

91. GLASTECHNISCHE TAGUNG

WEIMAR

28 to 31 May 2017

Programme



Deutsche
Glastechnische Gesellschaft e. V.

We thank our partners for their kind support:



GERRESHEIMER



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Conference Venue

congress centrum neue weimarhalle
Unesco-Platz 1
99423 Weimar (Germany)
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F: +49 3643745-333
info@weimarhalle.de
www.weimarhalle.de

Preface

The 91st Annual Meeting of the German Society of Glass Technology (DGG) takes place from May 29–31, 2017 in the city of Weimar, Germany. 139 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 topics related to health, medical, and biological applications as well as optical materials and devices, and finally to glass production technology.

Weimar is a city in the German federal state of Thuringia. It is located between Erfurt in the west and Jena in the east, approximately 80 km southwest of Leipzig. Together with the neighbouring cities Erfurt and Jena, it forms the central metropolitan area of Thuringia with approximately 500,000 inhabitants, whereas the city itself counts a population of 65,000. Weimar is well known because of its large cultural heritage and its importance in German history.

The city was a focal point of the period of Enlightenment in Germany and home of the leading characters of the literary genre of Weimar Classicism, Johann Wolfgang von Goethe and Friedrich Schiller. Before this, the great composer Johann Sebastian Bach had dwelled in the city (1708–1717). In the 19th century, famous composers like Franz Liszt made a music centre of Weimar and later, artists and architects like Henry van de Velde, Wassily Kandinsky, Paul Klee, Lyonel Feininger and Walter Gropius came to the city and founded the Bauhaus movement, the most important German design school of the inter-war period. However, the political history of 20th century Weimar was inconsistent: It was the place where Germany's first democratic constitution was signed after the 1st World War, giving its name to the Weimar Republic period in German politics (1918–33). Sadly, the city was mythologized by the Nazi propaganda; the nearby location of the concentration camp Buchenwald is a witness of this dark period.

Until 1948, Weimar was the capital of Thuringia. Today, many places in the city centre have been designated as UNESCO World Heritage sites (either as part of the Weimar Classicism complex or as part of the Bauhaus complex) and tourism is one of the leading economic sectors of Weimar. Relevant institutions in Weimar are the Bauhaus University, the Liszt School of Music, the Duchess Anna Amalia Library and two leading courts of Thuringia (Supreme Administrative Court and Constitutional Court). In 1999, Weimar was the European Capital of Culture.

At the Opening Ceremony of the congress, the Otto Schott Memorial Medal will be bestowed to Prof. Christian Rüssel, Friedrich Schiller University of Jena. During the ceremony, he will give a keynote lecture "News from glass crystallization".

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 who did their very best in composing and organizing the symposia programmes.

Prof. Dr. Reinhard Conradt
President of the
Deutsche Glastechnische Gesellschaft (DGG)

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

Symposia Chairs of the 91. Glastechnische Tagung:

Session S1: *Glass Ceramics and Photonics*
Glaskeramiken und Photonik

Christian Rüssel, OSIM Jena

Session S2: *Advanced Glasses*

Ralf Müller, BAM Berlin

Session S3: *Glass Formation and Relaxation*
Glasbildung und Relaxation

Dominique de Ligny, Uni Erlangen – Nürnberg

Session S4: *Glasses in Healthcare*
Gläser in der Medizin

Aldo R. Boccaccini, Uni Erlangen – Nürnberg

Delia S. Brauer, OSIM Jena

Session T1: *Glass Surfaces*
Glasoberflächen

Edda Rädlein, TU Ilmenau

Session T2: *Hot Forming, Secondary Manufacturing, Quality Control*
Heißformgebungstechnologie, Veredelung, Qualitätssicherung

Michael Kellner, Heye-International, Obernkirchen

Gesine Bergmann, HVG, Offenbach

Session T3: *Energy, Environment and Glass Furnaces*
Energie, Umwelt und Glasschmelzöfen

Bernhard Fleischmann, HVG, Offenbach

Session T4: *New Developments in Glass Technology*
Neue Entwicklungen der Glastechnologie

Heiko Hessenkemper, Bergakademie Freiberg

Session T5: *Laser Application on Glass*
Lasieranwendungen für Glas

Jens Bliedtner, Ernst-Abbe-Hochschule Jena

Thomas Schmidt, ifw – Günter-Köhler-Institut für Füge-technik und Werkstoffprüfung Jena

Guided Tours

Meeting point in front of the Weimarhalle/South entrance

Gruppe A Carl Zeiss Jena GmbH, Jena
www.zeiss.de

12.30 Departure of the bus

ZEISS is an internationally leading technology enterprise operating in the fields of optics and optoelectronics. The ZEISS Group develops, produces and distributes measuring technology, microscopes, medical technology, eyeglass lenses, camera and cinema lenses, binoculars and semiconductor manufacturing equipment. With its solutions, the company constantly advances the world of optics and helps shape technological progress. ZEISS is divided up into the four segments Research & Quality Technology, Medical Technology, Vision Care/Consumer Products and Semiconductor Manufacturing Technology. The ZEISS Group is represented in more than 40 countries and has over 50 sales and service locations, more than 30 manufacturing sites and about 25 research and development centers around the globe.

In fiscal year 2015/16 the company generated revenue approximating € 4.9 billion with over 25,000 employees. Founded in 1846 in Jena, the company is headquartered in Oberkochen, Germany. Carl Zeiss AG is the strategic management holding company that manages the ZEISS Group. The company is wholly owned by the Carl Zeiss Stiftung (Carl Zeiss Foundation).

At the Jena site all four segments are represented by the Semiconductor Manufacturing Technology, Medical Technology and Microscopy business groups, the Planetariums strategic business unit and the Central Research area of ZEISS. Jena is also the headquarters of the central service company for the production operations of the ZEISS Group. ZEISS employs around 2,000 people at its Jena site.

Programme:

- Welcome and company presentation
- Guided plant tour

Arrival at Weimarhalle: 16:45

**Gruppe B Docter Optics Components GmbH,
Neustadt an der Orla
www.docteroptics.com**

13.00 Departure of the bus

Docter Optics Components GmbH (DOC) is a member of the Docter Optics group, which has a workforce of some 750 employees and is the world technology and market leader in the production of optical glass components for modern automobile headlights (LED Matrix, etc.). The company is headquartered in Germany and has subsidiaries and branch locations in the USA, China, Japan, Korea and the Czech Republic.

The Docter Optics Components plant was completely designed and engineered from scratch and was dedicated in 2014. This facility was expressly designed to permit industrial-scale deployment of the proprietary DOCFast® process, which makes it possible to mold small to medium-sized optical components and semi-finished products on a large scale from glass as it leaves the furnace. The heart of the plant is an advanced glass furnace equipped with a heat-recuperation system to increase energy efficiency. The gas-fired melting furnace operates at a temperature of 1500°C and supplies three production lines with DOCTAN®.

DOCTAN® is exceptionally brilliant optical glass that was developed by Docter Optics especially for use in the harsh automotive environment and can be processed much like B170.

For large-scale production of major aspheres and free-form lenses, Docter Optics deploys its proprietary DOC3D® process, which involves the use of automated rotary systems to reform glass gobs produced at the company's German and Czech plants.

In addition to the production of optical components for the Automobile Industry (ATV), Docter Optics is also successfully involved in the production and assembly of Optical Systems (OSYS), industrial-scale production of Precision Glass Components (PGC) for optical and other markets and Express Glass Services (EGS) for the production of custom semi-finished optical products and prototypes.

Programme:

- Welcome and company presentation
- Tour of DOC, including furnace, molding and quality management

Arrival at Weimarhalle: 17:00

Gruppe C QSIL GmbH, Langewiesen
www.qsil.de

13.00 Departure of the bus

QSIL is a leading producer of fused quartz products, which are sold under the trademark *ilmasil*[®]. Its products are widely supplied throughout the global market from the factories in Germany and Nederland. The sole focus of QSIL is the manufacture of fused quartz, including the fusion of heavy wall cylinders, small and large diameter tubes, and the fabrication of customized products. Because of its unique plasma fusion process, QSIL is the only company with the ability to manufacture hollow cylinders (billets) using a single production step.

Due to limited capacity of meeting rooms and large number of participants, there will probably be no company presentation (slideshow) available. Introduction of QSIL will be given together with the plant tour.

Programme:

- Welcome and short introduction
- Plant tours (groups of max. 10 participants)
- Questions and discussion

Arrival at Weimarhalle: 17:00

Gruppe D **ifw – Günther-Köhler-Institut für Fügetechnik und Werkstoffprüfung, Jena**
www.ifw-jena.de

13.15 Departure of the bus

The research of the Günther-Köhler-Institut für Fügetechnik und Werkstoffprüfung (ifw Jena) concentrates on laser material processing from micro to macro (especially with ultrashort pulse laser), furnace processes with focus on diffusion bonding, adhesive bonding for high-temperature applications and high performance welding processes.

For all processes, metals as well as brittle materials are focused. The process expertise is completed by extensive know-how in characterization of materials and joints. The range of services also includes materials testing, quality assurance and welder training.

The ifw Jena is an independent, non-profit industrial research institute and operates as a reliable research partner for small and medium-sized businesses. The institute is particularly involved in pre-competitive research projects which are financed by public funds.

IOF – Fraunhofer Institute for Applied Optics and Precision Engineering, Jena
www.iof-fraunhofer.de

The Fraunhofer Institute for Applied Optics and Precision IOF develops innovative optical systems to control light from the generation to the application. Our service range covers the entire photonic process chain from optomechanical and optoelectronic system design to the manufacturing of customized solutions and prototypes.

The institute works in the five business fields of Optical Components and Systems, Precision Engineering Components and Systems, Functional Surfaces and Layers, Photonic Sensors and Measuring Systems and Laser Technology.

Programme:

- Welcome and presentation on the research activities of both institutes
- Guided tour through the institute ifw and IOF

Arrival at Weimarhalle: 17:30

Gruppe E **j-fiber GmbH, Jena**
www.j-fiber.com

13.45 Departure of the bus

j-fiber is one of the leading suppliers of optical fibers and reliable partner to the cable industry worldwide. With high-performance, future-safe and cost-efficient Multimode and Singlemode fibers we support cable solutions for up to 100 Gb/s Ethernet high-speed data transmission in Local Area Networks and data center.

As the internal competence center for fused silica and preforms we enable the development and manufacturing of innovative fiber optics specialty solutions for LEONI Group's Business Unit Fiber Optics.

With j-fiber and j-plasma, LEONI Group maintains a unique processing competence center at its Jena location with three available process technologies: MCVD (Modified Chemical Vapor Deposition), PBVD (Plasma Based Vapor Deposition) and melting equipment for the manufacturing of fused silica glass together provide a unique set of optimized, efficient manufacturing options in one place.

Their combination allows the making of fiber-optics products and services, individually adapted to specific customer requirements for use in each of their applications: fused silica for preforms and various optics and laser applications as well as custom-designed preforms for large-core step-index fiber.

Programme:

- Welcome and company presentation
- Guided plant tour in groups

Arrival at Weimarhalle: 16:30

Notice

- For all plant visits the number of participants is limited. This lists of the registered participants will be sent to the companies in advance of the meeting. Participants may be rejected on grounds of business competition.
- For all plant visits sturdy shoes and adequate clothes (no short trousers) are indispensable.

18.30
to
21.30

**Poster-Show,
Exhibition of Suppliers and
Welcome Reception** (starting 19.30)

West Foyer at Weimarhalle

The three top posters of students or postgraduates will be awarded with 400, 300 and 200 EUR, respectively, during the banquet on Tuesday evening.

■ For the welcome reception a special booking is necessary for organizational reasons. ■

Important Note for your Calendar

The

92. Glastechnische Tagung

including Annual Meetings of the
Czech and the Slovak Glass Societies

takes place

28–30 May 2018

in Bayreuth.

Mitgliederversammlungen

18.00 **87. Ordentliche Mitgliederversammlung
der Hüttentechnischen Vereinigung der
Deutschen Glasindustrie (HVG) e. V.**

CCN Weimarhalle, Flügelsaal 1

– Hierzu ergehen besondere Einladungen –

8.30 **85. Mitgliederversammlung
der Deutschen Glastechnischen
Gesellschaft (DGG) e. V.**

CCN Weimarhalle, Flügelsaal 1

Tagesordnung:

1. Tätigkeitsbericht 2016*)
2. Berichte über die Fachausschüsse der DGG*)
3. Bericht über das DGG-Glasforum*)
4. Wahlen zum DGG-Vorstand und
DGG-Vorstandsrat
5. Genehmigung des Jahresabschlusses 2016
und Entlastung
6. Ehrung
7. Neukonzeption von HVG und DGG
8. Bekanntgabe von Veranstaltungen
9. Verschiedenes

*) Diese Unterlagen sind im Heft 2/2017 des dgg journals zur
Kenntnisnahme für alle DGG-Mitglieder veröffentlicht.

10.15 Opening Ceremony**Weimarhalle, Großer Saal****Opening Address**

Prof. Dr. Reinhard Conradt
President of the Deutsche Glastechnische Gesellschaft e. V. (DGG)

Welcome Speech

Peter Kleine
Mayor of Weimar

Honours

Presentation of the Otto-Schott-Denkmünze
(Otto Schott Memorial Medal of DGG)

Laudation
Prof. Dr. Reinhard Conradt, Aachen

Lecture of the Otto Schott Memorial Medal awardee

Prof. Dr. rer. nat. Dr.-Ing. habil. C. Rüssel
Friedrich-Schiller-Universität Jena,
Otto-Schott-Institut für Materialforschung (OSIM)
“News from glass crystallization”

Keynote Lecture

Prof. Dr. Ines Weizman
Bauhaus-Universität Weimar,
Direktorin Bauhaus-Institut für Geschichte und
Theorie der Architektur und Planung
“Glass architecture. A hundred-year perspective”

20.00
bis
23.00

Banquet**Weimarhalle, Großer Saal**

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

Lightpainting-Video-Show
Performance of Christoph Rummel

During the show no flashlight photos are allowed!

■ For the banquet a special registration is necessary for organizational reasons. ■

Time schedule of oral presentations (view)

Tuesday, 30 May 2017

- **Session S1** **13.30 – 17.45**
Großer Saal
Glass Ceramics and Photonics
- **Session T3.1** **13.30 – 17.45**
Kleiner Saal
Energy, Environment and Glass
Furnaces
- **Session T1** **13.30 – 17.45**
Flügelsaal 1
Glass Surfaces
- **Session S2.1** **13.30 – 17.45**
Flügelsaal 2
Advanced Glasses
- **Session S4** **13.30 – 18.10**
Empore Ost
Glasses in Healthcare

Time schedule of oral presentations (view)

Wednesday, 31 May 2017

- **Session T2.1** 8.30 – 12.45
Großer Saal
Hot Forming, Secondary Manufacturing, Quality Control
- **Session T3.2** 8.30 – 12.45
Kleiner Saal
Energy, Environment and Glass Furnaces
- **Session T4.1** 8.30 – 12.45
Flügelsaal 1
New Developments in Glass Technology
- **Session S2.2** 8.30 – 12.45
Flügelsaal 2
Advanced Glasses
- **DGG-Workshop für Studierende Empore West** 8.30 – 12.45
Glas?Klar! 2017 – Glass surfaces
- **Session T2.2** 13.30 – 15.35
Großer Saal
Hot Forming, Secondary Manufacturing, Quality Control
- **Session T3.3** 13.30 – 15.35
Kleiner Saal
Energy, Environment and Glass Furnaces
- **Session T4.2** 13.30 – 15.35
Flügelsaal 1
New Developments in Glass Technology
- **Session S3** 13.30 – 15.35
Flügelsaal 2
Glass Formation and Relaxation
- **Session T5** 13.30 – 15.35
Empore Ost
Laser Application on Glass

S1: Glass Ceramics and Photonics

Großer Saal

- Vorsitz: Prof. Christian Rüssel (Friedrich-Schiller-Universität Jena)
- 13.30 Dr. Christian Bocker; Dr. Andreas Herrmann;
Prof. Thomas Höche; Prof. Christian Rüssel
Friedrich-Schiller-Universität Jena, Otto-Schott-Institut
für Materialforschung (OSIM)
**The effect of microstructure on optical properties
of rare earth doped nano glass-ceramics**
- 13.55 Dr. Michael Kracker; Prof. Christian Rüssel; Dr. Wolf-
gang Seeber; Dr.-Ing. Christian Worsch
Friedrich-Schiller-Universität
**Metallic particles on glass surfaces for plasmon
based optical sensors**
- 14.20 Kristýna Rysová; Martin Míka; František Lahodný
University of Chemistry and Technology in Prague
**Ag Nanoparticles in Glass for Electro-Optic Mod-
ulators**
- 14.45 Dipl.-Chem. Martina Stoica; Dr. Christian Patzig;
Dr. Christian Bocker; Dr. Michael Kracker; Dr. Wolf-
gang Wisniewski; Dr. Andreas Herrmann; Dr. Joachim
Hein; Prof. Thomas Höche; Prof. Christian Rüssel
Friedrich-Schiller-Universität
**Photoinduced Crystallization of CaF_2 from a $\text{Na}_2\text{O}/$
 $\text{K}_2\text{O}/\text{CaO}/\text{CaF}_2/\text{Al}_2\text{O}_3/\text{ZnO}/\text{SiO}_2$ Glass**
- 15.10 Dr.-Ing. Christian Thieme; Dr. Michael Kracker;
Dr. Christian Patzig; Prof. Thomas Höche; Prof. Chris-
tian Rüssel
Fraunhofer-Institut für Werkstoffmechanik
**The influence of Au doping on the crystallization
behavior of a surface crystallizing glass**
- 15.35 Kaffeepause
- 16.05 Dipl.-Chem. Enrico Kleebusch; Prof. Christian Rüssel;
Dr. Christian Patzig; Prof. Thomas Höche
Jena University
**Mechanism of crystal growth in a $\text{Li}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$
glass with ZrO_2 as nucleating agent – a XANES
investigation supported by XRD and (S)TEM**

- 16.30 Dr.-Ing. Katrin Thieme; Prof. Christian Rüssel
Friedrich-Schiller-Universität Jena, Otto-Schott-Institut
für Materialforschung (OSIM)
**Effect of additives on crystallization kinetics in
lithium disilicate glasses**
- 16.55 Dr. Marc Dittmer; Dr. Markus Rampf; Prof. Wolf-
ram Höland; Dipl.-Ing. (FH) Christian Ritzberger;
Dr. Stéphane Follonier
Ivoclar Vivadent AG
**Controlled precipitation of lithium disilicate
($\text{Li}_2\text{Si}_2\text{O}_5$) and lithium niobate (LiNbO_3) or lithium
tantalate (LiTaO_3)**
- 17.20 Tilman Zscheckel; Hui-Juan Wang; Franziska Döhler;
Dr. Christian Bocker; Prof. Christian Rüssel
Friedrich-Schiller-Universität Jena, Otto-Schott-Institut
für Materialforschung (OSIM)
**Crystallography and chemistry in phase micro-
structure relationship analyses in glass ceramics**
- 17.45 Ende der Veranstaltung

T3: Energy, Environment and Glass Furnaces

Kleiner Saal

- Vorsitz: Dr. Matthias Lindig (Nikolaus Sorg GmbH & Co. KG)
- 13.30 Erik Muijsenberg
GLASS SERVICE, a.s.
How simulation models can improve glass quality and furnace efficiency
- 13.55 Dipl.-Phys. Andries Habraken; Piet van Santen;
M.Sc. Johan van der Dennen
CelSian
Stable glass furnace operation
- 14.20 Joaquín de Diego Rincón; Marco van Valburg; Frank Schuurmans; H. Kobayashi; Dr.-Ing. Stefan Laux; Arthur Francis; Robert Bell
PRAXAIR EUROHOLDING S.L.
OPTIMELT™ Implementation at Libbey Leerdam to support Energy Savings and Sustainability Goals
- 14.45 Dipl.-Ing. Bernhard Fleischmann; Dipl.-Ing. Marcel Fiehl
Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V.
Final results of the GWI-HVG reseach project „Biogas-Glas 2“ (AiF-project number: 18685N)
- 15.10 Dr.-Ing. Anne Giese; Dr.-Ing. Jörg Leicher; Dr.-Ing. Tim Nowakowski; Prof. Klaus Görner; Dipl.-Ing. Bernhard Fleischmann; Dipl.-Ing. Gesine Bergmann; Nils-Holger Löber
Gas- und Wärme-Institut Essen e.V.
Statistische Untersuchungen zu realen Erdgasbeschaffenheiten und -zusammensetzungen in deutschen Erdgasnetzen: Ergebnisse aus dem Projekt „GasQualitaetGlas“
- 15.35 Kaffeepause
- 16.05 Dr.-Ing. Tim Nowakowski; Dr.-Ing. Jörg Leicher; Dr.-Ing. Anne Giese; Prof. Klaus Görner
Gas- und Wärme-Institut Essen e.V.
Power-to-Gas und die Konsequenzen: Auswirkungen von höheren Wasserstoffkonzentrationen im Erdgas auf industrielle Verbrennungsprozesse

- 16.30 Dr. Leonard Alaribe; Dipl.-Ing. Benedikt Scharfe;
Dr.-Ing. Thorsten Gerdes; Dr.-Ing. Bernd Hamann
Technologie Anwender Zentrum Spiegelau
**Batch formulation for energy reduction during
glass melting processes**
- 16.55 Karl-Heinz Hartmann; Rene Meuleman; Raman
Seetharaman
Eurotherm by Schneider-Electric
**Smart Thyristor Control of Power Supply on Elec-
tric Boosting Systems provides Potential Energy
Savings**
- 17.20 Ph. D. Hans Strauven
CNUD EFCO
**Energy consumption during the annealing of float
glass**
- 17.45 Ende der Veranstaltung

T1: Glass Surfaces

Flügelsaal 1

- Vorsitz: Prof. Edda Rädlein (TU Ilmenau, Fachgebiet Anorg. nichtmetallische)
- 13.30 Björn Kretzschmar; Dr. Andreas Heft; Dr. Annett Rechtenbach; Dr. Steffen Teichert; Dr. Bernd Grünler; Prof. Edda Rädlein
Innovent e. V.
Manganese Oxide thin films grown by Combustion Chemical Vapour Deposition (CCVD)
- 13.55 Dr. Gundula Hensch; Prof. Joachim Deubener
TU Clausthal
Photocatalytic Activity of Ceria in Porous Silica Films for Solar Applications
- 14.20 Jasper Westphalen; Manuela Junghähnel; Georg Lorenz; Falk Naumann
Fraunhofer FEP
Surface refinement of ultra-thin flexible glass with magnetron sputtered transparent conductive ITO
- 14.45 Klemens Ilse; Dr. Volker Naumann; Dr. Christian Hagendorf
Fraunhofer Center for Silicon-Photovoltaics CSP
Indoor tests for realistic assessment of anti-soiling-properties of glass surfaces for outdoor application
- 15.10 M.Sc. Stephanie Reiß; Rolf Grieseler; Stefan Krischok; Prof. Edda Rädlein
TU Ilmenau, Fachgebiet Technische Physik I
The influence of Sahara sand on the degradation behavior of float glass surfaces
- 15.35 Kaffeepause
- 16.05 M.Sc. Stephanie Reiß; Sabine Urban; Katrin Jacob; Stefan Krischok; Prof. Edda Rädlein
TU Ilmenau, Fachgebiet Technische Physik I
Investigation of the influence of a commercial glass protector on float glass surfaces by X-ray photoelectron spectroscopy
- 16.30 Dipl.-Ing. Martin Groß
TU Freiberg
Glass corrosion – The phenomenon of delamination – Reactions, mechanisms and effects

- 16.55 Dr. Martin Kilo; Katrin Wittstadt; Dr. Andreas Diegeler
Fraunhofer ISC
**KLIMATOM – a new versatile tool for investigating
the corrosion and reactions of glass surface under
in-situ conditions**
- 17.20 Dipl.-Ing. Michael D. Spang
Der Grüne Punkt – Duales System Deutschland GmbH
Glass – A Powerful Packaging Material
- 17.45 Ende der Veranstaltung

S2: Advanced Glasses

Flügelsaal 2

Vorsitz: Prof. Joachim Deubener (TU Clausthal)

13.30 M.Sc. Philippe Kiefer; M.Sc. Robert Balzer; M.Sc. Ute Dietrich; Prof. Harald Behrens; M.Sc. Tina Waurischk; Dr.-Ing. Stefan Reinsch; Dr. Ralf Müller; Prof. Joachim Deubener
Technische Universität Clausthal

Viscosity of water bearing glasses in the glass transition range – Phosphates vs. silicates and borates

13.55 Dr.-Ing. Stefan Reinsch; M.Sc. Ute Dietrich; M.Sc. Philippe Kiefer; M.Sc. Robert Balzer; Dr. Ralf Müller; Prof. Harald Behrens; Prof. Joachim Deubener
Bundesanstalt für Materialforschung und -prüfung (BAM)

Sub-Tg relaxation in hydrous soda-lime-silicate and sodium-borosilicate glasses

14.20 M.Sc. Thorben Welter; Dr. Marianne Nofz; Prof. Joachim Deubener
Technische Universität Clausthal

Surface water-induced broadening of crack initiation probability of zinc aluminosilicate glasses

14.45 Jeerawan Brendt; Sonja Michaela Groß-Barsnick; Carole Babelot; Ghaleb Natour

Investigation of Zn/V-additives on the crystallization process of BaO-CaO-SiO₂ glasses

15.10 M.Sc. Carsten Blaeß; Cyrus Thompson; Dr. Ralf Müller
Bundesanstalt für Materialforschung und -prüfung (BAM)

Crack healing in glasses and glass matrix composites

15.35 Kaffeepause

16.05 Dr. Karine Seneschal-Merz; Dr. Michael Bücken; Christoph Sander
Bundesanstalt für Materialforschung und -prüfung (BAM)

Development of durable transparent enamel colors for the manufacture of decorated glass panels

- 16.30 M.Sc. Kanat Kyrgyzbaev; Dr.-Ing. Thorsten Gerdes;
Dr. Helmut Hohenstein
University of Bayreuth
**Development and Characterization of Low T_g,
Lead-Free Bi₂O₃-based Solder Glass**
- 16.55 Stefan Körner; Dr.-Ing. Markus Eberstein
Fraunhofer-Institut für Keramische Technologien und
Systeme
**Influence of the glass on silver transport phenom-
ena in front side metallization pastes of solar cells**
- 17.20 Dr. Claudia Feller
Fraunhofer-Institut für Keramische Technologien und
Systeme
**Chalcogenide glasses for heavy metal ion-select-
ive electrodes**
- 17.45 Ende der Veranstaltung

S4: Glasses in Healthcare

Empore Ost

- Vorsitz: Prof. Aldo R. Boccaccini (University of Erlangen-Nuremberg);
Prof. Dr. Delia S. Brauer (Friedrich-Schiller-Universität Jena, Otto-Schott-Institut für Materialforschung (OSIM))
- 13.30 Dr. Jonathan Massera
Tampere University of Technology
Crystallization: impact on bioactivity and sintering-ability of bioactive glasses
- 14.20 M.Sc. Barbara Pföss; Prof. Reinhard Conradt;
Prof. Christian Roos
Institut für Gesteinshüttenkunde
Crystallization behavior of Bioglass® 45S5: thermodynamic and kinetic
- 14.45 M.Sc. Roland Wetzel; M.Sc. Max Blochberger; Dipl.-Ing. Steffen Müller; Prof. Leena Hupa; Prof. Dr. Delia S. Brauer
Friedrich-Schiller-Univ. Jena, Otto-Schott-Institut für Materialforschung (OSIM)
The influence of magnesium and zinc substitution on the thermal properties of Bioglass® 45S5
- 15.10 M.Sc. Juliane Brandt-Slowik; Atsuhiko Miura;
M.Sc. Luise Böhme; Dr. Sabarinathan Venkatachalam; Prof. Toshihiro Kasuga; Prof. Leo van Wüllen;
Prof. Dr. Delia S. Brauer
Friedrich-Schiller-Universität Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Bioactive borosilicate glasses: structural investigations by 31P & 11B MAS NMR and in-vitro dissolution behaviour
- 15.35 Kaffeepause
- 16.05 Prof. Leena Hupa
In vitro vs. in vivo bioactivity of melt-derived silicate glasses
- 16.55 Dr.-Ing. Preethi Balasubramanian; Dr.-Ing. Rainer Detsch; Prof. Aldo R. Boccaccini
University of Erlangen-Nuremberg
Surface Functionalization of Borosilicate Bioactive Glass Scaffolds

- 17.20 Gloria Kirste; M.Sc. Juliane Brandt-Slowik; Dr. Christian Bocker; Prof. Dr. Delia S. Brauer
Friedrich-Schiller-Univ. Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Influence of strontium for calcium substitution in simulated body fluid (SBF) on the apatite formation of Bioglass® 45S5
- 17.45 M.Sc. Kai Zheng; Prof. Aldo R. Boccaccini;
M.Sc. Miao Lu
University of Erlangen-Nuremberg
Strategies for the synthesis of highly dispersed Cu- and Zn-containing bioactive glass nanoparticles
- 18.10 Ende der Veranstaltung

T2: Hot Forming, Secondary Manufacturing, Quality Control Großer Saal

Vorsitz: Michael Kellner (Heye International GmbH)

8.30 Ph. D. Nicola Favaro; Martina Scarpa
Stazione Sperimentale del Vetro

HOW TO VERIFY THE COMPLIANCE TO FOOD CONTACT AND REACH REGULATIONS

8.55 Dr. Andreas M Kasper; Dr. Yuan Zheng; Dr. Pyonglae Nho
Saint Gobain

Properties of nickel sulphide inclusions detected in annealed glass panes

9.20 Alberto D'Este; Mirko Silvestri; Roberto Dall'igna
Stazione Sperimentale del Vetro

Finite Element Analysis of container's geometry

9.45 M.Sc. Simon Bartolomey; Prof. Reinhard Conradt;
Prof. Christian Roos
RWTH Aachen University

Systematic Time Series Analysis for the Identification of Periodicities in Industrial Production Data

10.10 Wilfried Seidensticker; Mark Ziegler
Heye International GmbH

Industry 4.0 in the glass plant – Heye Smart Plant

10.35 Kaffeepause

11.05 Thomas Huhn
Symplex Vision Systems GmbH

Merging Hot- and Cold End Inspection Technologies for Process Optimization

11.55 Dr. Matthias Kümmerle
Emhart Glass SA

Increasing productivity through End to End Technology

12.20 Stephen Follis
TIAMA

Tiama HOT lab – the automated Hot End assistant which increases productivity

12.45 Ende der Veranstaltung und Imbiss

T3: Energy, Environment and Glass Furnaces

Kleiner Saal

- Vorsitz: Dipl.-Ing. Bernhard Fleischmann (Hüttentechnische
Vereinigung der Deutschen Glasindustrie e.V.)
- 8.30 Dr.-Ing. Hayo Müller-Simon
Hüttentechnische Vereinigung der Deutschen Glasin-
dustrie e.V.
**Statistische Analyse mehrparametrischer Datensätze
an Beispielen aus der Glasherstellung (IGF/
AiF-Forschungsvorhaben Nr. 18270N)**
- 8.55 Dr. Rongxing Bei; Stephan Lohn; Dr.-Ing. Stefan Laux;
Arthur Francis
RHI GLAS GmbH
**Refractories Application in Thermochemical
Regenerator**
- 9.20 Dr.-Ing. Michel Gaubil; Thierry Colozzi
Saint Gobain CREE
**Advanced refractory solution for alkali borosili-
cate glasses**
- 9.45 Dr.-Ing. Rolf Weigand; Anne-Katrin Rössel; David
Tritschel
ancorro GmbH
**Optimization and energy savings in container
glass production**
- 10.10 Dr. Matthias Lindig
Nikolaus Sorg GmbH & Co. KG
**Die Glasschmelztechnologie im Umwelttrend
Elektro**
- 10.35 Kaffeepause
- 11.05 Lars Bienenek; Dr.-Ing. Hans Linz; Dr.-Ing. Sven
Wiltzsch; Udo Thomas; Jörg Schollmayer
JSJ Jodeit GmbH
**Tailor-made melting, refining and conditioning
systems for a wide range of high quality glasses**
- 11.30 Dipl.-Ing. Mahdie Moaveni
Simullex GmbH
**Effective implementation of electrical boosting in
glass furnace**

- 11.55 Dr.-Ing. Menno Eisenga
Glass Service B.V.
**Advantages of ES III Full Automatic Control Of
Glass Feeders**
- 12.20 Dr. Martin Kilo; Anika Deinhardt; Stefan Senger
Fraunhofer ISC
**Entwicklung eines neuen niedrigrschmelzenden
bleifreien Grundglassystem für dekorative An-
wendungen**
- 12.45 Ende der Veranstaltung und Imbiss

T4: New Developments in Glass Technology

Flügelsaal 1

- Vorsitz: Prof. Dr. Heiko Hessenkemper (TU Bergakademie Freiberg); Dr.-Ing. Rolf Weigand (ancorro GmbH)
- 8.30 Paul Schreuders
Institut Keramik, Glas- und Baustofftechnik TU Bergakademie Freiberg
Container Glass Forming in 2020/2025: the dark factory
- 8.55 Dr.-Ing. Peter Drögmöller
AMETEK Land
Controlling a Glass Furnace Using a Thermal Imager
- 9.20 Frederik Van Egroo
Todini GmbH
Advantages of Sodium Antimonate in Glass Manufacturing
- 9.45 Mathias Hötzel
LubriGlass GmbH
Increase of the hydrolytical resistance of glass by an online treatment of glass surfaces after glass forming.
- 10.10 Dipl.-Ing. Ulrike Veit; Prof. Christian Rüssel
Friedrich-Schiller-Univ. Jena, Otto-Schott-Institut für Materialforschung (OSIM)
DTA Melting Offsets of CMAS-Glasses in comparison with their liquidus temperatures
- 10.35 Kaffeepause
- 11.05 Dipl.-Ing. Michael Kretschmer; Dipl.-Ing. Tobias Börner
Institut Keramik, Glas- und Baustofftechnik TU Bergakademie Freiberg
Thermisches Härten: Relevante Prozessgrößen; Alternative Beheizungstechnologien
- 11.30 Thomas Voland
Institut Keramik, Glas- und Baustofftechnik TU Bergakademie Freiberg
Chemisches Vorspannen: Optimierung durch Stabilisation des Salzbad

- 11.55 Dr.-Ing. Sabine Hönig; Dipl.-Ing. Torsten Lorenz
TU Bergakademie Freiberg
Phänomene in metallpartikelverstärkten EMayls
- 12.20 Dipl.-Ing. Michael Kretschmer; Dipl.-Ing. Tobias Börner
Institut Keramik, Glas- und Baustofftechnik TU Bergakademie Freiberg
Berührungslose Handhabung von Glas im Temperaturbereich bis 800 °C („Levitemp“)
- 12.45 Ende der Veranstaltung und Imbiss

S2: Advanced Glasses

Flügelsaal 2

Vorsitz: Prof. Joachim Deubener (TU Clausthal)

8.30 Dr. Ulrich Marzok; Dr. Ralf Müller; Dr.-Ing. Martin Gaber; Dr.-Ing. Stefan Reinsch; M.Sc. Thorben Welter; Prof. Joachim Deubener
BAM Bundesanstalt für Materialforschung und -prüfung

Messung der H₂-Permeabilität von Gläsern mit der VHE-Pulvermethode

8.55 M.Sc. Boris Agea Blanco; Dr. Ralf Müller; Dr.-Ing. Stefan Reinsch
BAM

Sintering and Foaming of Barium Silicate Glass Powder Compacts

9.20 Dr.-Ing. Thorsten Gerdes; M.Sc. Ulrich Schadeck; M.Sc. Kanat Kyrgyzbaev; Ph. D. Heiko Zettl
University of Bayreuth

Glass separator for lithium-ion batteries

9.45 M.Sc. Stephan A. H. Sander; Prof. Dirk Enke; Prof. Hans Roggendorf
Martin-Luther-Universität Halle-Wittenberg

Influence of (metal) oxide additives on the phase separation of sodium borosilicate glasses

10.10 Dr. Susanne Selle; Prof. Thomas Höche; Dr. Christian Patzig; M.Sc. Laura Briese; Prof. Joachim Deubener
Fraunhofer-Institut für Mikrostruktur von Werkstoffen und Systemen IMWS

Microstructure Analysis of Redox Potential induced Precipitation of Metallic Nano Colloids in Borosilicate Glasses

10.35 Kaffeepause

11.05 M.Sc. Katharina Philipps; M.Sc. Klara Kölker; Prof. Reinhard Conradt; Prof. Christian Roos
RWTH Aachen University

Systematic development of targeted glass compositions for reinforcement applications

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- 11.30 B.Eng. Robert Karsdorf; B.Eng. Ferdinand Werr;
Prof. Armin Lenhart; Prof. Dr. Dominique de Ligny
**Research of the Boson Peak of binary and special
multicomponent glass and comparison with the
Excess Heat Capacity**
- 11.55 Stefan Kuhn; Christian Hupel; Sigrun Hein; Franz Bei-
er; Johannes Nold; Nicoletta Haarlammert; Thomas
Schreiber; Ramona Eberhardt; Andreas Tünnermann
Fraunhofer-Institut für Angewandte Optik und Fein-
mechanik
**Fabrication and properties of high-power laser
fibers using all-solution doping MCVD technique**
- 12.20 Dr. Andreas Herrmann; M.A. Max Schmidt; M.A.
Chuanqiang Zhang; M.A. Jürgen Graf; Dr. Knut Kirm-
se; Prof. Knut Holthoff; Prof. Christian Rüssel
Friedrich-Schiller-Universität Jena
**Ce³⁺-doped glass capillaries for use with the patch
clamp technique**
- 12.45 Ende der Veranstaltung und Imbiss

Student Workshop

Empore West

Clear as Glass 2017 – Glass Surfaces

Chair: Prof. Dr. E. Rädlein, Ilmenau

8.30 “There’s plenty of room on the bottom”
(Richard Feynman, 1961)

Let’s step out to explore vitreous nanospaces!

In 2017, the topic of the students’ workshop will be glass surfaces. What are the differences in bulk and surface properties? What are the intrinsic characteristics of surfaces with different histories? How does surface govern glass behavior?

In three lectures from renowned glass surface experts and with a practical course on in situ analysis we will explore the exciting frontiers of glass surface research.

Lecture topics will be topology, chemistry and mechanics of glass surfaces. Production induced surface quality, surface design and enhanced strength will also be addressed.

The practical course requires your individual contribution: we offer the methods – you allocate the questions! What do you want to know on glass surfaces? Bring your own samples, glass, coatings, or stuff to compare to glass. Find out what information is provided by in situ measurement of roughness, contact angle, stray light, scratch and wipe resistance.

Learn about the requirements of sample preparation. Learn about nanolandscapes, interaction with liquid media, reflection of light and mechanical resistance. Learn about precision and limits of the methods. Learn about design of surface analysis methods. What new method would you prospect for your research?

The course is limited to 30 participants on a first come base.

10.35 Coffee break

11.05 Continuation of workshop

12.45 End of workshop

Attention: Number of participants is limited to 30.
First come, first serve.

T2: Hot Forming, Secondary Manufacturing, Quality Control

Großer Saal

- Vorsitz: Dipl.-Ing. Gesine Bergmann (Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V.)
- 13.30 Rajko Machold
APEGG Ltd.
APEGG
- 13.55 Dr.-Ing. Swantje Thiele; Dipl.-Ing. Harald Zimmermann
Verallia Deutschland AG
Optimization of Feeder Channels for Container Glass Productions
- 14.20 Jonas Simon; Dipl.-Ing. Gesine Bergmann
HVG e.V.
Erweiterte Modellierung der Verformung eines Glastropfens in der Verteilerrinne
- 14.45 Erhard Niessner
Lumasense Technologies GmbH
Glasformtemperaturmessung mittels Quotienten-Pyrometer
- 15.10 Daniel Wagner
DIAS Infrared GmbH
Anwendungen zur Infrarot-Temperaturmessung in der Glasproduktion
- 15.35 Ende der Veranstaltung

T3: Energy, Environment and Glass Furnaces

Kleiner Saal

- Vorsitz: Dr.-Ing. Anne Giese (Gas- und Wärme-Institut Essen e.V.)
- 13.30 Dipl.-Ing. Bernhard Fleischmann
Hüttentechnische Vereinigung der Deutschen Glasindustrie e.V.
Der Klimaschutzplan 2050 der BRD und der Glasherstellungsprozess – aktuelle Forschungsprojekte der HVG
- 13.55 Dipl.-Ing. Matthias Görisch; Rainer Mieth
Linde AG
Targeted NOx reduction of endport glass furnaces with regenerative or recuperative air preheating
- 14.20 Jens Lange; Dr.-Ing. Ulrich Schwarz; Erich Powils
GEA Bischoff GmbH
Emission Control Technologies and Waste Heat Recovery in the Glass Industry
- 14.45 Dipl.-Ing. (FH) Matthias Hagen
DÜRR Systems AG
New 3 in 1 solution for the air purification of glass furnaces
- 15.10 Ingeborg Pensis
Sibelco Europe
Respirable Crystalline Silica – innovations in monitoring, measurement and management
- 15.35 Ende der Veranstaltung

T4: New Developments in Glass Technology

Flügelsaal 1

- Vorsitz: Prof. Dr. Heiko Hessenkemper (TU Bergakademie Freiberg); Dr.-Ing. Rolf Weigand (ancorro GmbH)
- 13.30 Dr.-Ing. Rolf Weigand
ancorro GmbH
Wo bleibt der Nachwuchs? Nachwuchsförderung im Bereich Glas
- 13.55 Dr. Peter Hemmann
Institut Keramik, Glas- und Baustofftechnik TU Bergakademie Freiberg
Die energiebasierte Lambdaeigenschaft/Energy based Lambda Control
- 14.20 Dipl.-Ing. Marc Lüpfer
TU Bergakademie Freiberg
Schaumglas für solare Anwendungen
- 14.45 Dr.-Ing. Rolf Weigand; Prof. Dr. Heiko Hessenkemper; Anne-Katrin Rössel; Wiebke Walther
ancorro GmbH
Emissionsveränderung von Silikagewölbe
- 15.10 Dipl.-Ing. Marc Lüpfer; Dipl.-Ing. Matthias Franke; Dipl.-Ing. Kathrin Choyna; Dipl.-Ing. Jorg Ulrich
TU Bergakademie Freiberg
KSP-Verwertung für alkalisch beständigeres Blähglas
- 15.35 Ende der Veranstaltung

S3: Glass Formation and Relaxation

Flügelsaal 2

- Vorsitz: Prof. Dr. Dominique de Ligny (Friedrich-Alexander-Universität Lehrstuhl WW3)
- 13.30 M.Sc. Miriam Schuster
Technische Universität Darmstadt
Expansion of a viscoelastic material model in order to respect the hyperelastic material behaviour of laminated safety glass interlayers undergoing large deformations
- 13.55 Dr. Jens Ulrich Thomas; M.Sc. Jonas Schatz;
Dr. Frank-Thomas Lentjes; Klaus Bergner; Prof. Stefan Nolte; Dr. Alexander Veber; Prof. Dr. Dominique de Ligny
Schott AG
Transient and permanent properties of ultrashort pulse laser modified glass
- 14.20 Prof. Dr. Dominique de Ligny; M.Sc. Antoine Cornet;
Dr. Alexander Veber; Prof. Valérie Martinez; Dr. Maria Rita Cicconi; Prof. Bernard Champagnon; Dr. Christine Martinet
Friedrich-Alexander-Universität Lehrstuhl WW3
Relaxation processes of permanently densified glasses
- 14.45 B.Eng. Ferdinand Werr; B.Eng. Robert Karsdorf;
Prof. Armin Lenhart; Prof. Dr. Dominique de Ligny;
Henning Katte; M.Sc. Antoine Cornet; Prof. Valérie Martinez
TH Nürnberg
Comparison of residual stress measurement in glass between Nd³⁺ luminescence and common optical methods
- 15.10 Dr. Peter Friedrich; Dr. Laura Proserpio; Emanuel Madarasz; Dr. Thorsten Döhring; Dr. Anne-Catherine Probst
Max-Planck-Institut für extraterrestrische Physik
Glass Slumping of Grazing Incidence Mirrors for Astronomical X-Ray Telescopes
- 15.35 Ende der Veranstaltung

T5: Laser Application on Glass Empore Ost

Vorsitz: Prof. Jens Bliedtner (Ernst-Abbe-Hochschule Jena);
Dipl.-Ing. (FH) Thomas Schmidt (Günter-Köhler-Institut
für Fügetechnik u. Werkstoffprüfung GmbH (ifw))

13.30 Dr. Ulrike Brokmann; M.Sc. Elisabeth Hardi;
Prof. Edda Rädlein; Dr. Ronald Schade; Prof. Klaus
Liefeith
TU Ilmenau, Fachgebiet Anorg. nichtmetallische
Werkstoffe

**Effects of NIR femtosecond laser radiation on
the structure of a photosensitive lithium alumina
silicate glass**

13.55 Franziska Döhler; Dipl.-Ing. Susanne Kasch;
Prof. Christian Rüssel
Friedrich-Schiller-Univ. Jena

**Sealing of alumina with rapidly crystallizing sealing
glasses**

14.20 Dipl.-Ing. (FH) Thomas Schmidt; Daniela Pfab; Daniel
Eilenberger; Mario Leidenfrost
Günter-Köhler-Institut für Fügetechnik u. Werkstoffprü-
fung GmbH (ifw)

**Receiverrohrbau mittels Laserstrahlung für solare
Anwendungen**

14.45 Dipl.-Ing. Rui Rolo; Dipl.-Ing. Andreas Gruhle; Alexan-
dra Dreher; Dr. Andrea Barz; Prof. Jens Bliedtner
GLAMACO Engineering GmbH

Laser bending applications for cover glass

15.10 Dipl.-Ing. Kristin Plat; Dr.-Ing. Philipp von Witzendorff;
Dr.-Ing. Oliver Suttmann; Prof. Ludger Overmeyer
Laser Zentrum Hannover e.V.

**Lasereinbrennen von keramischen Farben auf
Flachglas**

15.35 Ende der Veranstaltung

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

- **Monday, 29 May 2017, starting 18.30 to 21.00**
during special poster show and reception
- **Tuesday and Wednesday, 30–31 May 2017,**
during coffee breaks of the sessions

1. Dipl.-Chem. Martina Stoica; Dr. Christian Patzig;
Dr. Christian Bocker; Dr. Wolfgang Wisniewski;
Dr. Michael Kracker; Prof. Thomas Höche;
Prof. Christian Rüssel
Friedrich-Schiller-Universität
**Structural Evolution of CaF₂ Nano Particles During the Photoinduced Crystallization of a Na₂O/
K₂O/CaO/CaF₂/Al₂O₃/ZnO/SiO₂ Glass**
2. Roman Sajzew; Dr. Lenka Müller; Dr.-Ing. Sindy Fuhrmann; Prof. Heike Ebendorff-Heidepriem; Prof. Lothar Wondraczek
Friedrich-Schiller-Universität Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Optical properties of palladium-doped Sol-gel-derived ZrO₂ thin films for multi-resonant fiber surfaces
3. M.Sc. Xu Yang; Dr. Garth Scannell; Prof. Markus A. Schmidt; Dr. Zhiwen Pan; Prof. Lothar Wondraczek
Friedrich-Schiller-Univ. Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Structural Anisotropy in a hybrid waveguide
4. Dipl.-Chem. Enrico Kleebusch; Prof. Christian Rüssel;
Dr. Christian Patzig; Prof. Thomas Höche
Jena University
Mechanism of crystal growth in a Li₂O-Al₂O₃-SiO₂ glass with ZrO₂ as nucleating agent – a XANES investigation supported by XRD and (S)TEM
5. Dipl.-Chem. Enrico Kleebusch; Prof. Christian Rüssel;
Dr. Christian Patzig; Prof. Thomas Höche
Jena University
Crystallization of a Li₂O-Al₂O₃-SiO₂ glass with TiO₂ as nucleating agent – the initial phase analyzed with XRD and (S)TEM
6. M.Sc. Boris Agea Blanco; Dr.-Ing. Stefan Reinsch;
Dr. Ralf Müller; Prof. Jens Günster
BAM
Quantification of the erosion process of the PV-modules glass covers by sand and dust storms

7. M.Sc. Laura Briese; Dr. Susanne Selle; Prof. Joachim Deubener
Technische Universität Clausthal
Redox potential controlled precipitation of Co-Fe nano-alloys in borosilicate glasses
8. M.Sc. Tina Waurischk; M.Sc. Robert Balzer;
M.Sc. Philippe Kiefer; Dr.-Ing. Stefan Reinsch; Dr. Ralf Müller; Prof. Harald Behrens; Prof. Joachim Deubener
Bundesanstalt für Materialforschung und -prüfung (BAM)
New device for inert crack growth measurements in ultra-strong glasses
9. M.Sc. René Limbach; Konrad Kosiba; Dr. Simon Pauly; Dr. Uta Kühn; Prof. Lothar Wondraczek
Otto Schott Institute of Materials Research (OSIM), FSU Jena
Serrated flow of CuZr-based bulk metallic glasses probed by nanoindentation: Role of the activation barrier, size and distribution of shear transformation zones
10. Dr. Ulrich Marzok; Dr. Ralf Müller; Dr.-Ing. Martin Gaber; Dr.-Ing. Stefan Reinsch; M.Sc. Thorben Welter; Prof. Joachim Deubener
BAM Bundesanstalt für Materialforschung und -prüfung
Measurement of H₂ permeability of glasses with VHE powder method
11. M.Sc. Carsten Blaeß; Cyrus Thompson; Dr. Ralf Müller
Bundesanstalt für Materialforschung und -prüfung (BAM)
Master curves for crack healing in silicate glasses
12. M.Sc. Carsten Blaeß; Dr. Ralf Müller
Bundesanstalt für Materialforschung und -prüfung (BAM)
Crack healing in glass matrix composites
13. M.Sc. Thorben Welter; Dr. Ralf Müller; Dr. Ulrich Marzok; Dr.-Ing. Stefan Reinsch; Prof. Joachim Deubener
Technische Universität Clausthal
Glass structures with low helium and hydrogen permeability

14. Nuttawan Sawangboon; M.Sc. Alina Nizamutdinova; Ph. D. Doris Möncke; Dr. Christian Bocker; Ph. D. Ekarat Meechoowas; Ph. D. Kanit Tapasa; Prof. Lothar Wondraczek; Prof. Efstratios I. Kamitsos; Prof. Leo van Wüllen; Prof. Dr. Delia S. Brauer
Otto Schott Institute of Materials Research (OSIM), FSU Jena
Modification of silicophosphate glass composition, structure and properties via melting conditions
15. M.Sc. Dahiana Andrea Avila Salazar; Atsuhiko Miura; Prof. Toshihiro Kasuga; Prof. Dr. Delia S. Brauer
Otto Schott Institute of Materials Research, Friedrich Schiller University Jena
Composition-property relationships in bioactive phosphate glasses: Thermal analysis, density and P-31 MAS NMR
16. Thilo Grammes; Dr. Jonathan Massera; Prof. Lothar Wondraczek; Prof. Leo van Wüllen; Prof. Dr. Dominique de Ligny; Prof. Dr. Delia S. Brauer
Friedrich-Schiller-Univ. Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Influence of phosphate on the properties of aluminosilicate glass
17. Weniamin Yusim; B.Eng. Robert Karsdorf; B.Eng. Ferdinand Werr; Prof. Armin Lenhart; Prof. Dr. Dominique de Ligny
TH Nürnberg
Comparison of thermodynamical data of multi-component glass with NMR and Boson Peak measurements
18. Yicong Ding; Dr. Zhiwen Pan; Prof. Lothar Wondraczek
Otto Schott Institute of Materials Research (OSIM)
Glass-based magneto-optical microprobe
19. M.Sc. Benzine Omar; Dr.-Ing. Sindy Fuhrmann; M.Sc. Guilherme N.B.M De Macedo; M.Sc. René Limbach; Dr.-Ing. Christina Krywka; Prof. Lothar Wondraczek
Otto Schott Institute of Materials Research (OSIM), FSU Jena
In-situ SAXS during indentation on silica glass
20. M.Sc. Martin Brehl
FAU Erlangen
Structural and dynamical approach of phase separation in the BaO-B₂O₃-SiO₂ system

21. Francesca Elisa Ciraldo; Prof. Aldo R. Boccaccini
University of Erlangen-Nuremberg
Development and characterization of ordered mesoporous bioactive glasses with antibacterial properties
22. Malte Sander; Stefanie Mergenthaler; M.Sc. Barbara Pföss; M.Sc. Naemi Zumdick; Prof. Daniela Zander; Prof. Christian Roos
RWTH Aachen University
Corrosion: A favorable quality of bioglasses and bioactive magnesium alloys
23. Gloria Kirste; M.Sc. Juliane Brandt-Slowik; Dr. Christian Bocker; Prof. Dr. Delia S. Brauer
Friedrich-Schiller-Univ. Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Apatite formation of bioactive glasses in Tris buffer is influenced by the presence of chloride ions
24. Sebastian Henkel; Prof. Jens Bliedtner; Prof. Edda Rädlein; Christian Schulze; Matthias Rost; Martin Gerhardt; Michael Fuhr
Ernst-Abbe-Hochschule Jena
Ultra-Feinstschleifen anorganisch-nichtmetallischer Werkstoffe mittels kunstharzgebundener Diamantwerkzeuge
25. Sarah Weick; Dr. Kirsten Techmer
Georg-August Universität Göttingen
Natural Biosilica fibers formed in marine environments: Construction and stability of the skeleton glass sponge *Euplectella aspergillum*
26. M.Sc. Elham Moayed; Prof. Lothar Wondraczek
Friedrich-Schiller-Univ. Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Quantitative analysis of the scratching behavior of silica glass
27. Dipl.-Phys. Aaron Reupert; Dr. Zhiwen Pan; M.Sc. Gaoyuan Li; Dietmar Güttler; Prof. Lothar Wondraczek
Friedrich-Schiller-Universität Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Improving light emission performance of side emitting fibers with a fluorescent coating
28. M.Sc. Benjamin Heiz; Dr. Zhiwen Pan; Dr. Gerhard Lautenschläger; Christin Sirtl; Prof. Matthias Kraus; Prof. Lothar Wondraczek
Friedrich-Schiller-Universität Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Large-Area Fluidic Windows

29. M.Sc. Benjamin Heiz; B.Eng. Ru Chou; Dr. Zhiwen Pan; Prof. Lothar Wondraczek
Friedrich-Schiller-Universität Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Switchable SPD for Smart Windows with Controlled Shading and Solar Energy Harvesting Ability
30. Anne-Marie Schwager; Prof. Jens Bliedtner; Dr.-Ing. Kerstin Götze; Armin Bruder; Dr. Jan Dellith; Dr.-Ing. Martin Schilling
EAH Jena
Preparation of Quartz Preforms Using Selective Laser Sintering
31. Dipl.-Ing. Ulrike Veit; Prof. Christian Rüssel
Friedrich-Schiller-Univ. Jena, Otto-Schott-Institut für Materialforschung (OSIM)
Liquidus Temperatures of CMAS-Glasses determined via DTA
32. Alexandra Dreher; Dr. Andrea Barz; Prof. Jens Bliedtner; Dipl.-Ing. Andreas Gruhle; Hans Pitcha; Jörg Steuer
Ernst-Abbe-University of Applied Sciences, Jena
LaUmCo – Development and Implementation of an Innovative Laser Based Procedure for Flexible and Partial Forming of Free-Form Cover Glass Applications
33. Ronny Bauer; Daniel Eilenberger; Dipl.-Ing. (FH) Thomas Schmidt; Dipl.-Ing. (FH) Stefan Lorenz
Günter-Köhler-Institut für Fügetechnik u. Werkstoffprüfung GmbH (ifw)
Laser processing head for the cutting of float glass with integrated cutting blade
34. Daniel Eilenberger; Ronny Bauer; Dipl.-Ing. (FH) Thomas Schmidt
Günter-Köhler-Institut für Fügetechnik u. Werkstoffprüfung GmbH (ifw)
Efficiency enhancement of laser based glass tube joining
35. Dipl.-Ing. (FH) Daniel Conrad; Dipl.-Ing. Jens Elbrecht; Dipl.-Ing. Sebastian Wächter
Günter-Köhler-Institut für Fügetechnik und Werkstoffprüfung GmbH
Innovative manufacturing technologies of quartz ferrules for medical laser technology

Exhibition of suppliers at 91. Glastechnische Tagung

29 – 31 May 2017 in Weimar

Weimarhalle, West Foyer

The following companies will be represented:

- AMETEK LAND, Land Instruments Int. Limited,
Dronfield, S18 1DJ (UK)
www.landinst.com
- DIAS Infrared GmbH, 01189 Dresden
www.dias-infrared.de.de
- Linde AG, Linde Gases Division, 82049 Pullach
www.linde-gas.com
- LumaSense Technologies GmbH, 60326 Frankfurt/M.
www.lumasenseinc.com
- Verallia Deutschland AG, 88410 Bad Wurzach
<http://de.verallia.com>

(Stand: 31. 3. 2017)

General Information

Registration of participants

For participation in the 91th Annual Meeting of DGG please register **online** at <https://dgg.converia.de/?sub=16> (German) or <https://dgg.converia.de/?sub=17> (English).

The registration is to do **by 5 May 2017** at the latest.

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

Registration fees

Registration card (**early bird registration by 13 April 2017!**)

	by 13.4.17	from 14.4.17
DGG member	€ 530,-	€ 580,-
Non-member	€ 695,-	€ 765,-
Student (oral presentation or poster)	€ 80,-	€ 95,-
Student	€ 115,-	€ 130,-
Retiree	€ 350,-	€ 385,-
Accompanying person (members of family)	€ 195,-	€ 210,-
Reception		free of charge
Banquet		free of charge
Plant-/Institute trips		€ 29,-

Participation in any meeting event is **not possible without registration card**.

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

MASTER Card, VISA or **American Express** is accepted for payment with credit card. Please note: **Credit card payment** involves an **additional fee** (MASTER Card+4,4%, VISA Card+4,4%, American Express+2,26% of the respective invoice amount). Participants from abroad may pay their fees also in cash at the Conference office.

Cancellation

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

We kindly ask your understanding that in the event of a cancellation of registration after 12 May 2017, 30 % of the respective invoice amount will be charged.

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 mainly in English.

Conference venue

Congress centrum neue weimarhalle
UNESCO-Platz 1
99423 Weimar (Germany)
P: +49 3643745-100; F: +49 3643745-333
info@weimarhalle.de
www.weimarhalle.de

Non-smoking area!

In order to guarantee non-smoker protection the conference centre is smoke-free.

Hotel accommodation

The room reservations at Weimar hotels will be handled by the Weimar GmbH Gesellschaft für Wirtschaftsförderung, Kongress- und Tourismusservice. Participants of the conference can book their accommodation online via

[https://buchen.thueringen-tourismus.de/wmrglas/ukv/?do-Search=1&ukv_result_order=1&date_from=29.05.2017&date_to=31.05.2017&number_adult\[\]=1&reset=1](https://buchen.thueringen-tourismus.de/wmrglas/ukv/?do-Search=1&ukv_result_order=1&date_from=29.05.2017&date_to=31.05.2017&number_adult[]=1&reset=1).

Reservations **by 27. April 2017 at the latest**. Afterwards the link is deactivated.

After 27 April room reservation is possible via:

Tourist-Information Weimar

Markt 10

99423 Weimar (Germany)

P: +49 3643745-0; F: +49 3643745-420

tourist-info@weimar.de

www.weimar.de

Conference office

The conference office is located in the Foyer Süd of the congress centrum neue weimarhalle. Opening hours are:

Monday,	29 May 2017	11.00 to 19.00
Tuesday,	30 May 2017	8.15 to 18.00
Wednesday,	31 May 2017	8.00 to 13.30

Conference Office phone: +49 3643745-143

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.

Lunch break

At lunch hour on Tuesday and Wednesday a light meal will be provided at the Foyer (**the meal is included in the meeting fees**).

Car Parking

- Underground car park Weimarhalle: 86 places, subject to charge,
- Underground car park Weimarer Atrium: 800 places, 5 minutes on foot to Weimarhalle, subject to charge,
- Car Park Hauptpost, Gerhard-Hauptmann-Straße: 300 places, 5 minutes on foot to Weimarhalle, subject to charge,
- Parking area Hermann-Brill-Platz, Stadionvorplatz: 10 minutes on foot to Weimarhalle, free of charge.

Conference documents

Conference documents will not be sent out; the abstracts of the lectures and posters and the list of participants will be published on the conference website.

Conference gift

The participants are requested to collect it at the Conference office.

Leisure

Please look at <https://www.weimar.de/tourismus/sehenswuerdigkeiten/>. Palaces and parks, museums and monuments – the list of Weimar's sights is splendidly long. At the website you will find the overview and a short description of all of them.

Journey to Weimar

By car

A4, exit Weimar:

Turn right onto the B85 towards Weimar. In Weimar follow the signs to the city center. The underground car park of the congress centrum new weimarhalle is signposted and takes you directly to the Weimarhalle. Enter underground car park on the right side of the road.

B 7 from Erfurt:

Follow the signs for the underground car park of the congress centrum to the city center. Enter underground car park on the right side of the road.

B7 from Jena:

Follow the signs of the underground car park of the congress centrum new weimarhalle. Entrance to garage on the left hand side of the road.

By train

From main station by bus lines 1, 2, 3 or 7 two stations to Goetheplatz or on foot on the Carl-August-Allee about 15 to 20 min.

By plane

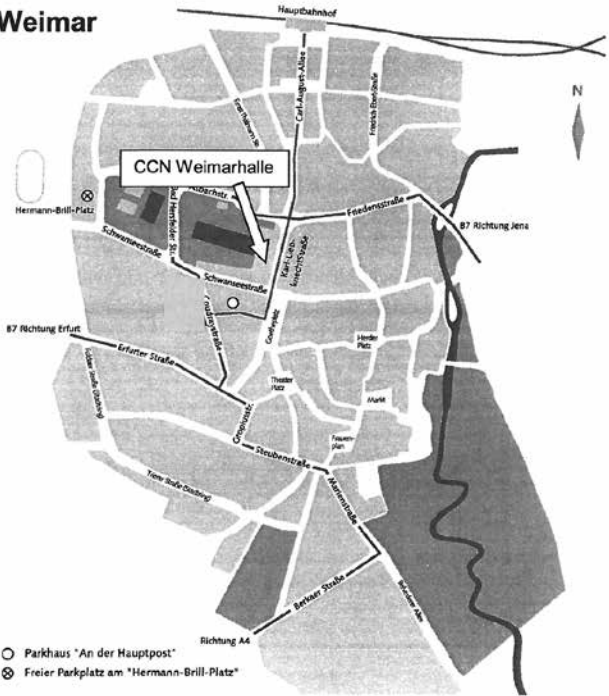
Leipzig Airport (100 km):

AirportExpress to Leipzig Central Station, by train to Weimar.

Erfurt-Bindersleben Airport (30 km):

Tram line 4 to Erfurt Central station, by train to Weimar.

Weimar



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Fax: +49 69 975861-99

E-Mail: dgg@hvg-dgg.de

www.hvg-dgg.de

Conference Website: <https://dgg.converia.de/?sub=16>

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