"Chemically strengthened glass by ion exchange: Strength evaluation."*
- The issue also includes articles from John Ballato, Takayuki Komatsu, Hellmut Eckert, Juern Schmelzer, Alicia Duran, Manoj Choudhary, and other leading glass research groups



Read now at: <http://bit.ly/IJAGSEIC>

welcome

Dear Colleagues and Friends,

On behalf of The American Ceramic Society, welcome to the Glass & Optical Materials Division Meeting (GOMD 2018). We have over 400 oral and poster presentations that explore the fundamental nature of the glassy state, glass applications in healthcare, energy and environment, glass manufacturing challenges, nuclear waste immobilization, optical and optoelectronic materials, and more. GOMD2018 will provide a unique opportunity for glass scientists and technologists to interact.

GOMD2018 covers the latest advances in glass science and technology. Technical leaders from industry, national laboratories, and academia will lead five symposia and over 20 technical sessions that provide an open forum for glass scientists and engineers from around the world to present and exchange findings on recent advances in various aspects related to glass science and technology. The poster session will highlight late-breaking research and feature the annual student poster contest.

Several special activities are planned in addition to the technical program:

- Renew acquaintances and get to know new faces within the GOMD community during the welcome reception on Sunday from 6:00 p.m. – 8:00 p.m.
- Special award lectures: The Stookey Lecture of Discovery Award (Monday morning), the George W. Morey Award (Tuesday morning), the Norbert J. Kreidl Award for Young Scholars (Wednesday at 6pm), the Darshana and Arun Varshneya Frontiers of Glass Science lecture (Wednesday morning) and the Darshana and Arun Varshneya Frontiers of Glass Technology lecture (Thursday morning).
- Special symposium in honor of Professor L. David Pye focusing on the “Dawn of the Glass Age” (see page xi for details).
- Continue your learning experience by attending the poster session and Student Poster Competition on Monday from 6:30 p.m. – 8:30 p.m.
- Career Roundtable with panelists from industry, academia and government labs for undergraduates, graduates, postdoctoral researchers and young professionals on Tuesday from noon to 1:00 p.m.
- GOMD attendees are invited to be our guests and continue networking with their colleagues during the conference banquet on Tuesday from 7:00 p.m. – 9:00 p.m.

Special thanks to our conference, award, and corporate sponsors who are listed on page xvi. Also thanks to sponsors of the L. David Pye symposium on page ix.

The American Ceramic Society thanks you for participating in and being part of this year’s meeting.

GOMD 2018 Program Chair



Jincheng Du
University of North
Texas, USA

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table of contents

Meeting Regulations	iv
Schedule at a Glance	v
Award Speakers	vi
Student Events	viii
Honorary Symposium	ix
Hotel Floor Plan	x
Symposia Organizers	xii – xiii
Sponsors	xiv

final program

Presenting Author List	1 – 4
Monday morning	5 – 7
Monday afternoon	7 – 12
Tuesday morning	12 – 14
Tuesday afternoon	15 – 18
Wednesday morning	18 – 20
Wednesday afternoon	21 – 24
Thursday morning	24 – 26
Thursday afternoon	26 – 28

WELCOME FROM THE AMERICAN CERAMIC SOCIETY (ACerS)

The ACerS community is open to all, and we're happy to have you with us. ACerS values diverse and inclusive participation within the field of ceramic science and engineering. We strive to promote involvement and access to leadership opportunity regardless of race, ethnicity, gender, religion, age, sexual orientation, nationality, disability, appearance, geographic location, career path or academic level.

If you are a new member or joining us for the first time, please see the events available in this program, or visit the ACerS registration desk to learn more.

For all guests, if you need access to a nursing mother's room or other special needs, please ask us at the ACerS registration desk. For childcare services, please check with the hotel concierge for a listing of licensed and bonded caregivers.

We hope you enjoy the conference and want you to know that all individuals are welcome at ACerS conferences and events.

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meeting regulations



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Note: The Society may engage photographers to photograph sessions for marketing and promotional purposes.

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Registration Requirements: Attendance at any meeting of the Society shall be limited to duly registered persons.

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schedule at a glance

SUNDAY, MAY 20, 2018

Glass Corrosion short course (extra registration required)
Registration
Welcome reception

8:30 a.m. – 4:00 p.m.
4:00 p.m. – 7:00 p.m.
6:00 p.m. – 8:00 p.m.

La Carona (Mezz.)
Terrace Garden (Mezz.)
Terrace Garden (Mezz.)

MONDAY, MAY 21, 2018

Registration
Stookey Lecture of Discovery
(sponsored by Coe College and Corning)
Concurrent sessions
Lunch on own
Poster setup
Alfred University alumni reception (by invitation only)
Poster session & Student Poster Competition

7:00 a.m. – 5:30 p.m.
8:00 a.m. – 9:00 a.m.

9:20 a.m. – 6:00 p.m.
12:00 p.m. – 1:20 p.m.
2:30 p.m. – 6:00 p.m.
5:30 p.m. – 7:00 p.m.
6:30 p.m. – 8:30 p.m.

La Vista Lobby (22 fl.)
El Mirador (22 fl.)

22nd Floor

Salon del Rey (Mezz.)
Terrace Garden (Mezz.)
Salon del Rey (Mezz.)

TUESDAY, MAY 22, 2018

Registration
George W. Morey Award Lecture (sponsored by Guardian Glass)
Concurrent sessions
Lunch on own
Student, post-doc, and young professional career discussion
roundtables (sponsored by NIST/FGMIC)
GOMD general business meeting
Conference banquet

7:30 a.m. – 5:30 p.m.
8:00 a.m. – 9:00 a.m.
9:20 a.m. – 6:00 p.m.
12:00 p.m. – 1:20 p.m.
12:00 p.m. – 1:00 p.m.

5:30 p.m. – 6:30 p.m.
7:00 p.m. – 9:00 p.m.

La Vista Lobby (22 fl.)
El Mirador (22 fl.)
22nd Floor

La Reina (Mezz.)

La Vista F (22 fl.)
Salon del Rey (Mezz.)

WEDNESDAY, MAY 23, 2018

IJAGS associate editor meeting
Registration
Varshneya Frontiers of Glass Science Lecture
Concurrent sessions
“Writing for search engine optimization and self marketing”
sponsored by Saint-Gobain
Lunch on own
The Norbert J. Kreidl Award for Young Scholars Lecture

7:00 a.m. – 8:00 a.m.
7:30 a.m. – 5:00 p.m.
8:00 a.m. – 9:00 a.m.
9:20 a.m. – 6:00 p.m.
12:00 p.m. – 1:15 p.m.

12:00 p.m. – 1:20 p.m.
6:00 p.m. – 7:00 p.m.

La Vista A/B (22 fl.)
La Vista Lobby (22 fl.)
El Mirador (22 fl.)
22nd Floor
La Vista C (22 fl.)

El Mirador East (22 fl.)

THURSDAY, MAY 24, 2018

Registration
Varshneya Frontiers of Glass Technology Lecture
Concurrent sessions
Lunch on own

7:30 a.m. – 4:00 p.m.
8:00 a.m. – 9:00 a.m.
9:20 a.m. – 4:00 p.m.
12:00 p.m. – 1:20 p.m.

La Vista Lobby (22 fl.)
El Mirador East (22 fl.)
22nd Floor

award speakers

Stookey Lecture of Discovery

Monday, May 21, 2018 | 8:00 – 9:00 a.m. | El Mirador



Wolfram Höland, Ivoclar Vivadent AG, Liechtenstein

Title: *Combinations of different nucleation and crystallization mechanisms to develop tailor-made glass-ceramics*

Sponsored by Coe College and Corning



Darshana and Arun Varshneya Frontiers of Glass Science Lecture

Wednesday, May 23, 2018 | 8:00 – 9:00 a.m. | El Mirador



Setsuhisa Tanabe, Professor, Graduate School of Human and Environmental Studies, Kyoto University, Japan

Title: *Glass and rare-earth elements*

George W. Morey Award Lecture



Tuesday, May 22, 2018 | 8:00 – 9:00 a.m.
El Mirador

Arun Varshneya, Saxon Glass Technologies Inc., USA

Title: *Chemically strengthened glass: Science, technology and its future*

Sponsored by Guardian Glass



Darshana and Arun Varshneya Frontiers of Glass Technology Lecture



Thursday, May 24, 2018 | 8:00 – 9:00 a.m.
El Mirador

Xiang-Hua Zhang, Research professor, University of Rennes 1, France

Title: *Recent research trends of chalcogenide glasses and ceramics for infrared photonics and energy applications*

The Norbert J. Kreidl Award for Young Scholars Lecture

Wednesday, May 23, 2018 | 6:00 – 7:00 p.m. | El Mirador



Maxime Cavillon, Clemson University, USA

Title: *Fabrication of intrinsically low nonlinearity glass optical fibers*



Tobias Bechgaard, Aalborg University, Denmark

Title: *Temperature-modulated differential scanning calorimetry analysis of high-temperature silicate glasses*

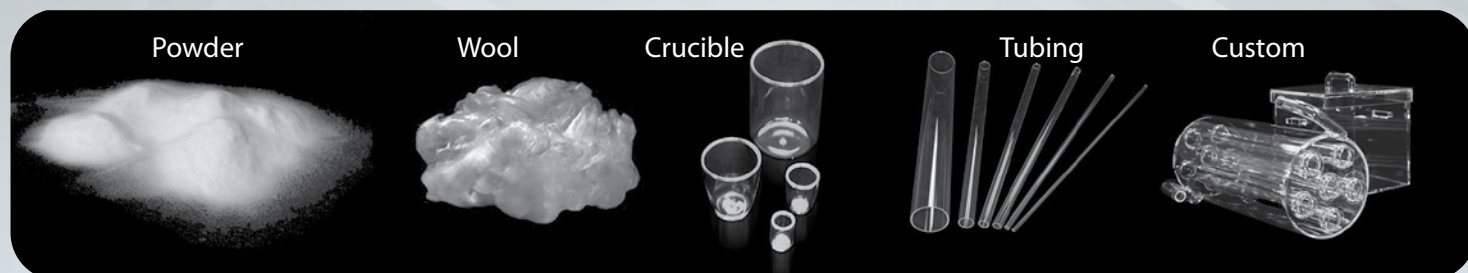


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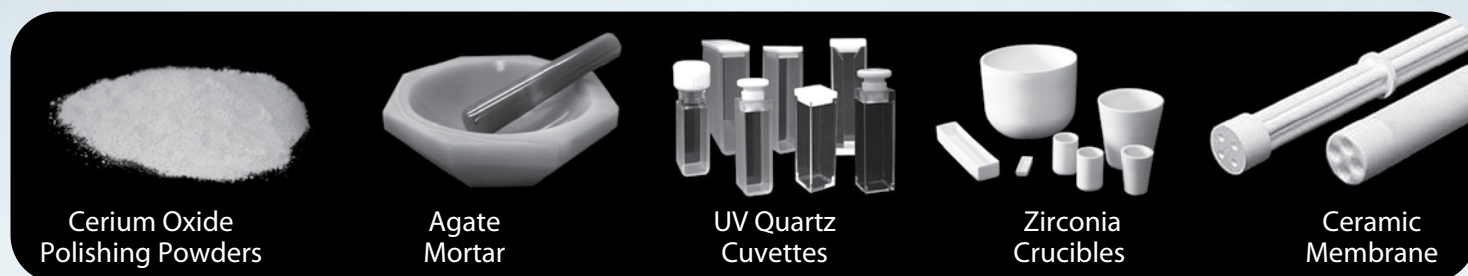
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Student, Post-doc, and Young Professional Career Discussion Roundtables

Tuesday, May 22, | 12:00 – 1:00 p. m. (lunch included) | La Reina

Students, post-docs, and young professionals are invited to an informal group discussion with panelists representing industry, government, and academia. This is an opportunity to ask questions of professionals in a casual environment on a number of diverse topics (work-life balance, career opportunities, etc.).

The career professionals will rotate every 15 minutes, so attendees will get a chance to have candid discussions with several professionals during this session. A complimentary lunch, sponsored by NIST/Functional Glass Manufacturing Innovation Consortium, will be served. Reservations required—space is limited to the first 40 registrants.



PANELISTS:

- | | |
|--|--|
| – Kevin Fulton , Guardian Industries | – John Mauro , Pennsylvania State University |
| – Hong Li , Nippon Electric Glass | – Joseph Ryan , Pacific Northwest National Laboratory |
| – Randall Youngman , Corning, Inc. | – Tayyab Suratwala , Lawrence Livermore National Laboratory |
| – Jincheng Du , University of North Texas | |
| – Liping Huang , Rensselaer Polytechnic Institute | |

GOMD Student Poster Contest Information

Sponsored by Corning Incorporated, will take place on Monday evening as part of the regular poster session from 6:30 – 8:30 p.m. in Salon del Rey on the Mezzanine level of the hotel. This year's contest is organized by Jessica Rimsza of Sandia National Laboratories.



Publishing in American Ceramic Society journals: Writing for search engine optimization and self marketing

Wednesday, May 23 | 12:00 – 1:15 p. m. | La Vista C

Sponsored by Saint-Gobain, box lunches will be served to attendees who pre-registered for the event.



Mario Affatigato, Editor-in-Chief of *International Journal of Applied Glass Science* will lead a discussion on writing papers with titles, abstracts, and body text designed not only to be published, but also to be discovered, read, and cited. Examples of actions authors can take to promote their articles will be presented.

Key topics include

- Publishing basics: What makes a “good scientific story”
- Writing for the audience
- Strategies for optimizing keyword placement for search engines
- Ethics for scholarly publication
- Hints and tips for you to promote your work to fellow researchers
- Online tools provided by Wiley, ACerS’ publishing partner, to help you produce and promote your work

symposium 5 sponsors

SYMPOSIUM 5: Dawn of the Glass Age: New horizons in glass science, engineering and applications

Monday, May 21 | 9:20 a.m. – 5:30 p. m. | El Mirador East



For more than five decades, Professor L. David Pye has been a visionary leader whose passion to link the global activities of academia and industry in glass science, technology and research have been an inspiration to many. These activities have led to an elevation of glass within the field of material science and engineering and have resulted in long-standing initiatives that remain in place today.

This symposium honors these contributions and their impact—on professional societies, students, research, and industry – university networks. With contributions from speakers with a diverse cross-section of backgrounds and experiences, we will celebrate the long-standing vision, creativity, leadership and mentorship, which has resulted from Dr. Pye's sustained efforts.

Lunch for Symposium 5 participants at noon on Monday sponsored by Corning.

Symposium 5 Sponsors

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Nitin Padture

Arun Varshneya

George Wicks

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Alfred University Alumni Reception (by invitation)

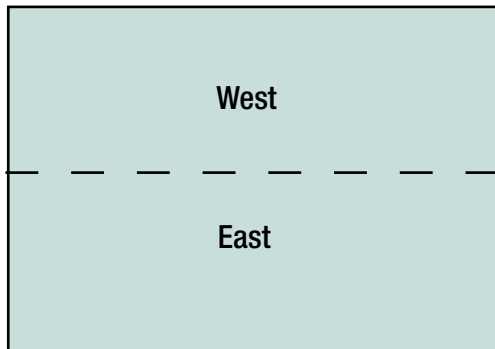
Monday, May 21 | 5:30 p.m. – 7:00 p. m. | Terrace Garden

floor plan

Hilton Palacio del Rio | San Antonio, Texas USA

CONFERENCE LEVEL (22nd floor)

El Mirador



El Mirador combined

Monday – Stookey Award
Tuesday – Morey Award
Wednesday – Varshneya Science
Thursday – Varshneya Technology

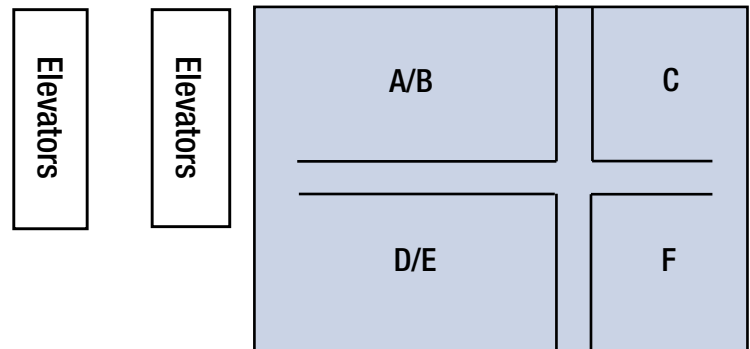
El Mirador West

Monday – S1-S6
Tuesday – S1-S6, S1-S3
Wednesday – S1-S3, S3-S6
Thursday – S1-S4

El Mirador East

Monday – S5
Tuesday – S2
Wednesday – S1-S1, Kreidl Award
Thursday – S3-S2

La Vista



La Vista AB

Monday – S1-S5
Tuesday – S1-S2, S1-S5, S1-S8
Wednesday – S1-S8
Thursday – S3-S7

La Vista DE

Monday – S1-S7, S4-S4
Tuesday – S4-S4
Wednesday – S4-S4
Thursday – S4-S4

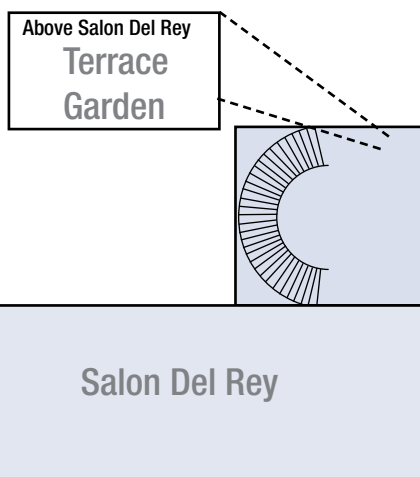
La Vista C

Monday – S1-S1
Tuesday – S3-S3, S1-S2
Wednesday – S3-S4, S3-S5,
Writing for SEO lunch
Thursday – S1-S5

La Vista F

Monday – S3-S1
Tuesday – S3-S1, S4-S5, GOMD
General Business Mtg.
Wednesday – S4-S3
Thursday – S4-S2

MEZZANINE LEVEL

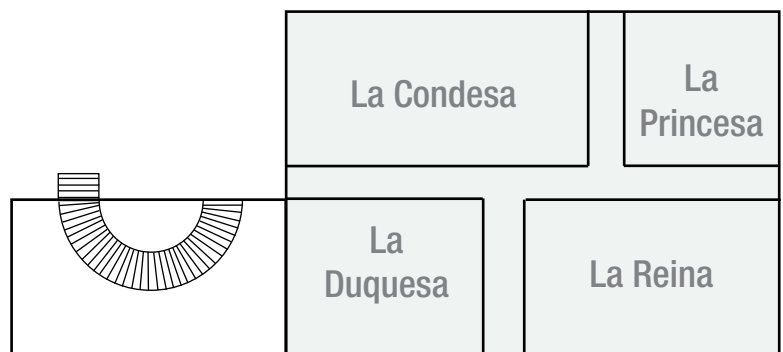


Salon Del Rey

Monday – Poster Session & Student Poster Competition
Tuesday – Conference Banquet

Terrace Garden

Sunday – Welcome Reception
Monday – Alfred University Alumni Reception



La Condesa

Tuesday – IJAGS Lunch for Award Speakers
(by invitation only)

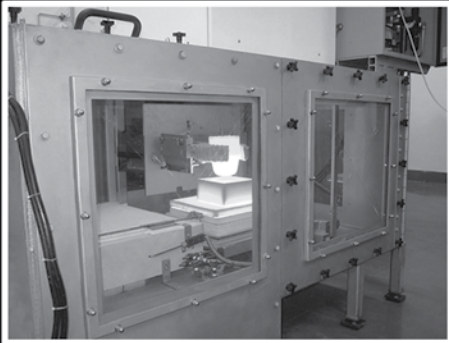
La Reina

Tuesday – Young Professionals Roundtable Lunch

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Program Chair: Jincheng Du, University of North Texas, USA

S1: FUNDAMENTALS OF THE GLASSY STATE

Session 1: Glass formation and structural relaxation

Organizers

Ozgur Gulbitten, Corning Incorporated
John Mauro, Pennsylvania State University

Session 2: Crystallization in glass and its application

Organizers

Edgar D. Zanotto, Federal University of São Carlos
Kenneth F. Kelton, Washington University
Jincheng Du, University of North Texas
Mathieu Hubert, Corning Incorporated
Indrajit Dutta, Corning Incorporated

Session 3: Structural characterizations of glasses

Organizers

Sabyasachi Sen, University of California, Davis
Mario Affatigato, Coe College
Randall E. Youngman, Corning Incorporated
Chris Benmore, Argonne National Laboratory

Session 4: Topology and rigidity

Organizers

Mathieu Bauchy, University of California, Los Angeles
Morten Smedskjaer, Aalborg University

Session 5: Computer simulation and predictive modeling of glasses

Organizers

Walter Kob, Universite Montpellier II
Carlo Massobrio, Institut de Physique et Chimie des Matériaux de Strasbourg
Tandia Adama, Corning Incorporated
Jessica Rimsza, Sandia National Laboratory
Hiroyuki Inoue, University of Tokyo
Jincheng Du, University of North Texas

Session 6: Mechanical properties of glasses

Organizers

Lothar Wondraczek, University of Jena
Yunfeng Shi, Rensselaer Polytechnic Institute

Session 7: Nonoxide glasses

Organizers

Pierre Lucas, University of Arizona
Laurent Chavez, Université de Rennes

Session 8: Glass under extreme conditions

Organizers

Liping Huang, Rensselaer Polytechnic Institute
Benoit Rufflé, Université Montpellier II
Morten Smedskjaer, Aalborg University
Yann Vailis, University of Orléans

S2: GLASSES IN HEALTHCARE— FUNDAMENTALS AND APPLICATION

Organizers

Julian Jones, Imperial College London
Delia S. Brauer, Friedrich Schiller University Jena
Ashutosh Goel, Rutgers, The State University of New Jersey
Jincheng Du, University of North Texas

S3: OPTICAL AND ELECTRONIC MATERIALS AND DEVICES—FUNDAMENTALS AND APPLICATIONS

Session 1: Laser interactions with glasses

Organizers

Himanshu Jain, Lehigh University
Jianrong Qiu, South China University of Technology
Jingshi Wu, Corning Incorporated

Session 2: Charge and energy transport in disordered materials

Organizers

B.G. Potter, Jr., University of Arizona
Krishna Muralidharan, University of Arizona
Xiang-Hua Zhang, Université de Rennes

Session 3: Optical fibers and waveguides

Organizers

Xiang-Hua Zhang, Université de Rennes
Johann Troles, Université de Rennes

Session 4: Glass-based optical devices

Organizers

Juejun Hu, Massachusetts Institute of Technology

Tingyi Gu, University of Delaware

Hongtao Lin, Massachusetts Institute of Technology

Session 5: Optical ceramics and glass-ceramics

Organizers

Yiquan Wu, Alfred University

John S. McCloy, Washington State University

Session 6: Glasses and glass-ceramics in detector applications

Organizers

Jackie Johnson, University of Tennessee Space Institute

Mario Affatigato, Coe College

S.K. Sundaram, Alfred University

Session 7: Rare-earth and transition metal-doped glasses and ceramics for photonic applications

Organizers

Setsuhisa Tanabe, Kyoto University

Shibing Jiang, Photonics Incorporated

Kohei Soga, Tokyo University of Science

S4: GLASS TECHNOLOGY AND CROSS-CUTTING TOPICS

Session 1: Glass surfaces and functional coatings

Organizers

Nick Smith, Corning Incorporated

Rob Schaut, Corning Incorporated

Edgar Zanotto, Federal University of São Carlos

Session 2: Sol-gel processing of glasses and ceramic materials

Organizers

Gang Chen, Ohio University

Lisa C. Klein, Rutgers, The State University of New Jersey

John Kieffer, University of Michigan

Session 3: Challenges in glass manufacturing

Organizers

Irene Peterson, Corning Incorporated

Hong Li, PPG Industries

Mathieu Hubert, Corning Incorporated

Session 4: Waste immobilization—waste form development: processing and performance

Organizers

Stephane Gin, CEA

Joseph Ryan, Pacific Northwest National Laboratory

John Vienna, Pacific Northwest National Laboratory

Jincheng Du, University of North Texas

S5: DAWN OF THE GLASS AGE: NEW HORIZONS IN GLASS SCIENCE, ENGINEERING AND APPLICATIONS

Organizers

Kathleen Richardson, University of Central Florida

Arun Varshneya, Alfred University



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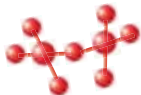
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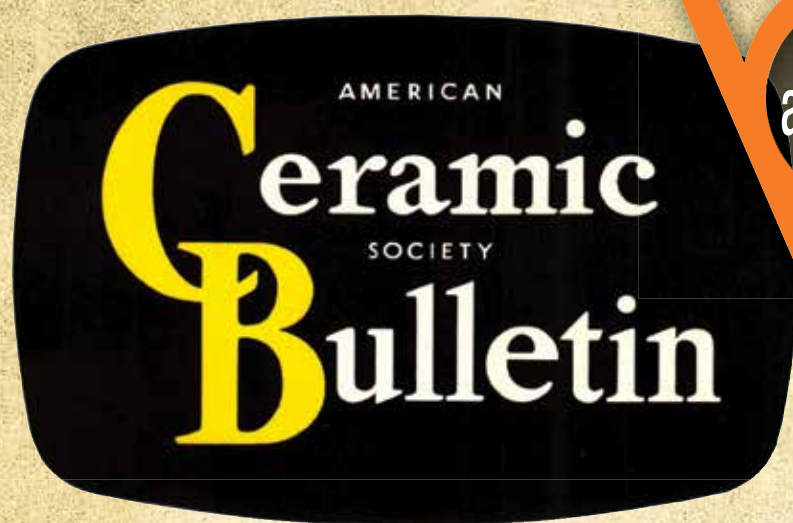
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Oral Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
A									
Aaldenberg, E.	22-May	10:30AM	El Mirador West (22nd Fl)	13	Dierolf, V.	21-May	11:20AM	La Vista F (22nd Fl)	6
Affatigato, M.	21-May	12:20PM	El Mirador East (22nd Fl)	10	Dixon, D.	24-May	1:20PM	La Vista D/E (22nd Fl)	28
Agnello, G.	21-May	2:10PM	La Vista C (22nd Fl)	9	Dobesh, D.K.	21-May	3:00PM	La Vista F (22nd Fl)	9
Ahmadzadeh, M.	23-May	10:40AM	La Vista D/E (22nd Fl)	20	Du, J.	21-May	4:40PM	La Vista A/B (22nd Fl)	7
Ahmed, I.	22-May	4:00PM	El Mirador East (22nd Fl)	17	Du, Q.	23-May	2:10PM	La Vista C (22nd Fl)	22
Akola, J.	22-May	9:20AM	La Vista A/B (22nd Fl)	12	Du, T.	22-May	11:00AM	La Vista D/E (22nd Fl)	14
Alderman, O.L.	23-May	9:20AM	El Mirador West (22nd Fl)	19	Du, T.	24-May	10:20AM	La Vista F (22nd Fl)	26
Almeida, R.M.	24-May	9:50AM	La Vista F (22nd Fl)	26	Durán, A.	21-May	2:10PM	La Vista D/E (22nd Fl)	8
Altemose, Q.	21-May	9:50AM	La Vista D/E (22nd Fl)	5	Durán, A.	21-May	3:45PM	El Mirador East (22nd Fl)	10
Asmussen, M.	22-May	2:00PM	La Vista D/E (22nd Fl)	17	Durán, A.	24-May	9:20AM	La Vista F (22nd Fl)	25
Au-Yeung, C.	21-May	2:40PM	La Vista F (22nd Fl)	9	Dussauze, M.	21-May	1:20PM	La Vista C (22nd Fl)	9
B					Dutra Zanolto, E.	22-May	1:50PM	La Vista C (22nd Fl)	15
Bai, J.	23-May	10:20AM	La Vista D/E (22nd Fl)	20	Dylla-Spears, R.J.	22-May	2:10PM	La Vista F (22nd Fl)	18
Baker, S.P.	24-May	10:50AM	El Mirador West (22nd Fl)	24	E				
Baral, K.	21-May	11:40AM	La Vista A/B (22nd Fl)	5	Ebert, W.	21-May	4:10PM	La Vista D/E (22nd Fl)	10
Barthel, E.	21-May	11:20AM	El Mirador West (22nd Fl)	5	Eckert, H.	22-May	11:10AM	El Mirador East (22nd Fl)	13
Bauchy, M.	21-May	1:50PM	La Vista A/B (22nd Fl)	7	Eckert, H.	22-May	2:30PM	El Mirador West (22nd Fl)	15
Bauchy, M.	24-May	11:40AM	El Mirador West (22nd Fl)	24	F				
Bechgaard, T.K.	23-May	6:30PM	El Mirador East (22nd Fl)	24	Fan, B.	24-May	1:20PM	El Mirador East (22nd Fl)	27
Beckert, B.	23-May	4:10PM	El Mirador West (22nd Fl)	22	Feller, S.	21-May	2:10PM	El Mirador East (22nd Fl)	10
Bernasconi, M.	22-May	10:20AM	La Vista A/B (22nd Fl)	12	Ferrand, K.	22-May	3:00PM	La Vista D/E (22nd Fl)	17
Bhattacharyya, I.	21-May	2:50PM	La Vista C (22nd Fl)	9	Ficheux, M.	22-May	5:30PM	La Vista C (22nd Fl)	15
Bilandzic, M.D.	22-May	9:50AM	La Vista F (22nd Fl)	14	Freudenberger, P.	22-May	2:10PM	El Mirador East (22nd Fl)	17
Bista, S.	23-May	10:20AM	La Vista A/B (22nd Fl)	19	Fu, Q.	22-May	4:40PM	El Mirador East (22nd Fl)	17
Bond, C.W.	23-May	4:40PM	El Mirador West (22nd Fl)	22	G				
Bonhomme, C.	22-May	9:20AM	El Mirador East (22nd Fl)	13	Gaume, R.M.	24-May	9:20AM	La Vista C (22nd Fl)	25
Botu, V.	22-May	9:20AM	La Vista A/B (22nd Fl)	5	George, J.	23-May	11:20AM	La Vista D/E (22nd Fl)	20
Bowan, B.W.	21-May	10:45AM	El Mirador East (22nd Fl)	7	Gin, S.	22-May	9:50AM	La Vista D/E (22nd Fl)	14
Bruns, S.	21-May	2:30PM	El Mirador West (22nd Fl)	8	Goetschius, K.	23-May	2:20PM	La Vista F (22nd Fl)	23
Bychkov, E.	23-May	2:30PM	El Mirador West (22nd Fl)	21	Golovchak, R.	23-May	9:50AM	El Mirador East (22nd Fl)	18
C					Gorin, B.	22-May	5:20PM	El Mirador East (22nd Fl)	17
Cassar, D.R.	21-May	10:20AM	La Vista A/B (22nd Fl)	5	Gouillart, E.	23-May	2:30PM	El Mirador East (22nd Fl)	21
Cavillon, M.	23-May	6:10PM	El Mirador East (22nd Fl)	24	Goyal, S.	24-May	2:20PM	El Mirador West (22nd Fl)	26
Chang, A.	24-May	1:50PM	La Vista F (22nd Fl)	28	Grandinetti, P.J.	22-May	1:20PM	El Mirador West (22nd Fl)	15
Chang, C.	24-May	1:20PM	La Vista F (22nd Fl)	28	Gross, T.M.	21-May	1:50PM	El Mirador West (22nd Fl)	8
Chen, G.	24-May	10:40AM	La Vista F (22nd Fl)	26	Guillen, D.P.	23-May	9:50AM	La Vista F (22nd Fl)	20
Chen, G.	24-May	3:10PM	El Mirador East (22nd Fl)	27	Guillen, D.P.	24-May	9:20AM	La Vista D/E (22nd Fl)	26
Chen, S.	23-May	10:50AM	La Vista C (22nd Fl)	20	Guin, J.	23-May	3:40PM	La Vista A/B (22nd Fl)	22
Chen, S.	24-May	3:30PM	El Mirador East (22nd Fl)	27	Gulbitten, O.	23-May	2:10PM	El Mirador East (22nd Fl)	21
Chen, X.	24-May	1:20PM	La Vista C (22nd Fl)	27	Guo, X.	22-May	4:40PM	La Vista D/E (22nd Fl)	18
Chenu, S.	22-May	9:50AM	La Vista C (22nd Fl)	14	Gupta, S.	22-May	2:30PM	El Mirador East (22nd Fl)	17
Cherepy, N.	24-May	1:50PM	La Vista A/B (22nd Fl)	27	H				
Ching, W.	21-May	9:50AM	La Vista A/B (22nd Fl)	5	Hackett, B.L.	23-May	11:00AM	La Vista A/B (22nd Fl)	19
Choi, Y.	21-May	1:20PM	La Vista D/E (22nd Fl)	8	Ham, K.J.	23-May	11:20AM	La Vista A/B (22nd Fl)	19
Choudhary, M.K.	23-May	9:20AM	La Vista F (22nd Fl)	20	Harrison, M.T.	22-May	3:40PM	La Vista D/E (22nd Fl)	17
Clarke, J.	24-May	1:40PM	La Vista D/E (22nd Fl)	28	Hemmer, E.	24-May	2:40PM	La Vista A/B (22nd Fl)	27
Coleman, G.	24-May	2:50PM	El Mirador East (22nd Fl)	27	Henderson, G.	21-May	9:20AM	La Vista C (22nd Fl)	6
Cook, L.M.	22-May	1:20PM	La Vista F (22nd Fl)	18	Henderson, G.	23-May	9:50AM	El Mirador West (22nd Fl)	19
Corkhill, C.L.	23-May	2:30PM	La Vista D/E (22nd Fl)	23	Hoeland, W.	21-May	8:00AM	El Mirador (22nd Fl)	5
Cormack, A.	21-May	3:40PM	La Vista A/B (22nd Fl)	7	Honma, T.	24-May	3:50PM	El Mirador East (22nd Fl)	27
Cormack, A.	22-May	10:10AM	El Mirador East (22nd Fl)	13	Hoyt, M.R.	24-May	10:30AM	El Mirador East (22nd Fl)	25
Courvoisier, F.	21-May	3:40PM	La Vista F (22nd Fl)	9	Hsu, J.	22-May	4:20PM	La Vista D/E (22nd Fl)	17
Crum, J.V.	21-May	4:30PM	La Vista D/E (22nd Fl)	10	Hu, J.	21-May	9:20AM	La Vista D/E (22nd Fl)	5
Cushman, C.V.	21-May	10:40AM	La Vista C (22nd Fl)	6	I				
D					Inoue, H.	21-May	4:20PM	La Vista A/B (22nd Fl)	7
Dai, S.	22-May	9:20AM	La Vista C (22nd Fl)	14	Inoue, H.	23-May	1:20PM	La Vista A/B (22nd Fl)	21
Dai, Y.	21-May	10:20AM	La Vista F (22nd Fl)	6	Ispas, S.	23-May	4:30PM	La Vista A/B (22nd Fl)	22
Davis, B.C.	21-May	3:00PM	El Mirador West (22nd Fl)	8	J				
Davis, M.J.	21-May	1:50PM	La Vista D/E (22nd Fl)	8	Jabraoui, H.	22-May	5:00PM	La Vista A/B (22nd Fl)	16
Dawson, J.W.	24-May	9:20AM	La Vista A/B (22nd Fl)	25	Jaccani, S.	23-May	11:20AM	El Mirador East (22nd Fl)	19
de Ligny, D.	22-May	3:40PM	La Vista A/B (22nd Fl)	16	Jaccani, S.	23-May	1:50PM	El Mirador West (22nd Fl)	21
de Ligny, D.	23-May	10:10AM	El Mirador West (22nd Fl)	19	Jaccani, S.	23-May	5:00PM	La Vista A/B (22nd Fl)	22
De Souza, J.E.	24-May	10:10AM	El Mirador East (22nd Fl)	25	Jaccani, S.	21-May	3:40PM	La Vista D/E (22nd Fl)	10
de Souza, S.R.	24-May	9:50AM	El Mirador East (22nd Fl)	24	Jaeger, T.	22-May	5:00PM	La Vista F (22nd Fl)	18
Deckoff-Jones, S.	23-May	10:10AM	La Vista C (22nd Fl)	20	Jain, H.	21-May	1:55PM	El Mirador East (22nd Fl)	10
Dejneka, M.	21-May	1:40PM	El Mirador East (22nd Fl)	10	Jain, H.	21-May	4:10PM	La Vista F (22nd Fl)	9
Deshkar, A.A.	24-May	10:20AM	La Vista D/E (22nd Fl)	26					
Deshkar, A.A.	24-May	11:40AM	La Vista D/E (22nd Fl)	26					

Presenting Author List

Oral Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
Jain, H.	23-May	1:20PM	La Vista C (22nd Fl)	22	Mauro, J.C.	21-May	1:00PM	El Mirador East (22nd Fl)	10
Jantzen, C.M.	21-May	4:15PM	El Mirador East (22nd Fl)	11	Mauro, J.C.	23-May	1:50PM	El Mirador East (22nd Fl)	21
Jantzen, C.M.	23-May	3:40PM	La Vista D/E (22nd Fl)	23	Mauro, J.C.	24-May	9:20AM	El Mirador West (22nd Fl)	24
Jin, T.	23-May	4:20PM	La Vista D/E (22nd Fl)	24	Mayville, A.T.	23-May	2:40PM	La Vista A/B (22nd Fl)	21
Joseph, I.	21-May	10:30AM	El Mirador East (22nd Fl)	7	Mazzarello, R.	22-May	9:50AM	La Vista A/B (22nd Fl)	12
Joshi, S.S.	22-May	11:20AM	La Vista F (22nd Fl)	14	McAnany, S.	21-May	4:30PM	La Vista F (22nd Fl)	9
Jung, S.	22-May	3:30PM	El Mirador East (22nd Fl)	17	McCarthy, B.	24-May	2:00PM	La Vista D/E (22nd Fl)	28
K					McCauley, J.W.	21-May	4:30PM	El Mirador East (22nd Fl)	11
Kallontzi, S.	24-May	2:10PM	La Vista F (22nd Fl)	28	McGill, D.J.	23-May	2:00PM	La Vista F (22nd Fl)	23
Kamat, H.	23-May	4:40PM	La Vista D/E (22nd Fl)	24	McKenzie, M.E.	22-May	10:50AM	La Vista A/B (22nd Fl)	13
Kang, M.	23-May	5:40PM	El Mirador West (22nd Fl)	23	McKeown, D.A.	23-May	9:50AM	La Vista D/E (22nd Fl)	20
Kapoor, S.	21-May	11:20AM	La Vista C (22nd Fl)	6	McPherson, D.	21-May	9:55AM	El Mirador East (22nd Fl)	7
Kapoor, S.	22-May	4:00PM	La Vista D/E (22nd Fl)	17	Mear, F.O.	21-May	4:20PM	La Vista C (22nd Fl)	10
Kelton, K.F.	22-May	1:20PM	La Vista C (22nd Fl)	15	Menapace, J.A.	22-May	4:10PM	La Vista F (22nd Fl)	18
Kidkhunthod, P.	22-May	5:10PM	El Mirador West (22nd Fl)	16	Messaddeq, Y.	21-May	11:00AM	La Vista D/E (22nd Fl)	6
Kieffer, J.	22-May	4:50PM	El Mirador West (22nd Fl)	16	Mir, A.	23-May	9:20AM	La Vista D/E (22nd Fl)	20
Kim, D.	22-May	3:40PM	La Vista F (22nd Fl)	18	Möncke, D.	24-May	11:00AM	La Vista A/B (22nd Fl)	25
Kim, D.	23-May	4:00PM	La Vista D/E (22nd Fl)	24	Montenero, A.	21-May	2:40PM	El Mirador East (22nd Fl)	10
Kim, S.H.	21-May	1:50PM	La Vista C (22nd Fl)	9	Montorsi, M.	23-May	2:40PM	La Vista F (22nd Fl)	23
Kim, S.H.	23-May	11:00AM	El Mirador West (22nd Fl)	19	Mooney, J.T.	22-May	4:30PM	La Vista F (22nd Fl)	18
King, E.A.	23-May	11:00AM	El Mirador East (22nd Fl)	19	Muralidharan, K.	24-May	2:00PM	El Mirador East (22nd Fl)	27
Kitagawa, Y.	24-May	11:20AM	La Vista A/B (22nd Fl)	25	N				
Kitajima, S.	24-May	10:40AM	La Vista C (22nd Fl)	25	Naji, M.	22-May	4:30PM	La Vista A/B (22nd Fl)	16
Klein, L.C.	24-May	2:30PM	La Vista F (22nd Fl)	28	Naji, M.	24-May	9:40AM	La Vista D/E (22nd Fl)	26
Kmiec, S.	24-May	1:40PM	El Mirador East (22nd Fl)	27	Naumis, G.	24-May	10:20AM	El Mirador West (22nd Fl)	24
Kob, W.	23-May	10:40AM	El Mirador East (22nd Fl)	19	Neeway, J.	23-May	1:50PM	La Vista D/E (22nd Fl)	23
Konar, B.	22-May	5:10PM	La Vista C (22nd Fl)	15	Nienhuis, E.T.	23-May	11:20AM	El Mirador West (22nd Fl)	19
Koudelka, L.	22-May	3:00PM	La Vista C (22nd Fl)	15	O				
Krishnan, N.	23-May	1:50PM	La Vista A/B (22nd Fl)	21	Oelgoetz, J.R.	23-May	2:10PM	El Mirador West (22nd Fl)	21
Krishnan, N.	24-May	1:20PM	El Mirador West (22nd Fl)	26	Ohishi, Y.	21-May	10:30AM	La Vista D/E (22nd Fl)	6
Krol, D.	23-May	9:20AM	La Vista C (22nd Fl)	20	Ono, M.	22-May	10:10AM	El Mirador West (22nd Fl)	13
Kuo, P.	22-May	5:00PM	El Mirador East (22nd Fl)	17	Orzol, D.K.	23-May	4:40PM	La Vista F (22nd Fl)	23
Kuo, P.	24-May	10:50AM	El Mirador East (22nd Fl)	25	P				
L					Parruzot, B.	21-May	4:50PM	La Vista D/E (22nd Fl)	10
LaCourse, W.	21-May	11:00AM	El Mirador East (22nd Fl)	7	Pedone, A.	22-May	10:40AM	El Mirador East (22nd Fl)	13
LaCourse, W.	22-May	11:10AM	El Mirador West (22nd Fl)	13	Ponomarev, I.	21-May	10:40AM	La Vista A/B (22nd Fl)	5
Laplace, A.F.	23-May	5:00PM	La Vista D/E (22nd Fl)	24	Porter, P.	24-May	11:00AM	La Vista D/E (22nd Fl)	26
Lee, S.	21-May	4:00PM	La Vista C (22nd Fl)	9	Poumellec, B.	21-May	1:20PM	La Vista F (22nd Fl)	8
Lenting, C.	22-May	9:20AM	La Vista D/E (22nd Fl)	14	Prasai, K.	24-May	2:20PM	El Mirador East (22nd Fl)	27
Leonard, R.L.	23-May	3:40PM	El Mirador West (22nd Fl)	22	Priven, A.	21-May	5:00PM	La Vista A/B (22nd Fl)	7
Lezzi, P.J.	21-May	10:20AM	El Mirador West (22nd Fl)	5	Priven, A.	23-May	1:40PM	La Vista F (22nd Fl)	23
Li, A.	22-May	2:40PM	La Vista D/E (22nd Fl)	17	Prokhorenko, O.	23-May	3:40PM	La Vista F (22nd Fl)	23
Li, H.	23-May	10:20AM	La Vista F (22nd Fl)	20	Q				
Li, L.	23-May	10:30AM	La Vista C (22nd Fl)	20	Qian, J.	22-May	11:00AM	La Vista F (22nd Fl)	14
Li, Y.	24-May	2:10PM	La Vista C (22nd Fl)	27	Qiao, X.	22-May	3:10PM	La Vista F (22nd Fl)	18
Linford, M.R.	21-May	10:20AM	La Vista C (22nd Fl)	6	Qiu, J.	23-May	3:40PM	La Vista C (22nd Fl)	22
Locker, S.T.	22-May	10:10AM	La Vista F (22nd Fl)	14	Quackenbush, C.	21-May	9:25AM	El Mirador East (22nd Fl)	6
Loneragan, C.	24-May	10:40AM	La Vista D/E (22nd Fl)	26	R				
Loneragan, C.	24-May	11:20AM	La Vista D/E (22nd Fl)	26	Rasmussen, M.	21-May	3:10PM	El Mirador East (22nd Fl)	10
Loneragan, J.M.	24-May	2:40PM	El Mirador West (22nd Fl)	26	Raukas, M.	24-May	10:10AM	La Vista A/B (22nd Fl)	25
Lonnroth, N.	23-May	9:50AM	La Vista C (22nd Fl)	20	Rebecca, A.	21-May	4:10PM	El Mirador West (22nd Fl)	8
Lu, D.	21-May	4:00PM	La Vista A/B (22nd Fl)	7	Reidmeyer, M.	21-May	1:25PM	El Mirador East (22nd Fl)	10
Lu, X.	23-May	11:00AM	La Vista D/E (22nd Fl)	20	Reimann, I.	22-May	11:30AM	El Mirador West (22nd Fl)	13
Lubinsky, A.R.	23-May	5:00PM	El Mirador West (22nd Fl)	22	Ren, M.	22-May	9:50AM	El Mirador East (22nd Fl)	13
Lucas, P.	23-May	1:20PM	El Mirador East (22nd Fl)	21	Ren, M.	22-May	2:50PM	La Vista A/B (22nd Fl)	16
M					Richardson, K.	21-May	4:45PM	El Mirador East (22nd Fl)	11
Maca, K.	24-May	11:10AM	La Vista C (22nd Fl)	25	Richert, R.	23-May	9:20AM	El Mirador East (22nd Fl)	18
Maeda, K.	22-May	4:50PM	La Vista C (22nd Fl)	15	Rimsza, J.M.	21-May	11:00AM	El Mirador West (22nd Fl)	5
Maehara, T.	23-May	10:50AM	La Vista F (22nd Fl)	20	Rino, J.P.	22-May	11:10AM	La Vista A/B (22nd Fl)	13
Mahadevan, T.S.	22-May	10:40AM	La Vista D/E (22nd Fl)	14	Roberts, N.	23-May	2:10PM	La Vista D/E (22nd Fl)	23
Malavasi, G.	22-May	2:50PM	El Mirador East (22nd Fl)	17	Rocherullé, J.	22-May	4:20PM	El Mirador East (22nd Fl)	17
Mangalathu, S.	21-May	2:50PM	La Vista A/B (22nd Fl)	7	Rodriguez, C.	24-May	2:20PM	La Vista D/E (22nd Fl)	28
Marple, M.A.	22-May	4:30PM	El Mirador West (22nd Fl)	16	Roos, C.	23-May	4:10PM	La Vista F (22nd Fl)	23
Marple, M.A.	24-May	11:40AM	El Mirador East (22nd Fl)	25	Rosales-Sosa, G.A.	22-May	2:30PM	La Vista A/B (22nd Fl)	16
Martin, S.W.	24-May	9:20AM	El Mirador East (22nd Fl)	24	Ross, M.R.	21-May	9:20AM	La Vista F (22nd Fl)	6
Martucci, A.	24-May	11:00AM	La Vista F (22nd Fl)	26	Rouse, Z.	21-May	4:30PM	El Mirador West (22nd Fl)	8
Massobrio, C.	21-May	11:20AM	La Vista A/B (22nd Fl)	5					
Matyas, J.	24-May	10:00AM	La Vista D/E (22nd Fl)	26					

Oral Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
Ruffle, B.	23-May	10:40AM	La Vista A/B (22nd Fl)	19			U		
Ryan, J.	22-May	10:20AM	La Vista D/E (22nd Fl)	14	Urata, S.	22-May	1:20PM	La Vista A/B (22nd Fl)	16
Rygel, J.	23-May	1:20PM	La Vista F (22nd Fl)	23			V		
		S			Vaills, Y.P.	23-May	3:10PM	El Mirador East (22nd Fl)	21
Saitoh, A.	22-May	3:00PM	El Mirador West (22nd Fl)	15	Valeriani, C.	22-May	11:40AM	La Vista A/B (22nd Fl)	13
Saleh, M.	23-May	5:10PM	La Vista C (22nd Fl)	22	Varshneya, A.K.	21-May	12:40PM	El Mirador East (22nd Fl)	10
Saleh, M.	24-May	10:40AM	La Vista A/B (22nd Fl)	25	Varshneya, A.K.	22-May	8:00AM	El Mirador (22nd Fl)	12
Salmon, P.S.	23-May	2:10PM	La Vista A/B (22nd Fl)	21	Varshneya, A.K.	22-May	4:10PM	La Vista A/B (22nd Fl)	16
Salmon, P.S.	24-May	11:20AM	El Mirador West (22nd Fl)	24	Veenhuizen, K.J.	21-May	1:50PM	La Vista F (22nd Fl)	8
Sangleboeuf, J.	23-May	4:10PM	La Vista A/B (22nd Fl)	22	Veenhuizen, K.J.	22-May	10:30AM	La Vista F (22nd Fl)	14
Sant, G.	23-May	2:40PM	La Vista A/B (22nd Fl)	21	Vetrone, F.	24-May	3:10PM	La Vista A/B (22nd Fl)	27
Sant, G.	24-May	3:20PM	El Mirador West (22nd Fl)	27	Vienna, J.	22-May	1:40PM	La Vista D/E (22nd Fl)	17
Sato, T.	23-May	9:50AM	La Vista A/B (22nd Fl)	19			W		
Sawamura, S.	21-May	1:20PM	El Mirador West (22nd Fl)	8	Wang, C.	21-May	1:20PM	La Vista A/B (22nd Fl)	7
Scannell, G.	21-May	2:40PM	La Vista D/E (22nd Fl)	8	Wang, L.	21-May	3:40PM	La Vista C (22nd Fl)	9
Schaut, R.	22-May	2:20PM	La Vista D/E (22nd Fl)	17	Wang, L.	22-May	2:10PM	La Vista A/B (22nd Fl)	16
Schwarz, C.	21-May	10:10AM	La Vista D/E (22nd Fl)	6	Wang, X.	22-May	11:10AM	La Vista C (22nd Fl)	14
Seaman, J.H.	21-May	9:20AM	El Mirador West (22nd Fl)	5	Weber, R.	23-May	10:40AM	El Mirador West (22nd Fl)	19
Seeley, Z.M.	24-May	9:50AM	La Vista A/B (22nd Fl)	25	Wereszczak, A.	21-May	11:30AM	El Mirador East (22nd Fl)	7
Sen, S.	24-May	11:10AM	El Mirador East (22nd Fl)	25	Wereszczak, A.	21-May	5:10PM	El Mirador West (22nd Fl)	8
Setlur, A.	24-May	1:20PM	La Vista A/B (22nd Fl)	27	Whitsitt, R.	22-May	1:50PM	La Vista F (22nd Fl)	18
Sglavo, V.M.	21-May	5:30PM	El Mirador West (22nd Fl)	8	Wiederhorn, S.	21-May	10:00AM	El Mirador West (22nd Fl)	5
Sglavo, V.M.	22-May	9:50AM	El Mirador West (22nd Fl)	13	Wiles, N.T.	21-May	2:10PM	El Mirador West (22nd Fl)	8
Shackelford, J.F.	21-May	2:25PM	El Mirador East (22nd Fl)	10	Wiles, N.T.	22-May	1:50PM	La Vista A/B (22nd Fl)	16
Shen, N.	22-May	2:30PM	La Vista F (22nd Fl)	18	Wondraczek, L.	24-May	9:50AM	El Mirador West (22nd Fl)	24
Sheth, N.	21-May	10:40AM	El Mirador West (22nd Fl)	5	Wright, A.	21-May	11:15AM	El Mirador East (22nd Fl)	7
Shi, Y.	23-May	3:00PM	El Mirador West (22nd Fl)	21	Wu, J.	22-May	1:50PM	El Mirador West (22nd Fl)	15
Shimotsu, Y.	21-May	9:50AM	La Vista F (22nd Fl)	6	Wu, Y.	24-May	1:40PM	La Vista C (22nd Fl)	27
Smedskjaer, M.M.	21-May	2:30PM	La Vista A/B (22nd Fl)	7			X		
Smedskjaer, M.M.	21-May	3:40PM	El Mirador West (22nd Fl)	8	Xia, X.	22-May	2:40PM	La Vista C (22nd Fl)	15
Smedskjaer, M.M.	24-May	3:00PM	El Mirador West (22nd Fl)	26			Y		
Smektala, F.	22-May	10:20AM	La Vista C (22nd Fl)	14	Yadav, A.	22-May	4:10PM	La Vista C (22nd Fl)	15
Smith, N.J.	22-May	1:20PM	El Mirador East (22nd Fl)	16	Yamamoto, Y.	21-May	9:50AM	La Vista C (22nd Fl)	6
Soga, K.	24-May	2:20PM	La Vista A/B (22nd Fl)	27	Yan, J.	21-May	4:50PM	El Mirador West (22nd Fl)	8
Sokmen, I.	22-May	9:20AM	El Mirador West (22nd Fl)	13	Yan, L.	24-May	1:50PM	El Mirador West (22nd Fl)	26
Stebbins, J.	22-May	3:40PM	El Mirador West (22nd Fl)	16	Yano, T.	23-May	11:20AM	La Vista F (22nd Fl)	20
Stevens, H.J.	21-May	2:55PM	El Mirador East (22nd Fl)	10	Yaraman, A.	21-May	4:00PM	El Mirador East (22nd Fl)	11
Stone-Weiss, N.	21-May	11:00AM	La Vista C (22nd Fl)	6	Youngman, R.	22-May	2:20PM	La Vista C (22nd Fl)	15
Stone-Weiss, N.	22-May	11:40AM	El Mirador East (22nd Fl)	13			Z		
Strachan, D.	22-May	1:20PM	La Vista D/E (22nd Fl)	17	Zeidler, A.	23-May	1:20PM	El Mirador West (22nd Fl)	21
Su, L.	24-May	10:10AM	La Vista C (22nd Fl)	25	Zhang, H.	22-May	1:50PM	El Mirador East (22nd Fl)	17
Su, P.	23-May	1:50PM	La Vista C (22nd Fl)	22	Zhang, L.	23-May	4:40PM	La Vista C (22nd Fl)	22
Sun, W.	22-May	12:10PM	La Vista A/B (22nd Fl)	13	Zhang, T.	23-May	11:10AM	La Vista C (22nd Fl)	20
Sundaram, S.K.	23-May	5:20PM	El Mirador West (22nd Fl)	23	Zhang, X.	22-May	3:40PM	La Vista C (22nd Fl)	15
Sundaraman, S.	21-May	2:10PM	La Vista A/B (22nd Fl)	7	Zhang, X.	24-May	8:00AM	El Mirador East (22nd Fl)	24
Suratwala, T.I.	22-May	2:50PM	La Vista F (22nd Fl)	18	Zhao, J.	22-May	4:30PM	La Vista C (22nd Fl)	15
Swab, J.	22-May	10:50AM	El Mirador West (22nd Fl)	13	Zhao, Q.	22-May	9:20AM	La Vista F (22nd Fl)	14
		T			Zhelev, N.Z.	21-May	2:30PM	La Vista C (22nd Fl)	9
Takada, A.	21-May	3:10PM	La Vista A/B (22nd Fl)	7	Zhou, S.	21-May	2:10PM	La Vista F (22nd Fl)	9
Tan, F.	22-May	10:50AM	La Vista C (22nd Fl)	14	Zhu, W.	23-May	11:40AM	El Mirador East (22nd Fl)	19
Tanabe, S.	23-May	8:00AM	El Mirador East (22nd Fl)	18	Zu, X.	21-May	10:50AM	La Vista F (22nd Fl)	6
Tanaka, K.	24-May	9:40AM	La Vista C (22nd Fl)	25	Zu, X.	21-May	4:50PM	La Vista F (22nd Fl)	9
Tandia, A.	21-May	11:00AM	La Vista A/B (22nd Fl)	5	Zupan, M.	21-May	5:00PM	El Mirador East (22nd Fl)	11
Tang, D.	23-May	4:10PM	La Vista C (22nd Fl)	22	Zwanziger, J.	22-May	4:10PM	El Mirador West (22nd Fl)	16
Tanguy, A.	23-May	9:20AM	La Vista A/B (22nd Fl)	19					
Tokunaga, H.	23-May	2:50PM	El Mirador East (22nd Fl)	21					
Tomozawa, M.	21-May	9:40AM	El Mirador West (22nd Fl)	5					
Trachenko, K.	23-May	10:20AM	El Mirador East (22nd Fl)	19					
Tribet, M.	23-May	1:20PM	La Vista D/E (22nd Fl)	23					
Troles, J.	22-May	11:40AM	La Vista C (22nd Fl)	14					
Tsuda, N.	22-May	2:10PM	El Mirador West (22nd Fl)	15					

Presenting Author List

Poster Presenters

<u>Name</u>	<u>Date</u>	<u>Time</u>	<u>Room</u>	<u>Page Number</u>	<u>Name</u>	<u>Date</u>	<u>Time</u>	<u>Room</u>	<u>Page Number</u>
B					M				
Bechgaard, T.K.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11	Mehmen, T.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
Benmore, C.J.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12	N				
Blanco, C.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11	Ngo, D.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12
C					Nijapai, P.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12
Chen, J.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11	P				
Clawson, J.B.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11	Ponomarev, I.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
Corkhill, C.L.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12	Q				
D					Quinn, A.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12
De Souza, J.E.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12	R				
de Souza, S.R.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12	Rodriguez, M.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12
Du, T.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11	S				
F					Sabri, F.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12
Finkeldey, J.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12	Shi, C.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
Fisher, A.J.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11	V				
G					Vander Stouw, G.J.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
Gervasio, V.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12	W				
Gu, T.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12	Wu, Y.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12
H					X				
Heiden, F.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11	Xia, Y.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
J					Z				
Jabraoui, H.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12	Zhai, Y.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
K					Zhao, J.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
Kindle, M.L.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	12	L				
L					Liu, H.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
Liu, H.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11	Locker, S.T.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
Locker, S.T.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11	Lu, X.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11
Lu, X.	21-May	6:30PM	Salon del Rey (Mezzanine Level)	11					

Monday, May 21, 2018

Award Lectures

Stookey Lecture of Discovery

Room: El Mirador (22nd Fl)

8:00 AM

(GOMD-AW-001-2018) Combinations of different nucleation and crystallization mechanisms to develop tailor-made glass-ceramics

W. Hoeland^{*1}

1. Ivoclar Vivadent AG, Liechtenstein

8:40 AM

Break

S1: Fundamentals of the Glassy State

Session 5: Computer Simulations and Modeling I

Room: La Vista A/B (22nd Fl)

Session Chairs: Walter Kob, Laboratoire Charles Coulomb; Jessica Rimsza, The University of North Texas

9:20 AM

(GOMD-S1-001-2018) Machine learning force fields: Extension from metals to amorphous materials (Invited)

V. Botu^{*1}; A. Tandia¹; K. Vargheese¹

1. Corning Incorporated, USA

9:50 AM

(GOMD-S1-002-2018) Atomistic origin of enhanced durability in solvated bulk alkali-silicate glasses (Invited)

W. Ching^{*1}; K. Baral¹; A. Li²

1. University of Missouri-Kansas City, USA
2. Corning Incorporated, USA

10:20 AM

(GOMD-S1-003-2018) Predicting the glass transition temperature of multicomponent oxide glasses using artificial neural networks

D. R. Cassar^{*1}; E. Dutra Zanotto¹

1. Vitreous Materials Laboratory, Department of Materials Engineering, Brazil

10:40 AM

(GOMD-S1-004-2018) Developing ReaxFF potential for modeling amorphous silicon oxycarbide

I. Ponomarev^{*1}; P. Kroll¹

1. University of Texas, Arlington, Chemistry and Biochemistry, USA

11:00 AM

(GOMD-S1-005-2018) A Bayesian Optimization Framework for Glass Viscosity Modeling

A. Tandia^{*1}; C. Erickson²; Y. Shu¹

1. Corning Incorporated, Modeling & Simulation, USA
2. Northeastern University, USA

11:20 AM

(GOMD-S1-006-2018) First-principles molecular dynamics studies of telluride glassy materials: $\text{Ge}_2\text{Sb}_2\text{Te}_5$ and $\text{Ge}_{15}\text{Ga}_{10}\text{Te}_{75}$ as prototypical cases

C. Massobrio^{*1}

1. CNRS-IPCMS-UNR 7504, France

11:40 AM

(GOMD-S1-007-2018) Ab initio molecular dynamics simulation of alkali-doped aluminosilicate glass

K. Baral^{*1}; W. Ching¹

1. University of Missouri-Kansas City, Department of Physics and Astronomy, USA

Session 6: Mechanical Properties of Glass I

Room: El Mirador West (22nd Fl)

Session Chairs: Lothar Wondraczek, University of Jena; Shigeki Sawamura, Friedrich-Schiller-University Jena

9:20 AM

(GOMD-S1-008-2018) Static Fatigue Limit of Silica Glass

J. H. Seaman^{*1}; P. J. Lezzi¹

1. Corning Incorporated, USA

9:40 AM

(GOMD-S1-009-2018) Silica Glass Fiber Strength and Water Entry into the Glass Surface

M. Tomozawa^{*1}; E. Aaldenberg¹; P. Miller¹; X. Ding¹

1. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA

10:00 AM

(GOMD-S1-010-2018) Strength of Silica Glass: Chemical Swelling versus Stress Relaxation

S. Wiederhorn^{*1}; T. Fett²; G. Schell¹; M. J. Hoffmann²

1. National Institute of Standards and Technology, USA
2. Karlsruhe Institute of Technology, Germany

10:20 AM

(GOMD-S1-011-2018) Static Fatigue and Compressive Stress Generation in an Aged Crack

P. J. Lezzi^{*1}; J. H. Seaman¹

1. Corning Incorporated, USA

10:40 AM

(GOMD-S1-012-2018) Effects of surface hydration on the mechanical response of silicate glasses

N. Sheth^{*1}; C. G. Pantano¹; S. H. Kim¹

1. Pennsylvania State University, Material Science and Engineering, USA

11:00 AM

(GOMD-S1-013-2018) Fracture toughness of silicates in aqueous electrolyte solutions

J. M. Rimsza^{*1}; R. Jones²; L. Criscenti¹

1. Sandia National Laboratories, Geochemistry, USA
2. Sandia National Laboratories, Mechanics of Materials, USA

11:20 AM

(GOMD-S1-014-2018) Spectral unmixing of Raman profiles relate structural heterogeneities to plastic flow in silicate glasses (Invited)

V. Pukhkaya¹; M. Christine²; V. Martinez²; B. Champagnon²; E. Burov⁴; J. Teisseire⁴; B. Ruffle³; E. Barthel^{*1}

1. CNRS/ESPCI, SIMM, France
2. ILM, France
3. LCC, France
4. SVI, France

Session 7: Non-Oxide Glasses I

Room: La Vista D/E (22nd Fl)

Session Chairs: Pierre Lucas, Univ of Arizona; David Le Coq, University of Rennes 1

9:20 AM

(GOMD-S1-015-2018) Chalcogenide glass: Enabling monolithic photonic integration on 2-D materials (Invited)

H. Lin¹; S. Yi¹; Y. Huang¹; D. Kita¹; S. Deckoff-Jones¹; K. Wang¹; L. Li¹; J. Li¹; Z. Luo¹; H. Wang¹; S. Novak²; A. Yadav²; C. Huang²; D. Hewak³; T. Gu¹; K. Richardson²; J. Hu^{*1}

1. Massachusetts Institute of Technology, USA
2. University of Central Florida, USA
3. University of Southampton, United Kingdom

9:50 AM

(GOMD-S1-016-2018) Solution processing and properties of dip-coated chalcogenide alloy (Ge-Sb-Se-Te) films

Q. Altemose^{*1}; M. Kang²; C. Blanco²; C. Schwarz²; K. Richardson²; J. Hu³

1. Ursinus College, Physics & Astronomy, USA
2. University of Central Florida, CREOL, USA
3. Massachusetts Institute of Technology, Materials Science & Engineering, USA

10:10 AM

(GOMD-S1-017-2018) Characterization of nanostructures created by multiphoton lithography in germanium-doped arsenic selenide chalcogenide glass as a route to functional optical devices

C. Schwarz^{*1}; C. Grabill²; G. Richardson²; S. Labh²; A. Young²; A. Vyas²; M. Truman¹; B. Gleason³; K. Richardson³; A. Pogrebnikov³; T. Mayer⁴; S. Kuebler²

1. Ursinus College, Physics & Astronomy, USA
2. University of Central Florida, Chemistry, USA
3. Clemson University, USA
4. University of Central Florida, CREOL, USA
5. Pennsylvania State University, Materials Science & Engineering, USA
6. Pennsylvania State University, USA

10:30 AM

(GOMD-S1-018-2018) Highly Nonlinear Soft Glass Optical Fibers for MIR Applications (Invited)

Y. Ohishi^{*1}

1. Toyota Technological Institute, Japan

11:00 AM

(GOMD-S1-019-2018) Laser-induced dewetting of silver-doped chalcogenide glasses (Invited)

A. Douaud¹; S. H. Messaddeq¹; O. Boily¹; Y. Messaddeq^{*1}

1. Université Laval, Centre d'Optique, Photonique et laser, Canada

S3: Optical and Electronic Materials and Devices - Fundamentals and Applications

Session 1: Dynamics, Nanograting

Room: La Vista F (22nd Fl)

Session Chair: Jianrong Qiu, South China University of Technology

9:20 AM

(GOMD-S3-001-2018) Time-resolved Measurements of Ultrafast Laser-material Interactions in Transparent Materials (Invited)

M. R. Ross^{*1}

1. Corning Incorporated, Laser Processing, USA

9:50 AM

(GOMD-S3-002-2018) Polarization-dependent periodic phase separation in glass induced by femtosecond laser pulses (Invited)

Y. Shimotsuma^{*1}; Y. Tsuji¹; K. Tomura¹; M. Shimizu¹; K. Miura¹

1. Kyoto University, Department of Material Chemistry, Japan

10:20 AM

(GOMD-S3-003-2018) Femtosecond laser-induced 3D nanograting in fused silica with a dynamic regulating excitation process (Invited)

Y. Dai^{*1}

1. Shanghai University, Physics, China

10:50 AM

(GOMD-S3-004-2018) Temperature dependence of intense laser-induced damage threshold of fused silica at different laser pulse widths (Invited)

H. Deng¹; X. Dong¹; X. Yuan²; W. Liao²; L. Liu¹; W. Zheng²; X. Zu^{*1}

1. University of Electronic Science and Technology of China, School of Physical Electronics, China
2. Research Center of Laser Fusion, China Academy of Engineering Physics, China

11:20 AM

(GOMD-S3-005-2018) Crystal Lattice Engineering during Single Crystal Growth by Laser-induced Solid-Solid Conversion (Invited)

V. Dierolf^{*1}; K. J. Veenhuizen²; C. Au-Yeung¹; S. McAnany³; B. Aitken⁴; D. Nolan⁴; H. Jain³

1. Lehigh University, Physics, USA
2. Lebanon Valley College, Physics, USA
3. Lehigh University, Materials Science and Engineering, USA
4. Corning Incorporated, USA

S4: Glass Technology and Cross-Cutting Topics

Session 1: Glass Surface Characterization and Corrosion

Room: La Vista C (22nd Fl)

Session Chairs: Nicholas Smith, Corning Incorporated; Robert Schaut, Corning Incorporated

9:20 AM

(GOMD-S4-001-2018) X-ray absorption near-edge structure (XANES) spectroscopy of glasses (Invited)

G. Henderson^{*1}

1. University of Toronto, Earth Sciences, Canada

9:50 AM

(GOMD-S4-002-2018) Precise analysis of glass surface using C₆₀ ion beam (Invited)

Y. Yamamoto^{*1}

1. Asahi Glass, Japan

10:20 AM

(GOMD-S4-003-2018) LEIS Analysis of Display Glass Surfaces

C. V. Cushman¹; P. Bruener²; J. Zakel²; T. Grehl²; C. T. Dahlquist¹; B. M. Lunt³; J. Banerjee⁴; N. J. Smith⁴; M. R. Linford^{*1}

1. Brigham Young University, Chemistry and Biochemistry, USA
2. ION-TOF GmbH, Germany
3. Brigham Young University, Information Technology, USA
4. Corning Incorporated, Science and Technology Division, USA

10:40 AM

(GOMD-S4-004-2018) Temperature-Resolved ToF-SIMS of Display Glass Surfaces

C. V. Cushman^{*1}; C. T. Dahlquist¹; S. S. Parker¹; J. B. Clawson¹; B. M. Lunt²; J. Banerjee³; N. J. Smith³; M. R. Linford¹

1. Brigham Young University, Chemistry and Biochemistry, USA
2. Brigham Young University, Information Technology, USA
3. Corning Incorporated, Science and Technology Division, USA

11:00 AM

(GOMD-S4-005-2018) Corrosion of aluminoborosilicate glasses in the acidic regime

N. Stone-Weiss^{*1}; N. J. Smith²; R. Youngman²; E. M. Pierce³; H. Eckert⁴; A. Goel¹

1. Rutgers University, Materials Science and Engineering, USA
2. Corning Incorporated, Science and Technology Division, USA
3. Oak Ridge National Lab, Environmental Sciences Division, USA
4. University of Sao Paulo, Sao Carlos Institute of Physics, Brazil

11:20 AM

(GOMD-S4-006-2018) A structural approach to understand the aqueous corrosion of aluminoborate glasses

S. Kapoor^{*1}; P. Dabas¹; R. Youngman²; N. J. Smith²; A. Goel¹

1. Rutgers University, Materials Science and Engineering, USA
2. Corning Incorporated, USA

S5: Dawn of the Glass Age: New Horizons in Glass Science, Engineering and Applications

S5 Keynote Session

Room: El Mirador East (22nd Fl)

Session Chair: Kathleen Richardson, University of Central Florida

9:20 AM

Opening Remarks - Kathleen Richardson

9:25 AM

(GOMD-S5-001-2018) The "road and less traveled by", with David Pye, has made all the difference (Invited)

C. Quackenbush^{*1}

1. Halcyon Associates, USA

9:55 AM

(GOMD-S5-002-2018) Anomalous Color Vision Correction: Learning to Believe the Colorblind (Invited)

D. McPherson*¹

1. EnChroma, Inc., USA

Science and Education I

Room: El Mirador East (22nd Fl)

Session Chair: Arun Varshneya, Saxon Glass Technologies, Inc.

10:25 AM

Introduction - Arun Varshneya

10:30 AM

(GOMD-S5-003-2018) Glass Formulation Development for Nuclear Waste Vitrification (Invited)

I. Joseph*¹; B. W. Bowan¹; I. L. Pegg²

1. SNC Lavalin, Nuclear, USA
2. Catholic University of America, Vitreous State Laboratory, USA

10:45 AM

(GOMD-S5-004-2018) Technology Advancements in Radioactive Waste Vitrification Programs (Invited)

B. W. Bowan*¹

1. SNC Lavalin/Atkins, USA

11:00 AM

(GOMD-S5-005-2018) Underappreciated Contributions to The “Non-Equilibrium, Non-Crystalline State of Matter That Appears Solid on a Short Time Scale but Continuously Relaxes Toward the Liquid State” Age (Invited)

W. LaCourse*¹; A. Clare¹

1. Alfred University, Inamori School of Engineering, USA

11:15 AM

(GOMD-S5-006-2018) Oxide Glass Structure: Towards a Working Hypothesis for the 21st Century (Invited)

A. Wright*¹

1. University of Reading, United Kingdom

11:30 AM

(GOMD-S5-007-2018) Sub-Micron Fracture Mechanism in Silicate Glasses Activated by Permanent Densification (Invited)

A. Wereszczak*¹; S. B. Waters¹; R. J. Parten¹; L. D. Pye²

1. Oak Ridge National Lab, USA
2. Emeritus, Alfred University, USA

S1: Fundamentals of the Glassy State

Session 5: Computer Simulations and Modeling II

Room: La Vista A/B (22nd Fl)

Session Chairs: Carlo Massobrio, CNRS-IPCMS-UNR 7504; Hiroyuki Inoue, The University of Tokyo

1:20 PM

(GOMD-S1-020-2018) Local structure orders in metallic liquids and their influences on the dynamics of glass and phase selection (Invited)

C. Wang*¹

1. Iowa State University, Ames Laboratory and Department of Physics, USA

1:50 PM

(GOMD-S1-021-2018) A New Transferable Inter-Atomic Potential for Borosilicate Glasses

M. Wang¹; M. M. Smedskjaer²; J. C. Mauro³; M. Bauchy*¹

1. University of California, Los Angeles, Civil and Environmental Engineering Department, USA
2. Aalborg University, Denmark
3. Pennsylvania State University, USA

2:10 PM

(GOMD-S1-022-2018) Yield Surface for Oxide Glasses

S. Sundaraman*¹; W. Kob²; S. Ispas²; L. Huang¹

1. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA
2. University of Montpellier, France

2:30 PM

(GOMD-S1-023-2018) Predicting Q-Speciation in Binary Silicate and Phosphate Glasses using Statistical Mechanics

M. S. Bødker¹; J. C. Mauro²; S. Goyal³; X. Guo³; R. Youngman³; M. M. Smedskjaer*¹

1. Aalborg University, Department of Chemistry and Bioscience, Denmark
2. Pennsylvania State University, USA
3. Corning Incorporated, USA

2:50 PM

(GOMD-S1-024-2018) Machine learning based prediction of dissolution kinetics in silicate glasses

N. Krishnan¹; S. Mangalathu*²; M. M. Smedskjaer³; A. Tandia⁴; M. Bauchy²

1. Indian Institute of Technology, Civil Engineering, India
2. University of California, Los Angeles, USA
3. Aalborg University, Denmark
4. Corning Incorporated, USA

3:10 PM

(GOMD-S1-025-2018) Structural modelling of SiO₂ crystals and glass

A. Takada*¹

1. Asahi Glass Company, Japan

3:30 PM

Break

Session 5: Computer Simulations and Modeling III

Room: La Vista A/B (22nd Fl)

Session Chairs: Adama Tandia, Corning Incorporated; Carlo Massobrio, CNRS-IPCMS-UNR 7504

3:40 PM

(GOMD-S1-026-2018) MD Simulations of the Melting of Sodium and Lithium Metasilicates

A. Cormack*¹; J. Horwath¹; B. Hadden¹

1. Alfred University, USA

4:00 PM

(GOMD-S1-027-2018) Insight of structure-property relationships of boroaluminosilicate glasses from molecular dynamics simulation

D. Lu*¹; J. Du¹

1. University of North Texas, Materials Science and Engineering, USA

4:20 PM

(GOMD-S1-028-2018) Structure of the glass by intermediate oxides

H. Inoue*¹

1. The University of Tokyo, Institute of Industrial Science, Japan

4:40 PM

(GOMD-S1-029-2018) Effect of cooling rate and system size on MD simulations of sodium borosilicate glasses

J. Du*¹; L. Deng¹

1. University of North Texas, Materials Science and Engineering, USA

5:00 PM

(GOMD-S1-030-2018) On the Limitations of Thermodynamic Approach to Glass Property Prediction

A. Priven*¹

1. Corning Korea, Republic of Korea

Session 6: Mechanical Properties of Glass II

Room: El Mirador West (22nd Fl)

Session Chairs: Lothar Wondraczek, University of Jena; Shigeki Sawamura, Friedrich-Schiller-University Jena

1:20 PM

(GOMD-S1-031-2018) Scratch-hardness of glass (Invited)

S. Sawamura^{*1}; L. Wondraczek¹

1. Friedrich-Schiller-University Jena, Germany

1:50 PM

(GOMD-S1-032-2018) Indentation Deformation Mechanisms in Ternary Alkali Aluminosilicate Glasses

T. M. Gross^{*1}

1. Corning Incorporated, Physical Properties, USA

2:10 PM

(GOMD-S1-033-2018) Ex-situ Raman Investigation of Indentations in Vitreous Silica

N. T. Wiles^{*1}; G. G. Moore²; S. P. Baker¹

1. Cornell University, Materials Science, USA
2. Corning Incorporated, Characterization Sciences, USA

2:30 PM

(GOMD-S1-034-2018) Constitutive Modelling of Indentation Cracking in Fused Silica (Invited)

S. Bruns^{*1}; K. Durst¹

1. Technical University Darmstadt, Physical Metallurgy, Germany

3:00 PM

(GOMD-S1-035-2018) Sharp Indentation of Silicate Glasses: A Conical Indenter Sensitivity Study

B. C. Davis^{*1}; I. Reimanis¹

1. Colorado School of Mines, Metallurgical and Materials Engineering, USA

3:20 PM

Break

Session 6: Mechanical Properties of Glass III

Room: El Mirador West (22nd Fl)

Session Chairs: Lothar Wondraczek, University of Jena; Shigeki Sawamura, Friedrich-Schiller-University Jena

3:40 PM

(GOMD-S1-036-2018) Adaptive and Crack Resistant Aluminoborate Glasses (Invited)

M. M. Smedskjaer^{*1}; K. Januchta¹; K. F. Frederiksen¹; N. Mascaraque Alvarez¹; R. Youngman²; M. Bauchy³

1. Aalborg University, Department of Chemistry and Bioscience, Denmark
2. Corning Incorporated, USA
3. University of California, Los Angeles, USA

4:10 PM

(GOMD-S1-037-2018) A structural approach towards the design of a hard and crack-resistant Al₂O₃-rich glass

A. Rebecca^{*1}; S. Kapoor¹; K. Januchta²; R. Youngman³; L. Huang⁴; M. M. Smedskjaer²; A. Goel¹

1. Rutgers University, Materials Science and Engineering, USA
2. Aalborg University, Department of Chemistry and Bioscience, Denmark
3. Corning Incorporated, Science and Technology Division, USA
4. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA

4:30 PM

(GOMD-S1-038-2018) Loading Rate Sensitivity of Silicate Glass Plasticity Mechanisms

Z. Rouse^{*1}; S. Baker¹

1. Cornell University, Materials Science & Engineering, USA

4:50 PM

(GOMD-S1-039-2018) Nature of Rigid-Resilient Transition in Calcium Borosilicate Sealing Glass-Ceramics: Effect of Preferred Orientation

J. Yan^{*1}; T. Zhang¹

1. Fuzhou University, China

5:10 PM

(GOMD-S1-040-2018) Strength Testing of Glass Sected Flexural Specimens

A. Wereszczak^{*1}; B. A. Oistad¹; B. Chen¹; O. Jadaan²

1. Oak Ridge National Lab, USA
2. University of Mount Union, USA

5:30 PM

(GOMD-S1-041-2018) Electric field-assisted ion-exchange of silicate glass

V. M. Sglavo^{*1}; G. Pintori¹

1. University of Trento, Dept. of Industrial Engineering, Italy

Session 7: Non-Oxide Glasses II

Room: La Vista D/E (22nd Fl)

Session Chairs: Pierre Lucas, Univ of Arizona; David Le Coq, University of Rennes 1

1:20 PM

(GOMD-S1-042-2018) Expanding the Abbe Diagram of Long-Wavelength Infrared Region (Invited)

Y. Choi^{*1}; J. Lee¹; W. Lee¹; J. Choi²; W. Chung³

1. Korea Aerospace University, Republic of Korea
2. Korea Photonics Technology Institute, Republic of Korea
3. Kongju National University, Republic of Korea

1:50 PM

(GOMD-S1-043-2018) Athermal Glass for Infrared Optics

M. J. Davis^{*1}

1. SCHOTT North America, Inc., R&D, USA

2:10 PM

(GOMD-S1-045-2018) Transparent oxyfluoride nano-glass ceramics with optical and photonic applications (Invited)

A. Durán^{*1}

1. Instituto de Ceramica y Vidrio (CSIC), Glasses, Spain

2:40 PM

(GOMD-S1-046-2018) Ti-N Containing Silicate Oxynitride Glasses

G. Scannell^{*1}; L. Wondraczek¹

1. Friedrich-Schiller-University Jena, Otto-Schott Institute for Materials Research, Germany

3:00 PM

Break

S3: Optical and Electronic Materials and Devices - Fundamentals and Applications

Session 1: Laser Crystallization and Modification

Room: La Vista F (22nd Fl)

Session Chair: Shifeng Zhou, South China University of Technology

1:20 PM

(GOMD-S3-006-2018) Femtosecond laser induced crystallization in transparent oxide glasses (Invited)

B. Poumellec^{*1}; J. Cao²; M. Lancry¹

1. CNRS-UnivParisSud, ICMO/SP2M, France
2. Beijing Institute of Technology, Laser Micro/Nano-Fabrication Laboratory, School of Mechanical Engineering, China

1:50 PM

(GOMD-S3-007-2018) Fabrication of rotating lattice lithium niobate single crystal lines within lithium niobosilicate glass via femtosecond laser irradiation

K. J. Veenhuizen^{*1}; I. Crawley²; S. McAnany³; D. Nolan⁴; B. Aitken⁴; V. Dierolf⁴; H. Jain³

1. Lebanon Valley College, Physics, USA
2. Lehigh University, Physics, USA
3. Lehigh University, Materials Science and Engineering, USA
4. Corning Incorporated, USA

2:10 PM

(GOMD-S3-008-2018) Space-Selective Modification of Glass by Using Femtosecond Laser (Invited)

S. Zhou^{*1}; J. Qiu²

1. South China University of Technology, School of Materials Science and Engineering, China
2. Zhejiang University, College of Optical Science and Engineering, China

2:40 PM

(GOMD-S3-009-2018) In situ observation of Sb₂S₃ crystal formation in Sb-S-I glass by micro x-ray diffraction

C. Au-Yeung^{*1}; C. Stan²; H. Jain¹; V. Dierolf¹

1. Lehigh University, USA
2. Lawrence Berkeley National Laboratory, USA

3:00 PM

(GOMD-S3-010-2018) Femtosecond Laser Modifications of Lanthanum-Rich Optical Glasses

D. K. Dobesh^{*1}; S. K. Sundaram¹

1. Alfred University, Glass Science, USA

3:20 PM

Break

Session 1: Laser Crystallization

Room: La Vista F (22nd Fl)

Session Chair: Bertrand Pommellec, UPSud

3:40 PM

(GOMD-S3-011-2018) Ultrafast laser processing of glass and sapphire using nondiffracting beams (Invited)

F. Courvoisier^{*1}; R. Meyer¹; J. DelHoyo¹; C. Xie¹; L. Rapp¹; L. Furfaro¹; P. Lacourt¹; M. Jacquot¹; L. Froehly¹; R. Giust¹; J. Dudley¹

1. CNRS, FEMTO-ST Institute, France

4:10 PM

(GOMD-S3-012-2018) Challenges of fabrication of single crystal architecture in glass: Transition from dot to line

D. Savytsky¹; V. Dierolf¹; N. Tamura³; H. Jain^{*1}

1. Lehigh University, International Materials Institute for New Functionality in Glass, USA
2. Lehigh University, Physics Department, USA
3. Lawrence Berkeley National Laboratory, USA

4:30 PM

(GOMD-S3-013-2018) Compositional dependence of nucleation and growth of single crystal LaBGeO₅ in La₂O₃-B₂O₃-2GeO₂ glass by femtosecond laser irradiation

S. McAnany^{*1}; K. J. Veenhuizen²; D. Nolan³; B. Aitken³; V. Dierolf⁴; H. Jain¹

1. Lehigh University, Materials Science & Engineering, USA
2. Lebanon Valley College, Physics, USA
3. Corning Incorporated, USA
4. Lehigh University, Physics, USA

4:50 PM

(GOMD-S3-014-2018) Non-perturbative quantum method for the interaction between intense laser and fused silica

H. Deng¹; X. Dong¹; X. Yuan²; W. Liao²; L. Liu¹; W. Zheng²; X. Zu^{*1}

1. University of Electronic Science and Technology of China, School of Physical Electronics, China
2. Research Center of Laser Fusion, China Academy of Engineering Physics, China

S4: Glass Technology and Cross-Cutting Topics

Session 1: Glass Surface Modification and Electric Field Effects

Room: La Vista C (22nd Fl)

Session Chairs: Nicholas Smith, Corning Incorporated; Robert Schaut, Corning Incorporated

1:20 PM

(GOMD-S4-007-2018) Optical and chemical functionalities controlled at the micrometer scale in glassy materials by an imprinting thermo-electrical process (Invited)

M. Dussauze^{*1}; A. Lepicard¹; F. Bondu¹; V. Rodriguez¹; L. Karam¹; F. Adamietz¹; K. Richardson²; T. Cardinal³; E. Fargin³

1. ISM University of Bordeaux, France
2. University of Central Florida, CREOL, USA
3. ICMCB-CNRS, France

1:50 PM

(GOMD-S4-008-2018) Chemical structure and mechanical properties of soda lime silica glass surfaces treated by thermal poling in inert and reactive ambient gases

J. Luo¹; M. Lanagan²; C. G. Pantano³; S. H. Kim^{*1}

1. Pennsylvania State University, Chemical Engineering, USA
2. Pennsylvania State University, Engineering Science and Mechanics, USA
3. Pennsylvania State University, Materials Science and Engineering, USA

2:10 PM

(GOMD-S4-009-2018) Texturizing Approaches for the Controllable Alteration of Contact Interactions between Glass and Metal Surfaces

G. Agnello^{*1}; H. Jing¹; T. Brown¹; N. Z. Zhelev¹; R. Manley¹; J. Banerjee¹

1. Corning Incorporated, USA

2:30 PM

(GOMD-S4-010-2018) Electrostatic charging and retraction force measurements upon contact separation of glass and various roughness controlled surfaces

N. Z. Zhelev^{*1}; G. Agnello²; T. Brown²; I. Bhattacharyya¹; R. Manley¹

1. Corning Incorporated, Thin Films and Surfaces, USA
2. Corning Incorporated, Display Technology Development, USA

2:50 PM

(GOMD-S4-011-2018) Effect of Different Factors on Conveyance mode Tribo-charging of Display Glasses

I. Bhattacharyya^{*1}; N. Z. Zhelev¹; G. Agnello²; C. Cole²; R. Manley¹

1. Corning Incorporated, Thin Films and Surfaces, USA
2. Corning Incorporated, USA

3:10 PM

Break

Session 1: Coatings, Adhesion, and Reactivity of Glass Surfaces

Room: La Vista C (22nd Fl)

Session Chairs: Robert Schaut, Corning Incorporated; Nicholas Smith, Corning Incorporated

3:40 PM

(GOMD-S4-012-2018) Reactivity of Water on CAS Glasses Surfaces using Molecular Dynamic Methods

L. Wang^{*1}; G. Agnello²; R. Manley²; N. J. Smith²; A. Cormack¹

1. Alfred University, USA
2. Corning Incorporated, USA

4:00 PM

(GOMD-S4-013-2018) Roughness effect on adhesion between glassy silica and polyimides

S. Lee^{*1}; R. J. Stewart²; A. R. Rammohan²

1. Corning Technology Center Korea, Modeling, Republic of Korea
2. Corning Incorporated, USA

4:20 PM

(GOMD-S4-014-2018) Crystallization mechanism of BaO-CaO-Al₂O₃-SiO₂ glass thin films

F. O. Mear^{*1}; T. Carlier¹; S. Saitzek¹; J. Blach¹; R. Podor²; L. Montagne¹

1. Lille University, France
2. Marcoule Institute for Separation Chemistry, France

Session 4: Waste Immobilization - Corrosion I

Room: La Vista D/E (22nd Fl)

Session Chair: Karine Ferrand, SCK-CEN

3:40 PM

(GOMD-S4-015-2018) Comparisons of Volcanic Glass Dissolution Microstructures in Roman Marine Concrete and Surtsey Basalt (Invited)

M. D. Jackson^{*1}

1. University of Utah, Geology and Geophysics, USA

4:10 PM

(GOMD-S4-016-2018) Measured Parameters for ANL Glass Dissolution Model

W. Ebert^{*1}; C. Snyder¹; J. Jerden¹

1. Argonne National Lab, USA

4:30 PM

(GOMD-S4-017-2018) Induced Stage III Glass Dissolution Behavior

J. V. Crum^{*1}; B. Parruzot¹; J. Ryan¹; I. Seymour¹; J. F. Bonnett¹

1. Pacific Northwest National Lab, USA

4:50 PM

(GOMD-S4-018-2018) Glass alteration monitored by Raman spectrometry: From boron to other species

B. Parruzot^{*1}; A. M. Lines¹; S. A. Bryan¹; J. Ryan¹

1. Pacific Northwest National Lab, Energy and Environment Directorate, USA

S5: Dawn of the Glass Age: New Horizons in Glass Science, Engineering and Applications

Glass: Yesterday, Today and Tomorrow

Room: El Mirador East (22nd Fl)

Session Chair: Mark Mecklenborg, The American Ceramic Society

12:10 PM

Introduction - Mark Mecklenborg

12:20 PM

(GOMD-S5-008-2018) A Mentor and a Gentleman: L. David Pye and IJAGS (Invited)

M. Affatigato^{*1}

1. Coe College, Physics, USA

12:40 PM

(GOMD-S5-009-2018) Glass Through the Ages (Invited)

M. K. Choudhary¹; J. C. Mauro²; L. D. Pye³; K. Richardson⁴; A. K. Varshneya^{*5}; E. Dutra Zanotto⁶

1. Owens Corning, USA
2. Pennsylvania State University, USA
3. Alfred University, USA
4. University of Central Florida, USA
5. Saxon Glass Technologies, Inc., USA
6. Federal University of Sao Carlos, Brazil

1:00 PM

(GOMD-S5-010-2018) Welcome to the Glass Age (Invited)

J. C. Mauro^{*1}

1. Pennsylvania State University, Materials Science & Engineering, USA

Science and Education II

Room: El Mirador East (22nd Fl)

Session Chair: Edgar Dutra Zanotto, Federal University of Sao Carlos

1:20 PM

Introduction - Edgar Zanotto

1:25 PM

(GOMD-S5-011-2018) Thinking at Different Wavelengths- Glass Art, Science, and Education (Invited)

R. Brow¹; M. Reidmeyer^{*1}; P. Freudenberger¹

1. Missouri S&T, Materials Sci & Engrg, USA

1:40 PM

(GOMD-S5-012-2018) Things I Wish I Learned in School: What 20 Years of Glass Innovation has Taught (Invited)

M. Dejneka^{*1}

1. Corning Incorporated, USA

1:55 PM

(GOMD-S5-013-2018) The functional glass movement (Invited)

H. Jain^{*1}

1. Lehigh University, International Materials Institute for New Functionality in Glass, USA

2:10 PM

(GOMD-S5-014-2018) Dave Pye's Borate Conference of 1977 (Invited)

S. Feller^{*1}

1. Coe College, Physics, USA

2:25 PM

(GOMD-S5-015-2018) THE GLASS OF WINE: A Toast to L. David Pye (Invited)

J. F. Shackelford^{*1}

1. University of California, Davis, Materials Science and Engineering, USA

2:40 PM

(GOMD-S5-016-2018) The Italian Connection (Invited)

A. Montenero^{*1}

1. University of Parma (Italy) - Italian Association of Glass Technologists, Italy

2:55 PM

(GOMD-S5-017-2018) Dave Pye - Outer Space Visionary (Invited)

H. J. Stevens^{*1}

1. Alfred University, Glass Engineering and Science, USA

3:10 PM

(GOMD-S5-018-2018) Outlandish Ideas for a Better Glass World (Invited)

M. Rasmussen^{*1}

1. Alfred University, retired, USA

3:25 PM

Break

S5 President's Session

Room: El Mirador East (22nd Fl)

Session Chair: Manoj Choudhary, International Commission on Glass, MKC Innovations LLC

3:40 PM

Introduction - Manoj Choudhary

3:45 PM

(GOMD-S5-019-2018) Standing on the shoulders of giants: The role of David Pye at ICG (Invited)

A. Durán^{*1}

1. Instituto de Ceramica y Vidrio (CSIC), Glasses, Spain

4:00 PM

(GOMD-S5-020-2018) Prof. L. D. Pye: The brilliant glow of a multifaceted person in the journey of a multifaceted material: Glass (Invited)

A. Yaman^{*1}

1. Advisory Board of Sisecam Academy Sisecam, Turkey

4:15 PM

(GOMD-S5-021-2018) L. David Pye and the Vitrification of High Level Waste (HLW) (Invited)

C. M. Jantzen^{*1}

1. Savannah River National Laboratory, USA

4:30 PM

(GOMD-S5-022-2018) Some Reflections on David Pye and a Short Review of Recent Progress in Multiscale Modeling and Dynamic Experiments on Various Glasses (Invited)

J. W. McCauley^{*1}

1. Johns Hopkins University, HEMI, USA

4:45 PM

(GOMD-S5-023-2018) Global glass education and training: Relevant skill sets for next-generation glass scientists and engineers (Invited)

K. Richardson^{*1}

1. University of Central Florida, CREOL, USA

5:00 PM

(GOMD-S5-024-2018) Alfred University and David Pye: Force for the Future (Invited)

M. Zupan^{*1}

1. Alfred University, USA

5:15 PM

Concluding remarks - Prof. L. David Pye

Poster Session and Student Poster Competition

Room: Salon del Rey (Mezzanine Level)

6:30 PM

(GOMD-GSP-P001-2018) Influence of vanadium oxide doping on the structure, properties and dissolution behaviors of ISG nuclear waste glasses

X. Lu^{*1}; J. Neeway²; J. Ryan²; J. Du¹

1. University of North Texas, Material Science and Engineering, USA
2. Pacific Northwest National Laboratory, USA

(GOMD-GSP-P002-2018) DFT calculations of ²⁹Si and ³¹P NMR in silicophosphates

I. Ponomarev^{*1}; P. Kroll¹

1. University of Texas, Arlington, Chemistry and Biochemistry, USA

(GOMD-GSP-P003-2018) Time and Humidity Dependence of Indentation Cracking in Aluminosilicate Glasses

T. K. Bechgaard^{*1}; J. C. Mauro²; M. M. Smedskjaer¹

1. Aalborg University, Denmark
2. Pennsylvania State University, Department of Materials Science and Engineering, USA

(GOMD-GSP-P004-2018) Initial-dissolution rate of the International Simple Glass in dilute and saturated conditions

A. J. Fisher^{*1}; J. Neeway²; J. Ryan²; M. Asmussen²; R. J. Hand¹; N. C. Hyatt¹; C. L. Corkhill¹

1. University of Sheffield, Material Science and Engineering, United Kingdom
2. Pacific Northwest National Lab, USA

(GOMD-GSP-P005-2018) Phase Separation in SiO₂-Al₂O₃-BaO-BaF₂ Oxyfluoride Glasses from Molecular Dynamics Simulations

J. Zhao^{*1}; X. Chen¹; J. Du²; Q. Xu¹; Z. Luo¹; X. Qiao¹; X. Fan¹

1. Zhejiang University, Materials Science and Technology, USA
2. University of North Texas, USA

(GOMD-GSP-P006-2018) Structure of Glassy Silica: Assessing the Role of the Synthesis Method

T. Du^{*1}; M. M. Smedskjaer²; H. Li¹; M. Bauchy³

1. Harbin Institute of Technology, School of Civil Engineering, China
2. Aalborg University, Department of Chemistry and Bioscience, Denmark
3. University of California, Los Angeles, Department of Civil and Environmental Engineering, USA

(GOMD-GSP-P007-2018) Structure of deeply supercooled liquid and amorphous alumina

C. Shi^{*1}; D. Berman²; J. Du²; R. Weber³; O. L. Alderman³; C. J. Benmore¹

1. Argonne National Lab, X-ray Science Division, USA
2. University of North Texas, Materials Science and Engineering, USA
3. Materials Development, Inc., USA

(GOMD-GSP-P008-2018) Molecular Dynamic Simulation of Ultrafast Laser Effects on Oxide Glasses

S. T. Locker^{*1}; S. K. Sundaram¹

1. Alfred University, Glass Science, USA

(GOMD-GSP-P009-2018) Structure of SnO-P₂O₅ Glasses: Results from High-resolution ¹¹⁹Sn and ³¹P NMR

Y. Xia^{*1}; M. A. Marple¹; I. Hung²; Z. Gan²; S. Sen¹

1. University of California, Davis, Materials Science and Engineering, USA
2. National High Magnetic Field Laboratory, Center of Interdisciplinary Magnetic Resonance, USA

(GOMD-GSP-P010-2018) XPS analysis of nuclear waste glass corrosion in determining the elements, oxygen speciation and alteration layer thickness

H. Liu^{*1}; D. Ngo¹; J. Du²; S. H. Kim¹

1. Pennsylvania State University, Chemical Engineering, USA
2. University of North Texas, USA

(GOMD-GSP-P011-2018) On the speciation of mixed sodium-potassium silicate glasses by NMR spectroscopy

F. Heiden^{*1}; B. Larsen²; U. G. Nielsen³; T. E. Warner¹

1. University of Southern Denmark, Department of Chemical Engineering, Biotechnology and Environmental Technology, Denmark
2. Bollerup Jensen A/S, Denmark
3. University of Southern Denmark, Department of Physics, Chemistry and Pharmacy, Denmark

(GOMD-GSP-P012-2018) Femtosecond Laser Modification of Mn – Doped Zinc Borosilicate Glasses

G. J. Vander Stouw^{*1}; S. K. Sundaram¹

1. Alfred University, The Inamori School of Engineering, USA

(GOMD-GSP-P013-2018) Crystallization Control in Doped Glass-Ceramics for Tuning Luminescence

J. Chen^{*1}; S. Zhou¹; J. Qiu²

1. School of Materials Science and Engineering, South China University of Technology, State Key Laboratory of Luminescent Materials and Devices, China
2. College of Optical Science and Engineering, Zhejiang University, China

(GOMD-USP-P014-2018) Solution-based Coating of Chalcogenide Alloy (ChA) GeSbSeTe Films

C. Blanco^{*1}; M. Kang¹; Q. Altemose²; C. Schwarz²; K. Richardson¹; J. Hu³

1. University of Central Florida, USA
2. Ursinus College, USA
3. MIT, USA

(GOMD-USP-P015-2018) An anomaly in the glass transition widths of mixed alkali lithium cesium borate glasses

T. Mehmen^{*1}; H. Rea¹; A. DeCeanne¹; S. Feller¹

1. Coe College, Physics, USA

(GOMD-USP-P016-2018) Residual Stress Field around Sharp Indent

Y. Zhai^{*1}; L. Huang¹; T. M. Gross²

1. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA
2. Corning Incorporated, USA

(GOMD-USP-P017-2018) Multicomponent Glass Surface Hydroxyl Groups by Temperature-Resolved ToF-SIMS: Viability and Challenges

J. B. Clawson^{*1}; C. V. Cushman¹; C. T. Dahlquist¹; S. S. Parker¹; B. M. Lunt²; J. Banerjee³; N. J. Smith³; M. R. Linford¹

1. Brigham Young University, Chemistry and Biochemistry, USA
2. Brigham Young University, Information Technology, USA
3. Corning Incorporated, Science and Technology Division, USA

(GOMD-USP-P018-2018) Raman Spectroscopy Study of Bioactive Glass Doped with Cerium OxideA. Quinn^{*1}; K. S. Ranasinghe¹; R. Singh²; D. E. Day³

1. Kennesaw State University, Physics, USA
2. Kennesaw State University, Chemistry and Biochemistry, USA
3. Missouri University of Science & Technology, Materials Science & Engineering, USA

(GOMD-P020-2018) Structure of amorphous hafnia nanoparticlesC. J. Benmore^{*1}; L. Gallington¹; L. Skinner¹; R. Weber²; S. Ushakov³; A. Navrotsky³; A. Vazquez-Mayagoitia⁴; J. Neuefeind⁵; M. Stan⁴; J. J. Low⁴

1. Argonne National Lab, X-ray Science Division, USA
2. MDI, USA
3. University of California, Davis, USA
4. Argonne National Lab, USA
5. Oak Ridge National Lab, USA

(GOMD-P021-2018) Molecular Dynamic Simulation studies of Vanadium Lithium Borate-Based GlassesP. Nijapai^{*1}; P. Kidkhunthod²

1. School of Physics, Institute of Science, Suranaree University of Technology, Thailand
2. Synchrotron Light Research Institute, Thailand

(GOMD-P022-2018) Silica content effects on the elastic and structural properties of calcium aluminate glass: Insights from molecular dynamicsH. Jabraoui^{*1}; M. Badawi¹; A. Atila²; S. Ouaskit²; S. Lebègue¹; Y. P. Vaills³

1. University de Lorraine, France
2. Université Hassan II de Casablanca, Morocco
3. Université d'Orléans, France

(GOMD-P023-2018) Characterization of Ion Exchange Stress Profiles with Induced Mechanical StressJ. Finkeldey^{*1}; C. Smith¹; T. M. Gross¹

1. Corning Incorporated, USA

(GOMD-P024-2018) Synthesis and Characterization of Modified Vanadium Glass CathodesM. L. Kindle^{*1}; J. McCloy¹; M. Song¹

1. Washington State University, School of Mechanical and Materials Engineering, USA

(GOMD-P025-2018) ZnS: Ag scintillating membrane for rapid isotopic analyses of waterborne special nuclear materialsY. Wu^{*1}; A. Trofimov¹; C. Li¹; A. Darge¹; K. Brinkman¹; T. DeVol¹; S. Husson¹; L. G. Jacobsohn¹

1. Clemson University, USA

(GOMD-P026-2018) Strong thermally stimulated luminescence quenching effect of Nd³⁺ in borate glassesM. Rodriguez^{*1}; G. Azcune¹; H. Bentos Pereira¹; L. Fornaro¹

1. Universidad de la República, Centro Universitario Regional del Este, Uruguay

(GOMD-P027-2018) Laser trimmed hybrid chalcogenide metasurfaceT. Gu^{*1}; M. Chen¹; Z. Wang¹; D. Mao¹

1. University of Delaware, USA

(GOMD-P028-2018) Structural and optical analysis of calcium and lithium borate glasses doped with Dy³⁺ for thermoluminescent dosimetryS. R. de Souza^{*1}; E. S. Bannwart²; N. B. Pimentel²; J. E. de Souza¹

1. Iowa State University, MSE, USA
2. Universidade Federal da Grande Dourados, Physics, Brazil

(GOMD-P029-2018) Structural and Electrical Characterization of Borate Glasses in the B₂O₃ – CaO – Li₂O SystemJ. E. De Souza^{*1}; N. B. Pimentel²; S. R. de Souza¹

1. Iowa State University, Materials Science and Engineering, USA
2. Universidade Federal da Grande Dourados, Laboratório de Materiais Cerâmicos Avançados - LMCA, Faculdade de Ciências Exatas e Tecnologia - FACET, Brazil

(GOMD-P030-2018) Evaluation of novel leaching assessment for nuclear waste glassesC. L. Thorpe¹; C. Mann¹; A. J. Fisher¹; R. J. Hand¹; N. C. Hyatt¹; C. L. Corkhill^{*1}; M. J. Schweiger²; J. Mayer²; C. Arendt²; A. A. Kruger²; D. Kosson⁴

1. University of Sheffield, Materials Science and Engineering, United Kingdom
2. Pacific Northwest National Lab, USA
3. US Department of Energy, USA
4. Vanderbilt University, USA

(GOMD-P031-2018) Corrosion of ISG Glass Studied Using Spectroscopic Ellipsometry, X-ray Photoelectron Spectroscopy and Specular Reflection Infrared SpectroscopyD. Ngo^{*1}; H. Liu¹; S. H. Kim¹

1. Pennsylvania State University, Chemical Engineering, USA

(GOMD-P032-2018) Impacts of Uncertainties on Hanford LAW Glass EstimatesV. Gervasio^{*1}; J. Vienna¹; D. Kim¹; A. A. Kruger²

1. Pacific Northwest National Lab, Energy and Environment Directorate, USA
2. US Department of Energy, Office of River Protection, USA

(GOMD-P033-2018) Flexible thin film ceramics for high temperature thermal sensing applicationsF. Sabri^{*1}; M. Aryal¹; S. Allison²; K. Olenick³

1. University of Memphis, Dept. of Physics and Materials Science, USA
2. Emerging Measurements, USA
3. ENRG Inc., USA

Tuesday, May 22, 2018

Award Lectures**George W. Morey Award Lecture**

Room: El Mirador (22nd Fl)

8:00 AM**(GOMD-AW-002-2018) Chemically strengthened glass: Science, technology and its future**A. K. Varshneya^{*1}

1. Saxon Glass Technologies, Inc., USA

8:40 AM**Break**S1: Fundamentals of the Glassy State**Joint Session: Symp 1, Sessions 2 and 5: Modelling and Simulation of Glass Crystallization**

Room: La Vista A/B (22nd Fl)

Session Chairs: Jincheng Du, University of North Texas; Carlo Massobrio, CNRS-IPCMS-UNR 7504

9:20 AM**(GOMD-S1-047-2018) Rapid crystallization of phase change materials: Density functional simulations (Invited)**J. Akola^{*1}; J. Kalikka³; M. Ropo³; R. O. Jones²

1. Norwegian University of Science and Technology, Department of Physics, Norway
2. Forschungszentrum Juelich, PGI-1, Germany
3. Tampere University of Technology, Laboratory of Physics, Finland

9:50 AM**(GOMD-S1-048-2018) Ab Initio Simulations of Crystallization of Phase-Change Materials (Invited)**R. Mazzarello^{*1}; W. Zhang²; I. Ronneberger¹

1. RWTH Aachen University, Germany
2. Xi'an Jiaotong University, China

10:20 AM**(GOMD-S1-049-2018) Atomistic Simulation of Crystallization Kinetics and Aging of Amorphous GeTe Nanowires (Invited)**S. Gabardi¹; E. Baldi¹; E. Bosoni¹; D. Campi¹; S. Caravati¹; G. C. Sosso²; J. Behler²; M. Bernasconi^{*1}

1. University of Milano-Bicocca, Materials Science, Italy
2. University of Goettingen, Germany
3. University of Warwick, United Kingdom

10:50 AM

(GOMD-S1-050-2018) A new way to study glass ceramic nucleation: Combining grand canonical monte carlo with enhanced sampling techniques and implicit solvents

M. E. McKenzie^{*1}; J. C. Mauro²

1. Corning Incorporated, Science & Technology, USA
2. Pennsylvania State University, Materials Science and Engineering, USA

11:10 AM

(GOMD-S1-051-2018) Molecular dynamics study of spontaneous nucleation and crystallization in barium sulfide (Invited)

J. P. Rino^{*1}

1. Center for Research, Technology and Education in Vitreous Materials, Brazil

11:40 AM

(GOMD-S1-052-2018) Avalanche-mediated crystallisation of an aged hard-sphere glass (Invited)

C. Valeriani^{*1}; P. Montero¹; P. Rosales¹; P. N. Pusey²; E. Sanz¹

1. Universidad Complutense de Madrid, Spain
2. University of Edinburgh, United Kingdom

12:10 PM

(GOMD-S1-053-2018) Interface structure of nuclear waste glasses and spinel/inverse-spinel NiFe₂O₄ from Molecular dynamics simulations

W. Sun^{*1}; J. Du¹

1. University of North Texas, Material Science and Engineering, USA

Session 6: Mechanical Properties of Glass IV

Room: El Mirador West (22nd Fl)

Session Chairs: Lothar Wondraczek, University of Jena; Shigeki Sawamura, Friedrich-Schiller-University Jena

9:20 AM

(GOMD-S1-054-2018) Ion Exchange Strengthening of Silicate Glasses (Invited)

C. Kayaalp¹; B. Kayacan¹; N. Özben¹; S. Atılğan¹; B. Oğut¹; L. Simurka¹; D. Güldiren¹; B. Okan¹; M. Çelikbilek Ersundu²; I. Sokmen^{*1}

1. Türkiye Sise ve Cam Fabrikaları A.Ş., Science and Technology Center, Turkey
2. Yıldız Technical University Department of Metallurgical and Materials Engineering, Turkey

9:50 AM

(GOMD-S1-055-2018) Chemical strengthening of silicate glasses: Dangerous and beneficial impurities

V. M. Sglavo^{*1}

1. University of Trento, Dpt. Industrial Engineering, Italy

10:10 AM

(GOMD-S1-056-2018) Thermal tempering ability of Soda-Borosilicate glasses and their frangibility

M. Ono^{*1}; Y. Kato¹

1. Asahi Glass Company, Research Center, Japan

10:30 AM

(GOMD-S1-057-2018) Surface Shear Stress Relaxation

E. Aaldenberg^{*1}; J. H. Seaman²; T. Blanchet²; P. J. Lezzi³; M. Tomozawa¹

1. Rensselaer Polytechnic Institute, Materials Engineering, USA
2. Rensselaer Polytechnic Institute, Mechanical, Aerospace, and Nuclear Engineering, USA
3. Corning Inc., USA

10:50 AM

(GOMD-S1-058-2018) Glass Compression Strength

J. Swab^{*1}; C. Meredith¹

1. Army Research Laboratory, USA

11:10 AM

(GOMD-S1-059-2018) Effect of Case Depth on Abrasion Resistance and Dynamic Fatigue in Chemically Strengthened SLS Glass

W. LaCourse^{*1}; N. J¹; M. Wisniewski¹; M. O'Connell²

1. Alfred University, Inamori School of Engineering, USA
2. GE Aviation, USA

11:30 AM

(GOMD-S1-060-2018) Strength of Aged Soda Lime Silicate Glass and E-glass Fibers

J. Van Sant¹; I. Reimanis^{*1}; D. Diercks¹

1. Colorado School of Mines, USA

S2: Glasses in Healthcare - Fundamentals and Application

Fundamentals of Bioactive Glass I: Atomic and Molecular Structure

Room: El Mirador East (22nd Fl)

Session Chairs: Nicholas Smith, Corning Incorporated; Steven Jung, Mo-Sci Corporation

9:20 AM

(GOMD-S2-001-2018) Modeling and characterization of bioglasses: New insight by solid state Nuclear Magnetic resonance (NMR) / Dynamic Nuclear Polarization (DNP) techniques (Invited)

C. Bonhomme^{*1}; J. Du²; J. M. Rimsza²; C. Combes³; K. Leyngardigal³

1. UPMC, France
2. University of North Texas, USA
3. CIRIMAT, France

9:50 AM

(GOMD-S2-002-2018) Structure and properties of B₂O₃/SiO₂ substituted Na₂O-CaO-SrO-P₂O₅-SiO₂ bioactive glasses from combined study of experiments and molecular dynamics simulations

M. Ren^{*1}; X. Lu¹; L. Deng¹; P. Kuo¹; J. Du¹

1. University of North Texas, USA

10:10 AM

(GOMD-S2-003-2018) Atomistic Simulations of the Initial Stages of the Sol-Gel Synthesis of Bioactive Glasses (Invited)

A. Cormack^{*1}

1. Alfred University, USA

10:40 AM

(GOMD-S2-004-2018) Bioactive Glasses Structure determination via Molecular Dynamics Simulations and NMR-DFT calculations (Invited)

A. Pedone^{*1}

1. University of Modena and Reggio Emilia, Italy

11:10 AM

(GOMD-S2-005-2018) Solid State NMR Approaches for the Structural Characterization of Bioglasses (Invited)

H. Eckert^{*1}

1. University of Sao Paulo, Physics, Brazil

11:40 AM

(GOMD-S2-006-2018) Structure of Na₂O-B₂O₃-P₂O₅-SiO₂ based model bioactive glasses

N. Stone-Weiss^{*1}; N. J. Smith²; R. Youngman²; E. M. Pierce³; H. Eckert⁴; A. Goel¹

1. Rutgers University, Materials Science and Engineering, USA
2. Corning Incorporated, Science and Technology Division, USA
3. Oak Ridge National Lab, Environmental Sciences Division, USA
4. University of Sao Paulo, Sao Carlos Institute of Physics, Brazil

S3: Optical and Electronic Materials and Devices - Fundamentals and Applications

Session 1: Applications

Room: La Vista F (22nd Fl)

Session Chair: Jingshi Wu, Corning Incorporated

9:20 AM

(GOMD-S3-015-2018) Ultrashort pulsed laser induced luminescence in functional glasses (Invited)

Q. Zhao*¹

1. Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China

9:50 AM

(GOMD-S3-016-2018) Treatment of a leucite toughened dental glass-ceramic by a CO₂ laser

M. D. Bilandzic*¹; C. Roos¹

1. RWTH Aachen University, Department of Materials and Process Technology Glass and Composites, Germany

10:10 AM

(GOMD-S3-017-2018) In-Situ Raman Analysis of Laser Modified Oxide Glasses

S. T. Locker*¹; S. K. Sundaram¹

1. Alfred University, Glass Science, USA

10:30 AM

(GOMD-S3-018-2018) Piezoelectric and ferroelectric properties of lithium niobate crystal lines laser-written deep inside glass (Invited)

K. J. Veenhuizen*¹; L. Li²; S. McAnany³; I. Crawley⁴; D. Nolan⁵; B. Aitken⁵; S. Jesse²; S. Kalinin²; V. Dierolf⁶; H. Jain³

1. Lebanon Valley College, Physics, USA
2. Oak Ridge National Lab, USA
3. Lehigh University, Materials Science and Engineering, USA
4. Lehigh University, Physics, USA
5. Corning Incorporated, USA

11:00 AM

(GOMD-S3-019-2018) Long lasting phosphorescence in transition and rare earth metal-doped glasses induced by ultrashort laser pulses

J. Qian*¹; Q. Zhao¹

1. Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science, China

11:20 AM

(GOMD-S3-020-2018) Crystallization Behavior during Non-isothermal Laser Treatment of Fe-Si-B Metallic Glass

S. S. Joshi*¹; A. V. Gkriniari¹; S. Katakam¹; N. B. Dahotre¹

1. University of North Texas, Materials Science and Engineering, USA

Session 3: Optical Fibers and Waveguides

Room: La Vista C (22nd Fl)

Session Chairs: Xianghua Zhang, CNRS - Université Rennes 1; Johann Troles, University of Rennes 1

9:20 AM

(GOMD-S3-021-2018) Novel chalcogenide glass fibers and fiber tapers for Mid-infrared SC generation (Invited)

S. Dai*¹; X. Wang¹; P. Zhang¹

1. Ningbo University, Laboratory of Infrared Materials and Devices, China

9:50 AM

(GOMD-S3-022-2018) Novel transparent glass-ceramic fiber obtained by the powder-in-tube technique (Invited)

S. Chenu*¹; D. Pomarede²; J. Auguste²; G. Humbert²; A. Fernandes Carion¹; M. Allix³; C. Genevois²; E. Veron²; J. Duclere¹; P. Roy²; P. Thomas¹; G. Matzen¹; G. Delaizir¹

1. SPCTS Laboratory, France
2. Xlim Research Institute, France
3. CEMHTI Laboratory, France

10:20 AM

(GOMD-S3-023-2018) Tellurite optical fibres for 1-5 μ m sources: Supercontinuum engineering, spectroscopic applications, hybrid fibres (Invited)

F. Smektala*¹

1. University of Bourgogne, ICB, Laboratoire Interdisciplinaire Carnot de Bourgogne, UMR 6303 CNRS-UBFC, France

10:50 AM

(GOMD-S3-024-2018) Thermally Drawn Electrically Conductive Composite Glass Fibers

F. Tan*¹; S. Chen¹; G. Tao¹; J. Kaufman¹; R. M. Gaume¹; A. Abouraddy¹

1. University of Central Florida, College of Optics and Photonics, USA

11:10 AM

(GOMD-S3-025-2018) All-Infrared supercontinuum generation in a step-indexed Se-based chalcogenide glass fiber (Invited)

X. Wang*¹; R. Wang¹; Z. Zhao¹

1. Ningbo University, China

11:40 AM

(GOMD-S3-026-2018) Fabrication of tapered chalcogenide microstructured optical fibers for enhancing the non linear properties

J. Troles*¹; C. Caillaud²; M. Meneghetti¹; Y. Wu¹; C. R. Petersen³; O. Bang³; J. Adam¹; L. Brilland²

1. University of Rennes, France
2. SelenOptics, France
3. Technical University of Denmark, Denmark

S4: Glass Technology and Cross-Cutting Topics

Session 4: Waste Immobilization - Corrosion II

Room: La Vista D/E (22nd Fl)

Session Chairs: Aize Li, Corning Incorporated; Mike Harrison, National Nuclear Laboratory

9:20 AM

(GOMD-S4-019-2018) Glass Corrosion: An Interface-Controlled Process (Invited)

C. Lenting*²; L. Dohmen¹; T. Geisler²

1. Schott AG, Germany
2. University of Bonn, Steinmann Institut, Germany

9:50 AM

(GOMD-S4-020-2018) Dynamics of self-reorganization explains passivation of silicate glasses (Invited)

S. Gin*¹; M. Collin¹; P. Jollivet¹; M. Fournier¹; M. Thiruvillamalai²; J. Du²; S. Kerisit³

1. CEA, DE2D, France
2. University of North Texas, Department of Materials Science and Engineering, USA
3. Pacific Northwest National Lab, Physical & Computational Sciences Directorate, USA

10:20 AM

(GOMD-S4-022-2018) Lessons in glass corrosion from the de-alloying of metallic systems

J. Ryan*¹

1. Pacific Northwest National Lab, USA

10:40 AM

(GOMD-S4-023-2018) Characterization of simulated silica gels and their interactions with water

T. S. Mahadevan*¹

1. University of North Texas, Materials Science and Engineering, USA

11:00 AM

(GOMD-S4-024-2018) Formation and Structure of Passivation Gels by Reactive Molecular Dynamics Simulations

T. Du*¹; M. M. Smedskjaer²; H. Li¹; M. Bauchy³

1. Harbin Institute of Technology, School of Civil Engineering, China
2. Aalborg University, Department of Chemistry and Bioscience, Denmark
3. University of California, Los Angeles, Department of Civil and Environmental Engineering, USA

S1: Fundamentals of the Glassy State

Session 2: Crystallization in Glass and Its Applications I

Room: La Vista C (22nd Fl)

Session Chairs: Edgar Dutra Zanotto, Federal University of Sao Carlos; Kenneth Kelton, Washington University

1:20 PM

(GOMD-S1-061-2018) Crystal Nucleation in Metallic and Silicate Liquids and Glasses (Invited)

K. F. Kelton^{*1}

1. Washington University, Physics, USA

1:50 PM

(GOMD-S1-062-2018) Transport mechanism in crystal nucleation in oxide glass-formers (Invited)

D. R. Cassar¹; E. Dutra Zanotto^{*1}

1. Federal University of Sao Carlos, DEMa, Brazil

2:20 PM

(GOMD-S1-063-2018) Nucleation and Crystallization in Binary P₂O₅-SiO₂ Glasses

R. Youngman^{*1}; B. Aitken¹; I. Dutta²; B. Wheaton¹; D. Baker¹

1. Corning Incorporated, Science & Technology Division, USA

2:40 PM

(GOMD-S1-064-2018) Estimating nucleation temperature range in BaO·2SiO₂ and 5BaO·8SiO₂ glasses by differential thermal analysis

X. Xia^{*1}; I. Dutta²; J. C. Mauro³; B. Aitken²; K. F. Kelton⁴

1. Washington University in St. Louis, Institute of Materials Science & Engineering, USA
2. Corning Research and Development Corporation, Corning Incorporated, USA
3. Pennsylvania State University, Department of Materials Science and Engineering, USA
4. Washington University in St. Louis, Department of Physics and the Institute of Materials Science & Engineering, USA

3:00 PM

(GOMD-S1-065-2018) Crystallization of sodium molybdate-phosphate and tungstate-phosphate glasses

L. Koudelka^{*1}; O. Kupetska¹; P. Kalenda¹; P. Mosner¹; L. Montagne²; B. Revel²

1. University of Pardubice, General and Inorganic Chemistry, Czechia
2. University of Lille, France

3:20 PM

Break

Session 2: Crystallization in Glass and Its Applications II

Room: La Vista C (22nd Fl)

Session Chairs: Randall Youngman, Corning Incorporated; Indrajit Dutta, Corning Incorporated

3:40 PM

(GOMD-S1-066-2018) Ge-Ga-S/Se chalcogenide glass-ceramics transparent in the infrared: Multifaceted materials (Invited)

L. Calvez¹; X. Zhang^{*1}

1. University of Rennes 1, France

4:10 PM

(GOMD-S1-067-2018) Effect of melt size and scale-up protocols on property evolution in GeSe₂-As₂Se₃-PbSe (GAP-Se) glass ceramics for infrared GRIN applications

A. Yadav^{*1}; A. Buff¹; M. Kang¹; L. Siskin¹; C. Smith¹; J. M. Lonergan¹; K. Chamma¹; C. Blanco¹; C. Arias¹; C. R. Baleine²; T. Mayer³; A. Swisher⁴; A. Pogrebnjakov⁴; A. Hilton⁵; G. Whaley⁵; T. J. Loretz⁶; A. Yee⁶; G. Schmidt⁷; D. Moore⁷; K. Richardson¹

1. University of Central Florida, CREOL-College of Optics and Photonics, USA
2. Lockheed Martin Corporation, USA
3. Virginia Polytechnic Institute and State University, USA
4. The Pennsylvania State University, Department of Electrical Engineering, USA
5. Amorphous Materials Inc., USA
6. Computer Engineering Services, USA
7. University of Rochester, Institute of Optics, USA

4:30 PM

(GOMD-S1-068-2018) Alkaline Earth Aluminosilicate Oxyfluoride Glass Ceramics: From Glass Structure to Crystallization Behaviors

J. Zhao^{*1}; X. Chen¹; J. Du²; Q. Xu¹; Z. Luo¹; X. Qiao¹; X. Fan¹

1. Zhejiang University, Materials Science and Engineering, China
2. University of North Texas, Materials Science and Engineering, USA

4:50 PM

(GOMD-S1-069-2018) Crystal structure of the hexagonal CaAl₂Si₂O₈ precipitated in CaO-Al₂O₃-SiO₂ glass-ceramics

K. Maeda^{*1}; K. Akatsuka¹; K. Iwasaki²; A. Yasumori²

1. Asahi Glass Co., Ltd., Innovative Technology Research Center, Japan
2. Toyko University of Science, Japan

5:10 PM

(GOMD-S1-070-2018) Thermodynamic database development of the Li₂O-Al₂O₃-SiO₂(-Na₂O-CaO-MgO) system and its application for the thermodynamic analysis of the glass-ceramics

B. Konar^{*1}; I. Jung²

1. McGill University, Mining and Materials Engineering, Canada
2. Seoul National University, Department of Materials Science and Engineering, Republic of Korea

5:30 PM

(GOMD-S1-071-2018) Zirconium environment in SiO₂-Na₂O-CaO-Al₂O₃ glass

M. Ficheux^{*1}; L. Cormier²; E. Burov¹

1. Saint-Gobain, SVI, France
2. CNRS, IMPMC, France

Session 3: Structural Characterizations of Glasses I

Room: El Mirador West (22nd Fl)

Session Chairs: Chris Benmore, Argonne National Lab; Sabyasachi Sen, UC Davis

1:20 PM

(GOMD-S1-072-2018) Determining Si-O-Si angle distributions from NMR Spectra (Invited)

P. J. Grandinetti^{*1}

1. Ohio State University, Chemistry, USA

1:50 PM

(GOMD-S1-073-2018) Phase separation in Li- and Na- silicate glasses

J. Wu^{*1}

1. Corning Incorporated, Glass Research, USA

2:10 PM

(GOMD-S1-074-2018) Study of Lithium borate glass structure

N. Tsuda^{*1}; M. Tanida²; T. Miyajima³; S. Urata³; T. Taketoshi³

1. Asahi Glass Co., Ltd., Electronic Material General Division, Japan
2. Asahi Glass Co., Ltd., New Product R&D Center, Japan
3. Asahi Glass Co., Ltd., Innovative Technology Research Center, Japan

2:30 PM

(GOMD-S1-075-2018) New Magnetic Resonance Strategies for the Structural Characterization of Photonic Glasses and Glass Ceramics (Invited)

H. Eckert^{*1}

1. University of Sao Paulo, Physics, Brazil

3:00 PM

(GOMD-S1-076-2018) Photoelasticity and structure of silicate glasses with high polarization ions

A. Saitoh^{*1}

1. Ehime University, Materials Science and Engineering, Japan

3:20 PM

Break

Session 3: Structural Characterizations of Glasses II

Room: El Mirador West (22nd Fl)

Session Chairs: Chris Benmore, Argonne National Lab;
Mario Affatigato, Coe College

3:40 PM

(GOMD-S1-077-2018) Extending the range of Si-29 NMR: Silicate glasses and crystals with abundant paramagnetic transition metal and rare earth cations (Invited)

J. Stebbins*¹

1. Stanford University, USA

4:10 PM

(GOMD-S1-078-2018) Tellurite Glass Structure from Te-125, O-17, and K-39 NMR

M. Garaga¹; U. Werner-Zwanziger¹; J. Zwanziger*¹

1. Dalhousie University, Chemistry, Canada

4:30 PM

(GOMD-S1-079-2018) Structure of binary alkali and alkaline-earth tellurite glasses: Results from two-dimensional ¹²⁵Te NMR spectroscopy

M. A. Marple*¹; Z. Whittles¹; I. Hung²; Z. Gan²; S. Sen¹

1. University of California Davis, Chemical Engineering and Materials Science, USA
2. NIMFL, USA

4:50 PM

(GOMD-S1-080-2018) Cation Migration Mechanisms in Mixed-Network Former Glasses

W. Wu¹; W. Wang¹; S. W. Martin²; J. Kieffer*¹

1. University of Michigan, USA
2. Iowa State University, Materials Science and Engineering, USA

5:10 PM

(GOMD-S1-081-2018) Synthesis, structural and magnetic properties of vanadium-lithium-borate glasses

P. Kidkhunthod*¹

1. Synchrotron Light Research Institute (Public Organization), Research Facility Department, Thailand

Session 5: Computer Simulations and Modeling V

Room: La Vista A/B (22nd Fl)

Session Chairs: Jessica Rimsza, The University of North Texas; Jincheng Du, University of North Texas

1:20 PM

(GOMD-S1-082-2018) Bridging the gap between atomistic and continuum simulations for amorphous solids (Invited)

S. Urata*¹

1. Asahi Glass Co., Ltd., Innovative Technology Research Center, Japan

1:50 PM

(GOMD-S1-083-2018) Structural Mechanisms of Plastic Deformation in Hydrostatically Compressed Calcium Aluminosilicates

N. T. Wiles*¹; S. Goyal²; L. M. Morehouse¹; S. P. Baker¹

1. Cornell University, Materials Science, USA
2. Corning Incorporated, USA

2:10 PM

(GOMD-S1-084-2018) High-frequency dynamics of liquids: Direct links between dynamical, thermodynamic and structural properties from MD modelling results

L. Wang*¹

1. Queen Mary University of London, School of Physics and Astronomy, United Kingdom

2:30 PM

(GOMD-S1-085-2018) Densification of glass under spherical indentation: Comparison between Raman spectroscopy and FEM calculations

G. A. Rosales-Sosa*¹; Y. Kato¹; S. Isawa¹; S. Yoshida²; A. Yamada²; J. Matsuoka²; H. Yamazaki¹

1. Nippon Electric Glass, Corporate Technology Division, Japan
2. The University of Shiga Prefecture, Center for Glass Science and Technology, Japan

2:50 PM

(GOMD-S1-086-2018) Investigating the structure and properties of per-alkaline aluminosilicate glasses using molecular dynamics simulations

M. Ren*¹; J. Du¹; A. Goel²

1. University of North Texas, USA
2. Rutgers University, USA

3:10 PM

Break

Session 8: Glass Under Extreme Conditions - Relaxation and Structure, Experiment and Modelization

Room: La Vista A/B (22nd Fl)

Session Chair: Yann Vaills, CNRS-CEMHTI

3:40 PM

(GOMD-S1-087-2018) Relaxation of permanently densified glasses (Invited)

D. de Ligny*¹; A. Cornet²; A. Veber¹; M. Christine²; V. Martinez²; K. Januchta³; M. M. Smedskjaer³

1. University Erlangen-Nürnberg, Materials Sciences and Engineering, Germany
2. University Lyon1, Institut Lumière Matière, France
3. Aalborg University, Department of Chemistry and Bioscience, Denmark

4:10 PM

(GOMD-S1-088-2018) Design and testing of a large sub-hemispherical glass port for a deep-sea camera housing

F. Cazenave¹; E. H. Baker²; N. D. Card³; G. D. Quinn⁴; P. Remijan⁵; J. Salem⁶; A. K. Varshneya*³

1. Monterey Bay Aquarium Research Institute, USA
2. Connecticut Reserve Technologies, USA
3. Saxon Glass Technologies, USA
4. Private consultant, USA
5. Fathom Imaging Inc., USA
6. NASA Glenn Research Center, USA

4:30 PM

(GOMD-S1-089-2018) Glasses for taming the extreme conditions (Invited)

M. Naji*¹; G. Guimbretiere²; P. Simon²; D. De Sousa Meneses²; L. Martel³; D. Manara³; Y. P. Vaills²

1. University Sidi Mohamed Ben Abdellah, Physics Department, Morocco
2. Université d'Orléans, CNRS CEMHTI, France
3. European Commission, Joint Research Centre (JRC), Directorate of Nuclear Safety and Security, Germany

5:00 PM

(GOMD-S1-090-2018) Molecular dynamics (MD) simulations and non-equilibrium modeling to interpret some behaviors through glass transition and in glassy state (Invited)

H. Jabraoui*¹

1. University de Lorraine, Laboratoire de Physique et Chimie Théoriques (LPCT, UMR CNRS), France

S2: Glasses in Healthcare - Fundamentals and Application

Fundamentals of Bioactive Glasses II: Dissolution Behavior and Bioactivity

Room: El Mirador East (22nd Fl)

Session Chairs: Alastair Cormack, Alfred University; Alfonso Pedone, University of Modena and Reggio Emilia

1:20 PM

(GOMD-S2-007-2018) Structural basis for controlled elemental release from multicomponent glasses (Invited)

N. J. Smith*¹; E. Bakowska¹; N. Stone-Weiss²; A. Goel²; J. Klotz¹; R. Youngman¹; R. Schaut¹

1. Corning Incorporated, USA
2. Rutgers University, Material Science, USA

1:50 PM

(GOMD-S2-008-2018) Dissolution behavior of Li_2O - ZnO - P_2O_5 glasses in water

H. Zhang^{*1}; R. Brow¹; A. Kumar¹

1. Missouri University of Science & Technology, Materials Science & Engineering, USA

2:10 PM

(GOMD-S2-009-2018) Mixed Glass Former Effects on the Dissolution Behavior of Na-Ca-Borophosphate Glasses

P. Freudenberger^{*1}; Q. Myers¹; B. Curtis²; R. Brow¹

1. Missouri University of Science & Technology, USA
2. Iowa State University, USA

2:30 PM

(GOMD-S2-010-2018) Impact of rare earth ions on dissolution behavior and cellular proliferation of alkali-free bioactive glasses

S. Gupta^{*1}; S. Kapoor¹; M. Bhamidipati¹; L. Fabris¹; A. Goel¹

1. Rutgers University, Material Science & Engineering, USA

2:50 PM

(GOMD-S2-011-2018) Bioactive glasses modified by oxides with potential enzymatic-like activities

G. Malavasi^{*1}; L. Menabue¹; G. Lusvardi¹

1. University of Modena and Reggio Emilia, Dept. of Chemical and Geological Sciences, Italy

3:10 PM

Break

Fundamentals of Bioactive Glasses III: Novel Applications of Bioactive Glasses

Room: El Mirador East (22nd Fl)

Session Chairs: Christian Bonhomme, UPMC; Hellmut Eckert, University of Muenster

3:30 PM

(GOMD-S2-012-2018) Transforming materials science into a finished commercial medical device (Invited)

S. Jung^{*1}

1. Mo-Sci Corporation, USA

4:00 PM

(GOMD-S2-013-2018) Manufacturing Calcium Phosphate Porous Microspheres for Orthobiologics Applications

I. Ahmed^{*1}; Z. Hossain¹; U. Patel¹; D. Grant¹; V. Sottile¹; B. Scammell¹

1. University of Nottingham, Faculty of Engineering, United Kingdom

4:20 PM

(GOMD-S2-014-2018) Feasibility of 3D macroporous phosphate glass-ceramic scaffolds using the foam replication technique

J. Rocherullé^{*1}; F. Cheviré¹; P. Bénard-Rocherullé¹; R. Lebullenger¹; J. Massera²

1. University of Rennes, Chemical Sciences Institute - Glass and Ceramic Group, France
2. Tampere University of Technology, BioMediTech and Faculty of Biomedical Sciences and Engineering, Finland

4:40 PM

(GOMD-S2-015-2018) Strength, Toughness and Reliability of Porous Glass (13-93) Scaffold: Influence of a Biopolymer Polycaprolactone (PCL) Coating

Q. Fu^{*1}

1. Corning Incorporated, USA

5:00 PM

(GOMD-S2-016-2018) Laser based coating of bioactive glasses on titanium alloys for biomedical applications

P. Kuo^{*1}; X. Lu¹; S. S. Joshi¹; Y. Ho¹; Y. Xiang¹; N. B. Dahotre¹; J. Du¹

1. University of North Texas, Material Science and Engineering, USA

5:20 PM

(GOMD-S2-017-2018) Enhanced Bioactivity and Processing of Borophosphate Bioglasses for Soft Tissue Repair

B. Gorin^{*1}; J. C. Mauro¹

1. Pennsylvania State University, Materials Science and Engineering, USA

*Denotes Presenter

S4: Glass Technology and Cross-Cutting Topics

Session 4: Waste Immobilization - Corrosion III

Room: La Vista D/E (22nd Fl)

Session Chair: Joseph Ryan, Pacific Northwest National Lab

1:20 PM

(GOMD-S4-025-2018) Glass dissolution as a function of pH

D. Strachan^{*1}

1. Pacific Northwest National Laboratory, USA

1:40 PM

(GOMD-S4-026-2018) Impacts of Glass Composition, pH, and T on Glass Corrosion Forward Rate

J. Vienna^{*1}; J. Neeway¹; J. Ryan¹

1. Pacific Northwest National Lab, USA

2:00 PM

(GOMD-S4-027-2018) Use of Monolithic Samples for Corrosion Testing in a Dilute Reactor

M. Asmussen^{*1}; J. Neeway¹; B. Parruzot¹; E. Brown²; D. Swanberg²; G. L. Smith¹; J. Ryan¹

1. Pacific Northwest National Lab, Energy and Environment Directorate, USA
2. Washington River Protection Solutions, USA

2:20 PM

(GOMD-S4-028-2018) Deconvolution of Early-Stage Corrosion Reactions that Impact Solution pH and Conductivity

R. Schaut^{*1}; S. A. Tietje¹; N. J. Smith²

1. Corning Incorporated, S&T, Glass Research, USA
2. Corning Incorporated, S&T, Surfaces & Interfaces, USA

2:40 PM

(GOMD-S4-029-2018) Effect of Chemical Strengthening on Glass Water Durability

A. Li^{*1}

1. Corning Incorporated, Characterization Science, USA

3:00 PM

(GOMD-S4-030-2018) Mechanisms controlling the short-term dissolution of glasses SON68 and ISG in hyperalkaline conditions at 30°C

K. Ferrand^{*1}; S. Liu¹; K. Lemmens¹

1. Belgian Nuclear Research Centre, Waste and Disposal, Belgium

3:20 PM

Break

3:40 PM

(GOMD-S4-031-2018) Chemical Durability of New Glass Formulations for the Vitrification of UK High Level Waste

M. T. Harrison^{*1}

1. National Nuclear Laboratory, WM&D, United Kingdom

4:00 PM

(GOMD-S4-032-2018) Influence of P_2O_5 on the crystallization and chemical durability of nepheline based glasses

S. Kapoor^{*1}; S. Lakshmikantha¹; J. Marcial²; R. Youngman³; N. J. Smith³; J. McCloy²; A. Goel¹

1. Rutgers University, Materials Science and Engineering, USA
2. Washington State University, School of Mechanical and Materials Engineering and Materials Science and Engineering Program, USA
3. Corning Incorporated, USA

4:20 PM

(GOMD-S4-033-2018) Chemical durability of iron phosphate waste forms containing 40 wt% of a high MoO_3 Collins-CLT waste melted in a cold crucible induction melter

J. Hsu^{*1}; J. Bai¹; C. Kim²; R. Brow¹; J. Szabo²; A. Zervos²

1. Missouri S&T, USA
2. MoSci Corp., USA

4:40 PM

(GOMD-S4-034-2018) Corrosion Interactions between SS316 and ISG in Nuclear Repository Conditions

X. Guo^{*1}; D. Ngo²; H. Liu²; J. Luo²; S. H. Kim²; S. Gin²; J. Vienna⁴; J. Ryan⁴; J. Du²; G. Frankel¹

1. Ohio State University, Materials Science and Engineering, USA
2. Pennsylvania State University, Chemical Engineering, USA
3. CEA, France
4. Pacific Northwest National Laboratory, USA
5. University of North Texas, Materials Science and Engineering, USA

Session 5: Optical Fabrication Science & Technology I

Room: La Vista F (22nd Fl)

Session Chairs: Joseph Menapace, Lawrence Livermore National Laboratory; Tayyab Suratwala, Lawrence Livermore National Laboratory

1:20 PM

(GOMD-S4-035-2018) Mechanisms and Strategies for polishing inert materials (Invited)

L. M. Cook^{*1}

1. Recursive Systems LLC, USA

1:50 PM

(GOMD-S4-036-2018) Demystifying classic polishing problems by identifying the underlying phenomena

R. Whitsitt^{*1}; B. Myer¹; M. Brophy¹; J. DeGroote Nelson¹

1. Optimax Systems, Inc., Research and Development, USA

2:10 PM

(GOMD-S4-037-2018) Fabrication of silica glasses with tailored compositions by 3D printing

R. J. Dylla-Spears^{*2}; J. Destino¹; P. R. Ehrmann²; D. T. Nguyen²; N. Dudukovic²; M. A. Johnson²; L. L. Wong²; T. D. Yee²; K. Sasan²; T. Fears²; W. A. Steele²; E. Duoss²; T. I. Suratwala²

1. Creighton University, Chemistry Department, USA
2. Lawrence Livermore National Laboratory, USA

2:30 PM

(GOMD-S4-038-2018) AFM nanoscratching of optical materials near the elastic-plastic load boundary to mimic the mechanics of polishing particles

N. Shen^{*1}; E. Feigenbaum¹; T. I. Suratwala¹; W. A. Steele¹; L. L. Wong¹; M. D. Feit¹; P. E. Miller¹

1. Lawrence Berkeley National Laboratory, USA

2:50 PM

(GOMD-S4-039-2018) Predictive models for grinding and polishing of various optical materials

T. I. Suratwala^{*1}; W. A. Steele¹; L. L. Wong¹; P. E. Miller¹; N. Shen¹; E. Feigenbaum¹; M. D. Feit¹; J. Destino²

1. Lawrence Livermore National Laboratory, Optics and Materials Science & Technology, USA
2. Creighton University, Chemistry, USA

3:10 PM

(GOMD-S4-044-2018) Several strategies to morphologically stabilize and luminescently enhance [Ag_m]⁺⁺-quantum-cluster contained multi-phase glass

X. Qiao^{*1}; X. Chen¹; J. Zhao¹; R. Ma¹; X. Xu¹; J. Du²; X. Fan¹

1. Zhejiang University, School of Materials Science and Engineering, China
2. University of North Texas, Department of Materials Science and Engineering, USA

3:30 PM

Break

Session 5: Optical Fabrication Science & Technology II

Room: La Vista F (22nd Fl)

Session Chairs: Rebecca Dylla-Spears, Lawrence Livermore National Laboratory; Tayyab Suratwala, Lawrence Livermore National Laboratory

3:40 PM

(GOMD-S4-040-2018) Dynamic Freeform Optics Manufacturing with Surface Error Spatial Frequency Control (Invited)

D. Kim^{*1}; C. Oh¹; H. M. Martin²; L. Graves¹; I. Trumper¹; H. Choi¹

1. University of Arizona, College of Optical Sciences, USA
2. University of Arizona, Steward Observatory, USA

4:10 PM

(GOMD-S4-041-2018) Freeform Optic Manufacturing Using Advanced Magnetorheological Finishing Technology

J. A. Menapace^{*1}

1. Lawrence Livermore National Laboratory, National Ignition Facility, USA

4:30 PM

(GOMD-S4-042-2018) Material properties for optimized lightweight space-based mirrors (Invited)

J. T. Mooney^{*1}

1. Harris Corporation, Space and Intelligence Systems, USA

5:00 PM

(GOMD-S4-043-2018) A Guide to Proper Fused Silica Selection Based on Application and Performance Needs (Invited)

T. Jaeger^{*1}

1. Heraeus Tenevo LLC, USA

Wednesday, May 23, 2018

Award Lectures

Varshneya Frontiers of Glass Science Lecture

Room: El Mirador East (22nd Fl)

8:00 AM

(GOMD-AW-003-2018) Glass and Rare-Earth Elements (Invited)

S. Tanabe^{*1}

1. Kyoto University, Japan

9:00 AM

Break

S1: Fundamentals of the Glassy State

Session 1: Glass Formation and Structural Relaxation I

Room: El Mirador East (22nd Fl)

Session Chairs: John Mauro, Pennsylvania State University; Ozgur Gulbilen, Corning Incorporated

9:20 AM

(GOMD-S1-091-2018) Structure and Dynamics of Viscous Liquids Subject to High Electric Fields (Invited)

R. Richert^{*1}

1. Arizona State University, School of Molecular Sciences, USA

9:50 AM

(GOMD-S1-092-2018) Physical aging of glasses: Phenomenology and structural models (Invited)

R. Golovchak^{*1}

1. Austin Peay State University, Physics and Astronomy, USA

10:20 AM

(GOMD-S1-093-2018) New understanding of collective modes and thermodynamics of the liquid state

K. Trachenko*¹

1. Queen Mary University of London, Physics, United Kingdom

10:40 AM

(GOMD-S1-094-2018) Structure and mechanical properties of sodo-silicate glasses

W. Kob*¹; S. Sundararaman²; S. Ispas³; L. Huang²

1. University of Montpellier, France
2. Rensselaer Polytechnic Institute, USA
3. University of Montpellier, France

11:00 AM

(GOMD-S1-095-2018) Volume Strain Versus Linear Strain: Anisotropy in Dimensional Change During Low Temperature Ion Exchange

E. A. King*¹; D. C. Allan¹; C. Smith¹

1. Corning Incorporated, Glass Research, USA

11:20 AM

(GOMD-S1-096-2018) Modified elastic model for viscosity in glass-forming systems

S. Jaccani*¹; O. Gulbitten²; D. C. Allan²; J. C. Mauro³; L. Huang¹

1. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA
2. Corning Incorporated, USA
3. Pennsylvania State University, USA

11:40 AM

(GOMD-S1-097-2018) Shear-induced ultra-slow relaxation and two-step non-Newtonian behavior in supercooled selenium and related glass-forming liquids

W. Zhu*¹; B. Aitken²; S. Sen¹

1. University of California, Davis, Materials Science Engineering, USA
2. Corning Incorporated, Science & Technology Division, USA

Session 3: Structural Characterizations of Glasses III

Room: El Mirador West (22nd Fl)

Session Chairs: Mario Affatigato, Coe College; Randall Youngman, Corning Incorporated

9:20 AM

(GOMD-S1-098-2018) Amorphous Tantalum and its Relationship with the Liquid State (Invited)

O. L. Alderman*¹; C. J. Benmore⁴; J. Neufeld³; S. Sendelbach¹; A. Tamaloni¹; L. Gallington⁴; C. Elodie²; A. Mermet²; V. Martinez²; R. Weber¹

1. Materials Development Inc., R&D, USA
2. Institut Lumière Matière, Université Claude Bernard Lyon 1, France
3. Spallation Neutron Source, Oak Ridge National Laboratory, USA
4. Argonne National Lab, X-ray Science Division, USA

9:50 AM

(GOMD-S1-099-2018) Lorentzian lineshapes and linewidths of symmetric stretch peaks (800-1200 cm⁻¹) in the Raman spectra of alkali glasses and melts

M. Bancroft¹; W. Nesbitt²; G. Henderson*¹; C. O'Shaughnessy¹; T. Withers³; D. R. Neuville⁴

1. University of Toronto, Earth Sciences, Canada
2. University of Western Ontario, Chemistry, Canada
3. University of Western Ontario, Earth Sciences, Canada
4. IPGP, Geomaterials, France

10:10 AM

(GOMD-S1-100-2018) Structural evolution of glasses with their thermal history (Invited)

D. de Ligny*¹; M. Bergler¹; A. Veber¹; S. Schuller²; F. Angeli²

1. University Erlangen-Nürnberg, Materials Sciences and Engineering, Germany
2. CEA, Marcoule, France

10:40 AM

(GOMD-S1-101-2018) Investigation of Nucleation and Growth in Liquid and Glass Materials using Extended Range X-ray Pair Distribution Function Measurements

R. Weber*¹; O. L. Alderman¹; C. J. Benmore²; A. Tamaloni¹; D. Robinson²

1. MDI, USA
2. Argonne National Lab, Advanced Photon Source, USA

11:00 AM

(GOMD-S1-102-2018) Molecular dynamics study of correlations between IR peak position and bond parameters of silica and silicate glasses: Effects of fictive temperature, temperature, and mechanical stress

J. Luo¹; Y. Zhou¹; S. Milner¹; C. G. Pantano²; S. H. Kim*¹

1. Pennsylvania State University, Chemical Engineering, USA
2. Pennsylvania State University, Materials Science and Engineering, USA

11:20 AM

(GOMD-S1-103-2018) Structure of Mixed Anion Salt Glasses

E. T. Nienhuis*¹; M. Saleh¹; J. Marcial¹; M. Naji²; A. Goel²; J. McCloy¹

1. Washington State University, USA
2. Rutgers University, USA

Session 8: Glass Under Extreme Conditions - High Pressure

Room: La Vista A/B (22nd Fl)

Session Chair: Morten Smedskjaer, Aalborg University

9:20 AM

(GOMD-S1-104-2018) Impact of pressure on plastic yield in amorphous solids with open structure (Invited)

A. Tanguy*¹

1. INSA Lyon, LaMCoS, France

9:50 AM

(GOMD-S1-105-2018) Intermediate state of SiO₂ glass during pressure-induced phase transformation (Invited)

T. Sato*¹

1. Hiroshima University, Japan

10:20 AM

(GOMD-S1-106-2018) Pressure-induced structural changes in silicate glasses and liquids at high pressures (1 to 3 GPa)

S. Bista*¹; J. Stebbins¹

1. Stanford University, Geological Sciences, USA

10:40 AM

(GOMD-S1-107-2018) Spectroscopy as a tool for local density measurement in vitreous silica

C. Weigel¹; M. Foret¹; R. Vacher¹; B. Hehlen¹; B. Ruffe*¹

1. Montpellier University, Physics Department, France

11:00 AM

(GOMD-S1-108-2018) Mechanical Response of Borosilicate Glass During Spherical Nanoindentation and Diamond Anvil Cell Testing: Relation to Constitutive Equation Modeling

B. L. Hackett*¹; R. C. Gallagher²; B. A. Oistad²; A. Wereszczak²; G. M. Pharr³

1. University of Tennessee, USA
2. Oak Ridge National Laboratory, USA
3. Texas A&M University, USA

11:20 AM

(GOMD-S1-109-2018) Pressure Induced Densification and Compression in a Reprocessed Borosilicate Glass

K. J. Ham*¹; Y. Vohra¹; Y. Kono²; P. Patel³; S. Kilczewski⁴

1. University of Alabama at Birmingham, Physics, USA
2. Carnegie Institution of Washington, HPCAT, Geophysical Laboratory, USA
3. U.S. Army Research Laboratory, Ceramics and Transparent Materials Branch, USA
4. Bennett Aerospace, Inc., USA

S3: Optical and Electronic Materials and Devices - Fundamentals and Applications

Session 4: Glass-based Optical Devices I

Room: La Vista C (22nd Fl)

Session Chairs: Juejun Hu, Massachusetts Institute of Technology;
Hongtao Lin, Massachusetts Institute of Technology

9:20 AM

(GOMD-S3-027-2018) Fs-laser processing of glass-based optical waveguide devices (Invited)

J. Hernandez-Rueda¹, D. Krol^{*2}

1. Debye Institute for Nanomaterials Science, Utrecht University, Netherlands
2. University of California, Davis, Materials Science and Engineering, USA

9:50 AM

(GOMD-S3-028-2018) Photochromic windows

N. Lonnroth^{*}; N. F. Borrelli¹; G. Brown¹; M. Price¹; J. Grochocinski¹

1. Corning Incorporated, USA

10:10 AM

(GOMD-S3-029-2018) Chalcogenide Glass Waveguide-integrated Black Phosphorus Mid-Infrared Photodetectors

S. Deckoff-Jones^{*1}; H. Lin¹; D. Kita¹; H. Zheng¹; W. Zhang²; D. Li¹; J. Hu¹

1. Massachusetts Institute of Technology, USA
2. Ningbo University, China

10:30 AM

(GOMD-S3-030-2018) High-performance flexible chalcogenide glass waveguide-integrated photodetectors

L. Li^{*1}; H. Lin¹; Y. Huang¹; R. Shiue²; A. Yadav³; J. Li¹; J. Michon¹; D. Englund²; K. Richardson³; T. Gu¹; J. Hu¹

1. Massachusetts Institute of Technology, Materials Science and Engineering, USA
2. Massachusetts Institute of Technology, Electrical Engineering and Computer Science, USA
3. University of Central Florida, The College of Optics & Photonics, USA

10:50 AM

(GOMD-S3-031-2018) Thermally Drawn Glass Fibers with Conductor-Semiconductor Structured Core

S. Chen^{*1}; F. Tan¹; J. Kaufman¹; H. Ebendorff-Heidepriem²; R. M. Gaume¹; A. Abouraddy¹

1. University of Central Florida, College of Optics and Photonics, USA
2. The University of Adelaide, Australia

11:10 AM

(GOMD-S3-032-2018) Improving the thermal stability of phosphor in a white light-emitting diode (LED) by glass-ceramics: Effect of Al₂O₃ dopant

T. Zhang^{*1}; H. Su¹; J. Yan¹

1. Fuzhou University, College of Materials Science and Engineering, China

S4: Glass Technology and Cross-Cutting Topics

Session 3: Challenges in Manufacturing I

Room: La Vista F (22nd Fl)

Session Chairs: Irene Peterson, Corning Incorporated; Michael Josh Snyder, Corning Research and Development Corporation

9:20 AM

(GOMD-S4-044-2018) Critical Considerations in Modeling of Radiative Heat Transfer in Glass Melts (Invited)

M. K. Choudhary^{*1}

1. International Commission on Glass and MKC Innovations LLC, USA

9:50 AM

(GOMD-S4-045-2018) Computational Fluid Dynamics and Heat Transfer Modeling of a Waste Glass Melter (Invited)

D. P. Guillen^{*1}; A. Abboud¹; R. Pokorny²

1. Idaho National Laboratory, Materials Science and Engineering, USA
2. UCT Prague, Czechia

10:20 AM

(GOMD-S4-046-2018) Alumina and Silica Sources for Continuous Reinforcement Glass Fiber Manufacturing - Melting Energy Aspect (Invited)

H. Li^{*1}

1. Nippon Electric Glass, USA

10:50 AM

(GOMD-S4-047-2018) Impact of calcination of briquette on batch to melt conversion process (Invited)

T. Maehara^{*1}; Y. Doi¹; S. Hyodo¹; D. Kikutani¹; M. Yamamoto¹

1. Asahi Glass Co., Ltd., Production Technology Division, Japan

11:20 AM

(GOMD-S4-048-2018) In-situ analysis of formulation of silicate glass melt using Raman spectroscopy and X-ray Computed Tomography (Invited)

T. Yano^{*1}; R. Kado¹; T. Miyawaki¹; T. Kishi¹; N. Matsushita¹

1. Tokyo Institute of Technology, Department of Materials Science and Engineering, Japan

Session 4: Waste Immobilization - Structure

Room: La Vista D/E (22nd Fl)

Session Chair: Stephane Gin, CEA

9:20 AM

(GOMD-S4-049-2018) Recent advances in understanding self-irradiation damage and gas bubble formation in nuclear waste matrices (Invited)

A. Mir^{*1}; J. A. Hinks¹; S. Donnelly¹

1. University of Huddersfield, Electron Microscopy and Materials Analysis, United Kingdom

9:50 AM

(GOMD-S4-050-2018) Raman and X-ray Absorption Spectroscopy of Network Modifying Tetrahedral Species in Borosilicate Waste Glasses (Invited)

D. A. McKeown^{*1}; H. Gan¹; I. S. Muller¹; A. C. Buechele¹; K. S. Matlack¹; I. L. Pegg¹

1. Catholic University, Vitreous State Laboratory, USA

10:20 AM

(GOMD-S4-051-2018) Structure and properties of cesium loaded Mo-Fe-phosphate glasses

J. Bai^{*1}; J. Hsu¹; R. Brown¹; C. Kim²; J. Szabo²; A. Zervos²

1. Missouri University of Science & Technology, USA
2. MO-SCI Corporation, USA

10:40 AM

(GOMD-S4-052-2018) Structural role of iron in sodium aluminosilicates and sodium silicates

M. Ahmadzadeh^{*1}; P. A. Bingham²; J. McCloy¹

1. Washington State University, Mechanical and Materials Engineering, USA
2. Sheffield Hallam University, Materials & Engineering Research Institute, United Kingdom

11:00 AM

(GOMD-S4-053-2018) Effect of zirconia substitution on the short- and medium-range structures of soda lime borosilicate glasses

X. Lu^{*1}; L. Deng¹; J. Du¹

1. University of North Texas, Material Science and Engineering, USA

11:20 AM

(GOMD-S4-054-2018) Sulfate Sequestration by Ba-Sn Composite Materials to Increase Re Retention in Low-Activity Waste Glass

J. George^{*1}; P. Cholsaipant¹; D. Kim¹; T. Levitskaia¹; M. Fujimoto¹; I. Johnson¹; A. A. Kruger²

1. Pacific Northwest National Lab, USA
2. DOE Office of River Protection, USA

S1: Fundamentals of the Glassy State

Session 1: Glass Formation and Structural Relaxation II

Room: El Mirador East (22nd Fl)

Session Chairs: John Mauro, Pennsylvania State University; Ozgur Gulbitten, Corning Incorporated

1:20 PM

(GOMD-S1-110-2018) Glass formation in highly unstable and fragile systems: The case of phase change materials (Invited)

P. Lucas^{*1}; J. Pries²; S. Wei²; C. Persch²; W. Warfel¹; M. Wuttig²

1. University of Arizona, USA
2. RWTH Aachen University, Germany

1:50 PM

(GOMD-S1-111-2018) Variability in the relaxation behavior of glass: Impact of thermal history fluctuations and fragility

J. C. Mauro^{*1}; Q. Zheng²

1. Pennsylvania State University, Materials Science & Engineering, USA
2. Qilu University of Technology, China

2:10 PM

(GOMD-S1-112-2018) Investigation of Relaxation Processes by MDSC

O. Gulbitten^{*1}

1. Corning Incorporated, Science & Technology Division, USA

2:30 PM

(GOMD-S1-113-2018) Multicomponent diffusion in calcium and sodium aluminosilicate melts

E. Guillard^{*1}; C. Claireaux¹; E. Burov¹; M. Toplis²; M. Roskosz³

1. Joint Unit CNRS/Saint-Gobain, Surface, Glass and Interfaces, France
2. Observatoire Midi-Pyrénées, France
3. Muséum d'Histoire Naturelle, France

2:50 PM

(GOMD-S1-114-2018) Viscosity surging in accordance with phase-separation of boroaluminosilicate glass

H. Tokunaga^{*1}; J. Konishi¹; K. Hayashi¹; S. Urata²

1. Asahi Glass Co., Ltd., New Product R&D Center, Japan
2. Asahi Glass Co., Ltd., Innovative Technology Research Center, Japan

3:10 PM

(GOMD-S1-115-2018) Heating rate effect and activation of the heterogeneous structural relaxation in sodium silicate glass

Y. P. Vaills^{*1}

1. CNRS-CEMHTI, Physics, France

Session 3: Structural Characterizations of Glasses IV

Room: El Mirador West (22nd Fl)

Session Chairs: Sabyasachi Sen, UC Davis; Randall Youngman, Corning Incorporated

1:20 PM

(GOMD-S1-116-2018) Structure of chalcogenide glasses: Partial structure factors by neutron diffraction with isotope substitution (Invited)

A. Zeidler^{*1}; P. S. Salmon¹

1. University of Bath, Department of Physics, United Kingdom

1:50 PM

(GOMD-S1-117-2018) Structural Origin of Intermediate Glasses

S. Jaccani^{*1}; L. Huang¹

1. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA

2:10 PM

(GOMD-S1-118-2018) Structure of Bi and Ga modified GeSe₄-GeTe₄ glasses via Neutron Scattering

J. R. Oelgoetz^{*1}; J. Allen¹; J. Bunton¹; J. Kelly¹; T. L. Hodge¹; R. Golovchak¹; A. Kovalskiy¹; Y. Shpotyuk²

1. Austin Peay State University, Physics & Astronomy, USA
2. University of Rzeszow, Center for Innovation and Transfer of Natural Sciences and Engineering Knowledge, Faculty of Mathematics and Natural Sciences, Poland

2:30 PM

(GOMD-S1-119-2018) Cavities, chemical disorder and polymorphic transitions in chalcogenide liquids and glasses from diffraction studies and modelling (Invited)

E. Bychkov^{*1}

1. University of Littoral, LPCA – EA 4493, France

3:00 PM

(GOMD-S1-120-2018) Probe Medium-range Structure of Glass Materials by First Sharp Diffraction Peak from Total Scattering Analysis

Y. Shi^{*1}

1. Corning Incorporated, Characterization Science, USA

3:20 PM

Break

Session 8: Glass Under Extreme Conditions - Crack, Shock and Damage

Room: La Vista A/B (22nd Fl)

Session Chair: Mohamed Naji, Rutgers, The State University of New Jersey

1:20 PM

(GOMD-S1-121-2018) Structural change under deformation in aluminosilicate glasses (Invited)

H. Inoue^{*1}

1. The University of Tokyo, Institute of Industrial Science, Japan

1:50 PM

(GOMD-S1-122-2018) Impact-induced crack patterns in brittle materials: A peridynamics based investigation

J. Rivera²; J. Berjikian²; M. Bauchy²; N. Krishnan^{*1}

1. Indian Institute of Technology, Civil Engineering, India
2. University of California, Los Angeles, Civil and Environmental Engineering, USA

2:10 PM

(GOMD-S1-123-2018) Impact of pressure on the structure of glass (Invited)

P. S. Salmon^{*1}; A. Zeidler¹

1. University of Bath, Department of Physics, United Kingdom

2:40 PM

(GOMD-S1-124-2018) Network Dilation Anomaly in Ion-Exchanged Glasses Quenched under Pressure

M. Wang¹; M. M. Smedskjaer²; J. C. Mauro²; G. Sant^{*1}; M. Bauchy¹

1. University of California, Los Angeles, USA
2. Aalborg University, Denmark
3. Pennsylvania State University, USA

2:40 PM

(GOMD-S1-125-2018) Glass Striae and Laser Shock Damage

A. T. Mayville^{*1}; A. Wereszczak¹; M. K. Ferber¹; S. Toller²

1. Oak Ridge National Lab, Materials Science and Technology Division, USA
2. LSP Technologies, USA

3:00 PM

Break

Session 8: Glass Under Extreme Conditions - Shock and High Pressure

Room: La Vista A/B (22nd Fl)

Session Chair: Benoit Ruffle, Montpellier University

3:40 PM

(GOMD-S1-126-2018) Permanent deformation and damage of shock loaded silica glass: Experimentation and modeling (Invited)

C. Dereure¹; R. Renou²; D. Loison³; E. Lescoute²; R. Hall⁴; F. Baber⁴; M. Nivard¹; I. Guven⁴; J. Sangleboeuf¹; L. Berthe³; L. Souillard²; J. Guin^{*1}

1. CNRS @ Univ Rennes, Physics Institute Rennes, France
2. CEA DAM DIF, France
3. PIMM Arts et Métiers ParisTech, France
4. Virginia Commonwealth University, Mechanical and Nuclear Engineering, USA

4:10 PM

(GOMD-S1-127-2018) Localized atomic segregation in the spalled area of a $Zr_{50}Cu_{40}Al_{10}$ BMG induced by laser-shock experiment

B. Jodar¹; D. Loison¹; Y. Yokoyama²; M. Nivard¹; E. Lescoute²; L. Berthe³; J. Sangleboeuf^{*1}

1. Institute of Physics Rennes, France
2. CEA/DAM/DIF, France
3. Institute for Material Research, Japan
4. PIMM, France

4:30 PM

(GOMD-S1-128-2018) Silica glass under pressure: A view from first principles calculations (Invited)

S. Ispas^{*1}; S. Sundararaman²; L. Huang²; W. Kob¹

1. University of Montpellier, Lab. Charles Coulomb, France
2. Rensselaer Polytechnic Institute, USA

5:00 PM

(GOMD-S1-129-2018) Understanding Cracking Behavior of Glass from its Response to Compression

S. Jaccani^{*1}; R. Sun¹; L. Huang¹

1. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA

S3: Optical and Electronic Materials and Devices - Fundamentals and Applications

Session 4: Glass-based Optical Device II

Room: La Vista C (22nd Fl)

Session Chairs: Hongtao Lin, Massachusetts Institute of Technology; Tingyi Gu, University of Delaware

1:20 PM

(GOMD-S3-033-2018) Novel methods of glass restructuring for fabrication of devices by laser irradiation (Invited)

H. Jain^{*1}

1. Lehigh University, International Materials Institute for New Functionality in Glass, USA

1:50 PM

(GOMD-S3-034-2018) Chalcogenide Glass Waveguide On-Chip Mid-Infrared Gas Sensor Integrated with PbTe Detector

P. Su^{*1}; Z. Han¹; D. Kita¹; P. Becla²; H. Lin¹; K. Richardson³; L. C. Kimerling¹; J. Hu¹; A. Agarwal⁴

1. Massachusetts Institute of Technology, Department of Materials Science and Engineering, USA
2. CapeSym, USA
3. University of Central Florida, CREOL, USA
4. Massachusetts Institute of Technology, Materials Research Laboratory, USA

2:10 PM

(GOMD-S3-035-2018) Broadband spectroscopic sensing using chip-scale integrated glass waveguide and supercontinuum source

Q. Du^{*1}; H. Zhong³; Y. Zhang¹; Y. Huang²; L. Zhang⁴; W. Zhang⁵; J. Hu¹; Z. Luo²

1. Massachusetts Institute of Technology, Materials Science and Engineering, USA
2. Xiamen University, China
3. Zhejiang University, China
4. Tianjin University, China
5. Ningbo University, China

Session 5: Optical Ceramics and Glass-ceramics I

Room: La Vista C (22nd Fl)

Session Chair: Dingyuan Tang, Nanyang Technological University

3:40 PM

(GOMD-S3-036-2018) Glass ceramic optical fibers fabricated by melt-in-tube method and successive heat treatment (Invited)

J. Qiu^{*1}

1. Zhejiang University, Optical Science and Engineering, China

4:10 PM

(GOMD-S3-037-2018) Rare-earth doped sesquioxide transparent ceramics for laser applications (Invited)

J. Wang¹; D. Yin¹; P. Liu²; J. Ma¹; Y. Wang²; D. Tang^{*1}

1. Nanyang Technological University, School of EEE, Singapore
2. Jiangsu Normal University, School of Physics and Electronic Engineering, China

4:40 PM

(GOMD-S3-038-2018) Microstructure-composited materials: Is the Mr. Right of materials towards extreme-laser? (Invited)

L. Zhang^{*1}; B. Jiang¹; J. Fan¹; X. Mao¹

1. Shanghai Institute of Optics and Fine Mechanics, CAS, China

5:10 PM

(GOMD-S3-039-2018) Luminescence mechanisms and defect levels of undoped powder processed and single crystalline ZnS (Invited)

M. Saleh^{*1}; E. Walter²; K. Lynn³; J. McCloy⁴

1. Washington State University, Materials Science and Engineering Program, USA
2. Pacific Northwest National Laboratory, USA
3. Washington State University, Center for Materials Research, USA
4. Washington State University, School of Mechanical and Materials Engineering, USA

Session 6: Glasses and Glass-ceramics in Detector Applications

Room: El Mirador West (22nd Fl)

Session Chairs: Jacqueline Johnson, UTSL; Mario Affatigato, Coe College; S. Sundaram, Alfred University

3:40 PM

(GOMD-S3-073-2018) Luminescent Glasses and Glass Ceramics for Radiation Detection in Imaging Applications (Invited)

R. L. Leonard^{*1}; C. W. Bond¹; A. Evans¹; J. E. King¹; A. R. Lubinsky²; J. A. Johnson¹

1. University of Tennessee Space Institute, Mechanical, Aerospace, and Biomedical Engineering, USA
2. Stony Brook University, Department of Radiology, USA

4:10 PM

(GOMD-S3-074-2018) In-Situ Characterization of Crystallite Growth in Glass-Ceramic Scintillators (Invited)

B. Becker^{*1}; S. Lombardo¹; C. Struebing¹; B. Wagner¹; Z. Kang¹; J. Nadler¹

1. Georgia Institute of Technology, Georgia Tech Research Institute, USA

4:40 PM

(GOMD-S3-075-2018) Thin Film Storage Phosphors for Computed Radiography Applications

C. W. Bond^{*1}; R. L. Leonard¹; Y. J. Shin²; A. R. Lubinsky³; A. K. Petford-Long²; J. A. Johnson¹

1. University of Tennessee Space Institute, Department of Mechanical, Aerospace, and Biomedical Engineering, USA
2. Northwestern University, Materials Science and Engineering, USA
3. SUNY Stony Brook, Department of Radiology, USA

5:00 PM

(GOMD-S3-076-2018) Scintillating Glasses for Digital Radiography Flat Panel Imagers

A. R. Lubinsky^{*1}; A. Howansky¹; R. L. Leonard²; S. Dow¹; J. A. Johnson²; W. Zhao¹

1. Stony Brook University, Radiology, USA
2. University of Tennessee Space Institute, USA

5:20 PM

(GOMD-S3-077-2018) Molecular Dynamics Simulation of Composition-Structure-Property Correlation of Aluminoborosilicate Glasses

R. Dongol¹; A. Tandia²; S. K. Sundaram^{*1}

1. Alfred University, USA
2. Corning Incorporated, USA

5:40 PM

(GOMD-S3-078-2018) Time-Dependent Microstructural and Optical Evolutions of Ge-Sb-S Chalcogenide Glasses upon Gamma Irradiation for Mid-Infrared Photonics Applications

M. Kang^{*1}; B. Sohn²; S. Novak¹; D. Ma³; Q. Du³; R. Pujari³; C. Blanco¹; L. Siskin¹; A. Yadav¹; C. Schwarz⁴; J. Hu³; D. T. Tan²; A. Agarwal³; K. Richardson¹

1. University of Central Florida, CREOL, College of Optics & Photonics, USA
2. Singapore University of Technology and Design, Engineering Product Development, Singapore
3. Massachusetts Institute of Technology, Department of Materials Science and Engineering, USA
4. Ursinus College, Department of Physics and Astronomy, USA

S4: Glass Technology and Cross-Cutting Topics

Session 3: Challenges in Manufacturing II

Room: La Vista F (22nd Fl)

Session Chairs: Jennifer Mawdsley, Corning Incorporated; Irene Peterson, Corning Incorporated

1:20 PM

(GOMD-S4-055-2018) MAS-NMR Investigation of Structural Changes during Melting in a Multicomponent Sodium Aluminophosphosilicate Glass

J. Rygel^{*1}; C. Hogue¹

1. Corning Incorporated, USA

1:40 PM

(GOMD-S4-056-2018) Change of Viscosity of the Liquid Phase during Batch Melting

A. Priven^{*1}; I. Peterson²

1. Corning Korea, Republic of Korea
2. Corning Incorporated, USA

2:00 PM

(GOMD-S4-057-2018) Near Isostatic Sintering of Infrared Glass in a Carbon-Free Environment

D. J. McGill^{*1}; J. Benghozi-Bouvrance²; L. Roumiguier²; C. Blanco¹; M. Dolhen²; G. Delazir²; S. Chenu²; J. Duclere²; K. Richardson¹; R. Gaume¹

1. University of Central Florida, School of Optics/CREOL, USA
2. Université de Limoges, Science of Ceramic Processes and Surface Treatments Laboratory, France

2:20 PM

(GOMD-S4-058-2018) Application of Micro-Computed Tomography for Quantification of Glass Seeds

K. Goetschius^{*1}; A. Mohammadkhah¹; C. Bischoff¹; A. Gudde²; B. Pouran²; K. Fulton¹

1. Guardian Glass, USA
2. UMC Utrecht, Netherlands

2:40 PM

(GOMD-S4-059-2018) Study of the chemical strengthening of glazes suitable for ceramic tiles by using the Mixture Design approach

M. Montorsi^{*1}; S. Barbi¹; C. Mugoni²; C. Siligardi²

1. University of Modena and Reggio Emilia, Department of Science and Methods for Engineering, Italy
2. University of Modena and Reggio Emilia, Department of Engineering Enzo Ferrari, Italy

3:00 PM

Break

Session 3: Challenges in Manufacturing III

Room: La Vista F (22nd Fl)

Session Chairs: Hong Li, Nippon Electric Glass; Laura Adkins, Corning Incorporated

3:40 PM

(GOMD-S4-060-2018) Theoretical background of modeling of continuous fiber drawing (Invited)

O. Prokhorenko^{*1}

1. L.G.P. International, USA

4:10 PM

(GOMD-S4-061-2018) Glass-to-metal contact in glass-forming: Some new insights into sticking, friction and lubrication (Invited)

C. Roos^{*1}

1. RWTH Aachen University, Glass, Germany

4:40 PM

(GOMD-S4-062-2018) Development of a low friction coating for the container glass forming process

D. K. Orzol^{*1}; L. Wondraczek²; C. Roos³

1. IPGR - International Partners in Glass Research e.V., Germany
2. Friedrich-Schiller-University Jena, Germany
3. RWTH Aachen University, Germany

Session 4: Waste Immobilization - Corrosion IV

Room: La Vista D/E (22nd Fl)

Session Chair: David McKeown, Catholic University

1:20 PM

(GOMD-S4-063-2018) Does Alpha Radioactivity Impact Glass Durability? (Invited)

M. Tribet^{*1}; S. Mougnaud¹; S. Rolland¹; S. Peugeot¹; C. Marques¹; V. Broudic¹; C. Jegou¹

1. CEA, DE2D, France

1:50 PM

(GOMD-S4-064-2018) Behavior of low-activity waste glasses at the Hanford Integrated Disposal Facility: Linking laboratory testing to performance assessment modeling

J. Neeway^{*1}; D. Bacon¹; N. Qafoku¹; G. Tartakovsky¹

1. Pacific Northwest National Lab, USA

2:10 PM

(GOMD-S4-065-2018) Effects of Microstructure on the Corrosion Behavior of Borosilicate Glass-Ceramics for Waste Vitrification

N. Roberts^{*1}; P. Porter¹; R. Brow¹

1. Missouri University of Science & Technology, Materials Science and Engineering, USA

2:30 PM

(GOMD-S4-066-2018) Role of minor element doping on the structure and dissolution of simplified glasses for nuclear waste

H. Smith¹; A. J. Fisher¹; R. J. Hand¹; N. C. Hyatt¹; C. L. Corkhill^{*1}

1. University of Sheffield, Materials Science and Engineering, United Kingdom

2:50 PM

Break

Session 4: Waste Immobilization - Processing I

Room: La Vista D/E (22nd Fl)

Session Chair: Claire Corkhill, University of Sheffield

3:40 PM

(GOMD-S4-068-2018) Using Glass Polymerization and Structure Combined with Quasicrystalline Theory to Produce High Level Radioactive Borosilicate Glass Remotely: A Successful and Easily Modified Statistical Process Control (SPC) System

C. M. Jantzen^{*1}; T. B. Edwards¹; C. L. Trivelpiece¹

1. Savannah River National Laboratory, USA

4:00 PM

(GOMD-S4-069-2018) ORP-PNNL Research Activities to Improve Tc-99 Management during Waste Vitrification: Potential Implementation Scenarios

D. Kim^{*1}; A. A. Kruger²

1. Pacific Northwest National Lab, USA
2. DOE Office of River Protection, USA

4:20 PM

(GOMD-S4-070-2018) Effect of Chlorine and Chromium on Sulfur Solubility in Low-Activity Waste Glass

T. Jin^{*1}; D. Kim¹; D. Mar¹; B. L. Weese¹; M. J. Schweiger¹; A. A. Kruger²

1. Pacific Northwest National Laboratory, USA
2. U.S. Department of Energy Office of River Protection, USA

4:40 PM

(GOMD-S4-071-2018) Molybdenum solubility in alkali-aluminophosphosilicate glasses

H. Kamat^{*1}; N. Stone-Weiss¹; M. Naji¹; H. Eckert²; J. McCloy²; A. Goel¹

1. Rutgers -The State University of New Jersey, Materials Science, USA
2. University of São Paulo, São Carlos Institute of Physics, Brazil
3. Washington State University, School of Mechanical & Materials Engineering and Materials Science & Engineering Program, USA

5:00 PM

(GOMD-S4-072-2018) Uranium solubility in a molten reduced glass

P. Chevreux¹; L. Tissandier²; A. F. Laplace^{*1}; S. Bahl³; E. Deloule²

1. CEA Marcoule, France
2. CRPG, CNRS, France
3. KIT, Germany

Award Lectures

Norbert J. Kreidl Award for Young Scholars

Room: El Mirador East (22nd Fl)

6:00 PM

Introduction

6:10 PM

(GOMD-AW-004-2018) Fabrication of Intrinsically Low Nonlinearity Glass Optical Fibers

M. Cavillon^{*1}; J. Ballato¹; P. Dragic²

1. Clemson University, Materials Science and Engineering, USA
2. University of Illinois at Urbana-Champaign, Electrical and Computer Engineering, USA

6:30 PM

(GOMD-AW-005-2018) Temperature-Modulated Differential Scanning Calorimetry Analysis of High-Temperature Silicate Glasses

T. K. Bechgaard^{*1}; O. Gulbitten²; J. C. Mauro³; M. M. Smedskjaer¹

1. Aalborg University, Denmark
2. Corning Incorporated, USA
3. Pennsylvania State University, Department of Materials Science and Engineering, USA

Thursday, May 24, 2018

Award Lectures

Varshneya Frontiers of Glass Technology Lecture

Room: El Mirador East (22nd Fl)

8:00 AM

(GOMD-AW-006-2018) Recent research trends of chalcogenide glasses and ceramics for infrared photonics and energy applications (Invited)

X. Zhang^{*1}

1. CNRS - Université Rennes 1, France

9:00 AM

Break

S1: Fundamentals of the Glassy State

Session 4: Topology and Rigidity I

Room: El Mirador West (22nd Fl)

Session Chairs: Mathieu Bauchy, University of California, Los Angeles; Morten Smedskjaer, Aalborg University

9:20 AM

(GOMD-S1-130-2018) Topological Model for Glass Relaxation (Invited)

J. C. Mauro^{*1}

1. Pennsylvania State University, Materials Science & Engineering, USA

9:50 AM

(GOMD-S1-131-2018) Low-frequency vibrational modes and Boson peak during nanoindentation: The role of structural heterogeneity in glass deformation (Invited)

L. Wondraczek^{*1}

1. University of Jena, Germany

10:20 AM

(GOMD-S1-132-2018) Relaxation and rigidity: Lessons from simple models (Invited)

G. Naumis^{*1}

1. Instituto de Física, Mexico

10:50 AM

(GOMD-S1-133-2018) Topological Constraint Theory as a Predictor of Hardness in Glass (Invited)

S. P. Baker^{*1}

1. Cornell University, Materials Science and Engineering, USA

11:20 AM

(GOMD-S1-134-2018) Search for a Structural or Dynamical Signature of the Intermediate Phase in the Ge-Se System

A. Zeidler¹; P. S. Salmon^{*1}

1. University of Bath, Department of Physics, United Kingdom

11:40 AM

(GOMD-S1-135-2018) Glass Relaxation is Controlled by the Topology of the Atomic Network

Y. Hu¹; X. Li¹; W. Song¹; Z. Liu¹; T. K. Bechgaard²; M. M. Smedskjaer²; M. Bauchy^{*1}

1. University of California, Los Angeles, Civil and Environmental Engineering Department, USA
2. Aalborg University, Denmark

S3: Optical and Electronic Materials and Devices - Fundamentals and Applications

Session 2: Charge and Energy Transport in Disordered Materials I

Room: El Mirador East (22nd Fl)

Session Chairs: B. Potter, University of Arizona; Krishna Muralidharan, University of Arizona; Xianghua Zhang, CNRS - Université Rennes 1

9:20 AM

(GOMD-S3-079-2018) New Solid State Li⁺ and Na⁺ Ion Conducting Glassy Solid Electrolytes and Their Use in All Solid State Batteries (Invited)

S. W. Martin^{*1}

1. Iowa State University, Materials Science & Engineering, USA

9:50 AM

(GOMD-S3-080-2018) Nitridation of LiPO₃ glass and reprocessing of LiPON in new glass compositions

S. R. de Souza^{*1}; J. E. de Souza¹; A. Whale¹; S. W. Martin¹

1. Iowa State University, MSE, USA

10:10 AM

(GOMD-S3-081-2018) New NaPSO glass compositions using NaPO_3 and NaPO_4 glasses

J. E. De Souza^{*1}; S. R. de Souza¹; S. Kmiec¹; A. R. Joyce¹; S. W. Martin¹

1. Iowa State University, Materials Science and Engineering, USA

10:30 AM

(GOMD-S3-082-2018) Properties of Lithium Oxythiophosphoborate Glasses

M. R. Hoyt^{*1}; S. W. Martin¹

1. Iowa State University, Materials Science & Engineering, USA

10:50 AM

(GOMD-S3-083-2018) Defects and Lithium ion diffusion behaviors in $\text{Li}_{1-x}\text{Al}_x\text{Ge}_{2-x}(\text{PO}_4)_3$ ($0.1 \leq x \leq 0.8$) glass-ceramics from computer simulations

P. Kuo^{*1}; J. Du¹

1. University of North Texas, Material Science and Engineering, USA

11:10 AM

(GOMD-S3-084-2018) Atomistic Interpretation of the ac-dc Crossover Frequency in Ionic Conductors: Results from Electrical Impedance and NMR Spectroscopy (Invited)

S. Sen^{*1}; M. A. Marple¹

1. University of California, Davis, USA

11:40 AM

(GOMD-S3-085-2018) Mixed anion effect in Li-ion conducting chalcogenide glasses

M. A. Marple^{*1}; S. Kim¹; B. Aitken²; S. Sen¹

1. University of California Davis, Chemical Engineering and Materials Science, USA
2. Corning Incorporated, USA

Session 5: Optical Ceramics and Glass-ceramics II

Room: La Vista C (22nd Fl)

Session Chair: John McCloy, Washington State University

9:20 AM

(GOMD-S3-086-2018) Sintering via a stress-induced polymorphic transition: A novel approach to the fabrication of transparent ceramics

R. M. Gaume^{*1}; T. Shoulders²

1. University of Central Florida, CREOL, USA
2. US Army Research Laboratory, RDRL-WMM-E, USA

9:40 AM

(GOMD-S3-087-2018) Large Magneto-optical Effect of Random Oxides in Short Wavelength Range (Invited)

K. Tanaka^{*1}

1. Kyoto University, Department of Material Chemistry, Japan

10:10 AM

(GOMD-S3-088-2018) Upconversion color tunability and white light generation in $\text{Tm}^{3+}/\text{Er}^{3+}/\text{Yb}^{3+}$ doped CaF_2 single crystal (Invited)

L. Su^{*1}

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

10:40 AM

(GOMD-S3-089-2018) High Power Ultrashort Pulse Laser Based on Yb-doped Ceramic Materials (Invited)

S. Kitajima^{*1}; A. Shirakawa¹; H. Yagi²; T. Yanagitani²; H. Ishizawa³

1. University of Electro-Communications, Institute for Laser Science, Japan
2. Konoshima Chemical Co., Ltd., Japan
3. Nikon Co., Ltd., Japan

11:10 AM

(GOMD-S3-090-2018) Hot Isostatic Pressing as a way of processing of luminescent alumina polycrystalline ceramics with high in-line transparency (Invited)

K. Maca^{*1}; K. Drdlikova¹; T. Spusta¹; D. Drdlik¹; R. Klement²; D. Galusek²

1. Brno University of Technology, Czechia
2. Alexander Dubcek University of Trencin, Centre for Functional and Surface Functionalized Glass, Slovakia

Session 7: Rare-earth and Transition Metal-doped Glasses and Ceramics for Photonic Applications I

Room: La Vista A/B (22nd Fl)

Session Chairs: Setsuhisa Tanabe, Kyoto University; Shibin Jiang, AdValue Photonics Inc; Kohei Soga, Tokyo University of Science

9:20 AM

(GOMD-S3-091-2018) Optical fiber waveguide designs enabling efficient laser amplification on weak optical transitions (Invited)

J. W. Dawson^{*1}; P. Pax¹; V. Khitrov¹; L. Kiani¹; D. Drachenberg¹; M. Messerly¹

1. Lawrence Livermore National Lab, NIF&PS, USA

9:50 AM

(GOMD-S3-092-2018) Ceramic Gain Media with Tailored Doping Profile

Z. M. Seeley^{*1}; T. D. Yee¹; N. Cherepy¹; S. A. Payne¹

1. Lawrence Livermore National Laboratory, Materials Science Division, USA

10:10 AM

(GOMD-S3-094-2018) Luminescent ceramics for solid state light sources (Invited)

M. Raukas^{*1}; J. Kelso¹; A. Lenef¹; Y. Zheng¹

1. OSRAM Opto Semiconductors, Materials, USA

10:40 AM

(GOMD-S3-095-2018) Optical Characterization of Lanthanides Local Structure in Mo Containing Borosilicate Glasses and Glass-Ceramics

M. Saleh^{*1}; D. S. Patil²; J. McCloy²

1. Washington State University, Materials Science and Engineering Program, USA
2. Washington State University, School of Mechanical and Materials Engineering, USA

11:00 AM

(GOMD-S3-096-2018) Photo-ionization of polyvalent ions in glasses – defect recovery and long-term stability

D. Möncke^{*1}

1. National Hellenic Research Foundation / Linnaeus University, Theoretical and Physical Chemistry Institute / Department of Built Environment and Energy Technology, Greece

11:20 AM

(GOMD-S3-097-2018) Intense Red Luminescence by Near-UV Excitation in $\text{YSiO}_2\text{N:Eu}^{3+}$

Y. Kitagawa^{*1}; J. Ueda¹; S. Tanabe¹

1. Kyoto University, Graduate School of Human and Environmental Studies, Japan

S4: Glass Technology and Cross-Cutting Topics

Session 2: Sol-Gel-derived Processing of Glasses and Ceramics I

Room: La Vista F (22nd Fl)

Session Chairs: Lisa Klein, Rutgers University; Gang Chen, Ohio University

9:20 AM

(GOMD-S4-073-2018) Wear resistant and multifunctional sol-gel coatings for mechanical protection of glass (Invited)

A. Durán^{*1}; Y. Castro¹

1. Instituto de Ceramica y Vidrio (CSIC), Glasses, Spain

9:50 AM

(GOMD-S4-074-2018) Effect of the sol-gel matrix on the luminescence properties of lanthanide ions (Invited)

R. M. Almeida*¹

1. Instituto Superior Tecnico, Univ. Lisboa, Centro de Quimica Estrutural, Portugal

10:20 AM

(GOMD-S4-075-2018) New Insights into the Condensation Kinetics and Structure of Sol-Gel Silicate Glasses

T. Du*¹; M. M. Smedskjaer²; H. Li¹; M. Bauchy³

1. Harbin Institute of Technology, School of Civil Engineering, China
2. Aalborg University, Department of Chemistry and Bioscience, Denmark
3. University of California, Los Angeles, Department of Civil and Environmental Engineering, USA

10:40 AM

(GOMD-S4-076-2018) SAXS Characterization of Structure and Properties of Sol-gel Glasses

G. Chen*¹; M. Sundararajan¹

1. Ohio University, USA

11:00 AM

(GOMD-S4-077-2018) Solution processed nanostructured materials for functional applications (Invited)

A. Martucci*¹

1. University of Padova, Industrial Engineering, Italy

Session 4: Waste Immobilization - Processing II

Room: La Vista D/E (22nd Fl)

Session Chair: John Vienna, Pacific Northwest National Lab

9:20 AM

(GOMD-S4-078-2018) Numerical and Experimental Study of Crystal Accumulation in Melter Discharge Riser

D. P. Guillen*¹; A. Abboud¹; K. M. Fox²

1. Idaho National Laboratory, Materials Science and Engineering, USA
2. Savannah River National Lab, USA

9:40 AM

(GOMD-S4-079-2018) Understanding the Mechanisms Governing the Crystallization of Spinel in High Level Nuclear Waste Glass

M. Naji*¹; M. Ahmadzadeh²; D. P. Guillen³; G. Sterbinsky⁴; C. J. Benmore⁴; J. McCloy²; A. Goel¹

1. Rutgers, The State University of New Jersey, Materials Science and Engineering Department, USA
2. Washington State University, School of Mechanical and Materials Engineering and Materials Science & Engineering Program, USA
3. Idaho National Laboratory, Materials Science and Engineering Department, USA
4. Argonne National Lab, Advanced Photon Source, USA

10:00 AM

(GOMD-S4-080-2018) Effect of redox on crystallization of spinel crystals in HLW borosilicate glasses

J. Matyas*¹; G. Kroll¹; D. Schreiber²; A. Goel³; A. A. Kruger⁴

1. Pacific Northwest National Lab, Radiological Materials & Detection, USA
2. Pacific Northwest National Lab, Materials Characterization, USA
3. Rutgers University, USA
4. DOE-Office of River Protection, USA

10:20 AM

(GOMD-S4-081-2018) Crystallization behavior of iron- and boron-containing nepheline based glasses: Implications for the performance of high level nuclear waste glasses

A. A. Deshkar*¹; M. Ahmadzadeh²; A. Scrimshire³; E. Han¹; P. A. Bingham³; D. P. Guillen⁴; J. McCloy²; A. Goel¹

1. Rutgers University, Materials Science & Engineering, USA
2. Washington State University, School of Mechanical & Materials Engineering, USA
3. Sheffield Hallam University, Materials and Engineering Research Institute, United Kingdom
4. Idaho National Lab, USA

10:40 AM

(GOMD-S4-082-2018) Determination of Crystal Size, Crystal Fraction, and Glass Forming Constraints in Spinel Forming Simulated High Level Waste Glasses

C. Lonergan*¹; V. Gervasio¹; K. Akinloye-Brown¹; N. L. Canfield¹; M. Schweiger¹; J. Vienna¹; A. A. Kruger²

1. Pacific Northwest National Lab, USA
2. Office of River Protection, USA

11:00 AM

(GOMD-S4-083-2018) Crystallization Kinetics and Microstructural Development in a Complex Borosilicate Glass-Ceramic for Waste Vitrification

P. Porter*¹; N. Roberts¹; R. Brow¹

1. Missouri University of Science & Technology, Materials Science and Engineering, USA

11:20 AM

(GOMD-S4-084-2018) Calculation of Spinel Settling from High Level Waste Glass Using Stoke's Law

C. Lonergan*¹; J. Matyas¹; P. Hrma¹; J. Vienna¹

1. Pacific Northwest National Lab, USA

11:40 AM

(GOMD-S4-085-2018) Thermodynamic and kinetic assessment of nepheline crystallization in Na₂O-Al₂O₃-B₂O₃-SiO₂ glasses: Impact of mixed network former effect

A. A. Deshkar*¹; M. Naji¹; O. Gulbilen²; R. Youngman²; A. Goel¹

1. Rutgers University, Materials Science & Engineering, USA
2. Corning Incorporated, USA

S1: Fundamentals of the Glassy State

Session 4: Topology and Rigidity II

Room: El Mirador West (22nd Fl)

Session Chairs: Mathieu Bauchy, University of California, Los Angeles; Morten Smedskjaer, Aalborg University

1:20 PM

(GOMD-S1-136-2018) Topological nano-engineering of cement hydrates (Invited)

N. Krishnan*¹; B. Wang²; M. Bauchy²

1. Indian Institute of Technology Delhi, Civil Engineering, India
2. University of California, Los Angeles, Civil and Environmental Engineering, USA

1:50 PM

(GOMD-S1-137-2018) Entropy favors heterogeneous network structures near the rigidity threshold (Invited)

L. Yan*¹

1. University of California, Santa Barbara, Kavli Institute for Theoretical Physics, USA

2:20 PM

(GOMD-S1-138-2018) Statistical Mechanical Model of Bonding in Mixed Modifier Glasses

S. Goyal*¹; J. C. Mauro²

1. Corning Incorporated, USA
2. Pennsylvania State University, Material Science, USA

2:40 PM

(GOMD-S1-139-2018) Physical properties of Ge_xGa_{1-x-y}Se_{1-x-y} chalcogenide glasses and their correlation to topological structure

J. M. Lonergan*¹; C. Lonergan²; K. Richardson²; J. McCloy¹

1. Washington State University, School of Mechanical and Materials Engineering, USA
2. University of Central Florida, USA

3:00 PM

(GOMD-S1-140-2018) Topological Dependence of Chemical Durability in Densified Glasses

N. Mascaraque Alvarez¹; M. Bauchy²; M. M. Smedskjaer*¹

1. Aalborg University, Department of Chemistry and Bioscience, Denmark
2. University of California, Los Angeles, USA

3:20 PM

(GOMD-S1-141-2018) Hydrophilic-to-Hydrophobic Transition in Glassy Silica is Driven by the Atomic Topology of its Surface

Y. Yu¹; N. Krishnan²; M. M. Smedskjaer³; G. Sant^{*1}; M. Bauchy¹

1. University of California, Los Angeles, USA
2. Indian Institute of Technology Delhi, India
3. Aalborg University, Denmark

S3: Optical and Electronic Materials and Devices - Fundamentals and Applications

Session 2: Charge and Energy Transport in Disordered Materials II

Room: El Mirador East (22nd Fl)

Session Chairs: B. Potter, University of Arizona; Krishna Muralidharan, University of Arizona; Xianghua Zhang, CNRS - Université Rennes 1

1:20 PM

(GOMD-S3-098-2018) Functional Chalcogenide Glass-ceramics for Photovoltaic and Ionic Conduction

B. Fan^{*1}; X. Bai¹; Y. Xu²; Q. Shen³; H. Fu⁴; Z. Luo⁵; H. Ma⁵; X. Zhang⁵

1. Shenzhen University, College of Physics and Energy, China
2. College of Materials Science and Engineering, China Jiliang University, China
3. College of Materials Science and Engineering, Zhejiang University, China
4. College of Chemistry and Environmental Engineering, Shenzhen University, China
5. Institute of Chemical Science, University of Rennes 1, France

1:40 PM

(GOMD-S3-099-2018) Structure and Properties of Highly Modified Mixed Anion Chalcogenide Glasses in the Na₂S-SiS₂-SiSe₂-PS_{5/2} System

S. Kmiec^{*1}; A. R. Joyce¹; S. W. Martin¹

1. Iowa State University, USA

2:00 PM

(GOMD-S3-100-2018) Porous aluminosilicate structures with tunable thermal transport properties

G. Gupta²; P. Rao¹; M. Momayez²; K. Runge¹; K. Muralidharan^{*1}

1. University of Arizona, Materials Science and Engineering, USA
2. University of Arizona, Mining and Geological Engineering, USA

2:20 PM

(GOMD-S3-101-2018) Conducting pathways in silver-doped chalcogenide glasses (Invited)

K. Prasai^{*1}; G. Chen¹; P. Biswas²; D. Drabold¹

1. Ohio University, Physics and Astronomy, USA
2. Stanford University, Applied Physics, USA
3. The University of Southern Mississippi, Physics and Astronomy, USA

2:50 PM

(GOMD-S3-102-2018) Electrical properties of Cu-As-Te

G. Coleman^{*1}; B. G. Potter¹; P. Lucas¹

1. University of Arizona, Materials Science, USA

3:10 PM

(GOMD-S3-103-2018) Electrical Conduction in Cu-doped Ge-Se Glasses

G. Chen^{*1}; B. Bhattarai¹; D. Drabold¹

1. Ohio University, USA

3:30 PM

(GOMD-S3-104-2018) High electrical conductivity in carbon-nanofiber glass composites

S. Chen^{*1}; G. Tao¹; S. J. Pandey¹; M. Molinari²; L. Tetard³; H. Ebendorff-Heidepriem⁴; A. Abouraddy¹; R. M. Gaume¹

1. University of Central Florida, College of Optics and Photonics, USA
2. University of Reims Champagne Ardenne, France
3. University of Central Florida, NanoScience Technology Center, USA
4. The University of Adelaide, Australia

3:50 PM

(GOMD-S3-105-2018) Crystallization behavior under hydrogen and its electrochemical property of bismuth borate glass

T. Honma^{*1}; Y. Omori¹; T. Komatsu¹

1. Nagaoka University of Technology, Department of Materials Sciences and Technology, Japan

Session 5: Optical Ceramics and Glass-ceramics III

Room: La Vista C (22nd Fl)

Session Chair: Yiquan Wu, Alfred University

1:20 PM

(GOMD-S3-106-2018) Fabrication and Optical Properties of Transparent Nd-doped BaF₂ Ceramics

X. Chen^{*1}; Y. Li¹; Y. Wu¹

1. Alfred University, Materials Science and Engineering, USA

1:40 PM

(GOMD-S3-107-2018) Study on the Consolidation of Sulfide-Based Infrared Optical Ceramics (Invited)

Y. Li¹; Y. Wu^{*1}

1. Alfred University, Kazuo Inamori School of Engineering, USA

2:10 PM

(GOMD-S3-108-2018) Field-Assisted Consolidation of Gallium Oxide Optical Ceramics

Y. Li^{*1}; G. Zhang¹; Y. Wu¹

1. Alfred University, Kazuo Inamori School of Engineering, USA

Session 7: Rare-earth and Transition Metal-doped Glasses and Ceramics for Photonic Applications II

Room: La Vista A/B (22nd Fl)

Session Chairs: Setsuhisa Tanabe, Kyoto University; Shibin Jiang, AdValue Photonics Inc; Kohei Soga, Tokyo University of Science

1:20 PM

(GOMD-S3-109-2018) Developing narrow red LED downconverters for display and lighting applications (Invited)

A. Setlur^{*1}

1. GE Global Research, USA

1:50 PM

(GOMD-S3-110-2018) Nitride and oxynitride phosphors for LED lighting (Invited)

N. Cherepy^{*1}; R. Osborne¹; Z. M. Seeley¹; D. Aberg¹; S. A. Payne¹; T. Wineger¹; A. Srivastava²; H. Comanzo²; D. Schlagel²; T. Lograsso²

1. Lawrence Livermore Nat'l Lab, Materials Science Division, USA
2. GE Global Research, USA
3. Ames Laboratory, USA

2:20 PM

(GOMD-S3-111-2018) Nanomaterials for OTN-NIR Biophotonics

K. Soga^{*1}; M. Kamimura¹; M. Umezawa¹

1. Tokyo University of Science, Dept Mater Sci & Tech, Japan

2:40 PM

(GOMD-S3-112-2018) Frequency Conversion in Lanthanide-based Molecules and Materials (Invited)

E. Hemmer^{*1}

1. University of Ottawa, Chemistry and Biomolecular Sciences, Canada

3:10 PM

(GOMD-S3-113-2018) Rare Earth Doped Nanoparticles: Core/Multi-Shell Structures for Multifunctionality (Invited)

F. Vetrone^{*1}

1. Institut National de la Recherche Scientifique, Centre Énergie, Matériaux et Télécommunications, Canada

S4: Glass Technology and Cross-Cutting Topics**Session 2: Sol-Gel-derived Processing of Glasses and Ceramics II**

Room: La Vista F (22nd Fl)

Session Chairs: Gang Chen, Ohio University; Lisa Klein, Rutgers University

1:20 PM**(GOMD-S4-086-2018) Fabrication of Micro- and Nanostructured Materials using Microreactor-Assisted Chemical Processes (Invited)**C. Chang^{*1}; Y. He¹; A. Chang¹; M. TorresArango²; R. Malhotra³; K. Sierros²

1. Oregon State University, Chemical Engineering, USA
2. West Virginia University, USA
3. Rutgers University, USA

1:50 PM**(GOMD-S4-087-2018) Novel Approaches towards Create Colored Nanoporous Sol-Gel Glasses**A. Chang^{*1}; Y. He¹; M. TorresArango²; R. Malhotra³; K. Sierros²; C. Chang¹

1. Oregon State University, CBEE, USA
2. West Virginia University, USA
3. Rutgers University, USA

2:10 PM**(GOMD-S4-088-2018) Silica Melting Gels Modified by Gold Nanospheres**S. Kallontzi^{*1}; L. Fabris¹; L. C. Klein¹; A. Jitianu²; M. Jitianu³

1. Rutgers University, MSE, USA
2. Lehman College, CUNY, Department of Chemistry and Biochemistry, USA
3. William Paterson University, Chemistry, USA

2:30 PM**(GOMD-S4-089-2018) Silica Melting Gels Applied by Electrospaying**L. C. Klein^{*1}; A. Jitianu²; L. Lei³; J. P. Singer³

1. Rutgers University, MS&E, USA
2. Lehman College-CUNY, Chemistry, USA
3. Rutgers University, Mechanical & Aerospace Engg, USA

Session 4: Waste Immobilization - Processing III

Room: La Vista D/E (22nd Fl)

Session Chair: Charmayne Lonergan, Pacific Northwest National Lab

1:20 PM**(GOMD-S4-090-2018) Low-Activity Waste Vitrification and Off-Gas Sampling in a Laboratory-Scale Melter**D. Dixon^{*1}; W. Eaton¹; C. Stewart¹; D. Cutforth¹; J. Peterson¹; J. Lang¹; M. Hall¹; J. Venarsky¹

1. Pacific Northwest National Lab, USA

1:40 PM**(GOMD-S4-091-2018) Maximising waste volume reductions through vitrification of both waste clinoptilolite and Magnox sludge**J. Clarke^{*1}; C. L. Corkhill¹; M. C. Stennett¹; S. Morgan²; N. C. Hyatt¹

1. University of Sheffield, United Kingdom
2. Sellafeld Ltd., United Kingdom

2:00 PM**(GOMD-S4-092-2018) Rheology of the cold cap**B. McCarthy^{*1}; J. George¹; D. Dixon¹; M. Wheeler¹; P. Hirma¹; D. Linn¹; J. Chun¹; D. Cutforth¹;A. A. Kruger²; M. Hujova²; R. Pokorny²

1. Pacific Northwest National Lab, USA
2. Institute of Chemical Technology in Prague, Czechia
3. Office of River Protection, USA

2:20 PM**(GOMD-S4-094-2018) Heat Capacity of Simulated LAW Waste Glass**C. Rodriguez^{*1}; J. V. Crum¹; M. Schweiger¹; J. Vienna¹

1. Pacific Northwest National Lab, Material Science, USA

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brow@mst.edu

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jcm426@psu.edu

TECHNICAL PROGRAM

Symposia 1 **Glass Structure and Chemistry**

Symposia 2 **Glass Physics**

Symposia 3 **Glass Technology and Manufacturing**

Symposia 4 **Emerging Applications of Glass**

Symposia 5 **Glass Education (TC23)**

Symposia 6 **Arun K. Varshneya Festschrift**



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