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June 9–14, 2019 | Boston Park Plaza Hotel and Towers | Boston, Massachusetts | USA

25th International Congress on Glass (ICG2019)

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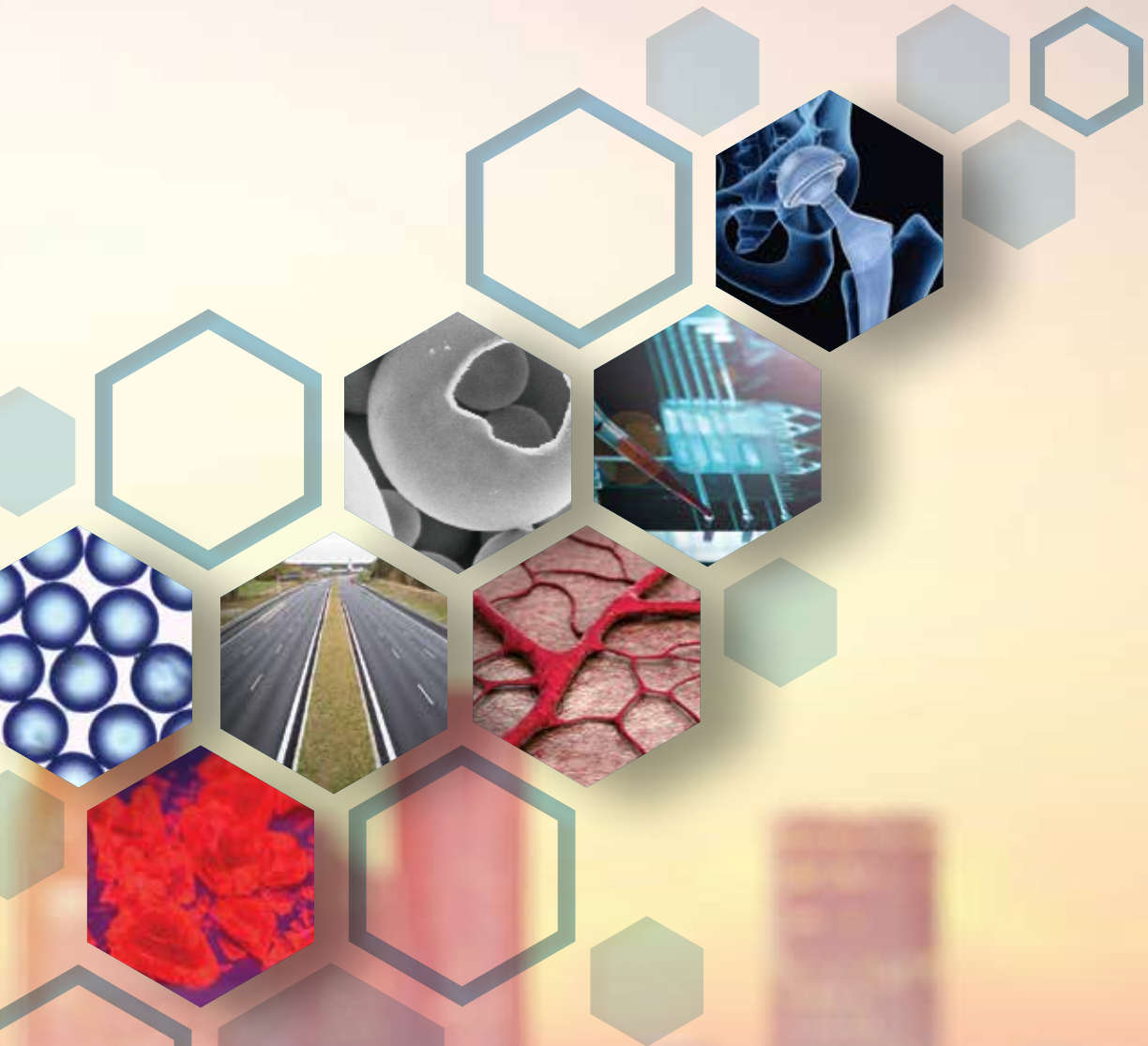

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WELCOME

On behalf of the Glass and Optical Materials Division of the American Ceramic Society and the International Commission on Glass, we welcome you to Boston, Massachusetts for the 25th International Congress on Glass (ICG2019). We are expecting close to 1,000 colleagues from around the world to meet and share their latest information on glass science and technology, renewing old acquaintances, and developing new collaborations.

Through the hard work of our session organizers and partners in the ICG Technical Committees, we have a strong and vibrant technical program planned for this week. We have 43 technical sessions with topics related to Glass Structure and Chemistry, Glass Physics, Glass Technology and Manufacturing, Emerging Applications of Glass, Glass Art, and Glass Education. An overview of these sessions is enclosed and an up-to-date schedule can be found on our website (https://ceramics.org/event/icg2019) or on our meeting app.

In addition to our technical program, there are many other special events at ICG2019, including

- The ICG and GOMD Award Lectures
- Special Monday luncheon to recognize the 100th anniversary of the creation of the ACerS Glass and Optical Materials Division
- Monday evening Welcome Reception
- Arun K. Varshneya Festschrift
- Women in Science Reception
- ICG/PCSA Early Career Networking Event
- GlassTrend Sustainability Debate
- Thursday Evening Congress Banquet
- Self-guided tours through Boston's historical landmarks.

Please visit the Schedule of Events on page iv for specific times, dates, and locations for these special events, and more. If you have any questions about the Congress, please do not hesitate to contact us or one of the ACerS staff who will be available throughout our venue.

We thank you for participating in ICG2019, and hope you enjoy your time in Boston.

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ICG 2019 Congress president

John Mauro
ICG 2019 Program chair

ICG 2019 Congress president

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Aalborg Unviersity, Denmark

Mette Solvang
Rockwool International, Denmark

Randall Youngman
Corning Incorporated, USA

Yuanzheng Yue
Aalborg University, Denmark

Anita Zeidler
University of Bath, UK

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Final Program

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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 fields of glass and 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 for you on next page, 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 or 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.

MEETING REGULATIONS

Cell phones silent

During oral sessions conducted during Society meetings, unauthorized photography, videotaping, and audio recording is strictly prohibited for two reasons:
(1) conference presentations are the intellectual property of the presenting authors as such are protected, and
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Note: The Society may engage photographers to photograph sessions for marketing and promotional purposes.

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The American Ceramic Society is a nonprofit scientific organization that facilitates the exchange of knowledge meetings and publication of papers for future reference. The Society owns and retains full right to control its publications and its meetings. The Society has an obligation to protect its members and meetings from intrusion by others who may wish to use the meetings for their own private promotion purpose. Literature found not to be in agreement with the Society's goals, in competition with Society services or of an offensive nature will not be displayed anywhere in the vicinity of the meeting. Promotional literature of any kind may not be displayed without the Society's permission and unless the Society provides tables for this purpose. Literature not conforming to this policy or displayed in other than designated areas will be disposed. The Society will not permit unauthorized scheduling of activities during its meeting by any person or group when those activities are conducted at its meeting place in interference with its programs and scheduled activities. The Society does not object to appropriate activities by others during its meetings if it is consulted with regard to time, place, and suitability. Any person or group wishing to conduct any activity at the time and location of the Society meeting must obtain permission from the Executive Director or Director of Meetings, giving full details regarding desired time, place and nature of activity.

Diversity Statement: The American Ceramic Society values diverse and inclusive participation within the field of ceramic science and engineering. ACerS strives 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. Visit the registration desk if you need access to a nursing mother's room or need further assistance. For childcare services, please check with the concierge at individual hotels for a listing of licensed and bonded caregivers.

The American Ceramic Society plans to take photographs and video at the conference and reproduce them in educational, news or promotional materials, whether in print, electronic or other media, including The American Ceramic Society's website. By participating in the conference, you grant The American Ceramic Society the right to use your name and photograph for such purposes. All postings become the property of The American Ceramic Society.

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

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MEETING SCHEDULE OF EVENTS

Sunday, June 9, 2019

ICG Technical Committee Meetings	8:00 a.m. – 6:00 p.m.
Registration	3:00 – 6:00 p.m.

Monday, June 10, 2019

Registration	7:00 a.m. – 5:00 p.m.
ICG Opening session	8:00 – 11:15 a.m.
Opening remarks including ICG Award presentations:	8:00 – 9:30 a.m.
Technology Fair	9:30 a.m. – 8:00 p.m.
Break	9:30 – 9:45 a.m.
Gottardi Award #1 lecture	9:45 – 10:15 a.m.
Gottardi Award #2 lecture	10:15 – 10:45 a.m.
Weyl Award lecture	10:45 – 11:15 a.m.
Break: Attendees pick up box lunch and find their seats in Grand A Ballroom	11:15 – 11:30 a.m.
GOMD 100th Year Anniversary Luncheon & Award Lectures	11:30 a.m. – 1:15 p.m.
George W. Morey Award presentation	11:30 a.m. – Noon
Stookey Lecture of Discovery presentation	Noon – 12:30 p.m.
L. David Pye Lifetime Achievement Award	12:30 – 12:45 p.m.
GOMD anniversary program	12:45 – 1:10 p.m.
Afternoon technical sessions	1:20 – 5:20 p.m.
CTC business meeting	2:00 – 5:00 p.m.
Women in Science reception	5:00 – 6:00 p.m.
Welcome reception, poster session (1 of 2), and Technology Fair	6:00 – 8:00 p.m.

Tuesday, June 11, 2019

Registration	7:30 a.m. – 5:00 p.m.
Concurrent sessions	8:00 a.m. – 5:10 p.m.
Lunch on own	Noon – 1:20 p.m.
Technology Fair	10:00 a.m. – 7:00 p.m.
ICG Steering Committee meeting	9:00 a.m. – Noon
ICG council meeting	1:00 – 4:00 p.m.
Poster session (2 of 2), Technology Fair, and reception	5:00 – 7:00 p.m.

Wednesday, June 12, 2019

Registration	7:30 a.m. – 12:30 p.m.
Michael Cable Memorial lecture	8:00 – 9:00 a.m.
Technology Fair	8:30 a.m. – 12:30 p.m.
*Concurrent sessions (*one session from symposium III; Glass furnace operation and designs runs 1:20 – 6:00 p.m.)	9:00 a.m. – 12:30 p.m.
Varshneya Glass Science Lecture	9:30 – 10:30 a.m.
Free time	12:30 p.m. to end of day
IJAGS award lunch (by invitation only)	12:30 – 2:00 p.m.
ICG/PCSA Early Career Networking Event	12:45 – 2:30 p.m.

Thursday, June 13, 2019

Registration	7:30 a.m. – 5:00 p.m.
Concurrent sessions	8:00 a.m. – 6:40 p.m.
Varshneya Glass Technology Lecture	8:00 – 9:00 a.m.
GlassTrend Sustainability Debate	11:00 a.m. – Noon
Lunch on own	Noon – 1:20 p.m.
Dinner banquet	7:00 – 9:30 p.m.

Friday, June 14, 2019

Registration	7:30 a.m. – Noon
Concurrent sessions	8:00 a.m. – 12:45 p.m.
Lunch on own	12:30 – 2:00 p.m.
Closing ceremony	2:00 – 2:30 p.m.

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Corning is one of the world's leading innovators in materials science, with a 168-year track record of life-changing inventions. We apply our unparalleled expertise in glass science, ceramics science, and optical physics along with our deep manufacturing and engineering capabilities to develop category-defining products that transform industries and enhance people's lives.

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TECHNICAL COMMITTEE SCHEDULE

Committee	Chair	Date & Time	Room
CTC Business Meeting		Monday, June 10 | 2:00 – 5:00 p.m.	White Hill (4th floor)
ICG Steering Committee Meeting		Tuesday, June 11 | 9:00 a.m. – 12:00 p.m.	White Hill (4th floor)
ICG Council Meeting		Tuesday, June 11 | 1:00 – 4:00 p.m.	White Hill (4th floor)
TC03	Daniel Neuville	Sunday, June 9 | 2:00 – 4:00 p.m.	Holmes (4th floor)
TC04	Delia Brauer	Sunday, June 9 | 4:00 – 6:00 p.m.	Whittier (4th floor)
TC05	Ashutosh Goel | Kai Xu	Wednesday, June 12 | 12:30 – 1:30 p.m.	Whittier (4th floor)
TC06	Lothar Wondraczek	Sunday, June 9 | 2:00 – 4:00 p.m.	Hancock (4th floor)
TC07	Mark Davis	Sunday, June 9 | 4:00 – 6:00 p.m.	Cambridge (4th floor)
TC09	Hans van Limpt	Sunday, June 9 | 1:00 – 4:00 p.m.	White Hill (4th floor)
TC12	Massimo Guglielmi	Thursday, June 13 | 4:00 – 6:00 p.m.	Holmes (4th floor)
TC16	Rui Almeida	Sunday, June 9 | 2:00 – 4:00 p.m.	Newbury (4th floor)
TC17	Stephen Koob	Tuesday, June 11 | Noon – 1:20 p.m.	Tremont (4th floor)
TC18	Jaroslav Klouzek	Sunday, June 9 | 4:00 – 6:00 p.m.	Beacon Hill (4th floor)
TC19	Seong Kim	Sunday, June 9 | 4:00 – 6:00 p.m.	Stuart (4th floor)
TC20	Giancarlo Righini	Monday, June 10 | 5:00 – 6:00 p.m.	White Hill (4th floor)
TC21	Aaron Huber	Sunday, June 9 | 4:00 – 6:00 p.m.	White Hill (4th floor)
TC23	Ana C.M. Rodrigues	Sunday, June 9 | 2:00 – 4:00 p.m.	Clarendon (mezz)
TC26	Bernard Hehlen	Sunday, June 9 | 4:00 – 6:00 p.m.	Newbury (4th floor)
TC27	Jincheng Du	Sunday, June 9 | 4:00 – 6:00 p.m.	Hancock (mezz)
TC28	Yuanzheng Yue	Sunday, June 9 | 1:00 – 4:00 p.m.	Cambridge (4th floor)

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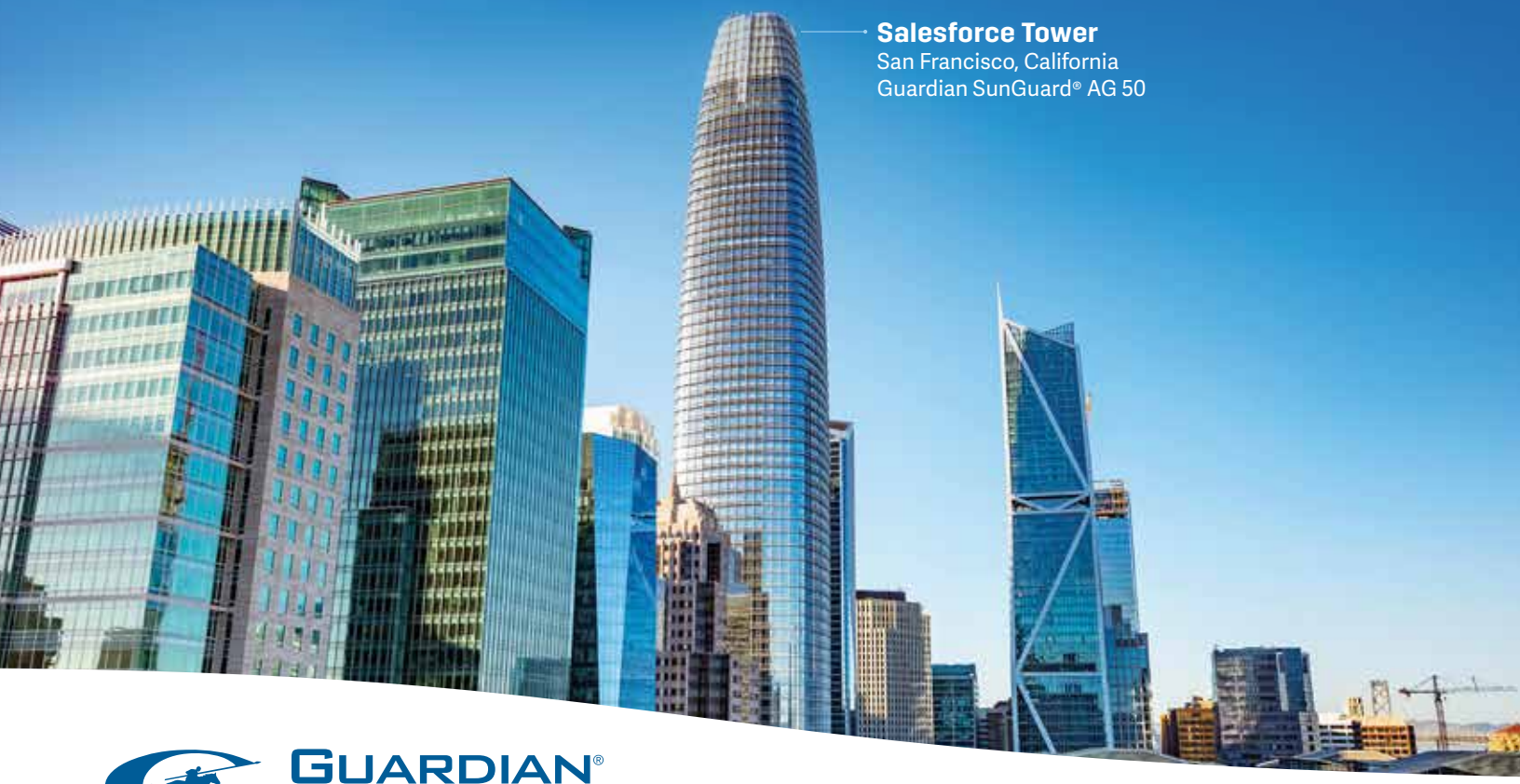

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ICG AWARDS

ICG President's Award


Choudhary

Manoj Choudhary, MKC Innovations,LLC


Kirman

Ahmed Kirman, Vice Chair and CEO, Sisecam, Turkey

W.E.S. Turner Award


Du

Jincheng Du, University of North Texas, USA


Dunkl

Michael Dunkl, Dr. M. Dunkl Consulting, Germany

2018 V. Gottardi Prize


Zhou

Shifeng Zhou, South China University of Technology, China

Title: *Multicomponent photonic glasses and fibers*

2019 V. Gottardi Prize


Smedskjaer

Morten M. Smedskjaer, Professor MSO, Aalborg University, Denmark

Title: *Toward intrinsic damage resistance and ductility in oxide glasses*

Woldemar A. Weyl International Glass Science Award


Bennett

Thomas Bennett, Cambridge University, UK

Title: *Metal-organic framework liquids, glasses and blends*

Michael Cable Memorial Lecture


Hulme

Richard Hulme, Guardian Glass, USA

Title: *You ought to go away and think again!*

GOMD AWARDS

Stookey Lecture of Discovery


Yoldas

Bulent Yoldas, Carnegie Mellon University, USA

Title: *Formation of glass and ceramics by chemical polymerization and its effects on properties*

George W. Morey Award


Jain

Himanshu Jain, Lehigh University, USA

Title: *The architectured glass*

L. David Pye Lifetime Achievement Award


Kurkjian

Charles Kurkjian, Emeritus Research Professor, Department of Materials Science and Engineering, Rutgers University, USA

John Douglas Mackenzie, Professor Emeritus, University of California Los Angeles, USA

Honorary Member


Schaeffer

Helmut Schaeffer, Research Association of the German Glass Industry (HVG) and the University of Erlangen, Germany

Varshneya Glass Science Lecture


Zwanziger

Josef W. Zwanziger, Dalhousie University, Canada

Title: *Mechanics, chemistry, and light: The photoelasticity of glass*

Varshneya Glass Technology Lecture


Hill

Robert Hill, Imperial College, UK

Title: *Structure-property relationships in halide containing bioactive glasses*

SPECIAL EVENTS

Honorary Symposium

Symposium 7: Arun K. Varshneya Festschrift

June 11 – 14 | Georgian room

This Symposium honors Professor Arun K. Varshneya—educator, mentor, scholar, and entrepreneur. Dr. Varshneya, Emeritus Professor of Glass Science and Engineering at Alfred University and president of Saxon Glass Technologies has dedicated nearly six decades of his life to the advancement of glass science, engineering, and technology. Born in Agra, India, Arun stands on the shoulders of the late Professor Ronald W. Douglas of Sheffield University (UK) for his undergraduate education and of the late Professor Alfred R. Cooper of Case Western Reserve University for his graduate education. Since his first technical presentations at the American Ceramic Society Annual Meeting in 1966 and at the International Congress on Glass in 1968, he has become one of the more recognized faces among global glass professionals. Varshneya's leadership as an educator, mentor, scholar, and entrepreneur is clearly exemplified by many of the achievements that have paved the path for the future generations of glass scientists and engineers worldwide.

As an educator, or "Glass Guru," Varshneya is best known for his textbook, *Fundamentals of Inorganic Glasses*, soon to appear in its third edition. The book combines a rigorous approach to glass science and technology with an accessible writing style, making it an ideal textbook for both upper-level undergraduates and graduate students. In addition to Alfred University, he has taught short courses on glass science and technology in many countries across the globe. He is a very engaging lecturer whose passion for glass science is truly contagious.

Women in Science Reception

Monday, June 10 | 5 – 6 p.m. | Grand Ballroom

Enjoy the opportunity to network with professionals and peers in a relaxed environment.

Welcome Reception

Monday, June 10 | 6–8 p.m.| Grand Ballroom

Mingle with other glass researchers and profssionals, while visiting the poster session and Technology Tabletop Fair.

GOMD Student Poster Contest

Sponsored by:

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ICG Stevanato Best poster award

Sponsored by:

SG Stevanato Group

Monday, June 10 | 6–28 p.m.
Tuesday, June 11 | 5–7 p.m.

This year's GOMD student contest is organized by Irene Peterson and Sushmit Goyal, both from Corning and the ICG Stevanato Award is organized by Gabriele Peron of Stevanato Group.

Norbert J. Kreidl Award for Young Scholars

Tuesday, June 11 | 12:15 p.m. | Georgian room

Emily M. Aaldenberg, Rensselaer Polytechnic Institute, USA

Title: *Surface stress relaxation of silica glass and the presence of composition fluctuations*

Aaldenberg

ICG/PCSA Early Career Networking Event

Wednesday, June 12 | 12:45–2:30 p.m. | Terrace room (lower level)

Students and young professionals will want to attend this informal discussion and networking event with scientists from industry, national laboratories, and academia. This will be an opportunity for attendees to ask questions in a casual environment on diverse topics (work-life balance, career opportunities, etc.). Attendees will be encouraged to rotate every 15 minutes so they can have a chance for candid discussions with several professionals during the session. Lunch will be provided.

Banquet

Thursday, June 13 | 7–9:30 p.m. | Grand Ballroom

Celebrate the 25th Congress banquet with friends and colleagues.

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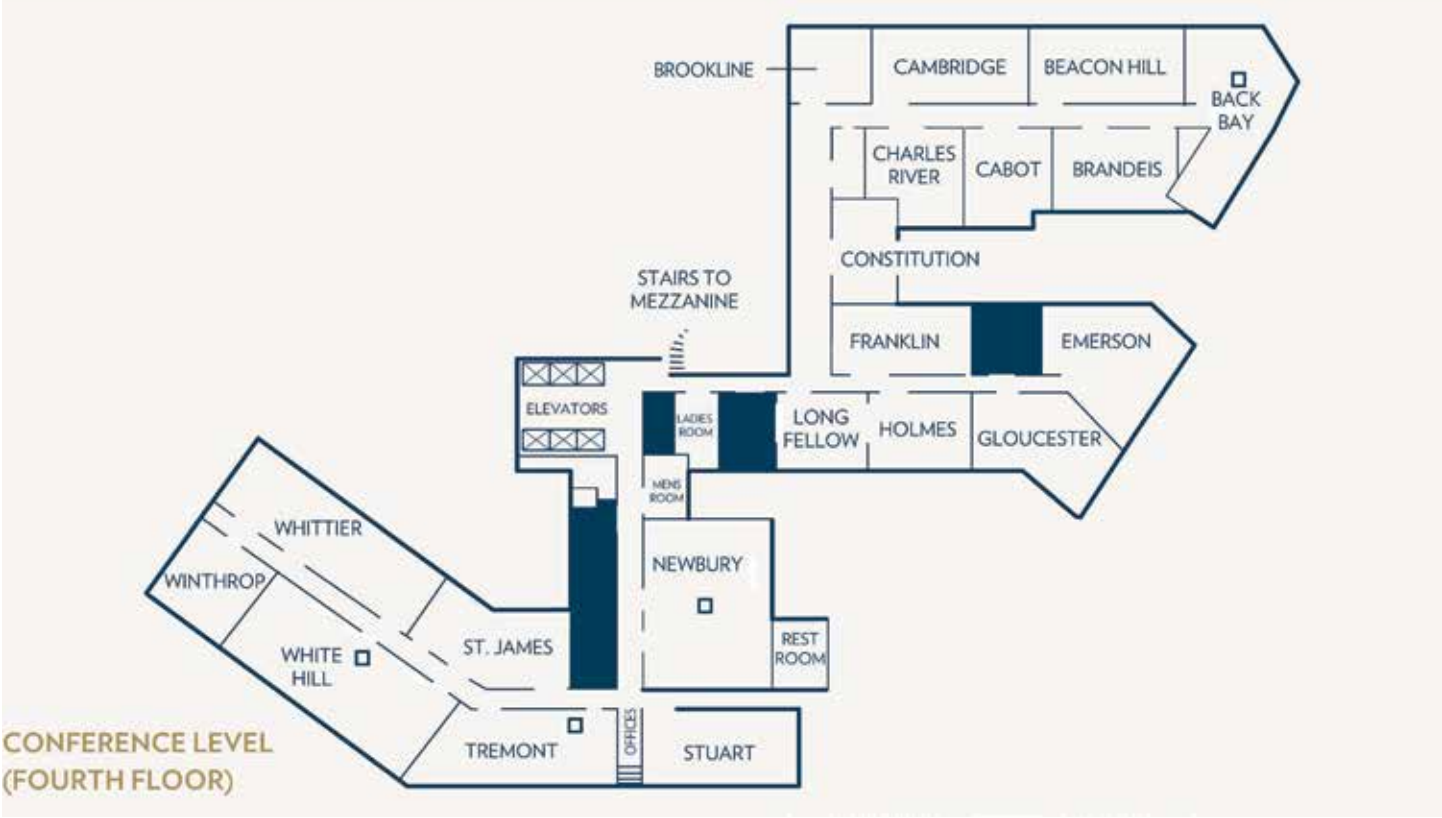

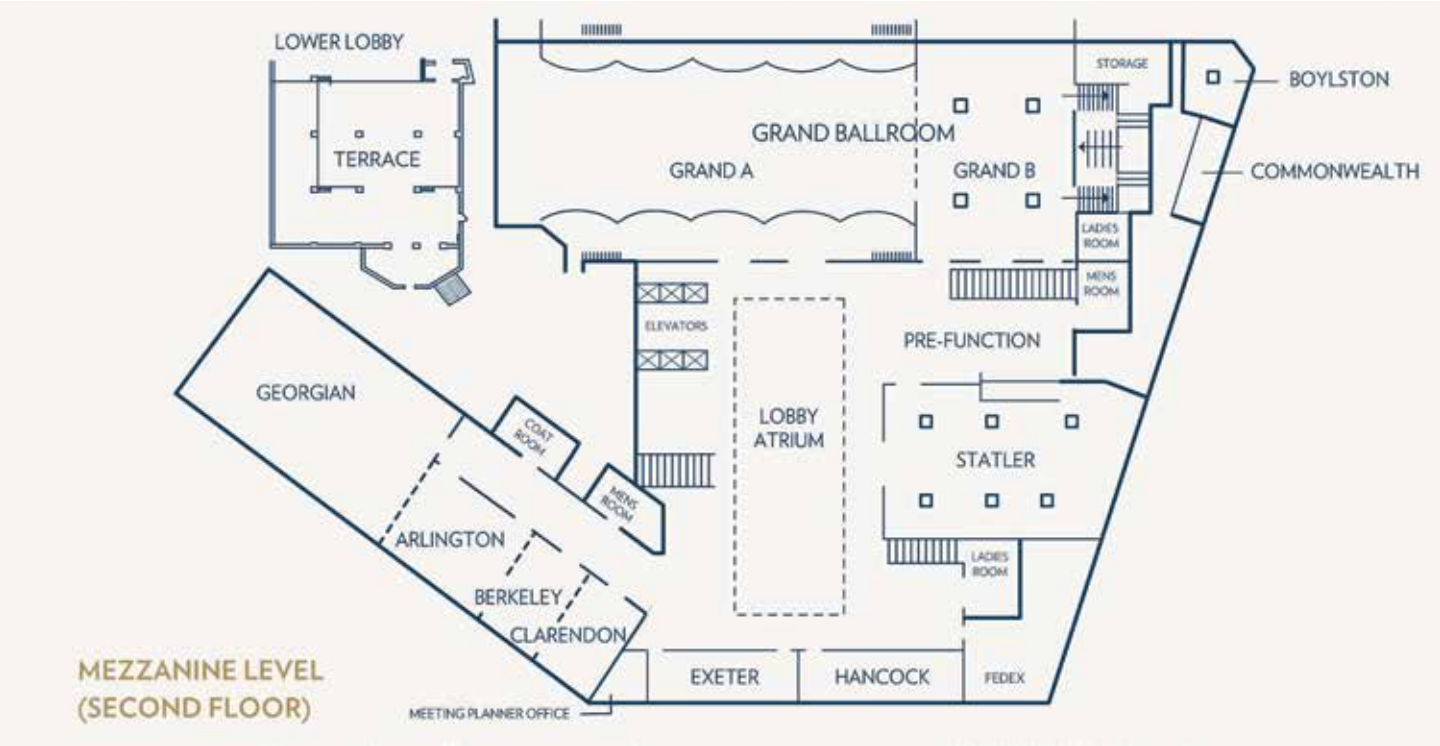

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SYMPOSIA AND TECHNICAL SESSIONS

SYMPOSIUM I: GLASS STRUCTURE AND CHEMISTRY

Lead Organizer

- **Doris Möncke**, National Hellenic Research Foundation, Greece dmoencke@eie.gr

S1: Definition of Network Formers and Network Modifiers (ICG TC03 & TC26)

Organizers

- **Daniel Neuville**, Institut de Physique du Globe de Paris, France
- **Bernard Hehlen**, University of Montpellier, France

S2: Glass and Melt: Macroscopic Properties and Structure of Melt at High Temperature (ICG TC03 & TC26)

Organizers

- **Daniel Neuville**, Institut de Physique du Globe de Paris, France
- **Bernard Hehlen**, University of Montpellier, France

S3: Metallic Glasses

Organizers

- **Yunfeng Shi**, Renssaelaer Polytechnic Institute, USA
- **Jian Luo**, Corning Incorporated, USA

S4: Chalcogenide Glass Structure and Chemistry

Organizers

- **J. David Musgraves**, IRqadiance Glass, USA
- **Laurent Calvez**, University of Rennes, France

S5: Borate Glasses

Organizers

- **Efstratios I. Kamitsos**, National Hellenic Research Foundation, Greece
- **Steve Feller**, Coe College, USA

S6: Phosphate Glasses

Organizers

- **Doris Möncke**, Alfred University, USA
- **Richard K. Brow**, Missouri University of Science & Technology, USA
- **Ladislav Koudelka**, University Pardubice, Czech Republic

S7: Silicate Glass Structure

Organizers

- **Randall Youngman**, Corning Incorporated, USA
- **Daniel Neuville**, Institut de Physique du Globe de Paris, France

S8: Crystallization of Glasses and Glass-Ceramics (ICG TC07)

Organizers

- **Mark Davis**, SCHOTT, USA
- **Ralf Müller**, Bundesanstalt fur Materialforschung und-prufung, Germany

S9: Sol Gel Glasses

Organizers

- **Lisa Klein**, Rutgers University, USA
- **Andrei Jitianu**, City University of New York, USA

S10: Hybrid Glasses and Metal-Organic Framework Glasses

Organizers

- **Thomas Bennett**, Cambridge University, UK
- **Satoshi Horike**, Kyoto University, Japan

S11: Glass-Organic Adhesion

Organizers

- **Aravind Rammohan**, Corning Incorporated, USA
- **Eunseog Cho**, Samsung, Korea
- **Hyunbin Kim**, Corning Precision Materials, Korea

SYMPOSIUM II: GLASS PHYSICS

Lead Organizer

- **Morten M. Smedskjaer**, Aalborg University, Denmark, mos@bio.aau.dk

S1: Glass Transition and Relaxation

Organizers

- **Gerardo Naumis**, National Autonomous University of Mexico, Mexico
- **Ozgur Gulbiten**, Corning Incorporated, USA

S2: Nucleation, Crystallization, and Phase Separation

Organizers

- **Ken Kelton**, Washington University in St. Louis, USA
- **Edgar D. Zanotto**, Federal University of Sao Carlos, Brazil

S3: Glass under Extreme Conditions

Organizers

- **Anita Zeidler**, University of Bath, UK
- **Shinji Kohara**, National Institute for Materials Science, Japan

S4: Topological Constraint Theory of Glass

Organizers

- **Mathieu Bauchy**, University of California Los Angeles, USA
- **N.M. Anoop Krishnan**, Indian Institute of Technology Delhi, India

S5: Modeling and Simulation (ICG TC27)

Organizers

- **Jincheng Du**, University of North Texas, USA
- **Walter Kob**, University of Montpellier, France

S6: Glass Surfaces (ICG TC19)

Organizers

- **Seong Kim**, The Pennsylvania State University, USA
- **Matthew Linford**, Bringham Young University, USA
- **Ilkay Sökmen**, Sisecam Turkey

S7: Mean-Field and Low-Dimensional Theories of Glasses

Organizers

- **Lisa Manning**, Syracuse University, USA
- **Patrick Charbonneau**, Duke University, USA

S8: Optical Properties of Glass

Organizers

- **Mingying Peng**, South China University of Technology, China
- **Qinyuan Zhang**, South China University of Technology, China
- **Zhongmin Yang**, South China University of Technology, China

S9: Strength, Fracture, and the Mechanical Properties of Glasses (ICG TC06)

Organizers

- **Lothar Wondraczek**, University of Jena, Germany
- **Morten Smedskjaer**, Aalborg University, Denmark

S10: Acoustic Properties of Glass

Organizers

- **Benoit Rufflé**, University of Montpellier, France
- **Anne Tanguy**, University of Lyon, France

S11: Thermal Properties of Glass

Organizers

- **Lina Hu**, Shandong University, China
- **Limin Wang**, Yanshan University, China
- **Jacob König**, Institute Jozef Stefan, Slovenia

S12: Electromagnetic Properties of Glass

Organizers

- **Gang Chen**, Ohio University, USA
- **B.G. Potter**, University of Arizona, USA

SYMPOSIA AND TECHNICAL SESSIONS

SYMPOSIUM III: GLASS TECHNOLOGY AND MANUFACTURING

Lead Organizer

- **Mathieu Hubert**, Corning Incorporated, USA, hubertm@corning.com

S1: Raw Materials, Batch Melting, and Fining (TC18)

Organizers

- **Jaroslav Klouzek**, University of Chemistry and Technology Prague, Czech Republic
- **Mathieu Hubert**, Corning Incorporated, USA

S2: Glass Furnace Operation and Design (TC21)

Organizers

- **Aaron Huber**, Johns Manville, USA
- **Scott Cooper**, Owens Illinois, USA

S3: Glass-Refractory Interactions

Organizers

- **Irene Peterson**, Corning Incorporated, USA
- **Hong Li**, Nippon Electric Glass, USA

S4: Glass Forming Operations

Organizers

- **Adnan Karadag**, Sisecam, Turkey
- **Greg Nafziger**, Owens Illinois, USA

S5: Towards Carbon-Free Glass Production

Organizers

- **Anne-Jans Faber**, CelSian Glass & Solar, Netherlands
- **Oscar Verheijen**, CelSian Glass & Solar, Netherlands

S6: Glass Recycling and Sustainability

Organizers

- **Stefano Ceola**, Stazione Sperimentale del Vetro, Italy
- **Sezhian Annamalai**, PPG, USA

S7: 3D Printing of Glass and Rapid Prototyping

Organizers

- **Laura Cook**, Corning Incorporated, USA
- **Neil Palumbo**, Corning Incorporated, USA

SYMPOSIUM IV: EMERGING APPLICATIONS OF GLASS

Lead Organizer

- **JueJun Hu**, Massachusetts Institute of Technology, USA hujuejun@mit.edu

S1: Energy and Environmental Aspects – Fundamentals and Application

Organizer

- **Joachim Deubener**, Clausthal University of Technology, Germany

S2: Glass in Healthcare (TC04)

Organizers

- **Julian Jones**, Imperial College London, UK
- **Delia Brauer**, Friedrich-Schiller-Universität Jena, Germany
- **Qiang Fu**, Corning Incorporated, USA

S3: Glass-Based Integrated Optics

Organizers

- **Hongtao Lin**, Zhejiang University, China
- **Tian Gu**, Massachusetts Institute of Technology, USA

S4: Glass in Sensor Technology

Organizers

- **Pierre Lucas**, University of Arizona, USA
- **Younès Messaddeq**, Université Laval, Canada

S5: Glass for Buildings and Transportation

Organizers

- **Mehran Arbab**, PPG, USA
- **Andriy Romanyuk**, GlasTrösch AG

S6: Glass and Glass-Ceramics for Packaging and Sealing

Organizers

- **Steve Dai**, Sandia National Laboratories, USA
- **Amber Tremper**, Corning Incorporated, USA
- **Robert Hettler**, Schott Electronic Packaging, Germany

S7: Photosensitive Glasses and Glass-Ceramics

Organizer

- **Nadja Lönnroth**, Helsinki R&D Center, Huawei Technologies Oy, Finland

S8: Glass for Nuclear Waste Immobilization (TC05)

Organizers

- **Olivier Pinet**, French Alternative Energies and Atomic Energy Commission, France
- **Ashutosh Goel**, Rutgers University, USA

S9: Quantum Dots and Nanocrystals in Glasses

Organizers

- **Jong Heo**, Pohang University of Science and Technology, Korea
- **Heike Ebendorff-Heidepriem**, University of Adelaide, Australia
- **Takumi Fujiwara**, Tohoku University, Japan

S10: Glass Materials and Devices for Photonic Systems (TC20)

Organizers

- **Giancarlo Righini**, Enrico Fermi Centre, Italy
- **Shibin Jiang**, AdValue Photonics, USA

S11: Fiberglass (TC28)

Organizers

- **Yuanzheng Yue**, Aalborg University
- **Hong Li**, Nippon Electric Glass, USA

S12: Multimaterial Fibers

Organizers

- **Fabien Sorin**, École polytechnique fédérale de Lausanne, Switzerland
- **Sylvain Danto**, University of Bordeaux, France
- **Alexander Stolyarov**, Massachusetts Institute of Technology, Lincoln Laboratory, USA

S13: Open Session on Glasses for Pharma (TC12)

Organizers

- **Massimo Guglielmi**, University of Padova, Dipartimento di Ingegneria Industriale, Italy
- **Daniele Zuccato**, Stevanato Group, Italy
- **Holger Roehl**, Roche, Switzerland

SYMPOSIUM V: GLASS EDUCATION (TC23)

Lead Organizer

- **Ana Candida Martins Rodrigues**, Federal University of São Carlos, Brazil

SYMPOSIUM VI: ARCHAEOMETRY (TC17)

Organizers

- **Stephen P. Koob**, The Corning Museum of Glass, Corning NY, USA
- **Robert H. Brill**, The Corning Museum of Glass, Corning NY, USA

SYMPOSIUM VII: ARUN K. VARSHNEYA FESTSCHRIFT

Organizers

- **John C. Mauro**, The Pennsylvania State University, USA
- **Vijay Jain**, Savannah River Remediation, USA

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AMETEK Land
Table 9

As the world leader in temperature measurement, AMETEK Land has supplied the glass industry with essential equipment for more than 70 years. Our specifically designed instruments provide accurate results at key locations throughout the glass-making process, meeting the highest standards of quality and reliability.

http://www.ametek-land.com
land.enquiry@ametek.com

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China Triumph International Engineering Co., Ltd
Table 5

CTIEC is a science-and-technology-intensive enterprise with more than 60 years' history. It is the engineering technical platform of China National Building Materials Co., Ltd. Focusing on "new glass, new materials, new energy and new equipment," CTIEC is a leading engineering brand in the world glass industry with business spreading to many countries and regions.

shanghai@ctiec.net
http://www.ctiec.net/

Corning Incorporated
Table 12

Corning is one of the world's leading innovators in materials science, with a 166-year track record of life-changing inventions. Corning applies its unparalleled expertise in glass science, ceramics science, and optical physics along with its deep manufacturing and engineering capabilities to develop category-defining products that transform industries and enhance people's lives.

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Elsevier
Table 4

JNCS is proud to announce Journal of Non-Crystalline Solids: X

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We also proudly announce the publication of the 3rd edition of *Fundamentals of Inorganic Glasses*, by Arun Varshneya and John Mauro.

https://www.sciencedirect.com/journal/journal-of-non-crystalline-solids
k.wetering@elsevier.com

Eurofins EAG Materials Science
Table 14

Eurofins EAG Materials Science, global leader in materials characterization. When it comes to understanding the physical structure, chemical properties and composition of materials, no scientific services company offers the breadth of experience, diversity of techniques or technical ingenuity of EAG. We know how to leverage materials sciences to gain a competitive edge.

http://www.eag.com
info@eag.com

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Fives
Table 13

In glass, Fives is the Glassmakers' solution provider to enhance your plant performance, your competitiveness and to support you in the optimization of your investment: we design, manufacture, install and commission glass equipment according to your needs.

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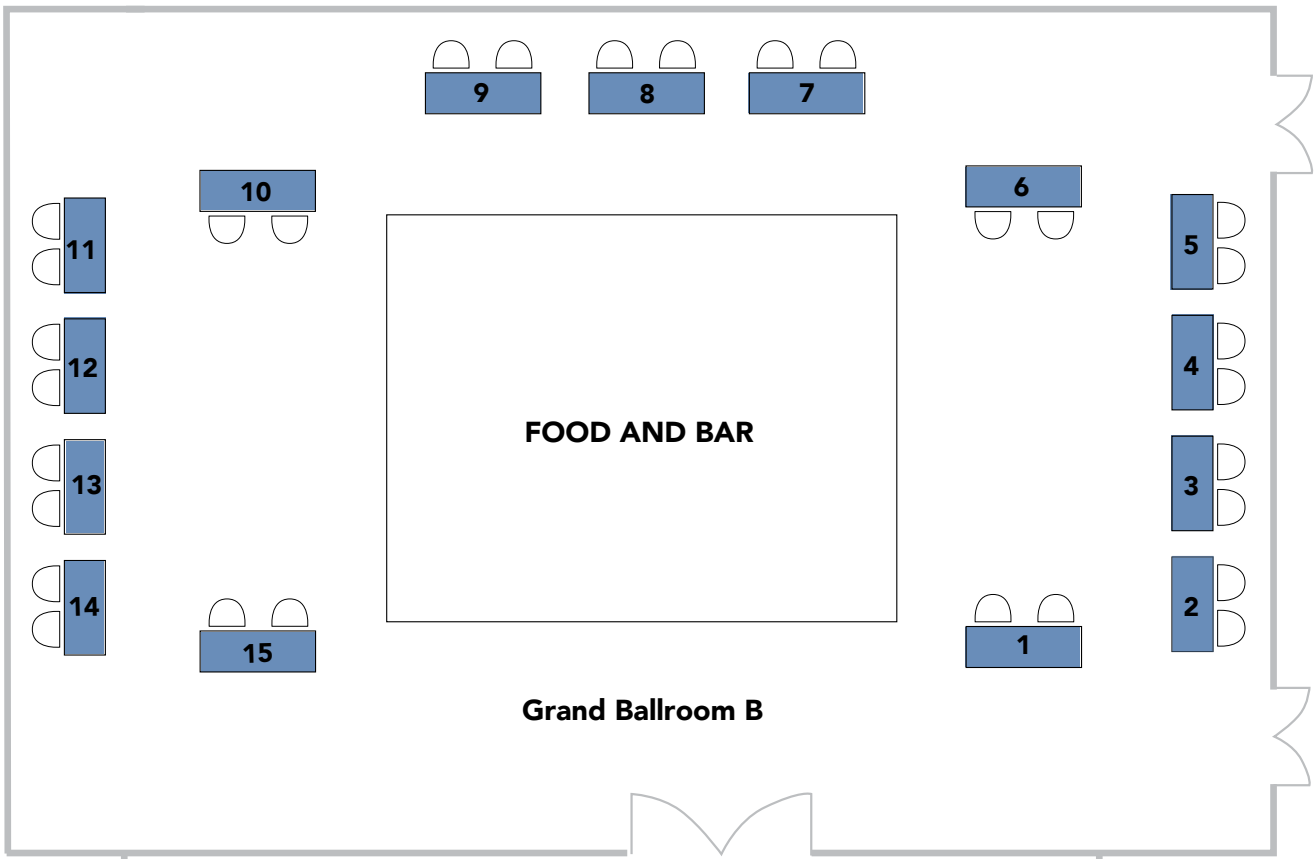
https://glass.fivesgroup.com
philip.hodgson@fivesgroup.com



FunGlass (Centre for Functional and Surface Functionalized Glass, Alexander Dubček University of Trenčín)
Table 6

FunGlass is a research centre of excellence located in Trenčín, Slovakia, and funded by the EU program Horizon 2020. The Centre develops new types of functional glasses with luminescent properties, glass-ceramic foams, solid, hollow and porous glass microspheres, 3D scaffolds by AMT, and biomaterials (glass, ceramic) for bone and tissue engineering.

https://www.funglass.eu/
info@funglass.eu

Guardian Industries
Table 2

When you are looking at a city's skyline or the grilles on the latest cars and trucks, chances are you're seeing our products. Guardian makes high-performance, energy-efficient glass for homes and buildings. We make automotive trim products that define a vehicle's DNA and help improve fuel efficiency. Guardian is 18,000 people working to make products that improve lives.

https://www.guardianglass.com/
jgammage@guardian.com

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JADCO Manufacturing
Table 8

JADCO Manufacturing has been a leading provider of premium wear products for more than 38 years. Our CHROMEWELD & QT-PLUS® wear brands are produced with specific chemistries to combat the most severe impact and abrasion challenges.

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sjacobs@jadcomfg.com

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L.G.P. International, LLC
Table 10

Laboratory of Glass Properties has specialized in precise measurements of glass and melt properties for more than 50 years. Since 2002 we provide various glass testing services under business name L.G.P. International. In addition to measurements of high-temperature IR absorption, viscosity, density, CTE, surface tension, and other physical properties we perform development of high-performance glasses for different applications (glass-to-metal seals, high-strength fibers and sheets, low-DK fibers, IR-transparent glasses, thin-wall containers).

Mathematical modeling of glass forming processes is an important area of our interest.

glass-properties-lab.com
olegus@core.com

Mo-Sci Corporation
Table 1

Mo-Sci Corporation is a manufacturer of specialty glass materials such as glass frits, microspheres, and ingots. We have melting capabilities for temperatures up to 1600C and quantities from a few kg up to several thousand kgs annually. Our unique in-house capabilities allow us to melt larger quantities in a variety of crucible types. Customers look to Mo-Sci when they need custom glass compositions and forms that are not otherwise commercially available. Contact us today for your custom melting and manufacturing needs. MO-SCI is ISO 9001 and AS9100 Certified.

www.mo-sci.com
kgrayson@mo-sci.com

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Nippon Electric Glass (NEG)
Table 7

Nippon Electric Glass (NEG) is one of the leading manufacturers of specialty glass and supplies a variety of glass products to various fields: displays, automotive, ICT, medical care, lighting, etc. With considering sustainability, NEG continues contributing to the brighter future through uncovering unlimited possibilities of glass, required to more advanced technology.

https://www.neg.co.jp/en/
snakane@neg.co.jp

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Photron
Table 3

Used in internationally renowned research facilities in more than 30 countries, Photron High-Speed and Polarization Cameras are trusted to provide high quality results in the most challenging applications and environments. Utilizing the latest technological innovations to further advance product performance to meet the demanding requirements from users around the world.

https://photron.com/
image@photron.com

Springer Nature
Table 11

Springer Nature is the world's largest academic book publisher, publisher of the world's most influential journals and a pioneer in the field of open research. The company numbers almost 13,000 staff in over 50 countries and is home to an array of respected and trusted brands providing quality content through a range of innovative products and services.

https://www.springernature.com/gp
zachary.evenson@springer.com

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ZEISS Microscopy
Table 15

ZEISS is one of the world leading manufacturers of microscopes. In addition to excellent light-/ion- and electron microscopes, ZEISS also manufactures a diverse range of fluorescence optical sectioning systems as well as high-resolution X-ray microscopes. Microscope systems by ZEISS are much more than just hardware.

https://www.zeiss.com/microscopy/int/solutions/raw-materials/advanced-materials.html
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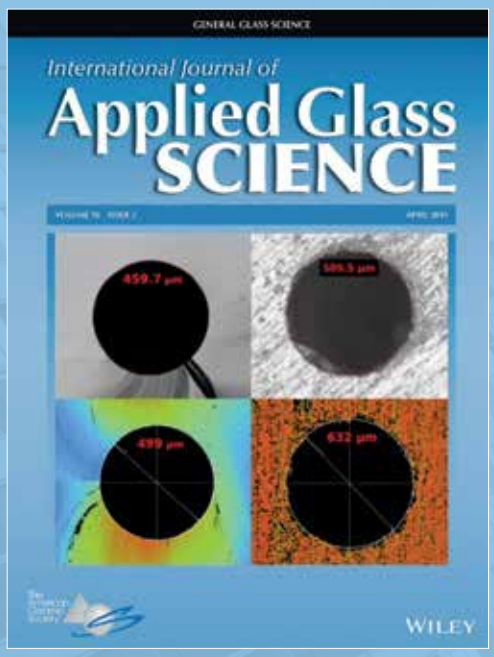

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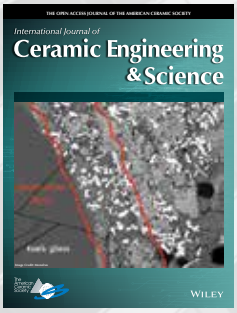

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PROGRAM AT-A-GLANCE

SYMPOSIUM	SESSION	ROOM
AWARD LECTURES		
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 1: Definition of Network Formers and Network Modifiers (ICG TC03 & TC26)	Berkley (mezzanine)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 2: Glass and Melt: Macroscopic Properties and Structure of Melt at High Temperature (ICG TC03 & TC26)	Statler (mezzanine)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 3: Metallic Glasses	Terrace (lower level)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 4: Chalcogenide Glass Structure and Chemistry	Arlington (mezzanine)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 5: Borate Glasses	Statler (mezzanine)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 6: Phosphate Glasses	Berkley (mezzanine)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 7: Silicate Glass Structure	Berkley (mezzanine)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 8: Crystallization of Glasses and Glass-Ceramics (ICG TC07)	Terrace (lower level)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 9: Sol Gel Glasses	Hancock (mezzanine)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 10: Metal-Organic Framework Glasses	Statler (mezzanine)
S I: GLASS STRUCTURE AND CHEMISTRY	SESSION 11: Glass-Organic Adhesion	Terrace (lower level)
S II: GLASS PHYSICS	SESSION 1: Glass Transition and Relaxation	Hancock (mezzanine)
S II: GLASS PHYSICS	SESSION 2: Nucleation, Crystallization, and Phase Separation	Terrace (lower level)
S II: GLASS PHYSICS	SESSION 3: Glass under Extreme Conditions	Clarendon (mezzanine)
S II: GLASS PHYSICS	SESSION 4: Topological Constraint Theory of Glass	Berkley (mezzanine)
S II: GLASS PHYSICS	SESSION 5: Modeling and Simulation (ICG TC27)	Hancock (mezzanine)
S II: GLASS PHYSICS	SESSION 6: Glass Surfaces (ICG TC19)	Clarendon (mezzanine)
S II: GLASS PHYSICS	SESSION 7: Mean-Field and Low-Dimensional Theories of Glasses	Clarendon (mezzanine)
S II: GLASS PHYSICS	SESSION 8: Optical Properties of Glass	Statler (mezzanine)
S II: GLASS PHYSICS	SESSION 9: Strength, Fracture, and the Mechanical Properties of Glasses (ICG TC06)	Arlington (mezzanine)
S II: GLASS PHYSICS	SESSION 10: Acoustic Properties of Glass	Hancock (mezzanine)
S II: GLASS PHYSICS	SESSION 11: Thermal Properties of Glass	Clarendon (mezzanine)
S II: GLASS PHYSICS	SESSION 12: Electromagnetic Properties of Glass	Georgian (mezzanine)

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PROGRAM AT-A-GLANCE

SYMPOSIUM	SESSION	ROOM
S III: GLASS TECHNOLOGY AND MANUFACTURING	SESSION 1: Raw Materials, Batch Melting, and Fining (TC18)	Cambridge (4th floor)
S III: GLASS TECHNOLOGY AND MANUFACTURING	SESSION 2: Glass Furnace Operation and Design (TC21)	Clarendon (mezzanine)
S III: GLASS TECHNOLOGY AND MANUFACTURING	SESSION 3: Glass-Refractory Interactions	Stuart (4th floor)
S III: GLASS TECHNOLOGY AND MANUFACTURING	SESSION 4: Glass Forming Operations	Cambridge (4th floor)
S III: GLASS TECHNOLOGY AND MANUFACTURING	SESSION 5: Towards Carbon-Free Glass Production	Tremont (4th floor)
S III: GLASS TECHNOLOGY AND MANUFACTURING	SESSION 6: Glass Recycling and Sustainability	White Hill (4th floor)
S III: GLASS TECHNOLOGY AND MANUFACTURING	SESSION 7: 3D Printing of Glass and Rapid Prototyping	Cambridge (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 1: Energy and Environmental Aspects – Fundamentals and Application	White Hill (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 2: Glass in Healthcare (TC04)	Stuart (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 3: Glass-Based Integrated Optics	Beacon Hill (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 4: Glass in Sensor Technology	Beacon Hill (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 5: Glass for Buildings and Transportation	Stuart (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 6: Glass and Glass-Ceramics for Packaging and Sealing	Cambridge (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 7: Photosensitive Glasses and Glass-Ceramics	Whittier (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 8: Glass for Nuclear Waste Immobilization (TC05)	Whittier (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 9: Quantum Dots and Nanocrystals in Glasses	Tremont (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 10: Glass Materials and Devices for Photonic Systems (TC20)	Beacon Hill (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 11: Fiberglass (TC28)	Stuart (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 12: Multimaterial Fibers	Cambridge (4th floor)
S IV: EMERGING APPLICATIONS OF GLASS	SESSION 13: Open Session on Glasses for Pharma (TC12)	White Hill (4th floor)
S V: GLASS EDUCATION (TC23)		Tremont (4th floor)
S VI: ARCHAEOMETRY (TC17)		Tremont (4th floor)
S VII: ARUN K. VARSHNEYA FESTSCHRIFT		Georgian (mezzanine)

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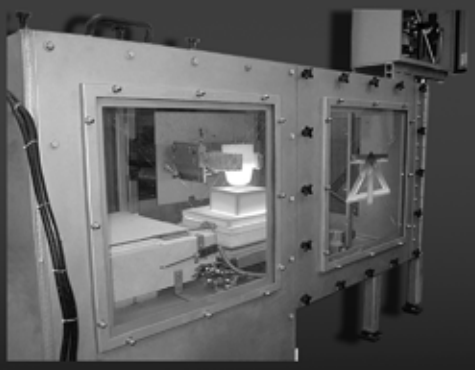

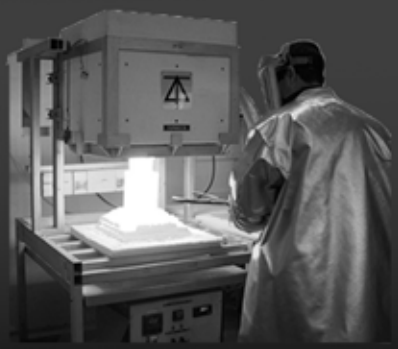

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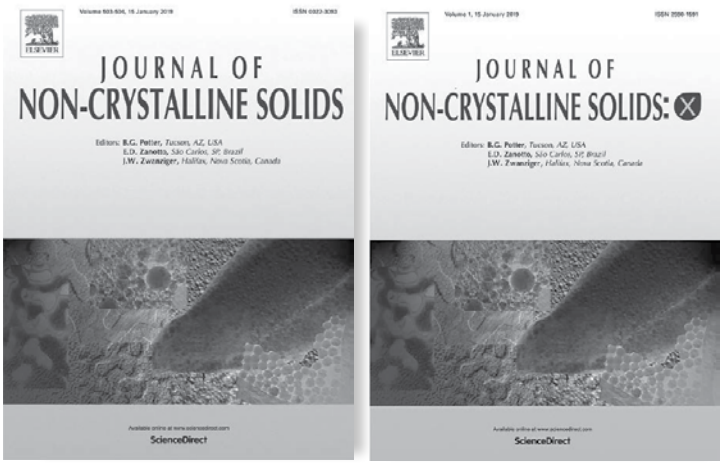

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Oral Presenters

Name	Date	Time	Room	Page Number
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Abouraddy, A.	13-Jun	10:00AM	Cambridge (4th floor)	51
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Almeida, R.M.	13-Jun	3:40PM	Hancock (mezzanine)	41
Almutairi, B.	10-Jun	2:40PM	Berkley (mezzanine)	10
Alzahrani, A.	11-Jun	4:10PM	Stuart (4th floor)	25
Anderson, P.C.	11-Jun	9:20AM	Georgian (mezzanine)	29
Arango-Ospina, M.	11-Jun	2:30PM	Stuart (4th floor)	25
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Avila Salazar, D.A.	14-Jun	10:30AM	Berkley (mezzanine)	54
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Baity Jesi, M.	10-Jun	4:40PM	Clarendon (mezzanine)	12
Baker, S.P.	14-Jun	10:20AM	Georgian (mezzanine)	58
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Balasubramanya, N.	13-Jun	5:20PM	Whittier (4th floor)	50
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Baral, K.	11-Jun	8:20AM	Hancock (mezzanine)	20
Baral, K.	11-Jun	11:00AM	Clarendon (mezzanine)	21
Barthel, E.	13-Jun	5:00PM	Arlington (mezzanine)	45
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Bauchy, M.	11-Jun	4:20PM	Berkley (mezzanine)	20
Bauchy, M.	12-Jun	10:50AM	Georgian (mezzanine)	38
Bauchy, M.	13-Jun	9:20AM	Hancock (mezzanine)	41
Bauchy, M.	13-Jun	1:20PM	Hancock (mezzanine)	41
Becker, T.	14-Jun	9:15AM	Stuart (4th floor)	57
Bellanger, B.	13-Jun	10:20AM	Beacon Hill (4th floor)	51
Bennett, M.	12-Jun	4:40PM	Clarendon (mezzanine)	38
Bennett, T.	10-Jun	10:45AM	Grand Ballroom A (mezzanine)	9
Bennett, T.	10-Jun	4:30PM	Statler (mezzanine)	10
Benyounoussy, S.	11-Jun	3:00PM	Terrace (lower level)	19
Bergler, M.	14-Jun	9:20AM	Clarendon (mezzanine)	55
Bessegato, N.	13-Jun	8:50AM	White Hill (4th floor)	52
Bhaduri, S.	12-Jun	9:30AM	White Hill (4th floor)	35
Bhaduri, S.	13-Jun	1:20PM	Tremont (4th floor)	47
Bhaskaran, H.	11-Jun	10:30AM	Beacon Hill (4th floor)	26
Bhatia, V.	13-Jun	10:10AM	Stuart (4th floor)	48
Bihuniak, P.	14-Jun	9:20AM	Georgian (mezzanine)	58
Bingham, P.A.	11-Jun	10:30AM	Terrace (lower level)	19
Biosca, A.	11-Jun	2:00PM	Cambridge (4th floor)	24
Biswas, K.	10-Jun	4:20PM	Stuart (4th floor)	12
Blanc, W.	12-Jun	10:50AM	Beacon Hill (4th floor)	37
Blanc, W.	13-Jun	5:00PM	Terrace (lower level)	42
Bócoli, P.J.	11-Jun	9:00AM	Clarendon (mezzanine)	21
Bødker, M.	10-Jun	4:50PM	Hancock (mezzanine)	11
Boily, O.	14-Jun	9:00AM	Berkley (mezzanine)	54
Boltz, H.	10-Jun	5:00PM	Clarendon (mezzanine)	12
Bond, C.W.	11-Jun	11:30AM	Stuart (4th floor)	25
Boolchand, P.	11-Jun	1:50PM	Berkley (mezzanine)	20
Boroica, L.	13-Jun	2:30PM	Berkley (mezzanine)	40
Bouteille, B.	13-Jun	5:40PM	Terrace (lower level)	42
Brain, C.	11-Jun	8:00AM	Tremont (4th floor)	27
Brauer, D.S.	11-Jun	11:10AM	Berkley (mezzanine)	18
Brehl, M.	14-Jun	9:00AM	Hancock (mezzanine)	55
Briese, L.	12-Jun	12:00PM	Tremont (4th floor)	36
Bristogianni, T.	12-Jun	11:00AM	White Hill (4th floor)	35
Brow, R.	11-Jun	8:20AM	Cambridge (4th floor)	24
Brusberg, L.	10-Jun	1:50PM	Beacon Hill (4th floor)	13
Burov, E.	12-Jun	9:30AM	Stuart (4th floor)	35
Buyuklimanli, T.	11-Jun	1:20PM	Clarendon (mezzanine)	22
C				
Cai, M.	11-Jun	3:40PM	Statler (mezzanine)	23
Calahoo, C.	10-Jun	2:30PM	Statler (mezzanine)	10
Calas, G.	14-Jun	8:00AM	Georgian (mezzanine)	57
Callahan, R.	11-Jun	11:40AM	Georgian (mezzanine)	29
Calvez, L.	10-Jun	4:20PM	Arlington (mezzanine)	9
Cao, J.	11-Jun	2:00PM	Statler (mezzanine)	23
Cassar, D.R.	10-Jun	2:10PM	Hancock (mezzanine)	11
Cassar, D.R.	13-Jun	3:55PM	Terrace (lower level)	42
Cavillon, M.	13-Jun	8:30AM	Beacon Hill (4th floor)	51
Ceola, S.	12-Jun	12:10PM	Stuart (4th floor)	35
Ceola, S.	13-Jun	4:50PM	Cambridge (4th floor)	46
Chalasani, N.	12-Jun	3:05PM	Clarendon (mezzanine)	38
Chaysuwan, D.	12-Jun	11:10AM	Arlington (mezzanine)	35
Chen, G.	10-Jun	1:50PM	Georgian (mezzanine)	12
Chen, S.	12-Jun	10:20AM	Cambridge (4th floor)	37
Chen, X.	11-Jun	1:50PM	Stuart (4th floor)	25
Ching, W.	12-Jun	9:30AM	Hancock (mezzanine)	33
Ching, W.	13-Jun	8:00AM	Terrace (lower level)	39
Cho, J.	14-Jun	8:30AM	Statler (mezzanine)	53
Choi, Y.	11-Jun	8:00AM	Arlington (mezzanine)	18
Choudhary, M.K.	11-Jun	10:40AM	Georgian (mezzanine)	29
Choudhary, M.K.	12-Jun	1:20PM	Clarendon (mezzanine)	38
Chowdhury, E.	13-Jun	5:00PM	Clarendon (mezzanine)	43
Chung, J.	11-Jun	11:10AM	Statler (mezzanine)	22
Cicconi, M.	13-Jun	8:00AM	Whittier (4th floor)	49
Cicconi, M.	14-Jun	8:50AM	Statler (mezzanine)	53
Cid-Aguilar, J.G.	12-Jun	10:00AM	White Hill (4th floor)	35
Clare, A.G.	10-Jun	2:20PM	Tremont (4th floor)	14
Clark, P.A.	11-Jun	1:50PM	Clarendon (mezzanine)	22
Colmenares, Y.N.	12-Jun	12:10PM	Clarendon (mezzanine)	34
Conradt, R.	10-Jun	1:20PM	Tremont (4th floor)	14
Conradt, R.	14-Jun	10:30AM	Statler (mezzanine)	53
Cormack, A.	11-Jun	8:40AM	Georgian (mezzanine)	29
Cormack, A.	11-Jun	10:40AM	Clarendon (mezzanine)	21
Correr, W.	10-Jun	2:10PM	Georgian (mezzanine)	12
Corwin, E.I.	10-Jun	3:50PM	Clarendon (mezzanine)	12
Coudert, F.	10-Jun	1:20PM	Statler (mezzanine)	10
D				
d'Anciães Almeida Silva, I.	13-Jun	4:00PM	White Hill (4th floor)	48
Dai, S.	14-Jun	9:00AM	Cambridge (4th floor)	56
Danto, S.	12-Jun	10:40AM	Cambridge (4th floor)	37
Dasan, A.	11-Jun	10:40AM	Cambridge (4th floor)	24
Davis, B.C.	13-Jun	5:20PM	Arlington (mezzanine)	45
Davis, M.J.	11-Jun	9:00AM	Arlington (mezzanine)	18
Day, D.E.	10-Jun	2:30PM	Stuart (4th floor)	12
de Camargo, A.S.	11-Jun	2:10PM	Beacon Hill (4th floor)	26
de Ligny, D.	14-Jun	10:50AM	Statler (mezzanine)	53
de Neufville, J.P.	10-Jun	2:40PM	Arlington (mezzanine)	9
De Souza, J.E.	13-Jun	2:10PM	Berkley (mezzanine)	40
de Souza, S.R.	13-Jun	2:40PM	Statler (mezzanine)	39
Deckoff-Jones, S.	11-Jun	11:40AM	Beacon Hill (4th floor)	26
Degryse, P.	11-Jun	10:15AM	Tremont (4th floor)	28
Dejneka, M.	10-Jun	1:20PM	Terrace (lower level)	9
Dejneka, M.	14-Jun	8:40AM	Georgian (mezzanine)	57
Deng, B.	11-Jun	8:00AM	Terrace (lower level)	18
Deng, W.	13-Jun	4:10PM	Cambridge (4th floor)	46
Deschamps, T.	14-Jun	10:50AM	Hancock (mezzanine)	56
Deshkar, A.A.	13-Jun	5:00PM	Whittier (4th floor)	50
Deshkar, A.A.	13-Jun	6:00PM	Whittier (4th floor)	50
Desmarchelier, P.	14-Jun	10:30AM	Hancock (mezzanine)	56
Deubener, J.	13-Jun	3:30PM	Terrace (lower level)	42
Deubener, J.	14-Jun	10:20AM	Arlington (mezzanine)	55
Díaz, R.	10-Jun	4:20PM	Clarendon (mezzanine)	12

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Name	Date	Time	Room	Page Number
Ding, L.	13-Jun	4:00PM	Clarendon (mezzanine)	43
Dixit, S.	11-Jun	2:40PM	Cambridge (4th floor)	24
Dixon, D.	13-Jun	10:20AM	Whittier (4th floor)	49
Dobesh, D.K.	13-Jun	10:00AM	Statler (mezzanine)	44
Doerenkamp, C.	13-Jun	5:20PM	Statler (mezzanine)	39
Doi, Y.	13-Jun	4:05PM	Tremont (4th floor)	47
Dong, G.	12-Jun	10:20AM	Tremont (4th floor)	36
Dong, G.	13-Jun	8:00AM	Statler (mezzanine)	43
Drabold, D.	10-Jun	1:20PM	Georgian (mezzanine)	12
Du, J.	10-Jun	3:30PM	Stuart (4th floor)	12
Du, Q.	10-Jun	2:20PM	Beacon Hill (4th floor)	13
Du, Q.	11-Jun	8:30AM	Beacon Hill (4th floor)	25
Dubuis, S.	11-Jun	1:20PM	Statler (mezzanine)	22
Durán, A.	13-Jun	5:30PM	Hancock (mezzanine)	41
Dussauze, M.	11-Jun	11:00AM	Beacon Hill (4th floor)	26
Dutra Zanotto, E.	11-Jun	9:00AM	Georgian (mezzanine)	29
Dutreilh-Colas, M.	11-Jun	4:20PM	Arlington (mezzanine)	23
Dutta, N.	11-Jun	9:20AM	Arlington (mezzanine)	18
Dylla-Spears, R.J.	11-Jun	9:50AM	Cambridge (4th floor)	24
Dylla-Spears, R.J.	13-Jun	4:10PM	Hancock (mezzanine)	41
E				
Eaton, W.C.	12-Jun	3:40PM	Clarendon (mezzanine)	38
Ebendorff-Heidepriem, H.	13-Jun	9:00AM	Cambridge (4th floor)	51
Ebendorff-Heidepriem, H.	13-Jun	2:20PM	Hancock (mezzanine)	41
Ebert, W.	11-Jun	11:30AM	Whittier (4th floor)	27
Eckart (Barefoot), K.	14-Jun	9:00AM	Georgian (mezzanine)	57
Eckert, H.	13-Jun	1:50PM	Hancock (mezzanine)	41
Eckert, H.	13-Jun	3:40PM	Berkley (mezzanine)	40
Elliott, S.	11-Jun	8:00AM	Berkley (mezzanine)	17
Emery, J.	10-Jun	2:40PM	Beacon Hill (4th floor)	13
Eppler, C.L.	10-Jun	4:10PM	Beacon Hill (4th floor)	13
Erdem, I.	13-Jun	2:40PM	Arlington (mezzanine)	45
Eremin, K.	11-Jun	11:05AM	Tremont (4th floor)	28
F				
Faber, A.	12-Jun	5:20PM	Clarendon (mezzanine)	38
Faber, A.	13-Jun	2:10PM	Tremont (4th floor)	47
Faccini de Lima, C.	13-Jun	8:40AM	Cambridge (4th floor)	51
Falk, M.L.	13-Jun	10:30AM	Terrace (lower level)	39
Fares, H.	10-Jun	3:00PM	Whittier (4th floor)	13
Feller, S.	10-Jun	3:00PM	Tremont (4th floor)	14
Fernandez Rodriguez, L.	11-Jun	1:40PM	Terrace (lower level)	19
Ferreira, E.B.	11-Jun	10:50AM	Terrace (lower level)	19
Ferreira, E.W.	13-Jun	5:25PM	Tremont (4th floor)	47
Fink, Y.	12-Jun	9:30AM	Cambridge (4th floor)	37
Firstov, S.	13-Jun	11:40AM	Statler (mezzanine)	44
Fish, M.J.	10-Jun	4:10PM	Tremont (4th floor)	14
Fisher, A.J.	11-Jun	11:10AM	Whittier (4th floor)	27
Fleischmann, B.A.	12-Jun	5:00PM	Clarendon (mezzanine)	38
Fleischmann, B.A.	13-Jun	2:30PM	Tremont (4th floor)	47
Flemming, J.H.	14-Jun	8:30AM	Cambridge (4th floor)	56
Florian, P.	14-Jun	8:00AM	Statler (mezzanine)	53
Foret, M.	14-Jun	8:30AM	Hancock (mezzanine)	55
Fotheringham, U.G.	13-Jun	4:20PM	Georgian (mezzanine)	53
Fourcade, J.	12-Jun	11:50AM	Stuart (4th floor)	35
Freudenberger, P.	14-Jun	10:50AM	Berkley (mezzanine)	54
Fu, Q.	10-Jun	1:50PM	Stuart (4th floor)	12
Fujiwara, Y.	13-Jun	3:00PM	Georgian (mezzanine)	52
Fulton, S.	11-Jun	1:40PM	Tremont (4th floor)	28
G				
Galleani, G.	13-Jun	5:10PM	Berkley (mezzanine)	40
Galoisy, L.	14-Jun	11:00AM	Georgian (mezzanine)	58
Gan, H.	13-Jun	8:20AM	Whittier (4th floor)	49
Garai, M.	12-Jun	11:50AM	Arlington (mezzanine)	35
Garcia-Heras, M.	11-Jun	10:45AM	Tremont (4th floor)	28
Gardner, L.J.	14-Jun	10:20AM	Whittier (4th floor)	57
Garofalini, S.H.	11-Jun	10:00AM	Clarendon (mezzanine)	21
Gaubil, M.	12-Jun	11:30AM	Stuart (4th floor)	35
Gedeon, O.	10-Jun	1:50PM	Whittier (4th floor)	13
Geiger, S.	11-Jun	10:40AM	Arlington (mezzanine)	18
George, J.	13-Jun	10:00AM	Whittier (4th floor)	49
Gerdes, T.	11-Jun	1:20PM	Cambridge (4th floor)	23
Gerdes, T.	12-Jun	11:20AM	White Hill (4th floor)	35
Gibson, U.	12-Jun	11:10AM	Cambridge (4th floor)	37
Giehl, C.	12-Jun	11:40AM	Hancock (mezzanine)	34
Giehl, C.	13-Jun	2:10PM	Cambridge (4th floor)	46
Gin, S.	11-Jun	10:30AM	Whittier (4th floor)	27
Gin, S.	11-Jun	2:20PM	Clarendon (mezzanine)	22
Giordano, V.	14-Jun	10:00AM	Hancock (mezzanine)	56
Goel, A.	13-Jun	9:20AM	Georgian (mezzanine)	52
Goncalves, C.	13-Jun	4:40PM	Arlington (mezzanine)	45
Gong, K.	13-Jun	8:50AM	Berkley (mezzanine)	40
Gorin, B.	10-Jun	4:00PM	Stuart (4th floor)	12
Goyal, S.	14-Jun	9:00AM	Terrace (lower level)	54
Greenspan, D.C.	10-Jun	1:20PM	Stuart (4th floor)	12
Greiner-Wrona, E.	11-Jun	11:20AM	Georgian (mezzanine)	29
Greiner-Wrona, E.	11-Jun	2:00PM	Tremont (4th floor)	28
Gross, T.M.	13-Jun	8:40AM	Arlington (mezzanine)	44
Guadagnino, E.	13-Jun	8:00AM	White Hill (4th floor)	51
Guerineau, T.	10-Jun	2:40PM	Whittier (4th floor)	13
Guglielmi, M.	13-Jun	10:00AM	White Hill (4th floor)	52
Guillen, D.P.	13-Jun	11:40AM	Whittier (4th floor)	49
Guin, J.	13-Jun	2:40PM	Clarendon (mezzanine)	43
Gulbiten, O.	13-Jun	10:00AM	Hancock (mezzanine)	42
Guo, H.	11-Jun	9:10AM	Statler (mezzanine)	22
Gupta, P.	10-Jun	1:50PM	Berkley (mezzanine)	10
Gupta, P.	11-Jun	1:20PM	Georgian (mezzanine)	29
H				
Haese, A.	11-Jun	2:10PM	Hancock (mezzanine)	21
Hah, H.	13-Jun	4:00PM	Whittier (4th floor)	50
Hakes, S.C.	13-Jun	6:05PM	Tremont (4th floor)	47
Han, K.	12-Jun	10:00AM	Tremont (4th floor)	36
Han, Y.	11-Jun	8:00AM	Cambridge (4th floor)	24
Hand, R.J.	13-Jun	2:20PM	Georgian (mezzanine)	52
Hannon, A.	11-Jun	8:30AM	Berkley (mezzanine)	17
Hardin, K.N.	14-Jun	11:05AM	Stuart (4th floor)	57
Harode, H.	11-Jun	3:20PM	Cambridge (4th floor)	24
Harrison, M.T.	13-Jun	3:00PM	Whittier (4th floor)	50
Harrowell, P.	11-Jun	3:40PM	Hancock (mezzanine)	21
Hausmann, B.D.	11-Jun	4:10PM	Clarendon (mezzanine)	22
Hayakawa, T.	12-Jun	10:40AM	Statler (mezzanine)	34
He, H.	12-Jun	10:30AM	Arlington (mezzanine)	35
Hehlen, B.	13-Jun	8:00AM	Berkley (mezzanine)	40
Helebrant, A.	11-Jun	9:50AM	Stuart (4th floor)	25
Henderson, G.	12-Jun	10:40AM	Berkley (mezzanine)	33
Hill, R.	10-Jun	2:40PM	Terrace (lower level)	10
Hill, R.	13-Jun	8:00AM	Georgian (mezzanine)	52
Hirobe, S.	13-Jun	4:00PM	Arlington (mezzanine)	45
Hoeland, W.	11-Jun	10:20AM	Georgian (mezzanine)	29
Honma, T.	13-Jun	9:10AM	Tremont (4th floor)	50
Horike, S.	10-Jun	3:00PM	Statler (mezzanine)	10
Hormadaly, J.	14-Jun	11:00AM	Cambridge (4th floor)	56
Hoy, R.S.	11-Jun	4:10PM	Hancock (mezzanine)	21
Hrma, P.	13-Jun	6:00PM	Cambridge (4th floor)	47
Hsu, J.	14-Jun	10:00AM	Cambridge (4th floor)	56
Hu, D.W.	13-Jun	1:40PM	Arlington (mezzanine)	45
Hu, J.	10-Jun	1:20PM	Beacon Hill (4th floor)	13
Hu, L.	13-Jun	9:00AM	Clarendon (mezzanine)	45
Hu, L.	13-Jun	1:20PM	Berkley (mezzanine)	40
Hu, Y.	14-Jun	8:40AM	Arlington (mezzanine)	55
Huang, L.	13-Jun	8:10AM	Arlington (mezzanine)	44
Huang, L.	13-Jun	9:50AM	Berkley (mezzanine)	40
Huang, X.	12-Jun	10:40AM	Tremont (4th floor)	36
Hubert, M.	10-Jun	4:40PM	Tremont (4th floor)	14
Hulme, R.	12-Jun	8:10AM	Grand Ballroom A (mezzanine)	32
Hupa, L.	11-Jun	10:10AM	Stuart (4th floor)	25
Huppertz, H.	13-Jun	3:40PM	Statler (mezzanine)	39
I				
Icenhower, J.P.	11-Jun	10:50AM	Whittier (4th floor)	27
Ikeda, A.	14-Jun	8:00AM	Hancock (mezzanine)	55

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Name	Date	Time	Room	Page Number
Ikeda, H.	14-Jun	11:30AM	Berkley (mezzanine)	54
Inaba, S.	13-Jun	9:20AM	Clarendon (mezzanine)	45
Inoue, H.	11-Jun	8:40AM	Hancock (mezzanine)	20
Ishio, T.	13-Jun	2:00PM	Whittier (4th floor)	49
Ispas, S.	11-Jun	10:00AM	Berkley (mezzanine)	17
Ispas, S.	12-Jun	11:10AM	Berkley (mezzanine)	33
J				
Jain, H.	10-Jun	11:30AM	Grand Ballroom A (mezzanine)	9
Jain, H.	10-Jun	3:40PM	Tremont (4th floor)	14
Jain, H.	14-Jun	10:00AM	Georgian (mezzanine)	58
Janssen, L.M.	12-Jun	10:30AM	Hancock (mezzanine)	33
Jantzen, C.M.	11-Jun	2:00PM	Whittier (4th floor)	27
Januchta, K.	13-Jun	9:00AM	Arlington (mezzanine)	44
Jarry, L.	13-Jun	2:50PM	Tremont (4th floor)	47
Jebava, M.	13-Jun	4:30PM	Cambridge (4th floor)	46
Jia, L.	13-Jun	10:00AM	Tremont (4th floor)	50
Jia, X.	13-Jun	10:30AM	Cambridge (4th floor)	51
Jiang, S.	13-Jun	4:00PM	Georgian (mezzanine)	29
Jiang, Y.	14-Jun	11:45AM	Stuart (4th floor)	57
Jin, L.	11-Jun	3:00PM	Clarendon (mezzanine)	22
Jin, Y.	10-Jun	3:00PM	Clarendon (mezzanine)	11
Jitianu, A.	13-Jun	5:50PM	Hancock (mezzanine)	41
Johnson, W.W.	12-Jun	2:05PM	Clarendon (mezzanine)	38
Jones, J.	10-Jun	2:50PM	Stuart (4th floor)	12
Jones, J.	11-Jun	8:50AM	Stuart (4th floor)	24
Joyce, A.	10-Jun	3:40PM	Arlington (mezzanine)	9
Jung, S.	13-Jun	4:10PM	Statler (mezzanine)	39
K				
Kaçar, E.D.	13-Jun	3:00PM	Arlington (mezzanine)	45
Kado, R.	13-Jun	4:20PM	Terrace (lower level)	42
Kallontzi, S.	13-Jun	3:00PM	Hancock (mezzanine)	41
Kamat, H.	12-Jun	10:00AM	Whittier (4th floor)	36
Kamat, H.	13-Jun	4:20PM	Whittier (4th floor)	50
Kamitsos, E.I.	11-Jun	10:20AM	Berkley (mezzanine)	17
Kamitsos, E.I.	13-Jun	11:20AM	Georgian (mezzanine)	52
Kang, M.	10-Jun	4:10PM	Whittier (4th floor)	13
Kang, M.	13-Jun	11:00AM	Arlington (mezzanine)	44
Kanungo, A.K.	11-Jun	4:10PM	Tremont (4th floor)	28
Karam, L.D.	12-Jun	11:30AM	Beacon Hill (4th floor)	37
Karamanov, A.	11-Jun	10:00AM	Terrace (lower level)	19
Karlsson, S.	13-Jun	1:50PM	White Hill (4th floor)	47
Karlsson, S.	13-Jun	4:40PM	Georgian (mezzanine)	53
Kato, Y.	11-Jun	2:50PM	Arlington (mezzanine)	23
Kaur, D.	11-Jun	9:10AM	Stuart (4th floor)	24
Kazembeyki, M.	13-Jun	11:20AM	Arlington (mezzanine)	44
Kelton, K.F.	13-Jun	2:30PM	Terrace (lower level)	42
Kermel, C.	13-Jun	10:40AM	Statler (mezzanine)	44
Kibrisli, O.	13-Jun	11:00AM	Tremont (4th floor)	51
Kiefer, P.	14-Jun	10:50AM	Arlington (mezzanine)	55
Kieffer, J.	10-Jun	2:30PM	Georgian (mezzanine)	12
Kim, C.	12-Jun	10:20AM	Whittier (4th floor)	36
Kim, M.	11-Jun	2:40PM	Whittier (4th floor)	27
Kim, S.H.	12-Jun	9:30AM	Arlington (mezzanine)	35
Kim, S.H.	13-Jun	11:30AM	Stuart (4th floor)	48
Kindle, M.L.	13-Jun	5:00PM	White Hill (4th floor)	48
King, E.A.	12-Jun	10:50AM	Hancock (mezzanine)	34
Kirchner, K.A.	11-Jun	3:00PM	Berkley (mezzanine)	20
Kishi, T.	12-Jun	11:50AM	Clarendon (mezzanine)	34
Kitagawa, Y.	10-Jun	4:30PM	Whittier (4th floor)	14
Kitamura, N.	11-Jun	11:20AM	Arlington (mezzanine)	18
Kmiec, S.	10-Jun	4:00PM	Arlington (mezzanine)	9
Knorr, B.	10-Jun	4:30PM	Beacon Hill (4th floor)	13
Kob, W.	13-Jun	8:00AM	Hancock (mezzanine)	41
Kob, W.	13-Jun	11:00AM	Georgian (mezzanine)	52
Kodamana, H.	10-Jun	2:30PM	Hancock (mezzanine)	11
Kohara, S.	13-Jun	2:20PM	Clarendon (mezzanine)	43
Koike, A.	12-Jun	11:50AM	Georgian (mezzanine)	38
Komatsu, T.	10-Jun	3:40PM	Terrace (lower level)	10
Komatsu, T.	13-Jun	8:30AM	Tremont (4th floor)	50
König, J.	13-Jun	3:00PM	White Hill (4th floor)	47
Kono, Y.	13-Jun	1:50PM	Clarendon (mezzanine)	43
Konon, M.	13-Jun	6:20PM	Terrace (lower level)	43
Koudelka, L.	14-Jun	8:00AM	Berkley (mezzanine)	53
Kreski, P.K.	11-Jun	2:40PM	Georgian (mezzanine)	29
Krishna Murthy, A.	14-Jun	11:50AM	Berkley (mezzanine)	54
Krishnan, N.	11-Jun	4:00PM	Berkley (mezzanine)	20
Krishnan, N.	14-Jun	9:20AM	Arlington (mezzanine)	55
Kroeker, S.	13-Jun	2:20PM	Whittier (4th floor)	49
Kuhn, W.	12-Jun	2:25PM	Clarendon (mezzanine)	38
Kumar, R.	10-Jun	4:40PM	Stuart (4th floor)	12
Kumar, R.	11-Jun	10:40AM	Hancock (mezzanine)	20
Kumar, S.	13-Jun	2:20PM	Statler (mezzanine)	39
Kumar, S.	13-Jun	5:40PM	Statler (mezzanine)	39
Kunicki-Goldfinger, J.J.	11-Jun	3:40PM	Tremont (4th floor)	28
Kuo, H.	13-Jun	10:00AM	Arlington (mezzanine)	44
Kuo, P.	13-Jun	5:20PM	White Hill (4th floor)	48
Kwon, O.	13-Jun	10:20AM	Tremont (4th floor)	50
L				
LaCourse, W.	10-Jun	2:40PM	Tremont (4th floor)	14
LaCourse, W.	13-Jun	2:30PM	Stuart (4th floor)	49
LaFrance, M.	13-Jun	8:00AM	Stuart (4th floor)	48
Lai, Y.	13-Jun	5:40PM	White Hill (4th floor)	48
Lakdawala, K.	13-Jun	1:40PM	Georgian (mezzanine)	52
Lavanant, E.	12-Jun	10:30AM	Beacon Hill (4th floor)	37
Le Coq, D.	10-Jun	1:50PM	Arlington (mezzanine)	9
Le Coq, D.	10-Jun	4:50PM	Beacon Hill (4th floor)	13
Ledemi, Y.	11-Jun	8:40AM	Cambridge (4th floor)	24
Ledemi, Y.	13-Jun	8:00AM	Tremont (4th floor)	50
Lee, A.	13-Jun	3:00PM	Clarendon (mezzanine)	43
Lee, H.	12-Jun	11:00AM	Tremont (4th floor)	36
Lee, S.	13-Jun	5:40PM	Cambridge (4th floor)	46
Lee, S.	14-Jun	8:30AM	Clarendon (mezzanine)	54
Lelong, G.	13-Jun	1:20PM	Clarendon (mezzanine)	43
Lenting, C.	11-Jun	2:20PM	Whittier (4th floor)	27
Leonelli, C.	14-Jun	8:20AM	Whittier (4th floor)	56
Lepry, W.C.	10-Jun	2:10PM	Stuart (4th floor)	12
Letz, M.	14-Jun	8:00AM	Cambridge (4th floor)	56
Li, A.	10-Jun	4:10PM	Hancock (mezzanine)	11
Li, H.	13-Jun	1:50PM	Stuart (4th floor)	48
Li, H.	14-Jun	10:25AM	Stuart (4th floor)	57
Li, W.	11-Jun	8:00AM	Hancock (mezzanine)	20
Liang, X.	11-Jun	2:20PM	Terrace (lower level)	19
Limbu, D.K.	11-Jun	4:30PM	Hancock (mezzanine)	21
Lindfors, N.	11-Jun	1:20PM	Stuart (4th floor)	25
Liu, A.J.	10-Jun	1:20PM	Clarendon (mezzanine)	11
Liu, C.	12-Jun	9:30AM	Tremont (4th floor)	36
Liu, H.	11-Jun	10:20AM	Clarendon (mezzanine)	21
Liu, H.	11-Jun	11:00AM	Hancock (mezzanine)	20
Liu, H.	11-Jun	2:20PM	Berkley (mezzanine)	20
Liu, H.	11-Jun	4:20PM	Whittier (4th floor)	27
Liu, S.	11-Jun	8:50AM	Whittier (4th floor)	26
Liu, Y.	11-Jun	11:10AM	Stuart (4th floor)	25
Löffler, F.B.	11-Jun	11:00AM	Cambridge (4th floor)	24
Londero, P.	11-Jun	9:00AM	Tremont (4th floor)	28
Lonergan, C.	13-Jun	9:10AM	Whittier (4th floor)	49
Long, Y.	11-Jun	2:30PM	Beacon Hill (4th floor)	26
Lorenzi, R.	13-Jun	2:20PM	White Hill (4th floor)	47
Louvet, G.	11-Jun	10:20AM	Arlington (mezzanine)	18
Lu, X.	10-Jun	4:30PM	Hancock (mezzanine)	11
Lu, X.	12-Jun	12:00PM	Whittier (4th floor)	36
Lucas, P.	11-Jun	8:30AM	Arlington (mezzanine)	18
Lucas, P.	11-Jun	2:00PM	Georgian (mezzanine)	29
Luksic, S.A.	12-Jun	4:00PM	Clarendon (mezzanine)	38
Lumeau, J.	10-Jun	3:40PM	Whittier (4th floor)	13
Luo, H.	11-Jun	2:30PM	Hancock (mezzanine)	21
Luo, J.	13-Jun	11:00AM	Terrace (lower level)	39
Luo, J.	14-Jun	10:00AM	Arlington (mezzanine)	55
M				
Ma, L.	14-Jun	8:20AM	Arlington (mezzanine)	55
Ma, Q.	10-Jun	2:20PM	Whittier (4th floor)	13

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Ma, Q.	11-Jun	11:40AM	Clarendon (mezzanine)	21
Ma, Z.	11-Jun	10:50AM	Statler (mezzanine)	22
Maass, R.	13-Jun	10:00AM	Terrace (lower level)	39
Macrelli, G.	13-Jun	5:00PM	Georgian (mezzanine)	53
Maeda, K.	10-Jun	1:50PM	Terrace (lower level)	10
Maehara, T.	13-Jun	3:40PM	Cambridge (4th floor)	46
Mahadevan, T.S.	11-Jun	9:10AM	Whittier (4th floor)	26
Mandal, S.	14-Jun	8:00AM	Whittier (4th floor)	56
Marcial, J.	13-Jun	10:40AM	Whittier (4th floor)	49
Martin-Monier, L.	12-Jun	12:10PM	Beacon Hill (4th floor)	37
Martin, S.W.	13-Jun	10:40AM	Georgian (mezzanine)	52
Martucci, A.	12-Jun	12:30PM	Beacon Hill (4th floor)	37
Mason, A.R.	14-Jun	10:40AM	Whittier (4th floor)	57
Massera, J.	14-Jun	10:00AM	Berkley (mezzanine)	54
Masuno, A.	14-Jun	11:10AM	Berkley (mezzanine)	54
Matsuoka, J.	14-Jun	12:00PM	Statler (mezzanine)	53
Mauro, J.C.	11-Jun	8:20AM	Georgian (mezzanine)	29
McAnany, S.	12-Jun	10:10AM	Terrace (lower level)	33
McCloy, J.	12-Jun	9:30AM	Whittier (4th floor)	36
McGill, D.J.	11-Jun	2:20PM	Cambridge (4th floor)	24
McKenzie, M.E.	13-Jun	1:45PM	Terrace (lower level)	42
McKenzie, M.E.	13-Jun	2:50PM	Terrace (lower level)	42
Meechoowas, E.E.	11-Jun	3:30PM	Stuart (4th floor)	25
Merklein, M.	11-Jun	8:00AM	Beacon Hill (4th floor)	25
Meuleman, R.	13-Jun	5:45PM	Tremont (4th floor)	47
Michaelis, V.K.	12-Jun	11:10AM	Terrace (lower level)	33
Micoulaut, M.	10-Jun	2:20PM	Arlington (mezzanine)	9
Micoulaut, M.	13-Jun	8:30AM	Hancock (mezzanine)	41
Micoulaut, M.	13-Jun	4:40PM	Clarendon (mezzanine)	43
Min, K.	14-Jun	8:30AM	Terrace (lower level)	54
Mir, A.	14-Jun	8:50AM	Whittier (4th floor)	56
Mishra, A.	11-Jun	2:10PM	Stuart (4th floor)	25
Mitchell, A.	11-Jun	11:10AM	Terrace (lower level)	19
Mitra, I.	10-Jun	2:10PM	Terrace (lower level)	10
Mitra, I.	14-Jun	10:30AM	Cambridge (4th floor)	56
Mogus-Milankovic, A.	13-Jun	3:40PM	White Hill (4th floor)	48
Mohamed, M.R.	10-Jun	3:00PM	Terrace (lower level)	10
Mokhtari, S.	13-Jun	9:10AM	Berkley (mezzanine)	40
Möncke, D.	10-Jun	4:50PM	Whittier (4th floor)	14
Montagne, L.	13-Jun	4:10PM	Berkley (mezzanine)	40
Montigaud, H.	11-Jun	11:20AM	Clarendon (mezzanine)	21
Moore, G.G.	12-Jun	9:50AM	Terrace (lower level)	33
Moore, L.	11-Jun	4:20PM	Terrace (lower level)	19
Mori, T.	13-Jun	11:20AM	Statler (mezzanine)	44
Mrazek, J.	13-Jun	2:40PM	Hancock (mezzanine)	41
Muijsenberg, E.H.	12-Jun	2:45PM	Clarendon (mezzanine)	38
Muniz, R.F.	12-Jun	10:00AM	Statler (mezzanine)	34
Munoz, F.	13-Jun	1:50PM	Berkley (mezzanine)	40
Murata, T.	13-Jun	9:20AM	Arlington (mezzanine)	44
Musterman, E.	13-Jun	6:00PM	Terrace (lower level)	42
N				
Nakamura, M.	12-Jun	1:45PM	Clarendon (mezzanine)	38
Nalin, M.	13-Jun	10:40AM	Beacon Hill (4th floor)	51
Naumis, G.	13-Jun	10:40AM	Hancock (mezzanine)	42
Neeway, J.	11-Jun	3:40PM	Whittier (4th floor)	27
Neuville, D.R.	11-Jun	10:50AM	Berkley (mezzanine)	18
Neuville, D.R.	13-Jun	10:20AM	Berkley (mezzanine)	41
Ngo, D.	11-Jun	11:50AM	Whittier (4th floor)	27
Nicoletti, F.	13-Jun	9:00AM	Georgian (mezzanine)	52
Nienhuis, E.T.	12-Jun	10:20AM	Berkley (mezzanine)	33
Nommeots-Nomm, A.	11-Jun	8:00AM	Stuart (4th floor)	24
O				
Oelgoetz, J.R.	11-Jun	1:40PM	Statler (mezzanine)	23
Ohkubo, T.	11-Jun	8:20AM	Whittier (4th floor)	26
Oikonomopoulou, F.	13-Jun	8:30AM	Stuart (4th floor)	48
Oji, B.	12-Jun	11:30AM	Terrace (lower level)	33
Ojovan, M.I.	13-Jun	11:00AM	Whittier (4th floor)	49
Ojovan, M.I.	13-Jun	2:00PM	Georgian (mezzanine)	52
Okhrimenko, D.	14-Jun	11:25AM	Stuart (4th floor)	57
Oktik, S.	13-Jun	1:20PM	Stuart (4th floor)	48
Ollier, N.	10-Jun	1:20PM	Whittier (4th floor)	13
Ono, M.	13-Jun	4:20PM	Arlington (mezzanine)	45
Onodera, Y.	14-Jun	8:00AM	Clarendon (mezzanine)	54
Orawannukul, P.	12-Jun	4:20PM	Clarendon (mezzanine)	38
Orhon, M.	13-Jun	5:40PM	Georgian (mezzanine)	53
Ori, G.	11-Jun	9:00AM	Hancock (mezzanine)	20
Ori, G.	14-Jun	8:20AM	Berkley (mezzanine)	53
Orzol, D.K.	11-Jun	1:40PM	Cambridge (4th floor)	23
Ostergaard, M.B.	13-Jun	11:20AM	Clarendon (mezzanine)	46
Oumessad, G.	11-Jun	2:40PM	Clarendon (mezzanine)	22
P				
Pan, Q.	11-Jun	2:40PM	Statler (mezzanine)	23
Park, H.	14-Jun	9:50AM	Terrace (lower level)	54
Parker, J.M.	10-Jun	1:50PM	Tremont (4th floor)	14
Parmar, A.D.	13-Jun	9:00AM	Hancock (mezzanine)	41
Parruzot, B.	11-Jun	4:00PM	Whittier (4th floor)	27
Pascual, M.	11-Jun	8:50AM	Statler (mezzanine)	22
Pavić, L.	14-Jun	9:20AM	Berkley (mezzanine)	54
Pedone, A.	11-Jun	9:40AM	Hancock (mezzanine)	20
Pellerin, N.	12-Jun	11:30AM	Berkley (mezzanine)	33
Peng, S.	13-Jun	1:40PM	Tremont (4th floor)	47
Perret, D.	10-Jun	1:50PM	Hancock (mezzanine)	11
Petersen, R.R.	13-Jun	10:30AM	Clarendon (mezzanine)	46
Peterson, I.	13-Jun	1:20PM	Cambridge (4th floor)	46
Phillips, J.C.	11-Jun	1:20PM	Berkley (mezzanine)	19
Pierce, E.M.	11-Jun	10:00AM	Whittier (4th floor)	27
Pigeonneau, F.	13-Jun	1:50PM	Cambridge (4th floor)	46
Pintori, G.	14-Jun	8:20AM	Georgian (mezzanine)	57
Piret, N.	11-Jun	9:20AM	Clarendon (mezzanine)	21
Podraza, N.	12-Jun	10:00AM	Clarendon (mezzanine)	34
Pokorny, R.	13-Jun	2:30PM	Cambridge (4th floor)	46
Polcyn, A.	13-Jun	8:50AM	Stuart (4th floor)	48
Poletto Rodrigues, B.	10-Jun	3:00PM	Georgian (mezzanine)	12
Porter, P.	14-Jun	10:00AM	Whittier (4th floor)	57
Potter, A.	10-Jun	4:00PM	Berkley (mezzanine)	11
Pradel, A.	11-Jun	8:50AM	Berkley (mezzanine)	17
Prokhorenko, O.	12-Jun	12:00PM	Hancock (mezzanine)	34
Pugliese, D.	13-Jun	11:20AM	Cambridge (4th floor)	51
Pye, L.D.	11-Jun	8:00AM	Georgian (mezzanine)	29
Q				
Qiao, A.	10-Jun	3:50PM	Statler (mezzanine)	10
Qiao, X.	12-Jun	9:30AM	Statler (mezzanine)	34
Qiu, J.	10-Jun	3:40PM	Beacon Hill (4th floor)	13
Qiu, J.	11-Jun	10:00AM	Statler (mezzanine)	22
Quinn, G.D.	11-Jun	1:50PM	Arlington (mezzanine)	23
R				
Radford, J.T.	13-Jun	1:40PM	Whittier (4th floor)	49
Ranasinghe, K.S.	13-Jun	3:00PM	Statler (mezzanine)	39
Rautiyal, P.	14-Jun	9:10AM	Whittier (4th floor)	56
Ravinder, R.	14-Jun	9:00AM	Clarendon (mezzanine)	54
Reben, M.J.	12-Jun	10:20AM	Statler (mezzanine)	34
Regnier, E.	13-Jun	1:20PM	Whittier (4th floor)	49
Ren, J.	11-Jun	11:40AM	Berkley (mezzanine)	18
Reupert, A.	13-Jun	9:00AM	Beacon Hill (4th floor)	51
Reutler, P.	13-Jun	9:20AM	Stuart (4th floor)	48
Reynolds, A.	13-Jun	5:05PM	Tremont (4th floor)	47
Ribeiro, S.J.	13-Jun	5:00PM	Hancock (mezzanine)	41
Richard, I.	12-Jun	10:00AM	Cambridge (4th floor)	37
Richardson, K.	11-Jun	10:00AM	Beacon Hill (4th floor)	26
Richardson, K.	13-Jun	10:00AM	Georgian (mezzanine)	52
Richardson, M.	13-Jun	10:20AM	Georgian (mezzanine)	52
Rimsza, J.M.	11-Jun	1:20PM	Hancock (mezzanine)	20
Rio, S.	11-Jun	4:00PM	Statler (mezzanine)	23
Rocherullé, J.	11-Jun	8:30AM	Stuart (4th floor)	24
Rodrigues, A.C.	10-Jun	5:00PM	Tremont (4th floor)	14
Rodrigues, A.C.	11-Jun	4:00PM	Terrace (lower level)	19
Rohanová, D.	11-Jun	8:20AM	Tremont (4th floor)	28

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Name	Date	Time	Room	Page Number
Rohanová, D.	11-Jun	10:50AM	Stuart (4th floor)	25
Roos, C.	13-Jun	3:45PM	Tremont (4th floor)	47
Roos, C.	14-Jun	8:05AM	Stuart (4th floor)	57
Rountree, C.L.	11-Jun	1:20PM	Arlington (mezzanine)	23
Rouse, Z.	11-Jun	3:40PM	Arlington (mezzanine)	23
Rouse, Z.	11-Jun	4:00PM	Arlington (mezzanine)	23
Royall, C.P.	10-Jun	2:40PM	Clarendon (mezzanine)	11
Ruffle, B.	12-Jun	10:00AM	Hancock (mezzanine)	33
Ruffle, B.	13-Jun	4:20PM	Clarendon (mezzanine)	43
Rupertus, V.	11-Jun	8:00AM	Clarendon (mezzanine)	21
Rupertus, V.	13-Jun	8:30AM	White Hill (4th floor)	51
Rusch, M.	12-Jun	11:30AM	Clarendon (mezzanine)	34
Ryan, J.V.	11-Jun	1:20PM	Whittier (4th floor)	27
S				
Saini, R.	12-Jun	11:20AM	Whittier (4th floor)	36
Saitoh, A.	13-Jun	2:50PM	Berkley (mezzanine)	40
Sajzew, R.	13-Jun	9:10AM	Statler (mezzanine)	43
Sakai, A.	13-Jun	11:20AM	Whittier (4th floor)	49
Sander, M.	12-Jun	10:50AM	Terrace (lower level)	33
Sant, G.	10-Jun	3:40PM	Berkley (mezzanine)	11
Sant, G.	11-Jun	3:00PM	Whittier (4th floor)	27
Sant, G.	14-Jun	8:00AM	Arlington (mezzanine)	55
Santagneli, S.H.	13-Jun	4:30PM	Berkley (mezzanine)	40
Sasan, K.	11-Jun	10:20AM	Cambridge (4th floor)	24
Sasse, E.	13-Jun	2:10PM	Stuart (4th floor)	48
Sawamura, S.	11-Jun	3:40PM	Clarendon (mezzanine)	22
Scannell, G.	14-Jun	11:50AM	Arlington (mezzanine)	55
Schaut, R.	11-Jun	8:30AM	Clarendon (mezzanine)	21
Schaut, R.	13-Jun	9:10AM	White Hill (4th floor)	52
Schneider, J.F.	13-Jun	5:50PM	Berkley (mezzanine)	40
Schröder, J.	12-Jun	11:10AM	Beacon Hill (4th floor)	37
Schroeter, M.	13-Jun	3:10PM	Tremont (4th floor)	47
Schuller, S.	13-Jun	5:10PM	Cambridge (4th floor)	46
Schwarz, C.	11-Jun	11:30AM	Terrace (lower level)	19
Selkregg, K.R.	12-Jun	10:00AM	Stuart (4th floor)	35
Sen, S.	13-Jun	10:20AM	Hancock (mezzanine)	42
Serbena, F.C.	13-Jun	5:40PM	Arlington (mezzanine)	45
Serbena, F.C.	14-Jun	9:20AM	Cambridge (4th floor)	56
Sessegolo, L.	11-Jun	11:25AM	Tremont (4th floor)	28
Sglavo, V.M.	13-Jun	5:20PM	Georgian (mezzanine)	53
Sharma, Y.	11-Jun	11:40AM	Arlington (mezzanine)	18
Shaw, B.	11-Jun	9:00AM	Terrace (lower level)	18
She, J.	13-Jun	10:40AM	Berkley (mezzanine)	41
Shevelev, M.	13-Jun	11:10AM	Stuart (4th floor)	48
Shi, Y.	12-Jun	11:50AM	Berkley (mezzanine)	33
Shiba, H.	10-Jun	2:20PM	Clarendon (mezzanine)	11
Shih, Y.	12-Jun	10:00AM	Berkley (mezzanine)	33
Shinozaki, K.	11-Jun	8:40AM	Terrace (lower level)	18
Shinozaki, K.	13-Jun	10:40AM	Tremont (4th floor)	51
Shortland, A.	11-Jun	8:40AM	Tremont (4th floor)	28
Sidebottom, D.	10-Jun	3:00PM	Berkley (mezzanine)	10
Siligardi, C.	11-Jun	3:40PM	Terrace (lower level)	19
Simurka, P.	12-Jun	10:30AM	Stuart (4th floor)	35
Singh, S.	13-Jun	8:30AM	Terrace (lower level)	39
Singh, S.P.	11-Jun	2:50PM	Stuart (4th floor)	25
Skidmore, C.H.	12-Jun	10:40AM	Whittier (4th floor)	36
Smedskjaer, M.	10-Jun	10:15AM	Grand Ballroom A (mezzanine)	9
Smedskjaer, M.M.	11-Jun	2:10PM	Arlington (mezzanine)	23
Smedskjaer, M.M.	12-Jun	10:30AM	Georgian (mezzanine)	38
Smektala, F.	12-Jun	10:00AM	Beacon Hill (4th floor)	37
Smith, N.J.	12-Jun	9:30AM	Clarendon (mezzanine)	34
So, B.	11-Jun	4:10PM	Beacon Hill (4th floor)	26
So, B.	13-Jun	8:50AM	Tremont (4th floor)	50
Soman, S.	13-Jun	4:20PM	White Hill (4th floor)	48
Song, J.	11-Jun	9:10AM	Beacon Hill (4th floor)	25
Sorin, F.	11-Jun	3:40PM	Beacon Hill (4th floor)	26
Sosso, G.C.	13-Jun	2:05PM	Terrace (lower level)	42
Sreeram, A.N.	11-Jun	4:00PM	Georgian (mezzanine)	29
Srivastava, A.	12-Jun	11:30AM	Arlington (mezzanine)	35
Stebbins, J.	12-Jun	9:30AM	Berkley (mezzanine)	33
Stepniewska, M.	10-Jun	4:10PM	Statler (mezzanine)	10
Stone-Weiss, N.	11-Jun	10:30AM	Stuart (4th floor)	25
Stone-Weiss, N.	11-Jun	1:40PM	Whittier (4th floor)	27
Stratulat, A.	13-Jun	11:40AM	Clarendon (mezzanine)	46
Subbaiyan, N.	11-Jun	1:50PM	Beacon Hill (4th floor)	26
Sukenaga, S.	14-Jun	11:40AM	Statler (mezzanine)	53
Sun, Z.	13-Jun	6:20PM	Whittier (4th floor)	50
Sundaram, S.K.	13-Jun	10:40AM	Stuart (4th floor)	48
Sung, Y.	13-Jun	11:40AM	Arlington (mezzanine)	44
Suratwala, T.I.	12-Jun	10:50AM	Arlington (mezzanine)	35
Swiler, D.R.	14-Jun	10:40AM	Georgian (mezzanine)	58
Szamel, G.	10-Jun	1:50PM	Clarendon (mezzanine)	11
T				
Tadanaga, K.	13-Jun	4:40PM	Hancock (mezzanine)	41
Tagiara, N.	11-Jun	9:20AM	Berkley (mezzanine)	17
Takada, A.	11-Jun	1:40PM	Georgian (mezzanine)	29
Takahashi, Y.	12-Jun	11:40AM	Tremont (4th floor)	36
Takato, Y.	11-Jun	1:50PM	Hancock (mezzanine)	21
Tanabe, S.	11-Jun	8:00AM	Statler (mezzanine)	22
Tanabe, S.	13-Jun	2:40PM	Georgian (mezzanine)	52
Tanaka, H.	13-Jun	1:20PM	Terrace (lower level)	42
Tandia, A.	10-Jun	1:20PM	Hancock (mezzanine)	11
Tanguy, A.	14-Jun	11:30AM	Hancock (mezzanine)	56
Tapasa, K.	14-Jun	10:20AM	Terrace (lower level)	54
Temelkuran, B.	13-Jun	11:00AM	Cambridge (4th floor)	51
Terakado, N.	13-Jun	2:00PM	Arlington (mezzanine)	45
Thieme, K.	11-Jun	9:20AM	Terrace (lower level)	19
Thieme, K.	13-Jun	5:20PM	Terrace (lower level)	42
Tokunaga, H.	12-Jun	10:50AM	Clarendon (mezzanine)	34
Tomeno, S.	12-Jun	11:10AM	Clarendon (mezzanine)	34
Tomozawa, M.	11-Jun	10:00AM	Georgian (mezzanine)	29
Tomozawa, M.	14-Jun	11:30AM	Arlington (mezzanine)	55
Tong, H.	11-Jun	4:50PM	Hancock (mezzanine)	21
Torun, G.	13-Jun	9:20AM	Beacon Hill (4th floor)	51
Trenvouez, G.	13-Jun	10:40AM	Arlington (mezzanine)	44
Troles, J.	11-Jun	2:50PM	Beacon Hill (4th floor)	26
Troles, J.	12-Jun	9:30AM	Beacon Hill (4th floor)	37
Tuheen, M.I.	11-Jun	10:20AM	Hancock (mezzanine)	20
U				
Urata, S.	12-Jun	11:10AM	Georgian (mezzanine)	38
V				
Vaishnav, S.	12-Jun	11:40AM	Whittier (4th floor)	36
Valbi, V.	11-Jun	2:20PM	Tremont (4th floor)	28
van Limpt, H.	13-Jun	4:25PM	Tremont (4th floor)	47
Varshneya, A.K.	10-Jun	1:20PM	Berkley (mezzanine)	10
Varshneya, P.	11-Jun	3:00PM	Georgian (mezzanine)	29
Veenhuizen, K.J.	10-Jun	3:00PM	Beacon Hill (4th floor)	13
Velazquez Garcia, J.J.	11-Jun	1:20PM	Terrace (lower level)	19
Vemula, H.R.	10-Jun	3:00PM	Arlington (mezzanine)	9
Verhaar, G.	11-Jun	3:00PM	Tremont (4th floor)	28
Verheijen, O.	12-Jun	11:00AM	Stuart (4th floor)	35
Vienna, J.	13-Jun	5:40PM	Whittier (4th floor)	50
W				
Walch, E.	13-Jun	10:20AM	Arlington (mezzanine)	44
Walling, S.	13-Jun	2:40PM	Whittier (4th floor)	49
Wang, J.	12-Jun	11:20AM	Tremont (4th floor)	36
Wang, J.	13-Jun	8:30AM	Clarendon (mezzanine)	45
Wang, J.	14-Jun	9:20AM	Hancock (mezzanine)	55
Wang, L.	13-Jun	11:00AM	Clarendon (mezzanine)	46
Wang, P.	14-Jun	8:55AM	Stuart (4th floor)	57
Wang, W.	11-Jun	4:20PM	Statler (mezzanine)	23
Wang, Y.	12-Jun	11:40AM	Statler (mezzanine)	34
Wang, Z.	10-Jun	4:40PM	Berkley (mezzanine)	11
Wang, Z.	11-Jun	8:00AM	Whittier (4th floor)	26
Waurischk, T.	14-Jun	11:10AM	Arlington (mezzanine)	55
Weaver, J.L.	11-Jun	2:40PM	Tremont (4th floor)	28
Weber, R.	14-Jun	11:20AM	Statler (mezzanine)	53

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Wei, L.	12-Jun	11:40AM	Cambridge (4th floor)	37
Wei, Y.	11-Jun	2:00PM	Terrace (lower level)	19
Welch, R.	13-Jun	11:00AM	Berkley (mezzanine)	41
Wen, P.	13-Jun	8:00AM	Clarendon (mezzanine)	45
Werr, F.	13-Jun	8:30AM	Statler (mezzanine)	43
Wicks, G.	13-Jun	3:40PM	Georgian (mezzanine)	52
Wilding, M.C.	13-Jun	3:40PM	Clarendon (mezzanine)	43
Wiles, N.T.	13-Jun	8:30AM	Berkley (mezzanine)	40
Wiles, N.T.	13-Jun	6:00PM	Arlington (mezzanine)	45
Wilkinson, C.	10-Jun	2:20PM	Berkley (mezzanine)	10
Wilkinson, C.	13-Jun	11:10AM	Hancock (mezzanine)	42
Wondraczek, L.	12-Jun	12:10PM	Georgian (mezzanine)	38
Wondraczek, L.	13-Jun	1:20PM	White Hill (4th floor)	47
Wright, A.	13-Jun	1:20PM	Georgian (mezzanine)	52
Wu, J.	13-Jun	2:20PM	Arlington (mezzanine)	45
Wuttig, M.	10-Jun	1:20PM	Arlington (mezzanine)	9
X				
Xia, Y.	13-Jun	5:30PM	Berkley (mezzanine)	40
Xiang, W.	11-Jun	2:40PM	Terrace (lower level)	19
Xiao, Y.	13-Jun	11:00AM	Statler (mezzanine)	44
Xie, J.	14-Jun	10:45AM	Stuart (4th floor)	57
Xu, B.	11-Jun	11:00AM	Arlington (mezzanine)	18
Xu, K.	13-Jun	8:40AM	Whittier (4th floor)	49
Xu, X.	11-Jun	8:20AM	Terrace (lower level)	18
Xu, X.	11-Jun	3:50PM	Stuart (4th floor)	25
Xu, X.	12-Jun	11:00AM	Whittier (4th floor)	36
Y				
Yan, W.	12-Jun	12:10PM	Cambridge (4th floor)	37
Yang, D.	13-Jun	4:40PM	Statler (mezzanine)	39
Yang, L.	13-Jun	8:50AM	Statler (mezzanine)	43
Yang, Y.	10-Jun	1:50PM	Statler (mezzanine)	10
Yang, Y.	10-Jun	4:20PM	Berkley (mezzanine)	11
Yang, Y.	13-Jun	2:40PM	White Hill (4th floor)	47
Yanné, E.	13-Jun	3:00PM	Cambridge (4th floor)	46
Yano, T.	13-Jun	1:20PM	Arlington (mezzanine)	44
Yano, T.	13-Jun	3:40PM	Whittier (4th floor)	50
Ye, S.	11-Jun	10:30AM	Statler (mezzanine)	22
Ye, Y.	11-Jun	3:00PM	Statler (mezzanine)	23
Yoldas, B.	10-Jun	12:00PM	Grand Ballroom A (mezzanine)	9
Yoshida, S.	12-Jun	11:30AM	Georgian (mezzanine)	38
Youngman, R.	13-Jun	1:20PM	Statler (mezzanine)	39
Yu, J.	12-Jun	10:00AM	Arlington (mezzanine)	35
Yue, Y.	12-Jun	11:10AM	Hancock (mezzanine)	34
Yue, Y.	14-Jun	8:35AM	Stuart (4th floor)	57
Yuye, J.	12-Jun	11:20AM	Statler (mezzanine)	34
Z				
Zandona, A.	12-Jun	9:30AM	Terrace (lower level)	33
Zeidler, A.	14-Jun	10:00AM	Statler (mezzanine)	53
Zeng, H.	11-Jun	3:40PM	Berkley (mezzanine)	20
Zhang, A.	11-Jun	10:00AM	Arlington (mezzanine)	18
Zhang, B.	11-Jun	8:50AM	Beacon Hill (4th floor)	25
Zhang, L.	13-Jun	3:40PM	Arlington (mezzanine)	45
Zhang, M.	12-Jun	11:00AM	Statler (mezzanine)	34
Zhang, R.	13-Jun	4:50PM	Berkley (mezzanine)	40
Zhang, X.	11-Jun	2:20PM	Georgian (mezzanine)	29
Zhang, X.	12-Jun	5:40PM	Clarendon (mezzanine)	38
Zhang, Y.	11-Jun	11:20AM	Beacon Hill (4th floor)	26
Zhang, Y.	12-Jun	11:50AM	Beacon Hill (4th floor)	37
Zhang, Y.	13-Jun	9:20AM	Terrace (lower level)	39
Zhang, Y.	14-Jun	9:00AM	Arlington (mezzanine)	55
Zhang, Y.	14-Jun	11:00AM	Whittier (4th floor)	57
Zhang, Z.	11-Jun	10:00AM	Hancock (mezzanine)	20
Zhao, J.	13-Jun	8:20AM	Cambridge (4th floor)	51
Zhao, J.	13-Jun	4:40PM	Terrace (lower level)	42
Zhao, R.	13-Jun	4:40PM	White Hill (4th floor)	48
Zhao, Z.	13-Jun	10:20AM	Statler (mezzanine)	44
Zhou, Q.	11-Jun	2:40PM	Berkley (mezzanine)	20
Zhou, S.	10-Jun	9:45AM	Grand Ballroom A (mezzanine)	9
Zhu, C.	11-Jun	2:20PM	Statler (mezzanine)	23
Zhu, W.	13-Jun	10:50AM	Hancock (mezzanine)	42
Zu, Q.	14-Jun	9:55AM	Stuart (4th floor)	57
Zuccato, D.	13-Jun	10:20AM	White Hill (4th floor)	52
Zwanziger, J.	12-Jun	9:30AM	Georgian (mezzanine)	37

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Aleksandrov, L.I.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	14
Andraca Gómez, A.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
B				
Bao, T.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Barker, C.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Bellows, C.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Belostotsky, V.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Blatt, R.L.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Bødker, M.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Bondaletov, D.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Boroica, L.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Bórquez, J.J.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	14
Bragatto, C.B.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
C				
Cabral, A.A.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Calahoo, C.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Chan, C.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Chen, Y.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Cheng, S.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Cook, C.P.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Costa, M.F.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Cui, J.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
D				
de Souza, S.R.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	14
Dong, G.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
E				
Ersundu, A.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
F				
Fang, Z.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Fatobene Ando, M.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Foret, M.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Franco, D.F.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Fritzsche, M.B.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16

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Name	Date	Time	Room	Page Number
G				
Giehl, C.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Goldstein Menache, P.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Guillermier, C.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
H				
Hancock, R.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
He, K.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Hiratsuka, M.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Hu, G.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Hu, Y.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Hussain, S.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
I				
Iskhakova, L.D.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	14, 15
J				
Januchta, K.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Jesuit, M.R.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	15,30
Joseph, L.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
K				
Kaçar, E.D.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Kado, R.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Kamradek, M.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Kanno, N.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Kaur, A.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Ke, Z.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Kishi, T.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Kitamura, N.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Klouzkova, A.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Kolay, S.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Koneru, S.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Kostka, P.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Kusano, H.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
L				
Lamarca, R.S.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Lavrov, R.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Lee, H.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Lee, K.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	14
Liu, H.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31, 32
Locker, S.T.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Londero, P.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Lovi, J.M.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
M				
Ma, D.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	14
Ma, D.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Mahajan, S.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Malavasi, G.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Mansfield, J.T.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Manzani, D.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Matuk, A.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Moiseeva, L.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Montagnino, E.S.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Mosner, P.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	14
N				
Na, H.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Nakamura, A.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Nakatsuka, K.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Nam, Y.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
O				
Ojovan, M.I.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Okamoto, H.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Ortmann, L.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Osada, K.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Otsuki, T.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
P				
Pan, J.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Pan, L.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Park, J.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Park, J.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Parruzot, B.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Priven, A.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Pugliese, D.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Q				
Qin, Q.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
R				
Ramírez, M.H.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Reupert, A.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Rodriguez, M.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	14
S				
Saito, N.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	29
Sajzew, R.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Salvagin, R.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Sawamura, S.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Schröder, J.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Schuller, S.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Schuller, S.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Seo, M.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Serbena, F.C.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Shang, H.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Sharagov, V.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Shi, L.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Shih, Y.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Sick, S.J.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Sidebottom, D.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	14
Stepniewska, M.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Strutynski, C.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Sun, Y.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30, 32
T				
Takahashi, Y.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Tao, T.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Tayama, G.T.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Terakado, N.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Terasawa, M.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Thorne, M.F.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Tingting, Y.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Tostanoski, N.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Trenvouez, G.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Tsyganova, T.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Tuheen, M.I.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
V				
VahediGharehchopogh, N.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Vernerova, M.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Vlasova, K.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
W				
Walsh, E.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Wang, N.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Wang, X.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Wang, Z.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Watanabe, S.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Weaver, J.L.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32
Whittier, A.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
X				
Xu, X.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	17
Y				
Yahia, C.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Yatskiv, R.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Yoshimine, T.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Yushi, C.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	32

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Name	Date	Time	Room	Page Number
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Zhang, H.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Zhang, L.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	15
Zhang, W.	10-Jun	6:00PM	Grand Ballroom A (mezzanine)	16
Zhang, Y.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Zhang, Z.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	31
Zhao, J.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30
Zhou, Q.	11-Jun	5:00PM	Grand Ballroom A (mezzanine)	30

Monday, June 10, 2019

Opening Session

Room: Grand Ballroom A (mezzanine)

Session Chairs: Alicia Durán, Instituto de Ceramica y Vidrio (CSIC); Richard Brow, Missouri S&T; Liping Huang, Rensselaer Polytechnic Institute

8:00 AM

Opening remarks, ICG President's award and W.E.S. Turner award presentations

9:30 AM

Break

9:45 AM

(ICG-PL-001-2019) The 2018 V. Gottardi Prize: Multicomponent Photonic Glasses and Fibers

S. Zhou*[1]

1. South China University of Technology, School of Materials Science and Engineering, China

10:15 AM

(ICG-PL-002-2019) The 2019 V. Gottardi Prize: Toward intrinsic damage resistance and ductility in oxide glasses

M. Smedskjaer*[1]

1. Aalborg University, Department of Chemistry and Bioscience, Denmark

10:45 AM

(ICG-PL-003-2019) Woldemar A. Weyl International Glass Science Award: Metal-organic framework liquids, glasses and blends

T. Bennett*[1]

1. Cambridge University, United Kingdom

11:15 AM

Break

11:30 AM

(ICG-PL-004-2019) George W. Morey Award: The architectured glass

H. Jain*[1]

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

12:00 PM

(ICG-PL-005-2019) Stookey Lecture of Discovery: Formation of glass and ceramics by chemical polymerization and its effects on properties

B. Yoldas*[1]

1. Carnegie Mellon University, Dept. of Chemical Engineering, USA

12:30 PM

GOMD 100th Anniversary program

SI: Glass Structure and Chemistry

Session 4: Chalcogenide Glass Structure and Chemistry I

Room: Arlington (mezzanine)

Session Chairs: Pierre Lucas, Univ of Arizona; Yong Gyu Choi, Korea Aerospace University

1:20 PM

(ICG-SI-001-2019) Switching between Crystallization from the Glassy to Crystallization from the undercooled Liquid Phase in the Phase Change Material $Ge_2Sb_2Te_5$ (Invited)

J. Pries[1]; P. Lucas[2]; M. Wuttig*[1]; S. Wei[1]

1. RWTH Aachen University, Germany
2. University of Arizona, Materials Science and Engineering, USA

1:50 PM

(ICG-SI-002-2019) Complementarity of experimental and theoretical approaches to solve the short- and intermediate range order in telluride glasses (Invited)

D. Le Coq*[1]; L. Bouëssel du Bourg[1]; H. Balout[1]; E. Bychkov[2]; C. Boussard-Pledel[1]; B. Bureau[1]; L. Le Pollès[1]; E. Furet[1]

1. University of Rennes, ISCR, France
2. Université du Littoral, France

2:20 PM

(ICG-SI-003-2019) Diffraction patterns of amorphous materials as a series expansion of neighbor distribution functions

M. Micoulaut*[1]

1. Sorbonne Université, France

2:40 PM

(ICG-SI-004-2019) A Review of Scanning Calorimetry and X-ray Diffraction Studies of Non-Crystalline Phases in Various Glass-Forming Chalcogenide Systems as Evidence for the Temperature and Compositional Dependence of Local Structural and Chemical Order

J. P. de Neufville*[1]

1. Eutectix, LLC, USA

3:00 PM

(ICG-SI-005-2019) Structural and Thermal Properties of Sm^{3+} Doped Tellurite Glasses

H. R. Vemula*[1]; S. P. Prasad[2]

1. National institute of Technology Raipur, Department of Physics, India
2. National Institute of Technology Warangal, Department of Physics, India

3:20 PM

Break

3:40 PM

(ICG-SI-006-2019) More Than One Way to Make a Glass: A Comparative Investigation of Sodium Oxy-thio Phosphate Glasses

A. Joyce*[1]; S. Kmiec[1]; S. W. Martin[1]; D. Bayko[1]; J. M. Lovi[1]

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

4:00 PM

(ICG-SI-007-2019) Structural Investigation of (x) $Li_6Si_2S_7$ + (1-x) $Li_4P_2S_7$ glases prepared via mechanochemcial synthesis

S. Kmiec*[1]; R. Zhao[1]; M. P. Aguilar[1]; S. W. Martin[1]

1. Iowa State University, USA

4:20 PM

(ICG-SI-008-2019) Investigation of all-solid-state Li / Na Ion Batteries based on chalcogenides

A. Castro[1]; L. Calvez*[1]; S. Cozic[3]; V. Labas[2]; M. Kubliha[2]; O. Bosak[2]; D. Le Coq[1]

1. Univ. Rennes, ISCR, UMR 6226, Glass and Ceramic Team, France
2. Slovak University of Technology, Faculty of Materials Science and Technology, Slovakia
3. Le Verre Fluoré, France

Session 8: Crystallization of Glasses and Glass-Ceramics I (TC 07)

Room: Terrace (lower level)

Session Chairs: Mark Davis, SCHOTT North America, Inc.; Ralf Müller, Bundesanstalt für Materialforschung und -prüfung (BAM)

1:20 PM

(ICG-SI-009-2019) High Strength Fusion Formable Glass-Ceramics (Invited)

M. Dejneka*[1]; C. Smith[1]; I. Dutta[1]

1. Corning Incorporated, USA

1:50 PM

(ICG-SI-010-2019) Toughening of $CaO\text{-}Al_2O_3\text{-}SiO_2$ glass by precipitation of hexagonal $CaAl_2Si_2O_8$ crystals

K. Maeda*[1]; S. Urata[1]; K. Akatsuka[1]; Y. Takato[1]; K. Iwasaki[2]; T. Nakanishi[2]; A. Yasumori[2]

1. AGC Inc., Japan
2. Tokyo University of Science, Japan

2:10 PM

(ICG-SI-011-2019) Advanced Glass-Ceramic Materials for Modern Applications (Invited)

I. Mitra*[1]

1. SCHOTT AG, Material Development, Germany

2:40 PM

(ICG-SI-012-2019) Machinability of Fluormica Glass-Ceramics of High Mica Volume Fraction

R. Hill*[1]; A. Alzahrani[1]

1. Queen Mary, DPS, United Kingdom

3:00 PM

(ICG-SI-013-2019) Synthesis of a Novel Zirconia Reinforced glass-ceramics for Dentistry

M. R. Mohamed*[1]; N. Karpukhina[1]; R. Hill[1]

1. Barts and The London School of Medicine and Dentistry, Dental Institute, United Kingdom

3:20 PM

Break

3:40 PM

(ICG-SI-014-2019) A new insight for nucleation and crystal growth in laser-induced crystallization (Invited)

T. Komatsu*[1]

1. Nagaoka University of Technology, Japan

Session 10: Hybrid Glasses and Metal-Organic Framework Glasses

Room: Statler (mezzanine)

Session Chairs: Thomas Bennett, Cambridge University; Satoshi Horike, Kyoto University

1:20 PM

(ICG-SI-015-2019) Disorder in soft porous crystals (Invited)

F. Coudert*[1]

1. CNRS, France

1:50 PM

(ICG-SI-016-2019) Enabling computational design of ZIFs using ReaxFF (Invited)

Y. Yang*[1]; Y. K. Shin[2]; S. Li[3]; T. Bennett[4]; A. C. van Duin[2]; J. C. Mauro[1]

1. Pennsylvania State University, Materials Science and Engineering, USA
2. Pennsylvania State University, Department of Mechanical and Nuclear Engineering, USA
3. China Academy of Engineering Physics, China
4. University of Cambridge, United Kingdom

2:10 PM

(ICG-SI-017-2019) Deformation behavior of amorphous zeolitic imidazolate framework: From supersoft material to complex organometallic alloy

P. Adhikari*[1]; N. Li[2]; P. Rulis[1]; W. Ching[1]

1. University of Missouri, Kansas City, Department of Physics and Astronomy, USA
2. Wuhan University of Technology, State Key Laboratory of Silicate Materials for Architectures, China

2:30 PM

(ICG-SI-018-2019) Robust, transparent amorphous inorganic-organic composite materials (Invited)

C. Calahoo*[1]; L. Wondraczek[1]; L. Longley[2]; T. Bennett[2]

1. University of Jena, Otto Schott Institute for Materials Research, Germany
2. University of Cambridge, Department of Materials Science and Metallurgy, United Kingdom

3:00 PM

(ICG-SI-019-2019) Glassy state of metal organic frameworks for proton conductivity (Invited)

S. Horike*[1]

1. Kyoto University, Institute for Integrated Cell-Material Science, Institute for Advanced Study, Japan

3:30 PM

Break

3:50 PM

(ICG-SI-020-2019) Impact of Pressure on Glass Transition Behavior of a Metal-Organic Framework Glass

A. Qiao*[1]; M. Stepniewska[1]; H. Tao[2]; L. Calvez[3]; X. Zhang[3]; Y. Yue[1]

1. Aalborg University, Department of Chemistry and Bioscience, Denmark
2. Wuhan University of Technology, State Key Laboratory of Silicate Materials for Architectures, China
3. University of Rennes 1, Laboratory of Glasses and Ceramics, Institute of Chemical Science, France

4:10 PM

(ICG-SI-021-2019) Mechanical Response of Melt-Quenched Zeolitic Imidazolate Framework Glass to Sharp Contact Loading

M. Stepniewska*[2]; K. Januchta[2]; C. Zhou[2]; A. Qiao[2]; G. Winther[1]; M. M. Smedskjaer[2]; Y. Yue[2]

1. Technical University of Denmark, Department of Mechanical Engineering, Denmark
2. Aalborg University, Department of Chemistry and Bioscience, Denmark

4:30 PM

(ICG-SI-022-2019) Intrinsically Porous Hybrid Glasses from Melt-Quenched Metal-organic Frameworks

T. Bennett*[1]

1. Cambridge University, United Kingdom

SII: Glass Physics

Session 4: Topology and Rigidity I

Room: Berkley (mezzanine)

Session Chairs: Mathieu Bauchy, University of California, Los Angeles; N M Anoop Krishnan, Indian Institute of Technology Delhi

1:20 PM

(ICG-SII-001-2019) Topological approach to manufacturing stronger glass products (Invited)

A. K. Varshneya*[1]

1. Saxon Glass Technologies, Inc., USA

1:50 PM

(ICG-SII-002-2019) Disordered Networks of Rigid Polyhedra – Looking Back (Invited)

P. Gupta*[1]

1. Ohio State University, USA

2:20 PM

(ICG-SII-003-2019) Topological Constraint Model for the Elasticity of Glass-Forming Systems

C. Wilkinson*[1]; J. C. Mauro[1]

1. Pennsylvania State University, USA

2:40 PM

(ICG-SII-004-2019) Melt Dynamics and Topological phases of $Ge_xAs_xS_{100-2x}$ glasses

B. Almutairi*[1]; R. Chbeir[1]; S. Chakravarty[1]; P. Boolchand[1]

1. University of Cincinnati, USA

3:00 PM

(ICG-SII-005-2019) Connecting Glass-forming Fragility to Network Topology: A Universal Dependence

D. Sidebottom*[1]

1. Creighton University, Physics, USA

3:20 PM

Break

3:40 PM

(ICG-SII-006-2019) Nature and Quantification of Stress in Over-Constrained Glasses

X. Li[1]; M. M. Smedskjaer[2]; J. C. Mauro[3]; G. Sant*[1]; M. Bauchy[1]

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

4:00 PM

(ICG-SII-007-2019) Effect of water on topological constraints in silica glass

A. Potter*[1]; C. Wilkinson[2]; S. H. Kim[3]; J. C. Mauro[2]

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

4:20 PM

(ICG-SII-008-2019) Prediction of the Glass Transition Temperatures of Zeolitic Imidazolate Glasses through Topological Constraint Theory

Y. Yang*[1]; J. C. Mauro[1]

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

4:40 PM

(ICG-SII-009-2019) Topology of Glassy Silica: Role of the Synthesis Method

Z. Wang*[1]; T. Du[1]; M. Bauchy[1]

1. University of California, Los Angeles, Civil and Environmental Engineering, USA

Session 5: Artificial Intelligence and Machine Learning in Glass Science I (TC 27)

Room: Hancock (mezzanine)

Session Chair: Jincheng Du, University of North Texas

1:20 PM

(ICG-SII-010-2019) Using Artificial Intelligence to decrypt the glass genome (Invited)

A. Tandia*[1]

1. Corning Incorporated, Modeling & Simulation, USA

1:50 PM

(ICG-SII-011-2019) Advanced statistical methods applied to glass viscosity and glass temperature prediction

D. Perret*[1]; A. Garcin[1]; F. Bergeret[2]; C. Soual[2]; J. Dussossoy[1]; O. Pinet[1]

1. CEA, DE2D/SEVT/LDMC, France
2. Ippon Innovation, France

2:10 PM

(ICG-SII-012-2019) Engineering new glasses using genetic algorithms

D. R. Cassar*[1]; G. Guimarães dos Santos[1]; G. P. Bessa[1]; R. C. Santana[1]; E. D. Zanotto[1]

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

2:30 PM

(ICG-SII-013-2019) Machine learning based prediction of Young's modulus for glasses with sparse data

S. Singh[1]; S. Bishnoi[1]; R. Ravinder[1]; H. Kodamana*[2]; N. Krishnan[1]

1. Indian Institute of Technology, Department of Civil Engineering, India
2. Indian Institute of Technology, Department of Chemical Engineering, India

2:50 PM

Break

Session 5: Artificial Intelligence and Machine Learning in Glass Science II (TC 27)

Room: Hancock (mezzanine)

Session Chair: Walter Kob, University of Montpellier

3:40 PM

(ICG-SII-014-2019) Machine Learning for Glass Science and Engineering (Invited)

M. Bauchy*[1]

1. University of California, Los Angeles, Civil and Environmental Engineering Department, USA

4:10 PM

(ICG-SII-015-2019) Data-Driven Predictive Glass Corrosion Models Under Different Chemical Conditions

A. Li*[1]; Y. Zhang[2]; K. Hughes[1]

1. Corning Incorporated, Characterization Science, USA
2. Corning Incorporated, Modeling and Simulation, USA

4:30 PM

(ICG-SII-016-2019) Quantitative structure-property relationships (QSPR) analysis of various ZrO_2-containing soda-lime borosilicate glasses

X. Lu*[1]; L. Deng[1]; S. Gin[2]; J. Du[1]

1. University of North Texas, Material Science and Engineering, USA
2. French Alternative Energies and Atomic Energy Commission, France

4:50 PM

(ICG-SII-017-2019) Statistical Mechanical Approach to Predict the Structure Evolution in Borosilicate Glasses

M. Bødker*[1]; S. Sørensen[1]; M. M. Smedskjaer[1]

1. Aalborg University, Denmark

Session 7: Mean-Field and Low-Dimensional Theories of Glasses

Room: Clarendon (mezzanine)

Session Chairs: Patrick Charbonneau, Duke University; Lisa Manning, Syracuse University

1:20 PM

(ICG-SII-018-2019) Onset of mechanical failure in disordered solids (Invited)

G. Zhang[1]; S. Ridout[1]; A. J. Liu*[1]

1. University of Pennsylvania, Physics and Astronomy, USA

1:50 PM

(ICG-SII-019-2019) Dynamics of mean-field-like models of glass-forming fluids (Invited)

G. Szamel*[1]

1. Colorado State University, Department of Chemistry, USA

2:20 PM

(ICG-SII-020-2019) Identifying relaxation processes in glass-forming liquids in two dimensions

H. Shiba*[1]; K. Kim[2]; T. Kawasaki[3]

1. Tohoku University, Institute for Materials Research, Japan
2. Osaka University, Graduate School of Engineering Science, Japan
3. Nagoya University, Department of Physics, Japan

2:40 PM

(ICG-SII-021-2019) Many-Body Correlations in Hard Spheres: A Morphometric Approach

C. P. Royall*[1]

1. University of Bristol, HH Wills Physics Laboratory, United Kingdom

3:00 PM

(ICG-SII-022-2019) Numerical study of the Gardner transition in hard sphere glasses (Invited)

Y. Jin*[1]

1. Institute of Theoretical Physics, Chinese Academy of Sciences, China

3:30 PM

Break

3:50 PM

(ICG-SII-023-2019) Experimental and Numerical Evidence of the Gardner Transition in Glasses (Invited)

E. I. Corwin*[1]; R. C. Dennis[1]; A. Hammond[1]

1. University of Oregon, Physics, USA

4:20 PM

(ICG-SII-024-2019) Single particle dynamics in nearly jammed configurations of hard spheres

R. Díaz*[1]; F. Ricci-Tersenghi[1]; G. Parisi[1]

1. Sapienza University of Rome, Physics, Italy

4:40 PM

(ICG-SII-025-2019) Testing mean-field theory for glasses in three-dimensions

M. Baity Jesi*[1]

1. Columbia University, USA

5:00 PM

(ICG-SII-026-2019) Fluctuation Distributions of Energy Minima in Complex Landscapes

H. Boltz*[1]

1. University of Chicago, James Franck Institute, USA

Session 12: Electromagnetic Properties of Glass

Room: Georgian (mezzanine)

Session Chair: B. Potter, University of Arizona

1:20 PM

(ICG-SII-027-2019) Simulations and theory of a conducting bridge memory material: Copper-alloyed amorphous alumina (Invited)

K. Subedi[1]; K. Prasai[2]; M. Kozicki[3]; D. Drabold*[1]

1. Ohio University, Dept. of Physics and Astronomy, USA
2. Stanford University, Department of Applied Physics, USA
3. Arizona State University, School of Electrical, Computer and Energy Engineering, USA

1:50 PM

(ICG-SII-028-2019) Origin of Conductive Filaments in Chalcogenide-based Conductive-Bridging Random Access Memory

K. Dixit[1]; M. Sundararajan[1]; D. Drabold[1]; G. Chen*[1]

1. Ohio University, USA

2:10 PM

(ICG-SII-029-2019) Chalcogenide-based resistive switches

W. Correr*[1]; S. Messaddeq[1]; Y. Messaddeq[1]; E. Bharucha[1]

1. Université Laval, Canada

2:30 PM

(ICG-SII-030-2019) Structural Design Criteria for a Mechanically Stiff Ion Conductor (Invited)

R. Mohammadi[1]; W. Wang[1]; C. Beg[1]; J. Kieffer*[1]

1. University of Michigan, USA

3:00 PM

(ICG-SII-031-2019) Decoupling mobility and charge carrier concentration in AgR-AgPO$_3$ glasses (R = Cl, Br, I)

B. Poletto Rodrigues*[1]; H. Ebendorff-Heidepriem[1]; L. Wondraczek[2]

1. Institute of Photonics and Advanced Sensing, Australia
2. Otto Schott Institute of Materials Research, Germany

SIV: Emerging Applications of Glass

Session 2: Glasses in Healthcare I (TC 04)

Room: Stuart (4th floor)

Session Chairs: Delia Brauer, Friedrich-Schiller-Universität; Qiang Fu, Corning Incorporated

1:20 PM

(ICG-SIV-001-2019) Fifty Years of Bioglass - A Retrospective and A Look Forward (Invited)

D. C. Greenspan*[1]

1. Spinode Consulting, USA

1:50 PM

(ICG-SIV-002-2019) Crystallization Mechanism of the Bioactive Glasses: 45S5, 13-93 and their intermediates

Q. Fu*[1]; A. Whittier[1]; E. Coon[2]

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

2:10 PM

(ICG-SIV-003-2019) Sol-Gel Derived Binary, Bioactive, Borate Glasses

W. C. Lepry*[1]; S. Naseri[1]; S. N. Nazhat[1]

1. McGill University, Mining and Materials Engineering, Canada

2:30 PM

(ICG-SIV-004-2019) Creating Ceria Nanoparticles in Glass

D. E. Day*[2]; K. S. Ranasinghe[1]; R. SIngh[3]

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

2:50 PM

(ICG-SIV-005-2019) Bioactive glass nanoparticles and the challenge of ion incorporation

P. Naruphontjirakul[1]; S. L. Greasley[1]; S. Chen[1]; A. E. Porter[1]; J. Jones*[1]

1. Imperial College London, Department of Materials, United Kingdom

3:10 PM

Break

3:30 PM

(ICG-SIV-006-2019) Effects of B_2O_3/SiO_2 substitution on structure, proeprties, and in vitro bioactivity of bioactive glasses (Invited)

J. Du*[1]

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

4:00 PM

(ICG-SIV-007-2019) Mixed former borosilicophosphate bioactive glasses for soft tissue repair

B. Gorin*[1]; J. C. Mauro[1]

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

4:20 PM

(ICG-SIV-008-2019) The effect of B_2O_3 incorporation in bioactive glasses towards in vitro apatite forming ability, thermal stability and antibacterial properties

S. Prasad[4]; A. Jana[1]; P. Diwan[2]; S. Tripathy[3]; K. Annapurna[4]; K. Biswas*[4]

1. CSIR-CGCRI, Bioceramics & Coating Division, India
2. Ram Lal Anand College, Delhi University, India
3. CSIR-Indian Institute of Chemical Biology, Structural Biology and Bioinformatics Division, India
4. CSIR-Central Glass & Ceramic Research Institute, Glass Division, India

4:40 PM

(ICG-SIV-009-2019) Cooling rate effects on the structure of 45S5 bioglass

P. Bhaskar[1]; Y. Maurya[1]; R. Kumar*[1]; R. Ravinder[1]; N. Krishnan[1]

1. Indian Institute of Technology Delhi, Department of Civil Engineering, India

Session 3: Emerging Technologies I

Room: Beacon Hill (4th floor)

Session Chair: Hongtao Lin, Massachusetts Institute of Technology

1:20 PM

(ICG-SIV-010-2019) Seeing glass in a new light: Chalcogenide-glass-enabled integrated optics and photonics (Invited)

J. Hu*[1]

1. Massachusetts Institute of Technology, USA

1:50 PM

(ICG-SIV-011-2019) Waveguides in Glass for On-board Optical Interconnects (Invited)

L. Brusberg*[1]; A. R. Zakharian[1]; C. C. Terwilliger[1]

1. Corning Research & Development Corporation, USA

2:20 PM

(ICG-SIV-012-2019) Monolithic on-chip chalcogenide glass waveguide magneto-optical isolator

Q. Du*[1]; C. Wang[2]; Y. Zhang[1]; Y. Zhang[2]; T. Fakhrul[1]; W. Zhang[3]; C. Goncalves[4]; C. Blanco[4]; K. Richardson[4]; L. Deng[2]; C. Ross[1]; L. Bi[2]; J. Hu[1]

1. Massachusetts Institute of Technology, Materials Science and Engineering, USA
2. UESTC, China
3. Ningbo Univeristy, China
4. University of Central Florida, USA

2:40 PM

(ICG-SIV-013-2019) Synthesis, Structural and Optical Characterizations of Tellurium Oxide Based Glasses for Optical Devices: Study of Ionic Mobility of Alkaline Metal Under Thermal Poling

J. Emery*[1]; M. Dussauze[2]; M. Dutreilh-Colas[1]; P. Thomas[1]; T. Cardinal[3]; E. Fargin[3]

1. IRCER, France
2. Institut desSciences Moléculaires, Gironde, France
3. ICMCB-CNRS, France

3:00 PM

(ICG-SIV-014-2019) Ferroelectric domain engineering of lithium niobate single crystal confined in glass

K. J. Veenhuizen*[1]; S. McAnany[2]; R. Vasudevan[3]; D. Nolan[4]; B. Aitken[4]; S. Jesse[3]; S. Kalinin[3]; H. Jain[2]; V. Dierolf[5]

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

3:20 PM

Break

Session 3: Laser Processing of Optical Devices

Room: Beacon Hill (4th floor)

Session Chair: Tian Gu, Massachusetts Institute of Technology

3:40 PM

(ICG-SIV-015-2019) Single fs laser beam induced periodic nanostructures in glass and their applications (Invited)

J. Qiu*[1]

1. State Key Laboratory of Modern Optical Instrumentation, Zhejiang University, China

4:10 PM

(ICG-SIV-016-2019) Polarization dependence of laser-induced lithium niobate single crystal growth in glass

C. L. Eppler*[1]; K. J. Veenhuizen[2]; C. Au-Yeung[1]; S. McAnany[3]; L. Hoxha[1]; H. Jain[3]; V. Dierolf[1]

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

4:30 PM

(ICG-SIV-017-2019) Laser-Induced Crystallization in YAG-SiO_2 Glasses

B. Knorr*[1]; H. Jain[2]; V. Dierolf[2]

1. Fairleigh Dickinson University, USA
2. Lehigh University, USA

4:50 PM

(ICG-SIV-018-2019) Direct laser writing of mid-infrared S-bend waveguides in chalcogenide glasses

P. Masselin[1]; D. Le Coq*[2]

1. Université du Littoral-Côte d'Opale, Laboratoire de Physico-Chimie de l'Atmosphère, France
2. Université de Rennes, ISCR - Eq. Verres et Céramiques, France

Session 7: Photosensitive Glasses and Glass-ceramics

Room: Whittier (4th floor)

Session Chairs: Nadja Lonnroth, Corning Incorporated; Randall Youngman, Corning Incorporated

1:20 PM

(ICG-SIV-019-2019) Irradiation of densified amorphous silica and alpha quartz: Point defects and structural aspects (Invited)

N. Ollier*[1]; M. Lancry[2]; L. Skuja[3]

1. CEA, France
2. ICMMO, France
3. Institute of Solid State Physics, Latvia

1:50 PM

(ICG-SIV-020-2019) Changes in Silicate Glass Induced by an Electron Beam (Invited)

O. Gedeon*[1]; T. Gavenda[1]; K. Jurek[2]; P. Jiricek[2]; J. Zemek[2]

1. University of Chemistry and Technology Prague, Czechia
2. Institute of Physics of the Czech Academy of Sciences, Czechia

2:20 PM

(ICG-SIV-021-2019) Synchrotron X-ray Interaction with Fused Silica and Soda-Lime Glasses

Q. Ma*[1]; D. T. Keane[1]

1. Northwestern University, Synchrotron Research Center, USA

2:40 PM

(ICG-SIV-022-2019) Structure-properties relationship in silver-containing phosphate glasses under nanosecond and femtosecond laser irradiations

T. Guerineau*[1]; C. Strutynski[1]; S. Danto[1]; M. Dussauze[2]; L. Loi[3]; J. Rampnoux[3]; A. Abou Khalil[4]; R. Vallée[4]; L. Canioni[3]; Y. Petit[3]; T. Cardinal[1]

1. CNRS - ICMCB, France
2. ISM, France
3. LOMA, France
4. COPL, Canada

3:00 PM

(ICG-SIV-023-2019) Femtosecond laser micro-patterning and functionalities in a novel photosensitive silver-contaning oxi-fluoride sodo-phosphate glass

H. Fares*[1]; A. Abou Khalil[2]; Y. Petit[2]; C. Strutynski[2]; S. Danto[2]; V. Jubera[2]; S. J. Ribeiro[1]; M. Nalin[1]; T. Cardinal[2]; T. Castro[1]; R. Laberdesque[2]; L. Canioni[2]

1. Institute of Chemistry - UNESP, Brazil
2. University of Bordeaux, France

3:20 PM

Break

3:40 PM

(ICG-SIV-024-2019) Photosensitive chalcogenide optical coatings: Basic properties and applications (Invited)

A. Bourgade[1]; T. Begou[1]; J. Lumeau*[1]

1. CNRS - Institut Fresnel, France

4:10 PM

(ICG-SIV-025-2019) Photothermally-Induced Ge-As-Pb-Se Chalcogenide Glass-Ceramic Films with Infrared Function towards a Gradient Refractive Index Element

M. Kang*[1]; T. Malendevych[1]; G. Yin[2]; I. Murray[4]; J. Hu[2]; M. Richardson[1]; I. Mingareev[3]; K. Richardson[1]

1. University of Central Florida, CREOL, College of Optics & Photonics, USA
2. Massachusetts Institute of Technology, USA
3. Florida Institute of Technology, USA
4. BAE Systems, USA

4:30 PM

(ICG-SIV-026-2019) Preparation and Luminescence Characteristics of Ce^{3+}-Li^{+} Co-doped Magnesium Borate Glass Ceramics for Dosimetry

Y. Kitagawa*[1]; E. G. Yukihara[2]; S. Tanabe[1]

1. Kyoto University, Graduate School of Human and Environmental Studies, Japan
2. Paul Scherrer Institut (PSI), Switzerland

4:50 PM

(ICG-SIV-027-2019) Longterm stability of defects in laser irradiated glasses doped with polyvalent ions

D. Möncke*[1]

1. Alfred University, USA

SV: Glass Education

Glass Education (TC 23)

Room: Tremont (4th floor)

Session Chairs: Mathieu Hubert, Corning Incorporated; Ana Rodrigues, Federal University of Sao Carlos

1:20 PM

(ICG-SV-001-2019) Education in the field of glass (Invited)

R. Conradt*[1]

1. uniglassAC GmbH, Germany

1:50 PM

(ICG-SV-002-2019) Group projects in teaching (Invited)

J. M. Parker*[1]

1. University of Sheffield, Materials Science and Engineering, United Kingdom

2:20 PM

(ICG-SV-003-2019) Glass Without Walls or Ceilings; Why Artists and Engineers/Scientists Should Not be Separated

A. G. Clare*[1]; S. K. Sundaram[1]; A. Powers[2]; W. LaCourse[1]; S. Blood[2]; D. Möncke[1]; D. Karen[2]

1. New York State College of Ceramics, Alfred University, Kazuo Inamori School of Engineering, USA
2. New York State College of Ceramics, Alfred University, School of Art and Design, USA

2:40 PM

(ICG-SV-004-2019) Studio-Laboratories for interdisciplinary Glass Art/Engineering Degrees

W. LaCourse*[1]; A. G. Clare[1]; S. K. Sundaram[1]; D. Möncke[1]; A. Powers[2]

1. Alfred University, Inamori School of Engineering, USA
2. Alfred University, School of Art and Design, USA

3:00 PM

(ICG-SV-008-2019) Development of a new glass course at Corning Community College

M. Hubert*[1]

1. Corning Incorporated, USA

3:20 PM

Break

3:40 PM

(ICG-SV-006-2019) Partnership with Researchers in Industry for Doctoral Education (PRIDE) - Preparing better educated glass researchers (Invited)

H. Jain*[1]; V. Dierolf[1]; A. Jagota[1]; H. Columba[2]; D. Vaughn[3]

1. Lehigh University, Institute for Functional Materials and Devices, USA
2. Lehigh University, College of Education, USA
3. Corning Incorporated, USA

4:10 PM

(ICG-SV-007-2019) The Ceramic and Glass Industry Foundation: Attracting, Inspiring, and Training the Next Generation of Ceramic and Glass Professionals (Invited)

M. J. Fish*[1]

1. The Ceramic and Glass Industry Foundation, USA

4:40 PM

(ICG-SV-005-2019) Research on glass with Undergraduates

S. Feller*[1]; M. Affatigato[1]

1. Coe College, Physics, USA

5:00 PM

(ICG-SV-009-2019) First Glass Technician Training Course in South America

A. C. Rodrigues*[1]; M. Akerman[2]

1. Federal University of Sao Carlos, Materials Engineering, Brazil
2. Escola do Vidro, Brazil

Poster Session 1

Room: Grand Ballroom A (mezzanine)

6:00 PM

(ICG-P001-2019) Role of Network-forming Ions in Metaphosphate Melts: Results of a Dynamic Light Scattering Study

D. Sidebottom*[1]; D. Vu[1]

1. Creighton University, Physics, USA

(ICG-UGSP-P002-2019) Study of the structural and optical properties of system CrO_2- TeO_2-V_2O_5

J. J. Bórquez*[1]; O. Soriano-Romero[2]; R. Lozada-Morales[2]; I. García-Amaya[3]; M. Zayas[1]

1. Universidad de Sonora, Investigación en Física, Mexico
2. Benemérita Universidad Autónoma de Puebla, Facultad de Ciencias Físico-Matemático, Mexico
3. Universidad Estatal de Sonora, Geociencias, Mexico

(ICG-P003-2019) Competitive formation of metallic glasses and glass-matrix composites in eutectic systems

D. Ma*[1]

1. Oak Ridge National Lab, Neutron Scattering Divison, USA

(ICG-GSP-P004-2019) Crack initiation in an indented metallic glass with embedded nanoparticle

K. Lee*[1]; Y. Yang[1]; J. C. Mauro[1]

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

(ICG-P005-2019) Structural, optical and thermoluminescence analysis on lithium borate glasses

S. R. de Souza*[1]; D. L. Menezes[1]; J. E. De Souza[1]

1. Federal University of Grande Dourados, Physics, Brazil

(ICG-P006-2019) Synthesis, structure and physical properties of $1La_2O_3$:$2WO_3$:$1B_2O_3$ glass containing Nb_2O_5

L. I. Aleksandrov*[1]; R. Iordanova[1]; M. Milanova[1]; K. Shinozaki[2]; T. Komatsu[3]

1. Bulgarian Academy of Sciences, Institute of General and Inorganic Chemstry, Bulgaria
2. National Institute of Advanced Industrial Science and Technology (AIST), Japan
3. Nagaoka University of Technology, Japan

(ICG-P007-2019) Study of the effect of fluorine and alkaline earth modifiers in the structure and crystallization of oxyfluoroborates glasses

M. Rodriguez*[1]; J. F. Schneider[2]; R. Keuchkerian[3]; M. Romero[3]; R. Faccio[3]; A. Olivera[1]

1. Universidad de la República, Centro Universitario Regional del Este, Uruguay
2. Universidade de Sao Paulo, Instituto de Física de Sao Carlos, Brazil
3. Universidad de la República, Facultad de Quimica, Uruguay

(ICG-P008-2019) The composition inhomogeneity and nanocrystalline inclusions in phosphate–silicate glass cores of preforms for optical fibers

L. D. Iskhakova*[1]; F. O. Milovich[1]; V. V. Velmiskin[2]; S. L. Semjonov[2]; S. S. Aleshkina[2]; M. E. Likhachev[2]; A. S. Lobanov[3]; D. S. Lipatov[3]; A. N. Guryanov[3]; D. Y. Erin[4]

1. Fiber Optics Research Center of RAS, Analytical Center, Russian Federation
2. Fiber Optics Research Center of RAS, Russian Federation
3. G.G. Devyatykh Institute of Chemistry of High-Purity Substances of RAS, Russian Federation
4. Russian Federal Nuclear Center – VNIITF, Russian Federation

(ICG-P009-2019) Thermal, structural and crystallization study of Na_2O-P_2O_5-Nb_2O_5 glasses

P. Mosner*[1]; O. Kupetska[1]; L. Koudelka[1]; P. Kalenda[1]

1. Faculty of Chemical Technology, University of Pardubice, Department of General and Inorganic Chemistry, Czechia

(ICG-P010-2019) Structural Relaxation and Topology of Ionic Fluorophosphate Glasses

J. Petrovic[1]; C. Calahoo*[1]; L. Wondraczek[1]; U. Werner-Zwanziger[2]; J. Zwanziger[2]

1. University of Jena, Otto Schott Institute for Materials Research, Germany
2. Dalhousie University, Department of Chemistry, Canada

(ICG-GSP-P011-2019) Revealing the Short-and Medium Range Structures of Sodium Lanthanum Alumino-phosphate Glasses from Molecular Dynamics Simulations

M. I. Tuheen*[1]; J. Du[1]

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

(ICG-GSP-P012-2019) Dissolution behavior of Li_2O-ZnO-P_2O_5 glasses in water

H. Zhang*[1]; R. Brow[1]; A. Kumar[1]

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

(ICG-P013-2019) The features of obtaining of bioactive high-silica porous glasses

T. Tsyganova*[1]; O. Rakhimova[2]

1. Institute of Silicate Chemistry of Russian Academy of Sciences, Russian Federation
2. Saint-Petersburg Electrotechnical University ETU "LETI", Russian Federation

(ICG-P014-2019) Bismuth-doped silica fibers and performs: Microstructure, composition, and nanocrystalline inclusions

L. D. Iskhakova*[1]; F. O. Milovich[1]; V. M. Mashinsky[1]; V. V. Velmiskin[1]; E. A. Plastinin[1]

1. Fiber Optics Research Center of RAS, Russian Federation

(ICG-GSP-P015-2019) Non-linear Optical Properties of Rare-earth Aluminosilicate Glasses

N. Tostanoski*[1]; S. K. Sundaram[1]

1. Alfred University, USA

(ICG-UGSP-P016-2019) A multi-spectroscopic study of highly modified sodium silicate glasses

M. J. Packard[1]; S. Vaishnav[4]; C. Flynn[1]; H. Rea[1]; G. Guokas[1]; H. Austin[2]; B. Vallim[1]; W. Takeda[1]; M. R. Jesuit*[1]; E. Pakhomenko[1]; A. Hannon[3]; P. A. Bingham[4]; M. C. Wilding[4]; S. Feller[1]

1. Coe College, Physics, USA
2. Johns Hopkins University, Physics, USA
3. Rutherford-Appleton Laboratory, United Kingdom
4. Sheffield Hallam University, United Kingdom

(ICG-GSP-P018-2019) Correlation between Optical Absorption and Local Structure of Ni^{2+} Ion in Aluminosilicate Glasses

R. Kado*[1]; T. Kishi[1]; T. Yano[1]; G. Lelong[2]; G. Calas[2]

1. Tokyo Institute of Technology, School of Materials and Chemical Technology, Japan
2. Sorbonne Universite, IMPMC, France

(ICG-P019-2019) Effect of addition of lithium phosphate as nucleating agent in lithium disilicate glass ceramic system

S. Kolay*[1]

1. Indian Institute of Technology Bombay, Metallurgical Engineering and Materials Science, India

(ICG-GSP-P020-2019) Crystallization mechanism and electrical properties of Na_2O-FeO-MnO-SiO_2 glass

M. Terasawa*[1]; T. Honma[1]; T. Komatsu[1]

1. Nagaoka University of Technology, Materials Science and Technology, Japan

(ICG-GSP-P021-2019) Laser-induced structural modification in $Na_2FeP_2O_7$ glass-ceramics

M. Hiratsuka*[1]; T. Honma[1]; T. Komatsu[1]

1. Nagaoka University of Technology, Materials Science and Technology, Japan

(ICG-P023-2019) Thermo-mechanical characterization of sealing glass pastes

C. Giehl*[1]; M. Kleindienst[2]

1. Anton Paar, Rheometry, Germany
2. Anton Paar, Rheometry, Austria

(ICG-P024-2019) Introducing a Versatile Chemical Mapping Tool for Your Advanced Glass Ceramics: Tandem Laser Induced Breakdown Spectroscopy and Laser Ablation ICP-MS

C. P. Cook*[1]; K. Putyera[1]; J. Gonzales[2]

1. Eurofins EAG Laboratories, Department of Materials, USA
2. Applied Spectra, USA

(ICG-P025-2019) High Proton Conductivity Gels at Modest Temperatures

L. Joseph*[1]; A. Tumuluri[1]; L. C. Klein[1]

1. Rutgers University, MS&E, USA

(ICG-P026-2019) UV Protection with Sol-Gel Coatings

A. Matuk*[1]; S. Kallontzi[2]; J. Philip[2]; S. Catuogno[2]; Z. Lokhandwala[2]; L. C. Klein[1]

1. Rutgers University/Anbar University, MS&E/Physics, Iraq
2. Rutgers University, MS&E, USA

(ICG-P027-2019) Novel cylindrical glassy-carbon material for energy applications

A. Trefilov[1]; R. Pascu[1]; B. Sava[1]; L. Boroica*[1]; A. Tiliakos[1]

1. National Institute for Laser, Plasma and Radiation Physics, Bucharest, Romania, Laser, Romania

(ICG-P028-2019) Preparation of closed porous silica film

T. Bao*[1]; S. Peng[1]

1. Bengbu Design & Research Institute for Glass Industry, China

(ICG-P029-2019) Synthesis of Mesoporous Silica Glasses Impregnated with Vanadium Oxide to Catalyse the Methanol Oxidation

M. F. Costa*[1]; C. Doerenkamp[2]; L. Lopes[3]; H. Eckert[2]; E. B. Ferreira[1]

1. University of Sao Paulo, Department of Materials Engineering, Sao Carlos Engineering School, Brazil
2. São Carlos Institute of Physics, University of São Paulo, Brazil
3. São Carlos Institute of Chemistry, University of São Paulo, Brazil

(ICG-P030-2019) Novel nanocomposited phosphate glasses derived by sol-gel route: From photonics to environmental applications

L. Zhang*[1]; R. Li[1]; Y. Ju[1]

1. Shanghai Intitute of Optics and Fine Mechanics, CAS, China

(ICG-GSP-P031-2019) An Approach towards High Quality Bulk Zeolitic Imidazolate Framework Glasses

M. Stepniewska*[1]; A. Qiao[1]; M. B. Ostergaard[1]; C. Zhou[1]; L. Calvez[2]; X. Zhang[2]; Y. Yue[1]

1. Aalborg University, Department of Chemistry and Bioscience, Denmark
2. Université de Rennes 1, Institut des Sciences Chimiques de Rennes, Denmark

(ICG-GSP-P032-2019) Mechanochemical Synthesis of Mixed Linker Glass Forming Metal-Organic Frameworks

M. F. Thorne*[1]; T. Bennett[1]

1. University of Cambridge, Materials Science and Metallurgy, United Kingdom

(ICG-GSP-P156-2019) Effects of Ultrashort Laser Pulse Interaction on Glass Structure

S. T. Locker*[1]

1. Alfred University, Glass Science, USA

(ICG-P033-2019) Side-Emitting Fibers: A Flexible Solution for Light Delivery in Turbid Media

A. Reupert*[1]; J. Schröder[1]; M. Heck[2]; S. Nolte[2]; L. Wondraczek[1]

1. Friedrich Schiller University Jena, Otto Schott Institute of Materials Science, Germany
2. Friedrich Schiller University, Institute of Applied Physics, Germany

(ICG-GSP-P034-2019) Compositional Dependence of Structural, Thermal and Electrochemical Properties of Oxythio-silicophosphate Lithium Glassy Solid-state Electrolytes

G. Hu*[1]; R. Zhao[1]; S. Kmiec[1]; R. Gebhardt[1]; S. W. Martin[1]

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

(ICG-P035-2019) 13-93 bioactive glass - SiC fiber composites

J. Park*[1]; H. Na[1]; S. Choi[2]; H. Kim[1]

1. Korea Institute of Ceramic Engineering and Technology (KICET), Engineering Ceramic Center, Republic of Korea
2. HanYang University, Division of Materials Science and Engineering, Republic of Korea

(ICG-UGSP-P036-2019) Dissolution behavior and cellular response of glasses in the Na-Sr-Ca-borophosphate system

R. L. Blatt*[2]; P. Freudenberger[2]; B. Bromet[1]; J. Semon[1]; R. Brow[2]

1. Missouri University of Science & Technology, Biological Sciences, USA
2. Missouri University of Science & Technology, Material Science and Engineering, USA

(ICG-P037-2019) Ce-containing bioactive glasses with enzyme-like characteristics

G. Malavasi*[1]; G. Lusvardi[1]; L. Menabue[1]

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

(ICG-GSP-P038-2019) Short-range structure of barium tellurite and lead tellurite glasses and its correlation with stress-optic properties

A. Kaur*[1]; A. Khanna[1]; H. Hirdesh[1]; M. Fabian[2]

1. Guru Nanak Dev University, Department of Physics, India
2. Centre for Energy Research, Hungary

(ICG-P039-2019) A Study of the Kinetics of Apatite Conversion of Bioactive Glasses: 45S5, 13-93 and their Intermediates

A. Whittier*[1]; Q. Fu[1]; E. Coon[1]; E. Stapleton[1]; B. Abel[1]; A. Li[1]

1. Corning Incorporated, Glass Research, USA

(ICG-UGSP-P040-2019) Inhibition of Bacterial Growth by Lithium-Potassium-Borate Glass-Epoxy Composites

G. Dong*[1]; T. Eng[1]; S. Levine[2]; M. Affatigato[1]

1. Coe College, Physics, USA
2. Barnard College, Physics, USA

(ICG-P042-2019) New gallium-rich gallo-germate glass optical fibers

C. Strutynski*[1]; T. Guerineau[1]; Y. Ledemi[2]; S. Morency[2]; Y. Messaddeq[2]; E. Fargin[1]; S. Danto[1]; T. Cardinal[1]

1. ICMCB-CNRS, France
2. Université Laval, COPL, Canada

(ICG-GSP-P043-2019) The study of low temperature deposited durable Ge_xC_{1-x}/DLC protective antireflective films applied on $As_{40}Se_{60}$ chalcogenide glass

K. Fu[1]; Y. Jin[1]; C. Zu[1]; K. He*[1]

1. China Building Materials Academy Co., Ltd, China

(ICG-P044-2019) High-speed label-free functional photoacoustic imaging based on hollow microcavity

J. Pan*[1]; B. Zhang[1]; Z. Li[1]

1. Sun Yat-sen University, China

(ICG-UGSP-P045-2019) Laser-induced crystallization and reduction of copper-doped lithium niobosilicate glass

C. Barker*[1]; J. Miller[1]; V. Dierolf[2]; H. Jain[3]; K. J. Veenhuizen[1]

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

(ICG-P046-2019) Development of magneto-optical fibers based on heavy oxide glasses

D. F. Franco*[1]; M. Nalin[2]; S. Messaddeq[1]; Y. Ledemi[1]; C. Mendonça[3]; Y. Messaddeq[1]

1. Laval University, Centre d'Optique, Photonique et Laser (COPL), Canada
2. São Paulo State University, Departament of Inorganic Chemistry, Brazil
3. São Paulo University, São Carlos Physics Institute, Brazil

(ICG-GSP-P047-2019) Development of an optical fiber-based sensor for determination of emerging contaminants in wastewater

R. S. Lamarca*[1]; R. D. de Faria[1]; M. Nalin[2]; P. F. de Lima Gomes[3]; Y. Messaddeq[1]

1. Université Laval, Centre d'optique, Canada
2. São Paulo State University (UNESP), Department of Inorganic Chemistry, Brazil
3. São Paulo State University (UNESP), Analytical Chemistry, Brazil

(ICG-GSP-P048-2019) The interface-coupled dissolution-reprecipitation model of aqueous glass corrosion considering a solution boundary layer and inter-diffusion

M. B. Fritzsche*[1]; C. Lenting[1]; L. Dohmen[2]; T. Geisler[1]

1. University of Bonn, Institute for Geoscience and Meteorology, Germany
2. Schott AG, Germany

(ICG-GSP-P049-2019) Corrosion of 3 – 6 component borosilicate glasses in alkaline pH

F. Wang[1]; N. Balasubramanya[1]; Q. Qin*[1]; N. Stone-Weiss[1]; R. Youngman[2]; A. Goel[1]

1. Rutgers University, Material Science and Engineering, USA
2. Corning Incorporated, Science and Techonology Division, USA

(ICG-GSP-P050-2019) Long-term Durability of Nuclear Waste Glass Analogues

J. T. Mansfield*[1]; M. T. Harrison[2]; C. L. Corkhill[1]; R. J. Hand[1]

1. The University of Sheffield, Department of Materials Science and Engineering, United Kingdom
2. National Nuclear Laboratory, United Kingdom

(ICG-P051-2019) DEM&MELT In-Can Melting Technology for the Vitrification of Typical D&D Waste loaded with Cs

S. Schuller*[1]; R. Didierlaurent[2]; I. Hugon[1]; J. Hollebecque[1]; A. Boyer[1]; S. Lemonnier[1]; T. Prevost[2]; H. Turc[1]; G. Lecomte[3]; S. Catherin[4]; K. Shibata[5]

1. CEA, DEN, DE2D Marcoule, France
2. Orano Cycle, Tour AREVA, France
3. ECM Technologies, France
4. Andra, France
5. ANADEC, Japan

(ICG-GSP-P052-2019) Thermodynamic Modeling of Zeolite Precipitation by Ab InitioMolecular Dynamics

Z. Wang*[1]; B. Zhen[1]; P. Venkatesh[1]; M. Bauchy[1]

1. UCLA, Civil and Environmental Engineering, USA

(ICG-P053-2019) The formation of a cold-cap from slurry feed: Chemistry and rheology

M. Hujová[1]; M. Vernerova*[1]; J. Klouzek[1]; R. Pokorny[1]; D. Cutforth[2]; M. D. Miller[2]; P. Hrma[2]; A. A. Kruger[3]

1. Laboratory of Inorganic Materials, Joint Workplace of the University of Chemistry and Technology Prague and the Institute of Rock Structure and Mechanics of the ASCR, v.v.i., Czechia
2. Pacific Northwest National Laboratory, USA
3. US Department of Energy, Office of River Protection, USA

(ICG-P055-2019) Vitrification of Fukushima Water Treatment Wastes: Formulation and Durability Study

B. Parruzot*[1]; J. Vienna[1]; J. Reiser[1]; J. V. Crum[1]; L. Seymour[1]; T. Sakurai[2]; N. Nakashio[2]

1. Pacific Northwest National Lab, Energy and Environment Directorate, USA
2. ATOX Co. Ltd., International Research Institute for Nuclear Decommissioning, Japan

(ICG-GSP-P056-2019) The ultrafast dynamics of $CsPbX_3$ NCs in glass

W. Zhang*[1]; C. Liu[1]

1. Wuhan University of Technology, China

(ICG-P057-2019) Pockels effect and second-harmonic generation in silicate glass-ceramics for photonic application

K. Takano[1]; K. Funajima[1]; Y. Takahashi*[1]; Y. Yamazaki[2]; N. Terakado[1]; T. Fujiwara[1]

1. Tohoku University, Department of Applied Physics, Japan
2. Tohoku University, Institute of Multidisciplinary Research for Advanced Materials, Japan

(ICG-GSP-P058-2019) Relation of crystallization condition to crystal-orientation and Pockels effect in perfectly-surface-crystallized glass-ceramics

T. Otsuki*[1]; N. Terakado[1]; Y. Takahashi[1]; T. Fujiwara[1]

1. Tohoku University, Japan

(ICG-GSP-P059-2019) Thermal and structural properties of MgO-precipitated oxide glass having transparency and high thermal conductivity

T. Yoshimine*[1]; N. Terakado[1]; Y. Takahashi[1]; T. Fujiwara[1]

1. Tohoku University, Japan

(ICG-P060-2019) Eu^{3+}-Tb^{3+}-Tm^{3+} co-doped oxyfluoride glasses with nanocrystals for wide color gamut UV-LED color converter

H. Lee*[1]; Y. Choi[2]; W. Chung[1]

1. Kongju National University, Advanced Materials Engineering, Republic of Korea
2. Korea Aerospace University, Republic of Korea

(ICG-GSP-P061-2019) Precipitation of $CsPbBr_3$ Quantum Dots in Boro-germanate Glass Induced by Femtosecond Laser

Y. Hu*[1]; C. Liu[1]

1. Wuhan University of Technology, China

(ICG-GSP-P062-2019) Observation of Pockels effect in perfectly surface crystallized glass–ceramics with $BaO–TiO_2–GeO_2$ system

H. Okamoto*[1]; T. Otsuki[1]; N. Terakado[1]; Y. Takahashi[1]; T. Fujiwara[1]

1. Tohoku University, Japan

(ICG-GSP-P063-2019) Silica- and germanate-based glasses doped with rare-earth elements for photonics devices

M. Kamradek*[1]; I. Kasik[1]; P. Peterka[1]; J. Aubrecht[1]; P. Honzátko[1]; O. Podrazký[1]; J. Mrazek[1]; V. Kubeček[2]

1. Institute of Photonics and Electronics, Czechia
2. Czech Technical University in Prague, Faculty of Nuclear Sciences and Physical Engineering, Czechia

(ICG-P064-2019) Spectroscopic analysis of upconversion mechanism in $Nd^{3+} \rightarrow Yb^{3+}$ codoped boro tellurite niobium glasses for optical device applications

S. Koneru*[1]

1. K L EF, Green Fields, Advance Material Research Lab, Department of Physics, India

(ICG-P065-2019) The Analysis of Weak Light Performance Varying with Shunt Rsistance of Thin Film Solar Cell on Glass

J. Cui*[1]; X. Cao[1]; L. Shi[1]; M. Zhu[1]

1. State Key Laboratory of Advanced Technology for Float Glass, China

(ICG-GSP-P066-2019) Luminescence-enhanced side-emitting fiber

J. Schröder*[1]; L. Wondraczek[1]

1. Friedrich-Schiller-University Jena, Germany

(ICG-GSP-P067-2019) Borotungstate glass-ceramics containing high concentration of rare earths with magnetic and-luminescent properties

L. V. Albino*[1]; M. Nalin[1]

1. UNESP, Departament of Geral and Inorganic Chemistry, Brazil

(ICG-GSP-P068-2019) The improvement of color gamut of a thick film phosphor-in-glass using Nd^{3+}-doped phosphate glass for white LEDs

Y. Nam*[1]; S. Kim[1]; Y. Choi[2]; W. Chung[1]

1. Kongju National University, Div. of Advanced Materials Engineering, Republic of Korea
2. Korea Aerospace University, Department of Materials Science and Engineering, Republic of Korea

(ICG-GSP-P069-2019) N-anchoring in rare-earth-doped amorphous semiconductor as a route to broadband down-conversion phosphor

X. Xu*[1]

1. South China University of Technology, China

(ICG-P070-2019) Modification of $CaO\text{-}Al_2O_3\text{-}P_2O_5$ glass by a metal-microsphere manipulation due to continuous-wave laser irradiation

T. Kishi*[1]; X. Liu[1]; N. Matsushita[1]; T. Yano[1]; H. Hidai[2]

1. Tokyo Institute of Technology, Japan
2. Chiba University, Japan

(ICG-P071-2019) Specialty rare-earth-doped non-silica oxide glasses for compact and coherent light sources

D. Pugliese*[1]; N. Boetti[2]; D. Gallichi Nottiani[1]; J. Lousteau[3]; D. L. Janner[1]; D. Milanese[1]

1. Politecnico di Torino, Italy
2. Fondazione LINKS – Leading Innovation & Knowledge for Society, Italy
3. Politecnico di Milano, Italy

(ICG-GSP-P072-2019) Phase-separation engineering of glass for drastic enhancement of upconversion luminescence

Z. Fang*[1]

1. Ji'nan University, China

(ICG-P073-2019) Re-Interpreting an Ancient Mediterranean Carchesium from Base Glass Composition and Silver-Containing Decoration

P. Londero*[1]; R. Wiegandt[2]; B. McIntyre[2]; N. Bigelow[3]; E. Torok[4]; P. Degryse[5]; A. Bezur[1]

1. Yale University, Institute for the Preservation of Cultural Heritage, USA
2. University of Rochester, Integrated Nanosystems Center, USA
3. University of Rochester, Department of Physics, USA
4. Dallas Museum of Art, Conservation Department, USA
5. KU Leuven, Division of Geology, Belgium

(ICG-P074-2019) Characterization of Renaissance glass from Prague Castle

A. Klouzkova*[1]; M. Kavanova[1]; G. Blazkova[2]; J. Klouzek[3]; P. Dvorakova[1]

1. Institute of Chemical Technology, Department of Glass and Ceramics, Czechia
2. Czech Academy of Science, Institute of Archaeology of the CAS, Czechia
3. University of Chemistry and Technology Prague, Laboratory of Inorganic Materials, Joint Workplace of the University of Chemistry and Technology Prague and the Institution of Rock Structure and Mechanics ASCR, v.v.i., Czechia

(ICG-UGSP-P075-2019) Solarization in Soda-Lime-Silica Glasses Decolorized by Mn and Sb ions

E. Walsh*[1]; D. Möncke[1]; A. G. Clare[1]

1. Alfred University, USA

(ICG-UGSP-P076-2019) Multilinear Regression Analysis of Alkali Silicate Heritage Glass Degradation

E. S. Montagnino*[1]; I. S. Muller[1]; A. Buechele[1]; K. Gilbo[1]; X. Xie[1]; I. L. Pegg[1]

1. The Catholic University of America, The Vitreous State Laboratory, USA

Tuesday, June 11, 2019

Norbert J. Kreidl Award for Young Scholars

Room: Georgian (mezzanine)

Session Chair: Liping Huang, Rensselaer Polytechnic Institute

12:15 PM

Introduction

12:25 PM

(ICG-PL-006-2019) Surface Stress Relaxation of Silica Glass and the Presence of Composition Fluctuations

E. Aaldenberg*[1]; M. Tomozawa[1]

1. Rensselaer Polytechnic Institute, Materials Engineering, USA

SI: Glass Structure and Chemistry

Session 1: Definition of Network Formers and Network Modifiers (TC03 & TC26)

Room: Berkley (mezzanine)

Session Chair: Bernard Hehlen, University of Montpellier

8:00 AM

(ICG-SI-023-2019) Structural analyses of complex glassy materials using chemical-bonding approaches (Invited)

S. Elliott*[1]; T. Lee[1]

1. University of Cambridge, Chemistry, United Kingdom

8:30 AM

(ICG-SI-024-2019) Oxygen Bridges in Tellurite Glasses

A. Hannon*[1]; E. Barney[2]; D. Holland[3]; S. Feller[4]

1. Rutherford Appleton Laboratory, ISIS Facility, United Kingdom
2. University of Nottingham, Faculty of Engineering, United Kingdom
3. University of Warwick, Physics Department, United Kingdom
4. Coe College, Physics Department, USA

8:50 AM

(ICG-SI-025-2019) Chalcogenide glasses : Composition/structure/conductivity relationships (Invited)

A. Pradel*[1]; A. Piarristeguy[1]

1. Université de Montpellier, Institut Charles Gerhardt, France

9:20 AM

(ICG-SI-026-2019) Viscosity of TeO_2-based glasses

N. Tagiara*[1]; D. R. Neuville[2]; A. Kyritsis[3]; E. I. Kamitsos[1]

1. National Hellenic Research Foundation, Greece
2. Géomatériaux, CNRS-IPGP, France
3. National Technical University of Athens, Greece

9:40 AM

Break

10:00 AM

(ICG-SI-027-2019) Insight into chemical bonding in oxide glasses from first principles calculations

S. Ispas*[1]; W. Kob[1]

1. University of Montpellier, Lab. Charles Coulomb, France

10:20 AM

(ICG-SI-028-2019) Network modifier cations in single and mixed ion glasses by far-infrared spectroscopy (Invited)

E. I. Kamitsos*[1]

1. National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute (TPCI), Greece

10:50 AM

(ICG-SI-029-2019) Role of titanium in silicate glass network

T. Robine[1]; M. Cicconi[1]; D. R. Neuville*[1]

1. IPGP-CNRS-USPC, Géomatériaux, France

11:10 AM

(ICG-SI-030-2019) The Role of Magnesium and Zinc in Bioactive Glasses (Invited)

D. S. Brauer*[1]; D. A. Avila Salazar[1]; R. Wetzel[1]; X. Lu[2]; L. Chung[3]; R. A. Martin[3]; J. Du[2]

1. Friedrich-Schiller-Universität, Otto-Schott-Institut, Germany
2. University of North Texas, Materials Science and Engineering Department, USA
3. School of Engineering & Applied Science and Aston Institute of Materials Research, Aston University, United Kingdom

11:40 AM

(ICG-SI-031-2019) Superstructural units involving six-coordinated silicon in sodium phosphosilicate glasses studied by advanced NMR methodology

J. Ren*[1]; H. Eckert[2]

1. Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, Key Laboratory of Materials for High Power Laser, China
2. Institut für Physikalische Chemie,Westfälische Wilhelms-Universität Münster, Germany

Session 4: Chalcogenide Glass Structure and Chemistry II

Room: Arlington (mezzanine)

Session Chairs: David Le Coq, University of Rennes; Matthias Wuttig, RWTH Aachen University

8:00 AM

(ICG-SI-032-2019) Correlations between Local Structure and Infrared Transmission Edge of Ge-Sb-S-Se Glass (Invited)

S. Shin[1]; J. Lee[1]; H. Masai[2]; T. Ina[3]; Y. Choi*[1]

1. Korea Aerospace University, Republic of Korea
2. National Institute of Advanced Industrial Science and Technology (AIST), Japan
3. Japan Synchrotron Radiation Research Institute, Japan

8:30 AM

(ICG-SI-033-2019) Sub-T_g relaxation in network glasses and the role of fragility (Invited)

P. Lucas*[1]; E. A. King[2]; S. Sen[3]; C. Boussard-Pledel[4]; B. Bureau[4]

1. Univ of Arizona, USA
2. Corning Incorporated, USA
3. UC Davis, USA
4. University of Rennes, France

9:00 AM

(ICG-SI-034-2019) Athermal chalcogenide glass for infrared optics

M. J. Davis*[1]

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

9:20 AM

(ICG-SI-035-2019) Cryo-EM as a Tool for Structural Characterization of Solution-Processed Chalcogenide Glass

N. Dutta*[1]; C. B. Arnold[1]

1. Princeton University, USA

9:40 AM

Break

10:00 AM

(ICG-SI-036-2019) Effect of Light on the Packing and Kinetic Stability of Vapor Deposited Amorphous Selenium

A. Zhang*[1]; R. B. Stephens[1]; Z. Fakhraai[1]

1. University of Pennsylvania, Department of Chemistry, USA

10:20 AM

(ICG-SI-037-2019) $Er3^+$-doped Ga-Ge-Sb-S glass thin films by PVD deposition

G. Louvet*[1]; E. Baudet[3]; S. Normani[2]; F. Starecki[4]; P. Camy[4]; M. Bouška[2]; J. Gutwirth[2]; P. Němec[2]; C. Cardinaud[5]; C. Calers[1]; Y. Ledemi[3]; A. Douaud[3]; S. Messaddeq[3]; L. Bodiou[6]; J. Charrier[6]; J. Adam[1]; Y. Messaddeq[3]; V. Nazabal[1]

1. Institut des Sciences Chimiques de Rennes (ISCR), UMR 6226 CNRS, Université de Rennes, Equipe Verres & Céramiques, France
2. Department of Graphic Arts and Photophysics, Faculty of Chemical Technology, University of Pardubice, Czechia
3. The Center for Optics, Photonics and Lasers (COPL), Laval University, Canada
4. Centre de recherche sur les Ions, les Matériaux et la Photonique (CIMAP), UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen, France
5. Institut des Matériaux Jean Rouxel (IMN), Université de Nantes, CNRS, France
6. FOTON UMR-CNRS 6082, Université de Rennes 1, ENSSAT, France

10:40 AM

(ICG-SI-038-2019) Understanding aging in chalcogenide glass thin films using precision resonant cavity refractometry

S. Geiger*[1]; Q. Du[2]; M. Shalaginov[2]; B. Huang[2]; J. Michon[2]; H. Lin[3]; T. Gu[2]; C. Goncalves[4]; K. Richardson[4]; X. Jia[1]; J. Hu[2]

1. University of Delaware, Materials Science and Engineering, USA
2. MIT, Materials Science and Engineering, USA
3. Zhejiang University, College of Information Science & Electronic Engineering, China
4. University of Central Florida, The College of Optics and Photonics, USA

11:00 AM

(ICG-SI-039-2019) Hydrophobic and transmittance performance of imprinted microstructure on chalcogenide glass surface

B. Xu*[1]; K. Fu[1]; C. Zu[1]; Y. Wang[1]; H. Zhao[1]; Y. Jin[1]

1. China Building Materials Academy, China

11:20 AM

(ICG-SI-040-2019) Viscoelastic study of Ge-Sb-Se and Ge(Ga)-Sb-Sn-S glasses around deformation temperature

N. Kitamura*[1]

1. National Institute of Advanced Industrial Science and Technology, Japan

11:40 AM

(ICG-SI-041-2019) Direct Evidence for the Behaviour of Single and Bipolarons in Chalcogenide Glasses

Y. Sharma*[1]; S. Murugavel[1]

1. University of Delhi, Department of Physics, India

Session 8: Crystallization of Glasses and Glass-Ceramics II (TC 07)

Room: Terrace (lower level)

Session Chairs: Mark Davis, SCHOTT North America, Inc.; Ina Mitra, SCHOTT AG

8:00 AM

(ICG-SI-042-2019) Molecular dynamics simulations on fracture toughness of Al_2O_3-SiO_2 glass-ceramics

B. Deng*[1]; J. Luo[1]; J. Harris[1]; C. Smith[1]; M. E. McKenzie[1]

1. Corning Incorporated, USA

8:20 AM

(ICG-SI-043-2019) Structural Origins of Ba_2LaF_7 crystals in Phase Separated Aluminosilicate Oxyfluoride Glass: A Molecular Dynamics Simulation Study

X. Xu*[1]; J. Zhao[1]; J. Du[2]; X. Fan[1]; X. Qiao[1]

1. Institute of Inorganic and Nonmetal Materials, Zhejiang University, Department of Materials Science and Enigineering, China
2. Department of Materials Science and Engineering, University of North Texas, USA

8:40 AM

(ICG-SI-044-2019) Glass structure and nanocrystallization mechanism of BaF_2-ZnO-B_2O_3 glasses

K. Shinozaki*[1]; Y. Ishii[2]; S. Sukenaga[3]; H. Shibata[3]; K. Ohara[4]

1. AIST, Inorganic Functional Materials Research Institute, Japan
2. Osaka University, Graduate school of engineering science, Japan
3. Tohoku University, Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Japan
4. JASRI, Japan

9:00 AM

(ICG-SI-045-2019) Challenges in MD Simulation to Develop Nucleation in Glass

B. Shaw*[1]

1. Lehigh University, Materials Science and Engineering, USA

9:20 AM

(ICG-SI-046-2019) The Role of SnO_2 as Nucleating Agent in BaO-SrO-ZnO-SiO_2 Glasses Studied by Electron and X-ray Microscopy

K. Thieme*[1]; C. Thieme[1]; M. Kracker[2]; C. Rüssel[2]; T. Höche[1]

1. Fraunhofer IMWS, Germany
2. Otto-Schott-Institut für Materialforschung, Jena University, Germany

9:40 AM

Break

10:00 AM

(ICG-SI-047-2019) Crystallization shrinkage and crystallization porosity in sintered diopside glass-ceramics (Invited)

A. Karamanov*[1]; D. Tachev[1]; G. Avdeev[1]; I. Georgiev[2]

1. Bulgarian Academy of Sciences, Institute of Physical Chemistry, Bulgaria
2. Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, Bulgaria

10:30 AM

(ICG-SI-048-2019) Nonisothermal crystallization kinetics and stability of leucite and kalsilite from K_2O-Al_2O_3-SiO_2 glasses

P. A. Bingham*[1]; G. Christopoulou[1]; F. Modarresifar[1]; B. L. Allsopp[1]; A. H. Jones[1]

1. Sheffield Hallam University, Materials and Engineering Research Institute, United Kingdom

10:50 AM

(ICG-SI-049-2019) Crystallization kinetics of non-stoichiometric $Na_2O.2CaO.3SiO_2$ – $Na_2O.3CaO.6SiO_2$ glasses

G. d. Macena[1]; V. Fokin[1]; A. Abyzov[2]; E. D. Zanotto[3]; E. B. Ferreira*[1]

1. University of Sao Paulo, Department of Materials Engineering, Brazil
2. National Science Center Kharkov, Institute of Physics and Technology, Ukraine
3. Federal University of Sao Carlos, Department of Materials Engineering, Brazil

11:10 AM

(ICG-SI-050-2019) Relationship between microstructure and transparency for ion-exchangeable, spinel glass-ceramics

A. Mitchell*[1]

1. Corning Incorporated, Glass Research, USA

11:30 AM

(ICG-SI-051-2019) Novel ZnO-Bi_2O_3-B_2O_3 glass-ceramics containing nanocrystals for optical device applications

C. Schwarz*[1]; M. Kang[2]; C. G. Pantano[3]; K. Richardson[2]; C. R. Baleine[4]; S. Kuebler[5]; C. Grabill[5]; J. Rice[3]; Q. Altemose[1]; K. Raichle[1]; B. Schnable[1]; I. Wietecha-Reiman[3]

1. Ursinus College, Physics & Astronomy, USA
2. University of Central Florida, CREOL, The College of Optics and Photonics, USA
3. Pennsylvania State University, Materials Science and Engineering, USA
4. Lockheed Martin, USA
5. University of Central Florida, Chemistry, USA

Session 8: Crystallization of Glasses and Glass-Ceramics III (TC 07)

Room: Terrace (lower level)

Session Chairs: Matt Dejneka, Corning Incorporated; Ina Mitra, SCHOTT AG

1:20 PM

(ICG-SI-052-2019) Structural properties and non-linear optical effects in Tm^{3+}/Tm^{3+}-Yb^{3+} doped $NaLuF_4$ oxyfluoride glass-ceramics

J. J. Velazquez Garcia*[1]; R. Balda[3]; J. Fernandez[2]; G. Gorni[4]; M. Sedano[4]; A. Durán[4]; M. Pascual[4]

1. FunGlass - Centre for Functional and Surface Functionalized Glass, Alexander Dubček University of Trenčín, Slovakia
2. Donostia International Physics Center (DIPC), Spain
3. Pais Vasco University UPV-EHU, Applied Physic Department I, Spain
4. Institute of Ceramics and Glass (ICV-CSIC), Spain

1:40 PM

(ICG-SI-053-2019) Structure and luminescence of glass-ceramics in the MgO-SrO-SiO_2 system

L. Fernandez Rodriguez*[1]; M. Zayat[2]; D. Levy[2]; G. Mather[1]; A. Durán[1]; M. Pascual[1]

1. Instituto de Cerámica y Vidrio (ICV-CSIC), Spain
2. Instituto de Ciencia de Materiales de Madrid (ICMM-CSIC), Spain

2:00 PM

(ICG-SI-054-2019) Noble Metal Nanoparticles-Embedded Glass towards Light Modulation

Y. Wei*[1]; J. Zhao[2]; H. Ebendorff-Heidepriem[1]

1. University of Adelaide, Australia
2. Leibniz-IPHT, Germany

2:20 PM

(ICG-SI-055-2019) Ultrastability and color-tunability of $CsPb(Br/I)_3$ nanocrystals in P-Si-Zn glass for white LEDs

X. Liang*[1]

1. Wenzhou University, China

2:40 PM

(ICG-SI-056-2019) Doping manganese into $CsPb(Cl/Br)_3$ QD glasses: Dual-color emission and super thermal stability

W. Xiang*[1]

1. Wenzhou University, China

3:00 PM

(ICG-SI-057-2019) Structural and electrical properties of the phosphate glasses and glass-ceramics in Na_2O-Nb_2O_5-P_2O_5 system

S. Benyounoussy*[1]; L. Bih[2]; M. Naji[3]; A. El Bouari[1]

1. Faculty of Sciences Ben M'sik, University HASSAN II of Casablanca, Laboratory of Physico-Chemical of Materials Applied (LPCMA) - Chemistry Department, Morocco
2. ENSAM Meknes, University Moulay Ismail, Equipe Matériaux Innovants et Procédés de Fabrication Mécanique, Morocco
3. University Sidi Mohamed Ben Abdellah, Faculty of Sciences Dhar-Mehraz, Physics Department, Morocco

3:20 PM

Break

3:40 PM

(ICG-SI-058-2019) Vanado-tellurite glass-ceramics containing copper oxide: Effect of melting environment on structural-electrical properties

C. Siligardi*[1]; C. Sgarlata[1]; M. Gualtieri[1]; M. Affatigato[2]

1. University of Modena and Reggio Emilia, Department of Engineering "Enzo Ferrari", Italy
2. Coe College, USA

4:00 PM

(ICG-SI-059-2019) Inferring the chemical composition of the residual glassy phase of glass-ceramics from ionic conductivity

R. B. Nuernberg[1]; T. S. Bello[1]; V. Fokin[2]; E. D. Zanotto[1]; A. C. Rodrigues*[1]

1. Federal University of Sao Carlos, Materials Engineering, Brazil
2. Vavilov State Optical Institute, Russian Federation

4:20 PM

(ICG-SI-060-2019) Thermoelectric Properties of Tungsten Phosphate Glass-Ceramics

L. Moore*[1]; B. Aitken[1]

1. Corning Incorporated, Glass Research, USA

SII: Glass Physics

Session 4: Topology and Rigidity II

Room: Berkley (mezzanine)

Session Chairs: David Sidebottom, Creighton University; James Philips, Rutgers University

1:20 PM

(ICG-SII-032-2019) A Personal History of Glass Science at the Molecular Level (Invited)

J. C. Phillips*[1]

1. Rutgers, Physics, USA

1:50 PM

(ICG-SII-033-2019) Linking melt-dynamics with glass-topological phases in network-forming systems (Invited)

P. Boolchand*[1]; R. Chbeir[1]; C. Mohanty[1]; A. Mandal[1]; S. Chakravarty[1]; B. Almutairi[1]; V. Gogi[1]; A. Welton[1]; M. Bauchy[2]; M. Micoulaut[3]

1. University of Cincinnati, ECS, USA
2. University of California Los Angeles, Civil and Environmental Engineering, USA
3. University Pierre et Marie Curie, France

2:20 PM

(ICG-SII-034-2019) Topology-Informed Machine Learning for the Prediction of Glass Properties

H. Liu*[1]; K. Yang[1]; X. Xu[2]; M. Bauchy[1]

1. University of California, Los Angeles, Civil and Environmental Engineering, USA
2. University of California, Los Angeles, Mathematics, USA

2:40 PM

(ICG-SII-035-2019) Evidence of an Intermediate Phase in Calcium–Silicate–Hydrates

Q. Zhou*[1]; M. Bauchy[1]

1. University of California, Los Angeles, Civil and Environmental Engineering, USA

3:00 PM

(ICG-SII-036-2019) Statistical Mechanics of Topological Fluctuations in Glass-Forming Liquids

K. A. Kirchner*[1]; S. H. Kim[2]; J. C. Mauro[1]

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

3:20 PM

Break

3:40 PM

(ICG-SII-037-2019) Investigation on Simulation of Glasses' Properties Using Topological Constraint Theory and Classical computation

H. Zeng*[1]

1. East China University of Science and Technology, China

4:00 PM

(ICG-SII-038-2019) Role of weak constraints on the disorder-induced swelling of silicates

N. Krishnan*[1]; Y. Le Pape[3]; G. Sant[2]; M. Bauchy[2]

1. Indian Institute of Technology Delhi, Civil Engineering, India
2. University of California, Los Angeles, USA
3. Oak Ridge National Lab, USA

4:20 PM

(ICG-SII-039-2019) Ring Size Distribution and Relaxation in Silicate Glasses

X. Li[1]; W. Song[1]; M. M. Smedskjaer[2]; J. C. Mauro[3]; C. G. Hoover[4]; M. Bauchy*[1]

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

Session 5: First Principles based MD Simulations and Calculations of Glass Properties (TC 27)

Room: Hancock (mezzanine)

Session Chair: Walter Kob, University of Montpellier

8:00 AM

(ICG-SII-040-2019) Understanding the Atomic and Electronic Structures Origin of Defect Luminescence of CdSe Quantum Dots in Glass Matrix

W. Li*[1]; C. Liu[1]; F. Coudert[2]; X. Zhao[1]

1. Wuhan University of Technology, China
2. Chimie Paristech, France

8:20 AM

(ICG-SII-041-2019) Ab initio molecular dynamics study of hydrolysis effects in ion-exchanged alkali aluminosilicate glasses

K. Baral*[1]; A. Li[2]; W. Ching[1]

1. University of Missouri, Kansas City, Department of Physics and Astronomy, USA
2. Corning Incorporated, USA

8:40 AM

(ICG-SII-042-2019) Structure and optical properties of rare earth ions doped oxyfluoride glasses

H. Inoue*[1]; J. Chung[1]; Y. Nakatsuka[1]

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

9:00 AM

(ICG-SII-043-2019) Quantitative prediction of the structure and adsoprtion properties of glassy chalcogenides via First-Principles Molecular Dynamics

G. Ori*[1]; A. Bouzid[2]; E. Lampin[3]; M. Boero[1]; C. Massobrio[1]

1. IPCMS - CNRS / Université de Strasbourg, France
2. EPFL, Switzerland
3. IEMN / Univ. Lille, France

9:20 AM

Break

Session 5: Development and Evaluation of Empirical Potential for Glass Simulations (TC 27)

Room: Hancock (mezzanine)

Session Chair: Jincheng Du, University of North Texas

9:40 AM

(ICG-SII-044-2019) Molecular Dynamics Simulations and DFT-GIPAW calculations of sodium borosilicate glasses

A. Berselli[1]; M. Fortino[1]; N. Stone-Weiss[3]; L. Deng[2]; A. Goel[3]; J. Du[2]; A. Pedone*[1]

1. University of Modena and Reggio Emilia, Italy
2. University of North Texas, USA
3. Rutgers University, USA

10:00 AM

(ICG-SII-045-2019) Computer simulation of sodium silicate glasses: The critical role of the interaction potential and simulation protocol

Z. Zhang*[1]; S. Ispas[1]; W. Kob[1]

1. Laboratoire Charles Coulomb (L2C), France

10:20 AM

(ICG-SII-046-2019) A Comparative Study of the Effectiveness of Empirical Potentials for Molecular Dynamics Simulations of Borosilicate Glasses

M. I. Tuheen*[1]; L. Deng[1]; J. Du[1]

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

10:40 AM

(ICG-SII-047-2019) Development of a transferable inter-atomic potential for boroaluminosilicate glasses

R. Kumar*[1]; R. Ravinder[1]; N. Krishnan[1]

1. Indian Institute of Technology, India

11:00 AM

(ICG-SII-048-2019) Machine Learning-Aided Development of Empirical Force-Fields

H. Liu*[1]; Z. Fu[2]; Y. Li[1]; N. Sabri[1]; M. Bauchy[1]

1. University of California, Los Angeles, Civil and Environmental Engineering, USA
2. University of California, Los Angeles, Computer Science, USA

Session 5: Simulations of Fracture and Mechanical Behavior of Glasses (TC 27)

Room: Hancock (mezzanine)

Session Chair: Jincheng Du, University of North Texas

1:20 PM

(ICG-SII-049-2019) Mechanisms of Silica Fracture in Aqueous Electrolyte Solutions (Invited)

J. M. Rimsza*[1]; R. Jones[2]; L. Criscenti[1]

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

1:50 PM

(ICG-SII-050-2019) Compaction and mixed alkali effect in silicate glass via molecular dynamics

Y. Takato*[1]; S. Urata[1]

1. AGC Inc., Japan

2:10 PM

(ICG-SII-051-2019) A mobile device for the evaluation of the current in-situ stress condition in glass

A. Haese*[2]; B. Siebert[2]; M. Glaser[1]; J. Hildebrand[1]; J. Bergmann[1]; B. Schaaf[3]; M. Feldmann[3]

1. Technische Universität Ilmenau, Mechanical Engineering, Germany
2. Ingenieurbüro Siebert, Germany
3. RWTH Aachen University, Germany

2:30 PM

(ICG-SII-052-2019) A continuum constitutive law to describe acoustic attenuation at a molecular scale

H. Luo*[1]; A. Tanguy[1]; A. Gravouil[1]; V. Giordano[3]; W. Schirmacher[2]

1. LGCIE - INSA Lyon, France
2. Universität Mainz, Insitut für Physik, Germany
3. University Lyon1, iLM, France

2:50 PM

Break

Session 5: Simulations of Crystal Growth and Formability (TC 27)

Room: Hancock (mezzanine)

Session Chair: Walter Kob, University of Montpellier

3:40 PM

(ICG-SII-053-2019) How Structure Controls the Kinetics of Crystal Growth from the Melt (Invited)

G. Sun[1]; P. Harrowell*[1]

1. University of Sydney, Chemistry, Australia

4:10 PM

(ICG-SII-054-2019) Factors influencing the glass-formability of bent-core trimers

R. S. Hoy*[1]; A. D. Griffith[1]; E. Salcedo[1]

1. University of South Florida, Physics, USA

4:30 PM

(ICG-SII-055-2019) Structural modeling of amorphous silicon via effective inversion of scattering data: A reverse Monte Carlo (RMC) approach

D. K. Limbu*[1]; S. Elliott[2]; P. Biswas[1]

1. The University of Southern Mississippi, Department of Physics and Astronomy, USA
2. University of Cambridge, Department of Chemistry, United Kingdom

4:50 PM

(ICG-SII-056-2019) Glassy structure formation and its nonlocal link to relaxation in glass-forming liquids

H. Tong*[1]; H. Tanaka[1]

1. The University of Tokyo, Department of Fundamental Engineering, Institute of Industrial Science, Japan

Session 6: Pharmaceutical and Chemical Durability

Room: Clarendon (mezzanine)

Session Chair: Robert Schaut, Corning

8:00 AM

(ICG-SII-057-2019) Surface related topics in pharmaceutical packaging (Invited)

V. Rupertus*[1]

1. Schott AG, Pharmaceutical Systems, Germany

8:30 AM

(ICG-SII-058-2019) Mechanisms for surface chemistry alteration in pharmaceutical glasses (Invited)

R. Schaut*[1]

1. Corning Incorporated, S&T, Glass Research, USA

9:00 AM

(ICG-SII-059-2019) Chemical durability of type I glass vials for parenteral preparations

P. J. Bócoli*[1]; P. R. Mei[2]; S. B. Jaime[1]; G. d. Quijada[1]; P. Kiyataka[1]

1. Institute of Food Technology, Packaging Technology Center, Brazil
2. State University of Campinas, Faculty of Mechanical Engineering, Brazil

9:20 AM

(ICG-SII-060-2019) Influence of glass composition on the kinetics of glass etching and frosting in concentrated HF solutions

N. Piret*[1]; R. Santoro[1]; L. Dogot[2]; B. Barthelemy[2]; E. Peyroux[2]; J. Proost[1]

1. UCLouvain, Institute of Mechanics, Materials and Civil Engineering, Belgium
2. AGG Glass Europe, AGC Technovation Centre, Belgium

9:40 AM

Break

Session 6: Surface Structure and Reactivity

Room: Clarendon (mezzanine)

Session Chair: Stephen Garofalini, Rutgers University

10:00 AM

(ICG-SII-061-2019) Role of the hydrogen bond in water and at the water/glass interface on proton transport

J. Lentz[1]; S. H. Garofalini*[1]

1. Rutgers Univ, USA

10:20 AM

(ICG-SII-062-2019) IR peak position interpretation in correlation with bond parameters of sodium aluminosilicate glass by MD simulation

H. Liu*[1]; S. Hahn[1]; M. Ren[2]; T. M. Gross[3]; A. C. van Duin[1]; J. Du[2]; S. H. Kim[1]

1. Pennsylvania State University, USA
2. University of North Texas, USA
3. Corning Incorporated, USA

10:40 AM

(ICG-SII-063-2019) Structure and Reactivity of Calcium Alumino-Silicate Glass Surfaces

A. Cormack*[1]; L. Wang[1]; G. Agnello[2]; N. J. Smith[2]; R. Manley[2]

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

11:00 AM

(ICG-SII-064-2019) Surface structure and corrosion effect in aluminosilicate glass from ab initio molecular dynamics simulation

K. Baral*[1]; W. Ching[1]

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

11:20 AM

(ICG-SII-065-2019) Float Glass Surface: Composition and oxidation state gradient evaluation at the tin side

H. Montigaud*[1]; E. Gouillart[1]; E. Burov[1]; N. Trcera[2]; P. Lagarde[2]; P. Chapon[3]

1. Glass Surface and Interfaces, Joint Unit CNRS/Saint-Gobain, France
2. SOLEIL synchrotron, France
3. Horiba Scientific, France

11:40 AM

(ICG-SII-066-2019) Synchrotron X-ray Scattering and Absorption Studies of Surface Structure and Surface Chemistry of Glassy Systems

Q. Ma*[1]; D. T. Keane[1]

1. Northwestern University, Synchrotron Research Center, USA

Session 6: Surface Films and Coatings

Room: Clarendon (mezzanine)

Session Chairs: Temel Buyuklimanli, EAG Laboratories; Paula Clark, Tascon USA

1:20 PM

(ICG-SII-067-2019) Analyses of Modified Glass Surfaces and Thin Coatings on Glass (Invited)

T. Buyuklimanli*[1]

1. EAG Laboratories, USA

1:50 PM

(ICG-SII-068-2019) Characterization of Glass Surfaces and Coatings Using Time-of-flight Secondary Ion Mass Spectrometry (Invited)

P. A. Clark*[1]

1. Tascon USA, USA

2:20 PM

(ICG-SII-069-2019) ToF-SIMS depth-profiling of altered glass: Contributions and limits

S. Gin*[1]; M. Collin[1]; P. Jollivet[1]

1. CEA, DE2D, France

2:40 PM

(ICG-SII-070-2019) Investigations on the influence of different ZnO thin film deposition parameters on the optical and mechanical properties of glass

G. Oumessad*[1]

1. LMCPA, UPHF, France

3:00 PM

(ICG-SII-071-2019) Electrochromic thin Film Materials and Devices

L. Jin*[1]

1. State Key Laboratory of Advanced Technology for Float Glass, China

3:20 PM

Break

Session 6: Mechanical and Stress

Room: Clarendon (mezzanine)

Session Chair: Seong Kim, Pennsylvania State University

3:40 PM

(ICG-SII-072-2019) Lateral deformation and scratch-induced microabrasion of silicate glasses scraped by a conical diamond indenter (Invited)

S. Sawamura*[1]; R. Limbach[2]; S. Wilhelmy[2]; L. Wondraczek[2]

1. AGC, Inc., Japan
2. Friedrich-Schiller-University Jena, Otto-Schott Institute of Materials Research, Germany

4:10 PM

(ICG-SII-073-2019) Modeling Birefringence from Surface Stress Relaxation in Silica Optical Fibers

B. D. Hausmann*[1]; P. Miller[1]; E. Aaldenberg[1]; T. Blanchet[2]; M. Tomozawa[1]

1. Rensselaer Polytechnic Institute, Materials Science & Engineering, USA
2. Rensselaer Polytechnic Institute, Mechanical Engineering, USA

Session 8: Optical Properties of Glass I

Room: Statler (mezzanine)

Session Chair: Jianrong Qiu, South China University of Technology

8:00 AM

(ICG-SII-074-2019) Long persistent luminescence and blue photochromism in Eu^{2+}-Dy^{3+} codoped barium silicate glass ceramic phosphor (Invited)

S. Tanabe*[1]

1. Kyoto University, Japan

8:30 AM

(ICG-SII-075-2019) Glass development for high power optical fiber lasers

J. Ballato*[1]; M. Cavillon[1]; P. Dragic[2]; C. Kucera[1]; T. Hawkins[1]; B. Kokuoz[1]

1. Clemson University, USA
2. University of Illinois at Urbana-Champaign, USA

8:50 AM

(ICG-SII-076-2019) EPR and XAS study of the RE ions local environment in oxfluoride glass-ceramics

G. Gorni[1]; A. Serrano[2]; G. R. Castro[2]; D. Bravo[3]; R. Balda[4]; J. Fernandez[5]; M. Pascual*[1]; A. Durán[1]

1. Institute of Ceramics and Glass, CSIC, Spain
2. SpLine CRG BM25 beamline at the ESRF - The European Synchrotron, France
3. Universidad Autonoma de Madrid, Dpto. Física de Materiales, Spain
4. Escuela Superior de Ingeniería, UPV-EHU, Dpto. Física Aplicada I, Spain
5. Donostia International Physics Center DIPC, Spain

9:10 AM

(ICG-SII-077-2019) Chemically purified Dy^{3+}-doped chalcogenide glass fiber and Co^{2+}/Fe^{2+} : ZnSe nanocrystal-glass composite towards mid-infrared laser beyond 4μm

H. Guo*[1]

1. Xi'an Institute of Optics and precision Mechanics, Chinese Academy of Science (CAS), China

9:30 AM

Break

Session 8: Optical Properties of Glass II

Room: Statler (mezzanine)

Session Chair: Mingying Peng, South China University of Technology

10:00 AM

(ICG-SII-078-2019) Transparent glass ceramics for photonic devices (Invited)

J. Qiu*[1]

1. State Key Laboratory of Modern Optical Instrumentation, Zhejiang University, China

10:30 AM

(ICG-SII-079-2019) Inside the black box: Thermal-induced compositional ion migration in lanthanide-based lasing materials

S. Ye*[1]

1. South China University of Technology, China

10:50 AM

(ICG-SII-080-2019) "Molten-core" fabrication of bismuthate glass fiber containning metal nanocrystals

Z. Ma*[1]

1. South China University of Technology, China

11:10 AM

(ICG-SII-081-2019) Development of LaF_3-$LaO_{3/2}$-$NbO_{5/2}$ novel oxyfluoride glasses with high refractive index and low dispersion by a containerless processing

J. Chung*[1]; H. Inoue[1]; Y. Nakatsuka[1]

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

Session 8: Optical Properties of Glass III

Room: Statler (mezzanine)

Session Chair: Setsuhisa Tanabe, Kyoto University

1:20 PM

(ICG-SII-082-2019) The effect of melting atmosphere on near infrared photoluminescence in bismuth-doped BaO-Ga_2O_3-GeO_2 glasses

S. Dubuis*[1]; S. Messaddeq[1]; Y. Ledemi[1]; Y. Messaddeq[1]

1. Université Laval, Canada

1:40 PM

(ICG-SII-083-2019) Kinetic behavior of transient photoinduced optical effects in spin-coated and thermally deposited chalcogenide glass thin films

A. Kovalskiy[1]; J. Allen[1]; M. White[1]; J. R. Oelgoetz*[1]; R. Golovchak[1]; O. Shpotyuk[2]; K. Palka[3]; M. Vlcek[3]

1. Austin Peay State University, Department of Physics and Astronomy, USA
2. Institute of Physical Optics, Ukraine
3. University of Pardubice, Center of Materials and Nanotechnologies, Czechia

2:00 PM

(ICG-SII-084-2019) Ultra-broad photoemission (0.8-1.9 μm) from Bi-doped multi-component glasses via chemical reduction

J. Cao*[1]; M. Peng[1]

1. South China University of Technology, School of Materials Science and Engineering, China

2:20 PM

(ICG-SII-085-2019) Pr^{3+} and Tm^{3+} Doped Oxyfluoride Silicate Glasses for Light Emitting Diodes Applications

C. Zhu*[1]; Z. He[1]; L. Niu[1]; Y. Zhou[1]; X. Meng[1]

1. Qilu University of Technology (Shandong Academy of Sciences), China

2:40 PM

(ICG-SII-086-2019) Color manipulation in transparent nanocrystals-in-glass composite via low-temperature combustion processing

Q. Pan*[1]; X. Huang[1]; G. Dong[1]; J. Qiu[2]

1. South China University of Technology, China
2. Zhejiang University, China

3:00 PM

(ICG-SII-087-2019) Tellurite and germanate glasses for mid-infrared fiber lasers

Y. Ye*[1]; W. Wang[1]; Q. Zhang[1]

1. South China University of Technology, Material Science, China

3:20 PM

Break

Session 8: Optical Properties of Glass IV

Room: Statler (mezzanine)

Session Chair: John Ballato, Clemson University

3:40 PM

(ICG-SII-088-2019) Organophosphorus doped phosphate hybrid glass for light-emitting electrochemical cell

M. Cai*[1]; L. Calvez[1]; J. Rocherullé[1]; N. Ledos[1]; P. Bouit[1]; M. Hissler[1]; X. Zhang[1]

1. University of Rennes 1, Institut des Sciences Chimiques de Rennes, France

4:00 PM

(ICG-SII-089-2019) Colorimetric modeling of poorly crystallized glass-ceramics via the four-flux method: Discrimination between scattering and absorption effects

S. Rio*[1]

1. Institut des Matériaux Jean Rouxel - CNRS, France

4:20 PM

(ICG-SII-090-2019) The theoretical prediction and experiment of glass-forming regions in new photonic glasses

W. Wang*[1]; Y. Xiao[1]; Y. Ye[1]; Q. Zhang[1]

1. South China University of Technology, China

Session 9: Fracture (TC 06)

Room: Arlington (mezzanine)

Session Chair: Lothar Wondraczek, University of Jena

1:20 PM

(ICG-SII-091-2019) Fracture properties of SiO_2-B_2O_3-Na_2O Glasses: How the structure influences macroscale fracture properties (Invited)

C. L. Rountree*[1]; W. Feng[1]; D. Bonamy[1]

1. CEA, Iramis, SPEC, France

1:50 PM

(ICG-SII-092-2019) Fracture Toughness and Edge Chipping Resistance of an Ancient Roman Glass from Jalame, Israel

G. D. Quinn*[1]; J. Swab[2]

1. National Institute of Standards and Technology, Materials Measurement Sciences Div, USA
2. US Army Research Laboratory, USA

2:10 PM

(ICG-SII-093-2019) Search for High Poisson's Ratio Oxide Glasses

M. M. Smedskjaer*[1]; S. R. Hansen[1]; K. Januchta[1]; M. B. Ostergaard[1]; M. Bauchy[2]

1. Aalborg University, Department of Chemistry and Bioscience, Denmark
2. University of California, Los Angeles, Department of Civil and Environmental Engineering, USA

Session 9: Densification and Compression (TC 06)

Room: Arlington (mezzanine)

Session Chair: Lothar Wondraczek, University of Jena

2:50 PM

(ICG-SII-094-2019) Comparison in densification characteristics among various glass compositions: Under hydrostatic pressure and spherical imprint (Invited)

Y. Kato*[1]; G. A. Rosales-Sosa[1]; H. Yamazaki[1]; S. Yoshida[2]; A. Yamada[2]; J. Matsuoka[2]

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

3:20 PM

Break

3:40 PM

(ICG-SII-095-2019) Effects of in-situ SEM imaging on the mechanical properties of vitreous silica during micropillar compression

Z. Rouse*[1]; S. Bhowmick[2]; S. Syed Asif[2]; S. P. Baker[1]

1. Cornell University, Materials Science & Engineering, USA
2. Bruker, Nano Surfaces Division, USA

4:00 PM

(ICG-SII-096-2019) Quantifying the mechanical behavior of vitreous silica through micropillar compression

Z. Rouse*[1]; S. Bhowmick[2]; S. Syed Asif[2]; S. P. Baker[1]

1. Cornell University, Materials Science & Engineering, USA
2. Bruker, Nano Surfaces Division, USA

4:20 PM

(ICG-SII-097-2019) Correlation between structural and mechanical properties of tellurite glasses as a function of temperature

M. Dutreilh-Colas*[1]; J. de Clermont Gallerande[1]; F. Célarié[3]; Y. Gueguen[3]; D. de Ligny[4]; T. Hayakawa[2]; P. Thomas[1]

1. IRCER, France
2. Nagoya Institute of Technology, Japan
3. Institut de Physiques de Rennes, France
4. Institute of Glass and Ceramics, Germany

SIII: Glass Technology and Manufacturing

Session 4: Glass Forming Operations

Room: Cambridge (4th floor)

Session Chair: Mathieu Hubert, Corning Incorporated

1:20 PM

(ICG-SIII-001-2019) Model-based optimization of the glass-flake production process

T. Gerdes*[1]; K. Ischenbek[1]

1. University of Bayreuth, Keylab Glass Technology, Department CME, Germany

1:40 PM

(ICG-SIII-002-2019) Application of machine learning algorithms at data collections of a glass container production

D. K. Orzol*[1]; C. Roos[1]

1. IPGR - International Partners in Glass Research e.V., Germany

2:00 PM

(ICG-SIII-003-2019) Numerical and Experimental Study of the Glass Blow and Blow Forming Process

A. Biosca*[1]; S. Borrós[1]; V. Pedret[2]; A. García[1]

1. IQS School of Engineering, Spain
2. RAMON CLEMENTE, Spain

2:20 PM

(ICG-SIII-004-2019) Innovative Sintering Process for the Densification of Tellurite Glass

D. J. McGill*[1]; J. Benghozi[2]; L. Roumiguier[2]; M. Kang[1]; C. Blanco[1]; M. Dohlen[2]; G. Delaizir[2]; S. Chenu[2]; J. Duclere[2]; K. Richardson[1]; R. M. Gaume[1]

1. University of Central Florida, Optics, USA
2. University of Limoges, Science of Ceramic Processes and Surface Treatments Laboratory, France

2:40 PM

(ICG-SIII-005-2019) Modeling and simulation of dehydration and sintering of GeO_2 –doped SiO_2 soot

S. Dixit*[1]; H. Harode[1]; C. Saha[1]

1. Sterlite Technologies ltd., Research and Development, India

3:00 PM

(ICG-SIII-006-2019) A computational investigation to understand the impact of helium on the sintering behavior of silica soot

S. Agarwal*[1]; H. Harode[1]

1. Sterlite Technologies Limited, Research and Development, India

3:20 PM

(ICG-SIII-007-2019) Soot growth prediction modeling in the outside vapor deposition process

H. Harode*[1]; S. Agarwal[1]; A. Pandey[1]

1. Sterlite Tech, R&D, India

Session 7: 3D Printing of Glass and Rapid Prototyping

Room: Cambridge (4th floor)

Session Chairs: Laura Cook, Corning Incorporated; Neil Palumbo, Corning Incorporated

8:00 AM

(ICG-SIII-008-2019) Additive Manufacturing of Glass using a Fused Deposition Modeling

Y. Han*[1]; H. Kim[1]; H. Lee[1]; K. Kim[1]; H. Lee[1]

1. Korea Institute of Ceramic Engineering and Technology (KICET), Engineering Ceramic Center, Republic of Korea

8:20 AM

(ICG-SIII-009-2019) Laser-heated filament-fed printing of glass for optics and photonics

N. Capps[2]; C. Ketterer[1]; J. Hsu[3]; J. Goldstein[4]; R. Landers[1]; D. Bristow[1]; R. Brow*[3]; E. Kinzel[2]

1. Missouri University of Science & Technology, Mechanical Engineering, USA
2. Notre Dame, Aerospace and Mechanical Engineering, USA
3. Missouri University of Science and Technology, Materials Science and Engineering, USA
4. Air Force Research Laboratory, Materials and Manufacturing, USA

8:40 AM

(ICG-SIII-010-2019) Additive manufacturing of chalcogenide glasses

E. Baudet[1]; Y. Ledemi*[1]; P. Larochelle[1]; S. Morency[1]; Y. Messaddeq[1]

1. Centre d'Optique, Photonique et Laser, Canada

9:00 AM

(ICG-SIII-011-2019) Lithography-based additive manufacturing of optical ceramics and glass (Invited)

S. M. Allan*[1]; M. Schwentenwein[2]

1. Lithoz America, LLC, USA
2. Lithoz GmbH, Austria

9:30 AM

Break

9:50 AM

(ICG-SIII-012-2019) 3D Printed Glass Optics with Tailored Composition (Invited)

R. J. Dylla-Spears*[1]

1. Lawrence Livermore National Laboratory, USA

10:20 AM

(ICG-SIII-013-2019) Developing 3D-printed optical quality germania–silica glasses from sol-gel feedstocks

K. Sasan*[1]; R. J. Dylla-Spears[1]; S. Kallontzi[3]; J. Destino[2]; N. Dudukovic[1]; M. Johnson[1]; O. Herrera[1]; J. Yoo[1]; L. Andrew[1]; T. Yee[1]; D. Nguyen[1]

1. Lawrence Livermore National Laboratory, USA
2. Creighton University, USA
3. Rutgers University, USA

10:40 AM

(ICG-SIII-014-2019) Additive Manufacturing of Porous Translucent/Transparent Glass Scaffolds

A. Dasan*[1]; J. Kraxner[1]; H. Elsayed[2]; D. Galusek[1]; E. Bernardo[2]

1. FUNGLASS, Alexander Dubcek University of Trencin, Slovakia
2. University of Padova, Department of Industrial Engineering, Italy

11:00 AM

(ICG-SIII-015-2019) Development of silica-based slurries for stereolithographic printed glass structures

F. B. Löffler*[1]; E. C. Bucharsky[1]; G. Schell[1]; M. J. Hoffmann[1]

1. Karlsruhe Institute of Technology, IAM-KWT, Germany

SIV: Emerging Applications of Glass

Session 2: Glasses in Healthcare II (TC 04)

Room: Stuart (4th floor)

Session Chairs: Julian Jones, Imperial College London; David Greenspan, University of Florida

8:00 AM

(ICG-SIV-028-2019) 4D Viscous Flow Sintering of 3D Printed Bioactive Glass Scaffolds (Invited)

A. Nommeots-Nomm*[1]; J. Jones[2]; P. Lee[3]; G. Poologasundarampillai[4]

1. McGill University, Materials, Canada
2. Imperial College, Materials, United Kingdom
3. University College London, Mechanical Engineering, United Kingdom
4. University of Birmingham, Materials, United Kingdom

8:30 AM

(ICG-SIV-029-2019) Synthesis and characterization of phosphate glass based 3D macroporous scaffolds

J. Rocherullé*[1]; R. Lebullenger[1]; L. Bunetel[1]; H. Oudadesse[1]

1. University of Rennes, Chemical Sciences Institute, Glass and Ceramic Group, France

8:50 AM

(ICG-SIV-030-2019) Bioactive glass scaffolds: 3D printed v foam for in vivo bone regeneration

X. Shi[1]; A. Nommeots-Nomm[2]; N. Todd[3]; A. Devlin-Mullin[3]; P. Lee[4]; C. Mitchell[3]; J. Jones*[1]

1. Imperial College London, Department of Materials, United Kingdom
2. McGill University, Canada
3. University of Ulster at Coleraine, United Kingdom
4. University College London, United Kingdom

9:10 AM

(ICG-SIV-031-2019) Physical and structural investigation of Silicate-phosphate glasses formed with biosynthesized silica nanoparticles

D. Kaur*[1]; O. Pandey[1]; M. Reddy[2]

1. Thapar Institute of Engineering and Technology, School of Physics and Materials Science, India
2. Thapar Institute of Engineering and Technology, Department of Biotechnology, India

9:30 AM

Break

9:50 AM

(ICG-SIV-032-2019) The corrosion of glass fibres under different conditions in simulated lung fluids

A. Helebrant*[1]; I. Czudkova[1]; A. Hepnerova[1]; H. Hradecka[1]

1. University of Chemistry and Technology, Dept. of Glass and Ceramics, Czechia

10:10 AM

(ICG-SIV-033-2019) The impact of fluid flow on dissolution kinetics of bioactive glass S53P4

L. Hupa*[1]; A. Stiller[2]; M. Engblom[1]; O. Karlström[1]; M. Lindén[2]

1. Åbo Akademi University, Johan Gadolin Process Chemistry Centre, Finland
2. Ulm University, Institut für Anorganische Chemie II, Germany

10:30 AM

(ICG-SIV-034-2019) Understanding structure-degradation behavior relationships in Na_2O–P_2O_5–B_2O_3–SiO_2 based model bioactive glasses

N. Stone-Weiss*[2]; N. J. Smith[1]; R. Youngman[1]; E. M. Pierce[3]; H. Eckert[4]; A. Goel[2]

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

10:50 AM

(ICG-SIV-035-2019) An arrangement of in vitro tests of highly and low reactive inorganic biomaterials

D. Rohanová*[1]; D. Horkavcová[1]; R. Marek[1]; A. R. Boccaccini[2]; A. Helebrant[1]

1. University of Chemistry and Technology, Dep of Glass and Ceramics, Czechia
2. University of Erlangen-Nuremberg, Institute of Biomaterials, Germany

11:10 AM

(ICG-SIV-036-2019) Characterization of bioactive glass coating on titanium plate by direct-bonding lamination

Y. Liu*[1]; R. Jeng[2]; N. Matsushita[1]; T. Kishi[1]; T. Yano[1]

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

11:30 AM

(ICG-SIV-037-2019) Investigating multiple host glasses for $BaCl_2$:Eu^{2+} layered thin films synthesized by pulsed laser deposition for medical imaging

C. W. Bond*[1]; Y. Jin[3]; R. L. Leonard[1]; A. R. Lubinsky[2]; A. Petford-Long[3]; J. A. Johnson[1]

1. University of Tennesee Space Institue, Mechanical, Aerospace, and Biomedical Engineering, USA
2. Stony Brook University, Radiology, USA
3. Northwestern University, Materials Science and Engineering, USA

Session 2: Glasses in Healthcare III (TC 04)

Room: Stuart (4th floor)

Session Chairs: Leena Hupa, Åbo Akademi University; Amy Nommeots-Nomm, McGill University

1:20 PM

(ICG-SIV-038-2019) Clinical and preclinical experience of bioactive glass S53P4 in the treatment of bone defects and infected bone (Invited)

N. Lindfors*[1]

1. Helsinki University Hospital, Musculoskeletal and Plastic Surgey, Finland

1:50 PM

(ICG-SIV-039-2019) The Investigation on Biological Effects of Sodium-free Fluoride-containing Bioactive Glasses in Vitro and in Vivo

X. Chen*[1]; L. Zhuo[1]

1. Central South University, Xiangya School of Stomatology, China

2:10 PM

(ICG-SIV-040-2019) Metal ion doped borophosphate bioactive glass: in-vitro dissolution and cytotoxicity

A. Mishra*[1]; M. Ojansivu[3]; R. Autio[2]; S. Vanhatupa[1]; S. Miettinen[1]; J. Massera[1]

1. Tampere University, Faculty of Medicine and Health Technology and BioMediTech Institute, Finland
2. Tampere University, Faculty of Social Sciences and BioMediTech Institute, Finland
3. Karolinska Institutet, Department of Medical Biochemistry and Biophysics (MBB), Sweden

2:30 PM

(ICG-SIV-041-2019) In vitro activity assessment of novel silicon oxycarbide-based bioactive glasses for bone regeneration

M. Arango-Ospina*[1]; F. Xie[2]; E. Ionescu[2]; I. Gonzalo-Juan[2]; R. Riedel[2]; A. R. Boccaccini[1]

1. University of Erlangen-Nürnberg, Institute of Biomaterials, Germany
2. Technical University Darmstadt, Germany

2:50 PM

(ICG-SIV-042-2019) Advanced Investigation on the Effect of Barium Substitution on In-vitro / In-vivo Bioactivity and Biocompatibility of 45S5 Bioglass®

S. P. Singh*[1]; H. Tripathi[1]; S. K. Arepalli[1]; P. Paliwal[1]

1. Indian Institute of Technology - Banaras Hindu University, India

3:10 PM

Break

3:30 PM

(ICG-SIV-043-2019) The effect of Al_2O_3:SiO_2 ratio on the properties of aluminosilicate glass for dental cement application

E. E. Meechoowas*[1]

1. Department of Science Service, Division of Engineering Materials, Thailand

3:50 PM

(ICG-SIV-044-2019) Flexural strength testing in lithium disilicate glass-ceramics

X. Xu*[1]; A. Goel[1]

1. Rutgers University, MSE, USA

4:10 PM

(ICG-SIV-045-2019) Electrical Filed Assisted Ion Exchange for Dental applications

A. Alzahrani*[1]; G. Pintori[2]; V. M. Sglavo[2]

1. Taif University, College of Dentistry, Dental Physical Sciences and Technology Unit, Saudi Arabia
2. University of Trento, Department of Industrial Engineering, Italy

Session 3: Nonlinear Photonics

Room: Beacon Hill (4th floor)

Session Chair: Hongtao Lin, Massachusetts Institute of Technology

8:00 AM

(ICG-SIV-046-2019) Signal processing based on optoacoustic interactions in chalcogenide waveguides (Invited)

M. Merklein*[1]

1. The University of Sydney, Australia

8:30 AM

(ICG-SIV-047-2019) Chip-scale broadband spectroscopic chemical sensing using chalcogenide glass integrated supercontinuum source

Q. Du*[1]; Z. Luo[2]; H. Zhong[3]; Y. Zhang[1]; Y. Huang[2]; T. Du[2]; W. Zhang[4]; T. Gu[1]; J. Hu[1]

1. Massachusetts Institute of Technology, Materials Science and Engineering, USA
2. Xiamen University, China
3. Zhejiang University, China
4. Ningbo University, China

8:50 AM

(ICG-SIV-048-2019) Dispersion engineering of highly nonlinear chalcogenide waveguides for high efficiency four-wave mixing

B. Zhang*[1]; D. Xia[1]; P. Zeng[1]; Z. Yang[1]; J. Song[1]; M. Zhang[1]; Z. Li[1]

1. Key Laboratory of Optoelectronic Materials and Technologies, School of Electrical and Information Technology, China

9:10 AM

(ICG-SIV-049-2019) Efficient BSBS in Chalcogenide Photonic Chip

J. Song*[1]; Y. Wang[2]; B. Zhang[1]; Z. Yang[1]; P. Zeng[1]; D. Xia[1]; Y. Zhu[1]; L. Yi[2]; Z. Li[1]

1. Key Laboratory of Optoelectronic Materials and Technologies, China
2. state Key Lab of Advanced Communication Systems and Networks, China

9:30 AM

Break

Session 3: Emerging Technologies II

Room: Beacon Hill (4th floor)

Session Chair: Tian Gu, Massachusetts Institute of Technology

10:00 AM

(ICG-SIV-050-2019) Chalcogenide materials with tailored optical function for on-chip integrated photonics (Invited)

K. Richardson*[1]; M. Kang[1]; T. Malendevych[1]; G. Yin[2]; J. Hu[2]; M. Richardson[1]; I. Mingareev[3]; B. Sohn[4]; D. T. Tan[4]; I. Murray[5]

1. University of Central Florida, CREOL, College of Optics & Photonics, USA
2. Massachusetts Institute of Technology, USA
3. Florida Institute of Technology, USA
4. Singapore University of Technology and Design, Singapore
5. BAE Systems, USA

10:30 AM

(ICG-SIV-051-2019) Phase Change Photonics for Emerging Computing (Invited)

H. Bhaskaran*[1]; C. Rios[1]; N. Youngblood[1]; Z. Cheng[1]; N. Farmakidis[1]; J. Tan[1]; X. Li[1]; W. H. Pernice[2]

1. University of Oxford, United Kingdom
2. University of Munster, Germany

11:00 AM

(ICG-SIV-052-2019) Demonstration of dimensional control and stabilization of second harmonic electro-optical response in chalcogenide glasses

M. Dussauze*[1]; A. Lepicard[1]; V. Rodriguez[1]; K. Richardson[2]; F. Adamietz[1]

1. CNRS / Université de Bordeaux, France
2. University of Central Florida, CREOL, USA

11:20 AM

(ICG-SIV-053-2019) Large-Scale Electrical Switching for Optical Phase Change Materials Based Nonvolatile Photonics

Y. Zhang*[1]; C. Ríos[1]; S. Deckoff-Jones[1]; H. Lin[2]; J. B. Chou[3]; J. Liang[1]; Z. Fang[1]; F. Yang[1]; H. Wang[4]; M. Shalaginov[1]; C. Roberts[3]; C. Goncalves[5]; V. Liberman[3]; T. Gu[1]; J. Kong[4]; K. Richardson[2]; J. Hu[1]

1. Massachusetts Institute of Technology, Materials Science and Engineering, USA
2. Zhejiang University, College of Information Science & Electronic Engineering, China
3. Massachusetts Institute of Technology, Lincoln Laboratory, USA
4. Massachusetts Institute of Technology, Electrical Engineering & Computer Science, USA
5. University of Central Florida, The College of Optics & Photonics, Department of Materials Science and Engineering, USA

11:40 AM

(ICG-SIV-054-2019) Chalcogenide Glass Waveguide-integrated 2D Tellurium for Optoelectronics

S. Deckoff-Jones*[1]; H. Lin[2]; S. Serna[1]; J. Hu[1]

1. MIT, Materials Science and Engineering, USA
2. Zhejiang University, China

Session 4: Glass in Sensor Technology I

Room: Beacon Hill (4th floor)

Session Chair: Younès Messaddeq, Université Laval

1:20 PM

(ICG-SIV-055-2019) Improving the accuracy of optical fiber sensors by better glass and material science (Invited)

J. Albert*[1]; T. Gang[2]; M. Hu[2]

1. Carleton University, Canada
2. Northwest University, Physics, China

1:50 PM

(ICG-SIV-056-2019) Backscattered Waveguide Fluorescence Application of Glass

N. Subbaiyan*[1]; J. S. King[1]

1. Corning Incorporated, Corning Technology Center - Silicon Valley, USA

2:10 PM

(ICG-SIV-057-2019) Rare earth doped fluoride-phosphate glasses for high power radiation detection

I. Carvalho Pinto[1]; G. Galleani[1]; A. S. de Camargo*[1]

1. Physics Institute of Sao Carlos, University of Sao Paulo, Brazil

2:30 PM

(ICG-SIV-058-2019) SERS optical fiber on synthetic optimization, interfacial bonding and electromagnetic field distribution

Y. Long*[1]; H. Li[1]; Z. Du[1]; Z. Liu[2]; Y. Xie[2]

1. Wuhan University of Technology, State Key Laboratory of Silicate Materials for Architectures, China
2. University of California, Department of Materials Science and Engineering, USA

2:50 PM

(ICG-SIV-059-2019) Chalcogenide microstructured optical fibers for optical sensing (Invited)

J. Troles*[1]; L. Brilland[2]; M. Meneghetti[1]; R. Troles[2]; C. Boussard-Pledel[1]; B. Bureau[1]; S. Venck[2]; J. Adam[1]

1. University of Rennes 1, France
2. SelenOptics, France

3:20 PM

Break

Session 4: Glass in Sensor Technology II

Room: Beacon Hill (4th floor)

Session Chair: Pierre Lucas, Univ of Arizona

3:40 PM

(ICG-SIV-060-2019) Scalable nano-fabrication of glass-based optical metasurfaces and multimaterial fibers for advanced sensing (Invited)

F. Sorin*[1]

1. EPFL, Switzerland

4:10 PM

(ICG-SIV-061-2019) Mechanical stress-induced luminescence from ZnS:Mn incorporated into glasses

B. So*[1]; Y. Ding[1]; L. Wondraczek[1]

1. University of Jena, Otto Schott Institute of Materials Research, Germany

Session 8: Fundamentals of Nuclear Waste Glass Corrosion I

Room: Whittier (4th floor)

Session Chair: Joseph Ryan, Pacific Northwest National Lab

8:00 AM

(ICG-SIV-062-2019) Atomistic Origin of the Passivation Effect in Hydrated Silicate Glasses

T. Du[1]; H. Li[3]; Q. Zhou[1]; Z. Wang*[1]; G. Sant[1]; J. V. Ryan[2]; M. Bauchy[1]

1. University of California, Los Angeles, Civil and Environmental Engineering, USA
2. Pacific Northwest National Lab, Energy and Environmental Directorate, USA
3. Harbin Institute of Technology, School of Civil Egnineering, China

8:20 AM

(ICG-SIV-063-2019) Alteration glass layer modeling by molecular dynamics simulations (Invited)

T. Ohkubo*[1]

1. Chiba University, Faculty of Engineering, Japan

8:50 AM

(ICG-SIV-064-2019) Modelling and experimental study of SON68 glass dissolution in KOH solution at pH 13.5 and 30 °C with three SA/V ratios

S. Liu*[1]; K. Ferrand[1]; K. Lemmens[1]

1. SCK-CEN, Chemistry, Belgium

9:10 AM

(ICG-SIV-065-2019) Simulation of silicate gel structures found in Nuclear Waste Glasses using reactive Molecular Dynamics force fields

T. S. Mahadevan*[1]; J. Du[1]

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

9:30 AM

Break

Session 8: Fundamentals of Nuclear Waste Glass Corrosion II

Room: Whittier (4th floor)

Session Chairs: Takahiro Ohkubo, Chiba University; Stephane Gin, CEA

10:00 AM

(ICG-SIV-066-2019) Toward an Understanding of Altered Layer, Growth, and Transformation at the Glass-Fluid Interface (Invited)

E. M. Pierce*[1]

1. Oak Ridge National Lab, Environmental Sciences Division, USA

10:30 AM

(ICG-SIV-067-2019) How glass composition variations impact passivation properties of surface layers formed on borosilicate glasses?

S. Gin*[1]; P. Jollivet[1]; E. Chauvet[2]; Y. De Puydt[2]

1. CEA, DE2D/SEVT/LCLT, France
2. Tescan Analytics, France

10:50 AM

(ICG-SIV-068-2019) Dissolution Kinetics of Ternary Calcium Aluminosilicate (Ca-Al-Si) Glasses at 75 °C, pH = 7: Effects of Glass Chemical Composition on Rates

J. P. Icenhower*[1]; H. McMahon[1]; R. Youngman[1]; N. J. Smith[2]

1. Corning Incorporated, Characterization Sciences, USA
2. Corning Incorporated, Fundamental Sciences, USA

11:10 AM

(ICG-SIV-069-2019) Structure-durability relationship of UK high level waste glass

A. J. Fisher*[1]; B. Walkley[1]; J. T. Radford[1]; N. C. Hyatt[1]; R. J. Hand[1]; C. L. Corkhill[1]

1. University of Sheffield, Material Science and Engineering, United Kingdom

11:30 AM

(ICG-SIV-070-2019) Degradation Tests on Developmental Iron Phosphate Waste Form for Salt Waste

W. Ebert*[1]; B. Riley[2]; S. Frank[3]

1. Argonne National Lab, USA
2. Pacific Northwest National Lab, USA
3. Idaho National Lab, USA

11:50 AM

(ICG-SIV-071-2019) Dissolution of network formers from a model nuclear waste glass at the early stage of aqueous corrosion in initially silica-saturated solution

D. Ngo*[1]; H. Liu[1]; H. Kaya[2]; Z. Chen[1]; S. H. Kim[1]

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

Session 8: Fundamentals of Nuclear Waste Glass Corrosion III

Room: Whittier (4th floor)

Session Chairs: Eric Pierce, Oak Ridge National Lab; Robert Schaut, Corning Incorporated

1:20 PM

(ICG-SIV-072-2019) Modeling the morphological evolution of glass in aqueous environments

J. V. Ryan*[1]

1. Pacific Northwest National Laboratory, USA

1:40 PM

(ICG-SIV-073-2019) Influence of Tris buffer solution chemistry upon dissolution behavior of silicate-based glasses with varied B_2O_3/Al_2O_3 ratio

N. Stone-Weiss*[1]; N. J. Smith[2]; R. Youngman[2]; E. M. Pierce[3]; A. Goel[1]

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

2:00 PM

(ICG-SIV-074-2019) Solution-Mediated Phase Transformations Induced by Varying Leachate Acid-Base Equilibria: Late Stage Nuclear Waste Glass Dissolution

C. M. Jantzen*[1]; W. Ebert[2]

1. Savannah River National Laboratory, USA
2. Argonne National Lab, USA

2:20 PM

(ICG-SIV-075-2019) The role of the diffusion for the reaction interface during glass corrosion

C. Lenting*[1]; M. B. Fritzsche[1]; L. Dohmen[2]; T. Geisler[1]

1. University of Bonn, Institute of Geoscience and Meteorology, Germany
2. SCHOTT AG, Germany

2:40 PM

(ICG-SIV-076-2019) Leaching behavior and mechanisms of vitrified forms for low level radioactive solid wastes

M. Kim*[1]; K. Hong[1]; C. Kim[2]; J. Heo[3]

1. Korea Basic Science Institute, Republic of Korea
2. Korea Hydro & Nuclear Power, Central Research Institute, Republic of Korea
3. Pohang University of Science and Technology(POSTECH), Republic of Korea

3:00 PM

(ICG-SIV-077-2019) Thermodynamics of Zeolite Precipitation in Stage III Glass Corrosion

B. Zhen[1]; Z. Wang[1]; G. Sant*[1]; J. V. Ryan[2]; M. Bauchy[1]

1. University of California, Los Angeles, USA
2. Pacific Northwest National Lab, USA

3:20 PM

Break

Session 8: Fundamentals of Nuclear Waste Glass Corrosion IV

Room: Whittier (4th floor)

Session Chair: Nicholas Smith, Corning Incorporated

3:40 PM

(ICG-SIV-078-2019) Understanding the Chemical Durability of Glass beyond the Effect of Orthosilicic Acid: The Impact of All Dissolved Glass Components on the Dissolution Rate

J. Neeway*[1]; B. Parruzot[1]; J. V. Crum[1]; J. V. Ryan[1]; M. Asmussen[1]; G. L. Smith[1]; D. J. Swanberg[2]; E. E. Brown[2]; S. Kerisit[1]

1. Pacific Northwest National Lab, USA
2. Washington River Protection Solutions, USA

4:00 PM

(ICG-SIV-079-2019) Stage III glass alteration: Impact of pH, zeolite, temperature, and solution composition

B. Parruzot*[1]; J. V. Ryan[1]; J. Neeway[1]; J. V. Crum[1]; J. George[1]; J. F. Bonnett[1]; J. Reiser[1]; L. Seymour[1]

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

4:20 PM

(ICG-SIV-080-2019) Predicting the Forward Dissolution Rate of Silicate Glasses by Physics-Informed Machine Learning

H. Liu*[1]; T. Zhang[2]; N. Krishnan[3]; M. Bauchy[1]

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

SVI: Archaeometry

Archaeometry I (TC 17)

Room: Tremont (4th floor)

Session Chair: Stephen Koob, The Corning Museum of Glass

8:00 AM

(ICG-SVI-001-2019) Archaeometry of 17th-century Flint Glass (Invited)

C. Brain*[1]

1. Private Researcher, United Kingdom

8:20 AM

(ICG-SVI-002-2019) Variety of the glass compositions produced in Europe until the 16th century

K. Pánová[1]; D. Rohanová*[1]

1. University of Chemistry and Technology, Dep of Glass and Ceramics, Czechia

8:40 AM

(ICG-SVI-003-2019) The relationship between faience and glass: The implications of new LA-ICPMS analyses

R. Brown[1]; V. Kemp[1]; N. Schibille[2]; A. Shortland*[1]

1. Cranfield University, Cranfield Forensic Institute, United Kingdom
2. CNRS, France

9:00 AM

(ICG-SVI-004-2019) Portable Laser Ablation Micro-Sampling at 213 nm for Mass Spectrometry Analyses of Cultural Heritage Objects

P. Londero*[1]; D. Asael[2]; N. Planavsky[2]; A. Bezur[1]

1. Yale University, Institute for the Preservation of Cultural Heritage, USA
2. Yale University, Department of Geology and Geophysics, USA

9:20 AM

Break

Archaeometry II (TC 17)

Room: Tremont (4th floor)

Session Chair: Andrew Shortland, Cranfield University

10:15 AM

(ICG-SVI-005-2019) A unique recipe for glass beads at Iron Age Sardis (Invited)

P. Degryse*[1]; A. Van Ham-Meert[1]; S. Dillis[1]; K. Eremin[2]; N. Cahill[4]; A. Shortland[3]

1. KU Leuven - Geology, Centre for Archaeological Sciences, Belgium
2. Harvard Art Museums, USA
3. Cranfield University, United Kingdom
4. University of Wisconsin, USA

10:45 AM

(ICG-SVI-006-2019) Archaeometric characterization of Swahili glass beads from the Ibo Island (Northern Mozambique)

J. Pena-Poza[1]; F. Agua[1]; H. Madiquida[2]; J. de Torres[3]; V. Fernandez[4]; M. Villegas[1]; M. Ruiz-Galvez[4]; M. Garcia-Heras*[1]

1. Spanish National Research Council (CSIC), Institute of History, Spain
2. Eduardo Mondlane University, Archaeology and Anthropology, Mozambique
3. British Museum, Department of Africa, Oceania and the Americas, United Kingdom
4. Complutense University, Prehistory, Ancient History and Archaeology, Spain

11:05 AM

(ICG-SVI-007-2019) Illuminating the History of a Medieval Stained-Glass Panel from Canterbury Cathedral

K. Eremin*[1]; G. Rayner[1]; A. Shortland[3]; A. Chang[1]; M. Clerkin Higgins[2]; C. Gray[4]

1. Harvard Art Museums, Straus Center, USA
2. Clerkin Higgins Stained Glass, USA
3. Cranfield University, Cranfield Forensic Institute, United Kingdom
4. University of New Haven, Department of Art and Design, USA

11:25 AM

(ICG-SVI-008-2019) Dissolution of medieval potash-lime-glass and its low pH-dependency

L. Sessegolo*[1]; A. Verney-Carron[1]; P. Ausset[1]; S. Triquet[1]; M. Saheb[1]; A. Chabas[1]

1. Laboratoire Interuniversitaire des Systèmes Atmosphériques, France

11:45 AM

Questions/Discussion

Archaeometry III (TC 17)

Room: Tremont (4th floor)

Session Chair: Jerzy Kunicki-Goldfinger, independent researcher and conservator of glass

1:20 PM

(ICG-SVI-009-2019) Elemental Analysis of Blaschkas Marine Invertebrate Glass Models

E. Bakowska*[1]; B. Rice[1]; B. Murray[1]; A. Clark[1]; D. White[1]

1. Corning RDC, USA

1:40 PM

(ICG-SVI-010-2019) Modeling Nature: Understanding conservation issues in the Blaschka glass flowers

S. Fulton*[3]; K. Eremin[1]; G. Rayner[1]; A. Van Giffen[4]; A. Shortland[2]

1. Harvard Art Museums, Straus Center, USA
2. Cranfield Forensic Institute, Cranfield Forensic Institute, United Kingdom
3. Harvard University, Harvard Herberia, USA
4. Corning Museum of Glass, Conservation, USA

2:00 PM

(ICG-SVI-011-2019) Light in museums

E. Greiner-Wrona*[1]

1. AGH University of Science and Technology, Faculty of Materials Science and Ceramics Department of Glass Technology and Amorphous Coating, Poland

2:20 PM

(ICG-SVI-012-2019) Understanding the browning of medieval stained-glass windows: Impact of bacteria and bacterial exudates on the dissolution of a Mn-bearing glass

V. Valbi*[1]; A. Perez[1]; A. Verney-Carron[2]; C. Fourdrin[1]; Y. Pechaud[1]; C. Loisel[3]; S. Rossano[1]

1. Université Paris Est Marne la Vallée, Laboratoire Géomatériaux et Environnement, France
2. Laboratoire Interuniversitaire des Systèmes Atmosphériques, France
3. Laboratoire de Recherche des Monuments Historiques, France

2:40 PM

(ICG-SVI-013-2019) Microbial Colonization and Interaction with Silicate Glasses: A Review of a Century of Literature

J. L. Weaver*[1]

1. National Institute of Standards and Technology, Material Measurement Lab, USA

3:00 PM

(ICG-SVI-014-2019) Understanding and predicting the chemical degradation of historic glass in museum collections

G. Verhaar*[1]; N. H. Tennent[2]; S. Koob[3]; J. T. van Elteren[4]; V. S. Šelih[4]

1. Rijksmuseum, Conservation and Science Department, Netherlands
2. University of Texas at Dallas, Edith O'Donnell Institute of Art History, USA
3. Corning Museum of Glass, USA
4. National Institute of Chemistry, Slovenia

3:20 PM

Break

Archaeometry IV (TC 17)

Room: Tremont (4th floor)

Session Chair: Stephen Koob, The Corning Museum of Glass

3:40 PM

(ICG-SVI-015-2019) Caring for glass collections with special focus on central European potassium Baroque objects (Invited)

J. J. Kunicki-Goldfinger*[1]

1. independent researcher and conservator of glass, Warsaw, Poland, Poland

4:10 PM

(ICG-SVI-016-2019) Mapping Kapadvanj Glass: Holding a Mirror to the Last Surviving Traditional Tank Furnace in India (Invited)

A. K. Kanungo*[1]

1. IIT Gandhinagar, Archaeological Sciences Centre, India

4:30 PM

(ICG-SVI-017-2019) Iron Age Swedish Vitrified Hillfort: Analog for Nuclear Waste Glasses

M. Ahmadzadeh*[1]; J. Marcial[1]; J. Clarke[2]; B. Housen[3]; J. McCloy[1]

1. Washington State University, USA
2. University of Sheffield, United Kingdom
3. Western Washington University, USA

SVII: Arun K. Varshneya Festschrift

Arun K. Varshneya Festschrift I

Room: Georgian (mezzanine)

Session Chairs: John Mauro, Pennsylvania State University; Vijay Jain, Savannah River National Lab

8:00 AM

(ICG-SVII-001-2019) The Essence of Science and Glass Science (Invited)

L. D. Pye*[1]

1. Alfred University, NYS College of Ceramcis, USA

8:20 AM

(ICG-SVII-002-2019) Dr. Arun K. Varshneya: Educator, Mentor, Scholar, Entrepreneur, and Philanthropist (Invited)

J. C. Mauro*[1]

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

8:40 AM

(ICG-SVII-003-2019) Melting Mechanisms in Alkali Meta-Silicates

A. Cormack*[1]

1. Alfred University, USA

9:00 AM

(ICG-SVII-004-2019) On my fun and educational 3-decade interaction with the Glass Guru (Invited)

E. Dutra Zanotto*[1]

1. Federal University of Sao Carlos, Materials Engineering, Brazil

9:20 AM

(ICG-SVII-005-2019) Lessons learned from Dr. Varshneya and my 25 year journey in the architectural flat glass industry (Invited)

P. C. Anderson*[1]

1. Viracon, USA

9:40 AM

Break

10:00 AM

(ICG-SVII-006-2019) Fifty years of professional interactions with Professor Arun Varshneya (Invited)

M. Tomozawa*[1]

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

10:20 AM

(ICG-SVII-007-2019) Parent glasses and glass-ceramics and their relationship in respect of functionality and properties (Invited)

W. Hoeland*[1]; M. Rampf[1]; M. Dittmer[1]; C. Ritzberger[1]

1. Ivoclar Vivadent AG, Liechtenstein

10:40 AM

(ICG-SVII-008-2019) Fundamental and Applied Aspects of Heat Transfer in Fibrous Insulation (Invited)

M. K. Choudhary*[1]

1. Glass Service a.s., MKC Innovations LLC, USA

11:00 AM

(ICG-SVII-041-2019) Glass Lasers for Glass Drilling and Cutting (Invited)

S. Jiang*[1]

1. AdValue Photonics Inc, USA

11:20 AM

(ICG-SVII-010-2019) Glass archaeometry in the aspect of cultural heritage (Invited)

E. Greiner-Wrona*[1]

1. AGH University of Science and Technology, Faculty of Materials Science and Ceramics Department of Glass Technology and Amorphous Coating, Poland

11:40 AM

(ICG-SVII-011-2019) How Observational Learning Can Shape One's Life (Invited)

R. Callahan*[1]

1. Global Infrastructure Partners, USA

Arun K. Varshneya Festschrift II

Room: Georgian (mezzanine)

Session Chairs: John Mauro, Pennsylvania State University; Vijay Jain, Savannah River National Lab

1:20 PM

(ICG-SVII-012-2019) Cousin Arunsky – Memories of shared times (Invited)

P. Gupta*[1]

1. Ohio State University, USA

1:40 PM

(ICG-SVII-013-2019) Prof. Arun K. Varshneya's contribution to an early stage of atomistic simulation and a bright outlook on computer simulation (Invited)

A. Takada*[1]

1. University College London, United Kingdom

2:00 PM

(ICG-SVII-014-2019) Towards High-Strength Infrared Optical Fibers (Invited)

P. Lucas*[1]; S. Jiang[2]; G. Coleman[1]; T. Luo[2]; J. Ari[1]

1. Univ of Arizona, USA
2. Advalue Photonics, USA

2:20 PM

(ICG-SVII-015-2019) Chalcogenide thin film for photovoltaic applications (Invited)

X. Zhang*[1]; M. Cathelinaud[1]; S. Chen[1]; D. Ren[1]; H. Ma[1]; L. Calvez[1]

1. University of Rennes/CNRS, Institute of Chemistry, Lab. Glasses and Ceramics, France

2:40 PM

(ICG-SVII-016-2019) Practice, theory, and more practice: A sampling of work from 2008 to 2015 (Invited)

P. K. Kreski*[1]

1. SCHOTT North America, Inc., USA

3:00 PM

(ICG-SVII-017-2019) ICG 2019 Roast of Festschrift Honoree Professor Arun K. Varshneya (Invited)

P. Varshneya*[1]; K. V. Baker[1]; R. V. Karnani[1]

1. Saxon Glass Technologies, Inc., Administration, USA

3:20 PM

Break

3:40 PM

(ICG-SVII-018-2019) New unique-to-the-world capabilities increase the pace and impact of materials innovation at Dow (Invited)

A. N. Sreeram*[1]

1. Massachusetts Institute of Technology, Materials Science & Engineering, USA

4:00 PM

Arun K. Varshneya - Remarks and Introduction of Family and Friends

Poster Session 2

Room: Grand Ballroom A (mezzanine)

5:00 PM

(ICG-P151-2019) Simultaneous Evaluation of Viscosity and Crystallization Behavior of Silicate Melt by Electrical Capacitance Measurement

N. Saito*[1]; K. Nakashima[1]

1. Kyushu University, Department of Materials Science and Engineering, Japan

(ICG-P152-2019) Effect of alkali oxide substitution on the viscosity and structure in CaO-SiO_2-CaF_2-Na_2O-K_2O melts

M. Seo*[1]; I. Sohn[1]

1. Yonsei University, Republic of Korea

(ICG-P153-2019) Structural and Thermal Properties of Alkali Tellurite Glasses

M. R. Jesuit*[1]; M. J. Packard[1]; O. L. Alderman[2]; C. J. Benmore[2]; S. Feller[1]

1. Coe College, Physics, USA
2. Argonne National Lab, USA

(ICG-P154-2019) Which "glass constituents" are responsible for the glass formation?

A. Priven*[1]

1. Corning Korea, Republic of Korea

(ICG-P022-2019) Influence of the TiO_2 on the glass stability and activation energies of a SrO-CaO-B_2O_3-SiO_2 system

A. A. Cabral*[1]; M. V. Alencar[1]; L. D. Silva[2]

1. Federal Institute of Maranhão, Physics, Brazil
2. Federal University of Sao Carlos, Materials Engineering, Brazil

(ICG-P077-2019) The Transition from Liquid Silica to Vitreous Silica

S. Cheng*[1]

1. Lawrence Berkeley National Laboratory, Molecular Foundry, USA

(ICG-P078-2019) Atomic delocalization and glass transition criterion

D. S. Sanditov[1]; M. I. Ojovan*[2]; M. V. Darmaev[1]

1. Buryat State University, Physics and Technology Faculty, Russian Federation
2. Imperial College London, Department of Materials, United Kingdom

(ICG-P079-2019) The diffusion coefficient in supercooled sugar solutions

A. Andraca Gómez*[1]; P. Goldstein Menache[1]

1. Facultad de Ciencias UNAM, Física, Mexico

(ICG-P080-2019) Structural Relaxation in Water-Free Silica Glass During Chemical Vapor Deposition

Y. Sun*[1]

1. China Building Materials Academy, China

(ICG-UGSP-P081-2019) A Study of Kinetic Fragility Along the $Na_4P_2S_{7-x}O_x$ Glass Series

J. M. Lovi*[1]; S. Kmiec[1]; S. W. Martin[1]

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

(ICG-P082-2019) The viscosity in supercooled binary mixtures: Water and sugars

P. Goldstein Menache*[1]; S. Ruiz-Matus[1]

1. Facultad de Ciencias Universidad Nacional Autonoma de Mexico, Departamento de Fisica, Mexico

(ICG-GSP-P083-2019) Calculating viscosity of glass forming liquids near T_g using molecular dynamics simulations

Y. Zhang*[1]; L. Huang[1]; Y. Shi[1]

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

(ICG-P084-2019) Fictive Temperature of fused silica

R. Augner[1]; L. Ortmann*[2]; E. Rädlein[1]; D. de Ligny[3]

1. Technische Universität Ilmenau, Germany
2. QSIL AG, Germany
3. Friedrich-Alexander-Universityet Erlangen-Neurnberg, Germany

(ICG-P085-2019) Multicomponent Solution Solidification with Arrested Phase Separation Model for Glass Transition

V. Belostotsky*[1]

1. Institute of General and Inorganic Chemistry of RAS, USA

(ICG-P086-2019) Chemical Characterization of Amorphous Er-doped phase-separated nanoparticles in silicates via Secondary Ion Mass Spectrometry (SIMS) Imaging

C. Guillermier*[1]; F. Khanom[1]; B. Lewis[1]; W. Blanc[2]

1. Carl Zeiss SMT, Inc., USA
2. Université Côte d'Azur, Institut de Physique de Nice (INPHYNI), France

(ICG-P087-2019) Neutron scattering studies of crystallization in metallic glasses

D. Ma*[1]; A. D. Stoica[1]

1. Oak Ridge National Lab, Neutron Scattering Divison, USA

(ICG-P088-2019) Multicomponent diffusion and crystallization in borosilicate glass melt

S. Schuller*[1]; H. Pablo[1]; M. Roskosz[2]; M. Toplis[3]; E. Gouillart[4]; T. Charpentier[5]

1. CEA, DEN, DE2D/SEVT-Marcoule, France
2. Muséum National d'Histoire Naturelle, France
3. CNRS, Observatoire Midi Pyrénées, DTP, France
4. Joint Unit Saint-Gobain/CNRS, France
5. CEA, DRF, IRAMIS, NIMBE/LSDRM, France

(ICG-GSP-P089-2019) Unmasking the Breakdown of the Classical Nucleation Theory

M. H. Ramírez*[1]; E. Dutra Zanotto[1]

1. Federal University of Sao Carlos, Materials Engineering, Brazil

(ICG-GSP-P090-2019) Shear-induced deformation and the structural change in aluminosilicate glasses at room-temperature condition

K. Osada*[1]; A. Yamada[1]; M. Yoshimura[2]; S. Yoshida[1]; J. Matsuoka[1]

1. The University of Shiga Prefecture, Department of Material Science, Japan
2. Ritsumeikan University, Research Organization of Science and Technology, Japan

(ICG-P091-2019) Alkaline earth mixing effect of CaO-Al_2O_3-SiO_2 glass on plasma resistance under fluorocarbon plasma with Ar^+

J. Park*[1]; H. Na[1]; S. Choi[2]; H. Kim[1]

1. Korea Institute of Ceramic Engineering and Technology (KICET), Engineering Ceramic Center, Republic of Korea
2. HanYang University, Division of Materials Science and Engineering, Republic of Korea

(ICG-GSP-P092-2019) Comparison of plasma resistance between coating and bulk of CaO-Al_2O_3-SiO_2 glasses

H. Na*[1]; J. Park[1]; H. Kim[1]; S. Choi[2]

1. Korea Institute of Ceramic Engineering and Technology (KICET), Republic of Korea
2. Hanyang university, Republic of Korea

(ICG-GSP-P093-2019) The Effect of composition of Plasma Resistance of CaO - Al_2O_3 - SiO_2 glasses under Fluorocarbon Plasma with Ar^+

H. Na*[1]; J. Park[1]; S. Choi[2]; H. Kim[1]

1. Korea Institute of Ceramic Engineering and Technology (KICET), Republic of Korea
2. Hanyang university, Republic of Korea

(ICG-GSP-P094-2019) Statistical Mechanical Modeling of Lithium Borate Glass Structure and Topology

M. Bødker*[1]; J. C. Mauro[2]; R. Youngman[3]; M. M. Smedskjaer[1]

1. Aalborg University, Denmark
2. Pennsylvania State University, USA
3. Corning Incorporated, USA

(ICG-GSP-P095-2019) Molecular Dynamics Simulation Study of Cooling Rate Effect on Fluoride Phase Separated SiO_2-Al_2O_3-BaF_2 Glass

J. Zhao*[1]; X. Xu[1]; J. Du[2]; X. Qiao[1]; X. Fan[1]

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

(ICG-P096-2019) Charge carrier mobility of alkali silicate glasses calculated by molecular dynamics

R. Welch[1]; C. Wilkinson[2]; J. C. Mauro[2]; C. B. Bragatto*[1]

1. Coe College, Physics Department, USA
2. The Pennsylvania State University, Department of Materials Science and Engineering, USA

(ICG-P097-2019) Effect of Temperature and Pressure on Molar Volume of ZnO Wurtzite Phase Under Extended Pressure and Temperature a Molecular Dynamics Prediction

C. Yahia*[1]; T. Aouaroun[1]

1. Electrotechnique & Electronics, Fundamental Teaching, Algeria

(ICG-P098-2019) Force-Enhanced Atomic Refinement of the Atomic Structure of Calcium Aluminosilicate Glasses

Q. Zhou*[1]; M. Bauchy[1]

1. University of California, Los Angeles, Civil and Environmental Engineering, USA

(ICG-P099-2019) Force-Enhanced Refinement of the Atomic Structure of Silicate Glasses

Q. Zhou*[1]; T. Du[1]; M. Bauchy[1]

1. University of California, Los Angeles, Civil and Environmental Engineering, USA

(ICG-GSP-P100-2019) Elasticity and ordering probe the structure of solids at different length scales

S. Mahajan*[1]; J. Chattoraj[1]; M. Pica Ciamarra[1]

1. Nanyang Technological University, School of Physical and Mathematical Sciences, Singapore

(ICG-UGSP-P101-2019) On-chip mid-infrared supercontinuum generation based on chalcogenide waveguide

H. Shang*[1]

1. Nankai University, China

(ICG-UGSP-P102-2019) Bright Mid-infrared Supercontinuum Generation in Chalcogenide Photonic Chip

H. Shang*[1]; Z. Yang[2]; M. Zhang[2]; B. Zhang[2]; Y. Liu[1]; Z. Li[2]

1. Nankai University, China
2. Sun Yat-sen University, China

(ICG-GSP-P103-2019) Machine-learning-based Molecular Dynamics Simulations of Silica: Soft vs. Hard Forcefields

H. Liu*[1]; Z. Fu[2]; M. Bauchy[1]

1. University of California, Los Angeles, Civil and Environmental Engineering, USA
2. UCLA, CS, USA

(ICG-GSP-P104-2019) Application and Simulation of TeO_2–V_2O_5–CuO glass solder for joining of ceramic substrate

Y. Chen*[1]

1. Shanghai University, China

(ICG-GSP-P105-2019) A comparative study of melt-formed and fracture surfaces of silicate glasses using large scale computer simulations

Z. Zhang*[1]; S. Ispas[1]; W. Kob[1]

1. Laboratoire Charles Coulomb (L2C), France

(ICG-P106-2019) Impact of Ion Exchange on Glass Acid Durability

R. Hancock*[1]; A. Li[1]

1. Corning Incorporated, Characterization Services, USA

(ICG-P107-2019) Study on the Properties of Self-trapping AZO Photoelectric Glass by RF Magnetron Sputtering at Room Temperature

Y. Tingting*[1]; S. Peng[1]; L. Ma[1]

1. (CNBM)Bengbu Design & Research Institute for Glass Industry Co., Ltd, China

(ICG-P108-2019) Advanced System for the Measurement of Glass Dissolution Rate

S. J. Sick*[1]; A. Li[1]; N. J. Smith[1]

1. Corning Incorporated, Research and Development, USA

(ICG-P109-2019) Patterned Glass Strengthening with Chemical Tempering via Bath Technology

G. Terzi[2]; B. Ogut[1]; E. D. Kaçar*[1]; T. Yildiz[4]; E. Gokcen[3]; M. C. Ersundu[2]; A. Ersundu[2]; I. Sokmen[4]

1. Sisecam Science Technology and Design Center, Surface Technologies Management, Turkey
2. Yildiz Technical University, Department of Metallurgical and Materials Engineering, Turkey
3. Trakya Glass Mersin Factory, Turkey
4. Sisecam Science Design and Technology Center, Turkey

(ICG-P110-2019) The Effect of Weathering on Chemical Strengthened Thin Glasses

Y. A. Gösterislioğlu[2]; B. Güldali[2]; G. Terzi[2]; E. D. Kaçar*[1]; L. Šimurka[1]; M. C. Ersundu[2]; A. Ersundu[2]; I. Sokmen[1]

1. Sisecam Science, Technology and Design Center, Surface Technologies Management, Turkey
2. Yildiz Technical University, Department of Metallurgical and Materials Engineering, Turkey

(ICG-P111-2019) The thickness and degree of dealkalization of surface layers of industrial glasses, thermochemically modified by fluorine- and chlorine-containing gaseous reagents

V. Sharagov*[1]

1. Alecu Russo Balti State University, Moldova (the Republic of)

(ICG-P112-2019) Blue upconversion emission in Tm^{3+}/Yb^{3+} co-doped $Pb_2P_2O_7$-Nb_2O_5-XF_2 (X = Mg, Ca, Sr, Ba) glass and glass-ceramics

D. Manzani*[1]; S. J. Ribeiro[2]

1. University of São Paulo, São Carlos Institute of Chemistry, Brazil
2. São Paulo State University - Institute of Chemistry, Brazil

(ICG-GSP-P113-2019) Calculation of Judd Ofelt parameters:Sm^{3+} ions doped in Zinc magnesium phosphate glasses

S. Hussain*[1]

1. COMSATS Institute of Information Technology, Physics, Pakistan

(ICG-P114-2019) The new red phosphors based on modified fluorozirconate glasses, doped with manganese ions

L. Moiseeva*[1]; M. Brekhovskikh[2]; S. Batygov[1]; I. Zhidkova[2]; S. Solodovnikov[3]

1. Prokhorov Institute of General Physics RAS, Russian Federation
2. Kurnakov Institute of General and Inorganic Chemistry RAS, Russian Federation
3. Nesmeyanov Institute of Elementoorganic Chemistry RAS, Russian Federation

(ICG-GSP-P115-2019) Near infrared emission from Nd^{3+}-Cr^{3+} codoped oxyfluoride glass ceramics containing $KZnF_3$ nanocrystals pumped by a solar simulator

X. Wang*[1]; K. Tian[1]; G. Brambilla[2]; P. Wang[1]

1. Harbin Engineering University, College of Science, China
2. University of Southampton, United Kingdom

(ICG-P116-2019) Determination of trace elements in glass by ICP-AES after co-precipitation technique using DDTC

N. Kanno*[1]; A. Takenaka[1]; R. Akiyama[1]

1. AGC Inc., Japan

(ICG-GSP-P117-2019) Transition Metal Dopant Effects on UV-Fluorescent Glass

C. Bellows*[1]

1. Alfred University, USA

(ICG-GSP-P118-2019) Scintillation, Luminescence and Optical Properties of Ce-Doped Borosilicate Glasses

L. Pan*[1]; J. K. Daguano[3]; N. M. Trindade[2]; E. Dutra Zanotto[4]; L. Jacobsohn[1]

1. Clemson University, Materials Science and Engineering, USA
2. Federal Institute of Education, Science and Technology of São Paulo, Department of Physics, Brazil
3. Federal University of ABC, Center for Engineering, Modeling and Applied Social Sciences, Brazil
4. Federal University of São Carlos, Department of Materials Engineering, Brazil

(ICG-GSP-P119-2019) Influence of B_2O_3 on structural heterogeneity of ternary SiO_2-Al_2O_3-B_2O_3 glasses doped with small amounts of Yb_2O_3

M. Fatobene Ando*[1]; K. Wondraczek[3]; S. Ebbinghaus[2]; L. Wondraczek[1]

1. Otto Schott Institute, Glass chemistry, Germany
2. Institute of Chemistry, Germany
3. Leibniz Institute of Photonic Technology, Germany

(ICG-P120-2019) Broad band excitation of Tm^{3+} ions doped in tellurite glasses

P. Kostka[1]; J. Zavadil[1]; I. Kabalci[3]; P. Gladkov[2]; R. Yatskiv*[2]

1. Laboratory of Inorganic Materials, joint workplace of the University of Chemistry and Technology Prague, and the Institute of Rock Structure and Mechanics of the Czech Academy of Sciences, Czechia
2. Institute of Photonics and Electronics, Czech Academy of Sciences, Czechia
3. Karabük University - Engineering Faculty, Department of Biomedical Engineering, Turkey

(ICG-P121-2019) The TeO_2-WO_3-$PbCl_2$ system – glass formation and properties

P. Kostka*[1]; J. Zavadil[1]; R. Yatskiv[2]; J. Machacek[1]

1. Laboratory of Inorganic Materials, joint workplace of the University of Chemistry and Technology Prague, and the Institute of Rock Structure and Mechanics of the Czech Academy of Sciences, Czechia
2. Institute of Photonics and Electronics, Czech Academy of Sciences, Czechia

(ICG-P123-2019) Investigation of luminescence and up-conversion properties of Ho^{3+}, Tm^{3+} and Yb^{3+}-doped tellurite glasses for solid-state lighting applications

N. VahediGharehchopogh*[1]; O. Kibrisli[1]; M. C. Ersundu[1]; A. Ersundu[1]

1. Yildiz Technical University, Metallurgical and Materials Engineering, Turkey

(ICG-P124-2019) Composition dependence of chemical strengthening property for aluminosilicate glasses

A. Nakamura*[1]

1. Nippon Sheet Glass Co., Ltd., Japan

(ICG-GSP-P125-2019) Structure and Properties of Porous Silica Glass in Response to Compression

Y. Shih*[1]; L. Huang[1]

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

(ICG-GSP-P126-2019) Deformation and fracture behavior of Na_2O-Al_2O_3-B_2O_3-SiO_2 glasses

K. Januchta*[1]; T. To[2]; T. Rouxel[2]; M. M. Smedskjaer[1]

1. Aalborg University, Department of Chemistry and Bioscience, Denmark
2. Université de Rennes 1, Glass and Mechanics Department, France

(ICG-GSP-P127-2019) Understanding the crack resistance of boron-containing glass under indentation using molecular dynamics simulation

H. Liu*[1]; S. Sundararaman[1]; L. Huang[1]

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

(ICG-P128-2019) Scratch hardness of rare-earth substituted calcium aluminosilicate glasses

S. Sawamura*[1]; J. She[2]; L. Wondraczek[3]

1. AGC, Inc., Japan
2. Xi'an Institute of Optics and Precision Mechanics of Chinese Academy of Sciences, China
3. Friedrich-Schiller-University Jena, Otto-Schott Institute of Materials Research, Germany

(ICG-GSP-P129-2019) Nano-indentation studies on curved glass fiber surfaces using different tip shapes

R. Sajzew*[1]; R. Limbach[1]; L. Wondraczek[1]

1. University of Jena, Otto Schott Institute of Materials Research, Germany

(ICG-GSP-P130-2019) Strain rate sensitivity of germanium-selenium glasses

G. Trenvouez*[1]; C. Bernard[2]; M. Nivard[1]; V. Keryvin[2]; J. Guin[1]

1. Institut de Physique de Rennes, France
2. Institut de Recherche Dupuy De Lôme, France

(ICG-P131-2019) Mechanical Properties of Barium Disilicate Glass-Ceramics

S. R. Sabino[1]; E. D. Zanotto[2]; F. C. Serbena*[1]

1. State University of Ponta Grossa, Brazil
2. Federal University of Sao Carlos, Brazil

(ICG-P132-2019) Internal friction in silica films via picosecond acoustics

M. Foret*[1]; A. Huynh[2]; E. Péronne[2]; B. Perrin[2]; A. Lemaître[3]; X. Lafosse[3]; R. Vacher[1]; B. Ruffle[1]

1. University of Montpellier, France
2. Sorbonne Universités, UPMC, Institut des Nanosciences de Paris, France
3. Centre de Nanosciences et de Nanotechnologies, Université Paris-Sud et Paris-Saclay, France

(ICG-GSP-P133-2019) The ternary alkali effect on characteristic temperatures in the aluminophosphate glass system

C. Chan*[1]; F. Wu[1]

1. National United University, Materials Science and Engineering, Taiwan

(ICG-P134-2019) Electric field-induced change of structure and thermal conductivity in spin thermal conductivity film

N. Terakado*[1]; Y. Machida[1]; Y. Nara[1]; Y. Takahashi[1]; T. Fujiwara[1]

1. Tohoku University, Japan

(ICG-GSP-P135-2019) Orientation of spin thermal conductive film of Sr-Cu-O system for active heat control

S. Watanabe*[1]; N. Terakado[1]; Y. Takahashi[1]; T. Fujiwara[1]

1. Tohoku University, Japan

(ICG-P136-2019) Compositional dependence of viscoelastic behavior in ternary aluminophospahte glasses around deformation temperature

N. Kitamura*[1]; T. Hayashido[2]; N. Matsushita[2]; K. Fukumi[1]; H. Uchiyama[2]; H. Kozuka[2]

1. National Institute of Advanced Industrial Science and Technology, Japan
2. Kansai University, Japan

(ICG-P155-2019) Comparative Study on Structural and Electrical Properties of TeO_2 and Sb_2O_3-Based Glasses

O. Basak[1]; N. Gedikoglu[1]; O. Kibrisli[1]; M. C. Ersundu[1]; A. Ersundu*[1]

1. Yildiz Technical University, Metallurgical and Materials Engineering, Turkey

(ICG-P137-2019) A method of activation of a quartz-containing raw material component of a glass batch with sodium hydroxide

R. Lavrov*[1]

1. The Southwest State University (SWSU), Chemical Technology, Russian Federation

(ICG-P138-2019) Raw material non-destructive quality control in a chain of synthetic crystal quartz-concentrate-silica glass

K. Vlasova*[1]; A. Konovalov[2]; A. Makarov[1]; N. Andreev[1]

1. Institute of Applied Physics of the Russian Academy of Sciences, Russian Federation
2. Quartz Technology LLC, Russian Federation

(ICG-P139-2019) Analysis of valence states of sulfur by XRF with single-crystal spectrometer

H. Kusano*[1]; S. Komatsudani[1]; N. Yoshida[1]

1. Nippon Electric Glass Co.,Ltd., Evaluation Division, Japan

(ICG-P140-2019) Fabrication and properties of MgO-Al_2O_3-SiO_2 glass-ceramics by solid-state reaction at low temperature

Y. Sun*[1]; S. Peng[1]; T. Wang[1]; Z. Zhang[1]; Y. Yang[1]; X. Cao[1]

1. Bengbu Design & Research Institutes for Glass Industry, State Key Laboratory of Advanced Technology for Float Glass, China

(ICG-P141-2019) The melting process and properties of alkali-free B_2O_3-Al_2O_3-SiO_2 glasses

L. Shi*[1]; X. Cao[1]; Z. Zhong[1]; Q. Gao[1]; N. Han[1]; J. Cui[1]; P. Wang[1]; L. Ma[1]; S. Peng[1]

1. State Key Laboratory of Advanced Technology for Float Glass, China

(ICG-P142-2019) Clarification analysis and research of cover glass

F. Zhao[1]; C. Shuan[1]; Z. Ke*[1]; X. Cao[1]; L. Shi[1]; J. Cui[1]

1. State Key Laboratory of Advanced Technology for Float Glass, China

(ICG-P143-2019) The Correlation between Transmittance and Amount of Injected Oxidizing Gas in the Colored Glass

K. Nakatsuka*[1]

1. Nippon Electric Glass Co., Ltd., Japan

(ICG-P144-2019) The Technology of Highly Transparent Glass

D. Bondaletov*[2]; E. Bondaletova[1]; A. Klimashin[2]; V. Fedorova[2]

1. Moscow Bauman State Technical University, Fundamental Sciences, Russian Federation
2. OJSC Dzerzhinskiy Gusevskiy Glassworks, Russian Federation

(ICG-P145-2019) Application of Modern Nuclear Analytical Methods to Trace Elemental Analyses of Glass

J. L. Weaver*[1]; M. Vega Martinez[1]; N. Sharp[1]; R. Corzo[1]; R. Paul[1]; E. Steel[1]

1. National Institute of Standards and Technology, Material Measurement Laboratory, USA

(ICG-P146-2019) Study on Creep Life Prediction Method of Platinum Alloy Materials for Optical Glass Industry

N. Wang*[1]; S. Lu[1]

1. CDGM Glass CO., LTD., Technology Center, China

(ICG-P147-2019) Numerical Simulation and Analysis of Forced Bubbling Arrangements of Glass Furnace Melter

T. Tao*[1]; Z. Zuo[1]; S. Chen[1]; X. Zhu[1]; S. Peng[1]; L. Ma[1]

1. State Key Laboratory of Advanced Technology for Float Glass, China

(ICG-GSP-P148-2019) Topological Engineering of Photoluminescence Properties of Bismuth- or Erbium-Doped Phosphosilicate Glass of Arbitrary P_2O_5 to SiO_2 Ratio

C. Yushi*[2]; J. Ren[2]; Y. Luo[1]; J. Zhang[2]; G. Peng[1]

1. University of New South Wales, Australia
2. Harbin Engineering University, School of Science, China

(ICG-P149-2019) Mass Spectral Glass Inclusion Analysis Within Corning Incorporated

R. Salvagin*[1]; A. Morrell[1]; S. Merenbloom[1]; J. Tubbs[1]; R. Burkhalter[1]

1. Corning Incorporated, USA

(ICG-GSP-P150-2019) Hybrid sol-gel inks for stereolitography of aluminum phosphate hybrid composites

G. T. Tayama*[1]; S. H. Santagneli[1]; Y. Messaddeq[2]

1. UNESP, Instituto de Química, Brazil
2. Université Laval, Canada

Wednesday, June 12, 2019

Michael Cable Memorial Lecture

Room: Grand Ballroom A (mezzanine)
Session Chair: William Brookes, ICG

8:00 AM

Introduction

8:10 AM

(ICG-PL-006-2019) You ought to go away and think again!

R. Hulme*[1]

1. Guardian Industries Corp., USA

9:00 AM

Break

SI: Glass Structure and Chemistry

Session 7: Silicate Glass Structure I

Room: Berkley (mezzanine)

Session Chair: Randall Youngman, Corning Incorporated

9:30 AM

(ICG-SI-061-2019) Five-coordinated silicon in alkali silicate glasses: Pressure, temperature, and compositional effects, and analogies to borates and germanates (Invited)

J. Stebbins*[1]; S. Bista[1]

1. Stanford University, USA

10:00 AM

(ICG-SI-062-2019) Structural Origin of the Anomalous Density Maximum in Silica and Alkali Silicate Glasses

Y. Shih*[1]; S. Sundararaman[1]; L. Huang[1]

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

10:20 AM

(ICG-SI-063-2019) Structural characterization of titanium bearing nepheline ($NaAlSiO_4$) glass

E. T. Nienhuis*[1]; J. McCloy[1]

1. Washington State University, USA

10:40 AM

(ICG-SI-064-2019) High frequency Raman spectra of silicate glasses (Invited)

G. Henderson*[1]; H. W. Nesbitt[2]; G. M. Bancroft[3]

1. University of Toronto, Earth Sciences, Canada
2. University of Western Ontario, Earth Sciences, Canada
3. University of Western Ontario, Chemistry, Canada

11:10 AM

(ICG-SI-065-2019) Vibrational signatures of the main structural units in silicate glasses: A first principles study

S. Ispas*[1]; D. Kilymis[2]; B. Hehlen[1]

1. University of Montpellier, Lab. Charles Coulomb, France
2. University of Toulouse Paul Sabatier, France

11:30 AM

(ICG-SI-066-2019) Oxide glasses SiO_2 – Al_2O_3 – La_2O_3: Structural investigation

N. Pellerin*[1]; B. Diallo[2]; D. De Sousa Meneses[1]

1. Orléans University, Sciences, France
2. CEMHTI CNRS, France

11:50 AM

(ICG-SI-067-2019) Temperature-dependent Ring Statistics of Silicate Glasses Revealed by In-situ Neutron Total Scattering

Y. Shi*[1]; O. Gulbiten[1]; D. Ma[2]; J. Neuefeind[2]; B. Wheaton[1]

1. Corning Incorporated, Charaterization Science, USA
2. Neutron Scattering Division, Spallation Neutron Source, USA

Session 8: Crystallization of Glasses and Glass-Ceramics IV (TC 07)

Room: Terrace (lower level)

Session Chairs: Mark Davis, SCHOTT North America, Inc.; Christian Roos, RWTH Aachen University

9:30 AM

(ICG-SI-068-2019) TiO_2(B) and the nucleation mechanism in Ti-doped lithium aluminosilicate glass-ceramics

A. Zandona*[1]; C. Patzig[3]; B. Rüdinger[2]; O. Hochrein[2]; J. Deubener[1]

1. Clausthal University of Technology, Institute of Non-Metallic Materials, Germany
2. Schott AG, Germany
3. Fraunhofer IMWS, Germany

9:50 AM

(ICG-SI-069-2019) Understanding the Role of Phosphorus in the Nucleation of Lithium Aluminosilicate Glasses via Raman Spectroscopy

G. G. Moore*[1]; C. M. Saunders[1]

1. Corning Incorporated, Characterization Sciences, USA

10:10 AM

(ICG-SI-070-2019) Evolution of glass structure surrounding a growing crystal characterized by spatially resolved X-ray absorption spectroscopy

S. McAnany*[1]; J. Thieme[2]; D. Nolan[3]; B. Aitken[3]; V. Dierolf[4]; H. Jain[1]

1. Lehigh University, Materials Science & Engineering, USA
2. Brookhaven National Laboratory, National Synchrotron Light Source II, USA
3. Corning Incorporated, USA
4. Lehigh University, Department of Physics, USA

10:30 AM

(ICG-SI-071-2019) Characterization of rotating-lattice-single crystal growth on the surface of Sb_2S_3 chalcogenide glass via in situ observation

C. Au-Yeung*[1]; C. Stan[2]; B. Shaw[1]; H. Jain[1]; V. Dierolf[1]

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

10:50 AM

(ICG-SI-072-2019) Determination of the Crystal Growth Kinetic in Glass Ceramics by Measuring the Young's Modulus at Elevated Temperatures

M. Sander*[1]; J. Grundkowski[1]; C. Roos[1]

1. RWTH Aachen University, Institute of Mineral Engineering, Germany

11:10 AM

(ICG-SI-073-2019) Tracking Ceramic Evolution of a Commercial Dental Material with Solid-state NMR Spectroscopy

A. Bhattacharya[1]; Y. Qiu[1]; S. Butler[2]; V. K. Michaelis*[1]

1. University of Alberta, Chemistry, Canada
2. University of Western Ontario, Schulich School of Medicine and Dentistry, Canada

11:30 AM

(ICG-SI-074-2019) Sintering, Characterization, and Physical properties Evaluation of Ceramics produced from Soda-lime-silica glass and White corn cob ash

B. Oji*[1]

1. Federal Polytechnic Ado-Ekiti, Glass and Ceramics Technology, Nigeria

SII: Glass Physics

Session 1: Glass Transition and Relaxation I

Room: Hancock (mezzanine)

Session Chairs: Gerardo Naumis, Instituto de Física; Matthieu Micoulaut, Sorbonne Université

9:30 AM

(ICG-SII-098-2019) Ab initio molecular dynamics simulation on the molten salt FLiBe (Invited)

W. Ching*[1]; K. Baral[1]

1. University of Missouri-Kansas City, USA

10:00 AM

(ICG-SII-099-2019) Atomic dynamics in oxide glasses studied with coherent X-rays (Invited)

B. Ruffle*[1]

1. Montpellier University, Physics Department, France

10:30 AM

(ICG-SII-100-2019) Understanding, predicting, and tuning the fragility of vitrimers

S. Ciarella[1]; L. M. Janssen*[1]

1. Eindhoven University of Technology, Applied Physics, Netherlands

10:50 AM

(ICG-SII-101-2019) Extraction of TNM Model Parameters from DSC Data via Multiparametric Optimization in the $As_xSe_{(1-x)}$ Family of Glasses

E. A. King*[1]; R. Erdmann[2]; P. Lucas[2]

1. Corning Incorporated, Glass Research, USA
2. University of Arizona, Materials Science and Engineering, USA

11:10 AM

(ICG-SII-102-2019) Relaxation and Nanocrystal Formation in Vanadium Tellurite Glasses (Invited)

Y. Yue*[1]; Y. Zhang[2]

1. Aalborg University, Denmark
2. Qilu University of Technology, China

11:40 AM

(ICG-SII-103-2019) Investigations on the glass transition of oxide glasses by high-temperature oscillatory rheometry

C. Giehl*[1]; M. Kleindienst[1]

1. Anton Paar GmbH, Rheometry, Austria

12:00 PM

(ICG-SII-104-2019) Science, and Art of Glass Properties Measurements: Devoted to Lifetime Contribution of Prof. Oleg V. Mazurin

O. Prokhorenko*[1]

1. L.G.P. International, USA

Session 6: Display and Optical

Room: Clarendon (mezzanine)

Session Chairs: Nick Smith, Corning; Nik Podraza, University of Toledo

9:30 AM

(ICG-SII-105-2019) Surfaces of Alkali-free Glass Substrates for Displays (Invited)

N. J. Smith*[1]; G. Agnello[1]; R. Manley[1]; J. Banerjee[1]; C. V. Cushman[2]; M. R. Linford[2]

1. Corning Incorporated, USA
2. Brigham Young University, USA

10:00 AM

(ICG-SII-106-2019) Assessing Device Performance and Probing Material Properties by Spectroscopic Ellipsometry (Invited)

N. Podraza*[1]; M. Junda[1]; K. Ghimire[1]; I. Subedi[1]; D. Adhikari[1]; P. Uprety[1]; B. Subedi[1]

1. University of Toledo, USA

10:30 AM

(ICG-SII-107-2019) Electrostatic Charging (ESC) of Glass Surfaces: Chemical and Topographical Considerations

G. Agnello*[1]; R. Manley[1]; N. J. Smith[1]; W. Wanda[1]; A. Cormack[2]; L. Wang[2]

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

10:50 AM

(ICG-SII-108-2019) Influence of glass composition on chemical thinning characteristics of alkali-free aluminosilicate glass

H. Tokunaga*[1]; K. Hayashi[1]

1. AGC Inc., New Product R&D Center, Japan

11:10 AM

(ICG-SII-109-2019) Optical property and surface texture of anti-glare technology

S. Tomeno*[1]; T. Kakegawa[1]; Y. Akama[1]; M. Isshiki[1]

1. AGC.Inc, Japan

11:30 AM

(ICG-SII-110-2019) Hydrophobic Glasses Enhanced Through Patterned Surface Microstructure

M. Rusch*[1]; C. Hunzeker[1]; C. Wilkinson[2]; M. Affatigato[1]

1. Coe College, Physics, USA
2. Pennsylvania State University, Materials Science and Engineering, USA

11:50 AM

(ICG-SII-111-2019) Direct bonding between tellurite glass ultrathin film and substrates at room temperature

T. Kishi*[1]; R. Jeng[1]; N. Matsushita[1]; T. Yano[1]

1. Tokyo Institute of Technology, Japan

12:10 PM

(ICG-SII-112-2019) Thermal dewetting of chalcogenide glasses as a tool for microlenses arrays fabrication

Y. N. Colmenares*[1]; S. Messaddeq[1]; Y. Messaddeq[1]

1. Laval Univeristy, Physics, Canada

Session 8: Optical Properties of Glass V

Room: Statler (mezzanine)

Session Chairs: Luyun Yang, Huazhong University of Science and Technology; Haitao Guo, Xi'an Institute of Optics and precision Mechanics, Chinese Academy of Science (CAS)

9:30 AM

(ICG-SII-113-2019) Phase Separation and Crystallization Strategies to Construct Multiphase Glass-ceramics to Stabilize Molecular $[Ag_m]^{n+}$ Quantum Clusters (Invited)

X. Qiao*[1]; X. Xu[1]; K. Ren[1]; X. Chen[1]; J. Zhao[1]; J. Du[2]; X. Fan[1]

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

10:00 AM

(ICG-SII-114-2019) Eu^{2+}-Nd^{3+} co-doped calcium sodium silicate glasses for solar spectrum modification via NUV/Visible to NIR downcoversion

R. F. Muniz*[1]; A. Steimacher[2]; F. Pedrochi[2]; A. N. Medina[1]

1. State University of Maringa, Physics, Brazil
2. Universidade Federal do Maranhão, Programa de Mestrado em Ciência dos Materiais, Brazil

10:20 AM

(ICG-SII-115-2019) Thermally stable fluorotellurite glass with various types of modifiers

M. J. Reben*[1]; B. Burtan- Gwizdala[2]; E. Yousef[3]; J. Cisowski[4]; I. Grelowska[1]

1. Faculty of Materials Science and Ceramics, AGH – University of Science and Technology, Glass Technology and Amorphous Coatings, Poland
2. Cracow University of Technology, Institute of Physics, Poland
3. King Khalid University, Department of Physics, Saudi Arabia
4. Cracow University of Technology, Institute of Physics, Poland

10:40 AM

(ICG-SII-116-2019) Structure and linear/nonlinear optical properties of silver tellurite glasses

T. Hayakawa*[1]; K. Kato[1]; K. Muramatsu[2]; K. Hayashi[2]; J. Duclere[3]; P. Thomas[3]

1. Nagoya Institute of Technology, Department of Life Science and Applied Chemistry, Japan
2. Nagoya Institute of Technology, Department of Physical Science and Engineering, Japan
3. Limoges University, CNRS-IRCER Lab, France

11:00 AM

(ICG-SII-117-2019) Femtosecond laser induced damage on Ge-As-S chalcogenide glasses

M. Zhang*[1]; Z. Yang[2]

1. Sun Yat-sen University, China
2. Jiangsu Normal University, China

11:20 AM

(ICG-SII-118-2019) Fabrication Up-conversion $CaSiO_3$ System Bioglasses

J. Yuye*[1]

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

11:40 AM

(ICG-SII-119-2019) Mechanism for broadening and enhancing Nd^{3+} emission in zinc aluminophosphate glass by addition of Bi_2O_3

Y. Wang*[1]; M. Peng[1]

1. South China University of Technology, China

Session 9: Tribology (TC 06)

Room: Arlington (mezzanine)

Session Chair: Lothar Wondraczek, University of Jena

9:30 AM

(ICG-SII-120-2019) Mechanochemistry governs mechanical and tribological properties of silicate glass in humid air (Invited)

S. H. Kim*[1]

1. Pennsylvania State University, Chemical Engineering, USA

10:00 AM

(ICG-SII-121-2019) The role of plastic flow, densification and mechanochemical wear in the glass nanoscratch deformation (Invited)

J. Yu*[1]; J. Fu[1]; H. He[1]

1. Southwest University of Science and Technology, China

10:30 AM

(ICG-SII-122-2019) Speed dependence of wear of soda lime silica glass

H. He*[1]; S. H. Kim[2]

1. Southwest University of Science and Technology, China
2. Pennsylvania State University, USA

10:50 AM

(ICG-SII-123-2019) Connection between indentation fracture and grinding behavior in various optical materials

T. I. Suratwala*[1]; W. A. Steele[1]; L. L. Wong[1]; P. E. Miller[1]; N. Shen[1]; M. D. Feit[1]; J. A. Menapace[1]; E. Feigenbaum[1]; G. Tham[1]

1. Lawrence Livermore National Laboratory, Optics and Materials Science & Technology, USA

11:10 AM

(ICG-SII-124-2019) Effect of colour pigments on wear behaviour of a mica-based glass-ceramic

D. Chaysuwan*[1]; S. Prasertwong[1]; S. Angkulpipat[1]; T. Srichumpong[1]; R. Sola[3]; C. Thanachayanont[2]; K. Suputtamongkol[4]; P. Veronesi[3]; G. Heness[1]; C. Leonelli[3]

1. Faculty of Engineering, Kasetsart University, Department of Materials Engineering, Thailand
2. National Metal and Materials Technology Center, Thailand Science Park, Thailand
3. Faculty of Engineering, University of Modena and Reggio Emilia, Department of Engineering "Enzo Ferrari", Italy
4. Faculty of Dentistry, Mahidol University, Department of Prosthodontics, Thailand

Session 9: Strength (TC 06)

Room: Arlington (mezzanine)

Session Chair: Liping Huang, Rensselaer Polytechnic Institute

11:30 AM

(ICG-SII-125-2019) Effect of surface modification with chlorine on the tensile strength of optical fiber glass

A. Srivastava*[1]; H. Harode[1]; C. K. Saha[1]

1. Sterlite Tech, R&D, India

11:50 AM

(ICG-SII-126-2019) Microwave Heat-treated Crystallization and Microstructural Aspects of ZrO_2 Containing K–Mg-Al–Si–O–F Glass-ceramics

M. Garai*[1]

1. Indian Institute of Technology, Materials Science Centre, India

SIII: Glass Technology and Manufacturing

Session 3: Refractory/Glass Interactions

Room: Stuart (4th floor)

Session Chairs: Hong Li, Nippon Electric Glass; Irene Peterson, Corning Incorporated; Kathryn Goetschius, Guardian Glass

9:30 AM

(ICG-SIII-016-2019) Application of diffusion model to the glass melt and refractories interaction at high temperature (Invited)

E. Burov*[1]; M. Ficheux[1]; L. Cormier[2]; E. Gouillart[1]

1. Joint Unit Saint-Gobain/CNRS, Surface, Glass and Interface, France
2. Sorbonne University, IMPMC, France

10:00 AM

(ICG-SIII-017-2019) Fusion Cast Refractories: Roles of Containment - Cover Glass to Waste Glass (Invited)

K. R. Selkregg*[1]

1. Monofrax LLC, Technical, USA

10:30 AM

(ICG-SIII-018-2019) Knots and cords originating from the AZS refractory corrosion (Invited)

P. Simurka*[1]; P. Vrabel[2]; V. Vargova[2]

1. Slovak Glass Society, Slovakia
2. Rona a.s., Slovakia

11:00 AM

(ICG-SIII-019-2019) A practical approach to study and prevent refractory corrosion in glass melting furnaces (Invited)

S. Lessmann[1]; A. Faber[1]; O. Verheijen*[1]

1. CelSian Glass and Solar, Netherlands

11:30 AM

(ICG-SIII-020-2019) New Zircon Silicate Refractory Solutions for high quality Glass

M. Gaubil*[1]

1. SEFPRO, Marketing, France

11:50 AM

(ICG-SIII-021-2019) Scale dependence on microstructure observations and properties

J. Fourcade*[1]; D. Cetin[2]; T. Hara[3]; D. Bolore[2]; J. Chalard[5]; D. Lechevalier[4]

1. Saint-Gobain, USA
2. Saint-Gobain Research North America, SEFPRO, USA
3. National Institute for Materials Science (NIMS), Research Center for Structural Materials, Japan
4. Saint-Gobain Japan, NIMS - LINK/UMI3629, Japan
5. Saint-Gobain Research Provence, France

12:10 PM

(ICG-SIII-022-2019) Residual quartz importance in crown silica bricks

S. Cappuzzo[1]; S. Ceola*[1]; S. Sanchetti[1]

1. Stazione Sperimentale del Vetro, Italy

Session 6: Glass Recycling and Sustainability

Room: White Hill (4th floor)

Session Chairs: Stefano Ceola, Stazione Sperimentale del Vetro; Sezhian Annamalai, PPG Industries

9:30 AM

(ICG-SIII-023-2019) Sustainability in Glass Manufacturing-Understanding the Role of Glass Recycling (Invited)

S. Bhaduri*[1]

1. Owens Illinois, Inc., USA

10:00 AM

(ICG-SIII-024-2019) Glass recycling in float lines (Invited)

J. G. Cid-Aguilar*[1]

1. Vitro Architectural Glass, R&D/Glass Composition, Mexico

10:30 AM

(ICG-SIII-025-2019) What about mixed cullet? (Invited)

E. Alejandro*[1]

1. Vidrala, Glass Technology, Spain

11:00 AM

(ICG-SIII-026-2019) Cast building components out of waste glass

T. Bristogianni*[1]; F. Oikonomopoulou[2]; F. A. Veer[2]; R. Nijsse[1]

1. TU Delft, Materials, Mechanics, Management & Design (3Md), Netherlands
2. TU Delft, Architectural Engineering +Technology, Netherlands

11:20 AM

(ICG-SIII-027-2019) In-Situ purification of waste glass during the re-melting process

T. Gerdes*[1]; K. Ischenbek[1]

1. University of Bayreuth, Keylab Glass Technology, Department CME, Germany

SIV: Emerging Applications of Glass

Session 8: Anion Solubility in Nuclear Waste Glasses

Room: Whittier (4th floor)

Session Chairs: Kai Xu, Wuhan University of Technology; Albert Kruger, US Department of Energy

9:30 AM

(ICG-SIV-081-2019) Partitioning of rare-earth cations in multiphase glass-ceramics (Invited)

J. McCloy*[1]

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

10:00 AM

(ICG-SIV-082-2019) An insight into the origins of higher molybdenum solubility in alkali aluminoborosilicate glasses as a function of rare-earth oxides

H. Kamat*[1]; A. Tyryshkin[2]; F. Munoz[3]; B. P. Gorman[4]; A. Goel[1]

1. Rutgers - The State University of New Jersey, Department of Materials Science and Engineering, USA
2. Rutgers - The State University of New Jersey, Department of Marine and Coastal Sciences, USA
3. Institute of Ceramics and Glass, CSIC, Spain
4. Colorado School of Mines, Department of Metallurgical and Materials Engineering, USA

10:20 AM

(ICG-SIV-083-2019) Properties of MoO_3-rich iron phosphate waste forms

C. Kim*[1]; R. Brow[2]; J. Hsu[2]; J. Bai[2]; J. Szabo[1]; A. Zervos[1]

1. MO-SCI Corporation, USA
2. Missouri University of Science and Technology, Department of Materials Science and Engineering, USA

10:40 AM

(ICG-SIV-084-2019) Sulfur Solubility in Low Activity Waste Glass and its Correlation to Melter Tolerance

C. H. Skidmore*[3]; J. Vienna[3]; T. Jin[3]; D. Kim[3]; B. Stanfill[3]; K. M. Fox[1]; A. A. Kruger[2]

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

11:00 AM

(ICG-SIV-085-2019) Compositional dependence of sulfur solubility in alkali aluminoborosilicate glasses

X. Xu*[1]; A. Goel[1]

1. Rutgers University, MSE, USA

11:20 AM

(ICG-SIV-086-2019) Impact of Glass Structure on Sulfur Solubility in Borosilicate Glasses

R. Saini*[1]; H. Eckert[2]; A. Goel[1]

1. Rutgers University, Materials Science and Engineering, USA
2. University of São Paulo, São Carlos Institute of Physics, Brazil

11:40 AM

(ICG-SIV-087-2019) Effects of V_2O_5 Additions on Anionic Solubilities in Borosilicate Radioactive Waste Glasses

S. Vaishnav*[1]; K. R. Muhammed[1]; P. A. Bingham[1]

1. Sheffield Hallam University, Materials & Engineering Research Institute, United Kingdom

12:00 PM

(ICG-SIV-088-2019) Influence of vanadium oxide doping on the structure, properties and dissolution behaviors of ISG nuclear waste glasses

X. Lu*[1]; S. Gin[2]; J. V. Ryan[3]; J. Vienna[3]; J. Du[1]

1. University of North Texas, Material Science and Engineering, USA
2. CEA, France
3. Pacific Northwest National Lab, USA

Session 9: Quantum Dots in Glasses

Room: Tremont (4th floor)

Session Chairs: Jong Heo, Pohang University of Science and Technology(POSTECH); Woon Jin Chung, Kongju National University

9:30 AM

(ICG-SIV-089-2019) Inorganic Perovskite Nanocrystals Embedded Glasses and Their Applications (Invited)

C. Liu*[1]; Y. Ye[1]; X. Zhao[1]; J. Han[1]

1. Wuhan University of Technology, State Key Laboratory of Silicate Materials for Architectures (SMART), China

10:00 AM

(ICG-SIV-090-2019) Dual band emission of Cd-S-Se quantum dot embedded glasses as a color converter for white LED with a wide color gamut

K. Han*[2]; J. Heo[1]; W. Chung[2]

1. Pohang Univ. of Sci. and Tech., Dept. of Materials Sci. and Eng., Republic of Korea
2. Kongju National Univ., Div. of Advanced Materials Eng., Republic of Korea

10:20 AM

(ICG-SIV-091-2019) Temperature-dependent photoluminescence and energy transfer of PbS quantum dot-doped glasses

X. Huang[1]; Q. Pan[1]; J. Qiu[2]; G. Dong*[1]

1. South China University of Technology, State Key Laboratory of Luminescent Materials and Devices, and Guangdong Provincial Key Laboratory of Fiber Laser Materials and Applied Techniques, China
2. Zhejiang University, State Key Laboratory of Modern Optical Instrumentation, College of Optical Science and Engineering, China

10:40 AM

(ICG-SIV-092-2019) External Field-induced Crystallization of Quantum Dots in Glass

X. Huang*[1]; Q. Pan[1]; J. Qiu[2]; G. Dong[1]

1. South China University of Technology, China
2. Zhejiang University, China

11:00 AM

(ICG-SIV-093-2019) Composition and Morphology of $CdSe/Cd_{1-x}Zn_xSe$ Graded Shell QDs in Silicate Glasses Fabricated by Continuous Wave Laser Irradiation

H. Lee*[1]; W. Park[1]; J. Heo[1]

1. Pohang University of Science and Technology(POSTECH), Material Science & Engineering, Republic of Korea

11:20 AM

(ICG-SIV-094-2019) Tunable luminescent properties of lead selenide quantum dots embedded in glasses

J. Wang*[1]; J. Han[1]; X. Zhou[1]

1. Wuhan University of Technology, State Key Lab of Silicate Materials for Architectures, China

11:40 AM

(ICG-SIV-095-2019) Nanostructured zirconia in borosilicate glass: Phase formation and photoluminescent property

Y. Nobuta[1]; Y. Takahashi*[1]; N. Terakado[1]; N. Onoue[2]; T. Shinozaki[2]; T. Fujiwara[1]

1. Tohoku University, Department of Applied Physics, Japan
2. Sendai Medical Center, Japan

12:00 PM

(ICG-SIV-096-2019) Depth profiling of nickel nanocrystal populations in borosilicate glasses

L. Briese*[1]; S. Selle[2]; C. Patzig[2]; J. Deubener[1]; T. Höche[2]

1. Intstitue for Non-Metallic Materials, Clausthal University of Technology, Department of Glass and Glass Technology, Germany
2. Center for Applied Microstructure Diagnostics CAM, Fraunhofer Institute IMWS, Nanomaterials and Nanoanalytics, Germany

Session 10: Advances in Photonic Glasses (TC 20)

Room: Beacon Hill (4th floor)

Session Chairs: Shibin Jiang, AdValue Photonics Inc; Giancarlo Righini, Enrico Fermi Center

9:30 AM

(ICG-SIV-097-2019) Fabrication of low loss chalcogenide microstructured optical fibers for Mid-IR QCL pigtailing (Invited)

J. Troles*[3]; M. Meneghetti[3]; C. Caillaud[1]; L. Brilland[1]; S. Venck[1]; J. Adam[3]; M. Duris[2]; D. Deubel[2]; L. Bodiou[3]; J. Charrier[3]; M. Carras[4]; M. Brun[4]

1. SelenOptics, France
2. Kerdry, France
3. Univ Rennes, France
4. Mirsense, France

10:00 AM

(ICG-SIV-098-2019) Mid-infrared supercontinuum generation from 2 to 14 μm in various arsenic- and antimony-free chalcogenide glass fibers (Invited)

F. Smektala*[1]; A. Lemière[1]; A. Maldonado[1]; F. Désévédavy[1]; B. Kibler[1]; J. Jules[1]; P. Mathey[1]; G. Gadret[1]; P. Béjot[1]; F. Billard[1]; O. Faucher[1]

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

10:30 AM

(ICG-SIV-099-2019) Gradient Refractive INdex (GRIN) of Chalcogenide Glasses for Infrared Application

E. Lavanant*[1]; L. Calvez[1]; M. Roze[2]; T. Hingant[2]; R. Proux[2]; Y. Guimond[2]; X. Zhang[1]

1. University of Rennes 1, Institut des Sciences Chimiques de Rennes, France
2. Umicore IR Glass, France

10:50 AM

(ICG-SIV-100-2019) Highly scattering fibers used as sensors

W. Blanc*[1]; D. Tosi[2]; C. Molardi[2]; M. Bellec[1]; F. Mady[1]; M. Benabdesselam[1]; M. Ferrari[3]

1. CNRS, INPHYNI, France
2. Nazarbayev University, Department of Electrical and Computer Engineering, Kazakhstan
3. CNR, IFN, Italy

11:10 AM

(ICG-SIV-101-2019) Doubly-resonant side-emitting borosilicate glass fibers from modified rod-in-tube preforms

J. Schröder*[1]; L. Wondraczek[1]

1. Friedrich-Schiller-University Jena, Germany

11:30 AM

(ICG-SIV-102-2019) New sodo-niobate amorphous thin films: Microscale patterning of strong second order optical response by a thermo-electrical imprinting process

L. D. Karam*[1]; F. Adamietz[1]; D. Michau[2]; V. Rodriguez[1]; T. Cardinal[2]; E. Fargin[2]; K. Richardson[3]; M. Dussauze[1]

1. Institut des Sciences Moléculaires, France
2. Institut de Chimie de la Matière Condensée de Bordeaux, France
3. University of Central Florida, USA

11:50 AM

(ICG-SIV-103-2019) Broadband Transparent Optical Phase Change Materials for Nonvolatile Photonics Applications

Y. Zhang*[1]; J. B. Chou[2]; J. Li[3]; H. Li[4]; Q. Du[1]; A. Yadav[5]; S. Zhou[6]; M. Shalaginov[1]; Z. Fang[1]; C. Roberts[2]; P. Robinson[2]; S. Deckoff-Jones[1]; C. Ríos[1]; H. Lin[7]; M. Kang[5]; T. Gu[1]; J. Warner[6]; V. Liberman[2]; K. Richardson[5]; J. Hu[1]

1. Massachusetts Institute of Technology, Materials Science and Engineering, USA
2. Massachusetts Institute of Technology, Lincoln Laboratory, USA
3. University of Shanghai for Science and Technology, Shanghai Key Laboratory of Modern Optical Systems, College of Optical-Electrical and Computer Engineering, China
4. Sun Yat-sen University, Sino-French Institute for Nuclear Energy and Technology, China
5. University of Central Florida, The College of Optics & Photonics, Department of Materials Science and Engineering, USA
6. University of Oxford, Department of Materials, United Kingdom
7. Zhejiang University, College of Information Science & Electronic Engineering, China

12:10 PM

(ICG-SIV-104-2019) Large-area all-dielectric metasurfaces via templated fluid instabilities

L. Martin-Monier*[1]; T. Das Gupta[1]; F. Sorin[1]

1. Ecole Polytechnique Federale de Lausanne, Institute of Materials, Switzerland

12:30 PM

(ICG-SIV-105-2019) Solution processed nanostructured materials for photonics and energy applications (Invited)

A. Martucci*[1]

1. University of Padova, Industrial Engineering, Italy

Session 12: Multi-material Fibers I

Room: Cambridge (4th floor)

Session Chairs: Fabien Sorin, EPFL; Sylvain Danto, University of Bordeaux; Alexander Stolyarov, MIT Lincoln Laboratory

9:30 AM

(ICG-SIV-106-2019) From Moore's Law for Fibers to Fabrics as a Service (Invited)

Y. Fink*[1]

1. Massachusetts Institute of Technology, USA

10:00 AM

(ICG-SIV-107-2019) Thermal drawing of bulk metallic glasses: Fundamentals and applications

I. Richard*[1]; W. Yan[1]; D. Nguyên[1]; T. Das Gupta[1]; Y. Qu[1]; F. Sorin[1]

1. EPFL, Switzerland

10:20 AM

(ICG-SIV-108-2019) Towards in-Fiber Diode Device via Thermal Drawing

S. Chen*[1]; F. Tan[1]; J. Kaufman[1]; A. Shiri[1]; H. Ebendorff-Heidepriem[2]; R. M. Gaume[1]; A. Abouraddy[1]

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

10:40 AM

(ICG-SIV-109-2019) Intermediate-T_g Glasses For Multimaterial Fibers

S. Danto*[4]; D. Boiruchon[4]; C. Strutynski[4]; F. Désévédavy[2]; A. Abou Khalil[1]; M. Dussauze[5]; F. Smektala[2]; Y. Petit[4]; L. Canioni[1]; Y. Messaddeq[3]; T. Cardinal[4]

1. CELIA - CNRS University of Bordeaux, France
2. University of Bourgogne, France
3. University of Laval, Canada
4. ICMCB - CNRS University of Bordeaux, France
5. ISM - CNRS University of Bordeaux, France

11:00 AM

Break

11:10 AM

(ICG-SIV-110-2019) Advances in semiconductor-core silica fibers (Invited)

U. Gibson*[1]

1. NTNU, Norway

11:40 AM

(ICG-SIV-111-2019) Single-Crystal Semiconductor Core Fibers for Wearable Electronics (Invited)

L. Wei*[1]

1. Nanyang Technological University, Singapore

12:10 PM

(ICG-SIV-112-2019) High performance optoelectronic fibers: From amorphous bulk to monocrystalline nanowires

W. Yan*[1]; Y. Fink[1]; F. Sorin[2]

1. Massachusetts Institute of Technology, USA
2. EPFL, Switzerland

SVII: Arun K. Varshneya Festschrift

Arun K. Varshneya Festschrift III

Room: Georgian (mezzanine)

Session Chair: Daniel Swiler, Owens Illinois

9:30 AM

(ICG-SVII-019-2019) Varshneya Glass Science Lecture: Mechanics, Chemistry, and Light: The photoelasticity of glass

J. Zwanziger*[1]

1. Dalhousie University, Chemistry, Canada

10:30 AM

(ICG-SVII-020-2019) From Alfred to Aalborg: Counting Constraints and Strengthening Glasses (Invited)

M. M. Smedskjaer*[1]; J. C. Mauro[2]

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

10:50 AM

(ICG-SVII-021-2019) Network Dilation Anomaly and Stress Relaxation in Ion-Exchanged Glasses: The Role of the Network Topology (Invited)

M. Bauchy*[1]

1. University of California, Los Angeles, Civil and Environmental Engineering Department, USA

11:10 AM

(ICG-SVII-022-2019) On the relation between microstructure and flexibility of organic-inorganic silica aerogels (Invited)

S. Urata*[1]; A. Kuo[1]; H. Murofushi[2]

1. AGC Inc., Innovative Technology Research Center, Japan
2. AGC Inc., New Product R&D Center, Japan

11:30 AM

(ICG-SVII-023-2019) In-situ Raman mapping of glass under a Vickers indenter (Invited)

S. Yoshida*[1]; T. Kobayashi[1]; A. Yamada[1]; J. Matsuoka[1]

1. The University of Shiga Prefecture, Japan

11:50 AM

(ICG-SVII-024-2019) Analyses of contact damage and fracture mechanism due to dynamic contact on glasses (Invited)

A. Koike*[1]

1. AGC Inc., New Product R&D Center, Japan

12:10 PM

(ICG-SVII-025-2019) Mechanical behaviour and the role of rigidity fluctuation and super-structural disorder (Invited)

L. Wondraczek*[1]

1. University of Jena, Germany

SIII: Glass Technology and Manufacturing

Session 2: Glass Furnace Operation and Design (TC 21)

Room: Clarendon (mezzanine)

Session Chairs: Aaron Huber, Johns Manville; Daniel Swiler, Owens Illinois

1:20 PM

(ICG-SIII-028-2019) Industrial Process and Product Innovation through Modeling and Simulation (Invited)

M. K. Choudhary*[1]

1. MKC Innovations, The Ohio State University, USA

1:45 PM

(ICG-SIII-029-2019) A new approach for modeling the radiative heat transfer in a foam layer

M. Nakamura*[1]; K. Aiuchi[1]

1. Nippon Electric Glass Co., Ltd., Japan

2:05 PM

(ICG-SIII-030-2019) Thermal Properties within a Reacting Batch Pile (Invited)

W. W. Johnson*[1]

1. Corning Incorporated, Modeling & Scientific Computing, USA

2:25 PM

(ICG-SIII-031-2019) Fundamental design aspects of electrical melters that determine fining quality and upscaling limits (Invited)

W. Kuhn*[2]; A. Reynolds[1]

1. Fives Stein Ltd., United Kingdom
2. Fives Stein Glass Division, France

2:45 PM

(ICG-SIII-032-2019) Glass Melting Furnace Design with lowered CO2 footprint using renewable resources (Invited)

E. H. Muijsenberg*[1]

1. Glass Service, Czechia

3:05 PM

(ICG-SIII-033-2019) Design of an All Electric Cullet Remelter

N. Chalasani*[1]

1. Johns Manville, Furance Design, USA

3:25 PM

Break

3:40 PM

(ICG-SIII-034-2019) Review of Glass Melter Design and Technology Used for Vitrification of Nuclear Waste

W. C. Eaton*[1]; J. Vienna[1]

1. Pacific Northwest National Lab, USA

4:00 PM

(ICG-SIII-035-2019) CT imaging of static and dynamic samples for waste-glass modeling

S. A. Luksic*[1]; P. Hrma[1]; W. C. Eaton[1]; T. Varga[2]

1. Pacific Northwest National Lab, EED, USA
2. Pacific Northwest National Lab, USA

4:20 PM

(ICG-SIII-036-2019) Deposition and Evaporation of Condensable Vapors in Thermochemical Regenerators: Self- Cleaning Mechanisms in the OPTIMELT™ system

P. Orawannukul*[1]; S. Kobayashi[1]; O. Verheijen[2]; M. V. Kersbergen[2]

1. Praxair Inc, R&D, USA
2. Celsian Glass & Solar BV, Netherlands

4:40 PM

(ICG-SIII-037-2019) What and Where Is the Problem with the Regenerator and What Should We Do Next?

M. Bennett*[1]; N. Simpson[2]

1. AMETEK Land, United Kingdom
2. Simpson Combustion & Energy Ltd, United Kingdom

5:00 PM

(ICG-SIII-038-2019) New concept to characterize the energy demand for glass production

B. A. Fleischmann*[1]

1. Huettentechnische Vereinigung der Deutschen Glasindustrie e.V. (HVG), Glass Technology, Germany

5:20 PM

(ICG-SIII-039-2019) Application of advanced sensors in the glass industry

A. Faber*[1]

1. CelSian Glass & Solar, Netherlands

5:40 PM

(ICG-SIII-040-2019) Fuel-fired Floating Glass melting tank stirring and mixing simulation

X. Zhang*[1]

1. ABB Corporate Research, Power device, Sweden

Thursday, June 13, 2019

SI: Glass Structure and Chemistry

Session 3: Metallic Glasses

Room: Terrace (lower level)

Session Chair: Jian Luo, Corning Incorporated

8:00 AM

(ICG-SI-075-2019) TBOD as a fundamental metric to assess the structure and bonding in bulk metallic glasses (Invited)

W. Ching*[1]

1. University of Missouri-Kansas City, USA

8:30 AM

(ICG-SI-076-2019) Nanoglass: A new class of nanostructured glassy materials (Invited)

S. Singh*[1]; H. Gleiter[1]; H. Hahn[1]

1. Karlsruhe Institute of Technology, Institute of Nanotechnology, Germany

9:00 AM

(ICG-SI-077-2019) Molecular modeling of stress corrosion behavior

S. Basu*[1]; M. LaBranche[2]; L. Huang[2]; Y. Shi[2]

1. Rensselaer Polytechnic Institute, Department of Mechanical, Aerospace and Nuclear Engineering, USA
2. Rensselaer Polytechnic Institute, Department of Materials Science and Engineering, USA

9:20 AM

(ICG-SI-078-2019) Microstructure Design for Ductile Glass Composite

Y. Zhang*[1]; M. Alnaggar[2]; B. Deng[1]; L. Huang[1]; Y. Shi[1]

1. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA
2. Rensselaer Polytechnic Institute, Civil and Environmental Engineering, USA

9:40 AM

Break

10:00 AM

(ICG-SI-079-2019) Stress- and temperature-driven structural dynamics in a Zr-based metallic glass (Invited)

R. Maass*[1]

1. University of Illinois at Urbana-Champaign, Department of Materials Science and Engineering, USA

10:30 AM

(ICG-SI-080-2019) A Structural Measure of Effective- (Fictive-) Temperature and its Basis in Statistical Mechanics (Invited)

D. Alix-Williams[1]; M. L. Falk*[1]

1. Johns Hopkins University, Materials Science & Engineering, USA

11:00 AM

(ICG-SI-081-2019) Near Tip Fields and Transonic Propagation of Shear Band in Metallic Glasses

J. Luo*[1]; Y. Shi[2]

1. Corning Incorporated, USA
2. Rensselaer Polytechnic Institute, USA

Session 5: Borate Glasses

Room: Statler (mezzanine)

Session Chairs: Efstratios Kamitsos, National Hellenic Research Foundation; Steve Feller, Coe College

1:20 PM

(ICG-SI-082-2019) Borate Glasses and Their Response to Temperature and Pressure (Invited)

R. Youngman*[1]; M. M. Smedskjaer[2]

1. Corning Incorporated, Science & Technology Division, USA
2. Aalborg University, Denmark

1:50 PM

(ICG-SI-083-2019) Borate liquids and synchrotron x-ray diffraction: What can we learn? (Invited)

O. L. Alderman*[1]; C. J. Benmore[2]; A. Tamalonis[1]; E. Clark[1]; R. Weber[1]

1. Materials Development Inc., R&D, USA
2. Argonne National Lab, X-ray Science Division, USA

2:20 PM

(ICG-SI-084-2019) Thermal, Optical and FTIR Studies of NiO.CoO Substituted $Li_2O.Bi_2O_3.B_2O_3$ Glasses

S. Kumar*[1]; A. Yadav[1]

1. Deenbandhu Chhotu Ram university of Science & Technology Murthal, Physics, India

2:40 PM

(ICG-SI-085-2019) Thermoluminescence and structural analysis on calcium and lithium borate glasses doped with Dy^{3+}

S. R. de Souza*[2]; E. S. Bannwart[2]; S. W. Martin[1]; J. E. De Souza[2]

1. ISU, MSE, USA
2. UFGD, Physics, Brazil

3:00 PM

(ICG-SI-086-2019) X-ray absorption near edge structure (XANES) spectroscopy measurement on multivalence nanoceria in borate glass

K. S. Ranasinghe*[1]; D. E. Day[2]; R. SIngh[1]

1. Kennesaw State University, Physics, USA
2. Missouri University of Science & Technology, Ceramic Engineering, USA

3:20 PM

Break

3:40 PM

(ICG-SI-087-2019) New Developments in the Chemistry of Borates under Extreme Conditions (Invited)

H. Huppertz*[1]

1. University of Innsbruck, Austria

4:10 PM

(ICG-SI-088-2019) Assessment of Mirragen Advanced Wound Matrix in a Randomised, Controlled, Multicenter Trial (Invited)

S. Jung*[1]; C. M. Zelen[2]; D. Armstrong[3]

1. Mo-Sci Corporation, USA
2. Professional Education and Research Institute, USA
3. University of Southern California, Surgery, USA

4:40 PM

(ICG-SI-089-2019) Analysis of the reasons for deviation in determination of alumina in pharmaceutical glass by EDTA volumetric method

D. Yang*[1]

1. Beijing Glass Group Company, China

5:00 PM

(ICG-SI-090-2019) EPR and optical studies of Calcium Oxychloro Bismuth Borate Glasses doped with V_2O_5

A. Agarwal*[1]; M. Malik[2]

1. Guru Jambheshwar University of Science and Technology, Physics, India
2. DCRUST, Physics, India

5:20 PM

(ICG-SI-091-2019) Composition-Structure-Property Correlations in Rare Earth Doped Heavy Metal Oxyfluoride Glasses

C. Doerenkamp*[1]; E. Carvajal[2]; W. Faria[1]; J. Donoso[1]; A. S. de Camargo[1]; C. Magon[1]; H. Eckert[1]

1. University of São Paulo, Brazil
2. Federal University of Sao Carlos, Brazil

5:40 PM

(ICG-SI-092-2019) Ferrite Additive Influence on the Structural, Thermal and Electrical Properties of Lithium Bismuth Borate Glasses Co-Doped Copper Ferrites

S. Kumar*[1]; A. Yadav[1]

1. Deenbandhu Chhotu Ram University of Science & Technology Murthal, Physics, India

Session 6: Phosphate Glasses - General

Room: Berkley (mezzanine)

Session Chair: Ladislav Koudelka, University of Pardubice

1:20 PM

(ICG-SI-093-2019) The structure and optical properties of Nd:phosphate glasses (Invited)

L. Hu*[1]; J. Ren[1]; C. Shao[1]; X. Wang[1]

1. Shanghai Institute of Optics and Fine Mechanics, China

1:50 PM

(ICG-SI-094-2019) Synthesis of dehydroxylated Nd-doped phosphate and oxynitride phosphate glasses

F. Munoz*[1]; R. Jimenez-Rioboo[2]; R. Balda[3]

1. Institute of Ceramics and Glass, CSIC, Spain
2. Institute of Materials Science of Madrid, CSIC, Spain
3. University of the Basque Country, Spain

2:10 PM

(ICG-SI-095-2019) Correlation between structural and thermal properties in LiPON and NaPON glasses

J. E. De Souza*[2]; S. R. de Souza[2]; S. Kmiec[1]; R. Gebhardt[1]; S. W. Martin[1]

1. Iowa State University, Materials Science and Engineering, USA
2. Universidade Federal da Grande Dourados, Faculdade de Ciências Exatas e Tecnologia, Brazil

2:30 PM

(ICG-SI-096-2019) Investigation of titanium phosphate-tellurite glass for Faraday rotators

L. Boroica*[1]; B. Sava[1]; M. Elisa[3]; S. Iordache[2]; I. Vasiliu[2]; R. Stefan[2]; A. Galca[4]; V. Kuncser[4]; A. Trefilov[1]; R. Pascu[1]; I. Danciu[5]

1. National Institute of Lasers, Plasma and Radiation Physics, Laser Department, Romania
2. National Institute of R & D for Optoelectronics INOE 2000, Magurele, Romania, Optospintronics, Romania
3. National Institute of R & D for Optoelectronics INOE 2000, Optospintronics, Romania
4. National Institute of Materials Physics, Laboratory of Multifunctional Materials and Structures, Romania
5. Automatic Data Processing, Romania

2:50 PM

(ICG-SI-097-2019) Photoelasticity in phosphate glasses (Invited)

A. Saitoh*[1]; H. Takebe[1]

1. Ehime University, Materials Science and Engineering, Japan

3:20 PM

Break

Session 6: Phosphate Glasses - NMR and Structure

Room: Berkley (mezzanine)

Session Chair: Doris Möncke, Alfred University

3:40 PM

(ICG-SI-098-2019) Network former mixing (NFM) effects in phosphate glasses: Structure/property correlations studied by modern solid-state NMR techniques (Invited)

H. Eckert*[1]

1. University of Muenster, Germany

4:10 PM

(ICG-SI-099-2019) Preliminary results of Solid-state NMR analysis of phosphate glasses deposited as thin films

L. Montagne*[1]; F. Mear[1]; O. Lafon[1]; F. Pourpoint[1]; H. Nagashima[1]

1. University of Lille, France

4:30 PM

(ICG-SI-100-2019) Using solid state NMR and Raman Spectroscopies to solve short and long-range order in fluorophosphate glasses

S. H. Santagneli*[1]; G. Galleani[2]; H. Fares[1]; M. Nalin[1]; H. Eckert[2]

1. Institute of Chemistry- São Paulo State University (UNESP), Inorganic Chemistry, Brazil
2. Physics Institute Universidade de Sao Paulo, Brazil

4:50 PM

(ICG-SI-101-2019) Structural Studies of Bi_2O_3-$NaPO_3$ Glasses by Solid State Nuclear Magnetic Resonance and X-ray Photoelectron Spectroscopy

R. Zhang*[1]; J. Ren[2]

1. University of Jinan, Material Science and Engineering, China
2. Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, Key Laboratory of Materials for High Power Laser, China

5:10 PM

(ICG-SI-102-2019) Structure-Properties Relations in Rare-Earth doped Indium Fluoride Phosphate Glasses Studied by Solid-State NMR, EPR and Optical Spectroscopy Strategy

G. Galleani*[1]; C. Doerenkamp[1]; S. Santagneli[2]; A. S. de Camargo[1]; H. Eckert[1]

1. Universidade de São Paulo - USP, Instituto de Física, Brazil
2. Universidade Estadual Paulista, Chemistry Institute, Brazil

5:30 PM

(ICG-SI-103-2019) Fragility and Rheological Behavior of Metaphosphate Liquids: Insights into their Chain vs. Network Characters

Y. Xia*[1]; W. Zhu[1]; M. Lockhart[2]; B. Aitken[2]; S. Sen[1]

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

5:50 PM

(ICG-SI-104-2019) Cation Mixture in Alkali/Alkaline-Earth Phosphate Glasses

G. F. Morguetto[1]; L. B. Tsunaki[1]; J. F. Schneider*[1]

1. Universidade de Sao Paulo, Instituto de Física de São Carlos, Brazil

Session 7: Silicate Glass Structure II

Room: Berkley (mezzanine)

Session Chairs: Daniel Neuville, IPGP-CNRS-USPC; Randall Youngman, Corning Incorporated

8:00 AM

(ICG-SI-105-2019) Dangling and stretching motions of network-modifier cations in silicate and borosilicate glasses (Invited)

B. Hehlen*[1]; D. R. Neuville[2]; D. Kilymis[3]; S. Ispas[1]

1. Laboratoire Charles Coulomb, University of Montpellier, France
2. Institut de physique du globe de Paris, France
3. CIRIMAT, University of Toulouse, France

8:30 AM

(ICG-SI-106-2019) The Nature of Al^{V} in Aluminosilicate Glasses

N. T. Wiles*[1]; S. Goyal[2]; S. P. Baker[1]

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

8:50 AM

(ICG-SI-107-2019) Modeling the Structure of Quaternary CaO-MgO-Al_2O_3-SiO_2 Glass by Combining Multiple Computational Tools with X-ray and Neutron Scattering

K. Gong*[1]; O. V. Özçelik[2]; C. E. White[1]

1. Princeton University, Department Civil and Environmental Engineering, Andlinger Center for Energy and the Environment, USA
2. University of California San Diego, Department of Chemistry and Biochemistry, USA

9:10 AM

(ICG-SI-108-2019) ZrO_2 addition in SiO_2-CaO-Na_2O-P_2O_5 bioactive glass system: Effects on the network structure and solubility

S. Mokhtari*[1]; A. W. Wren[1]

1. Alfred University, Materials Science and Engineering, USA

9:30 AM

Break

9:50 AM

(ICG-SI-109-2019) Understanding the structural origin of intermediate glasses (Invited)

S. Jaccani[1]; S. Sundararaman[1]; L. Huang*[1]

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

10:20 AM

(ICG-SI-110-2019) Mixing properties and structure in molten alkali and earth-alkali silicates glasses and melts

D. R. Neuville*[1]

1. IPGP-CNRS-USPC, Géomatériaux, France

10:40 AM

(ICG-SI-111-2019) Relationship between structure and optical properties in thulium doped CaO-Al_2O_3-SiO_2 glass

J. She*[1]; B. Peng[1]

1. Xi'an Institute of Optics and Precision Mechanics of Chinese Academy of Sciences, China

11:00 AM

(ICG-SI-112-2019) Studies of Potassium-Doped Lead Silicates by Laser Ionization Time of Flight Mass Spectrometry

R. Welch*[1]; M. Boyd[1]; M. Martinez-Szewczyk[1]; D. Nonna[2]; M. Affatigato[1]

1. Coe College, Physics, USA
2. Rutgers University, Materials Science and Engineering, USA

Session 9: Sol-Gel Glasses

Room: Hancock (mezzanine)

Session Chairs: Lisa Klein, Rutgers University; Andrei Jitianu, Lehman College - City University of New York

1:20 PM

(ICG-SI-113-2019) New insights into the Condensation Kinetics and Structure of Sol-Gel Silicate Glasses by Reactive Molecular Dynamics Simulations (Invited)

M. Bauchy*[1]

1. University of California, Los Angeles, Civil and Environmental Engineering Department, USA

1:50 PM

(ICG-SI-114-2019) Modern NMR Techniques for the Structural Characterization of Sol-Gel Glasses (Invited)

H. Eckert*[1]

1. University of Sao Paulo, Physics, Brazil

2:20 PM

(ICG-SI-115-2019) Highly transparent large-refractive index tellurite glass film via an optimal non-hydrolytic sol-gel synthetic route

X. Pan[1]; J. Zhao[2]; G. Qian[3]; X. Zhang[1]; Y. Wei[1]; Y. Ruan[1]; A. Abell[1]; H. Ebendorff-Heidepriem*[1]

1. The University of Adelaide, School of Physics, Australia
2. Leibniz Institute of Photonic Technology, Germany
3. Flinders University, College of Science and Engineering, Australia

2:40 PM

(ICG-SI-116-2019) Luminescent nanocomposites for high-power lasers and scintillators

J. Mrazek*[1]; H. Heskova[1]; I. Kasik[1]; L. Prochazkova[2]; V. Cuba[2]; E. Mihokova[3]; M. Nikl[3]

1. Institute of Photonics and Electronics of the Czech Academy of Sciences, Czechia
2. Czech Technical University in Prague, Faculty of Nuclear Sciences and Physical Engineering, Czechia
3. Institute of Physics of the Czech Academy of Sciences, Czechia

3:00 PM

(ICG-SI-117-2019) Structural Analysis of Melting Gels during Heat Treatment

S. Kallontzi*[1]; L. Fabris[1]; A. Jitianu[2]; G. Tsilomelekis[3]; L. C. Klein[1]

1. Rutgers University, MS&E, USA
2. Lehman College-CUNY, Chemistry, USA
3. Rutgers University, CBE, USA

3:20 PM

Break

3:40 PM

(ICG-SI-118-2019) Sol-gel derived materials for solid-state lighting (Invited)

R. M. Almeida*[1]

1. Instituto Superior Técnico, Engenharia Química / CQE, Portugal

4:10 PM

(ICG-SI-119-2019) Sol-Gel Derived Inks for 3d Printed Glass Optics (Invited)

R. J. Dylla-Spears*[1]; K. Sasan[1]; T. Fears[2]; J. Destino[3]; N. Dudukovic[2]; M. Johnson[2]; D. Nguyen[2]; T. Yee[2]; O. Herrera[1]

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

4:40 PM

(ICG-SI-120-2019) Preparation of Cu_3N thin films on glass substrate by nitridation of solution process-derived CuO thin film with urea

Y. Ohigashi[1]; A. Miura[1]; N. Rosero Navarro[1]; K. Tadanaga*[1]

1. Hokkaido University, Japan

5:00 PM

(ICG-SI-121-2019) Sol-Gel modified upconversion nanoparticles: Energy and biomedicine applications (Invited)

S. J. Ribeiro*[1]; C. Hazra[1]; S. Ullah[1]; Y. E. Correales[1]

1. São Paulo State University- UNESP, Institute of Chemistry, Brazil

5:30 PM

(ICG-SI-122-2019) Corrosion protection of Al and Mg alloys using integrated self-healing systems

A. Durán*[1]; Y. Castro[1]

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

5:50 PM

(ICG-SI-123-2019) Melting Gels and their corresponding hybrid gasses for protection against corrosion of AZ31B

M. Aparicio[2]; J. Mosa[2]; G. Rodriguez[1]; J. Guzman[1]; M. Jitianu[3]; L. C. Klein[4]; A. Jitianu*[1]

1. Lehman College - City University of New York, Chemistry, USA
2. Instituto de Cerámica y Vidrio, Consejo Superior de Investigaciones Científicas (CSIC), Spain
3. William Paterson University, Department of Chemistry, USA
4. Rutgers University, Department of Materials Science and Engineering, USA

SII: Glass Physics

Session 1: Glass Transition and Relaxation II

Room: Hancock (mezzanine)

Session Chairs: Ozgur Gulbiten, Corning Incorporated; Walter Kob, University of Montpellier

8:00 AM

(ICG-SII-127-2019) Stretched and compressed exponentials in the relaxation dynamics of a metallic glass-forming melt (Invited)

W. Kob*[1]; Z. Wu[2]; W. Wang[3]; L. Xu[4]

1. University of Montpellier, France
2. Beijing Normal University, China
3. Chinese Academy of Sciences, China
4. Peking University, China

8:30 AM

(ICG-SII-128-2019) Flexible, intermediate and rigid glass-forming liquids : An atomic scale insight (Invited)

M. Micoulaut*[1]

1. Sorbonne Université, France

9:00 AM

(ICG-SII-129-2019) Knocking at the bottom of the energy landscape: Extended Kob-Andersen model

A. D. Parmar*[1]; M. Ozawa[1]; A. Ninarello[2]; L. Berthier[1]

1. University of Montpellier, France
2. CNR-ISC, Uos Sapienza, Italy

9:20 AM

(ICG-SII-130-2019) Topological Control on Glass Relaxation

X. Li[1]; Y. Hu[1]; M. M. Smedskjaer[2]; J. C. Mauro[3]; M. Bauchy*[1]

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

9:40 AM

Break

10:00 AM

(ICG-SII-131-2019) Relaxation Dynamics of Ge-Se Glasses

O. Gulbiten*[1]; P. Lucas[2]

1. Corning Incorporated, Science & Technology Division, USA
2. University of Arizona, USA

10:20 AM

(ICG-SII-132-2019) Observation of Rigidity Percolation in the Viscoelastic Properties of Chalcogenide Glass-Forming Liquids

S. Sen*[1]; W. Zhu[1]; Y. Xia[1]; M. Lockhart[2]; B. Aitken[2]

1. UC Davis, USA
2. Corning Incorporated, USA

10:40 AM

(ICG-SII-133-2019) Dynamical-gap and viscoelasticity of glass forming fluids: The role of rigidity

J. Toledo[1]; G. Naumis*[1]

1. Instituto de Física, Mexico

10:50 AM

(ICG-SII-134-2019) Complex Shear Relaxation in As_xSe_{100-x} Supercooled Liquids – Competition between Slow and Fast Processes

W. Zhu*[1]; M. Lockhart[2]; B. Aitken[2]; S. Sen[1]

1. UC Davis, Materials Science Engineering, USA
2. Corning Incorporated, USA

11:10 AM

(ICG-SII-135-2019) The Relativistic Glass Transition: A Thought Experiment

C. Wilkinson*[1]; J. C. Mauro[1]

1. Pennsylvania State University, USA

Session 2: Nucleation, Crystallization, and Phase Separation

Room: Terrace (lower level)

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

1:20 PM

(ICG-SII-136-2019) What determines the glass-forming ability of a liquid? (Invited)

H. Tanaka*[1]; J. Russo[2]; F. Romano[3]

1. University of Tokyo, Japan
2. University of Bristol, United Kingdom
3. Universit'a Ca' Foscari, Italy

1:45 PM

(ICG-SII-137-2019) The Development of the Implicit Glass Model

M. E. McKenzie*[1]; S. Goyal[1]; L. Cai[1]; I. Dutta[1]; D. Baker[1]; T. Loeffler[2]; J. C. Mauro[3]

1. Corning Incorporated, Science & Technology, USA
2. ANL, USA
3. The Pennsylvania State University, USA

2:05 PM

(ICG-SII-138-2019) The Impact of Dynamical Heterogeneity on Crystal Nucleation and Growth (Invited)

G. C. Sosso*[1]; M. Fitzner[2]; S. J. Cox[3]; A. Michaelides[2]

1. University of Warwick, Chemistry, United Kingdom
2. University College London, United Kingdom
3. University of Cambridge, United Kingdom

2:30 PM

(ICG-SII-139-2019) Crystal Nucleation in $nBaO.mSiO_2$ glasses

K. F. Kelton*[1]; X. Xia[2]; M. E. McKenzie[3]

1. Washington University, Physics, USA
2. Washington University, Institution of Materials Science & Engineering, USA
3. Corning Incorporated, USA

2:50 PM

(ICG-SII-140-2019) Thermodynamic pathways for the nucleation $nBaO\text{-}mSiO_2$ glasses

M. E. McKenzie*[1]; K. F. Kelton[2]; X. Xia[2]

1. Corning Incorporated, Science & Technology, USA
2. Washington University, Physics, USA

3:10 PM

Break

3:30 PM

(ICG-SII-141-2019) Time-dependent crystal nucleation of silicate liquids at deep and shallow undercooling (Invited)

J. Deubener*[1]

1. Clausthal University of Technology, Institute of Non-Crystalline Materials, Germany

3:55 PM

(ICG-SII-142-2019) Reanalyzing crystal nucleation data: A step back to move forward (Invited)

D. R. Cassar*[1]; A. H. Serra[2]; A. M. Rodrigues[1]; E. D. Zanotto[1]

1. Vitreous Materials Laboratory, Department of Materials Engineering, Brazil
2. Tempered Glass Division, Pilkington Brasil Ltda, Brazil

4:20 PM

(ICG-SII-143-2019) Nucleation growth of mullite, sapphirine and cordierite phases from magnesium aluminosilicate melts by in-situ high-tempreature observation

R. Kado*[1]; T. Kishi[1]; T. Yano[1]; Y. Nagashima[2]; K. Shiraki[2]; K. Sakaguchi[2]

1. Tokyo Institute of Technology, School of Materials and Chemical Technology, Japan
2. Nippon Sheet Glass Co., Ltd., Japan

4:40 PM

(ICG-SII-144-2019) Phase Selective Crystallization of Ln^{3+}-Based Fluoride Crystals from Phase Separated Aluminosilicate Glass: A Molecular Dynamics Simulation Study

J. Zhao*[1]; X. Xu[1]; X. Li[2]; J. Du[4]; D. Chen[3]; X. Fan[1]; X. Qiao[1]

1. Zhejiang University, School of Materials Science and Engineering, China
2. Hangzhou Dianzi University, College of Materials and Environmental Engineering, China
3. Fujian Normal University, College of Physics and Energy, China
4. University of North Texas, Department of Materials Science and Engineering, USA

5:00 PM

(ICG-SII-145-2019) Compositional changes of phase-separated nanoparticles in silicates

W. Blanc*[1]; I. Martin[2]; H. Francois Saint Cyr[2]; X. Bidault[3]; S. Chaussedent[3]; C. Hombourger[2]; P. Le Coustumer[4]; S. Lacomme[4]; D. R. Neuville[5]; D. Larson[2]; T. Prosa[2]; C. Guillermier[6]

1. CNRS, INPHYNI, France
2. CAMECA, USA
3. Université d'Angers, LPhiA, France
4. Université de Bordeaux, BIC, France
5. Université de Paris, IPGP, France
6. Harvard Medical School, Center for NanoImaging, USA

5:20 PM

(ICG-SII-146-2019) Phase Separation and Fluorescence Properties of Rare-Earth Doped Borosilicate Glasses

K. Thieme*[1]; C. Patzig[1]; C. Rüssel[2]; T. Höche[1]

1. Fraunhofer IMWS, Germany
2. Otto-Schott-Institut für Materialforschung, Jena University, Germany

5:40 PM

(ICG-SII-147-2019) Kinetics of phase separation in SiO_2-BaO-B_2O_3 glass thin films

B. Bouteille*[1]; E. Gouillart[1]; D. Vandembroucq[2]; E. Burov[1]; J. Fonné[3]; H. Montigaud[1]

1. Joint Unit CNRS/Saint-Gobain, Surface Glass and Interfaces, France
2. ESPCI CNRS UMR 7636, Physique et Mécanique des Milieux Hétérogènes, France
3. Saint-Gobain Research Paris, Couches Minces, France

6:00 PM

(ICG-SII-148-2019) Effects of Electric Field on the Laser-fabrication of Single Crystals of Ferroelectric Sb_2S_3 in $84Sb_2S_3$-$16SbI_3$ Glass

E. Musterman*[1]; C. Au-Yeung[2]; V. Dierolf[2]; H. Jain[1]

1. Lehigh University, Materials Science and Engineeering, USA
2. Lehigh University, Physics, USA

6:20 PM

(ICG-SII-149-2019) New thermostable luminescent materials based on iron-containing nanoporous silicate glass matrices: Synthesis and spectral properties

M. Konon*[1]; T. Antropova[1]; M. Girsova[1]; I. Anfimova[1]; L. Dikaya[1]; E. Semenova[1]

1. Institute of Silicate Chemistry of Russian Academy of Science, Russian Federation

Session 3: Glass under Extreme Conditions I

Room: Clarendon (mezzanine)

Session Chairs: Bernard Hehlen, University of Montpellier; Sushmit Goyal, Corning Incorporated

1:20 PM

(ICG-SII-150-2019) Role of oxygen in the polyamorphism of lithium borates (Invited)

G. Lelong*[1]; L. Cormier[1]; L. Hennet[2]

1. UPMC, IMPMC, France
2. CEMHTI, France

1:50 PM

(ICG-SII-151-2019) Ultrahigh pressure polyamorphism in GeO_2 and SiO_2 glasses with coordination number >6 (Invited)

Y. Kono*[1]; Y. Shu[2]; C. Kenney-Benson[2]; Y. Wang[3]; G. Shen[2]

1. Ehime University, Japan
2. HPCAT, USA
3. The University of Chicago, USA

2:20 PM

(ICG-SII-152-2019) Structure of high-temperature liquid oxide

S. Kohara*[1]; Y. Onodera[2]; S. Tahara[3]; C. Koyama[4]; H. Tamaru[4]; A. Masuno[5]; J. Okada[6]; A. Mizuno[7]; H. Oda[4]; Y. Watanabe[8]; Y. Nakata[8]; K. Ohara[9]; T. Ishikawa[4]; O. Sakata[1]

1. National Institute for Materials Science (NIMS), Japan
2. Kyoto University, Japan
3. University of the Ryukyus, Japan
4. Japan Aerospace Exploration Agency, Japan
5. Hirosaki University, Japan
6. Tohoku University, Japan
7. National Institute of Technology, Hakodate College, Japan
8. Advanced Engineering Services Co., Ltd., Japan
9. Japan Synchrotron Radiation Research Institute, Japan

2:40 PM

(ICG-SII-153-2019) Permanent densification of silica glass and hypervelocity impact loading conditions: Experimentation and MD simulation

J. Guin*[1]; C. Dereure[1]; R. Renou[2]; D. Loison[1]; E. Lescoute[2]; M. Nivard[1]; J. Sangleboeuf[1]; L. Berthe[3]; L. Soulard[2]

1. Univ Rennes CNRS, Physics Institute Rennes, France
2. CEA-DAM DIF, France
3. Arts et Metiers ParisTech, PIMM, France

3:00 PM

(ICG-SII-154-2019) Pressure-induced structural changes in Na_2O-B_2O_3-Al_2O_3-SiO_2 glasses at high pressure up to 9 GPa: Insights from multinuclear (^{11}B, ^{17}O, ^{23}Na, ^{27}Al, and ^{29}Si) solid-state NMR

A. Lee*[1]; S. Lee[1]

1. Seoul National University, Republic of Korea

3:20 PM

Break

Session 3: Glass under Extreme Conditions II

Room: Clarendon (mezzanine)

Session Chairs: Thomas Bennett, Cambridge University; Mathieu Bauchy, University of California, Los Angeles

3:40 PM

(ICG-SII-155-2019) Network formation in ultra-high pressure carbonate liquids

M. C. Wilding*[1]; M. Wilson[2]; Y. Kono[3]; R. Brooker[4]; J. Drewitt[4]; P. A. Bingham[1]; J. B. Parise[5]

1. Sheffield Hallam University, Materials and Engineering Research Institute, United Kingdom
2. University of Oxford, Department of Chemistry, United Kingdom
3. Ehime University, Geodynamics Research Center, Japan
4. University of Bristol, Earth Sciences, United Kingdom
5. Stony Brook University, Chemistry, USA

4:00 PM

(ICG-SII-156-2019) Effect of pressure and temperature on viscosity of a borosilicate glass

L. Ding*[1]; M. Thieme[2]; S. Demouchy[2]; B. Kaus[3]; C. Kunisch[4]

1. Donghua University, China
2. Universite de Montpellier & CNRS, France
3. Johannes Gutenberg University, Germany
4. SCHOTT AG, Germany

4:20 PM

(ICG-SII-157-2019) Pressure-induced densification of vitreous silica: Insight from elastic properties

C. Weigel[1]; M. Mebarki[1]; R. Vacher[1]; M. Foret[1]; B. Ruffle*[1]

1. Montpellier University, Physics Department, France

4:40 PM

(ICG-SII-158-2019) Pressure induced network collapse of amorphous As_2Se_3 from First Principles molecular simulations

M. Micoulaut*[1]

1. Sorbonne Université, France

5:00 PM

(ICG-SII-159-2019) Time-resolved Ablation Dynamics of Silicate Glasses with Few Cycle Laser Pulses

N. Talisa[1]; S. T. Locker[2]; A. AlShafey[1]; M. Tripepi[1]; B. Harris[1]; S. K. Sundaram[2]; E. Chowdhury*[1]

1. The Ohio State University, Physics, USA
2. Alfred University, Ultrafast Materials Science and Engineering Laboratory, USA

Session 8: Optical Properties of Glass VI

Room: Statler (mezzanine)

Session Chair: Shi Ye, South China University of Technology

8:00 AM

(ICG-SII-160-2019) Optical Functional Nanocrystal-Doped Glass and Fibers (Invited)

G. Dong*[1]; S. Kang[1]; X. Huang[1]; J. Qiu[2]

1. South China University of Technology, State Key Laboratory of Luminescent Materials and Devices, and Guangdong Provincial Key Laboratory of Fiber Laser Materials and Applied Techniques, China
2. Zhejiang University, State Key Laboratory of Modern Optical Instrumentation, College of Optical Science and Engineering, China

8:30 AM

(ICG-SII-161-2019) Ultra-short-pulsed laser filamentation in soda lime silicate glass: Probing the roughness of the cut surface

F. Werr*[1]; A. Veber[1]; D. Werner[2]; J. Betz[2]; U. Eppelt[3]; L. Müllers[3]; D. de Ligny[1]

1. Friedrich-Alexander-University, Institute of Glass and Ceramics, Germany
2. Flabeg Deutschland GmbH, Germany
3. Coherent Munich GmbH & Co. KG, Germany

8:50 AM

(ICG-SII-162-2019) Application of Glass Phase Separation Technology in Fabrication of Optical Fiber Materials

L. Yang*[1]

1. Huazhong University of Science and Technology, Wuhan National Laboratory for Optoelectronics, China

9:10 AM

(ICG-SII-163-2019) Optical properties of palladium-doped Sol-gel-derived ZrO_2 thin films for multi-resonant surfaces

R. Sajzew*[1]; L. Müller[1]; S. Fuhrmann[1]; H. Ebendorff-Heidepriem[2]; L. Wondraczek[1]

1. Otto Schott Institute of Materials Research, Germany
2. University of Adelaide, Institute of Photonics and Advanced Sensing, Australia

9:30 AM

Break

Session 8: Optical Properties of Glass VII

Room: Statler (mezzanine)

Session Chairs: Xusheng Qiao, Zhejiang University; Guoping Dong, South China University of Technology

10:00 AM

(ICG-SII-164-2019) Structural Modifications of Lanthanum Aluminosilicate Glasses using Femtosecond Laser Irradiation

D. K. Dobesh*[1]; S. K. Sundaram[1]

1. Alfred University, Glass Science, USA

10:20 AM

(ICG-SII-165-2019) PbS quantum dots in one glass rod for multi-wavelength emissions

Z. Zhao*[1]; W. Park[1]; J. Heo[1]

1. Pohang University of Science and Technology(POSTECH), Department of Materials Science and Engineering, Republic of Korea

10:40 AM

(ICG-SII-166-2019) Round-Robin on optical and emissivity measurements of coated float glass samples according to EN 410 and EN 12898: A technical report of ICG TC10

C. Kermel*[1]; S. Timmermans[2]; H. Wilson[3]; P. A. van Nijnatten[2]; I. Marenne[4]

1. Belgian Ceramic Research Centre - INISMa, Belgium
2. OMT Solutions, Netherlands
3. Fraunhofer Institute for Solar Energy Systems ISE, Germany
4. AGC Glass Europe, R&D Centre, Belgium

11:00 AM

(ICG-SII-167-2019) The glass-forming region and physical property of fluoro-sulfo-phosphate glass

Y. Xiao*[1]; W. Wang[1]; Y. Ji[1]; Q. Zhang[1]

1. South China Univesity of Technology, State Key Laboratory of Luminescent Materials and Devices, China

11:20 AM

(ICG-SII-168-2019) Terahertz time-domain spectroscopy and low-frequency Raman scattering of Alkali Borate Glass

T. Mori*[1]; Y. Iijima[1]; Y. Fujii[2]; S. Kitani[3]; A. Koreeda[2]; H. Kawaji[3]; S. Kojima[1]

1. University of Tsukuba, Division of Materials Science, Japan
2. Ritsumeikan University, Department of Physical Sciences, Japan
3. Tokyo Institute of Technology, Materials and Structures Laboratory, Japan

11:40 AM

(ICG-SII-169-2019) Effect of heat treatment on the luminescent properties of optical glass fibers doped with bismuth

S. Firstov*[1]; A. Kharakhordin[1]; S. Alyshev[1]; K. Riumkin[1]; E. Firstova[1]; M. Melkumov[1]; V. Khopin[2]; A. Guryanov[2]; E. Dianov[1]

1. Fiber Optics Research Center, RAS, Russian Federation
2. Institute of Chemistry of High-Purity Substances, RAS, Russian Federation

Session 9: Glasses under the Indenter (TC 06)

Room: Arlington (mezzanine)

Session Chair: Lothar Wondraczek, University of Jena

8:10 AM

(ICG-SII-170-2019) Understanding the Deformation and Cracking Behavior of Glass under Indentation (Invited)

L. Huang*[1]

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

8:40 AM

(ICG-SII-171-2019) Indentation Fracture Toughness Measured with Diamond Tips of Various Sharpness

T. M. Gross*[1]; H. Liu[2]; Y. Zhai[3]; L. Huang[4]; J. Wu[1]; J. Luo[1]; B. Meenakshi Sundaram[1]

1. Corning Incorporated, USA
2. Penn State, USA
3. Carnegie Mellon, USA
4. Rensselaer Polytechnic Institute, USA

9:00 AM

(ICG-SII-172-2019) Observation of Crack-Free Vickers Indents at 500 N in Annealed Caesium Aluminoborate Glass

K. Januchta*[1]; M. Stepniewska[1]; Y. Yue[1]; L. Jensen[2]; Y. Zhang[3]; S. Munch[3]; M. Somers[3]; M. M. Smedskjaer[1]

1. Aalborg University, Department of Chemistry and Bioscience, Denmark
2. Aalborg University, Department of Materials and Production, Denmark
3. Technical University of Denmark, Department of Mechanical Engineering, Denmark

9:20 AM

(ICG-SII-173-2019) Relationship between mechanical properties and network structure of the aluminoborosilicate glasses of $20Na_2O–xB_2O_3–(20\text{-}x)Al_2O_3–60SiO_2$

T. Murata*[1]; Y. Kato[1]; S. Nakane[1]; H. Eckert[2]

1. Nippon Electric Glass Co., Ltd., Fundamental Technology Division, Japan
2. University of Sao Paulo, Brazil

9:40 AM

Break

10:00 AM

(ICG-SII-174-2019) Crack Fraction and Indentation Fracture Threshold in Calcium-Aluminosilicate Glasses

H. Kuo*[1]; Y. Fu[1]; C. Cohen[1]; J. Loven[1]; N. T. Wiles[1]; S. P. Baker[1]

1. Cornell University, Materias Science and Engineering, USA

10:20 AM

(ICG-SII-175-2019) Mechanical properties of enamel and sintered silver deposited onto glass by nanoindentation methods

E. Walch*[1]; C. Roos[1]

1. Institute of Mineral Engineering - RWTH University, Germany

10:40 AM

(ICG-SII-176-2019) Mapping of the plastic zone under nanoindentation imprints: Toward a better ductile to brittle transition insight in oxide glasses

G. Trenvouez*[1]; K. Han[1]; M. Nivard[1]; V. Keryvin[2]; C. Bernard[2]; J. Guin[1]

1. Univ Rennes CNRS, Physics Institute Rennes, France
2. UBS Université Bretagne Sud - CNRS, IRDL, France

11:00 AM

(ICG-SII-177-2019) In Situ X-ray Phase Contrast Imaging of Crack Evolution during Dynamic Indentation in Glass

M. Kang*[1]; M. Guan[1]; A. Leong[1]; K. Fezzaa[2]; A. Deriy[2]; J. Harris[3]; K. Ramesh[1]; T. Hufnagel[1]

1. Johns Hopkins University, USA
2. Argonne National Laboratory, USA
3. Corning Incorporated, USA

11:20 AM

(ICG-SII-178-2019) Experimental Investigation of the Indentation Size Effect

M. Kazembeyki*[1]; M. Bauchy[2]; C. G. Hoover[1]

1. Arizona State University, School of Sustainable Engineering and the Built Environment, USA
2. University of California Los Angeles, Civil and Environmental Engineering, USA

11:40 AM

(ICG-SII-179-2019) 3-D densification measurement of Vickers-indented glass using digital holographic tomography

Y. Sung*[1]; Y. Kato[2]; S. Yoshida[3]; C. R. Kurkjian[4]

1. University of Wisconsin-Milwaukee, USA
2. Nippon Electric Glass, Japan
3. University of Shiga Prefecture, Japan
4. Rutgers University, USA

Session 9: Post-treatment Strengthening (TC 06)

Room: Arlington (mezzanine)

Session Chair: Morten Smedskjaer, Aalborg University

1:20 PM

(ICG-SII-180-2019) GPa-class yield stress of chemical strengthened soda-lime glass sheet prepared by multi-treatment of field-assisted ion-exchange method

T. Yano*[1]; S. Nagai[1]; N. Matsushita[1]; T. Kishi[1]

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

1:40 PM

(ICG-SII-181-2019) Explore the effect of stress on the anti-destruction strength of chemical strengthened glass

D. W. Hu*[1]; G. B. Tan[1]; A. W. Qin[1]; B. F. Chen[1]

1. Shenzhen Donglihua Technology Co., LTD, China

2:00 PM

(ICG-SII-182-2019) Novel evaluation method of local stress in chemically strengthened glass by using micro-Raman spectroscopy

R. Sasaki[1]; N. Terakado*[1]; Y. Takahashi[1]; T. Fujiwara[1]; S. Orihara[2]; Y. Orihara[2]

1. Tohoku University, Japan
2. Orihara Industrial Co., Ltd, Japan

2:20 PM

(ICG-SII-183-2019) Boron effects on glass modulus and ionic inter-diffusivity of chemically strengthened glasses

J. Wu*[1]; C. Smith[1]; T. M. Gross[1]

1. Corning Incorporated, USA

2:40 PM

(ICG-SII-184-2019) Strengthening of Soda Lime Glass by Ion Exchange Using Dual Salt Baths

I. Erdem*[1]; S. Aydin[1]

1. Istanbul Technical University, Metallurgical and Materials Engineering, Turkey

3:00 PM

(ICG-SII-185-2019) The application of acoustic emission technique for detecting indentation crack formation in chemically strengthened glasses

E. D. Kaçar*[1]; L. Šimurka[1]; B. Ogut[1]; L. Václavek[2]; J. Tomáštík[2]; I. Sokmen[1]; R. Čtvrtlík[2]

1. Sisecam Science Technology and Design Center, Coating Technologies Directorate, Turkey
2. Palacky University and Institute of Physics Academy of Sciences of the Czech Republic, Joint Laboratory of Optics, Czechia

3:20 PM

Break

3:40 PM

(ICG-SII-186-2019) Effects of Thermal Histories on Physical and Ion Exchange Properties of Glasses

L. Zhang*[1]

1. Corning Incorporated, Corning Glass Technology, USA

4:00 PM

(ICG-SII-187-2019) Numerical Simulation for Fracture of Thermally Tempered Glass Sheets by Dynamic Loading

S. Hirobe*[1]; Y. Kato[4]; K. Yoda[4]; K. Yanagihara[4]; Y. Kitajima[3]; S. Urata[2]; K. Oguni[1]

1. Keio University, Japan
2. AGC Inc., Innovative Technology Research Center, Japan
3. AGC Inc., Asia General Division, Automotive Company, Japan
4. AGC Inc., Production Technology Division, Japan

4:20 PM

(ICG-SII-188-2019) Mechanical properties of metal-nanoparticle-implanted sodalime silicate glass

M. Ono*[1]; S. Miyasaka[1]; Y. Takato[1]; S. Urata[1]

1. AGC Inc., Research Center, Japan

4:40 PM

(ICG-SII-189-2019) Non-stoichiometric Annealing of CVD'ed ZnSe Transparent Ceramics for Hardness Improvement

C. Goncalves*[1]; X. Chen[1]; K. Richardson[1]; R. M. Gaume[1]

1. University of Central Florida, CREOL, USA

Session 9: Stress Fields (TC 06)

Room: Arlington (mezzanine)

Session Chair: Morten Smedskjaer, Aalborg University

5:00 PM

(ICG-SII-190-2019) Flow stress and the micromechanics of silicate glasses, 50 years after Marsh

E. Barthel*[1]; J. Teisseire[2]; V. Keryvin[3]; G. Kermouche[4]

1. CNRS/ESPCI, SIMM, France
2. Saint-Gobain Recherche, France
3. UBS, France
4. EMSE, France

5:20 PM

(ICG-SII-191-2019) Stress-Strain Field Dependencies in the Continuum Mechanics Response of Silicate Glasses to Sharp Indentation

B. C. Davis*[1]; I. Reimanis[1]; S. Glaesemann[2]

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

5:40 PM

(ICG-SII-192-2019) Residual Stress Measurements around Indentations in Sintered Soda-Lime and Borosilicate Glasses

A. Assmann[1]; C. E. Foerster[1]; F. C. Serbena*[1]

1. State University of Ponta Grossa, Brazil

6:00 PM

(ICG-SII-193-2019) Interpreting Stress Fields and Plastic Deformation under Indentations in Vitreous Silica using Raman Spectroscopy

N. T. Wiles*[1]; G. G. Moore[2]; S. P. Baker[1]

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

Session 11: Thermal Properties of Glass I

Room: Clarendon (mezzanine)

Session Chairs: Limin Wang, Yanshan University; Frederic Affouard, University of Lille

8:00 AM

(ICG-SII-194-2019) Clarifying the glass transition through heat capacity of metal, nitrate salt and silicate glasses (Invited)

P. Wen*[1]

1. Institute of Physics, Chinese Academy of Sciences, China

8:30 AM

(ICG-SII-195-2019) Multiple relaxations and their influences on magnetic properties of metallic glasses (Invited)

J. Wang*[1]

1. Ningbo Institute of Materials Technology of Engineering, Chinese Academy of Science, China

9:00 AM

(ICG-SII-196-2019) The role of liquid–liquid transition in glass formation of CuZr alloys

L. Hu*[1]

1. Shandong University, China

9:20 AM

(ICG-SII-197-2019) Anomaly on the relationship between coefficient of thermal expansion and cooling rate

S. Inaba*[1]; J. Endo[1]; K. Hayashi[1]

1. AGC Inc., Japan

9:40 AM

Break

Session 11: Thermal Properties of Glass II

Room: Clarendon (mezzanine)

Session Chairs: Liming Wang, Yanshan University; Jakob König, Jozef Stefan Institute

10:00 AM

(ICG-SII-198-2019) Investigation from experiments and simulations of glasses obtained by different thermal/athermal routes: Are there true physical differences? (Invited)

F. Ngono Mebenga[1]; J. Willart[1]; G. Cuello[2]; M. Jimenez[2]; F. Affouard*[1]

1. University of Lille, Department of Physics, France
2. Institut Laue-Langevin, France

10:30 AM

(ICG-SII-199-2019) Thermal conductivity of glass foams (Invited)

R. R. Petersen*[1]; J. König[3]; M. B. Ostergaard[2]; Y. Yue[2]

1. Skamol, Department of R&D, Denmark
2. Aalborg University, Dept. of Chemistry and Bioscience, Denmark
3. Jozef Stefan Institute, Advanced Materials Department, Slovenia

11:00 AM

(ICG-SII-200-2019) Thermal behaviors in two-glass-transition miscible glass-formers: Experimental evidence of continuous mobility gradients

L. Wang*[1]

1. Yanshan University, China

11:20 AM

(ICG-SII-201-2019) Effects of pore structure and gas phase on thermal conductivity of glass foams

M. B. Ostergaard*[1]; R. R. Petersen[1]; J. König[2]; Y. Yue[1]

1. Aalborg University, Chemistry and Bioscience, Denmark
2. Jozef Stefan Institute, Slovenia

11:40 AM

(ICG-SII-202-2019) Porous Glass Insulator Properties Understanding through Microscopy Characterization and Machine Learning Image Segmentation

A. Stratulat*[1]

1. Carl Zeiss Microscopy, United Kingdom

SIII: Glass Technology and Manufacturing

Session 1: Raw Materials, Batch Melting, and Fining (TC 18)

Room: Cambridge (4th floor)

Session Chairs: Mathieu Hubert, Corning Incorporated; Jaroslav Klouzek, University of Chemistry and Technology, Prague; Jennifer Rygel, Corning Incorporated

1:20 PM

(ICG-SIII-041-2019) Effect of Microstructure and Phase Distribution on Thermal Conductivity of Reacting Batch (Invited)

I. Peterson*[1]; J. Wright[1]; N. LeBlond[1]; E. Fairchild Law[2]; R. Iurilli[2]; E. Stapleton[3]; W. W. Johnson[4]

1. Corning Research and Development Corporation, Process Research, USA
2. Corning Research and Development Corporation, Manufacturing Technology and Engineering, USA
3. Corning Research and Development Corporation, Characterization Science and Services, USA
4. Corning Research and Development Corporation, Modeling and Simulation, USA

1:50 PM

(ICG-SIII-042-2019) X-ray imaging of High Temperature furnace applied to glass melting

D. Boloré[2]; F. Pigeonneau*[1]

1. Mines-Paristech, Centre for Material Forming, France
2. Saint-Gobain SEFPRO, USA

2:10 PM

(ICG-SIII-043-2019) Rheological characterization of calcium- and iron-rich silicate slags during solidification

C. Giehl*[1]; M. Kleindienst[1]; P. Quirmbach[2]; H. Koerber[2]; Y. Hemberger[2]

1. Anton Paar, Rheometry, Austria
2. DIFK Deutsches Institut für Feuerfest und Keramik GmbH, Germany

2:30 PM

(ICG-SIII-044-2019) Modeling of batch-to-glass conversion – State of the art and beyond? (Invited)

R. Pokorny*[1]; P. Hrma[2]; S. Lee[2]; J. Klouzek[1]; M. J. Schweiger[2]; A. Abboud[3]; D. P. Guillen[3]; A. A. Kruger[4]

1. University of Chemistry and Technology Prague, Czechia
2. Pacific Northwest National Lab, USA
3. Idaho National Lab, USA
4. U.S. Department of Energy, Office of River Protection, USA

3:00 PM

(ICG-SIII-045-2019) Physico-chemistry and mineralogy of the Mayo Tsanaga sand (Maroua, Cameroon): Potentialities in the glass and ceramics industry

E. Yanné*[1]

1. National Advanced School of Engineering of Maroua, Cameroon

3:20 PM

Break

3:40 PM

(ICG-SIII-046-2019) Expected energy saving of float furnaces by briquette/cullet preheating (Invited)

T. Maehara*[1]; Y. Doi[1]; T. Enomoto[1]; A. Lankhorst[2]

1. AGC Inc., Production Technology Division, Japan
2. CelSian Glass & Solar B.V., Netherlands

4:10 PM

(ICG-SIII-047-2019) Briquetting of waste glass cullet fine particles for energy saving manufacture and improved melting behavior

W. Deng*[1]; R. Wright[2]; C. Boden-Hook[2]; P. A. Bingham[1]

1. Sheffield Hallam University, United Kingdom
2. Wright Engineering Ltd, United Kingdom

4:30 PM

(ICG-SIII-048-2019) Batch, glass melt, melt flow and their mutual relationship

M. Jebava*[1]; L. Nemec[1]; J. Brada[2]

1. Laboratory of Inorganic Materials, joint workplace of the University of Chemistry and Technology Prague and the Institute of Rock Structure and Mechanics of the ASCR, Czechia
2. Glass Service, Inc., Czechia

4:50 PM

(ICG-SIII-049-2019) Residence time distribution analysis of a container glass furnace

S. Ceola*[1]; E. Alejandro[2]

1. Stazione Sperimentale del Vetro, Research and Development, Italy
2. Vidrala S.A., Glass Technology Manager, Spain

5:10 PM

(ICG-SIII-050-2019) Insight into nuclear glass synthesis: Experimental and modelling approach (Invited)

S. Schuller*[1]; E. Sauvage[1]; S. Hocine[1]; K. Paraiso[1]; T. Charpentier[2]; A. Mesbah[3]; M. Toplis[4]

1. CEA, DEN/DE2D/SEVT Marcoule, France
2. NIMBE, CEA, CNRS, Université Paris-Saclay, CEA Saclay, France
3. ICSM, UMR 5257 CEA/CNRS/ENSCM/ Université de Montpellier, Site de Marcoule, France
4. Institut de Recherche d'Astrophysique et Planétologie, Université de Toulouse, Centre National de la Recherche Scientifique (CNRS), Université Paul Sabatier, France

5:40 PM

(ICG-SIII-051-2019) Effect of sucrose on foaming and melting behavior for low-activity waste melter feed

S. Lee*[1]; C. Appel[1]; N. Jani[1]; D. Dixon[1]; P. Hrma[1]; J. Klouzek[2]; R. Pokorny[2]; M. J. Schweiger[1]; A. A. Kruger[3]

1. Pacific Northwest National Lab, USA
2. University of Chemistry and Technology Prague, Czechia
3. U.S. Department of Energy, Office of River Protection, USA

6:00 PM

(ICG-SIII-052-2019) Foam under cold cap

P. Hrma*[1]; S. Lee[1]; J. Klouzek[3]; R. Pokorny[3]; A. A. Kruger[2]

1. Pacific Northwest National Laboratory, USA
2. DOE Office of River Protection, USA
3. University of Chemistry and Technology, Czechia

Session 5: Towards Carbon-free Glass Production

Room: Tremont (4th floor)

Session Chairs: AJ Faber, CelSian Glass & Solar; Oscar Verheijen, CelSian Glass & Solar

1:20 PM

(ICG-SIII-053-2019) The Challenges and Potential Opportunities of Glass Manufacturing Operations Toward Carbon Neutrality

S. Bhaduri*[1]

1. Owens Illinois, Inc., USA

1:40 PM

(ICG-SIII-054-2019) The Transition of the Chinese Glass Industry toward Zero Emission (Invited)

S. Peng*[1]

1. China Triumph International Engineering Co., Ltd, China

2:10 PM

(ICG-SIII-055-2019) Sustainable glass furnace technologies

A. Faber*[1]

1. CelSian Glass & Solar, Netherlands

2:30 PM

(ICG-SIII-056-2019) Research projects concerning glass within the Kopernikus initiative in Germany (support code: Federal Ministry of Education and Research 03SFK3M0)

B. A. Fleischmann*[1]

1. Huettentechnische Vereinigung der Deutschen Glasindustrie e.V. (HVG), Glass Technology, Germany

2:50 PM

(ICG-SIII-057-2019) Heat Oxy-combustion, for a clear efficiency

L. Jarry*[1]; C. McCrea[2]; T. Kang[3]

1. AIR LIQUIDE, GLASS AND METAL, China
2. AIRGAS, USA
3. D.I.C, R&D, USA

3:10 PM

(ICG-SIII-058-2019) Upgrading of Existing Emission Control Equipment by Thoughtful Integration of State-of-the-Art Technology

M. Schroeter*[1]

1. Durr Systems Inc, USA

3:30 PM

Break

3:45 PM

(ICG-SIII-059-2019) An all-encompassing and radical view on a carbon-free glass production

C. Roos*[1]

1. RWTH Aachen University, Glass, Germany

4:05 PM

(ICG-SIII-060-2019) Calcination of soda-lime glass batch briquettes

Y. Doi*[1]; T. Maehara[1]; T. Yano[2]

1. AGC Inc., Japan
2. Tokyo Institute of Technology, Japan

4:25 PM

(ICG-SIII-061-2019) How glass minerals can contribute to glass manufacturing with a low carbon footprint

H. van Limpt*[1]; R. Dorscheidt[1]; B. Wilms[1]; A. Petitjean[1]

1. Sibelco, T&I, Belgium

4:45 PM

(ICG-SIII-062-2019) New Raw Materials for Use in Glass Production

D. Backhouse*[1]; W. Deng[1]; C. Spathi[1]; M. Marshall[2]; R. Ireson[2]; P. A. Bingham[1]

1. Sheffield Hallam University, Materials and Engineering Research Institute, United Kingdom
2. Glass Technology Services Ltd (GTS), United Kingdom

5:05 PM

(ICG-SIII-063-2019) All-Electric Melting: Recent Developments (and improved understanding)

A. Reynolds*[1]

1. Fives Stein Limited, United Kingdom

5:25 PM

(ICG-SIII-064-2019) Electric Melt Furnaces

E. W. Ferreira*[1]

1. TECO, USA

5:45 PM

(ICG-SIII-065-2019) A commercial and technical feasible future for all-electric commodity glass manufacturing

R. Meuleman*[1]

1. Eurotherm by Schneider-Electric, Global Business Development, Netherlands

6:05 PM

(ICG-SIII-066-2019) CO_2 reduction on large furnaces (> than 400 tons/day) with superboosting and hybrid all-electric furnaces: An update on current experience and the future

S. C. Hakes*[1]

1. F.I.C. (UK) Ltd, United Kingdom

SIV: Emerging Applications of Glass

Session 1: Solar Applications and Insulation Properties

Room: White Hill (4th floor)

Session Chair: Joachim Deubener, Clausthal University of Technology

1:20 PM

(ICG-SIV-113-2019) Large-area fluidic windows (Invited)

L. Wondraczek*[1]

1. University of Jena, Germany

1:50 PM

(ICG-SIV-114-2019) The future development of cover glass for efficient harvesting of solar energy (Invited)

S. Karlsson*[1]

1. RISE Research Institutes of Sweden, Glass, Sweden

2:20 PM

(ICG-SIV-115-2019) Photocatalytic activity of germanosilicate glassceramics containing Ga_2O_3 nanostructures

R. Lorenzi*[1]; N. V. Golubev[2]; I. S. Ignat'eva[2]; V. Sigaev[2]; A. Paleari[1]

1. University of Milano-Bicocca, Department of Materials Science, Italy
2. Mendeleev University of Chemical Technology of Russia, Sarkisov International Laboratory of Glass-based Functional Materials, Russian Federation

2:40 PM

(ICG-SIV-116-2019) Influence of thermal annealing conditions and N_2 flow rate on the properties of N doped TiO_2 films

Y. Yang*[1]; T. Wang[1]; X. Cao[1]; Y. Sun[1]; Z. Zhang[1]; L. Ma[1]; S. Peng[1]

1. State Key Laboratory of Advanced Technology for Float Glass, China

3:00 PM

(ICG-SIV-117-2019) Comparison of open- and closed-porous foamed glass

J. König*[1]; U. Hribar[1]; P. Cimavilla[2]; A. Lopez-Gil[2]; M. Rodrigues-Perez[2]; R. R. Petersen[3]; Y. Yue[3]

1. Jozef Stefan Institute, Advanced Materials, Slovenia
2. CellMat Technologies S.L., Spain
3. Aalborg University, Section of Chemistry, Denmark

3:20 PM

Break

Session 1: Battery Applications and Metallizations

Room: White Hill (4th floor)

Session Chairs: Ana Rodrigues, Federal University of Sao Carlos; Steve Martin, Iowa State University

3:40 PM

(ICG-SIV-118-2019) Structural dependence of electrical transport in mixed network former glasses

A. Mogus-Milankovic*[1]; K. Sklepić Krehač[1]; L. Pavić[1]; G. Tricot[2]; L. Koudelka[3]

1. Ruder Boskovic Institute, Department of Materials Chemistry, Croatia
2. University de Lille, France
3. Iniversity of Pardubice, Czechia

4:00 PM

(ICG-SIV-119-2019) Structure/Property correlations on new $Li_{1.5}M_{0.5}Ge_{0.5}(PO_4)_3$ (M = Sc, Ga, Y) NASICON glass-ceramics by impedance spectroscopy and solid state NMR

I. d'Anciães Almeida Silva*[1]; A. C. Rodrigues[2]; H. Eckert[1]; A. Nieto Munoz[2]

1. University of São Paulo, São Carlos Institute of Physics, Brazil
2. Federal University of Sao Carlos, Materials Engineering Department, Brazil

4:20 PM

(ICG-SIV-120-2019) Vanadium oxyfluoro phosphate glasses: A possible new cathode for solid state battery

S. Soman*[1]; M. Yadav[1]; A. Kulkarni[1]

1. Indian Institute of Technology Bombay, Metallurgical Engineering & Materials Science, India

4:40 PM

(ICG-SIV-121-2019) Melt-Quenched Glasses as Solid-State Electrolyte for Lithium Metal Battery

R. Zhao*[1]; S. Kmiec[1]; G. Hu[1]; S. W. Martin[1]

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

5:00 PM

(ICG-SIV-122-2019) Synthesis and Characterization of Alumina-doped Lithium Borovanadate Glasses with Applications to Lithium Batteries

M. L. Kindle*[1]; S. Kmiec[2]; I. d'Anciães Almeida Silva[3]; S. W. Martin[2]; M. Song[1]; J. McCloy[1]

1. Washington State University, School of Mechanical and Materials Engineering, USA
2. Iowa State University, Materials Science and Engineering, USA
3. University of São Paulo, São Carlos institute of Physics, Brazil

5:20 PM

(ICG-SIV-123-2019) Lithium Ion Diffusion Pathways and Defect Behaviors in Crystalline $Li_{1+x}Al_xGe_{2-x}(PO_4)_3$ Solid State Electrolytes from atomistic simulations

P. Kuo*[1]; J. Du[1]

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

5:40 PM

(ICG-SIV-124-2019) Properties and metallization behaviors of $50B_2O_3$-30BaO-(20-x)ZnO-xBi_2O_3 glass frits

L. Chen[1]; Y. Lai*[1]

1. National United University, Materials Science and Engineering, Taiwan

Session 5: Glass for Buildings and Transportation I

Room: Stuart (4th floor)

Session Chairs: Mehran Arbab, PPG; Andriy Romanyuk, GlasTrösch AG

8:00 AM

(ICG-SIV-125-2019) Reimaging Windows – Innovations in Glass with the Potential to Transform the Built Environment (Invited)

K. Sawyer[1]; C. Harris[2]; M. LaFrance*[1]

1. Department of Energy, Building Technologies Office, USA
2. National Renewable Energy Laboratory, USA

8:30 AM

(ICG-SIV-126-2019) A circular building system out of interlocking cast glass units

F. Oikonomopoulou*[1]; T. Bristogianni[2]; F. A. Veer[1]

1. Delft University of Technology, Architectural Engineering + Technology, Netherlands
2. Delft University of Technology, Materials, Mechanics, Management & Design (3Md), Netherlands

8:50 AM

(ICG-SIV-127-2019) Magnetron Sputtered Coatings on Glass for Buildings and Transportation: Current Applications and Future Opportunities (Invited)

A. Polcyn*[1]

1. Vitro, USA

9:20 AM

(ICG-SIV-128-2019) ACTILAZ® Technology: A Rapid Thermal Treatment to enhance thin film coatings performances (Invited)

P. Reutler*[1]

1. Saint-Gobain, France

9:50 AM

Break

10:10 AM

(ICG-SIV-129-2019) Light-Weight Glass Laminates for Automotive Industry with Enhanced Toughness and Superior Opticss (Invited)

V. Bhatia*[1]

1. Corning Incorporated, Automotive Glass Solutions, USA

10:40 AM

(ICG-SIV-130-2019) Accelerating Strengthening in Silicate Glasses (Invited)

S. K. Sundaram*[1]

1. Alfred University, Inamori School of Engineering, USA

11:10 AM

(ICG-SIV-131-2019) Glass Bending Process Using Microwave Beam

M. Shevelev*[1]

1. Gyrotron Technology Inc., USA

11:30 AM

(ICG-SIV-132-2019) Hardness, indentation fracture toughness, wear resistance of soda lime silicate float glass (Invited)

S. H. Kim*[1]

1. Pennsylvania State University, Chemical Engineering, USA

Session 5: Glass for Buildings and Transportation II

Room: Stuart (4th floor)

Session Chairs: Mehran Arbab, PPG; Andriy Romanyuk, GlasTrösch AG

1:20 PM

(ICG-SIV-133-2019) Multifunctional Coatings on Glass for Construction and Automotive Industries (Invited)

S. Oktik*[1]

1. SISECAM, Research and Technological Development, Turkey

1:50 PM

(ICG-SIV-134-2019) Enhanced vacuum glazing bonding strength by anodic bonding assisted sealing method

H. Li*[1]

1. Wuhan University of Technology, China

2:10 PM

(ICG-SIV-135-2019) Design of ITO and Glass Substrate for Heating Aircraft Windshields

E. Sasse*[1]

1. PPG, USA

2:30 PM

(ICG-SIV-136-2019) Glass Surface Chemistry in Processing and Properties of Automotive and Security Glass (Invited)

W. LaCourse*[1]; T. Amodei[2]

1. Alfred University, Inamori School of Engineering, USA
2. Armoured One, USA

3:00 PM

Break

3:20 PM

Flat Glass Innovation Roundtable

Session 8: Challenges with Vitrification of Low Activity Waste

Room: Whittier (4th floor)

Session Chairs: Tetsuji Yano, Tokyo Institute of Technology; John Vienna, Pacific Northwest National Lab

8:00 AM

(ICG-SIV-137-2019) Effect of network modifiers on iodine redox equilibrium and on glass properties

M. Cicconi*[1]; E. Pili[2]; D. R. Neuville[1]

1. Institut de Physique du Globe de Paris, Géomatériaux, France
2. CEA, DAM, DIF, France

8:20 AM

(ICG-SIV-138-2019) Rhenium Speciation, Solubility, and Redox Effects in Sodium Borosilicate Melts

H. Gan*[1]; D. A. McKeown[1]; X. Xie[1]; I. L. Pegg[1]

1. Catholic University of America, Vitreous State Laboratory, USA

8:40 AM

(ICG-SIV-139-2019) Tc/Re Volatilization during Nuclear Waste Vitrification (Invited)

K. Xu*[1]

1. Wuhan University of Technology, State Key Laboratory of Silicate Materials for Architectures, China

9:10 AM

(ICG-SIV-140-2019) Crystallization in Statistically-Designed Low-Activity Waste Glasses

C. Lonergan*[1]; C. H. Skidmore[1]; S. Sannoh[1]; J. Vienna[1]

1. Pacific Northwest National Lab, USA

9:30 AM

Break

Session 8: Turning Nuclear Waste to Glass

Room: Whittier (4th floor)

Session Chairs: Cristina Leonelli, University of Modena and Reggio Emilia; Scott Kroeker, University of Manitoba

10:00 AM

(ICG-SIV-141-2019) Gas Release and Foaming Behavior in Low Activity Waste Glasses: How Reducing Agents Affect Melting Rates

J. George*[1]; P. Hrma[1]; R. Pokorny[2]; J. Klouzek[2]; M. J. Schweiger[1]

1. Pacific Northwest National Lab, USA
2. University of Chemistry and Physics, Czechia

10:20 AM

(ICG-SIV-142-2019) Nuclear Waste and Simulant Vitrification in a Laboratory-Scale Melter with Off-Gas Sampling

D. Dixon*[1]; W. C. Eaton[1]; C. Stewart[1]; J. Lang[1]; D. Cutforth[1]; M. Hall[1]; J. Venarsky[1]

1. Pacific Northwest National Lab, USA

10:40 AM

(ICG-SIV-143-2019) Effect of water vapor on nuclear waste feed conversion to-glass

J. Marcial*[1]; R. Pokorny[1]; J. Klouzek[1]; M. Vernerova[1]; P. Hrma[2]; A. A. Kruger[3]

1. University of Chemistry and Technology, Prague, Laboratory of Inorganic Materials, Czechia
2. Pacific Northwest National Lab, USA
3. Department of Energy, USA

11:00 AM

(ICG-SIV-144-2019) International experience in radioactive waste glass

M. I. Ojovan*[1]; M. Pavoni[2]; D. Heumannskaemper[2]

1. Imperial College, Department of Materials, United Kingdom
2. Morgan Advanced Materials, Molten Metal Systems, Germany

11:20 AM

(ICG-SIV-145-2019) Rokkasho Melters and Glasses - Lessons Learned

A. Sakai*[1]

1. Japan Nuclear Fuel Limited, Japan

11:40 AM

(ICG-SIV-146-2019) Comparison of DOE Melter Model and Commercial Glass Furnace Model to Data from a Pilot-Scale Melter Test

D. P. Guillen*[1]; A. Abboud[1]; R. Pokorny[2]; W. C. Eaton[3]; M. J. Schweiger[3]; A. A. Kruger[4]

1. Idaho National Laboratory, Materials Science and Engineering, USA
2. UCT Prague, Czechia
3. Pacific Northwest National Lab, USA
4. U.S. DOE, USA

Session 8: Challenges with Vitrification of High–level Waste I

Room: Whittier (4th floor)

Session Chairs: Ashutosh Goel, Rutgers University; William Ebert, Argonne National Lab

1:20 PM

(ICG-SIV-147-2019) Redox behavior of Ruthenium in nuclear glass melt

C. Laurin[1]; E. Regnier*[1]; S. Gosse[2]; M. Toplis[3]; A. F. Laplace[1]; J. Agullo[1]; V. Legrand[1]; O. Pinet[1]

1. CEA, DE2D, France
2. CEA, DPC, France
3. IRAP, France

1:40 PM

(ICG-SIV-148-2019) The Influence of Glass Chemistry on Caesium Volatility in Glass Systems Being Considered for Nuclear Waste Immobilisation

J. T. Radford*[1]; C. R. Scales[2]; C. L. Corkhill[1]; R. J. Hand[1]

1. University of Sheffield, Material Science and Engineering, United Kingdom
2. National Nuclear Laboratory, United Kingdom

2:00 PM

(ICG-SIV-149-2019) Development of High Level Liquid Waste loading glass

T. Ishio*[1]; Y. Miura[1]; T. Horimai[1]; K. Owaku[1]; H. Mitsuhashi[1]; N. Kanehira[1]; T. Hoshino[1]

1. Japan Nuclear Fuel Limited, Japan

2:20 PM

(ICG-SIV-150-2019) Network Structure of Nuclear Waste Glasses at Canister Centerline Temperatures

A. Krishna Murthy[1]; S. Kroeker*[1]

1. University of Manitoba, Chemistry, Canada

2:40 PM

(ICG-SIV-151-2019) Characterisation of in-situ vitreous products for higher activity waste in the UK

S. Walling*[1]; L. J. Gardner[1]; M. Kauffmann[1]; D. Bailey[1]; C. L. Corkhill[1]; N. C. Hyatt[1]

1. University of Sheffield, Materials Science and Engineering, United Kingdom

3:00 PM

(ICG-SIV-152-2019) Optimisation of the new Ca/Zn base glass formulation for enhanced operability

M. T. Harrison*[1]

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

3:20 PM

Break

Session 8: Challenges with Vitrification of High–level Waste II

Room: Whittier (4th floor)

Session Chairs: Albert Kruger, US Department of Energy; John McCloy, Washington State University

3:40 PM

(ICG-SIV-153-2019) Characteristics of vitrification process of borosilicate glasses with simulated high-level radioactive wastes as a function of glass composition

T. Yano*[1]; S. Matsumoto[1]; T. Miyawaki[1]; N. Matsushita[1]; T. Kishi[1]; Y. Miura[2]; N. Kanehira[2]

1. Tokyo Institute of Technology, Department of Materials Science and Engineering, Japan
2. Japan Nuclear Fuel Limited, Japan

4:00 PM

(ICG-SIV-154-2019) Impact of glass structure on ruthenium solubility in sodium aluminosilicate and borosilicate glasses

H. Hah*[1]; A. Tyryshkin[2]; A. Yaremchenko[4]; H. Eckert[3]; A. Goel[1]

1. Rutgers University, Material Science Department, USA
2. Rutgers University, SEBS-Dept Marine & Coastal Science, USA
3. University of São Paulo, São Carlos Institute of Physics, Brazil
4. University of Aveiro, CICECO – Aveiro Institute of Materials, Department of Materials and Ceramic Engineering, Portugal

4:20 PM

(ICG-SIV-155-2019) Impact of ruthenium on the crystallization behavior of molybdenum-containing high-level waste glasses

H. Kamat*[1]; A. Yaremchenko[2]; B. I. Arias-Serrano[2]; A. Goel[1]

1. Rutgers - The State University of New Jersey, Department of Materials Science and Engineering, USA
2. University of Aveiro, Department of Materials and Ceramic Engineering, Portugal

4:40 PM

(ICG-SIV-156-2019) Impact of mixed network former effect on spinel crystallization in high-level nuclear waste glasses

N. Balasubramanya*[1]; P. Florian[2]; A. Scrimshire[3]; P. A. Bingham[3]; M. Ahmadzadeh[4]; J. McCloy[4]; A. Goel[1]

1. Rutgers-The State University of New Jersey, Materials Science and Engineering, USA
2. CNRS, CEMHTI, France
3. Sheffield Hallam University, Materials and Engineering Research Institute, United Kingdom
4. Washington State University, Materials Science and Engineering, USA

5:00 PM

(ICG-SIV-157-2019) Impact of crystallization on chemical durability of simplified nuclear waste Li_2O-Na_2O-Al_2O_3-B_2O_3-SiO_2 glasses

A. A. Deshkar*[1]; B. Parruzot[2]; J. Reiser[2]; J. Vienna[2]; A. Goel[1]

1. Rutgers University, Materials Science & Engineering, USA
2. Pacific Northwest National Lab, USA

5:20 PM

(ICG-SIV-158-2019) A spectroscopic investigation to understand the impact of melt chemistry and environment on spinel crystallization in high-level waste glasses

N. Balasubramanya*[1]; M. Naji[2]; M. Ahmadzadeh[3]; E. T. Nienhuis[3]; D. P. Guillen[4]; J. McCloy[3]; A. Goel[1]

1. Rutgers-The State University of New Jersey, Materials Science and Engineering, USA
2. University of Sidi Mohamed Ben Abdellah University, Physics Department, Morocco
3. Washington State University, and Materials Science and Engineering Program, USA
4. Idaho National Lab, Advanced Process and Decision Systems Department, USA

5:40 PM

(ICG-SIV-159-2019) Formulation of High-Al_2O_3 Waste Glasses from Projected Hanford Waste Compositions

J. Vienna*[1]; J. Kroll[2]; Z. Nelson[1]; C. H. Skidmore[1]; D. Dixon[1]

1. Pacific Northwest National Lab, USA
2. Western Frontier Services, USA

6:00 PM

(ICG-SIV-160-2019) Thermodynamic and kinetic assessment of nepheline crystallization in Na_2O-Al_2O_3-B_2O_3-SiO_2 glasses: Impact of mixed network former effect

A. A. Deshkar*[1]; O. Gulbiten[2]; R. Youngman[2]; A. Goel[1]

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

6:20 PM

(ICG-SIV-161-2019) Crystallization behavior of HLW glasses: Impact of non–framework cation mixing

Z. Sun*[1]; N. Balasubramanya[1]; S. Kamali[3]; M. Ahmadzadeh[2]; J. McCloy[2]; A. Goel[1]

1. Rutgers University, Material Science and Engineering, USA
2. Washington State University, Materials Science and Engineering, USA
3. University of Tennessee Space Institute, USA

Session 9: Nano-Crystals in Glasses

Room: Tremont (4th floor)

Session Chairs: Takumi Fujiwara, Tohoku University; Heike Ebendorff-Heidepriem, University of Adelaide

8:00 AM

(ICG-SIV-162-2019) Thermal processing of transparent oxyfluoride glass-ceramics: Fabrication of planar waveguides (Invited)

Y. Ledemi*[1]; K. Venkata K.[2]; L. Maia[3]; E. Veron[4]; M. Allix[4]; R. Kashyap[2]; Y. Messaddeq[1]

1. Universite Laval, COPL, Canada
2. Ecole Polytechnque de Montreal, Department of Engineering Physics, Canada
3. Universidade Federal de Goiás, Instituto de Física, Brazil
4. Conditions Extrêmes et Matériaux: Haute Température et Irradiation, CEMHTI-CNRS UPR3079, France

8:30 AM

(ICG-SIV-163-2019) Spatially designed assembly of nanocrystals in glasses by laser

T. Komatsu*[1]

1. Nagaoka University of Technology, Japan

8:50 AM

(ICG-SIV-164-2019) Precipitation of Pd nanoparticles in phosphate glasses for UV plasmon resonance

B. So*[1]; D. Bust[1]; S. Fuhrmann[1]; E. Spiecker[2]; M. Sierka[1]; M. Peng[3]; H. Ebendorff-Heidepriem[4]; L. Wondraczek[1]

1. University of Jena, Otto Schott Institute of Materials Research, Germany
2. University of Erlangen-Nuremberg, Department of Materials Science, Germany
3. South China University of Technology, The China-Germany Research Center for Photonic Materials and Devices, The State Key Laboratory of Luminescent Materials and Devices, Guangdong Provincial Key Laboratory of Fiber Laser Materials and Applied Techniques, China
4. University of Adelaide, ARC Centre of Excellence for Nanoscale BioPhotonics (CNBP), Institute for Photonics and Advanced Sensing (IPAS), School of Physical Sciences, Australia

9:10 AM

(ICG-SIV-165-2019) Opticalliy Transparent glass-ceramics in the system Na_2O-FeO-MnO-SiO_2 (Invited)

T. Honma*[1]; M. Terasawa[1]; T. Komatsu[1]

1. Nagaoka Univeristy of Technology, Department of Materials Sciencs and Technology, Japan

9:40 AM

Break

10:00 AM

(ICG-SIV-166-2019) Photoluminescence and Crystallization Process of Rare Earth co-doped Oxyfluoride Glass Ceramics Containing Fluoride Nano-crystals

J. Zhang[1]; L. Jia*[1]; Q. Tian[1]; L. Meng[1]; X. Zhao[1]

1. Wuhan University of Technology, China

10:20 AM

(ICG-SIV-167-2019) Crystallization of nano-sized $Bi_2Ti_2O_7$ phase and its formation mechanism in Na_2O-Bi_2O_3-TiO_2-SiO_2 glass

O. Kwon*[1]; C. Baek[3]; N. Terakado[1]; Y. Takahashi[1]; T. Fujiwara[1]; Y. Yang[2]

1. Tohoku University, Applied Physics, Japan
2. Pusan National University, Nanoenergy Engineering, Republic of Korea
3. Pusan National University, Nano Fusion Technology, Republic of Korea

10:40 AM

(ICG-SIV-168-2019) Impact of additives on nanocrystallization of BaF_2 in fluoroborate system

K. Shinozaki*[1]

1. AIST, Inorganic Functional Materials Research Institute, Japan

11:00 AM

(ICG-SIV-169-2019) Effect of CdSe and ZnSe on Spectroscopic Properties of White Light Emitting Dy^{3+}-Doped Tellurite Glasses

O. Kibrisli*[1]; A. Ersundu[1]; M. C. Ersundu[1]

1. Yildiz Technical University, Metallurgical and Materials Engineering, Turkey

Session 10: Glass Modifications by Femtosecond Interactions (TC 20)

Room: Beacon Hill (4th floor)

Session Chairs: Setsuhisa Tanabe, Kyoto University; Marcelo Nalin, Institute of Chemistry - UNESP

8:30 AM

(ICG-SIV-170-2019) Femtosecond laser irradiation in yttrium aluminosilicate glass optical fibers (Invited)

M. Cavillon*[1]; M. Lancry[1]; B. Poumellec[1]; P. Dragic[2]; J. Ballato[3]

1. Paris-Sud University, ICMMO, France
2. University of Illinois at Urbana-Champaign, Electrical and Computer Engineering, USA
3. Clemson University, Materials Science and Engineering, USA

9:00 AM

(ICG-SIV-171-2019) Customized Side-Emitting Fiber: Controlled Decoupling of Light via Femtosecond-Laser Induced Microstructures

A. Reupert*[1]; M. Heck[2]; S. Nolte[2]; L. Wondraczek[1]

1. Friedrich Schiller University Jena, Otto Schott Institute of Materials Science, Germany
2. Friedrich Schiller University, Institute of Applied Physics, Germany

9:20 AM

(ICG-SIV-172-2019) Investigating femtosecond laser interaction with $Ge_{23}Sb_7S_{70}$ chalcogenide glass

G. Torun*[1]; K. Saadi[1]; K. Richardson[2]; Y. Bellouard[1]

1. EPFL, Galatea Lab, IMT/STI, Switzerland
2. Univ. Central Florida, CREOL and College of Optics and Photonics, USA

9:40 AM

Break

Session 10: Rare Earth Doped Glasses (TC 20)

Room: Beacon Hill (4th floor)

Session Chairs: John Ballato, Clemson University; Giancarlo Righini, Enrico Fermi Center

10:00 AM

(ICG-SIV-173-2019) Super Broad Band NIR emission from Yb/Ho/Tm triply doped oxyfluoride glass

S. Balaji*[1]; K. Annapurna[1]

1. CSIR-Central Glass and Ceramic Research Institute, Glass Division, India

10:20 AM

(ICG-SIV-174-2019) Study of fluoro-phosphate glasses with a high terbium content for magneto-optical applications

B. Bellanger*[1]; Y. Ledemi[1]; Y. Messaddeq[1]

1. University of Laval, Chemistry, Canada

10:40 AM

(ICG-SIV-175-2019) Heavy metal oxide glasses containing luminescent rare-earth single crystals

E. Souza[1]; D. F. Franco[1]; S. J. Ribeiro[1]; M. Nalin*[1]

1. Institute of Chemistry - UNESP, Inorganic and General Chemistry, Brazil

Session 12: Multi-material Fibers II

Room: Cambridge (4th floor)

Session Chairs: Fabien Sorin, EPFL; Sylvain Danto, University of Bordeaux; Alexander Stolyarov, MIT Lincoln Laboratory

8:20 AM

(ICG-SIV-176-2019) Preform Drawing of Glass-coated Sn Microwires

J. Zhao*[1]; J. Benner[1]

1. Western New England University, Mechanical Engineering, USA

8:40 AM

(ICG-SIV-177-2019) Substantiation of 3D architectural control in crystalline-semiconductor fiber-embedded microelectronic systems

C. Faccini de Lima*[1]; M. Zheng[1]; V. Koraganji[1]; L. van der Elst[1]; A. Gumennik[1]

1. Indiana University, Intelligent Systems Engineering, USA

9:00 AM

(ICG-SIV-178-2019) Chalcogenide materials inside microstructured silica fibers: A new base for nonlinear photonics (Invited)

M. Schmidt[1]; H. Ebendorff-Heidepriem*[2]

1. Leibniz Institute of Photonic Technology, Fiber Photonics, Germany
2. University of Adelaide, Australia

9:30 AM

Break

10:00 AM

(ICG-SIV-179-2019) Advances in multimaterial fibers: New physics, enhanced functionalities, and boosted scalability (Invited)

A. Abouraddy*[1]

1. University of Central Florida, CREOL, The College of Optics & Photonics, USA

10:30 AM

(ICG-SIV-180-2019) Nano-enabled multifunctional fibers for electrical, optical and chemical communication with neural circuits (Invited)

X. Jia*[1]

1. Virginia Tech, Bradley Department of Electrical and Computer Engineering, USA

11:00 AM

(ICG-SIV-181-2019) Multimaterial Fibres in Robotic Surgery: Fibres in Robots to Fibre Robots

B. Temelkuran*[1]; M. E. Abdelaziz[1]; G. Yang[1]

1. Imperial College, Hamlyn Centre, United Kingdom

11:20 AM

(ICG-SIV-182-2019) Bioresorbable microstructured phosphate glass optical fiber for theranostic applications

D. Pugliese*[1]; N. Boetti[2]; D. Gallichi Nottiani[1]; O. Podrazký[3]; P. Peterka[3]; D. Milanese[1]; D. L. Janner[1]

1. Politecnico di Torino, Italy
2. Fondazione LINKS – Leading Innovation & Knowledge for Society, Italy
3. Czech Academy of Sciences, Institute of Photonics and Electronics, Czechia

Session 13: Open Session on Glasses for Pharma I (TC12)

Room: White Hill (4th floor)

Session Chairs: Daniele Zuccato, Stevanato Group; Holger Roehl, Roche

8:00 AM

(ICG-SIV-183-2019) New challenges for Pharma glasses: Characterisation updates, elemental impurities detection and data quality improvement (Invited)

E. Guadagnino*[1]

1. Professional Glass Expert, Italy

8:30 AM

(ICG-SIV-184-2019) Dependency of Drug-Container-Interaction on filling volume

V. Rupertus*[1]

1. Schott AG, Pharmaceutical Systems, Germany

8:50 AM

(ICG-SIV-185-2019) Investigating the effects of the chemical composition on glass corrosion. A case study for Type I vials

N. Bessegato*[1]; S. Panighello[1]; O. Pinato[1]

1. Nuova Ompi S.r.l. unipersonale, SG Lab Analytics, Italy

9:10 AM

(ICG-SIV-186-2019) Glass corrosion principles applied to pharmaceutical containers to predict extracted metal concentrations (Invited)

R. Schaut*[1]

1. Corning Incorporated, S&T, Glass Research, USA

9:40 AM

Break

Session 13: Open Session on Glasses for Pharma II (TC12)

Room: White Hill (4th floor)

Session Chairs: Volker Rupertus, Schott AG; Carol Flynn, Corning Incorporated

10:00 AM

(ICG-SIV-187-2019) Delamination in pharmaceutical glasses: An update

M. Guglielmi*[1]

1. University of Padova, Dipartimento di Ingegneria Industriale, Italy

10:20 AM

(ICG-SIV-188-2019) TC12 "Pharma Packaging": An update on the activities looking for a Delamination propensity predictive test

D. Zuccato*[1]

1. Stevanato Group, Italy

10:40 AM

Round Table

SVII: Arun K. Varshneya Festschrift

Arun K. Varshneya Festschrift IV

Room: Georgian (mezzanine)

Session Chair: Madoka Ono, Asahi Glass Company

8:00 AM

(ICG-SVII-026-2019) Varshneya Glass Technology Lecture: Structure-Property Relationships in Halide Containing Bioactive Glasses

R. Hill*[1]

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

9:00 AM

(ICG-SVII-027-2019) Fabio celebrates Arun (Invited)

F. Nicoletti*[1]

1. Stevanato Group, Italy

9:20 AM

(ICG-SVII-028-2019) Arun Varshneya: A Guru, A Mentor, A Force to Reckon (Invited)

A. Goel*[1]

1. Rutgers University, USA

9:40 AM

Break

10:00 AM

(ICG-SVII-029-2019) The Guru and Chalcogenide Glass (ChG) materials (Invited)

K. Richardson*[1]

1. University of Central Florida, CREOL, USA

10:20 AM

(ICG-SVII-030-2019) A Guru in Glass – from the Outside In (Invited)

M. Richardson*[1]

1. University of Central Florida, CREOL, USA

10:40 AM

(ICG-SVII-031-2019) Loose Ions on a Disordered Landscape: An Enabling Paradigm for Strong Glasses and Fast Ionics (Invited)

S. W. Martin*[1]

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

11:00 AM

(ICG-SVII-032-2019) Fracture of Sodium-Silicate Glasses: Insights from computer simulations (Invited)

W. Kob*[1]; Z. Zhang[1]; S. Ispas[1]

1. University of Montpellier, France

11:20 AM

(ICG-SVII-033-2019) Structure and dynamics of ion-exchanged glasses (Invited)

E. I. Kamitsos*[1]

1. National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute (TPCI), Greece

Arun K. Varshneya Festschrift V

Room: Georgian (mezzanine)

Session Chair: Kathleen Richardson, University of Central Florida

1:20 PM

(ICG-SVII-034-2019) Observations related to the free volume theory of glass formation (Invited)

A. Wright*[1]

1. University of Reading, United Kingdom

1:40 PM

(ICG-SVII-035-2019) Aircraft Transparency Technology (Invited)

K. Lakdawala*[1]

1. PPG Aerospace, USA

2:00 PM

(ICG-SVII-036-2019) Sheffield model of viscosity: From Douglas to nowadays (Invited)

M. I. Ojovan*[1]

1. The University of Sheffield, Materials Science and Engineering, United Kingdom

2:20 PM

(ICG-SVII-037-2019) Understanding the effects of compositional changes in ion exchanged glasses

H. Gover[1]; R. J. Hand*[1]

1. University of Sheffield, Materials Science & Engineeering, United Kingdom

2:40 PM

(ICG-SVII-038-2019) Rare-Earths Doped Glass and Ceramic Materials for Telecommunication and Lighting (Invited)

S. Tanabe*[1]

1. Kyoto University, Japan

3:00 PM

(ICG-SVII-039-2019) Reaction between Glass and Molten Salt in Chemical Strengthening Process (Invited)

Y. Fujiwara*[1]; I. Kashima[1]; T. Yamada[1]; Y. Sera[1]; D. Kobayashi[1]

1. AGC Inc., Japan

3:20 PM

Break

3:40 PM

(ICG-SVII-040-2019) Tiny Bubbles: Unique Porous Wall Hollow Glass Microspheres and Applications in Medicine, Energy, Security, Environmental Remediation and Consumer Goods (Invited)

G. Wicks*[1]

1. Applied Research Center, USA

4:00 PM

(ICG-SVII-042-2019) Maximizing ion conductivity and minimizing interface resistance of inorganic electrolytes (Invited)

U. G. Fotheringham*[1]; K. Hofmann[1]; M. Reich[1]; A. Roters[1]; W. Schmidbauer[1]; M. Schneider[1]

1. SCHOTT AG, Germany

4:20 PM

(ICG-SVII-043-2019) Kinetics of chemical strengthening and trends in effective diffusion coefficients (Invited)

S. Karlsson*[1]; L. Wondraczek[2]; S. Ali[3]; B. Jonson[3]

1. RISE Research Institutes of Sweden, Glass, Sweden
2. University of Jena, Otto Schott Institute of Materials Research, Germany
3. Linnaeus University, Department of Built Environment and Energy Technology, Sweden

4:40 PM

(ICG-SVII-044-2019) Strengthened glass by Ion Exchange: Residual stress profile nagging issues

G. Macrelli*[1]; A. K. Varshneya[2]

1. Isoclima SpA, R&D, Italy
2. Saxon Glass Technologies, USA

5:00 PM

(ICG-SVII-045-2019) Effect of typical impurities in ion-exchange process of silicate glasses

V. M. Sglavo*[1]

1. University of Trento, Italy

5:20 PM

(ICG-SVII-046-2019) Enlightenment to become a Glass Science Instructor (Invited)

M. Orhon*[1]

1. Sisecam (Retired), RTD, Turkey

5:40 PM

John Mauro / Vijay Jain Comments

Friday, June 14, 2019

SI: Glass Structure and Chemistry

Session 2: Glass and Melt: Macroscopic Properties and Structure of Melt at High Temperature (TC03 & TC26)

Room: Statler (mezzanine)

Session Chairs: Daniel Neuville, IPGP-CNRS-USPC; Efstratios Kamitsos, National Hellenic Research Foundation

8:00 AM

(ICG-SI-124-2019) Structure and Dynamics of High-Temperature Strontium Aluminosilicate Melts (Invited)

P. Florian*[1]; A. Novikov[1]; L. Hennet[1]; V. Sarou-Kanian[1]; T. Charpentier[2]; D. Massiot[1]; D. R. Neuville[3]

1. CEMHTI-CNRS, France
2. NIMBE-CEA, France
3. IPGP-CNRS, France

8:30 AM

(ICG-SI-125-2019) Structural transition and its effect on crystallization behavior of Alumino-Boro-Silicate glass

J. Cho*[1]; J. Baek[1]

1. Pohang University of Science and Technology, Republic of Korea

8:50 AM

(ICG-SI-126-2019) Rare-Earth Elements Redox kinetics in melts (Invited)

M. Cicconi*[1]; D. R. Neuville[1]

1. Institut de Physique du Globe de Paris, Géomatériaux, France

9:20 AM

(ICG-SI-127-2019) Rare-earth titanate melt structure and glass formation

O. L. Alderman*[1]; C. J. Benmore[2]; A. Tamalonis[1]; R. Weber[1]

1. Materials Development Inc., R&D, USA
2. Advanced Photon Source, X-Ray Science Division, USA

9:40 AM

Break

10:00 AM

(ICG-SI-128-2019) The temperature dependence of the structure of zinc chloride (Invited)

A. Zeidler*[1]; P. S. Salmon[1]

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

10:30 AM

(ICG-SI-129-2019) The relation between structure, thermodynamics, and properties of oxide glasses

R. Conradt*[1]

1. uniglassAC GmbH, Germany

10:50 AM

(ICG-SI-130-2019) In situ multi scale approach of the glass transition: Linking thermal and mechanical properties to short and mid-range order (Invited)

D. de Ligny*[1]; M. Bergler[1]; F. Werr[1]; A. Veber[1]; P. Benigni[2]

1. University Erlangen-Nürnberg, Materials Sciences and Engineering, Germany
2. IM2NP-CNRS, France

11:20 AM

(ICG-SI-131-2019) Investigation of Liquids and Glasses by Extended Range X-ray Pair Distribution Function and in-situ Property Measurements

R. Weber*[1]; O. L. Alderman[1]; C. J. Benmore[2]; A. Tamalonis[1]; E. Clark[1]

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

11:40 AM

(ICG-SI-132-2019) Mixing effect of non-framework cations on viscosity of aluminosilicate glasses and melts

S. Sukenaga*[1]; S. Baba[1]; K. Kanehashi[2]; K. Shinozaki[3]; H. Shibata[1]

1. Tohoku University, Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Japan
2. Nippon Steel & Sumitomo Metal Corporation, Japan
3. National Institute of Advanced Industrial Science and Technology (AIST), Japan

12:00 PM

(ICG-SI-133-2019) Thermal expansion of binary and ternary silicate melts in relation to the Q^n distribution

J. Matsuoka*[1]; M. Tsujisaka[1]; J. Katsuki[1]; T. Sugawara[2]; A. Yamada[1]; S. Yoshida[1]

1. The University of Shiga Prefecture, Department of Materials Science, Japan
2. Akita University, Cooperative Major in Life Cycle Design Engineering, Japan

Session 6: Phosphate Glasses and Intermediates

Room: Berkley (mezzanine)

Session Chair: Doris Möncke, Alfred University

8:00 AM

(ICG-SI-134-2019) Glass-forming ability, structure and crystallization of glasses in the ternary system BaO-WO_3-P_2O_5

L. Koudelka*[1]; P. Kalenda[1]; P. Mosner[1]; L. Montagne[2]; B. Revel[2]

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

8:20 AM

(ICG-SI-135-2019) Insights into the structure, chemical bonding and electronic properties of lithium-vanadophosphate glasses from First-Principles Molecular Dynamics simulations

G. Ori*[1]; C. Massobrio[1]; M. Boero[1]

1. IPCMS - CNRS / Université de Strasbourg, France

8:40 AM

(ICG-SI-136-2019) Redox effects on the structure and properties of Na-Mo-Fe-phosphate glasses

J. Bai*[1]; J. Hsu[1]; R. Brow[1]; C. Kim[2]

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

9:00 AM

(ICG-SI-137-2019) Antimony phosphate based glass containing alkali metal oxides

O. Boily*[1]; S. Messaddeq[1]; D. Bernier-Marceau[1]; S. Santagneli[2]; Y. Messaddeq[1]

1. Laval University, Canada
2. UNESP, Brazil

9:20 AM

(ICG-SI-138-2019) Insights on ion and polaron dynamics in phosphate glasses from model-free conductivity scaling

L. Pavić*[1]; A. Šantić[1]; J. Nikolić[1]; R. D. Banhatti[2]; P. Mosner[3]; L. Koudelka[3]; A. Mogus-Milankovic[1]

1. Rudjer Bošković Institute, Division of Materials Chemistry, Croatia
2. Rudjer Bošković Institute, Division of Physical Chemistry, Croatia
3. Faculty of Chemical Technology, University of Pardubice, Department of General and Inorganic Chemistry, Czechia

9:40 AM

Break

Session 6: Phosphate Glasses - Bioactive and Weathering

Room: Berkley (mezzanine)

Session Chair: Delia Brauer, Friedrich-Schiller-Universität

10:00 AM

(ICG-SI-139-2019) Oxyfluorophosphate bioactive glasses (Invited)

J. Massera*[1]

1. Tampere University, Faculty of Medical Sciences and Technology, Finland

10:30 AM

(ICG-SI-140-2019) The role of metal complexes in phosphate glasses hydrolysis

D. A. Avila Salazar*[1]; P. Bellstedt[1]; D. S. Brauer[1]; T. Kasuga[2]; A. Miura[2]

1. Friedrich-Schiller-Universität Jena, Germany
2. Nagoya Institute of Technology, Department of Frontier Materials, Japan

10:50 AM

(ICG-SI-141-2019) Structure and dissolution behavior of alkali borophosphate glasses for biomedical applications

P. Freudenberger*[1]; R. L. Blatt[1]; M. Schlesinger[1]; R. Brow[1]

1. Missouri University of Science & Technology, USA

11:10 AM

(ICG-SI-142-2019) Physical and structural properties of $MgO-SiO_2-PO_{5/2}$ invert glasses prepared by a levitation technique

A. Masuno*[1]; S. Sasaki[2]; Y. Yanaba[3]; H. Inoue[3]

1. Hirosaki University, Graduate School of Science and Technology, Japan
2. Hirosaki University, Faculty of Science and Technology, Japan
3. The University of Tokyo, Institute of Industrial Science, Japan

11:30 AM

(ICG-SI-143-2019) Structure and weathering of SiO_2 contained phosphate glass

H. Ikeda*[1]

1. Nippon Electric Glass Co., Ltd., Fundamental Technology, Japan

11:50 AM

(ICG-SI-144-2019) Efficacy of high-field-strength cation additives in improving Mo solubility in borosilicate glasses

A. Krishna Murthy*[1]; S. Kroeker[1]

1. University of Manitoba, Chemistry, Canada

Session 11: Glass-Organic Adhesion

Room: Terrace (lower level)

Session Chairs: Aravind Rammohan, Corning Incorporated; Eunseog Cho, Samsung

8:30 AM

(ICG-SI-145-2019) Computational approaches for understanding adhesion behavior at organic-inorganic interface (Invited)

K. Min*[1]; A. Rammohan[2]; H. Lee[1]; J. Shin[3]; S. Lee[4]; S. Goyal[2]; H. Park[4]; J. C. Mauro[5]; R. Stewart[2]; V. Botu[2]; H. Kim[4]; E. Cho[1]

1. Samsung Advanced Institute of Technology, Autonomous Material Development Lab, Republic of Korea
2. Corning Incorporated, USA
3. Nano Electronics Lab, Samsung Advanced Institute of Technology, Republic of Korea
4. Corning Technology Center Korea, Republic of Korea
5. Pennsylvania State University, USA

9:00 AM

(ICG-SI-146-2019) Characterizing the fundamental adhesion of Polyimides on glass surfaces using atomistic simulations (Invited)

S. Goyal*[1]; H. Park[1]; J. C. Mauro[2]; A. Rammohan[1]

1. Corning Incorporated, USA
2. Pennsylvania State University, Material Science and Engineering, USA

9:30 AM

Break

9:50 AM

(ICG-SI-147-2019) Computational Analysis on the Adhesion Mechanism between Organic Coatings and Glass by Molecular Dynamics Simulations (Invited)

H. Park*[1]; S. Lee[1]; D. F. Acquard[2]; G. Agnello[2]; J. Banerjee[2]

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

10:20 AM

(ICG-SI-148-2019) Development of Inorganic-organic Hybrid Coating for Easy-to-clean Glass (Invited)

K. Tapasa*[1]; U. Pantulap[1]; K. Matcharee[1]; I. Youngthin[1]

1. Department of Science Service, Thailand

SII: Glass Physics

Session 3: Glass under Extreme Conditions III

Room: Clarendon (mezzanine)

Session Chairs: Jincheng Du, University of North Texas; Shinji Kohara, Japan Synchrotron Radiation Research Institute

8:00 AM

(ICG-SII-203-2019) Ultrahigh-pressure form of SiO_2 glass with dense pyrite-type crystalline homology (Invited)

Y. Onodera*[1]; S. Kohara[2]; H. Inoue[3]; M. Murakami[4]

1. Kyoto University, Institute for Integrated Radiation and Nuclear Science, Japan
2. National Institute for Materials Science (NIMS), Research Center for Advanced Measurement and Characterization, Japan
3. The University of Tokyo, Institute of Industrial Science, Japan
4. ETH Zurich, Department of Earth Sciences, Switzerland

8:30 AM

(ICG-SII-204-2019) Structure of amorphous oxides at mega-bar pressure: Insights from high-resolution NMR and inelastic X-ray scattering (Invited)

S. Lee*[1]

1. Seoul National University, Republic of Korea

9:00 AM

(ICG-SII-205-2019) Reactive simulation of shock propagation in sodium silicate glasses

P. Rathod[1]; R. Ravinder*[1]; R. Kumar[1]; N. Krishnan[1]

1. IIT Delhi, India

9:20 AM

(ICG-SII-206-2019) Vibrational investigation of picosecond pulsed laser structured objects in silica glass

M. Bergler*[1]; K. Cvecek[2]; M. Schmidt[2]; D. de Ligny[1]

1. Friedrich-Alexander-University Erlangen-Nuremberg, Institute of Glass and Ceramics, Germany
2. Friedrich-Alexander-University Erlangen-Nuremberg, Institute of Photonic Technologies, Germany

Session 9: Modeling and Simulations (TC 06)

Room: Arlington (mezzanine)

Session Chair: Morten Smedskjaer, Aalborg University

8:00 AM

(ICG-SII-207-2019) Fracture Mechanics of Phase-Separated Glasses by Peridynamic Simulations

L. Tang[1]; N. Krishnan[2]; G. Sant*[1]; M. Bauchy[1]

1. University of California, Los Angeles, USA
2. Indian Institute of Technology Delhi, India

8:20 AM

(ICG-SII-208-2019) Automated fractographic analysis of silicate glasses by computer vision

L. Ma*[1]; R. Dugnani[1]

1. UM-SJTU Joint Institute, Shanghai Jiao Tong University, Shanghai, China, China

8:40 AM

(ICG-SII-209-2019) Predicting densities and elastic moduli of the SiO_2-based glasses by machine learning

Y. Hu*[1]; G. Zhao[2]; T. Del Rose[1]; Q. Zhao[3]; Q. Zu[3]; Y. Chen[3]; X. Sun[4]; M. De Jong[5]; L. Qi[1]

1. University of Michigan, Materials Science and Engineering, USA
2. Pennsylvania State University, Statistic, USA
3. Sinoma Science & Technology Co., Ltd., China
4. Continental Technology LLC, USA
5. University of California, Berkeley, USA

9:00 AM

(ICG-SII-210-2019) Enhanced Ductility in Silica Nanoglass by Room Temperature Consolidation

Y. Zhang*[1]; L. Huang[1]; Y. Shi[1]

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

9:20 AM

(ICG-SII-211-2019) Irradiation induced brittle-to-ductile transition in α-quartz

A. Kumar[1]; R. Ravinder[1]; R. Kumar[1]; N. Krishnan*[1]

1. IIT Delhi, India

9:40 AM

Break

10:00 AM

(ICG-SII-212-2019) Crack branching in brittle glasses

J. Luo*[1]; B. Deng[1]; K. Vargheese[1]; A. Tandia[1]; J. C. Mauro[2]

1. Corning Incorporated, USA
2. Pennsylvania State University, Department of Materials Science and Engineering, USA

Session 9: Water and Aging Effects (TC 06)

Room: Arlington (mezzanine)

Session Chair: Morten Smedskjaer, Aalborg University

10:20 AM

(ICG-SII-213-2019) Micromechanical properties of hydrous oxide glasses (Invited)

J. Deubener*[1]; H. Behrens[2]; R. Müller[3]

1. Clausthal University of Technology, Institute of Non-Crystalline Materials, Germany
2. Leibniz University Hannover, Institute for Mineralogy, Germany
3. Bundesanstalt für Materialforschung und -prüfung (BAM), Germany

10:50 AM

(ICG-SII-214-2019) Density, microhardness and elastic moduli of hydrous soda-lime silicate-glasses

P. Kiefer*[1]; J. Deubener[1]; R. Balzer[2]; H. Behrens[2]; T. Waurischk[3]; S. Reinsch[3]; R. Müller[3]

1. Clausthal University of Technology, Institute for Nonmetallic Materials, Germany
2. Leibniz University, Institute for Mineralogy, Germany
3. BAM Federal Institute for Materials Research and Testing, Materials Engineering, Germany

11:10 AM

(ICG-SII-215-2019) Sub-critical crack growth in hydrous silicate glasses

T. Waurischk*[1]; R. Balzer[2]; P. Kiefer[3]; S. Reinsch[1]; R. Müller[1]; H. Behrens[2]; J. Deubener[3]

1. BAM Federal Institute for Materials Research and Testing, Germany
2. Leibniz University Hannover, Germany
3. Clausthal University of Technology, Germany

11:30 AM

(ICG-SII-216-2019) Surface Stress Relaxation and Slow Crack Growth in Glasses

M. Tomozawa*[1]; E. Aaldenberg[1]

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

11:50 AM

(ICG-SII-217-2019) Flaw size dependence of fatigue in silica

G. Scannell*[1]; S. Glaesemann[1]

1. Corning Incorporated, USA

12:10 PM

(ICG-SII-218-2019) Fatigue of Mixed Alkali Glasses

J. S. Aaldenberg*[1]; P. J. Lezzi[1]; T. M. Gross[1]

1. Corning Incorporated, USA

Session 10: Acoustic Properties of Glass

Room: Hancock (mezzanine)

Session Chairs: Benoit Ruffle, Montpellier University; Anne Tanguy, INSA Lyon

8:00 AM

(ICG-SII-219-2019) Connection between the Boson peak and quasi-localized modes in amorphous solids (Invited)

A. Ikeda*[1]; M. Shimada[1]; H. Mizuno[1]; M. Wyart[2]

1. University of Tokyo, Graduate School of Arts and Sciences, Japan
2. EPFL, Institute of Physics, Switzerland

8:30 AM

(ICG-SII-220-2019) High-frequency acoustic modes in vitreous silica via ultrafast optical techniques (Invited)

M. Foret*[1]; A. Huynh[2]; E. Péronne[2]; J. Sheu[3]; T. Hung[4]; B. Perrin[2]; B. Ruffle[1]; R. Vacher[1]; C. Sun[4]

1. University of Montpellier, Physics, France
2. Sorbonne Universités, UPMC, Institut des Nanosciences de Paris, France
3. Department of Photonics and Advanced Optoelectronic Technology Center, National Cheng Kung University, Taiwan
4. Department of Electrical Engineering and Graduate Institute of Photonics and Optoelectronics, National Taiwan University, Taiwan

9:00 AM

(ICG-SII-221-2019) Inelastic light scattering on porous glasses: Estimation of structure sizes with Brillouin spectroscopy

M. Brehl*[1]; S. Sander[3]; A. Hajian[2]; U. Schmid[2]; H. Roggendorf[3]; D. de Ligny[1]

1. Friedrich-Alexander-University Erlangen-Nürnberg, Institute of Glass and Ceramics, Germany
2. TU Wien, Institute of Sensor and Actuator Systems, Austria
3. Martin-Luther-University Halle-Wittenberg, Section inorganic-nonmetallic materials (ceramics), Germany

9:20 AM

(ICG-SII-222-2019) The double-peak spectra of a fluoroborosilicate glass and its implication of the viscoelastic behavior

J. Wang*[1]; X. Wang[2]; R. Haihui[1]

1. The Hong Kong Polytechnic University, Department of Mechanical Enginerring, Hong Kong
2. City University of Hong Kong, Department of Mechanical Engineering, Hong Kong

9:40 AM

Break

10:00 AM

(ICG-SII-223-2019) From glasses to nanocomposites: The dramatic effect of elastic heterogeneities on acoustic phonons and thermal transport (Invited)

V. Giordano*[1]

1. ILM_CNRS, France

10:30 AM

(ICG-SII-224-2019) Propagation and Diffusion of excitation in amorphous/nanocrystalline composites

P. Desmarchelier*[1]; V. Giordano[4]; Y. Beltukov[2]; K. Termendzidis[3]; A. Tanguy[1]

1. INSA Lyon, LaMCoS, France
2. Ioffe Physical Technical Institute, Department of Solid State Physics, Russian Federation
3. CETHIL - INSA Lyon, France
4. University Lyon1, France

10:50 AM

(ICG-SII-225-2019) Mechanical elastic hysteresis in silicate glasses

T. Deschamps*[1]; M. Christine[1]; B. Champagnon[1]; E. Barthel[2]

1. Institut Lumière Matière, France
2. ESPCI, France

11:10 AM

(ICG-SII-226-2019) Anharmonic damping, sound attenuation and density of vibrational states in silica and silicate glasses

G. Baldi*[1]

1. University of Trento, Department of Physics, Italy

11:30 AM

(ICG-SII-227-2019) Acoustic Energy Dissipation in Glasses with Harmonic Interactions

A. Tanguy*[1]; D. Rodney[2]; Y. Beltukov[3]; T. Damart[2]

1. INSA Lyon, LaMCoS, France
2. Université Lyon 1, France
3. Ioffe Institute, Russian Federation

SIV: Emerging Applications of Glass

Session 6: Glass and Glass Ceramics for Packaging and Sealing

Room: Cambridge (4th floor)

Session Chairs: Amber Tremper, Corning Incorporated; Eiken So, Schott AG

8:00 AM

(ICG-SIV-189-2019) Glasses for packaging in electronic applications (Invited)

M. Letz*[1]

1. Schott AG, R&D, Germany

8:30 AM

(ICG-SIV-190-2019) Photosensitive Glass Ceramics for RF Electronic Packages (Invited)

J. H. Flemming*[1]

1. 3D Glass Solutions, Office of CTO, USA

9:00 AM

(ICG-SIV-191-2019) Microstructure of Sealing Glass-ceramic with Linear Thermal Strain

S. Dai*[1]; M. Rodriguez[1]; P. Lu[1]

1. Sandia National Laboratories, Materials Science Center, USA

9:20 AM

(ICG-SIV-192-2019) Mechanical properties of glass-ceramic sealants of the system SrO-MgO-B_2O_3-SiO_2

V. M. Justo[1]; T. R. Ferreira[1]; L. S. Gallo[2]; L. S. Just[3]; S. Rodriguez-López[4]; M. Pascual[4]; F. C. Serbena*[1]

1. State University of Ponta Grossa, Brazil
2. Federal University of Lavras, Brazil
3. State University of Ponta Grossa, Brazil
4. Institute of Ceramics and Glass, CSIC, Spain

9:40 AM

Break

10:00 AM

(ICG-SIV-193-2019) Compliant Glass Composite Sealants for SOFC Stacks (Invited)

J. Hsu*[1]; C. Kim[2]; R. Brow[1]; J. Szabo[2]; A. Zervos[2]

1. Missouri S&T, USA
2. MO-SCI Corporation, USA

10:30 AM

(ICG-SIV-194-2019) Novel Feedthroughs for High Temperature Applications (Invited)

C. Mix[1]; I. Mitra*[1]; H. Hartl[1]

1. SCHOTT AG, Germany, Germany

11:00 AM

(ICG-SIV-195-2019) Glass coating for transparent spinel $MgAl_2O_4$ ceramics

J. Hormadaly*[1]

1. Ben-Gurion University of the Negev, Chemistry, Israel

Session 8: Advanced Glassy Waste Forms

Room: Whittier (4th floor)

Session Chairs: Michael Ojovan, The University of Sheffield; Donna Guillen, Idaho National Laboratory

8:00 AM

(ICG-SIV-196-2019) Glass Bead As Material of Choice for Immobilization of High Level Radioactive Nuclear Waste

S. Mandal*[1]; S. Sen[2]; A. Roy Chowdhury[1]; S. Ghorui[1]; S. Barik[1]; R. Sen[3]

1. CSIR-Central Glass and Ceramic Research Institute, Specialty Glass Technology Division, India
2. CSIR-Central Glass & Ceramic Research Institute, Material Characterizations and Instrumentation Division, India
3. CSIR-Central Glass & Ceramic Research Institute, Glass Division, India

8:20 AM

(ICG-SIV-197-2019) Asbestos containing materials and their vitrification process (Invited)

C. Leonelli*[1]; A. F. Gualtieri[2]; D. Malferrari[2]; M. Llgabue[2]; M. Vaccari[2]; S. Marchetti Dori[2]; G. Lusvardi[2]

1. University of Modena and Reggio Emilia, Department of Engineering "Enzo Ferrari", Italy
2. University of Modena and Reggio Emilia, Department of Chemical and Geological Sciences, Italy

8:50 AM

(ICG-SIV-198-2019) TEM with in-situ ion irradiation studies of nuclear waste packages and gel-layers

A. Mir*[1]

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

9:10 AM

(ICG-SIV-199-2019) Effects of gamma and alpha irradiation on iron-free and iron-containing high-level nuclear waste base glasses

P. Rautiyal*[1]; P. K. Kulriya[3]; R. Edge[2]; L. Leay[2]; A. H. Jones[1]; P. A. Bingham[1]

1. Sheffield Hallam University, Materials and Engineering Research Institute, United Kingdom
2. University of Manchester, Dalton Cumbrian Facility, United Kingdom
3. Inter University Accelerator Center, India

9:30 AM

Break

Session 8: Glass-ceramic Waste Forms

Room: Whittier (4th floor)

Session Chair: Elise Regnier, CEA

10:00 AM

(ICG-SIV-200-2019) Effect of Thermal History on the Microstructural Development of a Complex Borosilicate Glass-Ceramic for High-Level Nuclear Waste Vitrification

P. Porter*[1]; N. Roberts[1]; R. Brow[1]

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

10:20 AM

(ICG-SIV-201-2019) Durability assessment of spent ion exchange materials converted into glass-ceramics via thermal treatment methods

L. J. Gardner*[1]; S. Walling[1]; L. Harnett[1]; S. Sun[1]; C. Mann[1]; C. L. Corkhill[1]; N. C. Hyatt[1]

1. The University of Sheffield, Materials Science and Engineering, United Kingdom

10:40 AM

(ICG-SIV-202-2019) Hot isostatic pressing and durability testing of alkali tin silicate glass as a wasteform for the immobilisation of plutonium

A. R. Mason*[1]; M. C. Stennett[1]; N. C. Hyatt[1]

1. University of Sheffield, United Kingdom

11:00 AM

(ICG-SIV-203-2019) Understanding iron redox chemistry in sodium aluminoborosilicate glasses as a function of P_2O_5 and its impact on their crystallization behavior

Y. Zhang*[1]; A. Goel[1]; S. Kamali[2]

1. Rutgers University, Material science and engineering, USA
2. University of Tennessee Space Institute, Mössbauer Laboratory, USA

Session 11: Fiber Glass Science and Technology (TC 28)

Room: Stuart (4th floor)

Session Chairs: Yuanzheng Yue, Aalborg University; Hong Li, Nippon Electric Glass

8:00 AM

Opening remarks, Yuanzheng Yue

8:05 AM

(ICG-SIV-204-2019) Development of reinforcment fibres with high Youngs moduli (Invited)

A. Prange[1]; C. Roos*[1]; K. Philipps[1]

1. RWTH Aachen University, Glass and Ceramic Composites, Germany

8:35 AM

(ICG-SIV-205-2019) What are the key parameters for assessing the quality of glass fibers?

Y. Yue*[1]

1. Aalborg University, Denmark

8:55 AM

(ICG-SIV-206-2019) Development of low-loss lead-germanate glass for mid-infrared fiber optics: Optimization of the glass preparation

P. Wang*[1]; H. Ebendorff-Heidepriem[2]; J. Bei[2]

1. Xi'an Institute of Optics and Precision Mechanics, CAS, China
2. University of Adelaide, Institute of Photonics and Advanced Sensing, Australia

9:15 AM

(ICG-SIV-207-2019) Glass Fibre Strength: How testing can impact the apparent properties of glass filaments

T. Becker*[1]; A. Lüking[1]; T. G. Gries[1]

1. Institut fuer Textiltechnik of the RWTH Aachen University, Germany

9:35 AM

Break

9:55 AM

(ICG-SIV-208-2019) Design of the high performance fiberglass compositions (Invited)

Q. Zu*[1]; S. Huang[1]; Q. Zhao[1]

1. Nanjing Fiberglass Research & Design Institute, China

10:25 AM

(ICG-SIV-209-2019) New Low-Temperature and High Strength/ Modulus Fiber Glass: Properties, Crystallization, and Network Structures

H. Li*[1]; S. Vennam[1]; T. Charpentier[2]; N. Ollier[3]

1. Nippon Electric Glass, Fiber Glass Science & Technology, USA
2. NIMBE, CEA, CNRS, Université Paris-Saclay, France
3. Ecole Polytechnique, Laboratoire des Solides Irradies, CEA, France

10:45 AM

(ICG-SIV-210-2019) Effect of Boron Oxide on Acid Corrosion Kinetics of E-Glass Fibers

J. Xie*[1]; J. Zhang[1]; J. Han[1]; J. Wang[1]; C. Liu[1]; X. Zhao[1]; J. Du[2]

1. Wuhan University of Technology, China
2. University of North Texas, USA

11:05 AM

(ICG-SIV-211-2019) Practical Recycling Alternatives for Glass LFT Mchining Residue

K. N. Hardin*[1]

1. Nippon Electric Glass, Applications Development, USA

11:25 AM

(ICG-SIV-212-2019) Dissolution of stone wool materials coated with organic binder in a synthetic lung fluid

D. Okhrimenko*[1]; S. H. Barly[1]; M. Solvang[1]; Y. Yue[2]; S. L. Stipp[3]

1. Rockwool International, Denmark
2. Aalborg University, Department of Chemistry and Bioscience, Denmark
3. Technical University of Denmark, Department of Physics, Denmark

11:45 AM

(ICG-SIV-213-2019) Preparation and Properties of Fluoride Fibers

Y. Jiang*[1]; L. Zhang[1]; Y. Ju[1]

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

SVII: Arun K. Varshneya Festschrift

Arun K. Varshneya Festschrift VI

Room: Georgian (mezzanine)

Session Chair: John Mauro, Pennsylvania State University

8:00 AM

(ICG-SVII-047-2019) Structural control of the coloration of alkali borate glasses by transition-elements

G. Calas*[1]; L. Galoisy[1]; M. Hunault[2]; L. Cormier[1]; G. Lelong[1]

1. Sorbonne Université, Institute of Mineralogy (IMPMC), France
2. SOLEIL Synchrotron, France

8:20 AM

(ICG-SVII-048-2019) Conventional and electric-field assisted ion-exchange of innovative float glass

V. M. Sglavo[1]; G. Pintori*[1]

1. University of Trento, Italy

8:40 AM

(ICG-SVII-049-2019) Materials Science Lessons from Chemically Strengthened Glass (Invited)

M. Dejneka*[1]

1. Corning Incorporated, USA

9:00 AM

(ICG-SVII-050-2019) Evolution of Mobile Consumer Electronics Device Cover Glass: 10+ Years and Counting

K. Eckart (Barefoot)*[1]; S. Donthu[1]

1. Corning Incorporated, USA

9:20 AM

(ICG-SVII-051-2019) Cover screens for personal electronic devices, Part 2 (Invited)

P. Bihuniak*[1]; A. K. Varshneya[2]

1. Hidden Point Consulting, LLC, USA
2. Saxon Glass Technologies, USA

9:40 AM

Break

10:00 AM

(ICG-SVII-052-2019) Effect of electric field on indentation deformation of glass

S. Panyata[1]; H. Moawad[1]; H. Jain*[1]

1. Lehigh University, Institute for Functional Materials and Devices, USA

10:20 AM

(ICG-SVII-053-2019) Plastic Deformation Mechanisms in Silicate Glasses

S. P. Baker*[1]; N. T. Wiles[1]; L. Lamberson[2]

1. Cornell University, Materias Science and Engineering, USA
2. Corning Incorporated, USA

10:40 AM

(ICG-SVII-054-2019) A Bond Exchange Approach to Glass Viscosity

D. R. Swiler*[1]

1. Owens Illinois, R&D, USA

11:00 AM

(ICG-SVII-055-2019) Role of Zr in alteration gels of simplified Nuclear glasses

L. Galoisy*[1]; G. Calas[1]; P. Jollivet[2]; S. Gin[2]; F. Angeli[2]

1. Sorbonne Université, Institute of Mineralogy (IMPMC), France
2. CEA, France

ANTI HARASSMENT POLICY

The American Ceramic Society
www.ceramics.org

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Harassment includes, but is not limited to, offensive verbal comments related to gender, gender identity and expression, sexual orientation, disability, physical appearance, body size, race, national origin, religion, age, marital status, military status, or any other status protected by law; deliberate intimidation; stalking; following; harassing photography or recording; sustained disruption of talks or other events; and inappropriate physical contact. Attendees asked to stop any harassing behavior are expected to comply immediately.

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Sexual harassment does not refer to occasional compliments or other generally acceptable social behavior. Sexual harassment refers to verbal, physical, and visual conduct of a sexual nature that is unwelcome and offensive to the recipient. By way of example, sexual harassment may include such conduct as sexual flirtations, advances, or propositions; verbal comments or physical actions of a sexual nature; sexually degrading words used to describe an individual; an unwelcome display of sexually suggestive objects or pictures; sexually explicit jokes; and offensive, unwanted physical contact such as patting, pinching, grabbing, groping, or constant brushing against another's body. Attendees asked to stop any sexually harassing behavior are expected to comply immediately.

Scope of Policy:

This policy applies to all attendees of ACerS meetings, events, and activities, including members, non-members, partnering organizations, volunteers, students, guests, staff, contractors, exhibitors, and all other participants related to ACerS events and activities.

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1. ACerS Executive Director, **Mark Mecklenborg**, ph 614-794-5829 / email: ExecDirector@ceramics.org
2. ACerS President, **Sylvia Johnson**, ph 510-813-8758 / email: ACerSPresident@ceramics.org

Disciplinary Action:

All reports of harassment will be directed immediately to the ACerS leadership team who may consult with and engage other ACerS staff, leaders and legal counsel as appropriate. Conference security and/or local law enforcement may be involved, as appropriate based on the specific circumstances. In response to a report of harassment, the ACerS leadership team or ACerS staff will take appropriate action. Such actions range from a verbal warning to ejection from the event without a refund. Repeat offenders may be subject to further disciplinary action, such as being banned from participating in future ACerS conferences or events and/or permanently expelled from ACerS membership.

The full policy can be viewed at: https://ceramics.org/wp-content/uploads/2018/12/Anti-Harassment-Policy.pdf

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