1st Joint Meeting of DGG – ACerS GOMD

including

88th Annual Meeting of German Society of Glass Technology (DGG)

Glass & Optical Materials Division Annual Meeting (ACerS GOMD)

together with

10th International Conference on Advances in Fusion and Processing of Glass (AFPG)

Glass Trend Seminar

2nd International Glass Fiber Symposium

Aachen, Germany

25 – 30 May 2014

Programme

The American Ceramic Society
www.ceramics.org

The Glass and Optical Materials Division of ACerS

German Society of Glass Technology

We thank our partners for their kind support:

ArdaghGroup

CelSian
Glass & Solar

GERRESHEIMER

PD GROUP
DK

CONTENTS

Conference Venue

Eurogress Aachen
Monheimsallee 48
52062 Aachen
Germany
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info@eurogress-aachen.de
www.eurogress-aachen.de

Preface

The 1st Joint Meeting of DGG-ACerS-GOMD takes place from May 25 – 30, 2014 in the city of Aachen, Germany. This congress merges, for the first time, the Annual Meetings of the German Society of Glass Technology (DGG) and of the Glass & Optical Materials Division of the American Ceramic Society (ACerS-GOMD). It also hosts the 10th International Conference on Advances in Fusion and Processing of Glass (AFPG), the 2nd International Glass Fiber Conference, a special Symposium on Nuclear Waste Forms, and a Glass Trend Seminar. More than 400 oral and poster contributions cover a wide scope of topics reaching from the fundamentals of the glassy state and amorphous materials to energy applications of glass to topics related to health, medical, and biological applications as well as to optical materials and devices, and finally to glass production technology. This is truly a unique opportunity for glass scientists and technologists alike.

The idea to hold this joint conference was born at PACRIM 2011 in Cairns, Australia. It formed around the nucleus of the symposium Advances in Fusion and Processing of Glass which took place at that conference and eventually led to the organization of a fully-fledged joint international conference of DGG and GOMD-ACerS. It was agreed that a reciprocal joint ACerS-GOMD and DGG meeting will be held in 2015 in the US. With these initiatives, the organizers hope to strengthen the – informally well established – ties between the glass communities in the US and Europe.

The city of Aachen is a truly interesting conference venue. It not only hosts RWTH Aachen University, one of Germany's finest schools of engineering, founded in 1870. Its roots date back to the Roman Empire where the city with its numerous hot spas served as a rest and recreation center for the Roman army. The historical city hall rests on foundations dating back to this age. During the early Medieval age, the city was the preferred residence of Emperor Charlemagne ruling, at his time, over a realm covering major parts of recent Germany, France, Belgium, The Netherlands, Luxembourg, Switzerland, and Northern Italy. Since his coronation in 800 A.D. in the octogon of Aachen Cathedral, numerous German emperors have been crowned at the very place. A concert given on the occasion of our conference is meant to inspire the delegates to venture through the historical city.

At the Opening Ceremony of the congress, a number of high-ranking scientific awards will be presented, among which are the International Otto Schott Research Award, the George W. Morey Award, the Donald Stookey Award, the Norbert J. Kreidl Award, the Varshneya Award, the Adolf Dietzel Industry Award, the Gehlhoff Ring, and the Otto Schott Memorial Medal. Ruud Beerkens, Eindhoven, The Netherlands, winner of the Otto Schott Memorial Medal, will give a keynote lecture during the ceremony.

A special welcome goes to all of our international students. They may not only enjoy the participation in the conference programme itself, but also take an active part in the student workshop “Glas?Klar!” – “Clear as Glass”, and take the opportunity to have face-to-face table discussions with outstanding individuals from industry, research centers, and academia during an event termed “Speed Dating with Professionals”.

Finally, the organizers want to express sincere gratitude to the manifold contributors to this event, and to the numerous sponsors. Special thanks go to the symposia chairs from both sides of the Atlantic Ocean who did their very best in composing and organizing the symposia programmes.

Prof. Dr. Reinhard Conradt
RWTH Aachen University, Institute of Mineral Engineering
Department of Glass and Ceramic Composites

Prof. Steve W. Martin
Iowa State University of Science & Technology,
Department of Materials Science & Engineering, USA

Ph. D. Gang Chen
Ohio University, USA

Prof. Dr. Hansjürgen Barklage-Hilgefort
President of the
Deutsche Glastechnische Gesellschaft (DGG)

Dr. Ulrich Roger
Managing Director of the
Deutsche Glastechnische Gesellschaft (DGG)

Officers of the 1st Joint Meeting of DGG – ACerS GOMD

Conference Chairs & Assistants:

Reinhard Conradt, GHI, RWTH Aachen University, Germany

Andreas Prange, RWTH Aachen University, Germany

Steve Martin, Iowa State University, USA

Gang Chen, Ohio University, USA

Conference Organization

Ulrich Roger, Deutsche Glastechnische Gesellschaft e.V.

Glass & Optical Materials Division Officers

Shibin Jiang, AdValue Technology. LLC, USA, President

Randy Youngman, Corning Incorporated, USA

Steven A. Feller, Coe College, USA

Edgar Zanotto, Federal University of Sao Carlos, Brazil

Managing Board of the German Society of Glass Technology

Hansjürgen Barklage-Hilgefort, Ardagh Group, President

Reinhard Conradt, GHI, RWTH Aachen

Hans-Bernhard Führ, Glashütte Freital GmbH

Günter Lubitz, Vetropack Holding AG

Christian Rüssel, Otto- Schott-Institut für Materialforschung (OSIM), FSU Jena

Reinhard C. Runte, Saint-Gobain Glass Deutschland GmbH

Symposia Chairs of the 1st Joint Meeting of DGG – ACerS GOMD:

I Advances in Fusion and Processing of Glass

Reinhard Conradt, GHI, RWTH Aachen University, Germany

Ruud Beerkens, CelSian Glass & Solar b.v., The Netherlands

II Energy Applications of Glass – Fundamentals and Application

Joachim Deubener, Clausthal University of Technology, Germany

Steve Martin, Iowa State University, USA

III Health, Medical, Biological Aspects – Fundamentals and Application

A. R. Boccaccini, University of Erlangen-Nürnberg, Germany

M. N. Rahaman, Missouri University of Science and Technology, USA

IV Fundamentals of the Glassy State and Amorphous Materials

Lothar Wondraczek, Otto-Schott-Institute of Materials Research, University Jena, Germany

Pierre Lucas, The University of Arizona, USA

Gang Chen, Ohio University, USA

V Optical Materials and Devices – Fundamentals and Application

Jurejun Hu, University of Delaware, USA

Kathleen Richardson, University of Central Florida, USA

Johann Troles, Univ. de Rennes 1, France

VI Nuclear Waste Forms – Fundamentals and Application

Joseph Ryan, Pacific Northwest National Laboratory, USA

Edda Raedlein, Ilmenau University of Technology, Germany

VII 2nd International Glass Fiber Symposium

Kirsten Hellmann, RWTH Aachen University, Germany

Reinhard Conradt, RWTH Aachen University, Germany

Thomas Gries, RWTH Aachen University, Germany

Davide Pico, RWTH Aachen University, Germany

ICG Technical Committees

Eurogress Aachen

Sunday, 25 May 2014	**afternoon**
ICG: TC 07 "Crystallisation & Glass Ceramics" Conference room **K5**	**16.00 – 19.00**
ICG: TC 23 "Education" Conference room **K7/8**	**15.00 – 18.00**

Monday, 26 May 2014	**afternoon**
ICG: TC 11 "Materials for Furnaces" Conference room **K7/8**	**15.00 – 19.00**

Friday, 30 May 2014	**morning/afternoon**
ICG: TC 09 "Energy Efficiency" Conference room **K7/8**	**09.00 – 15.00**

GOMD / DGG / Glass Trend Meetings

Eurogress Aachen

Sunday, 25 May 2014	**afternoon**
GOMD board meeting Conference room **K9**	**15.00 – 17.00**

Monday, 26 May 2014	**morning/afternoon**
Annual members' meeting of DGG Conference room **K2**	**08.00 – 09.15**
Annual members' meeting of HVG Conference room **K2**	**18.15 – 19.30**

Tuesday, 27 May 2014	**afternoon**
Glass Trend: Council Meeting Conference room **K6**	**17.45 – 19.45**

Mitgliederversammlungen

08.00 **82. Mitgliederversammlung der Deutschen Glastechnischen Gesellschaft (DGG) e. V.**

Eurogress Aachen, Konferenzraum K2

Tagesordnung:

1. Tätigkeitsbericht 2013*)
2. Berichte der Fachausschussvorsitzenden der DGG*)
3. Bericht über das DGG-Glasforum*)
4. Wahlen zum DGG-Vorstand und DGG-Vorstandsrat
5. Genehmigung des Jahresabschlusses 2013 und Entlastung
6. Ehrungen
7. Bekanntgabe von Veranstaltungen
8. Verschiedenes

*) Diese Unterlagen sind im Heft 2 / 2014 des dgg journals zur Kenntnisnahme für alle DGG-Mitglieder veröffentlicht.

18.15 **84. Ordentliche Mitgliederversammlung der Hüttentechnischen Vereinigung der Deutschen Glasindustrie (HVG) e.V.**

Eurogress Aachen, Konferenzraum K2

– Hierzu ergehen besondere Einladungen –

09.30

Opening Ceremony

Eurogress Aachen, Europa Saal

Opening Address

Prof. Dr. Reinhard Conradt
RWTH Aachen University, Institute of Mineral Engineering, Department of Glass and Ceramic Composites

Prof. Steve W. Martin
Iowa State University of Science & Technology, Department of Materials Science & Engineering, USA

Prof. Dr. Hansjürgen Barklage-Hilgefort
President of the Deutsche Glastechnische Gesellschaft e. V. (DGG)

Welcoming Speech

Marcel Philipp
Lord mayor of the City of Aachen

Interlude

Trio Soli Sono, Aachen
Natalie Becker, Johanna Daske, Olaf Futyma – flutes

Honour

Presentation of the Otto-Schott-Denkmünze (Otto Schott Memorial Medal of DGG) by Prof. Barklage-Hilgefort

Laudation

Prof. Dr. Reinhard Conradt, RWTH Aachen

Lecture of the Otto Schott Memorial Medal awardee
Prof. Dr. Ruud G. C. Beerkens
CelSian Glass & Solar b.v., Eindhoven, NL
“Trends in Glass Production – Innovation or Slowdown?”

Interlude

Trio Soli Sono, Aachen

Honours

Presentation of the Adolf-Dietzel-Industriepreis of DGG by Prof. Barklage-Hilgefort

Presentation of the Golden Gehlhoff Ring of DGG by Prof. Barklage-Hilgefort

Laudation

Priv.-Doz. Dr.-Ing. habil. Hayo Müller-Simon, HVG, Offenbach

ACerS GOMD Awards

Presentation of the Stookey Lecture of Discovery Award

Presentation of the Greorge W. Morey Award

Presentation of the Norbert J. Kreidl Award

Presentation of the Varshneya Frontiers of Glass Science Award

Presentation of Otto Schott Award by Dr. Hans-Joachim Konz, Member of the Management Board of SCHOTT AG

Laudation

Prof. Dr. Carlo G. Pantano, Penn State University, PA, USA

Interlude

Trio Soli Sono, Aachen

Important Note
for your
Calendar:

2nd ACerS GOMD-DGG
Joint Annual Meeting

including

89. Glastechnische Tagung

and

Annual Meeting of the
Glass & Optical Materials
Division (GOMD)

taking place

17 – 22 May 2015
in **Miami, FL (USA).**

Guided Tours

Meeting point in front of the Congress Centre at the bus station „Eurogress“, Monheimsallee

Group A **3B – The Fibreglass Company, Battice, Belgium**
www.3b-fibreglass.com

13.00 Departure of the bus

3B-The Fibreglass Company (3BF), part of Braj Binani Group, is a leading fibre glass developer and supplier and operates state-of-the-art glass fibre manufacturing facilities in Birkeland, Norway in Battice, Belgium and in Goa, India.

The production plant in Battice is together with a Science & Technology Centre gathering a unique expertise for future development and innovation. The company is head-quartered in Battice and has a Customer Service Centre near Brussels. Formed as an independent entity as a consequence of the acquisition by Owens Corning of the Vetrotex reinforcements businesses, 3B has a rich heritage of expertise in fibre glass development and production. Advantex® glass and HiPer-tex™ high performance fibre are well established brands that combine class leading performance with low environmental emissions.

3B is fundamentally committed to operating with minimal impact on the environment. By using the proprietary Advantex® technology, the recognized benchmark in the industry for clean technology, 3B is continuously working to set new standards within the global fibre glass industry. That is, because Advantex® glass fibre composition and manufacturing technology is a perfect example of integrated pollution prevention and the highest energy efficiency coming together in an optimized process.

3B offers unrivalled levels of technical competence as well as a total commitment to supporting customers locally and internationally. Europe is the main centre for innovation in the global reinforced plastics industry and 3B is at its heart; forming strong bonds with customers, reacting quickly through close proximity to changing needs and challenges, and working together to mould a more profitable and sustainable future.

Arrival at Eurogress: 18.00

Group B **Ceramic Fuel Cells GmbH, Heinsberg**
www.ceramicfuelcells.de

13.00 Departure of the bus

Ceramic Fuel Cells (CFC) Group (www.cfcl.com.au) is a world leader in developing and commercialising Solid Oxide Fuel Cell (SOFC) technology. The fuel cell is the “engine” in small-scale, micro-Combined Heat & Power (micro-CHP) and distributed generation appliances for homes and small businesses fuelled by Natural Gas or bio-Gas. CFC’s SOFC technology has the world's highest net electrical efficiency from a small-scale generator (up to 60%), leading to significantly reductions in carbon dioxide emissions.

We are a leader in commercialising this technology, delivering our BlueGen® product to our key markets in Europe since the beginning of 2012. Indeed we are the only company offering commercial fuel cell units for this market segment in Europe.

CFC’s operating base is international, with extensive R&D, testing and prototyping facilities in Melbourne, Australia, manufacturing, sales and service in Heinsberg Germany, and sales and service in the UK. To date CFC employs about 140 staff. Ceramic Fuel Cells is listed on both the London Stock Exchange AIM market (floated March 2006), and on the Australian Stock Exchange (floated July 2004). The company's code on both exchanges is CFU.

The manufacturing facility of CFC GmbH in Heinsberg is a small series production facility for assembling fuel cell stacks as well as BlueGen systems. Glass-ceramic seals are critical components for sealing fuel cell stacks. In Heinsberg, seal pastes are produced and then dispensed onto the sealing areas of the stack components. Both seal dispensing and stack assembly is carried out by robots to guarantee high quality. After assembly the stacks are sintered at about 800°C to form the seal and activate the stack. After cool-down, the fuel cell stack is checked for geometric dimensions and leak tightness. BlueGen is manufactured on a manual appliance assembly line. Extensive QA/QC checks have been developed and are in place for components, sub-assemblies and final product to ensure a positive customer image of the technology. The transition from prototyping and field testing to manufacturing and sales of a commercial product has been a significant challenge for the company.

Programme:

- Welcome
- Presentation of the company, the technology and the product BlueGen
- Split up into small groups
- Guided tour through stack production
- Guided tour through production BlueGen

Arrival at Eurogress: 17.30

Group C **BASF Personal Care and Nutrition GmbH, Düsseldorf**

www.basf.com

13.15 Departure of the bus

BASF is the world leading chemical company. The portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. BASF had sales of €72.1 billion in 2012 and more than 110,000 employees as of the end of the year. With six Verbund sites and approximately 380 additional production sites, BASF supports customers and partners in almost every country in the world.

Düsseldorf plant:
One of the biggest Silicate plant world wide is now part of the production site of BASF Personal Care and Nutrition GmbH in Düsseldorf/Monheim. It was founded in 1899 by Fritz Henkel and was part of the Henkel Group until 2000. The silicate plant is running by 65 employees, 24/7. Approximately 900 T t/a of high quality silicates solutions are produced on this site.

The production process covers the sand/sodium mixing and transports to the furnaces as well the dissolution step for tailor-made productions. Water glass is used in a wide application area.

The furnaces are gas-fired and based on the Siemens-Martin-principle. The liquid products are transported by train and truck, mainly for Europe.

Programme:

- Presentation
- Guided tour production facilities

Arrival at Eurogress: 17.15

Group D **RWE Power AG Tagebau – (Open Mine) Garzweiler**

www.rwe.com/web/cms/de/59998/rwe-power-ag/standorte/garzweiler/

13.15 Departure of the bus

Brown coal or lignite, as it is also known, is a grade of coal intermediate between coal and peat. It is yellowish brown in color with a woody texture. Brown coal contains more moisture and less energy per kilogram than more mature coals. It also tends to dry and crumble when exposed to air. Brown coal is a second tier fuel. Large deposits are found in the United States, Canada, Germany, and elsewhere, chiefly in Tertiary formations. German brown coal localities are found from Cologne in the west of Germany right across eastwards. The eastern material is not so profitable to mine, and many pits have been closed. Cumulative brown coal production has been 187 million tons up to 1996. Somewhere between 80-90% is used in electricity production, and power stations are a normal feature of the skyline in brown coal areas. A large mine may have a life of 50 years, but it "moves" with time. There are issues of relocating and resettling people, land reclamation, management of river courses and water tables and relocating streets and highway connections. The mining activity of Garzweiler, from Garzweiler I (first site, 66 km^2), has been extended in West-direction since 2006 into the deposit Garzweiler II (44 km^2). Here 1.3 billion tons of brown coal will be available until 2045. Sand, stones, and other soils have to be removed to obtain access to the brown coal deposit layers being, with a total thickness of about 40 m, located at a depth of 40 m to 210 m from ground level. Very large machines collect and transport the mined material. In NRW (Nordrhein-Westfalen) several power plants are fired with the mined brown coal. About 35 to 40 million tons are extracted per year. The mining activities employ 1725 people (2010) in this area.

Special machines have been built to extract the coal and the surrounding sediments. The machines can be 220 m long and 50 m high. The cutting wheel is about 20 m diameter. Transportation within the mine is by conveyor belts (88 km long). After mining operation finishes, re-cultivation of the area takes place and agriculture area, touristic sites, lakes and forest area are provided.

Programme:

- Introduction
- Guided bus tour passing through open mine, land restoration, and a city where the population was relocated.

The open mine will be shown to the visitors and a tour will be arranged to overview the mining activities in Garzweiler.

Arrival at Eurogress: 17.15

Group E **Berzelius Stolberg GmbH (BBH), Stolberg**

www.berzelius.de

13.15 Departure of the bus

The BERZELIUS STOLBERG GmbH (BBH) in Stolberg near Aachen is one of the largest and most advanced primary lead smelters of the world. The smelter, established in 1848, achieved this distinction through the introduction of the QSL process technology in 1990. Ever since, this company, employing about 230 workers, is an international leader in technology for lead smelting and environment protection measures.

The QSL technology makes it possible to win lead from lead ores and secondary raw materials in a single encapsulated aggregate which, in comparison to conventional technologies, has a noticeably lower specific energy consumption. The energy requirements sank from 15.2 right down to 4.5 GJ per ton of lead produced, by exploiting the energy of the sulfides contained in the ores as the main source of energy. The wide range of materials which can be charged, underscores the efficiency of this process.

The annual production of 155,000 tonnes of lead and alloys as well as 130,000 tonnes of sulphuric acid also set distinctive international standards.

At the moment, 25 million euros will be invested in order to triple the production of 350 tonnes silver in 2013. The precious metal is an additional product in the production of lead.

BBH is part of the international ECOBAT Technologies Group, the largest lead producer in the world. ECOBAT Group offers the world's only closed recycling loop for lead acid batteries.

Programme:

- Welcome
- Company presentation
- Guided plant tour

Arrival at Eurogress: 17.00

Group F **Saint-Gobain Glass Deutschland GmbH, Herzogenrath**

www.saint-gobain-glass.de

13.30 Departure of the bus

The plant at Herzogenrath is part of the international group of Saint-Gobain and one of the plants in Germany producing flat glass. In the year 1970 the first floatline was built on the area of the factory which already produced glass in the 19th century. In the meanwhile, the plant produces float glass in the third campaign; that means the current production started with the third technically renewed floatline in 2005. The plant of Herzogenrath is specialized in manufacturing colored glass for the automotive industry. It produces green glass in several tints since 1988 and has produced the product VENUS in the past. VENUS is a special dark colored glass used in cars for side, rear or roof windows. The clients of the plant are transformers for the automotive sector or the associated company Saint-Gobain SEKURIT that is also internationally active in processing car glass or glass modules.

Arrival at Eurogress: 17.00

Group G **Fraunhofer Institute for Production Technology IPT, Aachen**

www.ipt.fraunhofer.de

13.45 Departure of the bus

The aim of the Fraunhofer IPT is to develop new and optimize existing solutions through practice-oriented research and development for clients in modern production industries. The Fraunhofer IPT transfers the results of this R&D directly into practice in client companies, which come from a wide range of industries – the automotive industries and its suppliers, especially tool and die making, as well as fine-mechanics and optical industries, aerospace industries and machine tool manufacturers. The Fraunhofer IPT also assists international clients via the Fraunhofer Center for Manufacturing Innovation CMI in Boston, USA.

The Fraunhofer IPT employs a staff of approximately 350, currently working on projects in 6000 m^2 facilities, 3500 m^2 of which are used as laboratories and machining workshops.

Fraunhofer Institute for Laser Technology ILT, Aachen

www.ilt.fraunhofer.de

With about 400 employees and more than 11,000 m² of usable floorspace the Fraunhofer Institute for Laser Technology ILT is worldwide one of the most important development and contract research institutes of its specific field. The activities cover a wide range of areas such as the development of new laser beam sources and components, precise laser based metrology, testing technology and industrial laser processes. This includes laser cutting, caving, drilling, welding and soldering as well as surface treatment, micro processing and rapid manufacturing.

Furthermore, the Fraunhofer ILT is engaged in laser plant technology, process control, modeling as well as in the entire system technology. We offer feasibility studies, process qualification and laser integration in customer specific manufacturing lines.

The Fraunhofer ILT is part of the Fraunhofer-Gesellschaft, with more than 66 institutes, 22,000 employees and an annual research budget of over 1.9 billion euros.

Programme:

- Presentation on the research activities of both institutes at Fraunhofer IPT
- Guided tour through the institute ILT and IPT

Arrival at Eurogress: 17.15

Notice
For all plant visits the number of participants is limited. Please mark in the registration form optional visits in case your first choice is booked out already.
This lists of the registered participants will be sent to the companies in advance of the meeting. Participation may be rejected on grounds of business competition.
For all plant visits sturdy shoes and adequate clothes (no short trousers) are indispensible.

Tuesday, 27 May 2014

- **I. Advances in the Fusion and Processing of Glass (AFPG)** **08.30-12.20**
  Europa Saal
  Session I.1 Thermodynamics and reaction kinetics of oxide systems relevant to industrial glass melting
- **II. Energy Applications of Glass – Fundamentals and Application** **08.30-12.20**
  Brüssel Saal
  Session II.1 Batteries and ion conductive glasses I
- **III. Health, Medical, Biological Aspects – Fundamentals and Application** **08.30-12.20**
  Conference room K3
  Session III.1 Interactions of bioactive glass with aqueous and biological media
- **IV.A Fundamentals of the Glassy State and Amorphous Materials** **08.30-12.20**
  Conference room K1
  Session IV.A1 Nano- and micromechanical properties I
  Session IV.A2 Nano- and micromechanical properties II
- **IV.B Fundamentals of the Glassy State and Amorphous Materials** **08.30-12.20**
  Conference room K2
  Session IV.B3 Glass structure & glass formation I
  Session IV.B4 Glass structure & glass formation II
- **V. Optical Materials and Devices – Fundamentals and Application** **08.30-12.20**
  Conference room K4/5
  Session V.1 Optical material synthesis I
  Session V.2 Luminescence I

Tuesday, 27 May 2014

- **I. Advances in the Fusion and Processing of Glass (AFPG)** **13.30-18.00**
  Europa Saal
  Session I.2 Physics and chemistry of the melting & forming process
- **II. Energy Applications of Glass – Fundamentals and Application** **13.30-17.20**
  Brüssel Saal
  Session II.2 Batteries and ion conductive glasses II
- **III. Health, Medical, Biological Aspects – Fundamentals and Application** **13.30-17.40**
  Conference room K3
  Session III.2 Scaffolds for bone tissue engineering
- **IV.A Fundamentals of the Glassy State and Amorphous Materials** **13.30-17.40**
  Conference room K1
  Session IV.A5 Diffusion & ion exchange
  Session IV.A6 Elastic properties, fracture and durability
- **IV.B Fundamentals of the Glassy State and Amorphous Materials** **13.30-18.00**
  Conference room K2
  Session IV.B7 Glass structure & glass formation III
  Session IV.B8 Glass structure & glass formation IV
- **V. Optical Materials and Devices – Fundamentals and Application** **13.30-18.00**
  Conference room K4/5
  Session V.3 Sensors
  Session V.4 Photoinduced phenomena

Wednesday, 28 May 2014

- **I. Advances in the Fusion and Processing of Glass (AFPG)** **08.30-12.20**
  Europa Saal
  Session I.3 Energy efficiency, flue gas chemistry, combustion, and heat transfer
- **II. Energy Applications of Glass – Fundamentals and Application** **08.30-12.20**
  Brüssel Saal
  Session II.3 Batteries and ion conductive glasses III
- **III. Health, Medical, Biological Aspects – Fundamentals and Application** **08.30-12.20**
  Conference room K3
  Session III.3 Compositional design of bioactive glass
- **IV.A Fundamentals of the Glassy State and Amorphous Materials** **08.30-12.20**
  Conference room K1
  Session IV.A9 Constraint theory & simplistic modelling I
  Session IV.A10 Constraint theory & simplistic modelling II
- **IV.B Fundamentals of the Glassy State and Amorphous Materials** **08.30-12.20**
  Conference room K2
  Session IV.B11 Glass structure & glass formation V
  Session IV.B12 Clustering and particle formation
- **V. Optical Materials and Devices – Fundamentals and Application** **08.30-12.20**
  Conference room K4/5
  Session V.5 Luminescence II
  Session V.6 Optical material synthesis II

Wednesday, 28 May 2014

- **I. Advances in the Fusion and Processing of Glass (AFPG)** **13.30-18.00**
  Europa Saal
  Session I.4 Furnace design and advanced melting concepts
- **II. Energy Applications of Glass – Fundamentals and Application** **13.30-17.20**
  Brüssel Saal
  Session II.4 Sealants and solder glasses
- **III. Health, Medical, Biological Aspects – Fundamentals and Application** **13.30-17.50**
  Conference room K3
  Session III.4 Bioactive glass in bone and tissue repair
  Session III.5 Round-table discussion on key issues and future directions in glasses for medical applications
- **IV.A Fundamentals of the Glassy State and Amorphous Materials** **13.30-17.40**
  Conference room K1
  Session IV.A13 Chalcogenides I
  Session IV.A14 Chalcogenides II
- **IV.B Fundamentals of the Glassy State and Amorphous Materials** **13.30-18.40**
  Conference room K2
  Session IV.B15 Relaxation & extreme conditions I
  Session IV.B16 Relaxation & extreme conditions II
- **V. Optical Materials and Devices – Fundamentals and Application** **13.30-18.00**
  Conference room K4/5
  Session V.7 Non linear optical materials and properties
  Session V.8 Radiation effects (joint session with symposium Nuclear Waste Forms)
- **VIII. Student Workshop** **13.30-17.50**
  Clear as Glass 2014
  Conference room K9
  Session VIII.1 Structural and topological aspects of the mechanical properties of glass

Thursday, 29 May 2014

- **I. Advances in the Fusion and Processing of Glass (AFPG)** **08.30-12.20**
  Europa Saal
  Session I.5 Advances in modeling of glass melting and forming, comprising process control and sensors
- **II. Energy Applications of Glass – Fundamentals and Application** **08.30-12.20**
  Brüssel Saal
  Session II.5 Glasses and thin films for solar energy conversion
- **III. Health, Medical, Biological Aspects – Fundamentals and Application** **08.30-12.20**
  Conference room K3
  Session III.6 Glass and glass-ceramics in dentistry
  Session III.7 Bioactive glass in wound healing, vascularization and soft tissue engineering
- **IV.A Fundamentals of the Glassy State and Amorphous Materials** **08.30-12.20**
  Conference room K1
  Session IV.A17 Computational simulation I
  Session IV.A18 Computational simulation II
- **IV.B Fundamentals of the Glassy State and Amorphous Materials** **08.30-12.20**
  Conference room K2
  Session IV.B19 Nucleation & Crystallization I
  Session IV.B20 Nucleation & Crystallization II
- **V. Optical Materials and Devices – Fundamentals and Application** **08.30-12.20**
  Conference room K4/5
  Session V.9 Thin film
  Session V.10 Glass ceramics and optical ceramics I
- **VI. Nuclear Waste Forms – Fundamentals and Application** **08.30-12.20**
  Conference room K6
  Session VI.1 Waste form development and processing
  Session VI.2 Glass corrosion: Isotopic characterization

Thursday, 29 May 2014

- **I. Advances in the Fusion and Processing of Glass (AFPG)** **13.30-18.00**
  Europa Saal
  Session I.6 Surface treatment
  Panel discussion
- **II. Energy Applications of Glass – Fundamentals and Application** **13.30-18.00**
  Brüssel Saal
  Session II.6 Thermal insulation glasses
  Panel discussion
- **IV.A Fundamentals of the Glassy State and Amorphous Materials** **13.30-17.00**
  Conference room K1
  Session IV.A21 Computational simulation III – DFT
  Session IV.A22 Computational simulation IV
- **V. Optical Materials and Devices – Fundamentals and Application** **13.30-18.00**
  Conference room K4/5
  Session V.11 Optical fibers
  Session V.12 Glass ceramics and optical ceramics II
- **VI. Nuclear Waste Forms – Fundamentals and Application** **13.30-18.00**
  Conference room K6
  Session VI.3 Glass corrosion: Experiment
  Session VI.4 Glass corrosion: Modeling

Friday, 30 May 2014

- **VI. Nuclear Waste Forms – Fundamentals and Application** **08.30-18.00**
  Conference room K6
  Session VI.5 Glass corrosion IV
- **VII. 2nd International Glass Fiber Symposium** **08.15-12.25**
  Conference room K4/5
  Session VII.1 Glassfiber
- **VII. 2nd International Glass Fiber Symposium** **13.30-17.40**
  Conference room K4/5
  Session VII.2 Glassfiber

I. Advances in the Fusion and Processing of Glass

Europa Saal

Session I.1 **Thermodynamics and reaction kinetics of oxide systems relevant to industrial glass melting**

Chair: Prof. Reinhard Conradt, Aachen, Germany

08.30 P. Richet, IPGP, France; G. Ottonelle, Università di Genova, Italy (invited)
Thermodynamics of silicate glasses and melts

09.10 J. Klouzek, P. Dyrcikova, ICT Prague, Czech Republic
Reaction kinetics of sulphur species during glass melting

09.30 H. Müller-Simon, K. Gitzhofer, HVG Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V., Germany
Sulfur refining of industrial glass melts

09.50 Coffee break

10.20 **PLENARY LECTURE SCHOTT AWARD in Europa Saal**

11.20 R. Beerkens, CelSian Glass and Solar, The Netherlands
Advances in understanding industrial glass melting phenomena

11.40 R. Conradt, RWTH Aachen University, Germany
Comparative analysis of the thermal performance of industrial glass melting furnaces

12.00 H. v. Limpt, CelSian Glass and Solar, The Netherlands
Thermodynamics of evaporation processes from glass melts

12.20 Lunch buffet

II. Energy Applications of Glass – Fundamentals and Application

Brüssel Saal

Session II.1 Batteries and ion conductive glasses I

Chair: Prof. Steve W. Martin, Ames, United States
Prof. Hellmut Eckert, São Paulo, Brazil

08.30 M. Tatsumisago, A. Hayashi, Department of Applied Chemistry, Osaka Prefecture University, Japan
Development of all-solid-state batteries using sulfide glass-ceramic electrolytes (invited)

09.10 D. Watson, B. Curtis, N. Dunlap, S. Martin, Iowa State University, United States
The mixed glass former effect in glassy solid state electrolytes: The structural analysis of 0.5Na2S+ 0.5[xSiS2+ (1-x) PS5/2

09.30 T. Honma, T. Togashi, A. Sato, T. Komatsu, Nagaoka University of Technology, Japan
Crystallization behavior of sodium iron pyrophosphate glass for sodium ion batteries

09.50 Coffee break

10.20 **PLENARY LECTURE SCHOTT AWARD in Europa Saal**

11.00 P. Maass, Universitaet Osnabrueck, Germany; S. Martin, Iowa State University, United States; M. Schuch, Universitaet Osnabrueck, Germany; C. Trott, Sandia National Laboratory, United States
Mixed glass former glasses: Theory and simulations (invited)

11.40 C. Mugoni, M. Montorsi, University of Modena and Reggio Emilia, Italy; H. Jain, Lehigh University, United States; C. Siligardi, University of Modena and Reggio Emilia, Italy
Structure and electrical properties of glass metal nanocomposites

12.00 S. Martin, C. Bischoff, K. Schuller, N. Dunlap, Iowa State University, United States
On the structure and properties of new mixed glass former Na2S + GeS2 + PS5/2 glasses

12.20 Lunch buffet

III. Health, Medical, Biological Aspects – Fundamentals and Application

Conference room K3

Session III.1 Interactions of bioactive glass with aqueous and biological media

Chair: Dr. Leena Hupa, Turku, Finland
Prof. Mohamed Rahaman, Rolla, United States

08.30 A. N. Cormack, Alfred University, United States;
A. Tilocca, Department of Chemistry,
University College London, United Kingdom
Simulations of bioactive glasses and their interaction with water (invited)

09.10 L. Björkvik, S. Fagerlund, J. Massera, L. Hupa,
Åbo Akademi, Finland
Initial dissolution rate of alkalis and earth alkalis from glasses based on S53P4

09.30 D. Rohanova, D. Horkavcova, Institute of Chemical Tecnology, Czech Republic;
A. R. Boccaccini, Institute of Biomaterials,
University of Erlangen-Nuremberg, Germany
Interaction of glass-ceramic scaffold with SBF solutions and DMEM in vitro

09.50 Coffee break

10.20 **PLENARY LECTURE SCHOTT AWARD in Europa Saal**

11.00 J. Christie, R. Ainsworth, University College London, United Kingdom;
D. Di Tommaso, Queen Mary, University of London, United Kingdom;
N. de Leeuw, University College London,
United Kingdom
Understanding the solubility of phosphate-based bioactive glass from molecular dynamics simulations

11.20 N. Murthy, D. Chung, D. Vezenov, T. Kowel,
M. Falk, H. Jain, Lehigh University, United States
In situ evolution of the surface of 45S5 bioglass in cell culture medium

11.40 S. Kapoor, University of Aveiro, Portugal;
A. Goel, Rutgers, The State University of New Jersey, United States;
J. Ferreira, University of Aveiro, Portugal
Structure-solubility-bioactivity relationships in zinc and strontium co-doped bioactive glasses

12.00 A. Goel, Rutgers, The State University of New Jersey, United States
Structure-solubility relationships in fluoride-containing phosphate glasses

12.20 Lunch buffet

IV. A Fundamentals of the Glassy State and Amorphous Materials

Conference room K1

Session IV.A1 Nano- and micromechanical properties I

Chair: Prof. Josef Zwanziger, Halifax, Canada

08.30 M. Mackovic, F. Niekiel, E. Spiecker, Department of Materials Science and Engineering, Center for Nanoanalysis and Electron Microscopy, Germany
Influence of topological anisotropy on the mechanical properties of silicate glasses: experimental approach via in situ TEM (invited)

09.10 S. Striepe, J. Deubener, Clausthal University of Technology, Institute of Non-Metallic Materials, Germany;
M. Potuzak, Corning Incorporated, United States;
M. Smedskjaer, Section of Chemistry, Aalborg University, Denmark
Influence of thermal history on micro-mechanical properties of alkaline earth aluminosilicate glasses: An indentation study

09.30 G. Scannell, Rensselaer Polytechnic Institute/ University of Rennes 1, United States;
T. Rouxel, University of Rennes 1, France;
L. Huang, Rensselaer Polytechnic Institute, United States
Indentation deformation and cracking behavior of titania containing silicate glasses

09.50 Coffee break

10.20 **PLENARY LECTURE SCHOTT AWARD in Europa Saal**

Session IV.A2 Nano- and micromechanical properties II

Chair: Dr. Mirza Mackovic, Erlangen, Germany

11.00 C. Calahoo, J. Zwanziger, Dalhousie University, Canada
Nano-indentation studies of ion-exchanged alkali silicate glass

11.20 S. Gomez, I. Dutta, N. Smith, Corning Incorporated, United States
Structure & morphology of leached layers on glass surfaces and correlation with nano-mechanical properties

11.40 A. Pönitzsch, INW, TU Clausthal, Germany;
B. Poletto Rodrigues, Otto-Schott-Institute of Materials Research, FSU Jena, Germany;
J. Deubener, INW, TU Clausthal, Germany;
L. Wondraczek, Otto-Schott-Institute of Materials Research, FSU Jena, Germany;
M. Nofz, Federal Institute of Materials Research and Testing (BAM), Germany
Micromechanical properties of glasses in the system CaO-Al2O3-SiO2

12.00 C. Rößler, Clausthal University of Technology, Germany;
S. Reinsch, Federal Institute for Materials Research and Testing, Germany;
U. Bauer, Leibnitz Universität Hannover, Germany;
J. Deubener, Clausthal University of Technology, Germany;
R. Müller, Federal Institute for Materials Research and Testing, Germany;
H. Behrens, Leibnitz Universität Hannover, Germany
Relaxation and sub-critical crack growth in molecular water bearing glasses

12.20 Lunch buffet

IV.B Fundamentals of the Glassy State and Amorphous Materials

Conference room K2

Session IV.B3 Glass structure & glass formation I

Chair:	Dr. Randall Youngman, Corning, United States
08.30	H. Inoue, R. Yang, A. Masuno, Y. Watanabe, The University of Tokyo, Japan **Structure analysis of alkali-earth borate glasses prepared by containerless processing**
8.50	H. Takebe, S. Takahashi, Ehime University, Japan; D. Neuville, CNRS-IPGP, France **Density, thermal properties and chemical durability of percalcic and peraluminus CaO–Al2O3–SiO2 glasses**
09.10	J. Kjeldsen, Y. Yue, M. M. Smedskjaer, Aalborg University, Denmark; J. C. Mauro, R. E. Youngman, Corning Inc., United States; L. Huang, Rensselaer Polytechnic Institute, United States **Mixed cation effect in sodium aluminosilicate glasses**
09.30	A. Hannon, ISIS Facility - STFC, United Kingdom; L. Koudelka, I. Rösslerova, University of Pardubice, Czech Republic **The structure of molybdenum- and tungsten-doped lead phosphate glasses**
09.50	Coffee break
10.20	**PLENARY LECTURE SCHOTT AWARD in Europa Saal**

Session IV.B4 Glass structure & glass formation II

Chair:	Dr. Randall Youngman, Corning, United States
11.00	M. Heyde, C. Büchner, L. Lichtenstein, H.-J. Freund, Fritz-Haber-Institute of the Max-Planck-Society, Germany (Keynote) **The atomic structure of glass**
11.20	O. Alderman, Materials Development, Inc., Arlington Heights, IL, United States; L. Skinner, Mineral Physics Institute, Stony Brook University, Stony Brook, New York, NY, United States; C. Benmore, X-ray Science Division, Advanced Photon Source, Argonne National Laboratory, Argonne, IL, United States;

J. Neuefeind, Spallation Neutron Source, Oak Ridge National Laboratory, Oak ridge, TN, United States;
S. Tumber, D. Jin, A. Tamalonis, R. Weber, Materials Development, Inc., Arlington Heights, IL, United States;
J. Parise, Mineral Physics Institute, Stony Brook University, Stony Brook, New York, NY, United States
Structure of molten alkaline earth metatitanates, M2+TiO3

11.40 D. Möncke, Otto-Schott-Institut, Friedrich-Schiller-Universität, Germany;
E. I. Kamitsos, National Hellenic Research Foundation, Greece;
A. Winterstein-Beckmann, L. Wondraczek, Otto-Schott Insitute for Material Research, Germany;
D. Ehrt, Otto-Schott-Institut, FSU Jena (retired), Germany;
G. Tricot, LASIR, USTL, France
Near and medium range order in borosilicate glasses probed by vibrational and NMR spectroscopy

12.00 J. Neuefeind, ORNL, United States
NOMAD, an unprecedented tool for the determination of glass structures

12.20 Lunch buffet

V. Optical Materials and Devices – Fundamentals and Application

Conference room K4/5

Session V.1 Optical material synthesis I

Chair: Dr. Juejun Hu, Newark, United States

08.30 L. Klein, Rutgers University, United States
Sol-gel processing of glasses: Inorganics to hybrids (invited)

09.10 A. Saitoh, Graduate School of Science and Engineering, Ehime University, Japan;
G. Tricot, UMR-CNRS 8516, Université de Lille 1, France;
H. Takebe, Graduate School of Science and Engineering, Ehime University, Japan
Effect of B2O3 addition on properties and structures of SnO-P2O5-B2O3 glasses

09.30 T. Kumagai, T. Kishi, T. Yano, Tokyo Institute of Technology, Japan
Effects of size and position of a bubble on resonance modes in glass optical microcavity

09.50 Coffee break

10.20 **PLENARY LECTURE SCHOTT AWARD in Europa Saal**

Session V.2 Luminescence I

Chair: Dr. Marcelo Nalin, São Paulo, Brazil

11.00 A. Herrmann, S. Kuhn, M. Tiegel, C. Rüssel, Otto-Schott-Institut für Materialforschung, Germany;
J. Körner, J. Hein, M. C. Kaluza, Institute of Optics and Quantum Electronics, Germany
Relations between fluorescence properties and molecular structure of Yb3+-doped alumino silicate glasses

11.20 J. Massera, Åbo Akademi, Finland; L. Petit, nLIGHT corp., Finland;
B. Glorieux, ICMCB, Bordeaux 1, France;
J. Koponen, nLIGHT corp., Finland;
L. Hupa, M. Hupa, Åbo Akademi, Finland
Nanoparticles doping of glasses

11.40	J. Zavadil, Institute of Photonics and Electronics AS CR, Czech Republic; P. Gladkov, Institute of Photonics and Electronics AS CR, Praha, Czech Republic; I. Kabalci, Harran University, Sanliurfa, Turkey; P. Kostka, Institute of Rock Structure and Mechanics AS CR, Czech Republic **Luminescence properties of TeO2-ZnO-TiO2:Tm2O3 glasses**
12.00	G. Gao, L. Wondraczek, Otto-Schott-Institut, University of Jena, Germany **Heavily Eu3+-doped boroaluminosilicate glasses: Efficient red-emitting phosphors**
12.20	Lunch buffet

I. Advances in the Fusion and Processing of Glass

Europa Saal

Session I.2 **Physics and chemistry of the melting & forming process**

Chair: Dr. Hong Li, Cheswick, United States

13.30 H. Behrens, Institute of Mineralogy, Leibniz University of Hannover, Germany (invited)
Reactive volatiles in silicate melts

14.10 W. Woelffel, M.-H. Chopinet, Surface du verre et interfaces, CNRS/Saint-Gobain, France;
M. Toplis, IRAP, CNRS/University of Toulouse III, France;
C. Claireaux, Surface du verre et interfaces, CNRS/Saint-Gobain, France;
E. Boller, European synchrotron radiation facility, France;
E. Gouillart, Surface du verre et interfaces, CNRS/Saint-Gobain, France
Influence of calcium incorporation on the soda-lime glass batch melting reactivity

14.30 A. Christmann, Institute of Non-Metallic Materials, Clausthal University of Technology, Germany and SCHOTT AG, Corp. Res. & Technol. Dev., Mainz, Germany;
A. Brutscher, B. Rüdinger, O. Hochrein, SCHOTT AG, Corp. Res. & Technol. Dev., Mainz, Germany;
J. Deubener, Institute of Non-Metallic Materials, Clausthal University of Technology, Germany
Characterization of aluminosilicate glass batch reactions during the melting down process

14.50 L. Nemec, M. Jebavá, P. Cincibusová, M. Vernerová, Laboratory of Inorganic Materials, joint workplace of the ICT Prague and the IRSM ASCR, v.v.i., Czech Republic;
M. Trochta, Glass Service, Inc., Czech Republic
Semiempirical model of bubble behaviour in glass-melt

15.10 Coffee break

15.40 **PLENARY LECTURE MOREY AWARD in Europa Saal**

16.20 K. Gitzhofer, HVG Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V., Germany
Effective emission control technology for boron containing glass melts

16.40	S. Thiele, R. Conradt, Institute of Mineral Engineering, RWTH Aachen University, Germany **Condensation from flue gases of borsosilicate glass melting tanks**
17.00	S.-R. Kahl, Ardagh Group, Dongen, The Netherlands **Glass defects related to redox instabilities**
17.20	C. Roos, IPGR, Switzerland; T. Struppert, Wiegand Glas, Germany; A. Rosin, Z. Negahdari, University Bayreuth, Germany **Hot-end coating of glass containers – strengths, risks and alternatives**
17.40	K. Kawamoto, S. Nishida, S. Nakane, H. Yamazaki, Nippon Electric Glass, Japan **A development of environmental friendly transparent lithium aluminosilicate glass ceramic**
18.00	End of session

II. Energy Applications of Glass – Fundamentals and Application

Brüssel Saal

Session II.2 Batteries and ion conductive glasses II

Chair:	Prof. Steve W. Martin, Ames, United States Prof. Philipp Maass, Osnabrück, Germany
13.30	H. Eckert, USP, Brazil; S. Martin, Iowa State University, United States **Mixed network former effects in phosphate-based glasses: Structural investigation by solid state NMR (invited)**
14.10	R. Böhmer, M. Adjei-Acheamfour, M. Storek, Universität Dortmund, Germany; S. Martin, Iowa State University, United States **Nuclear magnetic resonance studies of ion conducting glasses (invited)**
14.50	G. Broglia, C. Mugoni, C. Siligardi, M. Montorsi, University of Modena and Reggio Emilia, Italy; J. Du, University of North Texas, United States **Structural insight on electrical conductivity in lithium vanadium phosphate glasses by molecular dynamics simulations**
15.10	Coffee break
15.40	**PLENARY LECTURE MOREY AWARD in Europa Saal**
16.20	M. Vogel, M. Haaks, J. Gabriel, Technische Universität Darmstadt, Germany; S. Martin, Iowa State University of Science & Technology, United States **Combining field-cycling relaxometry and stimulated-echo experiments: A powerful-approach to study ion dynamics in solid-state electrolytes (invited)**
17.00	U. Fotheringham, M. Kunze, M.-L. Reich, M. Schneider, SCHOTT AG, Germany **Considerations on ion conducting glasses and crystals**
17.20	End of session

III. Health, Medical, Biological Aspects – Fundamentals and Application

Conference room K3

Session III.2 Scaffolds for bone tissue engineering

Chair: Prof. Aldo Roberto Boccaccini, Erlangen, Germany
Prof. Edgar Dutra Zanotto, São Paulo, Brazil

13.30 E. Dutra Zanotto, CeRTEV, Brazil; O. Peitl, CeRTEV - UFSCar, Brazil;
M. Trevelin Souza, M. Crovacce, C. Chinaglia, R. Siqueira, LaMaV - UFSCar, Brazil;
A. Rodrigues, CeRTEV - UFSCar, Brazil;
A. Boccaccini, University of Erlangen - Nuremberg, Germany;
L. Hench, University of Florida, United States
BioSilicate – a multipurpose, highly bioactive glass-ceramic

13.50 A. Nommeots-Nomm, Imperial College, United Kingdom;
C. Mitchell, University of Ulster, United Kingdom;
R. Law, Imperial College, United Kingdom;
P. D. Lee, University of Manchester, United Kingdom;
J. Jones, Imperial College, United Kingdom
Porous bioactive glass foam scaffolds: Comparison of 3 compositions

14.10 S. Eqtesadi, University of Extremadura, Spain;
A. Motealleh, PhD student in Material Science and Engineering, Spain;
P. Miranda Gonzalez, A. Pajares Vicente, University of Extremadura, Spain
Improving mechanical properties of robocast 45S5 Bioglass® scaffolds by polymer-melt infiltration

14.30 L. Esteban, Consejo Superior de Investigaciones Científicas, Spain;
K. Zheng, A. Boccaccini, University of Erlangen-Nuremberg, Germany;
J. Moya, Consejo Superior de Investigaciones Científicas, Spain;
A. Díaz, B. Cabal, R. Torrecillas, Nanomaterials and Nanotechnology Research Center, Spain
Bone tissue scaffolds based on biocompatible and biocide soda-lime glasses

14.50 J. Du, Y. Xiang, University of North Texas, United States
Effect of SrO and ZnO on the structure and diffusion of bioactive glasses

15.10 Coffee break

15.40 **PLENARY LECTURE MOREY AWARD in Europa Saal**

16.20 A. Motealleh, S. Eqtesadi, P. Miranda Gonzalez, A. Pajares Vicente, University of Extremadura, Spain
Optimizing processing of 13-93 bioactive glass fabricated by robocasting method

16.40 A. Boccaccini, A. Hoppe, D. Hiller, University of Erlangen-Nuremberg, Germany;
S. N. Rath, Indian Institute of Technology, India;
A. Arkudas, University of Erlangen-Nuremberg, Germany;
U. Kneser, BG Klinik Ludwigshafen, Germany;
R.E. Horch, University of Erlangen-Nuremberg, Germany
Cu-releasing bioactive glass (type 45S5) derived scaffolds for bone tissue engineering

17.00 S. Jung, MO-SCI Corporation, United States
A bridge between scaffold design and implant design

17.20 A. Negahi Shirazi, N. Mohamad Kalis, F. Dehghani, University of Sydney, Australia
Fabrication of bioactive hydrogels for biomedical applications

17.40 End of session

IV.A Fundamentals of the Glassy State and Amorphous Materials

Conference room K1

Session IV.A5 Diffusion & ion exchange

Chair: N.N.

13.30 H. A. Schaeffer, German Society of Glass Technology (DGG), Germany (Keynote)
Diffusion phenomena in silica glass – revisited

13.50 A.-M. Welsch, H. Behrens, U. Bauer, S. Ross, Leibniz Universität Hannover, Germany
Lithium mobility in Li2O-SiO2 and Li2O-Al2O3-SiO2 type glasses

14.10 V. Leboeuf, J. P. Blondeau, D. De Sousa Meneses, CEMHTI, France
Kinetic and structural characterization of potassium ionic exchange in silicate glass

14.30 P. Kreski, A. Varshneya, G. Olson, Saxon Glass Technologies, Inc., United States
Buildup and relaxation of surface compression in chemically strengthened glass

14.50 P. Kreski, Alfred University, United States; A. Varshneya, Saxon Glass Technologies, Inc., United States; A. Cormack, Alfred University, United States
High temperature relaxation of alkali stuffed silicate glasses by molecular dynamics simulations

15.10 Coffee break

15.40 **PLENARY LECTURE MOREY AWARD in Europa Saal**

Session IV.A6 Elastic properties, fracture and durability

Chair: Prof. Tanguy Rouxel, Rennes, France

16.20 E. Ronchetto, R. K. Brow, Missouri University of Science and Technology, United States; T. Clark, Owens-Illinois, Inc., United States
Aging and fatigue of soda lime silicate glass fibers (Keynote)

16.40	K. Philipps, RWTH Aachen University – Institute of Mineral Engineering, Germany; R. P. Stoffel, RWTH Aachen University – Institute of Inorganic Chemistry, Germany; R. Conradt, RWTH Aachen University – Institute of Mineral Engineering, Germany; R. Dronskowski, RWTH Aachen University – Institute of Inorganic Chemistry, Germany **Investigation of thermomechanical behaviour of multicomponent oxide glasses**
17.00	M. Guerette, L. Huang, rpi, United States **Structural and elastic properties of bent silica fiber**
17.20	B. Mantisi, UPMC – Paris 6, France; A. Tanguy, UCB – Lyon 1, France **Numerical experimentation of mechanical behaviour: Silicate versus sodo-silicate**
17.40	End of session

IV.B Fundamentals of the Glassy State and Amorphous Materials

Conference room K2

Session IV.B7 Glass structure & glass formation III

Chair: Prof. Pierre Lucas, Tucson, United States

13.30 R. Youngman, B. Aitken, Corning Incorporated, United States (Keynote)
B-P association in network glasses

13.50 C. Mugoni, G. Broglia, M. Montorsi, University of Modena and Reggio Emilia, Italy;
H. Jain, Lehigh University, United States;
A. Kovalskyy, Austin Peay State University, United States;
C. Siligardi, University of Modena and Reggio Emilia, Italy
Structure-property relationships in copper lithium phosphate glasses

14.10 M. Potuzak, E. A. King, Corning Incorporated, United States
Sodium containing boro- and phosphoaluminosilicate glasses with systematic variation of the [Al2O3]/[SiO2] ratio – examples of the mixed network former effect

14.30 M. Sundararajan, C. Ihalawela, D. Drabold, G. Chen, Ohio University, United States
Intermediate-range order in Ti-doped mesoporous silica

14.50 L. Koudelka, P. Mosner, A. Racicky, I. Rösslerova, University of Pardubice, Czech Republic;
L. Monatgne, B. Revel, University of Lille, France
Behaviour of indium oxide in zinc phosphate and borophosphate glasses

15.10 Coffee break

15.40 **PLENARY LECTURE MOREY AWARD in Europa Saal**

Session IV.B8 Glass structure & glass formation IV

Chair: Dr. Marcel Potuzak, Corning, United States

16.20 V. Minaev, S. Timoshenkov, V. Vasiliev, V. Kalugin, D. Mukimov, National Research University of Electronic Technology, Russian Federation
Physical-chemical nature of glass transition process

16.40 U. Bauer, H. Behrens, Institut für Mineralogie, Leibniz Universität Hannover, Germany; M. Fechtelkord, Institut für Geologie, Mineralogie und Geophysik, Ruhr Universität Bochum, Germany
Structural implications of water- and boron speciation in soda-lime borate glasses

17.00 M. Hunault, G. Calas, A. Juhin, University Pierre and Marie Curie, Institute of Mineralogy, France
Color of Co2+ in alkali borate glasses: revisiting Paul&Douglas

17.20 E. A. Chechetkina, Institute of General and Inorganic Chemistry, Russian Federation
The myth of reproducibility in glass-forming liquids

17.40 I. Kabalci, Harran University, Turkey; P. Kostka, Institute of Rock Structure and Mechanics, Academy of Sciences of the Czech Republic, Czech Republic;
J. Zavadil, Institute of Photonics and Electronics, Academy of Science CR, Czech Republic;
N. Ozturk Korpe, Eskisehir Osmangazi University, Turkey
Microstructural and physical properties of TeO2-ZnO-TiO2 glasses

18.00 End of session

V. Optical Materials and Devices – Fundamentals and Application

Conference room K4/5

Session V.3 Sensors

Chair: Prof. Kathleen A. Richardson, Orlando, United States

13.30 B. Bureau, S. Cui, R. Chahal, C. Boussard-Pledel, V. Nazabal, Université de Rennes 1, France; P. Lucas, University of Arizona, United States; O. Loreal, Université de Rennes 1, France; O. Sire, Université de Bretagne Sud, France; H. Tariel, DIAFIR S.A., France; J. Lucas, Université de Rennes 1, France
Chalcogenide glass optical fibers for mid-infrared bio-sensing (invited)

14.00 F. Vollmer, Max Planck Institute for the Science of Light, Germany (invited)
Taking detection to the limit: Optical bio-sensing with high Q glass microcavities

14.30 S. Degioanni, D. Vouagner, A.-M. Jurdyc, Institut Lumière Matière, France
Amorphous matrix oxides in contact with gold nanostructures: Application to fiber optic sensors

14.50 H. Lin, K. McLaughlin, Y. Chillakuru, L. Li, Y. Liu, University of Delaware, United States; S. Danto, University of Central Florida, United States; J. D. Musgraves, IRradiance Glass Inc., United States; K. Richardson, University of Central Florida, United States; J. Hu, University of Delaware, United States
On-chip mid-IR cavity enhanced chemical sensing using chalcogenide glass resonators

15.10 Coffee break

15.40 **PLENARY LECTURE MOREY AWARD in Europa Saal**

Session V.4 Photoinduced phenomena

Chair:	Prof. Barry Luther-Davies, Canberra, Australia
16.20	T. Cardinal, Y. Petit, ICMCB, France; K. Mishchik, N. Marquestaut, LOMA, France; P. Hee, ICMCB &COPL, France; E. Fargin, ICMCB, France; L. Canioni, LOMA, France; M. Vangheluwe, LOMA & COPL, France; M. Dussauze, V. Rodriguez, ISM, France; Y. Messaddeq, R. Vallée, COPL, France **Photosensitive silver glass for new functionality (invited)**
17.00	T. Seuthe, Fraunhofer IKTS, Germany; M. Grehn, TU Berlin, Germany; A. Mermillod-Blondin, MBI Berlin, Germany; J. Bonse, BAM Berlin, Germany; M. Eberstein, Fraunhofer IKTS, Germany **Femtosecond-laser induced structural changes of silicate glasses investigated by μ-Raman spectroscopy**
17.20	O. Caulier, Université du Littoral Côte d'Opale, France; D. Le Coq, Université de Rennes 1, France; E. Bychkov, P. Masselin, Université du Littoral Côte d'Opale, France **New approach of waveguide inscription by femtosecond laser: Application into a bulk of As2S3**
17.40	D. Savytskyy, Lehigh University, United States; K. Atwater, University of Maryland, United States; B. Knorr, V. Dierolf, H. Jain, Lehigh University, United States **Laser-fabrication of ferroelectric Sb2S3 single crystal on the surface of Sb-S-I glasses**
18.00	End of session

I. Advances in the Fusion and Processing of Glass

Europa Saal

Session I.3 **Energy efficiency, flue gas chemistry, combustion, and heat transfer**

Chair: Prof. Ruud Beerkens, Eindhoven, The Netherlands

08.30 R. Weisenburger Lipetz, Glass Manufacturing Industry Council, United States (invited)
Glass manufacturing industry council – coordinating glass industry technical initiatives

08.50 E. Muijsenberg, Glass Service, Czech Republic
Overview of primary NOx reduction techniques

09.10 M. Märtin, GWI Gas- und Wärme-Institut Essen e.V., Germany;
B. Fleischmann, HVG Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V., Germany;
J. Benthin, A. Giese, GWI Gas- und Wärme-Institut Essen e.V., Germany;
J. Bauer, HVG Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V., Germany
Diluted combustion in regenerative glass melting furnaces to reduce NOx emissions and fuel consumption

09.30 D. Lalart, E. Sénéchal, Arc International, Arques France, France;
H. Abensour, Saint-Gobain Conceptions Verrières, Aubervilliers, France;
A. Kasper, Saint-Gobain Sekurit, Herzogenrath, Germany
Operating experience of the ceramic candle waste gas filter in the glass industry

09.50 Coffee break

10.20 **PLENARY LECTURE KREIDL AWARD in Europa Saal**

11.00 H. van Limpt, A. Suárez-Barcena, CelSian Glass & Solar, The Netherlands; E. de Wit, HyGear BV, The Netherlands
Thermo-chemical-recuperator technology: A big step towards energy efficient glass melting

11.20 H. Kobayashi, K.-T. Wu, R. Bell, Praxair, Inc., United States
Thermo-chemical regenerator: A high efficiency heat recovery system for oxy-fuel fired glass furnaces

11.40	T. Struppert, Neue Glaswerke Großbreitenbach GmbH & Co. KG, Werk Steinbach am Wald, Germany **Experiences with batch & cullet preheating systems in container glass production**
12.00	J. Leicher, A. Giese, GWI Gas- und Wärme-Institut Essen e.V., Germany **Impact of gas quality variations on combustion processes in glass melting furnaces**
12.20	Lunch buffet

II. Energy Applications of Glass – Fundamentals and Application

Brüssel Saal

Session II.3 Batteries and ion conductive glasses III

Chair: Prof. Joachim Deubener, Clausthal-Zellerfeld, Germany
Prof. Masahiro Tatsumisago, SAKAI Osaka, Japan

08.30 Y. Yue, Aalborg University, Denmark;
W. He, Qilu University of Technology, China
Role of disorder in enhancing lithium-ion battery performance (invited)

09.10 W. Wang, J. Kieffer, University of Michigan, United States
Sol-gel derived lithium ion conducting organic-inorganic hybrid materials for electrolyte application

09.30 N. Rosenkiewitz, Institute of Non-Metallic Materials, Clausthal University of Technology, Germany;
J. Schuhmacher, M. Bockmeyer, Schott AG, Germany;
J. Deubener, Institute of Non-Metallic Materials, Clausthal University of Technology, Germany
Characterization of sol-gel derived lithium ion conductors in the Li2O-ZrO2-La2O3 system: From amorphous materials to garnet-type

09.50 Coffee break

10.20 **PLENARY LECTURE KREIDL AWARD in Europa Saal**

11.00 M. Schneider, M.-L. Reich, M. Kunze, W. Schmidbauer, U. Dahlmann, SCHOTT AG, Germany
Influence of microstructure on ionic conductivity in Li2O-Al2O3-TiO2-P2O5 glass-ceramics

11.20 Y. Cui, M. M. Mahmoud, M. Rohde, C. Ziebert, H. J. Seifert, Karlsruher Institut für Technologie (KIT), Germany
Phosphate based glass-ceramic for high temperature lithium-ion batteries

11.40 K. O. Hofmann, Institut für Festkörperphysik, Technische Universität Darmstadt, Germany;
M. Schneider, M.-L. Reich, M. Kunze, Schott AG, Mainz, Germany;
M. Vogel, Institut für Festkörperphysik, Technische Universität Darmstadt, Germany
Electrochemical properties of lithium-ion conducting glass ceramics with LiSICon structure

12.20 Lunch buffet

III. Health, Medical, Biological Aspects – Fundamentals and Application

Conference room K3

Session III.3 Compositional design of bioactive glass

Chair:	Prof. Delia S. Brauer, Jena, Germany Dr. José Ferreira, Aveiro, Portugal
08.30	L. Hupa, Åbo Akademi University, Finland **Glasses releasing therapeutic ions in a controlled manner – How to tailor them? (invited)**
09.10	M. Tylkowski, Otto Schott Institut, Germany; D. S. Brauer, Otto-Schott-Institut, Germany **Effects of lithium substitution in bioactive glasses**
09.30	K. Goetschius, V. Samaranayake, R. K. Brow, Missouri S&T, United States **Compositional design of borate bioactive glasses**
09.50	Coffee break
10.20	**PLENARY LECTURE KREIDL AWARD in Europa Saal**
11.00	E. Vernè, Politecnico di Torino, Italy **New approaches for surface tailoring of bioactive glasses (invited)**
11.40	D. Groh, F. Döhler, Otto-Schott-Institut, Friedrich-Schiller-Universität Jena, Germany; J. Bierlich, J. Kobelke, IPHT Jena, Germany; D. S. Brauer, Otto-Schott-Institut, Friedrich-Schiller-Universität Jena, Germany **New bioactive glasses with low crystallisation tendencies for fibre drawing**
12.00	C. Vaid, S. Murugavel, University of Delhi, India **Mesoporous bioactive glass and glass-ceramics: Influence of the local structure on in-vitro bioactivity**
12.20	Lunch buffet

IV.A Fundamentals of the Glassy State and Amorphous Materials

Conference room K1

Session IV.A9 Constraint theory & simplistic modelling I

Chair: Prof. Lothar Wondraczek, Jena, Germany

08.30 M. M Smedskjaer, Aalborg University, Denmark
Towards a topological basis for the properties of compressed inorganic glasses (invited)

09.10 B. Poletto Rodrigues, L. Wondraczek, Otto Schott Institut für Materialforschung, FSU Jena, Germany
Modifier constraints on Eu-Mn-Sr borate glasses

09.30 M. Bauchy, D. Dieter, R. Pellenq, M. Buehler, MIT, United States
Topological constraints and reactivity of calcium alumino silicates fly ashes

09.50 Coffee break

10.20 **PLENARY LECTURE KREIDL AWARD in Europa Saal**

Session IV.A10 Constraint theory & simplistic modelling II

Chair: Dr. Gang Chen, Athens, United States

11.00 C. Hermansen, Y.-Z. Yue, Aalborg University, Denmark
Topological modeling of phosphate and borophosphate glass

11.20 O. Laurent, M. Micoulaut, UPMC, France
Topological constraints and rigidity of soda-lime silicates

11.40 J. Mauro, Corning Incorporated, United States
Statistics of modifier distributions in mixed network glasses

12.00 M. Bauchy, MIT, United States; M. Micoulaut, LPTMC, UPMC, Paris, United States
Percolative heterogeneous topological constraints in glass-forming liquids

12.20 Lunch buffet

IV.B Fundamentals of the Glassy State and Amorphous Materials

Conference room K2

Session IV.B11 Glass structure & glass formation V

Chair: Ellyn King, Corning, United States

08.30 S. Inaba, Tokyo Institete of Technology, Japan;
H. Hosono, S. Ito, Tokyo Institute of Technology, Japan
Origin of entropic elasticity in phosphate glass

08.50 M. Chassé, L. Galoisy, Institut de minéralogie, de physique des matériaux et de cosmochimie (IMPMC), France;
N. Métrich, Institut de physique du globe de Paris (IPGP), France;
G. Lelong, G. Calas, Institut de minéralogie, de physique des matériaux et de cosmochimie (IMPMC), France
New insights into iron speciation in natural glasses: a microspectrophotometric study

09.10 P. Lucas, University of Arizona, United States;
B. Bureau, Université de Rennes 1, France;
M. Deschamps, CNRS-Orleans, France
Experimental confirmation of chemical order in As-Se glasses

09.30 H. Flores-Ruiz, UPMC, France;
M.-V. Coulet, Université Aix-Marseille, France;
A. Piarristeguy, Université Montpellier II, France;
M. Micoulaut, UPMC, France;
M. Johnson, G. Cuello, ILL Grenoble, France;
A. Pradel, Université Montpellier II, France;
C. Bichara, Université Aix-Marseille, France
Structure of Ge-Sb-Te and Ge-Ga-Te melts from first principles molecular dynamics simulations and neutron diffusion

09.50 Coffee break

10.20 **PLENARY LECTURE KREIDL AWARD in Europa Saal**

Session IV.B12 Clustering and particle formation

Chair:	N.N.
11.00	F. Cormack, A. Cormack, W. Lacourse, Alfred University, United States **Experimental and computational investigation of photosenstive glasses containing silver nanoparticles**
11.20	C. Saiyasombat, H. Jain, Lehigh University, United States **Mechanism of formation of Au nanoparticles in silicate glasses by in situ X-ray absorption and optical spectroscopy**
11.40	A. Winterstein-Beckmann, S. Fuhrmann, M. Kömm, L. Wondraczek, Otto-Schott-Institute, Friedrich-Schiller-University, Jena, Germany **Terbium-dispersion and microscopic ordering effects in magneto-optical terbium boro-germanate glasses**
12.00	J. P. Rino, L. G. Gonçalves, Universidade Federal de São Carlos, Brazil **Glass forming ability in Pd45Ni55 and Pd35Ni55Pt10 metallic glasses**
12.20	Lunch buffet

V. Optical Materials and Devices – Fundamentals and Application

Conference room K4/5

Session V.5 Luminescence II

Chair: T. Cardinal, Bordeaux, France

08.30 M. Nalin, Institute of Chemistry, Brazil
Optical properties of rare earth doped oxide glasses and glass-ceramics containing metallic nanoparticles (invited)

09.10 Y. Yang, Y. Wu, Alfred University, United States
Rare-earth doped YAG optical ceramics fabricated through a new gelcasting system (invited)

09.30 B. Knorr, A. Stone, H. Jain, V. Dierolf, Lehigh University, United States
Structural and spectroscopic properties of rare earth doped crystal-in-glass waveguides as influenced by the initial glass composition

09.50 Coffee break

10.20 **PLENARY LECTURE KREIDL AWARD in Europa Saal**

Session V.6 Optical material synthesis II

Chair: Prof. Laurent Calvez, Rennes, France

11.00 A. Masuno, The University of Tokyo, Japan; T. Iwata, Shibaura Institute of Technology, Japan; H. Inoue, Y. Watanabe, The University of Tokyo, Japan
Optical properties of La2O3-B2O3 binary glasses prepared by containerless processing

11.20 S. Cui, C. Boussard-Plédel, B. Bureau, X.-H. Zhang, J. Lucas, University of Rennes 1, France
Preparation and investigation of high purity Ge–Te–AgI glass single index fiber for far-infrared application

11.40 P. Manns, M. Gremmelspacher, Fraunhofer-Institut für Werkstoffmechanik IWM, Germany; G. Spieß, Fraunhofer Institute for Mechanics of Materials IWM, Germany; T. Schmid, Fraunhofer-Institut für Solare Energiesysteme ISE, Germany
Molded glass lenses for concentrating photovoltaic modules

12.00 J. Zwanziger, J. Galbraith, Dalhousie University, Canada
Dispersion of photoelasticity in glass

12.20 Lunch buffet

I. Advances in the Fusion and Processing of Glass

Europa Saal

Session I.4 Furnace design and advanced melting concepts

Chair: Dr. Hisashi Kobayashi, Danbury, United States

13.30 T. Yano, Tokyo Institute of Technology, Japan; T. Watanabe, Kyushu University, Japan; O. Sakamoto, Asahi Glass Co., ltd., Japan; K. Sato, New Glass Forum, Japan; S. Inoue, National Institute for Materials Science, Japan
In-flight vitirification process of granular powders in in-flight melting technology (invited)

14.10 G. Lubitz, Vetroconsult AG, Switzerland
Fluid bed processing – a new way of preheating batch and cullet

14.30 M. Lindig, Sorg, Germany
Melting efficiency improvements with waste heat recovery- an evaluation

14.50 A. Lankhorst, CelSian Glass & Solar, The Netherlands; A. Habraken, CelSian, The Netherlands; M. Rongen, CelSian Glass & Solar, The Netherlands
Modeling the dynamic behavior of regenerative glass melting furnaces: The impact on mixing and quality

15.10 Coffee break

15.40 **PLENARY LECTURE STOOKEY AWARD in Europa Saal**

16.20 B. Schmalenbach, R. Bei, RHI GLAS GmbH, Germany
Glass defects from superstructure refractories – solutions and improvements

16.40 Y. Bayram, A. Ruege, E. Walton, PaneraTech, Inc., United States; G. Mumcu, University of South Florida, United States; R. Burkholder, The Ohio State University, United States; E. Sperry, D. Cetnar, Libbey Glass, United States; S. Weiser, Owens-Illinois, United States
Furnace asset life optimization with structural health monitoring sensors

17.00 S. Soubeih, U. Luedtke, B. Halbedel, Ilmenau University of Technology, Germany
Using numerical simulation to study the effects of how an external magnet system improves the residence time distribution on glass melting tanks

17.20 I. Hooftman, LANXESS nv, Belgium; A. Francis, **U. Iyoha, J. de Diego, Praxair, Spain**
Operational experience at LANXESS nv (Kallo) of Praxair's new oxyfuel forehearth burner technology for glass forehearths

17.40 G. Bergmann, N.-H. Löber, J. Simon, H. Müller-Simon, HVG Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V., Germany
The influence of spout and delivery characteristics on the gobs – Results of measurements and modelling – Part 1

18.00 End of session

II. Energy Applications of Glass – Fundamentals and Application

Brüssel Saal

Session II.4 Sealants and solder glasses

Chair: Dr. Ralf Müller, Berlin, Germany

13.30 R. Brow, Missouri University of Science and Technology, United States
Sealing glasses for electrochemical devices (invited)

14.10 C. Thieme, C. Rüssel, Otto-Schott-Institut für Materialforschung, Germany
Crystallizing glass seals with high coefficients of thermal expansion and strong adherence to metals

14.30 S. Reinsch, S. Fest, R. Müller, BAM Federal Institute for Materials Research and Testing, Germany
Effects of milling on sinter-crystallization of solder glasses for SOFC

14.50 C.-W. Kim, MO-SCI Corporation, United States; J. H. Hsu, Missouri University of Science and Technology, United States; J. Szabo, R. Crouch, R. Baird, MO-SCI Corporation, United States; R. Brow, Missouri University of Science and Technology, United States
Viscous sealing glasses for solid oxide fuel cells

15.10 Coffee break

15.40 **PLENARY LECTURE STOOKEY AWARD in Europa Saal**

16.20 M. Müller, B. Durschang, M. Kilo, Fraunhofer-Institut für Silicatforschung ISC, Germany; S. Hornauer, ElringKlinger AG, Germany
(In situ) – Analyses of new glass-ceramic sealants for the use in solid oxide fuel cells SOFC

16.40 V. Boffa, Aalborg University, Denmark; G. Magnacca, Turin University, Italy; Y. Yue, Aalborg University, Denmark
Hydrogen-selective silica-base membranes: Structure, permeability and stability

17.00 I. Reimanis, I. Cornejo, S. Ramalingam, Colorado Center for Advanced Ceramics, Department of Metallurgical and Materials Engineering, Colorado School of Mines, United States
Making glass from food waste

17.20 End of session

III. Health, Medical, Biological Aspects – Fundamentals and Application

Conference room K3

Session III.4 Bioactive glass in bone and tissue repair

Chair: Dr. Richard Brow, Rolla, United States
Dr. Alastair N. Cormack, Alfred, United States

13.30 A. P. Tomsia, Lawrence Berkeley National Laboratory, United States; Q. Fu, Corning Incorporated, United States
Regeneration of large segmental bone defects with bioactive glass scaffolds (invited)

14.10 M. Rahaman, Missouri University of Science and Technology, United States; L. Bi, L. Bonewald, University of Missouri-Kansas City, United States; S. Bal, University of Missouri-Columbia, United States
Repair of structural bone defects using strong porous bioactive glass scaffolds

14.30 L. Drago, C. Vassena, IRCCS Galeazzi Institute, Italy;
S. Fenu, National Institute of Molecular Genetics, Italy; E. de Vecchi, V. Signori, C. L. Romanò, IRCCS Galeazzi Institute, Italy
In vitro antibiofilm activity of bioactive glass BAG-S53P4

14.50 M. Bruno, M. Miola, Politecnico di Torino, Italy; O. Bretcanu, Newcastle University, United Kingdom; A. Cochis, L. Rimondini, University of Eastern Piedmont, Italy; R. Gerbaldo, F. Laviano, E. Vernè, Politecnico di Torino, Italy
Development of innovative PMMA bone cements loaded with bioactive and ferrimagnetic phase: morphological, calorimetric, mechanical and in vitro characterization

15.10 Coffee break

15.40 **PLENARY LECTURE STOOKEY AWARD in Europa Saal**

Session III.5 Round-table discussion on key issues and future directions in glasses for medical applications

Chair: Prof. Aldo Boccaccini, Erlangen, Germany
Prof. Mohamed Rahaman, Rolla, United States

16.20-17.50 Round-table discussion

IV.A Fundamentals of the Glassy State and Amorphous Materials

Conference room K1

Session IV.A13 Chalcogenides I

Chair: Prof. Steve W. Martin, Ames, United States

13.30 M. Wuttig, RWTH Aachen,
I. Physikalisches Institut, Germany (invited)
Phase change materials: From optical data storage to novel electronic memories

14.10 M. Upadhyay, S. Murugavel, University of Delhi, India
Study of microstructure and defects in phase change memory materials

14.30 M. Salinga, RWTH Aachen University,
I. Physikalisches Institut IA, Germany
Fragility and glass transition in phase change materials

14.50 P. Lucas, G. Coleman, O. Gulbiten, Q. Hao, University of Arizona, United States; B. Bureau, University of Rennes 1, France;
S. Cui, C. Boussard-Pledel, University of Rennes, France
Doped glassy semiconductors for application in thermoelectric devices

15.10 Coffee break

15.40 **PLENARY LECTURE STOOKEY AWARD in Europa Saal**

Session IV.A14 Chalcogenides II

Chair: Prof. Pierre Lucas, Tucson, United States

16.20 J. Troles, P. Toupin, University of Rennes 1, France; L. Brilland, Perfos, R&D plateform of photonics Bretagne, France;
C. Caillaud, University of Rennes 1, France;
D. Mechin, Perfos, R&D plateform of photonics Bretagne, France; C. Boussard, B. Bureau, J.-L. Adam, University of Rennes 1, France
Which glasses, which glass structures for the fabrication of chalcogenide microstructured optical fibers for mid-IR sensing? (invited)

17.00 E. Koontz, Clemson University, University of Central Florida, United States; P. Wachtel, University of Central Florida, Irradiance Glass, United States; R. Loucks, Alfred University, United States; K. Richardson, University of Central Florida, Clemson University, United States
Compositional dependence of structural relaxation behavior in the AsxSe1-x and GeyAsxSe1-x-y systems characterized by length dilatometry

17.20 Y. Gueguen, LARMAUR ERL CNRS 6274, France; V. Keryvin, LIMATB EA 4250, France; J.-C. Sangleboeuf, LARMAUR ERL CNRS 6274, France; P. Lucas, Department of Materials Science and Engineering, University of Arizona, United States; E. A. King, Science and Technology Division, Corning Inc, Corning NY, United States; B. Bureau, Glass and Ceramic Group, SCR UMR CNRS 6226, France
Rheology of chalcogenide glasses under light irradiation (invited)

17.40 End of session

IV.B Fundamentals of the Glassy State and Amorphous Materials

Conference room K2

Session IV.B15 Relaxation & extreme conditions I

Chair: Prof. Lothar Wondraczek, Jena, Germany

13.30 D. de Ligny, FAU Erlangen-Nürnberg, Germany;
C. Sonneville, Université de Montréal, Canada;
C. Martinet, A. Mermet, Université Lyon 1, France;
F. Angeli, S. Peuget, S. Schuller, CEA Marcoule, France;
S. Juodkazis, Swinburne University of Technology, Australia
Glasses at extreme conditions: high pressure and hyper-quenching (invited)

14.10 B. Champagnon, Institut Lumière Matière, UMR5306 Université Lyon 1-CNRS, Villeurbanne, France
Densified silica : comparison of the structures corresponding to different densification paths

14.30 A. Winterstein-Beckmann, D. Möncke, Otto-Schott-Institute, Friedrich-Schiller-University, Jena, Germany;
D. Palles, Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece;
P. Malchow, Institute of General Materials Properties, Department Material Science, University Erlangen-Nuremberg, Erlangen, Germany;
K. Durst, Physical Metallurgy, Department Material Science, TU Darmstadt, Germany;
E.I. Kamitsos, Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece;
L. Wondraczek, Otto-Schott-Institute, Friedrich-Schiller-University, Jena, Germany
Structure of densified Na2O-B2O3-SiO2 glasses Part I: Indentation – room temperature compression

14.50 S. Fuhrmann, Otto-Schott Institute for Materials Research, Germany;
T. Deschamps, Institut Lumière Matière, UMR5306 Université Lyon 1-CNRS, France;
S. Widgeon, Dept. of Chemical Engineering and Materials Science, UC Davis, United States;
D. De Ligny, B. Champagnon, Institut Lumière Matière, UMR5306 Université Lyon 1-CNRS, France;
S. Sen, Dept. of Chemical Engineering and Materials Science, UC Davis, United States;

L. Wondraczek, Friedrich-Schiller-Universität Jena, Otto-Schott-Institut, Germany
Structure of densified Na2O-B2O3-SiO2 glasses Part II: Isostatic Compression – freezing of fictive pressure

15.10 Coffee break

15.40 **PLENARY LECTURE STOOKEY AWARD in Europa Saal**

Session IV.B16 Relaxation & extreme conditions II

Chair: N.N.

16.20 G. Mckenna, J. Zhao, Texas Tech University, United States (invited)
Testing time-scale divergence in glasses: Aging routes, fossil resins and other questions

17.00 M. Tomozawa, P. Lezzi, RPI, United States
Surface stress relaxation of silicate glasses

17.20 T. V.R. Marques, A. Cabral, Federal Institute of Maranhao, Brazil
Influence of the heating rates on the correlation between glass-forming ability (GFA) and glass stability (GS) parameters

17.40 T. Palenta, S. Fuhrmann, Otto-Schott Institute for Materials Research, Friedrich-Schiller University Jena, Germany;
W. Schwieger, Institute of Chemical Reaction Engineering, Friedrich-Alexander University Erlangen-Nuremberg, Germany;
L. Wondraczek, Otto-Schott Institute for Materials Research, Friedrich-Schiller-University Jena, Germany
Kinetic investigation on zeolite collapse

18.00 N. Greaves, Department of Materials Science & Metallurgy, University of Cambridge, United Kingdom;
J.-C. Tan, Department of Engineering Science, University of Oxford, United Kingdom;
Y. Yue, Section of Chemistry, Aalborg University, Denmark; T. Bennett, A. Cheetham, Department of Materials Science & Metallurgy, University of Cambridge, United Kingdom;
Z. Zhongfu, School of Materials Science and Engineering, Shanghai University, United Kingdom
Superstrong supercooled zeolitic hybrid frameworks and toplogical melting

18.20 F. Song, Z. Zhongfu, N. Greaves, Institute of Mathematics, Physics and Computer Science, Aberystwyth University, United Kingdom
Collapse dynamics of neodynium ion-exchanged zeolite Y

18.40 End of session

V. Optical Materials and Devices – Fundamentals and Application

Conference room K4/5

Session V.7 Non linear optical materials and properties

Chair: Prof. Johann Troles, Rennes, France

13.30 B. Luther-Davies, Australian National University, Australia;
P. Ma, The Astralian Naitonal University, Australia;
Y. Yu, X. Gai, D.-Y. Choi, Z. Yang, R. Wang, S. Madden, The Australian National University, Australia
Chalcogenide waveguides for nonlinear optics and sensing in the mid-infrared (invited)

14.00 Y. Ohishi, Toyota Technological Institute, Japan
New prospect of high nonlinear micro-structured optical fibers (invited)

14.30 K. Richardson, University of Central Florida, United States;
J. D. Musgraves, P. Wachtel, IRradiance Glass, United States;
A. Buff, L. Sisken, K. Chamma, University of Central Florida, United States;
T. Mayer, The Pennsylvania State University, United States
Advances in mid-infrared chalcogenide glass ceramics for photonic applications

14.50 P. Hee, ICMCB-CNRS, Pessac, France; COPL, Québec, Canada, France;
R. Christensen, Departement of Chemistry, University of Manitoba, Winnipeg, Canada;
Y. Ledemi, COPL, Québec, Canada;
M. Dussauze, ISM, Talence, France;
T. Cardinal, E. Fargin, ICMCB-CNRS, Pessac, France;
S. Kroeker, Departement of Chemistry, University of Manitoba, Winnipeg, Canada;
Y. Messaddeq, COPL, Québec, Canada
Gallate glasses: Candidates for optical applications in the near infrared

15.10 Coffee break

15.40 **PLENARY LECTURE STOOKEY AWARD in Europa Saal**

Session V.8 Radiation effects (joint session with symposium Nuclear Waste Forms)

Chair: Dr. Laeticia Petit, Lohja, Finland

16.20 S. Novak, Department of Materials Science and Engineering, COMSET, Clemson University, Clemson, SC, USA, United States;
V. Singh, N. Patel, Microphotonics Center, Massachusetts Institute of Technology, Cambridge, MA, USA, United States;
J. Marro, Department of Materials Science and Engineering, COMSET, Clemson University, Clemson, SC, USA, United States;
J. Giammarco, I. Luzinov, Department of Materials Science and Engineering, Clemson University, Clemson, SC, USA, United States;
A. Quaranta, W. Raniero, Department of Industrial Engineering, University of Trento, Italy;
M. Chiesa, Department of Chemistry, University of Torino, Torino, Italy;
A. Agarwal, Microphotonics Center, Massachusetts Institute of Technology, Cambridge, MA, USA, United States;
K. Richardson, College of Optics and Photonics, CREOL, University of Central Florida, USA, United States
Radiation effects in chalcogenide glass materials for planar mid-IR photonic devices

16.40 J. King, R. Leonard, J. Johnson, UTSI, United States
LiSiBaB: Eu(II) neutron scintillator

17.00 N. Johnson, S. Feller, M. Affatigato, U. Akgun, Coe College, United States
Development of electronically conductive glasses for resistive plate calorimeter particle detectors

17.20 R. Dongol, S.K. Sundaram, Alfred University, United States
Corrosion behavior of borosilicate glasses for neutrino detection

17.40 P. Tumurugoti, B.M. Clark, S.K. Sundaram, Alfred University, United States
Femtosecond pulse laser interaction with multi-phase ceramic waste forms for nuclear waste storage

18.00 End of session

VIII. Student Workshop Clear as Glass 2014

Conference room K9

Session VIII.1 Structural and topological aspects of the mechanical properties of glass

Chair:	Prof. Reinhard Conradt, Aachen, Germany
13.30	In the first part, four short introductory lectures (25 min each) will be given by prominent researchers in the field. The lecturers' names will be announced at the conference website and at the registration desk. The following key issues will be covered by the lectures: What are the relations between the categories at the atomic scale (bonds, packing, short and medium range order, connectivity, etc.) and the resulting macroscopic properties (elastic moduli, surface hardness, strength)? What can we learn, and what concepts can we apply to make better glass?
15.10	Coffee break
15.40	**PLENARY LECTURE STOOKEY AWARD in Europa Saal**
16.20	Lectures are followed by a "brain storming" session where students will discuss the matter in small groups. Crazy and unconventional ideas are most welcome. At the end of the workshop, each group will present their ideas and conclusions.
17.50	End of workshop

I. Advances in the Fusion and Processing of Glass

Europa Saal

Session I.5 **Advances in modeling of glass melting and forming, comprising process control and sensors**

Chair: Dipl.-Ing. Sven-Roger Kahl, Dongen, The Netherlands

08.30 A. Huber, Johns Manville, United States
Glass flow in channels for fiber production; using CFD to improve understanding and design (invited)

08.50 A. Habraken, A. Lankhorst, R. Beerkens, CelSian Glass & Solar, The Netherlands
Modeling of glass melting and fining processes: Decisive for glass quality

09.10 M. Eisenga, Glass Service B.V., The Netherlands
ES IIITM control of feeder job change – a novel TY

09.30 P. Boehm, H. Müller-Simon, HVG Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V., Germany
Use of a sulfur sensor in the float glass process

09.50 Coffee break

10.20 **PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

11.00 P. van Santen, L. Thielen, A. Koenraads, CelSian Glass & Solar BV, The Netherlands
On line energy balance monitoring and model predictive control for energy efficient and stable glass furnace operation

11.20 A. Möller, Nogrid GmbH, Germany
How to use simulation of container glass forming successfully

11.40 D. P. Hemmann, STG Combustion Control GmbH & Co KG, Germany
Model predictive Lambda Control and its relationship to CO monitoring

12.00 A. J. Faber, M. van Kersbergen, CelSian Glass & Solar, The Netherlands
Industrial experiences with CO laser sensor for combustion control in industrial glass furnaces

12.20 Lunch buffet

II. Energy Applications of Glass – Fundamentals and Application

Brüssel Saal

Session II.5 Glasses and thin films for solar energy conversion

Chair: Dr. Gundula Helsch, Clausthal-Zellerfeld, Germany
Prof. Rui Almeida, Lisbon, Portugal

08.30 R. Almeida, Instituto Superior Técnico, Portugal
Functional coatings on glass for energy applications (invited)

09.10 K. H. Nielsen, T. Kittel, L. Wondraczek, Otto Schott Institute of Materials Research, Germany
Pore water content and adsorption breathing effect of nanoporous coatings on glass

09.30 G. Helsch, J. Deubener, Institute of Non-Metallic Materials, Clausthal University of Technology, Germany
Effect of curing conditions on photocatalytic activity of antireflective coatings on solar glass

09.50 Coffee break

10.20 **PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

11.00 L. Wondraczek, University of Jena, Germany
Production of biomass and fine chemicals in algae reactors: From light delivery to spectral conversion (invited)

11.40 R. Bruntsch, H. Hessenkemper, TU Bergakademie Freiberg, Germany
Black glass for new energies

12.00 M. Eberstein, U. Schmidt, R. Jurk, K. Reinhardt, S. Körner, U. Partsch, Fraunhofer IKTS, Germany
In-situ resistance of sintering silver-glass composites for solar cell contacts

12.20 Lunch buffet

III. Health, Medical, Biological Aspects – Fundamentals and Application

Conference room K3

Session III.6 Glass and glass-ceramics in dentistry

Chair: Dr. Antoni Tomsia, Berkeley, United States
Prof. Wolfram Höland, Schaan, Liechtenstein

08.30 W. Hoeland, M. Schweiger, C. Ritzberger, Ivoclar Vivadent AG, Liechtenstein
Mechanisms of controlled nucleation and crystallization of glasses to develop glass-ceramic products (invited)

09.10 C. Vogel, O.-M. Goudouri, A. Boccaccini, Institute of Biomaterials, Friedrich-Alexander-University Erlangen-Nuremberg, Germany
Sol-gel processing of novel bioactive scaffolds for periodontal tissue regeneration

09.30 B. Durschang, M. Kilo, J. Probst, Fraunhofer ISC, Germany
Dental glass-ceramics with high amorphous zirconia content

09.50 Coffee break

10.20 **PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Session III.7 Bioactive glass in wound healing, vascularization and soft tissue engineering

Chair: Dr. Himanshu Jain, Bethlehem, United States
Dr. Enrica Verné, Torino, Italy

11.00 R. Brow, H. Shi, J. George, Q. Yang, S. Chen, Missouri S&T, United States (invited)
Dissolution-precipitation behavior of borate bioglasses and its effect on cellular activity

11.40 S. Jung, MO-SCI Corporation, United States
Evaluation of bioactive borate glass fibers in-vitro and in-vivo for wound care applications

12.00 M. T. Souza, Federal University of São Carlos, Brazil;
A. C. Renno, Unifesp, Brazil;
O. Peitl, E. D. Zanotto, Federal University of São Carlos, Brazil
New highly bioactive glass fibers for skincare

12.20 Lunch buffet

IV.A Fundamentals of the Glassy State and Amorphous Materials

Conference room K1

Session IV.A17 Computational simulation I

Chair:	Dr. Gang Chen, Athens, United States
08.30	W. Kob, Université Montpellier 2 – Institut universitaire de France, France (invited) **On the structure of sodium-borosilicate glasses: Insight from ab initio simulations**
09.10	A. Takada, Asahi Glass Co., Ltd., Japan **Computer simulation of dynamical structural changes in tridymite and silica glass (Keynote)**
09.30	K. Sebeck, J. Kieffer, University of Michigan, United States **Comparing the effects of topology on rigidity in silicate glasses and glassy polymers using MD simulations**
09.50	Coffee break
10.20	**PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Session IV.A18 Computational simulation II

Chair:	Dr. Gang Chen, Athens, United States
11.00	L. Huang, F. Yuan, Rensselaer Polytechnic Institute, United States **Molecular dynamics study of intermediate glass**
11.20	M. Stamminger, Heraeus Quarzglas GmbH & Co KG, Germany **Numerical modeling of hydrogen species distributions resulting from fused silica manufacturing processes**
11.40	A. Gulenko, O. Masson, A. Berghout, D. Hamani, P. Thomas, Laboratoire Science des Procédés Céramiques et de Traitements de Surface UMR 7315 CNRS - Université de Limoges, France **Atomistic simulations of TeO2-based glasses: Interatomic potentials and molecular dynamics (Keynote)**
12.00	A. Baroni, LPTMC, France; G. Ferlat, IMPMC, France; M. Salanne, PECSA, France; M. Micoulaut, LPTMC, France **Transport anomalies, structure and ring structure in densified liquid B2O3**
12.20	Lunch buffet

IV.B Fundamentals of the Glassy State and Amorphous Materials

Conference room K2

Session IV.B 19 Nucleation & Crystallization I

Chair: Dr. Sindy Fuhrmann, Jena, Germany

08.30 R. Donfeu Tchana, Institute of Non-Metallic Materials, Clausthal, University of Technology, Germany;
T. Pfeiffer, B. Rüdinger, Research and Technology Development, Schott AG, Germany;
J. Deubener, Institute of Non-Metallic Materials, Clausthal, University of Technology, Germany
Nucleation in ZrO2- and TiO2-bearing lithium aluminosilicate (LAS) glass-ceramics studied by optical spectroscopy

08.50 J. Deubener, S. Krüger, Clausthal University of Technology, Germany;
R. Müller, Federal Institute of Materials Research and Testing (BAM), Berlin, Germany
Rate curve and induction time analysis of heterogeneous crystal nucleation in glass-ceramic systems

09.10 K. Otto, C. Rüssel, Otto-Schott-Institut für Materialforschung, Germany
Nucleation inhibitors in lithium disilicate glass

09.30 L. S Gallo, Programa de Pós-Graduação em Ciência e Engenharia de Materiais, Brazil;
T. D. M. Mosca, Nadir Figueiredo, Brazil;
B. H. Teider, Alcoa, Brazil;
I. G. Polyakova, Grebenshchikov Institute of Chemistry of Silicates, Russian Federation;
A. C. M. Rodrigues, Universidade Federal de São Carlos, Brazil;
E. D. Zanotto, Federal University of Sao Carlos - CeRTEV, Brazil;
V. V. Fokin, Vavilov State Optical Institute, Russian Federation
Effect of Li2O on the crystallization of Na2O.2CaO.3SiO2 glass

09.50 Coffee break

10.20 **PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Session IV.B20 Nucleation & Crystallization II

Chair:	Prof. Joachim Deubener, Clausthal-Zellerfeld, Germany
11.00	P. Thapar, R. Golovchak, H. Jain, International Materials Institute for New Functionality in Glass, United States **Role of nanoscale phase separation in the devitrification of 45S5 bioactive glass**
11.20	A. Gaddam, H. Fernandes, J. M. F. Ferreira, Department of Materials and Ceramics Engineering, CICECO, Portugal **The role of manganese on structure, crystallization and sintering behaviors of Li2O-SiO2 glasses**
11.40	S. Krüger, J. Deubener, Clausthal University of Technology, Germany; C. Ritzberger, W. Höland, Ivoclar Vivadent AG, Liechtenstein **The overlap of nucleation and growth rate curves in silicate glasses: A DSC study**
12.00	E. Meechoowas, U. Pantulap, K. Tapasa, T. Jitwatcharakomal, Department of Science Service, Thailand **The effect of modified soda-lime cullet composition on crystallization of glass-ceramics**
12.20	Lunch buffet

V. Optical Materials and Devices – Fundamentals and Application

Conference room K4/5

Session V.9 Thin film

Chair: Dr. Juejun Hu, Newark, United States

08.30 V. Singh, P. T. Lin, Microphotonics Center, Massachusetts Institute of Technology, Cambridge, MA, United States;
J. Giammarco, A. P. Soliani, School of Materials Science and Engineering, Clemson University, Clemson, SC, United States;
J. Hu, Department of Materials Science and Engineering, University of Delaware, Newark, DE, United States;
J. D. Musgraves, K. Richardson, College of Optics and Photonics, CREOL, University of Central Florida, Orlando, FL, United States;
I. Luzinov, School of Materials Science and Engineering, Clemson University, Clemson, SC, United States;
J. Hensley, Physical Sciences Inc., Andover, MA, United States;
L. C. Kimerling, A. Agarwal, Microphotonics Center, Massachusetts Institute of Technology, Cambridge, MA, United States
Chalcogenide glass-on-silicon platform for integrated infrared chemical sensing

08.50 O. Ogbuu, Q. Du, H. Lin, L. Li, Y. Zou, Department of Materials Science & Engineeing, University of Delaware, United States;
S. Danto, K. Richardson, Infrared Optics Manufacturing Laboratory/CREOL, University of Central Florida, United States;
J. Hu, Department of Materials Science & Engineeing, University of Delaware, United States
Effect of oxygen deficiency on structural and optical properties of sputter deposited multi-component tellurite glass films

09.10 Y. Zou, J. Zhou, L. Moreel, L. Savelli, H. Lin, L. Li, University of Delaware, United States;
E. Koontz, S. Danto, University of Central Florida, United States;
J. D. Musgraves, IRradiance Glass Inc, United States;
K. Richardson, University of Central Florida, United States; J. Hu, University of Delaware, United States
Thin film As-Se chalcogenide glasses: Physio-chemical properties and optical applications

09.30 S. Novak, Department of Materials Science and Engineering, COMSET, Clemson University, Clemson, SC, United States;
D. E. Johnston, Department of Mechanical and Aerospace Engineering, University of Central Florida, United States;
N. Patel, Microphotonics Center, Massachusetts Institute of Technology, Cambridge, MA, United States;
W. Deng, Department of Mechanical and Aerospace Engineering, University of Central Florida, United States;
N. McClenaghan, Institut des Sciences Moléculaires, University of Bordeaux, Talence, France;
A. Agarwal, Microphotonics Center, Massachusetts Institute of Technology, Cambridge, MA, United States;
K. A. Richardson, University of Central Florida, Glass Processing and Characterization Lab, United States
Characterization of luminescent quantum dot doped chalcogenide glass films from solution

09.50 Coffee break

10.20 **PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Session V.10 Glass ceramics and optical ceramics I

Chair: J. Qiu, Hangzhou, China

11.00 L. Glebova, OptiGrate, United States;
H. Mingareev, D. Ott, UCF/CREOL, United States;
M. Klimov, UCF/AMPAC, United States;
I. Divliansky, L. Glebov, UCF/CREOL, United States
Effect of UV exposure on photoinduced crystallization and refractive index change in PTR glass

11.20 L. Calvez, B. Xue, X.-H. Zhang, Equipe Verres et Céramiques, France
Novel ways to prepare non linear chalcogenide glass-ceramics

11.40 T. Lai, R. Biggie, W.-J. Huang, B. Potter Jr, K. Simmons-Potter, University of Arizona, United States
Environmental performance and degradation of Si-based photovoltaic cells and modules

12.00 W. Wisniewski, A. Keshavarzi, C. Rüssel, Otto-Schott-Institut, Germany
Unexpected results from YAG-containing light conversion glass ceramics

12.20 Lunch buffet

VI. Nuclear Waste Forms – Fundamentals and Applications

Conference room K6

Session VI.1 Waste form development and processing

Chair: Dr. Joseph V. Ryan, Richland, United States

08.30 B. Clark, P. Tumurugoti, S K Sundaram, Alfred University, United States
Structure-terahertz properties relationship in pyrochlore, zirconolite, and hollandite materials for energy applications

08.50 C.-W. Kim, MO-SCI Corporation, United States; J. H. Hsu, R. Brow, C. Ray, D. Day, Missouri University of Science and Technology, United States
Vitrification of simulated Hanford LAW using iron phosphate glasses

09.10 J. McCloy, Washington State University, United States;
B. Riley, M. Schweiger, D.-S. Kim, C. Iovin, Pacific Northwest National Laboratory, United States;
W. Lukens, Lawrence Berkeley National Laboratory, United States
Incorporation of large fractions of iodine in borosilicate glass

09.30 H. Sugiyama, S. Komamine, N. Kanehira, E. Ochi, Japan Nuclear Fuel Limited, Japan; T. Nabemoto, Y. Usui, I. Oono, IHI Corporation, Japan
Full-scale inactive test for development of the advanced melter in RRP

09.50 Coffee break

10.20 **PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Session VI.2 Glass corrosion: Isotopic characterization

Chair: Dr. Joseph V. Ryan, Richland, United States

11.00 A. Verney-Carron, LISA, France; M. Saheb, LISA, France;
N. Valle, CRP-GL, Luxembourg;
R. Losno, LISA, France; C. Loisel, LRMH, France
Isotopic tracing (D, 18O and 29Si) to understand the mechanism and the kinetic role of the alteration layer on stained glass in atmospheric medium (invited)

11.40	J. Neeway, J. Ryan, Z. Zhu, Z. Wang, Pacific Northwest National Laboratory, United States; S. Gin, CEA, France **Low-temperature lithium diffusion in boroaluminosilicate nuclear waste glasses**
12.00	S. Gin, P. Jollivet, D. Rebiscoul, CEA, France **Leaching of ISG glass in 29Si-saturated solution: Effect of pH on the residual rate**
12.20	Lunch buffet

I. Advances in the Fusion and Processing of Glass

Europa Saal

Session I.6 Surface treatment

Chair: Prof. Edda Rädlein, Ilmenau, Germany

13.30 S. Karlsson, Glafo AB, Sweden;
S. Ali, M. Strand, Linnaeus University, Sweden;
L. Wondraczek, Otto-Schott-Institute of Materials Research, Germany
Chemical strengthening of flat glass by vapour deposition and in-line alkali metal ion exchange

13.50 M. Patschger, C. Rüssel, Otto-Schott-Institut für Materialforschung, Germany
Chemical strengthening of flat glass: A technological alternative to the batch process

14.10 H. Roggendorf, Martin-Luther-Universität Halle-Wittenberg, Institut für Physik, Germany;
T. Rässler, Hochschule Mittweida, University of Applied Science, Germany;
D. Enke, Universität Leipzig, Institut für Technische Chemie, Germany
Development of porous glass surfaces

14.30 G. Lubitz, Vetroconsult AG, Switzerland
Hardglass – on the threshold of market introduction

14.50 H. Hessenkemper, M. Hötzel, TU Bergakademie Freiberg, Germany
Surface improvement in glass production

15.10 Coffee break

15.40 **PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Panel discussion

Moderators: Prof. Arun Varshneya, Alfred, United States
Prof. Helmut A. Schaeffer, Berlin, Germany

16.20-18:00 Panel discussion

II. Energy Applications of Glass – Fundamentals and Application

Brüssel Saal

Session II.6 Thermal insulation glasses

Chair:	Prof. Yuanzheng Yue, Aalborg, Denmark Prof. Pierre Lucas, Tucson, United States
13.30	P. Lucas, G. Coleman, Q. Hao, University of Arizona, United States (invited) **Chalcogenide glass nanocomposites as effective thermal insulation materials**
14.10	R. R. Petersen, J. König, M. M. Smedskjaer, Y. Yue, Aalborg University, Denmark **Viscous control of the foam glass process**
14.30	J. König, R. R. Petersen, Y. Yue, Aalborg University, Denmark **Influence of glass particle size on density, mechanical and thermal insulating properties of foamed glasses**
15.10	Coffee break
15.40	**PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Panel discussion

Moderators:	N.N. N.N.
16.20-18:00	Panel discussion

IV.A Fundamentals of the Glassy State and Amorphous Materials

Conference room K1

Session IV.A21 Computational simulation III - DFT

Chair: Dr. Jincheng Du, Denton, United States

13.30 C. Scherer, M. Letz, Schott AG, Germany;
F. Schmid, J. Gutenberg-University Mainz, Germany;
J. Horbach, Heinrich-Heine-University Düsseldorf, Germany (Keynote)
Simulation of borate glasses

13.50 R. P. Stoffel, Institute of Inorganic Chemistry, RWTH Aachen University, Germany;
K. Philipps, R. Conradt, Institute of Mineral Engineering, RWTH Aachen University, Germany;
R. Dronskowski, Institute of Inorganic Chemistry, RWTH Aachen University, Germany (Keynote)
Ab initio modelling of crystalline phases and transfer of the results to glassy materials

14.10 P. Kroll, UT Arlington, United States
Thermochemistry of metal borosilicate glasses

14.30 P. Kroll, A. Dasmahapatra, UT Arlington, United States
Modeling structural and thermochemical properties of Hafnia-Silica glasses

14.50 G. Sosso, J. Colombo, ETHZ, Switzerland;
J. Behler, University of Bochum, Germany;
E. Del Gado, ETHZ, Switzerland;
M. Bernasconi, University of Milano-Bicocca, Italy;
M. Parrinello, ETHZ, Switzerland
Dynamical heterogeneities and crystallization kinetics in the supercooled liquid state of the phase change compound GeTe

15.10 Coffee break

15.40 **PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Session IV.A22 Computational simulation IV

Chair: Dr. Jincheng Du, Denton, United States

16.20 M. Micoulaut, UPMC, France;
M. Bauchy, MIT, United States;
A. Kachmar, UPMC, France
Properties of chalcogenide network glasses from ab initio simulations

16.40 K. Gunasekera, P. Boolchand, University of Cincinnati, United States;
M. Micoulaut, UPMC, France
Rigidity and intermediate phases in amorphous Group IV tellurides

17.00 End of session

V. Optical Materials and Devices – Fundamentals and Application

Conference room K4/5

Session V.11 Optical fibers

Chair:	Dr. Bruno Bureau, Rennes, France
13.30	J. Lousteau, Istituto Superiore Mario Boella, Italy; E. Mura, G. C. Scarpignato, N. G. Boetti, D. Milanese, Politecnico di Torino – DISAT, Italy **Phosphate glasses for fiber laser applications (invited)**
14.00	H. Ebendorff-Heidepriem, The University of Adelaide, Australia **Recent progress in extending non-silica glass properties and fibre fabrication (invited)**
14.30	F. Sorin, Ecole Polytechnique Fédérale of Lausanne, Switzerland **Multi-material fiber devices: a review of current trends and future prospects**
14.50	D. Manzani, H. Ebendorff-Heidepriem, Institute for Photonics and Advanced Sensing – University of Adelaide, Australia; S. J. L. Ribeiro, Institute of Chemistry – São Paulo State University – UNESP, Brazil; T. Monro, Institute for Photonics and Advanced Sensing – University of Adelaide, Australia **Specialty optical fibers for temperature sensing based on spontaneous Raman scattering**
15.10	Coffee break
15.40	**PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Session V.12 Glass ceramics and optical ceramics II

Chair:	Prof. Johann Troles, Rennes, France
16.20	J. Qiu, S. Zhou, South China University of Technology, China **Glass-ceramics for photonic devices**
17.00	T. Zscheckel, W. Wisniewski, Otto-Schott-Institute, University Jena, Germany; A. Gebhardt, Vitron Spezialwerkstoffe GmbH, Germany; C. Rüssel, Otto-Schott-Institute, University Jena, Germany **Growth mechanisms in CVD-ZnS**

17.20	I. Mitra, R. Jedamzik, C. Kunisch, P. Hartmann, T. Westerhoff, SCHOTT AG, Germany **Optimized glass-ceramic substrate for advanced applications**
17.40	K.-D. Schicke, TU Freiberg, IKGB, Germany; H. Hofmeister, Max-Planck-Institut für Mikrostrukturphysik Halle, Germany; M. Dubiel, Martin-Luther-Universität Halle-Wittenberg, Institut für Physik, Germany **Study about the formation of small Ag nanoparticles in soda lime silicate glass by Ag/Na ion exchange**
18.00	End of session

VI. Nuclear Waste Forms – Fundamentals and Applications

Conference room K6

Session VI.3 Glass corrosion: Experiment

Chair: Dr. Joseph V. Ryan, Richland, United States

13.30 Y. Inagaki, T. Kikunaga, K. Idemitsu, T. Arima, Kyushu University, Japan;
S.-I. Mitsui, Japan Atomic Energy Agency, Japan
Aqueous corrosion rate of International Simple Glass under silica-saturation condition measured by using micro-channel flow-through test method

13.50 E. Vance, Australian Nuclear Science and Technology Organisation, Australia; D. Gregg, G. Griffiths, ANSTO, Australia
Positron annihilation lifetime studies of porosity of the alteration layers on leached surfaces of nuclear waste glasses and glass-ceramics

14.10 Y. Gong, N. Mellott, Inamori School of Engineering, United States
Surface roughening and compositional evolution of simulated high-level waste glasses under aqueous conditions

14.30 C. Crawford, J. Marra, Savannah River National Laboratory, United States
Corrosion testing of glasses and glass-ceramics in support of fuel cycle research and development

14.50 M. Harrison, NNL, United Kingdom; C. Steele, Sellafield Ltd, United Kingdom
Underpinning product quality of vitrified HLW subject to fault scenarios arising during storage, transport and disposal

15.10 Coffee break

15.40 **PLENARY LECTURE VARSHNEYA AWARD in Europa Saal**

Session VI.4 Glass corrosion: Modeling

Chair:	Dr. Joseph V. Ryan, Richland, United States
16.20	P. Zapol, Argonne National Laboratory, United States **First-principles calculations of hydrolysis barriers in sodium borosilicate glasses**
16.40	R. Conradt, RWTH Aachen University – Institute of Mineral Engineering, Germany (invited) **Using thermodynamics in assessing the hydrolytic stability of multicomponent glasses**
17.20	C. Lenting, L. Dohmen, T. Geisler, Steinmann Institut, Universität Bonn, Germany **Silicate glass corrosion mechanism revisited**
17.40	J. Ryan, Pacific Northwest National Laboratory, United States **The changing interface between solution and glass: A study of a dynamic system**
18.00	End of session

VI. Nuclear Waste Forms – Fundamentals and Applications

Conference room K6

Session VI.5 Glass corrosion IV

Chair: Dr. Joseph V. Ryan, Richland, United States

08.30 W. Deng, S. T. Misture, N. P. Mellott, Inamori School of Engineering, Alfred University, United States
Quantitative analysis of glass surfaces and bulk glass-surface layer interfaces with aqueous corrosion

08.50 R. K. Mishra, V. Thorat, A. Kumar, Waste Management Division, Nuclear Recycle Group, Bhabha Atomic Research Centre, Trombay, Mumbai, India; V. Sudarsan, Chemistry Division, Bhabha Atomic Research Centre, Trombay, Mumbai, India; C. P. Kaushik, Waste Management Division, Nuclear Recycle Group, Bhabha Atomic Research Centre, Trombay, Mumbai, India
Chemical durability studies of vitrified waste product containing sulphate bearing high level radioactive waste

09.10 Z. Zhang, L. Wang, X. You, China Institute of Atomic Energy, China
Key elements release from simulated HLW glass in the pilot repository

09.30 Coffee break

10.00 Workshop

12.20 Lunch buffet

13.30 Workshop

18.00 End of session

VII. 2nd International Glass Fiber Symposium

Conference room K4/5

Session VII.1 Glassfiber

Chair: Prof. Thomas Gries, Aachen, Germany
Prof. Reinhard Conradt, Aachen, Germany

08.15 J. Thomason, L. Yang, C.-C. Kao, P. Jenkins, E. Sáez Rodríguez, U. Nagel, University of Strathclyde, United Kingdom
The ReCoVeR projects: Regeneration of thermally recycled glass fibre for cost-effective composite recycling

08.35 C. Hopmann, R. Riedel, M. L. Fecher, A. Böttcher, IKV Aachen, Germany; K. Fischer, Aachener Zentrum für integrativen Leichtbau, Germany
3-D fibre spraying – Automated preforming process for thermoplastic and thermoset composites

08.55 C. Lenz, A. Schröter, T. Gries, Institut für Textiltechnik der RWTH Aachen University, Germany
Concrete and plaster reinforcement by multiple leno fabrics

09.15 S. Stapleton, L. Appel, T. Gries, Institut für Textiltechnik, Germany
Micro-mechanical representative volume element modeling of dry fiber bundles

09.35 L. O. Rivera, J. J. Stapleton, V. A. Bakaev, C. G Pantano, Pennsylvania State University Materials Research Institute, United States
Glass fiber surface studies using hydrogen/deuterium exchange, TPD and FTIR

09.55 Coffee break

10.30 H. Li, J. Rich, L. Xu, B. Pish, R. Hicks, PPG Industries, Inc., United States
Silver ion exchanged fibers for antimicrobial applications

11.05 S. Bartolomey, R. Conradt, RWTH Aachen University, Institute of Mineral Engineering, Department of Glass and Ceramic Composites, Germany
The evolution of redox state in silicate melts from batch to product – A literature study

11.25	Q. Chouffart, University of Liège, Belgium; P. Simon, 3B The Fibreglass Company, Belgium; T. Vincent, University of Liège, Belgium **Numerical investigation of the continuous fiber glass drawing process**
11.45	U. A. Ozden, IWM RWTH Aachen, Germany; P. Simon, 3B Fibreglass, Belgium; A. Bezold, C. Broeckmann, IWM RWTH Aachen, Germany; D. Laurent, 3B Fibreglass, Belgium **Numerical simulation of the thermal expansion and creep of a glassfiber bushing during production**
12.05	R. Meuleman, Invensys Eurotherm, The Netherlands **How to make fibre glass bushing control "green"?**
12.25	Lunch buffet

VII. 2nd International Glass Fiber Symposium

Conference room K4/5

Session VII.2 Glassfiber

Chair: Dr. Hong Li, Cheswick, United States
Prof. Yuanzheng Yue, Aalborg, Denmark

13.30 K. Hellmann, B. Kersting, K. Philipps, R. Conradt, RWTH Aachen University – Institute of Mineral Engineering, Germany
Influence of alumina on the tensile strength of glass fiber filaments

13.50 S. Gutnikov, K. Kuzmin, Y. Lipatov, E. Zhukovskaya, B. Lazoryak, Moscow State University, Russian Federation
Basalt continuous fibers with advanced mechanical properties

14.10 P. Lezzi, M. Tomozawa, Rensselaer Polytechnic Institute, United States
Strengthening of silicate glass fibers by surface stress relaxation

14.30 A. Trofimov, L. Pleshkov, NPO Stekloplastic, Russian Federation
High modulus glass fibers and strength of composites based on them

14.50 Y. Vulfson, Hollingsworth and Vose, United States
Stress and relaxation of glass microfibers

15.10 Coffee break

15.40 L. Chapelle, ROCKWOOL International A/S, Denmark;
P. Brøndsted, Y. Kusano, DTU Wind Energy, Denmark;
M. Rosendahl Foldschack, D. Lybye, ROCKWOOL International A/S, Denmark
Microstructural characterization of stone wool materials

16.00 M. Solvang, M. Rykær Kraglund, ROCKWOOL International A/S, Denmark;
Q. Zheng, Y. Yue, Section of Chemistry, Aalborg University, Denmark
Application of a topological viscosity model to stone wool compositions

16.20	Q. Zheng, Aalborg University, Denmark; M. Solvang, ROCKWOOL International A/S, Denmark; Y. Yue, Aalborg University, Denmark **Melt stability and fiberizing window of stone wool compositions**
16.40	O. Prokhorenko, L.G.P. International, LLC, United States **Determination of liquidus temperature of glassforming melts – Problems and solutions**
17.00	U. Veit, Otto-Schott-Institute of Materials Research, Germany; V. Kempeaer, Y. Houet, D. Laurent, 3B The fibreglass company, Belgium; C. Rüssel, Otto-Schott-Institut of Materials Research, Germany **Liquidus temperature of CMAS-glass melts via gradient furnace versus the melting peak by DTA**
17.20	P. McGinnis, A. Berthereau, M. Korwin-Edson, Owens Corning, United States **High temperature continuous filament fiberglass**
17.40	End of session

The posters will be on display during the entire conference. Authors will be available at their posters at the following dates:

— **Monday, 26 May 2014, starting 18.30 to 21.00**
during special poster show and reception

— **Tuesday till Thursday, 27-29 May 2014, from 09.50 to 10.20 and from 15.10 to 15.40**
during coffee breaks of the sessions

— **Poster presentation concerning 2nd International Glass Fiber Symposium: Friday, 30 May 2014**
during coffee breaks

I. Advances in the Fusion and Processing of Glass

I.1 M. Groß, M. Hubrich, H. Hessenkemper, TU Bergakademie Freiberg IKGB, Germany
New separating powders for flat glass – An inno–vation in the field of corrosion protection

I.2 A. de Pablos-Martín, M. Ebert, S. Tismer, F. Naumann, C. Patzig, M. Krause, Fraunhofer Institute for Mechanics of Materials IWM, Germany;
M. Dyrba, P.-T. Miclea, Fraunhofer Center for Silicon Photovoltaics CSP, Germany;
M. Lorenz, M. Grundmann, Institut für Experimentelle Physik II, Universität Leipzig, Germany;
T. Höche, Fraunhofer Institute for Mechanics of Materials IWM, Germany
Laser welding of sapphire wafers using fresnoite glass solder

I.3 O. Prokhorenko, L.G.P. International, LLC, United States
Complete characterization of structural and stress relaxation processes in silicate glasses

I.4 R. Bauer, T. Schmidt, L. Richter, ifw – Günter-Köhler-Institut für Fügetechnik und Werkstoffprüfung GmbH, Germany
Laser cutting of hot flat glasses with high CTE

I.5 N.-H. Löber, G. Bergmann, J. Simon, H. Müller-Simon, Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V., Germany
The influence of spout and delivery characteristics on the gobs - Results of measurements and modelling – Part 2

I.6 D. Orzol, Otto-Schott-Institut Jena, Germany;
C. Roos, IPGR, Switzerland;
L. Wondraczek, Otto-Schott-Institut Jena, Germany
Setup and installation of an in-line friction measurement device for the glass-metal-contact

I.7 T. Börner, M. Kretschmer, T. Voland, S. Matthes, H. Hessenkemper, TU Bergakademie Freiberg, Germany; W. Haag, Fickert + Winterling Maschinenbau GmbH, Germany
Project presentation "multi-stage rolling thin glass with molding from the melt"

I.8 M. Emonds, ACW, Germany
Prevention of float-glass corrosion – a practical approach

I.9 R. Weigand, H. Hessenkemper, A.-K. Rössel, D. Tritschel, R. Kühne, TU Bergakademie Freiberg, Germany
Lowering of refractory corrosion for glass production

I.10 A. Hochmuth, E. Rädlein, TU Ilmenau, Germany; R. Conradt, A. Prange, P. Djambazov, RWTH Aachen, Germany
Alteration behavior of four model glasses and its relevance to standard industrial glasses

I.11 K. Al Hamdan, TU Bergakademie Freiberg, Institute for Ceramic, Glass and construction Materials, Germany; T. Mütze, TU Bergakademie Freiberg, Institute of Mechanical Process Engineering and Mineral Processing, Germany;
A. Schumann, TUBergakademie Freiberg, Institute of Mechanical Process Engineering and Mineral Processing, Germany;
H. Hessenkemper, TU Bergakademie Freiberg, Institute for Ceramic, Glass and construction Materials, Germany;
U. Peuker, TU Bergakademie Freiberg, Institute of Mechanical Process Engineering and Mineral Processing, Germany
Caking of glass batches during storage in raw materials silo

I.12 B. Fleischmann, P. Boehm, J. Bauer, HVG Research Association of the German Glass Industry, Germany;
M. Märtin, A. Giese, GWI Gas- und Wärme-Institut Essen e.V., Germany;
H. Wuthnow, Forschungsgemeinschaft Feuerfest e.V., Germany
Fermentation gas as fuel for melting glass – Results of the IGF-AiF-research project 397ZN

I.13 M. Weidner, B. Halbedel, TU Ilmenau, Germany
High-Tc superconducting bulk materials for the Lorentz Force Velocimetry in low conducting and slow flowing solutions

I.14 U. Shukla, IIT Gandhinagar, India; A. Sarkar, C. Ghoroi, IIT Gandhinagar, India
Numerical study of outside vapor desposition (OVD)

I.15 C. Mclaren, H. Jain, W. Heffner, Lehigh University, United States
Field-assisted viscous flow of alkali silicate glasses

I.16 V. M. Sglavo, DII - University of Trento, Italy
Influence of processing conditions on the chemical tempering of soda-lime silicate float glass

I.17 T. Gerdes, University of Bayreuth, Germany;
A. Füller, Füller Glastechnologie Vertriebs GmbH, Germany;
M. Willert-Porada, A. Rosin, University of Bayreuth, Germany;
G. Brooks, Glasstronics Furnace Technology, United Kingdom;
A. Saberi, University of Bayreuth, Germany
Engineering driven glass quality improvement in small electrical heated continuous melting tanks

I.18 F. Stadler, J. Backhausen, UAS Messtechnik GmbH, The Netherlands
Energy saving by pre-heating of gas and oxygen

II. Energy Applications of Glass – Fundamentals and Application

II.1 S. Körner, K. Reinhardt, M. Eberstein, Fraunhofer IKTS, Germany
Impact of inorganic additives on the paste performance

II.2 S. Körner, K. Reinhardt, M. Eberstein, Fraunhofer IKTS, Germany
Effects of glass chemistry and viscosity on interface morphology and electrical characteristics of PV silver films

II.3 J. Lingner, University of Mainz / Schott AG, Germany;
M. Letz, Schott AG, Germany;
G. Jakob, University of Mainz, Germany
Thermoelectric phases inside glass-ceramic materials for energy applications

II.4 M. Lüpfert, H. Hessenkemper, TU Freiberg – Bereich Glas, Germany
Development of a solar collector made of glass

II.5 S. Urban, E. Rädlein, TU Ilmenau / Anorganisch-nichtmetallische Werkstoffe, Germany
Glass surface analyses and cleaning methods on different glass surfaces

II.6 B. Agea-Blanco, IQS School of Engineering, Barcelona, Spain, on a trainee leave at BAM, Spain;
S. Reinsch, R. Müller, BAM Federal Institute for Materials Research and Testing, Germany
Sintering and bloating phenomena of barium disilicate glass powders

II.7 K. H. Nielsen, L. Wondraczek, Otto Schott Institute of Materials Research, Germany
Evalution of thin film abrasion resistance by picture analysis

II.8 R. R. Petersen, J. König, Y. Yue, Section of Chemistry, Aalborg University, Denmark
Thermal conductivity of foam glass

II.9 O. Leys, M. Kolb, R. Knitter, Karlsruhe Institute of Technology, Germany
Production of lithium-rich ceramic pebbles from a molten jet

II.10 J. O. Torres Perez, B. Halbedel, Technische Universität Ilmenau, Germany
Experimental validation of the electromagnetic mixer used to homogenize glass melts

II.11 B. Curtis, D. Watson, Iowa State University, United States;
S. Martin, Iowa State Univsersity, United States
Physical properties of glassy solid state electrolytes of the 0.5Na2S+ 0.5[xSiS2+ (1-x) PS5/2] series

II.12 T. Matsuyama, A. Hayashi, M. Tatsumisago, T. Ozaki, Y. Togawa, S. Mori, Osaka Prefecture University, Japan
Preparation and characterization of amorphous molybdenum trisulfide electrodes all-solid-state lithium secondary batteries

II.13 Y. Ito, A. Sakuda, A. Hayashi, M. Tatsumisago, Osaka Prefecture University, Japan
All-solid-state lithium secondary batteries using surface modified electrode particles with sulfide glassy electrolyte thin films

II.14 S. Rodriguez-López, Ceramics and Glass Institute (CSIC), Spain;
R. Comesaña, F. Lusquiños, Vigo University, Spain;
M. J. Pascual, Ceramics and Glass Institute (CSIC), Spain
Laser cladding of glass-ceramic sealants for SOFC

III. Health, Medical, Biological Aspects – Fundamentals and Application

III.1 J. Massera, M. Vassallo-Breillot, B. Törngren, Åbo Akademi, Finland;
L. Rodrigues, M. Lastusaari, J. Hölsä, University of Turku, Finland;
L. Hupa, Åbo Akademi, Finland
Characterization and in vitro reactivity of CeO2-doped Phosphate-based glasses

III.2 A. Boccaccini, V. Miguez-Pacheco, University of Erlangen-Nuremberg, Germany;
L. Strobel, BG-Unfallkilinik Ludwigshafen, Germany;
A. Hoppe, T. Fey, University of Erlangen-Nuremberg, Germany;
U. Kneser, BG-Unfallkilinik Ludwigshafen, Germany;
P. Greil, University of Erlangen-Nuremberg, Germany
Development and characterization of metallic ion releasing silicate bioactive glasses

III.3 A. Parsons, University of Nottingham, United Kingdom
Combined viscosity measurements to profile phosphate glasses

III.4 S. Krenkel, Ilmenau University of Technology, Germany;
H. Uhlig, D. Enke, University of Leipzig, Germany;
E. Rädlein, Ilmenau University of Technology, Germany
Draw-down technology for the production of porous glass monoliths

III.5 J. Bejarano, H. Palza, Facultad de Ciencias Fisicas y Matematicas-Universidad de Chile, Chile;
P. Caviedes, Facultad de Medicina-Universidad de Chile, Chile
Development of antimicrobial bioactive glasses with copper and zinc ions by sol-gel process

III.6 C. R. Chinaglia, O. Peitl, Center For Research, Technology and Education in Vitreous Materials. Federal University of São Carlos, Brazil;
C. O. D. Souza, L. Campanini, Morphology and Pathology Department. Federal University of São Carlos., Brazil;
C. C. G. Moura, Natural and Biological Science Institute – Federal University of Triangulo Mineiro, Brazil;
D. Z. Barbosa, Department of Oral and Maxillofacial Surgery and Implantology – Federal University of Uberlândia, Brazil;
P. G. Coelho, College of Dentistry – New York City University., United States;
E. D. Zanotto, Center For Research, Technology and Education in Vitreous Materials. Federal University of São Carlos, Brazil
A bioactive glass coating on titanium: A new surface with bactericidal property and enhanced wetability and bioactivity

III.7 D. Rohanova, Institute of Chemical Tecnology, Czech Republic;
T. Kasuga, K. Fujikura Hayashi, Nagoya Institue of Technology, Japan
Surface treatment of Ti BIO substrate by glass, glass-ceramic and ceramic powders for speed up of the healing

III.8 A. Motealleh, J. M.F. Ferreira, A. Lemos, University of Aveiro, Portugal;
S. Eqtesadi, Universidad de Extremadura, Spain
Preparation and characterisation of porous Chitosan/FastOs®BG membranes for nerve tissue regeneration

III.9 I. Ahmed, University of Nottingham, United Kingdom;
S. Is Shaharuddin, International Islamic University Malaysia, Malaysia;
J. Massera, Åbo Akademi Process Chemistry Centre, Finland;
A. J Parsons, D. Furniss, C. D Rudd, University of Nottingham, United Kingdom
Manufacture of novel core-clad phosphate-based glass fibres for biomedical applications

III.10 C. Covarrubias, University of Chile, Faculty of Dentistry, Chile;
F. Arroyo, I. Celhay, C. Balanda, University of Chile, Faculty of Dentistry, Chile;
C. Urra, J. P. Rodriguez, A. M. Pino, University of Chile, Inta, Chile;
M. Neira, University of Chile, Faculty of Dentistry, Chile
Syntheis of bone-repair nanobioceramics and their in vitro bioactice properties

III.11 U. Brokmann, E. Rädlein, TU Ilmenau, Germany;
T. Milde, K. Liefeith, Institut für Bioprozess- und Analysenmesstechnik e.V., Germany
Investigations on the fs-laser exposure process of micro structurable photosensitive glasses for tissue engineering

III.12 A. Haider, S. Mohsin, A. Waseem, N. Karpukhina, Queen Mary University of London, United Kingdom
Use of alginates with bioactive glass for bone scaffolds

IV. Fundamentals of the Glassy State and Amorphous Materials

IV.1 L. S. Everton, A. A. Cabral, Federal Institute of Maranhao, Brazil
Determining the kinetic parameters for isothermal crystallization in a lithium disilicate (LS2) glass by OM and DSC

IV.2 M. Shepilov, A. Zhilin, O. Dymshits, NITIOM Vavilov State Optical Institute, Russian Federation
Effect of polydispersity of particles on light scattering by inhomogeneous glasses

IV.3 M. Dathe, H. Roggendorf, Martin-Luther-University Halle-Wittenberg, Institute of Physics, Germany
Corrosion of sodium silicate glasses: The development of reaction layers

IV.4 A. Thieme, S. Fuhrmann, L. Wondraczek, Otto-Schott-Institut of Materials Research, Germany
Glass forming ability in the sulfophosphate glass system

IV.5 K. Griebenow, D. Möncke, Otto-Schott-Institute Jena, Germany;
M. Mackovic, E. Spiecker, Department of Materials Science and Engineering, Center for Nanoanalysis and Electron Microscopy (CENEM), University of Erlangen-Nuremberg, Germany;
L. Wondraczek, Otto-Schott-Institute Jena, Germany
Anisotropy in alkaline earth metaphosphate glasses

IV.6 P. Kroll, J. P. Nimmo, UT Arlington, United States
First-principles studies of amorphous silicon oxycarbide: Correlating 29Si-NMR chemical shifts with structural properties

V.7 S. Striepe, J. Deubener, Clausthal University of Technology, Institute of Non-Metallic Materials, Germany
Crack-tip condensation and sub-critical crack growth in metaphosphate glasses: Effect of lithium-to-magnesium ratio

IV.8 R. Wang, Australian National University, Australia;
X. Shen, Ningbo University, China;
S. Xu, Z. Yang, Australian National University, Australia;
B. Luther Davies, Australian National University, Australia
Enhanced mid infrared emission in Ge-Ga-Se glass-ceramics

IV.9 J. Kjeldsen, Y. Yue, AAU, Denmark;
A. C. M. Rodrigues, UFSCar, Brazil
Fragility-structure-conductivity relations in vanadium tellurite glass

IV.10 A. Deinhardt, P. Michel, M. Kilo, Fraunhofer Institute for Silicate Research ISC, Germany
Analyzing the network formation in silicate-based glasses depending on the amount and type of network modifier

IV.11 R. Weigand, D. Tritschel, A.-K. Rössel, P. Zschoge, TU Bergakademie Freiberg, Germany
Influence of the atmosphere to the glass properties

IV.12 V. Mehner, D. Möncke, Friedrich-Schiller-Universität Jena, Germany;
O. Mecking, Thüringer Landesamt für Denkmalpflege und Archäologie, Germany;
L. Wondraczek, Friedrich-Schiller-Universität Jena, Germany
Copper speciation in silicate glasses

IV.13 F. Drünert, D. Möncke,Otto-Schott-Institut, Friedrich-Schiller-Universität Jena, Germany;
E. Palamara, Laboratory of Archaeometry, Dept. of History, Archaeology and Cultural Resources Management, University of Peloponnese, Kalamata, Greece;
O. Mecking, Thüringisches Landesamt für Denkmalpflege und Archäologie, Weimar, Germany;
D. Palles, E. Kamitsos, Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece;
L. Wondraczek, Otto-Schott-Institut, Friedrich-Schiller-Universität, Germany;
N. Zacharias, Laboratory of Archaeometry, Dept. of History, Archaeology and Cultural Resources Management, University of Peloponnese, Kalamata, Greece
Antimonates as colorants and opacifiers in mosaic tesserae, glasses, and glazes from antiquity to the 17th century

IV.14 J. Rimsza, J. Du, The University of North Texas, United States
Study of water/nanoporous silica interactions from ab initio simulations

IV.15 M. Prewitz, R. Müller, K. Holtappels, C. Marotzke, Bundesanstalt für Materialforschung und -prüfung, Germany
Characterization of glass capillary hydrogen storage modules considering permeability and mechanical stress via finite elements

IV.16 I. Hasdemir, Mimar Sinan Fine Arts University, Istanbul, Turkey;
S. Striepe, J. Deubener, Clausthal University of Technology, Institute of Non-Metallic Materials, Germany;
B. Schmidt, Department of Experimental and Applied Mineralogy, University of Göttingen, Germany
Micromechanical properties of alteration layers of archaeological glass fragments

IV.17 X. Cheng, R. Brow, G. Chen, Missouri University of Science and Technology, United States
The effect of Al2O3 on the solubility of phosphate in borosilicate glasses: A multinuclear (31P, 27Al, 11B, 29Si) MAS NMR and Raman study

IV.18 B. Hota, Institute of Non-Metallic Materials, Clausthal University of Technology, Clausthal-Zellerfeld, Germany / SCHOTT AG, Corp. Res. & Technol. Dev., Mainz, Germany;
O. Hochrein, M. Bockmeyer, I. Burger, SCHOTT AG, Corp. Res. & Technol. Dev., Mainz, Germany;
J. Deubener, Institute of Non-Metallic Materials, Clausthal University of Technology, 38678 Clausthal-Zellerfeld, Germany
Methodology for determining scratch resistance of glass-ceramics

IV.19 C. Hermansen, Aalborg University, Denmark;
J. Matsuoka, S. Yoshida, Center for Glass Science and Technology, the University of Shiga Prefecture, Japan, Japan;
H. Yamazaki, Y. Kato, Technical Division, Nippon Electric Glass Co., Ltd., Japan;
Y.-Z. Yue, Aalborg University, Denmark
Plastic deformation in glasses: Composition dependence and implications

IV.20 B. Poletto Rodrigues, Otto Schott Institut für Materialforschung – FSU Jena, Germany;
C. Barca Bragatto, Laboratório de Materiais Vítreos – DEMa/UFSCar, Brazil;
L. Wondraczek, Otto Schott Institut für Materialforschung – FSU Jena, Germany
Bond constraint theory analysis of thermal and mechanical properties of xAgI.(1-x)AgPO3 glasses

IV.21 E. Hoar, S. Feller, M. Affatigato, Coe College, United States
Study of intermediate range units in barium and potassium tellurite glasses using laser ionization time of flight mass spectrometry

IV.22 M. Faaborg, K. Goranson, E. Troendle, N. Barnes, M. Affatigato, S. Feller, Coe College, United States;
D. Holland, University of Warwick, United Kingdom
Spectrafit: A custom made program to simulate 10B NMR spectra with two sites

IV.23 A. Zieser, N. Johnson, K. Davis, J. Thompson, S. Singleton, S. Feller, M. Affatigato, Coe College, United States
Thermal behavior of lead and barium vanadate glasses related to structure

IV.24 Z. Y. Yao, University of Rennes 1 and University Jena, France;
F. Celarie, University of Rennes 1, France;
L. Wondraczek, University of Jena, Germany;
T. Rouxel, University of Rennes 1, France
Temperature dependence of the elastic moduli and structural changes in copper-lead-borate glasses as a function of the copper content

IV.25 A. Helebrant, L. Hrbek, H. Hradecka, P. Dyrcikova, S. Pech, Z. Vcelisova, M. Bilikova, Faculty of Chemical Technology, ICT Prague, Czech Republic
Corrosion of crystal glass – kinetics and mechanisms

IV.26 R. Limbach, Otto Schott Institute of Materials Research, Friedrich Schiller University, Jena, Germany; J. Deubener, Institute of Non-Metallic Materials, Clausthal University of Technology, Clausthal-Zellerfeld, Germany; L. Wondraczek, Otto Schott Institute of Materials Research, Friedrich Schiller University, Jena, Germany
Surface nitridation of binary alkaline earth metaphosphate glasses

IV.27 R. Fernandes, E. Ferreira, University os São Paulo – EESC/USP, Brazil
Calculus of heterogeneous crystallization kinetics of glass particles with regular shapes and comparison with non-isothermal DSC

IV.28 G. Lucero, U. Schadewald, B. Halbedel, Technische Universität Ilmenau, Institute of Materials Engineering, Group of Inorganic-Nonmetallic Materials, Germany
Investigation of the influence of Kelvin forces on aqueous solutions with paramagnetic ions

IV.29 T. Kishi, F. Lebreton, Y. Saeki, T. Amagasa, T. Kumagai, T. Yano, Tokyo Institute of Technology, Japan
Redox states of transition-metal ions in tellurite glass and melt

IV.30 O. Laurent, Laboratoire de Physique Théorique de la Matière Condensée – LPTMC, France; M. Micoulaut, UPMC, France
Molecular dynamics of helium stuffing in densified silica

IV.31 M. Micoulaut, UPMC, France;
M.-V. Coulet, Université Aix-Marseille, France;
A. Piarristeguy, Université Montpellier II, France;
M. Johnson, G. Cuello, ILL Grenoble, France;
J.-Y. Raty, Université de Liège, Belgium;
H. Flores-Ruiz, UPMC, France;
A. Pradel, Université Montpellier II, France
Effect of the concentration in Ge-Te liquids: A combined density functional and neutron diffusion study

IV.32 E. B. Ferreira, G. S. Macena, University of São Paulo, Brazil
Glass forming ability and microstructure of glass-ceramics in the system Na2O-CaO-SiO2

IV.33 D. Savytskyy, Lehigh University, United States; M. Sanders, The College of New Jersey, United States; R. Golovchak, Austin Peay State University, United States; B. Knorr, V. Dierolf, H. J. Himanshu Jain, Lehigh University, United States
Crystallization of stoichiometric SbSI glass

IV.34 F. Cormack, W. Lacourse, Alfred University, United States
Silver metal nanoparticle formation in float glass ion-exchanged at low temperatures

IV.35 M. Kilo, A. Diegeler, M. Straub, Fraunhofer ISC, Germany
Investigations towards an automated detection of the crystallization of high-performance glasses using thermooptical methods

V. Optical Materials and Devices – Fundamentals and Application

V.1 M. Kracker, C. Worsch, W. Seeber, C. Rüssel, Jena University, Germany
Plasmonic resonance of dewetted metallic films on glass

V.2 J. Galbraith, J. Zwanziger, Dalhousie University, Canada; M. Aldridge, J. Kieffer, University of Michigan, United States
Brillouin spectroscopy measurements of the elasto-optic tensor of glass

V.3 O. Prokhorenko, L.G.P. International, LLC, United States
Optical instrument for measurements of spectral absorption, and parameters of heat transfer in melts

V.4 M. Dubiel, M. Stiebing, Martin Luther University Halle-Wittenberg, Institute of Physics, Germany; T. Rainer, Boraident GmbH, Germany; E. Pippel, Max Planck Institute of Microstructure Physics, Halle, Germany
Generation of line pattern formed by nanoparticles induced by solid state laser irradiation

V.5 M. Lüpfert, H. Hessenkemper, TU Freiberg – Bereich Glas, Germany
Development of a solar collector made of glass

V.6 G. Gao, L. Wondraczek, Otto-Schott-Institut, University of Jena, Germany
Enhanced photoluminescence of Eu3+-activated soda-yttria-silicate glass ceramic

V.7 P. Rabenbauer, TU Ilmenau, Germany; C. Wille, OSRAM GmbH, Germany; E. Rädlein, TU Ilmenau, Germany
Development of high refractive glass solders

V.8 Z. Yang, The Australian National University, Australia;
A. Yang, B. Zhang, Jiangsu Normal University, China;
T. Wang, P. Ma, The Australian National University, Australia;
R. Wang, B. Luther-Davies, Australian National University, Australia
Dispersion of chalcogenide glasses in the mid-infrared

V.9 K. Yamaura, T. Yano, T. Kishi, Tokyo Institute of Technology, Japan;
N. Kitazawa, National Defense Academy of Japan, Japan
Nucleation and growth mechanism of gold nanoparticles in organic-inorganic hybrid film by capillary electrophoresis doping technique with poly(3-hexylthiophene) template

V.10 M. Heinz, M. Dubiel, Martin Luther University Halle-Wittenberg, Institute of Physics, Germany;
J. Meinertz, J. Ihlemann, Laser-Laboratorium Göttingen e.V., Germany;
A. Hoell, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany
Investigation of metal nanoparticles formed by means of excimer laser irradiation of ion-exchanged glasses

V.11 M. Montesso, Federal University of São Carlos – UFSCar and São Paulo State University – UNESP, Brazil;
D. Manzani, S. J. L. Ribeiro, Institute of Chemistry – São Paulo State University – UNESP, Brazil;
M. Nalin, Federal University of São Carlos – UFSCar and São Paulo State University – UNESP, Brazil
Production of optical fibers based on niobium-pyrophosphate glasses for photonic applications

V.12 J. Cook, Austin Peay State University, United States;
S. Slang, University of Pardubice, Czech Republic;
J. Oelgoetz, Austin Peay State University, United States;
M. Vlcek, University of Pardubice, Czech Republic;
H. Jain, Lehigh University, United States;
A. Kovalskiy, Austin Peay State University, United States
Phototructural response of spin coated and thermally evaporated chalcogenide thin films

V.13 A. Parma, M. Müller, L. Wondraczek, Friedrich Schiller University Jena, Germany
High temperature absorption spectroscopy of Bi-doped glasses: Investigation on the redox behavior of Bi species and their role as active centers for broadband NIR photoluminescence

V.14 V. S. Raghuwanshi, Department of Chemistry, Humboldt University of Berlin, Germany;
C. Böcker, Otto-Schott-Institut, Friedrich-Schiller-University Jena, Germany;
A. Hoell, Helmholtz Zentrum Berlin for Material and Energy, Germany;
K. Rademann, Department of Chemistry, Humboldt University of Berlin, Germany;
C. Rüssel, Otto-Schott-Institut, Friedrich-Schiller-University Jena, Germany
Crystallization of barium flouride nanocrystals in oxyflouride silicate glass: ASAXS investigation

V.15 R. Beal, B. Potter, J. Simmons, University of Arizona, United States
Angle of incidence effects on the energy conversion behavior of polycrystalline silicon photovoltaic cells

V.16 J. Marro, Clemson University, United States;
C. Okoro, Y. Obeng, National Institute of Standards and Technology, United States;
K. A. Richardson, University of Central Florida, Glass Processing and Characterization Lab, United States
Impact of thermal history on grain size and grain size distribution of thermally cycled Cu-TSVs

V.17 J. Marro, Clemson University, United States;
C. Okoro, Y. Obeng, National Institute of Standards and Technology, United States;
K. A. Richardson, University of Central Florida, Glass Processing and Characterization Lab, United States
Temperature dependence of defect evolution and distribution in thermally cycled Cu-TSVs

V.18 K. Russell, S.K. Sundaram, Alfred University, United States
Terahertz properties of borate glasses

V.19 D. Litzkendorf, S. Grimm, K. Schuster, S. Pochert, A. Schwuchow, J. Dellith, C. Mühlig, H. Bartelt, Institute of Photonic Technology, Germany;
A. Gebhardt, VITRON Spezialwerkstoffe GmbH, Germany;
S. Schippel, LAYERTEC GmbH, Germany
Yb-doped lanthanum/yttrium aluminum silicate glasses for laser applications

V.20 A. Saberi, University of Bayreuth & TAZ Spiegelau, Germany;
A. Rosin, K. Kyrgyzbaev, T. Gerdes, M. Willert-Porada, Chair of Materials Processing, Faculty of Engineering Science, University of Bayreuth, Bayreuth, Germany;
A. Fueller, Füller Glastechnologie GmbH, Germany
Continuous processing of low Tg optical glasses in electric heated mini-melter

V.21 C. Bischoff, R. K. Brow, Missouri University of Science & Technology, United States;
R. Qiu, P. Ehrmann, K. Schaffers, T. Suratwala, Lawrence Livermore National Laboratory, United States
The effect of local oxygen environment on the Cu2+ UV-VIS absorption bands

V.22 N. Lonnroth, B. Aitken, M. Badding, Corning Incorporated, United States
Phosphor in glass color conversion plate

V.23 B. Gleason, Clemson University, United States;
P. Wachtel, K. Richardson, University of Central Florida, United States;
H. Qiao, N. Anheier, Pacific Northwest National Laboratories, United States
Optical property extrema in the GeAsSe ternary system

V.24 B. Nabil, C. Abdellah, B. Djamel, IOMP, Ferhat abas University setif 1, Algeria
Wear of the alumina abrasive grains bound into grinding pellets

V.25 B. Nabil, IOMP, Ferhat abbas setif 1, Algeria;
C. Abdellah, B. Farouk, IOMP, Ferhat abas university setif 1, Algeria;
B. Djamel, iomp, Ferhat abbas setif 1, Algeria;
V. Herold, Friedrich-Schiller-University Jena, Germany
Mechanical behavior of polyurethane polishers used in optical polishing

V.26 T. Gonçalves, R. Moreira, H. Eckert, A. de Camargo, Physics Institute of São Carlos, University of São Paulo, Brazil
Structural-functional correlations in rare earth (RE = Er3+, Yb3+) doped oxyfluoride glasses

VI. Nuclear Waste Forms – Fundamentals and Application

VI.1 M. Cowley, C. Steele, Sellafield Ltd, United Kingdom
Vitrification of high molybdenum containing wastes from post operational clean out of highly active liquor storage tanks

VII. 2nd International Glass Fiber Symposium

VII.1 S. Bartolomey, S. Krogel, R. Conradt, RWTH Aachen University, Institute of Mineral Engineering, Department of Glass and Ceramic Composites, Germany
Density titration in an aqueous solution of sodium polytungstate

VII.2 S. Matthes, M. Groß, L. Hübner, H. Hessenkemper, J. Ryssel, TU Bergakademie Freiberg, Germany
CompGlass – low-cost fibre-reinforced aerated concrete

VII.3 O. Prokhorenko, L.G.P. International, LLC, United States
Tracing inhomogeneity of melt absorption, and solid particles in fiber glass forming system by computer modeling

VII.4 A. Trofimov, V. Khazanov, NPO Stekloplastic, Russian Federation
Innovative future of glass fibers

VII.5 S. Danto, J.-C. Desmoulin, Y. Petit, L. Canioni, E. Fargin, T. Cardinal, University of Bordeaux, France
Composite silver-doped phosphate-based glass fibers: Preliminary results and further development

VII.6 K. Philipps, RWTH Aachen University, Institute of Mineral Engineering, Germany;
R. P. Stoffel, R. Conradt, R. Dronskowski, RWTH Aachen University, Germany
High modulus oxide glasses

VII.7 J. Krzoska, Institut für Textiltechnik der RWTH Aachen, Germany
Developing of fine glass staple fiber yarns for manufacturing nonflammable textiles

Exhibition of suppliers at 1st Joint Meeting DGG – ACerS GOMD

26 – 28 May 2014 in Aachen

Eurogress Aachen, Foyer

The following companies will be represented:

- Binder & Co AG, 8200 Gleisdorf (A)
  www.binder-co.com
- FLAMMATEC Ltd., 7501 Vsetin (CZ)
  www.flammatec.com
- GLASS SERVICE INC., 7501 Vsetin (CZ)
  www.gsl.cz
- Heye International GmbH, 31683 Obernkirchen, (DE),
  www.heye-international.com
- HyGear, 6827 AV, Arnhem (NL)
  www.hygear.nl
- ilis gmbh, 91052 Erlangen (DE)
  www.ilis.de
- Linde AG, Gases Division, 82049 Pullach, (DE)
  www.linde-gas.de
- LumaSense Technologies GmbH, 60326 Frankfurt (DE)
  www.lumasenseinc.com
- STG Combustion Control GmbH & Co KG, 03050 Cottbus (DE)
  www.stg-cottbus.de
- Verallia Saint-Gobain Oberland AG, 88410 Bad Wurzach (DE)
  www.saint-gobain-oberland.de

(date: 28.01.2014)

Social Programme

For all the items of the social programme **a special booking** at www.dgg-gomd.org **is required.**

Sunday, 25 May 2014

18.30 to **20.00** — **Guided City Tour of the old town**

Meeting point:
18.30 Tourist Information at Elisenbrunnen, Friedrich-Wilhelm-Platz, Aachen

The historic old town of Aachen invites to go for a stroll. Let yourself be guided through narrow alleys and across historic squares through the 2000 year-old history of Aachen. Experience all facets of Aachen, a modern city with beautiful historic town houses, many old and new fountains and innumerable stories all about the Cathedral and the town hall.

The City Tour ends in front of the Restaurant "Goldener Schwan".

from **20.00** — **Dinner at Restaurant "Goldener Schwan"**
Markt 37, Aachen

As a special arrangement for our international guests, the menue offers an assortment of small portions of typical regional food "German tapas".

Beverages and meals have to be paid by each participant individually.

Monday, 26 May 2014

18.30 to **21.30** — **Poster Show, Exhibition of Suppliers and Welcome Reception** (starting 19.30)

Foyer at Eurogress

The three top posters of students or postgraduates will be awarded with 250, 175 and 100 EUR, respectively, during the banquet on Tuesday evening.

Tuesday, 27 May 2014

20.00 to **23.00** — **Banquet**

Eurogress, Europa-Saal

During the banquet the three top posters will be awarded a prize each.

Performance of "Wall Street Theatre"
The perfect balance between comedy and artistry.

18.30 to **19.30**

“Speed Dating” with Professionals for Students

RWTH Aachen University, Institute of Mineral Engineering, Department of Glass and Ceramic Composites, Mauerstraße 5

An opportunity will be provided to meet with experienced professionals from industry, research centers, and academia on a face-to-face level. The professionals’ names will be announced at the conference website and at the registration desk. Groups of 2-3 students may address any questions of interest during table conversations. After 10-15 minutes, upon a sign, students groups will revolve and move to the next table. Please make use of this unique opportunity. The number of participants is limited.

from 18.30

Barbecue for Students

RWTH Aachen University, Institute of Mineral Engineering, Department of Glass and Ceramic Composites, Mauerstraße 5

19.00 to **20.00**

“An Imaginary Walk to Historical Sites of the City of Aachen“

A Special Performance Comprising Music, Recitation, Sounds and Special Effects

Auditorium “Aula I” of the RWTH Aachen University, Templergraben 55

Trio Soli Sono, Aachen: Natalie Becker, Johanna Daske, Olaf Futyma: flutes
Martin Daske, Berlin: composition, sound design
Rainer Rudloff, Lübeck: recitation, drama

18.30 to **21.30** **Reception at Lehrstuhl für Textilmaschinenbau & Institut für Textiltechnik (ITA) der RWTH Aachen University**

Meeting point:

18.15 Main entrance of Eurogress (transfer by busses)
18.30 Otto-Blumenthal-Straße 1, Aachen

The Institut für Textiltechnik (ITA) belongs to the top 10-institutes of RWTH Aachen University. Its core competencies are the development of textile machinery and components, high performance fiber materials, manufacturing technologies and comprehensive process chains and the development of innovative textile based products in the sectors of mobility, civil engineering and living, energy and health.

The essential technology fields of its research are material and energy efficiency, functional integration and integrated production technologies.

Official Welcoming by Head of Department and Director of Institute, Prof. Dr. Thomas Gries.

Reception with barbecue and beverages.

A short tour of the institute will be offered to the participants.

21.30 Departure of busses to Eurogress

General Information

Registration of participants

For participation in the 1th Joint Meeting of DGG – ACerS GOMD 2014 please register **online at www.dgg-gomd.org.**

The registration is to do

by 25 April 2014 at the latest.

The registration will serve for the compilation of the list of participants.

Registration fees

Registration card **(early bird registration by 31 March 2014!)**

	by 31.3.14	from 1.4.14
DGG and ACerS GOMD member	€ 780	€ 860
Non-member	€ 890	€ 980
Student (oral presentation or poster)	€ 180	€ 200
Student	€ 230	€ 255
Retiree	€ 440	€ 485
Accompanying person (members of family)	€ 300	€ 330
Plant trips	€ 29	€ 29
Day ticket 2nd International Glass Fibre Symposium	€ 225	€ 250

The Conference ticket for the Joint Meeting of DGG-ACerS GOMD includes the participation at the Glass Fibre Symposium, but the Glass Fibre Symposium can also be booked separately.

Turnover tax: the fees for the registration cards are not liable to turnover tax according to § 4, 22 UStG.

Payment should be made directly after receipt of invoice free of bank commission in Euro to DGG account at:

Postbank Frankfurt/M., BIC **PBNKDEFF**, IBAN **DE05 5001 0060 0055 6066 02. Please include invoice number and participant's name on all money transfers.**

MASTER Card, VISA and **American Express** are accepted for payment with credit card. Please note: **Credit card payment** involves an **additional fee of 5 %**.

Cancellation

Cancellations have to be notified in writing to DGG office at wiese@hvg-dgg.de.

We kindly ask your understanding that in the event of a cancellation of registration after 9 May 2014, 30 % of the respective registration fees will be charged. Fees for plant trips cannot be remitted.

Exhibition of Suppliers

Within the framework of the Meeting suppliers will have the opportunity to display their products and services to the meeting participants. For further information on the exhibition terms, please contact:

Anzeigenverwaltung und Firmenausstellungen
der DGG
Ms Carmen Morbitzer
Siemensstraße 45
63071 Offenbach
P: +49 69 975861-26; F: +49 69 975861-99
morbitzer@hvg-dgg.de

Conference language

The conference language is English.

Conference venue

EUROGRESS Aachen
Monheimsallee 48
52062 Aachen (Germany)
P: +49 2419131-0; F: +49 2419131-200
info@eurogress-aachen.de
www.eurogress-aachen.de

Non-smoking area!

In order to guarantee non-smoker protection the conference centre is smoke-free. Smoking areas are located in front of the main entrance.

Hotel accommodation

The room reservations at Aachen hotels will be handled by the Aachen tourist service e.v. Participants of the conference can book their accommodation online via www.aachen-congress.de/hotels/dgg-gomd2014 (Reservations **by 25. April 2014** at the latest).

Alternatively it is possible to book by telephone using the key word **"DGG-GOMD"** via

aachen tourist service e.v.
Postfach 10 22 51
52022 Aachen (Germany)
P: +49 24118029-50 or -51; F: +49 24118029-53
incoming@aachen-tourist.de
www.aachen-tourist.de

Conference office

The conference office is located in the Foyer of the conference centre “Eurogress”. Opening hours are:

Sunday,	25 May 2014	16.00 to 19.00
Monday,	26 May 2014	8.00 to 20.00
Tuesday,	27 May 2014	8.00 to 18.00
Wednesday,	28 May 2014	8.00 to 18.00
Thursday,	29 May 2014	8.00 to 18.00
Friday,	30 May 2014	8.00 to 14.00

Conference Office phone: +49 2419131-540; fax: +49 2419131-541

Cell phones

We kindly ask you to switch off your cell phones in the session rooms.

Wireless LAN

During the whole conference the participants have free WLAN access to Network „Besuchernetz Eurogress” with WPA/WPA2-Passwort „EurogressAC“.

Lunch break

At lunch hour on Monday till Friday a light meal will be provided at the Foyer (the meal is included in the meeting fees). For the very short break on Monday you will get a packed lunch.

Car Parking at Eurogress

The parking deck offers parking space for 600 cars (subject to charge): parking deck Eurogress, Monheimsallee 44, 52062 Aachen

Conference documents

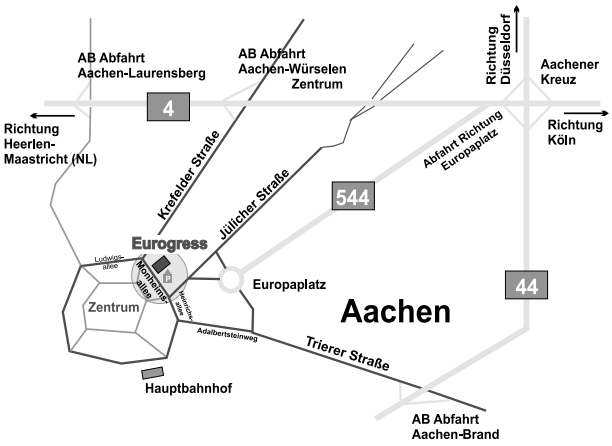
Conference documents **will not be sent out;** the participants are requested to collect them at the Conference office.

Every participant will obtain a USB stick containing the abstracts of the papers and posters and the list of participants at the Conference office.

Leisure

Aachen – city of water and horses, famous Charlemagne, well-known for its universities and its gingerbread “Printen”. Museums, shops and pups in the picturesque old town complete the variety of life in the imperial city truly young at heart. Experience 5000 years of history in the centre of Europe. Discover the City of Aachen through the local tourist office: www.aachen-tourist.de.

Journey to Aachen



By car

Aachen is a traffic junction located in the Three-Country Point linking Germany, The Netherlands and Belgium. The following freeways directly lead to Aachen:

From Cologne – Düsseldorf – Liège:
A4 (E40) “Aachener Kreuz”: follow A544, exit “Europaplatz” (freeway ends here), leave the traffic circle towards city center,

From the Netherlands:
A4 (E40) exit “Aachen Zentrum”, turn right towards city center.

Your navigational system will find Eurogress using the following address: Monheimsallee 48, 52062 Aachen. Visitors without a navigational system should orientate themselves by the urban signage “Eurogress – Casino – Kurpark”.

By bus

Aachen contains a continuous local transportation network. From the central train station the Eurogress Aachen is accessible using the lines 3A and 13A towards “Ponttor”. You arrive at the fifth station “Eurogress/Spielcasino”. On workdays the buses run at 7-minute intervals. You can find your connection on the ASEAG webpage.

By train

Due to its excellent connection to the public transportation network including IC/EC, ICE and Thalys tracks, Aachen is easily accessible from each European destination. Please inform yourself about your personal train connection on DB’s webpage www.bahn.de.

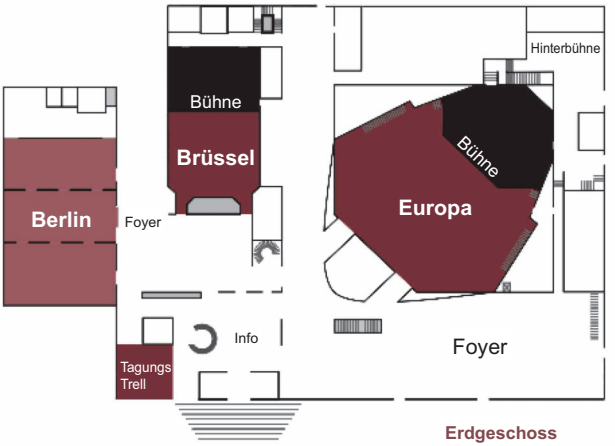
By plane

Aachen is located near various international airports. Each airport offers comfortable transfer services to the City of Aachen.

Cologne-Bonn: 85 km,
Maastricht-Aachen (NL): 35 km,
Liège (B): 50 km,
Düsseldorf: 90 km,
Mönchengladbach: 65 km,
Brussels (B): 65 km.

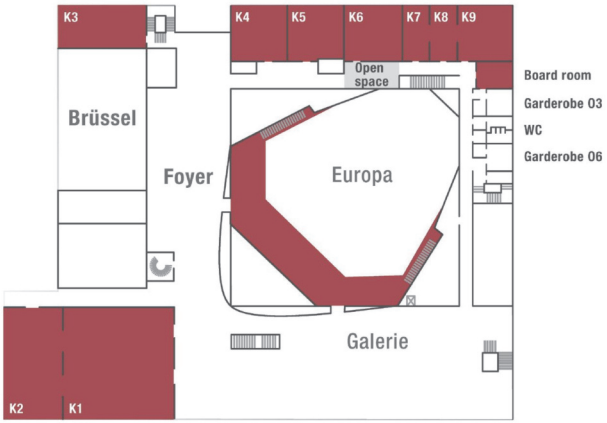
Please consult the webpages of each airport for further information.

Ground Plan Eurogress Aachen



Haupteingang
Main Entrance

Erdgeschoss
Ground floor



OBERGESCHOSS EUROGRESS
Upstairs

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Siemensstraße 45
63071 Offenbach (Germany)
P.: +49 69 9758 61 - 0
F: +49 69 9758 61 - 99
dgg@hvg-dgg.de
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We thank our partners for their kind support: