

Functional Glasses: Properties and Applications for Energy & Information
January 6-11, 2013, Siracusa, Sicily, Italy

[Technical Program Overview](#)

Keynote Talks @ 45 mins + Discussion of each talk @ 30 mins

Monday, January 7, 2013

1. Morning Session: [Applications of Glass in Energy Technology](#)

Broad Topic: [Lighting](#)

Speaker: Dr. **Mehran Arbab**, Director of Research and Technology, Glass and Fiber Glass, PPG Industries, USA, *'Integrated Glass Substrates for OLED Lighting'*

Discussion Leader: Dr. **Klaus Bange**, (Ex-Schott), MK Consulting, GmbH, Germany

Broad Topic: [Photovoltaics](#)

Speaker: Dr. **Sener Oktik**, President, Research and Technological Development, SiseCam, Turkey, *'Photovoltaic Industry & Role of Glass for Reducing the Cost of Solar Energy'*

Discussion Leader: Dr. **Driss Lamine**, Project Manager, Saint Gobain, France

Broad Topic: [Coatings](#)

Speaker: Dr. **Joachim Deubener**, Professor and Director of Institute of Non-Metallic Materials, Clausthal University of Technology, Germany, *'Alterations of Glass Surfaces & Functional Coatings for Energy Conversion Systems'*

Discussion Leader: Dr. **Roland Langfeld**, Research Fellow, Schott AG, Germany.

2. Afternoon Session: [Applications of Glass in Information Technology](#)

Broad Topic: [Roll-to-roll thin glass](#)

Speaker: Dr. **Sean Garner**, Scientist, Corning, USA. *'Ultra-Slim Flexible Glass for Electronic Applications'*

Discussion Leader: Dr. **Richard Brow**, Curators' Professor, Dept. of Materials Science & Engineering, Missouri

Broad Topic: [Fiber](#)

Speaker: Dr. **Philip Russell**, Director, Max Planck Inst. for the Science of Light, Erlangen, Germany, *'Microstructured Optical Fibres: Opportunities and Challenges'*

Discussion Leader: Dr. **Younes Messaddeq**, Professor, Dept of Physics, Engineering Physics and Optics, Laval Uni., Canada. Also Canada Excellence Research Chair in Enabling Photonic Innovations for Information and Communication

Broad Topic: [Transparent Conductive Materials](#)

Speaker: Dr. **Driss Lamine**, Project Manager, Saint Gobain, France, *'A general introduction for the use and needs of TCMs in glass industry'*.

Discussion Leader: Dr. **Claes-Goran Granqvist**, Professor, Uppsala University, Sweden

Special presentation: Dr. **Marc van den Neste**, Vice-President, Technology & Innovation, Asahi Glass - Europe, *'Unlimited Glass – A Mirror of Our World's Trends'*.

3. Evening Session

Poster Session I: Glass for Energy

Functional Glasses: Properties and Applications for Energy & Information
January 6-11, 2013, Siracusa, Sicily, Italy

Tuesday, January 8, 2013

4. Morning Session: Glass Properties for Energy Applications I

Broad Topic: **Optical response**

Speaker: Dr. **Claes-Goran Granqvist**, Professor, Uppsala University, Sweden, *"Coated glass for energy efficient buildings: Spectral selectivity, angular dependence and time variability"*

Discussion Leader: Dr. **Philip Russell**, Director, Max Planck Inst. for the Science of Light, Erlangen, Germany,

Broad Topic: **Ion transport**

Speaker: Dr. **Bernhard Roling**, Professor, Dept. of Chemistry, University of Marburg, Germany, *"Ion Transport across Grain Boundaries in Fast Lithium Ion Conducting Glass Ceramics"*

Discussion Leader: Dr. **Steve Martin**, Professor, Dept. Material Science & Engineering, Iowa State University, USA

Broad Topic: **Dielectrics**

Speaker: Dr. **Martin Letz**, Research & Development, SCHOTT AG, Germany, *"Dielectric properties of glasses and glass ceramics and examples for applications."*

Discussion Leader: Dr. **Minoru Tomozawa**, Professor Department of Materials, Science & Engineering, Rensselaer Polytechnic Institute, USA

5. Afternoon Session: Glass Properties for Energy Applications II

Broad Topic: **Fundamentals of strength**

Speaker: Dr. **Satoshi Yoshida**, Professor, Dept. of Materials Science, Univ. of Shiga Prefecture, Japan, *"Fundamentals of indentation cracking in glass: A measure of strength?"*

Discussion Leader: Dr. **Rene Gy**, Director, Dept. of Mechanical & Thermal Modelling, Saint Gobain Recherche, France

Broad Topic: **Chemical strengthening**

Speaker: Dr. **Tim Gross**, Corning, USA, *"Chemically Strengthened Glass with Improved Damage Resistance."*

Discussion Leader: Dr. **Tayyab Suratwala**, Associate program Manager, Lawrence Livermore National Lab, USA,

Broad Topic: **Mechanochemistry**

Speaker: Dr. **Seong Kim**, Professor, Chemical Engineering Dept., Penn State Univ., USA, *"Surface Chemistry of Glass – Interfacial Water and Mechanochemical Properties"*

Discussion Leader: Dr. **Takashi Murata**, Manager, Nippon Electric Glass (NEG), Japan

6. Evening Session:

Poster Session II: Glass for Information Technology

Functional Glasses: Properties and Applications for Energy & Information
January 6-11, 2013, Siracusa, Sicily, Italy

Wednesday, January 9, 2013

7. Morning Session: **Energy Storage Technologies**

Broad Topic: **Glass for energy storage**

Speaker: Dr. **Steve Martin**, Professor, Dept. of Materials Science & Engineering, Iowa State University, USA, *"Glass for Energy Storage: Advancing the Energy Density and Safety of Batteries"*

Discussion Leader: Dr. **Monia Montorsi**, Assistant Professor, Department of Materials Engineering and Environment, Univ Modena, *Italy*

Broad Topic: **Li battery - Electrodes**

Speaker: Dr. **Tsuyoshi Honma**, Professor, Dept. Materials Science & Engineering, University of Nagaoka, Japan, *"Glass-ceramics for the Innovative Secondary Batteries"*

Discussion Leader: Dr. **Lisa Klein**, Professor, Dept. of Materials Science & Engineering, Rutgers University, USA

Broad Topic: **Proton Conductors**

Speaker: Dr. **Steve Garofalini**, Professor, Interfacial Molecular Science Laboratory, Dept. of Materials Science & Engineering, Rutgers University, USA, *"Proton Behavior at Glass/Water Interfaces: Implications on Reactions and Proton Transport"*

Discussion Leader: Dr. **Jincheng Du**, Professor, Materials Science & Engineering, University of North Texas, USA

Broad Topic: **Glass Seals**

Speaker: Dr. **Richard Brow**, Curators' Professor, Dept. of Materials Science & Engineering, Missouri University of Sci & Tech, USA, *"Sealing Glasses for Electrochemical Devices"*

Discussion Leader: Dr. **Joachim Deubener**, Professor and Director of Institute of Non-Metallic Materials Clausthal University, Germany

Afternoon and Evening: Excursion (optional) / Free Time

Functional Glasses: Properties and Applications for Energy & Information
January 6-11, 2013, Siracusa, Sicily, Italy

Thursday, January 10, 2013

8. Morning Session: [Glass Properties for Information Applications I](#)

Broad Topic: [Nonlinear optical glass](#)

Speaker: Dr. **Thierry Cardinal**, Chargé de Recherche and Animateur Scientifique, Institut de Chimie de la Matière Condensée de Bordeaux, CNRS, University of Bordeaux, France, *"Glass and glass-ceramic for nonlinear optics: fundamentals and applications"*

Discussion Leader: Dr. **Mario Affatigato**, Professor, Dept. Of Physics, Coe College, USA

Broad Topic: [Nanophotonics](#)

Speaker: Dr. **Limin Tong**, Professor, State Key Laboratory of Modern Optical Instrumentation, Dept. of Optical Engineering, Zhejiang University, China, *"Microfiber/Nanofiber Photonics"*

Discussion Leader: Dr. **Octavio Cintora**, Saint Gobain, France

Broad Topic: [fs laser interactions](#)

Speaker: Dr. **Jianrong Qiu**, Professor, Dept. Materials Science & Engineering, South China Univ. of Technology, China, *"Femtosecond laser micro-processing of glass-fundamentals and applications"*

Discussion Leader: Dr. **Denise Krol**, Professor of Applied Science. Univ. of California-Davis, USA

9. Afternoon Session: [Glass Properties for Information Applications II](#)

Broad Topic: [Information storage](#)

Speaker: Dr. **Asokan Sundarajan**, Dept. of Instrumentation & Applied Physics, Indian Institute of Science, Bangalore, India, *"Understanding the Electrical Switching Behavior of Chalcogenide Glasses for Phase Change Memory Applications"*

Discussion Leader: Dr. **Yong Gyu Choi**, Professor, Department of Materials Sci. & Eng., Korea Aerospace

Broad Topic: [Processing-performance of integrated optic structures](#)

Speaker: Dr. **Raman Kashyap**, Professor and Canada Research Chair on Future Photonics Systems Univ. Montreal, Canada Univ. Montreal, Canada, *"Photosensitivity of Optical Materials for Photonics and Integrated Optics"*

Discussion Leader: Dr. **Denise Krol**, Professor of Applied Science, University of California-Davis, USA

Broad Topic: [Fiber lasers](#)

Speaker: Dr. **Younes Messaddeq**, Professor, Dept of Physics, Engineering Physics and Optics, University of Laval, Canada, also Also Canada Excellence Research Chair in Enabling Photonic Innovations for Information and Communication: *"Towards the Development of Advanced Optical fibers"*

Discussion Leader: Dr. **Jianrong Qiu**, Professor, Dept. Materials Science & Engineering, South China Univ. of Technology, China,

Evening: Banquet

Functional Glasses: Properties and Applications for Energy & Information
January 6-11, 2013, Siracusa, Sicily, Italy

Friday, January 11, 2013

10. Morning Session: **Glass Processing and Fabrication**

Broad Topic: **Glass melting**

Speaker: Dr. **Roland Langfeld**, Research Fellow, Schott AG, Germany. *"Making Glass Better"*

Discussion Leader: Dr. **Seturo Ito**, Professor, Materials & Structures Laboratory, Tokyo Institute of Technology, Japan

Broad Topic: **Glass surface damage**

Speaker: Dr. **Tayyab Suratwala**, Associate program Manager, Lawrence Livermore National Lab, USA,

"Surface interactions on glass optics during fabrication, post-processing & laser operation"

Discussion Leader: Dr. **Rene Gy**, Director, Dept. of Mechanical & Thermal Modelling, Saint Gobain Recherche, France

Broad Topic: **Optical elements fabrication**

Speaker: Dr. **Xianghua Zhang**, Research Director, Lab. Glasses and Ceramics, Univ. of Rennes, France,

"Production of chalcogenide glass optics : motivation, current status and future development"

Discussion Leader: Dr. **Akihiko Sakamoto**, Corporate Technology Division, Nippon Electric Glass Co. (NEG), Japan

11. Short Afternoon Session: **Glass Processing and Fabrication + Panel Discussion**

Broad Topic: **Fabrication for large area devices**

Speaker: Dr. **Takashi Murata**, Manager, Nippon Electric Glass (NEG), Japan, *"High refractive index glass for OLED lighting"*

Discussion Leader: Dr. **Sener Oktik**, President Research and Technological Development, Sisecam, Turkey

Conclusion: A panel discussion, led by the leaders of major glass companies is planned at the end of the conference. Based on the information presented during the week, it will focus on the future directions of glass for energy and information applications.