PNCS-ESG 2018

15th International Conference on the Physics of Non-Crystalline Solids & 14th European Society of Glass Conference

9 - 13 July 2018 - Saint Malo

PROGRAM

PNCS – ESG 2018 WELCOME !

Dear Colleagues !

It is our great pleasure to welcome you all to the 15th International Conference on the Physics of Non-Crystalline Solids (PNCS) and the 14th European Society of Glass Conference (ESG), organized by USTV (Union for Glass Science and Technology) and University Rennes 1. We will host more than 400 glass scientists from industrial and academic laboratories coming from 34 countries.

Highlights of the congress features 9 Plenary lectures: Stephen Elliott (University of Cambridge), Annie Pradel, (University of Montpellier), Jianrong Qiu (Zhejiang University), Alicia Duran (Instituto de Ceramica y Vidrio), Edgar Zanotto (Federal University of São Carlos), Hajime Tanaka (University of Tokyo), Kathleen Richardson (Center for Research and Education in Optics and Lasers), Daniel Ricoult (Corning), Neville Greaves (University of Cambridge). Recipients of three prestigious prices will be presented: the Otto Schott Award, the SGT Alastair Pilkington Award and the USTV Award. The scientific program includes 47 sessions covering 26 important topics and 264 oral papers. 2 poster sessions are organized and includes 78 posters. We also highly encourage you to visit the Exhibition space at the heart of the conference.

We would like to take the opportunity to thank our many sponsors for their generosity: CEA, Corning, Perkin Elmer, Horiba, Schott, Thorlabs, AGC, IXBLUE, AMTS, Land Ametek, Heraeus, Lumasense Technologie, Linseis, Air Product, Journal of Non-Crystalline Solids, Andor, Saint-Gobain, Glass Service, Quartz and Institut de Physique du Globe de Paris.
We want also to express thanks to our partners: International Commission on Glass, The American Ceramics Society, and Glass Worlwide.

Bienvenue, Welcome to St-Malo, and we hope that all participants in the St Malo Glass-Meeting will be delighted by the location on the seafront, the quality of the food and especially the many gourmet regional specialists, and also the high scientific quality of the presentations.

L. Cormier, X.H. Zhang, D.R. Neuville

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UNION POUR LA SCIENCE ET LA TECHNOLOGIE VERRIÈRES

DGG – USTV
Meeting 2019

Nürnberg
13-15 May 2019

Orléans
June 2020

Save the date !
All information on
www.ustverre.fr or http://www.hvg-dgg.de

Second conference on the limits of elemental characterization in materials with food contact: a scientific and industrial constraint (REACH)

Organized by USTV, the French Glass Federation,
and TC02 Durability & Analysis of International Commission on Glass

22-23 Novembre 2018
Institut de physique du globe de Paris, 1 rue Jussieu, 75005 Paris

All informations: www.ustverre.fr

GENERAL ONSITE INFORMATION

Convention Centre Rooms

PNCS-ESG 2018 is being held in Saint-Malo, France. Registration, posters, talks, exhibition and refreshments are in Le Palais du Grand Large de Saint-Malo. Oral sessions will take place in rooms on the 2nd and 3rd floors. Plenary sessions will take place in the Amphithéâtre Chateaubriand.

Coffee Breaks & Lunches

Refreshments, coffee, tea ... will be available in the Salle du Grand Large around 10:30 and the afternoon around 16:00. Lunches will be served on table in Rotonde Jacques Cartier (2nd floor) and Rotonde Surcouf (3rd floor) from 12:30 – 14:00 on Monday, Tuesday, and Thursday, and 12:45 – 14:00 on Wednesday. A lunch bag will be available Friday noon on request.

Wireless Internet Access

Please use WiFi sparingly, because bandwidth is finite and this will speed connection times for others delagates. All delegates may access the wireless internet on all floors of the Congress Centre.
The conference network name is **PNCS-ESG_WIFI** and the password is **pncsesg2018**.

Registration & Help Desk Opening Times

Registration and the Help Desk will be open at the entrance of the Congress Center from 16:00 – 20:00 on Sunday and 08:00 - 18:30 on Monday, Tuesday and Thursday. The Help Desk will be open from 08:00 – 14:00 on Wednesday and Friday.

Name Badges

Please be sure to wear your name badge at all times. Admission to Le Palais du Grand Large and all sessions will require identification by your badge. If you lose your name badge please visit the Help Desk.

Lost & Found

All items found in the Congress Centre should be brought to the Help Desk.

Insurance & Responsibility

Liability insurance is the responsibility of each individual delegate. Delegates should have their own medical coverage. The Organising Committee assumes no responsibility for accident, losses, damage, delays, or any modifications to the program arising from unforeseeable circumstances. It accepts no responsibility for travel or accommodation arrangements. The participant acknowledges that he/she has no right to lodge damage claims against the USTV or Le Palais du Grand Large should the conference proceeding be hindered or prevented by unexpected political or economic events, or should the non-appearance of speakers or other reasons necessitate program changes.

Smoking Policy

For the comfort of delegates, all rooms used by the conference have been designated as non-smoking areas, including the stairwells and the entrance of Le Palais du Grand Large de Saint-Malo.

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CORNING

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ORAL PRESENTATION INSTRUCTIONS

Oral Presentation Times

Sessions with oral presentations will take place on Monday, Tuesday and Thursday from 08:30-12h30 and 14:00-18:30. On Wednesday and Friday, oral presentations will take place from 08:30-12h30.

Uploading your talk

You may upload your talk in the room on the day of your presentation. Presenters can upload from 08:15 in the morning before the sessions, or during the coffee break and lunch break. We do recommend that all presenters bring their talk on a USB.

Talk Timing

Speakers should arrive at their allocated room no less than 20 minutes before the start of the first presentation in order to meet with the chairperson. All presentations must be given in English, which is the official language of the Conference. Oral presentations are allocated 15 minutes, invited speakers 30 minutes and plenary lectures 45 minutes. 15-minute talks should be finished after 12 minutes, and 30-minute invited talks after 25 minutes, to leave time for discussion. The chairperson will give a first signal after 10 minutes, a warning after 12 minutes and prevent further talking after 15 minutes. It is essential for the success of the conference that the speakers keep strictly to this scheme to ensure that all parallel sessions are synchronized.

Mobile Phones, Pagers, Cameras and Video Cameras

Delegates are required to mute or turn off their cell phones and pagers during oral presentations. **No photography or videoing** is permitted in any of the oral sessions or at the poster sessions without the permission of the relevant oral presenter or authors of the poster.

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POSTER PRESENTATION INSTRUCTIONS

Poster Presentation Times

There will be 2 afternoon sessions for poster presentations on Monday and Thursday. Posters should be put up from lunch time on Monday. The materials required to attach each poster to the board will be supplied. Posters should be removed at the end of the second poster session on Friday (around 10:30). Posters not collected by this time will be removed by the conference organizers and recycled.

Poster Locations

The posters will be displayed in the *CHARCOT* and *BOUVET* rooms located between the entrance hall of the Congress Center and the *Rotonde Jacques Cartier* (1st floor). Poster board numbers are given in the Program Volume (See page 73).

Poster Size

The poster boards are large enough to fit a size A0 poster in portrait orientation (this is 33.1'' × 46.8'' or 841mm × 1189mm). Oversize posters will not be displayed.

Poster Etiquette

The poster sessions are from 14:45-16:30 on Monday and from 16:30-18:00 on Thursday. Delegates should expect to be available by their poster for most of this time.

Cameras & Video Cameras

No photography or videoing is permitted at any of the poster sessions without the persmission of the authors of the poster.

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GS GLASS SERVICE

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PNCS ADVISORY COMMITTEE

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D.R. Neuville
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EXHIBITORS

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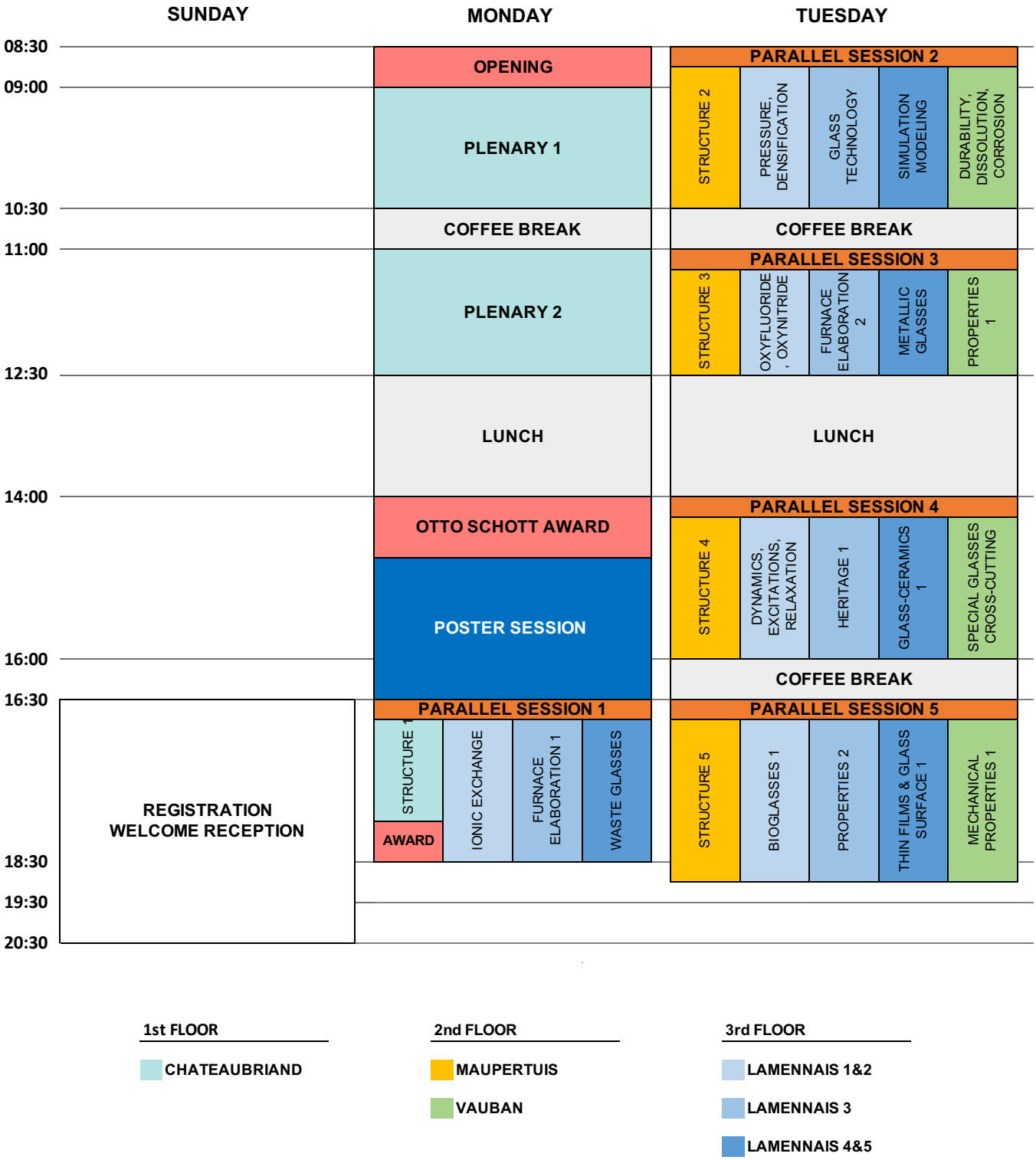
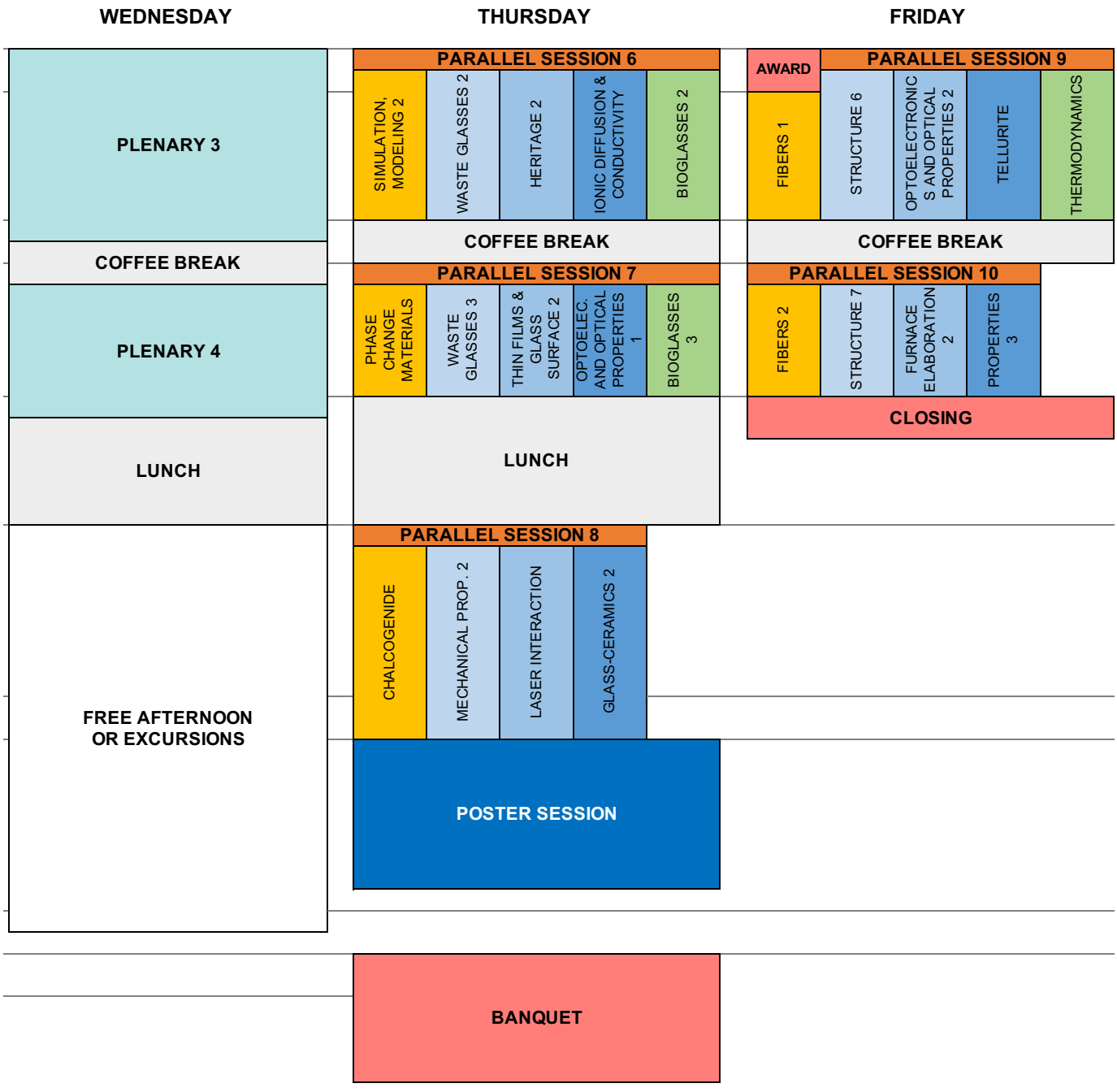
CONFERENCE PROGRAM AT A GLANCE

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PLENARIES

Monday 9th July, 09:00, Amphithéâtre Chateaubriand

Stephen Elliott

Cambridge University

Understanding the atomistic origin of the ultra-rapid crystallization and radiation hardness of the phase-change non-volatile memory material, $Ge_2Sb_2Te_5$, via ab-initio molecular dynamics simulations

Monday 9th July, 09:45, Amphithéâtre Chateaubriand

Annie Pradel

Institut Charles Gerhardt

Crystallization and phase separation in chalcogenide glasses

Monday 9th July, 11:00, Amphithéâtre Chateaubriand

Jianrong Qiu

State Key Laboratory of Modern Optical Instrumentation, Zhejiang University

Control of metastable state of glass

Monday 9th July, 11:45, Amphithéâtre Chateaubriand

Alicia Duran

Instituto de Ceramica y Vidrio

Transparent oxyfluoride nano-glass ceramics: Processing is the key

PLENARIES

Wednesday 11th July, 08:30, Amphithéâtre Chateaubriand

Edgar Zanotto

Center for Research, Technology, and Education in Vitreous Materials, Department of Materials Engineering, Federal University of São Carlos

Homogeneous Crystal Nucleation in Deeply Supercooled Glass-Forming Liquids – Open Issues

Wednesday 11th July, 09:15, Amphithéâtre Chateaubriand

Hajime Tanaka

Institute of Industrial Science – The University of Tokyo

Impact of structural ordering in supercooled liquids on glassy slow dynamics and glass-forming ability

Wednesday 11th July, 09:15, Amphithéâtre Chateaubriand

Kathleen Richardson

CREOL – University of Central Florida

Advances in infrared optics: novel materials towards next-generation components and devices

Wednesday 11th July, 11:15, Amphithéâtre Chateaubriand

Daniel Ricoult

CORNING

Moving to the Glass Age

Wednesday 11th July, 12:00, Amphithéâtre Chateaubriand

Neville Greaves

Cambridge University

Hybrid Glasses and Melts

AWARDS

Monday 9th July, 14:00, Amphithéâtre Chateaubriand

OTTO SCHOTT RESEARCH AWARD

Awarded to **C.A. Angell**

The Otto Schott Research Award alternates with the Carl Zeiss Research Award every year in recognition of excellence in scientific research and motivational support for cooperation between scientific research and industry. The Stifterverband für die deutsche Wissenschaft innovation agency for the German science system is responsible for the two research awards, which invites contenders from across the world – matching the SCHOTT AG and CARL ZEISS AG sphere of activity. Award winners have included German scientists in physics and chemistry along with scientists from a variety of European countries, the USA, Russia, Japan and China.

Monday 9th July, 18:00, Amphithéâtre Chateaubriand

PILKINGTON AWARD

Awarded to **M. Smedskjaer**

The SGT-Alastair Pilkington Award is designed to encourage and recognise excellent work in glass research or innovation achieved by someone who, like Sir Alastair, has come relatively recently into the field of glass studies. This Award is not restricted to hard science or engineering – it spans all dimensions of glass studies, creativity and research; glass art as well as glass science, conservation and museum studies as well as engineering, history and design as well as molecular dynamics.

Friday 13th July, 08:30, Amphithéâtre Maupertuis

USTV Ph-D AWARD

Awarded to **A. Barnini**

Each year, the USTV Ph-D Award recognizes a young researcher who has completed a doctoral thesis in a French doctoral school in one of the fields of glass science: basic or applied research ranging from material sciences (Chemistry, Physics, ...) to Earth's sciences.

SOCIAL EVENTS

Icebreaker Welcome Reception
Sunday 8th July: 18:00 – 20:30
Location: Palais du Grand Large – Rotonde Jacques CARTIER

The Icebreaker Welcome Reception is the perfect time to catch up with colleagues that you haven't seen over the year, and meet new people in your field. All delegates are warmly invited and encouraged to attend.

Visit of the Mont Saint-Michel Abbey
Wednesday 11th July: 14:00 – 19:00
Meeting Point: Entrance Hall of the Congress Center Le Palais du Grand Large

A magical island topped by a gravity-defying medieval monastery, the Mont-Saint-Michel counts among France's most stunning sights. For centuries one of Europe's major pilgrimage destinations, this holy mount is now a UNESCO World Heritage Site, as is its breathtaking bay. A two hour visit of the famous Mont-Saint-Michel Abbey is proposed.

Visit of a Medieval City - Dinan
Wednesday 11th July: 14:00 – 19:00
Meeting Point: Entrance Hall of the Congress Center Le Palais du Grand Large

*City of Art and History, **Dinan** has majestically crossed the centuries as a history book. Of various periods buildings open their doors to tell you. The city overlooking the Rance, which carves its valley. Rance sometimes calm and peaceful sometimes meandering to become a marine river. This excursion includes a 2 hour walk in downtown Dinan with a specialized guide to discover this amazing medieval city. It also includes a stop at the Rance Tidal Power Station.*

PNCS-ESG Banquet
Thursday 12th July: 19:30 – 23:00
Location: Salle Le Grand Large - Le Palais du Grand Large

OUR PARTNERS

UNION POUR LA SCIENCE ET LA TECHNOLOGIE VERRIÈRES

UNIVERSITÉ DE RENNES 1

ICG International Commission on Glass

EUROPEAN SOCIETY OF GLASS SCIENCE AND TECHNOLOGY

The American Ceramic Society

glass WORLDWIDE

fédération des industries du verre

Conference Schedule

MONDAY 9th JULY

TIMETABLE

08:30 - 09:00 › **OPENING CEREMONY**
Auditorium CHATEAUBRIAND

CHATEAUBRIAND

PLENARY LECTURE 1
Session Chair: Xiang-Hua ZHANG

09:00 › **Stephen Elliott,** *University of Cambridge, UK*
Understanding the atomistic origin of the ultra-rapid crystallization and radiation hardness of the phase-change non-volatile memory material, $Ge_2Sb_2Te_5$, via *ab initio* molecular-dynamics simulations

09:45 › **Annie Pradel,** *Institut Charles Gerhardt Montpellier*, France
Crystallization and phase separation in chalcogenide glasses

10:30 - 11:00 › **COFFEE BREAK**
Salle LE GRAND LARGE

CHATEAUBRIAND

PLENARY LECTURE 2
Session Chair: Laurent CORMIER

11:00 › **Jianrong Qiu,** *State Key Laboratory of Modern Optical Instrumentation, Zhejiang University, China*
Control of metastable state of glass

11:45 › **Alicia Duran,** *Instituto de Ceramica y Vidrio, Spain*
Transparent oxyfluoride nanoglass ceramics: Processing is the key

12:30 - 14:00 › **LUNCH**
Rotondes Jacques CARTIER & SURCOUF

CHATEAUBRIAND

OTTO SCHOTT AWARD
Session Chair: Roland LANGFELD

14:00 › **C. Austen Angell**
Arizona State University, USA

MONDAY 9th JULY

14:45 – 16h30 › **POSTER SESSION & COFFEE BREAK**
BOUVET & CHARCOT Rooms

16:30 – 18h30 › **PARALLEL SESSIONS 1**

	CHATEAUBRIAND	LAMENNAIS 1&2	LAMENNAIS 3	LAMENNAIS 4&5
	STRUCTURE 1	IONIC EXCHANGE	FURNACE AND ELABORATION 1	WASTE GLASSES 1
16:30 – 16:45	A. HANNON	T. GROSS	A.J. FABER	M. HARRISON
16:45 – 17:00				
17:00 – 17:15	V. MICHAELIS	H. HASSANI	S. FRANCHITTO	A-L. CHABAUTY
17:15 – 17:30	G. HENDERSON	P. MARQUES	S. TIOZZO	E. NIENHUIS
17:30 – 17:45	E. BUROV	G. MACRELLI	J. KLOUZEK	I. GIBOIRE
17:45 – 18:00	G. TRICOT	C. RAGOEN		
18:00 – 18:15	PILKINGTON AWARD	H. GOVER	F. PIGEONNEAU	S. KROEKER
18:15 – 18:30		J. WU	E. ALEJANDRO	

MONDAY 9th JULY - PM

CHATEAUBRIAND

STRUCTURE 1

Session Chair: Benoit RUFFLE
Room: CHATEAUBRIAND

16:30 › **Invited: Alex Hannon**, *ISIS Facility*
The bond valence method applied to glass structure

17:00 › **Vladimir Michaelis**, *University of Alberta*
Dissolvable borophosphate glasses: unravelling changes in short and medium range structure with solid state NMR spectroscopy

17:15 › **Grant Henderson,** *Earth Sciences, University of Toronto*
Raman fitting of the high frequency NBO bands in alkali silicate glasses

17:30 › **Ekaterina Burov**, *Surface du Verre et Interfaces*
Local glass structure modification during diffusion views by Raman spectroscopy

17:45 › **Gregory Tricot**, *Laboratoire de Spectrochimie Infrarouge et Raman*
1D/2D NMR investigation of the Pyrex glass

CHATEAUBRIAND

PILKINGTON AWARD

Session Chair: Bill BROOKES, President of the SGT
Room: CHATEAUBRIAND

18:00 › **Morten Smedskjaer**
Dept of Chemistry and Bioscience, Aalborg University

Improving the damage resistance of oxide glasses from knowledge of their structural response to densification

LAMENNAIS 1&2

IONIC EXCHANGE

Session Chair: Monique COMTE
Room: LAMENNAIS 1&2

16:30 › **Invited: Timothy Gross**, *Corning Research and Development Corporation*
Mechanics of Ion Exchanged Glass

17:00 › **Hamid Hassani**, *University of Trento*
Influence of processing temperature and time on the structure evolution and mechanical properties of ion exchanged soda lime silicate glass

17:15 › **Paulo Marques**, *CORNING SAS*
Chemical strengthening of magnesium doped LAS glass ceramics

17:30 › **Guglielmo Macrelli**, *Isoclima SpA R&D Department*
Calculation of residual stress in Alkali Silicate glasses after Ion Exchange

17:45 › **Céline Ragoen**, *AGC*
Structural adaptation in Na^+/K^+ ion exchanged glasses leading to a relaxation of the compressive stress

18:00 › **Hande Gover**, *Dept. of Mater. Sci. and Eng., Sheffield*
Strengthening of Alkali Alkaline Earth Silicate Glasses by Ion Exchange

18:15 › **Jingshi Wu**, *Corning Incorporated*
Boron effects on chemical strengthened glass

MONDAY 9th JULY - PM

LAMENNAIS 3

FURNACE AND ELABORATION 1

Session Chair: Nicola FAVARO
Room: LAMENNAIS 3

16:30 › **Invited: AnneJans Faber**, *CelSian Glass & Solar*
Transition to CO2 neutral glass furnaces: technological options and challenges

17:00 › **Sophie Franchitto**, *HERAEUS*
Platinum equipment for manufacturing of high quality glasses

17:15 › **Simone Tiozzo**, *Stazione Sperimentale del Vetro*
SSV's integrated approach for the assessment of quality and reliability of refractory materials

17:30 › **Invited: Jaroslav Klouzek**, *University of Chemistry and Technology*
Interaction of Gas Phase and Glass during Melting Process

18:00 › **Franck Pigeonneau**, *MINES ParisTech CEMEF*
Nucleated bubbles in glass former liquids undergoing coalescence and growth

18:15 › **Estela Alejandro**, *Vidrala*
Improving batch caking and melting properties by using calcined lime. An industrial experience

LAMENNAIS 4&5

WASTE GLASSES 1

Session Chair: Elise REGNIER
Room: LAMENNAIS 4&5

16:30 › **Invited: Mike Harrison**, *National Nuclear Laboratory*
Vitrification of Waste Containing High Content of Molybdenum and Sodium

17:00 › **Anne Lise Chabauty**, *Unité de Catalyse et de Chimie du Solide, CEA, DEN, DE2D/SEVT/LDMC*
Radioactive iodine conditioning in silver phosphate glasses

17:15 › **Emily Nienhuis**, *Washington State University*
Structure of Mixed Anion Salt Glasses from Synchrotron X-Ray Pair Distribution Functions

17:30 › **Invited: Isabelle Giboire**, *Lab. d'étude et Dév. de Matrices de Conditionnement*
Rare Earth solubility limits in simplified borosilicate glass

18:00 › **Scott Kroeker**, *Department of Chemistry, Univ. Manitoba*
The Effect of Phosphorus on Molybdenum Solubility in Boroaluminosilicate Glasses

MONDAY 9th JULY - PM

TIMETABLE

08:30 – 10h30 › **PARALLEL SESSIONS 2**

STRUCTURE 2 – *MAUPERTUIS*
PRESSURE AND DENSIFICATION – *LAMENNAIS 1&2*
GLASS TECHNOLOGY AND FUTURE TRENDS – *LAMENNAIS 3*
SIMULATION, MODELING 1 – *LAMENNAIS 4&5*
DURABILITY, DISSOLUTION & CORROSION – *VAUBAN*

10:30 - 11:00 › **COFFEE BREAK**
Salle LE GRAND LARGE

11:00 – 12h30 › **PARALLEL SESSIONS 3**

STRUCTURE 3 – *MAUPERTUIS*
OXYFLUORIDE, OXYNITRIDE GLASSES – *LAMENNAIS 1&2*
FURNACE AND ELABORATION 2 – *LAMENNAIS 3*
METALLIC GLASSES – *LAMENNAIS 4&5*
PROPERTIES 1 – *VAUBAN*

12:30 - 14:00 › **LUNCH**
Rotondes Jacques CARTIER & SURCOUF

TUESDAY 10th JULY - AM

08:30 – 10h30 › PARALLEL SESSIONS 2

	MAUPERTUIS	LAMENNAIS 1&2	LAMENNAIS 3	LAMENNAIS 4&5	VAUBAN
	STRUCTURE 2	PRESSURE AND DENSIFICATION	GLASS TECHNOLOGY AND FUTURE TRENDS	SIMULATION, MODELING 1	DURABILITY, DISSOLUTION & CORROSION
8:30 – 8:45	S.K. LEE	C. WEIGEL	N. FAVARO	A. CORMACK	R. HAND
8:45 – 9:00					
9:00 – 9:15	L. TORZUOLI	N. OLLIER	S. KARLSSON	S. ISPAS	M. BAUCHY
9:15 – 9:30	B. DIALLO	M. BUSCEMI	L. GALLAIS	D. RODNEY	
9:30 – 9:45	K. KANEHASHI	L. DING	X. ZHAO	G. FERLAT	H. ROGGENDORF
9:45 – 10:00		C. MARTINET			O. MAJERUS
10:00 – 10:15	D. LE CORNEC	B. RUFFLE	K. KIM	G. MOUNTJOY	F. PERRUDIN
10:15 – 10:30	A. DANEZAN	C. DEREURE	X. CAPILLA		T. FUJIMA

MAUPERTUIS

STRUCTURE 2

Session Chair: Randall YOUNGMAN
Room: MAUPERTUIS

08:30 › **Invited: Sung Keun Lee**, *Seoul National University*
Direct probing of structural transitions in amorphous oxide under extreme compression and friction

09:00 › **Lyna Torzuoli**, *Institut de Recherche sur les Céramiques*
Structural study of $TeO_2M_yO_z$ glasses by X-ray total scattering and molecular dynamics

09:15 › **Babacar Diallo**, *CEMHTI*
Evidence of phase separation phenomena in $\{La_2O_3\text{-}B_2O_3\text{-}SiO_2\}$ system by high resolution NMR spectroscopy

09:30 › **Invited: Koji Kanehashi**, *Advanced Technology Research Laboratories, Nippon Steel & Sumitomo Metal Corporation*
Application of multinuclear solid state NMR to structural analysis of slag and glass

10:00 › **Domitille Le Cornec**, *IMPMC / Association Technique de l'Industrie des Liants Hydrauliques*
Structure and hydration of amorphous blast furnace slag

10:15 › **Abel Danezan**, *CEMHTI*
Understanding of the reactivity of granulated blast furnace slags by a multiscale structural characterization

TUESDAY 10th JULY - AM

LAMENNAIS 1&2

PRESSURE AND DENSIFICATION

Session Chair: Anita ZEIDLER
Room: LAMENNAIS 1&2

08:30 › **Invited: Coralie Weigel**, *Laboratoire Charles Coulomb*
High Pressure behaviour of v-SiO_2: Brillouin and polarized Raman study

09:00 › **Nadège Ollier**, *Laboratoire des Solides Irradiés*
Densification and relaxation of densified glasses under electron irradiation in silica and phosphate glasses

09:15 › **Michela Buscemi**, *Department of Physics, University of Bath*
Structure of $(11B_2O_3)_{0.3}(GeO_2)_{0.7}$ glass at pressures up to 8.2 GPa

09:30 › **Linfeng Ding**, *Institute of Geosciences, Johannes Gutenberg University*
Pressure dependence of density and structural relaxation of glass near the glass transition region

09:45 › **Christine Martinet**, *Institut Lumière Matière*
Relaxation processes of densified silicate glasses having different thermomechanical histories

10:00 › **Benoit Rufflé**, *Laboratoire Charles Coulomb*
Spectroscopy as a tool for local density measurement in vitreous silica

10:15 › **Corentin Dereure**, *Institut de Physique de Rennes*
A laser shocked induced densification of silica glass studied by both experience and molecular dynamic simulation

LAMENNAIS 3

GLASS TECHNOLOGY AND CURRENT TRENDS

Session Chair: Ekaterina BUROV
Room: LAMENNAIS 3

08:30 › **Invited: Nicola Favaro**, *Stazione Sperimentale del Vetro*
Chemical Agents Exposure in the Glass Industry: assessment and main issues

09:00 › **Stefan Karlsson**, *RISE Research Institutes of Sweden*
Transparent Intelligence" for Sustainable Development

09:15 › **Laurent Gallais**, *Institut FRESNEL*
CO_2 laser processing of fused silica surfaces for high power laser applications

09:30 › **Invited: Xiujian Zhao**, *State Key Laboratory of Silicate Materials for Architectures (Wuhan University of Technology)*
Intelligent Coatings for Energy Efficient Glazing of Glasses

10:00 › **Kicheol Kim**, *Dept. Mat. Sci. Eng. Kunsan National University*
Characterization of glass produced from glass wool batch containing simulated end of life LCD waste glass

10:15 › **Xavier Capilla**, *Institut du Verre, Paris*
Release from glass production process and regulation constraints: what to expect ?

TUESDAY 10th JULY - AM

LAMENNAIS 4&5

SIMULATION, MODELING 1

Session Chair: Akira TAKADA
Room: LAMENNAIS 4&5

08:30 › **Invited: Alastair Cormack**, *Alfred University*
MD Simulations of the melting of sodium and lithium metasilicates

09:00 › **Simona Ispas**, *Laboratoire Charles Coulomb*
Developing interaction potentials for modelling oxide glasses

09:15 › **David Rodney**, *Institut Lumière Matière*
Atomistic study of two level systems in amorphous silica

09:30 › **Invited: Guillaume Ferlat**, *IMPMC, Sorbonne Université*
A novel numerical method for exploring challenging phase transitions: From liquid crystal to amorphous-amorphous transformations

10:00 › **Gavin Mountjoy**, *University of Kent, Canterbury*
Using molecular dynamics to descend into the structural complexity of EuF_3 doped $ZrF_4BaF_2LaF_3AlF_3NaF$ (ZBLAN) glass

VAUBAN

DURABILITY, DISSOLUTION & CORROSION

Session Chair: Jean-Pierre GUIN
Room: VAUBAN

08:30 › **Invited: Russell Hand**, *University of Sheffield*
Glass durability under elevated pH conditions

09:00 › **Invited: Mathieu Bauchy**, *University of California, Los Angeles*
Topological control on glasses' dissolution kinetics

09:30 › **Hans Roggendorf**, *Martin Luther University Halle Wittenberg, Inst. of Physics*
Corrosion of sodium silicate glasses: the influence of concentration effects

09:30 › **Odile Majérus**, *Institut de Recherche de Chimie Paris*
Evaluation and mechanisms of a surface treatment based on zinc salts to slow down atmospheric alteration

10:00 › **François Perrudin**, *Institut Jean Lamour*
RE_2O_3 dissolution kinetics and mechanisms in CMAS silicate melts: influence of the rare earth

10:00 › **Takuya Fujima**, *Faculty of Engineering, Tokyo City University*
Formation of Hierarchical Nanoporous Layer etched on a silicate glass

TUESDAY 10th JULY - AM

11:00 – 12h30 › PARALLEL SESSIONS 3

	MAUPERTUIS	LAMENNAIS 1&2	LAMENNAIS 3	LAMENNAIS 4&5	VAUBAN
	STRUCTURE 3	OXYFLUORIDE, OXYNITRIDE GLASSES	FURNACE AND ELABORATION 2	METALLIC GLASSES	PROPERTIES 1
11:00 – 11:15	R. YOUNGMAN	F. MUNOZ	I. PETERSON	A.L. GREER	R. MORETTI
11:15 – 11:30					
11:30 – 11:45	R. KADO	J. REN	J-C. WIENCKE	J. XU	L. BRIESE
11:45 – 12:00	D. MASSIOT	C. CALAHOO	K. SENESCHAL-MERZ	A. MUSIAL	JS. CHOI
12:00 – 12:15	S. SUKENAGA	K. SHINOZAKI	T. YANO	S. HARATIAN	H. JAIN
12:15 – 12:30	P. JOVARI	G. GORNI			L. KARAM

MAUPERTUIS

STRUCTURE 3

Session Chair: Charles LE LOSQ
Room: MAUPERTUIS

11:00 › **Invited: Randall Youngman**, *Corning Incorporated*
Impact of Temperature and Pressure on the Structure of Borosilicate Glasses

11:30 › **Kado Rikiya**, *Tokyo Institute of Technology*
Local environment of iron ions in magnesium aluminosilicate glasses from liquid helium temperature to glass transition temperature

11:45 › **Dominique Massiot**, *CEMHTI*
Chemical homogeneity and network topology from NMR experiments

12:00 › **Sohei Sukenaga**, *Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University*
Structural role of aluminum cation in alkaline-earth aluminosilicate glasses

12:15 › **Pál Jóvári**, *Wigner Research Centre for Physics*
Short range order in amorphous germanium tellurides

TUESDAY 10th JULY - AM

LAMENNAIS 1&2

OXYFLUORIDE, OXYNITRIDE GLASSES

Session Chair: Alicia DURAN
Room: LAMENNAIS 1&2

11:00 › **Invited: Francisco Munoz**, *Institute of Ceramics and Glass (CSIC)*
Oxynitride phosphate glasses: new strategies of synthesis for new applications

11:30 › **Jinjun Ren**, *Shanghai Inst. of Opt. and Fine Mech., Chin. Acad. Sci.*
Structural Studies of fluorophosphate Laser Glasses by Solid State NMR

11:45 › **Courtney Calahoo**, *Otto Schott Institute of Materials Research*
The structural role of fluorine in ionic glasses via fluorine-19 MAS NMR

12:00 › **Kenji Shinozaki**, *National Inst. of Adv. Ind. Sci. and Tech*.
Ordering of Ba site in MgF2rich barium fluoroborate glasses and their highly efficient photoluminescence

12:15 › **Giulio Gorni**, *Instituto de Cerámica y Vidrio (CSIC)*
Transparent $80SiO_2$-$20LnF_3$ sol-gel oxyfluoride glass-ceramics for photonics

LAMENNAIS 3

FURNACE AND ELABORATION 2

Session Chair: Anne-Jans FABER
Room: LAMENNAIS 3

11:00 › **Invited: Irene Peterson**, *Corning Research and Development Corporation*
In-situ Measurement of Reactions in a Glass-Forming Batch by Neutron Diffraction

11:30 › **Jan-Christian Wiencke**, *Arcelor Mittal R&D (FRANCE), Institut Jean Lamour*
Behavior of a molten magnesium-aluminosilicate at elevated potentials

11:45 › **Karine Seneschal-Merz**, *Bundesanstalt für Materialforschung und prüfung*
Development of low melting glasses as durable transparent enamel colors for the manufacture of decorated glass panels

12:00 › **Invited: Tetsuji Yano**, *Tokyo Institute of Technology*
High-temperature X-ray CT approach to the vitrification reactions of glass raw materials

TUESDAY 10th JULY - AM

LAMENNAIS 4&5

METALLIC GLASSES

Session Chair: Jean-Christophe SANGLEBOEUF
Room: LAMENNAIS 4&5

11:00 › **Invited: A. Lindsay Greer**, *Univ. of Cambridge, Dept. of Mat. Sci. Metallurgy*
Metallic Glasses

11:30 › **Jian Xu**, *Institute of Metal Research, Chinese Academy of Sciences*
$Zr_{61}Ti_2Cu_{25}Al_{12}$ bulk metallic glass: Failure under torsional loading and Mode III fracture toughness

11:45 › **Andrzej Musial**, *Institute of Molecular Physics, Polish Academy of Sciences*
Glassy state formation and thermal stability in (Hf,Cr)CoB alloys

12:00 › **Saber Haratian**, Mechanical Eng. Dept., Technical University of Denmark
Surface hardening of Zr-Cu based bulk metallic glasses using gaseous thermochemical treatment

TUESDAY 10th JULY - AM

VAUBAN

PROPERTIES 1

Session Chair: Russel HAND
Room: VAUBAN

11:00 › **Invited: Roberto Moretti**, *IPGP, Observatoire Volcanologique et Sismologique de la Guadeloupe*
Redox (and acid-base) properties of aluminosilicate melts: the ionic-polymeric description

11:30 › **Laura Briese**, *Inst. for Non-Metallic Mat., Clausthal University of Technology*
Redox-induced precipitation of nickel and cobalt metal nanoparticles in silicate glasses

11:45 › **JoonSung Choi**, *Yonsei University, Martin Luther University Halle Wittenberg, Inst. of Physics*
The effect of cation species on the sulfur solubility of $CaO\text{-}FeO\text{-}Al_2O_3\text{-}SiO_2$ melts

12:00 › **Himanshu Jain**, *Lehigh University*
A dislocation based model of rotating-lattice single crystal growth on glass surface by CW-laser

12:15 › **Lara Karam**, *Institut des Sciences Moléculaires*
Microstructuring the optical properties in ionic glasses by thermal poling: the influence of the sodium content

TUESDAY 10th JULY - AM

TIMETABLE

14:00 – 16h00 › **PARALLEL SESSIONS 4**

STRUCTURE 4 – *MAUPERTUIS*
DYNAMICS, EXCITATIONS & RELAXATION – *LAMENNAIS 1&2*
HERITAGE, HISTORY 1 – *LAMENNAIS 3*
GLASS-CERAMICS 1 – *LAMENNAIS 4&5*
SPECIAL GLASSES AND CROSS-CUTTING – *VAUBAN*

16:00 - 16:30 › **COFFEE BREAK**
Salle LE GRAND LARGE

16:30 – 18h45 › **PARALLEL SESSIONS 5**

STRUCTURE 5 – *MAUPERTUIS*
BIOGLASSES 1 – *LAMENNAIS 1&2*
PROPERTIES 2 – *LAMENNAIS 3*
THIN FILMS &GLASS SURFACE 1 – *LAMENNAIS 4&5*
MECHANICAL PROPERTIES 1 – *VAUBAN*

TUESDAY 10th JULY - PM

14:00 – 16h00 › PARALLEL SESSIONS 4

	MAUPERTUIS	LAMENNAIS 1&2	LAMENNAIS 3	LAMENNAIS 4&5	VAUBAN
	STRUCTURE 4	DYNAMICS, EXCITATIONS & RELAXATION	HERITAGE, HISTORY 1	GLASS-CERAMICS 1	SPECIAL GLASSES AND CROSS-CUTTING
14:00 – 14:15	B. HEHLEN	J. DEUBENER	E. GREINER-WRONA	X. QIAO	Y. YUE
14:15 – 14:30					
14:30 – 14:45	T. CHARPENTIER	T. MORI	G. CALAS	C. LIU	C. ZHOU
14:45 – 15:00	M.R. CICCONI	S. HOSOKAWA	I. MULLER	S. RIO	T. BENNETT
15:00 – 15:15	O. MAJERUS	M. BAUCHY	M. VILARIGUES	D. GALUSEK	L. WONDRACZEK
15:15 – 15:30	T. GRAMMES	D. RODNEY		E. BERNARDO	
15:30 – 15:45	T. UESBECK	C. RODRIGUEZ -TINOCO	D. GALUSKOVA	A. MOGUS-MILANKOVIC	K. JURKIEWICZ
15:45 – 16:00	M. BREHL			E. WALCH	M. STEPNIEWSKA

MAUPERTUIS

STRUCTURE 4

Session Chair: Dominique MASSIOT
Room: MAUPERTUIS

14:00 › **Invited: Bernard Hehlen**, *Laboratoire Charles Coulomb*
The complex Raman response of cations in aluminosilicate Glasses

14:30 › **Thibault Charpentier**, *NIMBE, CEA, CNRS, Univ. Paris-Saclay, CEA Saclay*
Combined solid-state NMR and molecular dynamics study of the structure of strontium-aluminosilicate glasses

14:45 › **Maria Rita Cicconi**, *Friedrich-Alexander Univ., CNRS-IPGP, Géomatériaux*
Solubility and role of iodine and xenon in silicate glasses

15:00 › **Odile Majérus**, *Institut de Recherche de Chimie Paris*
Structure and crystallization in the B_2O_3-La_2O_3 binary and focus on the congruent lanthanum metaborate composition (LaB_3O_6)

15:15 › **Thilo Grammes**, *Otto-Schott Institute of Materials Research*
Effect of a third network former on the properties of aluminosilicate glasses

15:30 › **Tobias Uesbeck**, *Friedrich-Alexander Universität*
Structural investigation of M_2O-SiO_2-B_2O_3-Al_2O_3 glasses by Raman spectroscopy and the influence of thermal history

15:45 › **Martin Brehl**, *Friedrich-Alexander University Erlangen-Nürnberg*
Structural investigation of glasses in the BaO-B_2O_3-SiO_2 system with coupled Raman/Brillouin spectroscopy

TUESDAY 10th JULY - PM

LAMENNAIS 1&2

DYNAMICS, EXCITATIONS & RELAXATION

Session Chair: Hajime TANAKA
Room: LAMENNAIS 1&2

14:00 › **Invited: Joachim Deubener**, *Institute of Non-Metallic Materials, Clausthal University of Technology*
Impact of structural water on sub-Tg relaxations in glass

14:30 › **Tatsuya Mori**, *University of Tsukuba*
Investigation of boson peak and fraction in protein lysozyme by terahertz time-domain spectroscopy

14:45 › **Shinya Hosokawa**, *Kumamoto University*
Phonon excitations in an anisotropic metaphosphate glass

15:00 › **Mathieu Bauchy**, *University of California, Los Angeles*
Stretched exponential relaxation of glasses and origin of the mixed alkali effect

15:15 › **David Rodney**, *Institut Lumière Matière*
Modeling viscoelasticity and energy dissipation in Silica in the THz regime

15:30 › **Cristian Rodríguez-Tinoco**, *Institute of Physics, University of Silesia*
Secondary relaxations in ultrastable glasses and their connection with structural relaxation

LAMENNAIS 3

HERITAGE, HISTORY 1

Session Chair: Laurence GALOISY
Room: LAMENNAIS 3

14:00 › **Invited: Elżbieta Greiner-Wrona**, *Poland*
Glass archaeometry in the aspect of cultural heritage

14:30 › **Georges Calas,** *IMPMC*
The color of the stained glasses of the Reims Cathedral: a witness of Middle Age technologies

14:45 › **Isabelle Muller**, *Vitreous State Laboratory, The Catholic University of America*
Identification of Factors Relevant to Preservation of Claude Laurent's Glass Flutes: Model Studies vs. Actual Observations

15:00 › **Invited: Márcia Vilarigues**, *Department of Conservation and Restoration, Faculty of Science and Technology, NOVA University of Lisbon, Research Unit VICARTE – Glass and Ceramics for the Arts, Faculty of Science and Technology, NOVA University of Lisbon*
From words to objects: the art of glassmaking through recipes

15:30 › **Dagmar Galuskova**, *Vitrum Lauguricio – Joint Glass Center of the IIC SAS, TnU AD, and FChFT STU*
Reconstruction of technology of layered red glass production based on chemical analysis of discovered glass fragment

TUESDAY 10th JULY - PM

LAMENNAIS 4&5

GLASS CERAMICS 1

Session Chair: Edgar ZANOTTO
Room: LAMENNAIS 4&5

14:00 › **Invited: Xusheng Qiao**, *Zhejiang University*
Phase separation and crystallization strategies to enhance the luminescence of silver and rare-earth doped mulitiphaseglass and glass-ceramics

14:30 › **Chao Liu**, *State Key Lab. of Silicate Mater. for Architectures, Wuhan Univ. of Technology*
Glasses containing halide perovskite nanocrystals and their potential applications

14:45 › **Sandra Rio**, *Institut des matériaux Jean Rouxel, Arc, France*
Influence of crystalline phases on optical characteristics of a glass-ceramic in the visible range

15:00 › **Dusan Galusek**, *Centre for functional and surface functionalized glass, Alexander Dubček University of Trenčín, Trenčín*
Crystallization of physical properties of aluminate glasses

15:15 › **Enrico Bernardo**, *University of Padova, Dept. of Industrial Engineering*
Novel Glass-ceramics from Glass Powders and Reactive Silicone Binders

15:30 › **Andrea Mogus-Milankovic**, *Ruder Boskovic Institute*
Electrical transport in Li_2O-P_2O_5-GeO_2 glass-ceramics

15:45 › **Emmanuel Walch**, *RWTH Aachen University*
Residual stresses in Bi_2O_3-B_2O_3-ZnO-SiO_2 partially crystallizing glass-enamel

VAUBAN

SPECIAL GLASSES AND CROSS-CUTTING

Session Chair: Steve MARTIN
Room: VAUBAN

14:00 › **Invited: Yuanzheng Yue**, *Dept. of Chem. and Bioscience, Aalborg University, State Key Lab.of Silicate Mater. for Architectures, Wuhan Univ. of Tech*.
Metal-Organic Framework Glass Formation and "Reordering"

14:30 › **Chao Zhou**, *Department of Chemistry and Bioscience, Aalborg University*
Formation of Metal-Organic Framework Glass via Post-Synthetic Modification

14:45 › **Thomas Bennett**, *University of Cambridge*
Metal-Organic Framework Liquids and Glasses

15:00 › **Invited: Lothar Wondraczek**, *Otto Schott Institute of Materials Research*
Kinetics of decelerated melting

15:30 › **Karolina Jurkiewicz**, *Institute of Physics, University of Silesia in Katowice, Silesian Centre for Education and Interdisciplinary Research, Poland*
The atomic structure of glassy carbon foams

15:45 › **Malwina Stepniewska**, *Dept. of Chemistry and Bioscience, Aalborg University*
Glass formation and mechanical properties of melt-quenched glasses of mixed metal node Zn/Co ZIF62

TUESDAY 10th JULY - PM

16:30 – 18h45 › PARALLEL SESSIONS 5

	MAUPERTUIS	LAMENNAIS 1&2	LAMENNAIS 3	LAMENNAIS 4&5	VAUBAN
	STRUCTURE 5	BIOGLASSES 1	PROPERTIES 2	THIN FILMS & GLASS SURFACE 1	MECHANICAL PROPERTIES 1
16:30 – 16:45	C. LE LOSQ	L. HUPA	H. JAIN	J. HU	T. ROUXEL
16:45 – 17:00					
17:00 – 17:15	E. CHESNEAU	S. NANDYALA	P. VAN NIJNATTEN	D. VAN DEMBROUCQ	S. BAKER
17:15 – 17:30	M. HUNAULT	A. TOURE	O. KIBRISLI	M. VLCEK	B. JODAR
17:30 – 17:45	E. BARNEY	D.A.A. SALAZAR	A. CORRIAS	G. HELSCH	B. NAVET
17:45 – 18:00	G. HENDERSON	R. LEBULLENGER	T. WELTER	A. KOVALSKIY	K. JANUCHTA
18:00 – 18:15	G. TRICOT	D. HORKAVCOVA	M. OSTERGAARD	G. CAGNOLI	C. DEREURE
18:15 – 18:30	D. HAMANI	M. POULAIN	T. NISHI		J. MECHOLSKY
18:30 – 18:45			C. EYPERT		G. SCANNELL

MAUPERTUIS

STRUCTURE 5

Session Chair: Sung Keun LEE
Room: MAUPERTUIS

16:30 › **Invited: Charles Le Losq**, *Research School of Earth Sciences, Australia*
Structure, thermodynamic properties and viscosity of silicate melts: development of a model in the Adam and Gibbs theoretical framework

17:00 › **Erwan Chesneau**, *NIMBE, CEA, CNRS, Université Paris-Saclay, CEA Saclay*
Structural study of sodium borate glasses combining molecular dynamics and nuclear magnetic resonance

17:15 › **Myrtille Hunault**, *Synchrotron SOLEIL*
Uranium speciation in binary alkali-borate glasses: a multispectroscopic study

17:30 › **Emma Barney**, *Faculty of Engineering, Advanced Materials Research Group, University of Nottingham*
The structure of bioactive phosphate glasses using diffraction techniques and EPSR modelling

17:45 › **Grant Henderson**, *Earth Sciences, University of Toronto*
Stabilization of Silicate Melts through Polymerization Reactions, with Implications for the Redox State of the Mantle and Crust

18:00 › **Gregory Tricot**, *Laboratoire de Spectrochimie Infrarouge et Raman*
1D/2D NMR investigation of borophosphate glasses

18:15 › **David Hamani**, *Institut de Recherche sur les Céramiques*
New tellurite glasses within the $TeO_2NbO_{2.5}WO_3$ system: relevant correlations between structural and optical properties

TUESDAY 10th JULY - PM

LAMENNAIS 1&2

BIOGLASSES 1

Session Chair: Robert HILL
Room: LAMENNAIS 1&2

16:30 › **Invited: Leena Hupa**, *Åbo Akademi University*
In vitro and in vivo correlations of silicate–based bioactive glasses

17:00 › **Sooraj Nandyala**, *School of Metallurgy and Materials, Univ. of Birmingham*
Development of Lanthanide glass-reinforced Hydroxyapatite composites: MG63 Cells behavior and Antimicrobial response

17:15 › **Adja Touré**, *Loughborough University*
Atomic-level clustering in fluorinated phosphate-based glass

17:30 › **Dahiana Andrea Avila Salazar**, *Otto Schott Institute of Materials Research, Friedrich Schiller University*
Structure-dissolution relationships in bioactive phosphate glasses

17:45 › **Ronan Lebullenger**, *Univiversity of Rennes*
Glassy foam from cullet for biomaterials applications, comparison with 46S6 glass

18:00 › **Diana Horkavcová**, *University of Chemistry and Technology Prague, Department of Glass and Ceramics*
Interaction of glass-ceramic scaffold with simulated body fluid buffered by BES

18:15 › **Marcel Poulain**, *Le Verre Fluore – Verres et Céramiques – Univ. Rennes 1*
Fluoride Fiber Lasers Sources for Medical Applications

LAMENNAIS 3

PROPERTIES 2

Session Chair: Yuanzheng YUE
Room: LAMENNAIS 3

16:30 › **Invited: Himanshu Jain**, *Lehigh University (USA)*
Electric field-induced softening (EFIS) of alkali silicate glasses

17:00 › **Peter van Nijnatten**, *OMT Solutions BV*
Measuring the difference in refractive index between tin and glass side of float glass

17:15 › **Orhan Kıbrıslı**, *Yildiz Technical University*
Temperature Dependent Optical and Electrical Properties of Heavy Metal Oxide Glasses

17:30 › **Anna Corrias**, *University of Kent*
Ceria nanocubes stabilized in Silica Aerogels

17:45 › **Thorben Welter**, *Clausthal University of Technology*
Silicate glass structures with low hydrogen permeability

18:00 › **Martin Østergaard**, *Section of Chemistry, Aalborg University*
Effect of Macrostructure on Thermal Conductivity of Foam Glass

18:15 › **Tsuyoshi Nishi**, *Ibaraki University*
Thermal Conductivities of R_2O-SiO_2 and CaO-R_2O-SiO_2 (R=Li, Na, K) Melts

18:30 › **Celine Eypert**, *HORIBA Scientific*
Glass characterization by Raman microscopy, Glow Discharge Optical Emission Spectrometry and Spectroscopic Ellipsometry

TUESDAY 10th JULY - PM

LAMENNAIS 4&5

THIN FILMS & GLASS SURFACE 1

Session Chair: Emmanuelle GOUILLART
Room: LAMENNAIS 4&5

16:30 › **Invited: Juguang Hu**, *Inst. of Thin Film Phys. and Appl., Shenzhen University*
Controlled crystallization of PLD amorphous CZTS thin film for photovoltaic application

17:00 › **Damien Vandembroucq**, *Physique et mécanique des milieux hétérogènes*
The long memory of glass surfaces

17:15 › **Miroslav Vlcek**, *Center of Materials and Nanotechnologies, Faculty of Chemical Technology, University of Pardubice*
Structuring of chalcogenide glasses thin layers

17:30 › **Gundula Helsch**, *Clausthal Univ. of Tech., Inst. of Non-Metallic Materials*
Quartz inversion temperatures of LAS solid solutions of sol-gel derived glasses

17:45 › **Andriy Kovalskiy**, *Austin Peay State Univ., Dept. of Physics and Astronomy*
Transient photoinduced optical effects in spin-coated chalcogenide glass thin films

18:00 › **Gianpietro Cagnoli**, *Laboratoire des Matériaux Avancés, Univ. Claude Bernard Lyon 1*
Thermal noise in Gravitational Wave mirror coatings: relaxations in SiO_2 and Ta_2O_5 films.

VAUBAN

MECHANICAL PROPERTIES 1

Session Chair: Lothar WONDRACZEK
Room: VAUBAN

16:30 › **Invited: Tanguy Rouxel**, *Univ. Rennes 1, IPR, Dept. of Glass Mechanics*
The Fracture Toughness of Inorganic Glasses

17:00 › **Shefford Baker**, *Cornell University*
In-Situ Raman Spectroscopy During Indentation to Study Plastic Deformation in Silicate Glasses

17:15 › **Benjamin Jodar**, *Institut de Physique de Rennes*
Dynamic behavior of ZrCuAl Bulk Metallic Glasses under high pressure and high strain rate induced by laser shock

17:30 › **Benjamine Navet**, *AGC*
Innovative ion implantation technologies for cutting-edge materials: Scratch resistant glass, a first case study

17:45 › **Kacper Januchta**, *Dept. of Chemistry and Biosciences, Aalborg University*
Fracture toughness and indentation cracking resistance in the Na_2O-Al_2O_3-B_2O_3-SiO_2 chemical system

18:00 › **Corentin Dereure**, *Institut de Physique de Rennes*
Combined Experimental and Computational Study of Damage in Silica Glass due to Laser Shock

18:15 › **Jack Mecholsky**, *University of Florida*
Fractal Geometry: A Key to Understanding the Nature of Glass Fracture

18:30 › **Garth Scannell**, *Otto Schott Institute of Materials Research*
Effect of Valence Change on Surface Stresses in EuPO3 Glasses

TUESDAY 10th JULY - PM

WEDNESDAY 11th JULY

CHATEAUBRIAND

PLENARY LECTURE 3

Session Chair: Daniel NEUVILLE
Room: CHATEAUBRIAND

08:30 › **Edgar Zanotto,** *Center for Research, Technology, and Education in Vitreous Materials, Dept of Mat. Eng., Federal University of São Carlos, Brazil*
Homogeneous Crystal Nucleation in Deeply Supercooled Glass-forming Liquids – Open Issues

09:15 › **Hajime Tanaka,** *Institute of Industrial Science, University of Tokyo, Japan*
Impact of structural ordering in supercooled liquids on glassy slow dynamics and glass-forming ability

10:00 › **Kathleen Richardson,** *Center for Research and Education in Optics and Lasers, FL, USA*
Advances in infrared optics: novel materials towards next-generation components and devices

10:45 - 11:15 › **COFFEE BREAK**
Salle LE GRAND LARGE

CHATEAUBRIAND

PLENARY LECTURE 4

Session Chair: Daniel NEUVILLE
Room: CHATEAUBRIAND

11:15 › **Daniel Ricoult,** *CORNING*
Moving to the Glass Age

12:00 › **Neville Greaves,** *Cambridge University*, UK
Hybrid Glasses and Melts

12:45 - 14:00 › **LUNCH**
Rotondes Jacques CARTIER & SURCOUF

14:00 - 18:30 › **FREE AFTERNOON OR EXCURSIONS**

WEDNESDAY 11th JULY

TIMETABLE

08:30 – 10h30 › **PARALLEL SESSIONS 6**

SIMULATION, MODELING 2 – *MAUPERTUIS*
WASTE GLASSES 2 – *LAMENNAIS 1&2*
HERITAGE, HISTORY 2 – *LAMENNAIS 3*
IONIC DIFFUSION & CONDUCTIVITY – *LAMENNAIS 4&5*
BIOGLASSES 2 – *VAUBAN*

10:30 - 11:00 › **COFFEE BREAK**
Salle LE GRAND LARGE

11:00 – 12h30 › **PARALLEL SESSIONS 7**

PHASE CHANGE MATERIALS – *MAUPERTUIS*
WASTE GLASSES 3 – *LAMENNAIS 1&2*
THIN FILMS & GLASS SURFACE 2 – *LAMENNAIS 3*
OPTOELECTRONICS AND OPTICAL PROPERTIES 1 – *LAMENNAIS 4&5*
BIOGLASSES 3 – *VAUBAN*

12:30 - 14:00 › **LUNCH**
Rotondes Jacques CARTIER & SURCOUF

THURSDAY 12th JULY - AM

08:30 – 10h30 › PARALLEL SESSIONS 6

	MAUPERTUIS	LAMENNAIS 1&2	LAMENNAIS 3	LAMENNAIS 4&5	VAUBAN
	SIMULATION, MODELING 2	**WASTE GLASSES 2**	**HERITAGE, HISTORY 2**	**IONIC DIFFUSION & CONDUCTIVITY**	**BIOGLASSES 2**
8:30 – 8:45	P. LUCAS	R. POKORNY	A. VERNEY-CARRON	S. MARTIN	F. FAYON
8:45 – 9:00					
9:00 – 9:15	J. ZWANZIGER	A. KRUGER	G. ROISINE	E. BYCHKOV	A. KRISHNAMURTHY
9:15 – 9:30	D. VAN DEMBROUCQ	O. McGANN	S. CONTE	H. MEHRER	R. WETZEL
9:30 – 9:45	N. WILES	I. HUGON	J. GUO	A. RUIVO	X. CHEN
9:45 – 10:00	Z. ZHANG	M. NEYRET	M. VILARIGUES	L. DEL CAMPO	A. MISHRA
10:00 – 10:15	A. KORSUNSKY	E. SAUVAGE	S. POLLOCK-HILL	T. OHKUBO	D.S. BRAUER
10:15 – 10:30	G. SESE		I. HASDEMIR	J. KIEFFER	

MAUPERTUIS

SIMULATION, MODELING 2

Session Chair: Guillaume FERLAT
Room: MAUPERTUIS

08:30 › **Invited: Pierre Lucas**, *University of Arizona*
On the utility of topological principles for determining the fragility of network glass-formers

09:00 › **Josef Zwanziger**, *Dalhousie University*
Dispersion of the elasto-optic tensor

09:15 › **Damien Vandembroucq**, *Physique et mécanique des milieux hétérogènes*
Amorphous plasticity from atomic scale to mesoscopic scale

09:30 › **Nicole Wiles**, *Cornell University*
Structural Mechanisms of Plastic Deformation in Hydrostatically Compressed Calcium Aluminosilicates

09:45 › **Zhen Zhang**, *Laboratoire Charles Coulomb, Univ. Montpellier*
Fracture of sodium-silicate glasses: Insights from atomistic computer simulations

10:00 › **Alexander Korsunsky**, *University of Oxford*
XPDF and molecular dynamics analysis of the significance of bond angle change in the deformation of amorphous silica

10:15 › **Gemma Sesé**, *Universitat Politecnica de Catalunya*
Microscopic dynamics and thermodynamics on a dipolar glass former

THURSDAY 12th JULY - AM

LAMENNAIS 1&2

WASTE GLASSES 2

Session Chair: Mike HARRISSON
Room: LAMENNAIS 1&2

08:30 › **Invited: Richard Pokorny**, *University of Chemistry and Technology Prague*
Conversion of waste feed into glass – cold cap formation

09:00 › **Albert Kruger**, *US Department of Energy*
Producing Desired Properties from a Broader Spectrum of Compositions for Nuclear Waste Glass

09:15 › **Owen McGann**, *Glass Technology Services Ltd*
Outcomes from the application of the 'Hazmelt' thermal treatment technology to a range of simulant LLW and ILW wastestreams

09:30 › **Isabelle Hugon**, *CEA*
Glass design for the vitrification of high active deposits coming from the Dismantling and Decommissioning of nuclear plant

09:45 › **Muriel Neyret**, *CEA Marcoule*
Role of Platinum Group Metals on rheological and electrical properties of nuclear glass

10:00 › **Invited: Emilien Sauvage**, *CEA, DEN, DE2D, SEVT, LDPV*
Cold crucible induction melting for nuclear waste vitrification: from numerical simulations to industrial operation

LAMENNAIS 3

HERITAGE, HISTORY 2

Session Chair: Elzbieta GREINER-WRONA
Room: LAMENNAIS 3

08:30 › **Invited: Aurélie Verney-Carron**, *Laboratoire inter-universitaire des systèmes atmosphèriques*
Alteration mechanisms of medieval stained glass windows in atmospheric medium

09:00 › **Gauthier Roisine**, *Institut de Recherche de Chimie Paris*
Investigating ancient glazing processes: Lead-glazed earthenware of Bernard Palissy (1510-1590)

09:15 › **Sonia Conte**, *National Research Council-Institute of Science and Technology of Ceramic Materials*
Archaeometrical investigation of protohistoric glass from southern Italy: from Early Bronze Age to Advanced Iron Age (18th-6th century BC).

09:30 › **Jianyong Guo**, *Shandong University of Art and Design*
A new style of inside painting glass sculptures

09:45 › **Márcia Vilarigues**, *Research Unit VICARTE – Glass and Ceramics for the Arts, Faculty of Science and Technology, NOVA University of Lisbon*
Historical Reproduction of Grisailles: A preliminary study

10:00 › **Stephen PollockHill,**
Gentilshommes verriers, mythe ou légende ?

10:15 › **Ilhan Hasdemir,**
Micromechanical properties of altered surfaces or archaeological glass fragments

THURSDAY 12th JULY - AM

LAMENNAIS 4&5

IONIC DIFFUSION AND CONDUCTIVITY

Session Chair: Annie PRADEL
Room: LAMENNAIS 4&5

08:30 › **Invited: Steve Martin**, *Dept. Materials Science & Engineering, Iowa State University of Science and Technology*
New Fast Ion Conducting Glasses: Towards Enabling High Energy Density and Safe All Solid State Batteries

09:00 › **Eugene Bychkov**, *University of Littoral*
Ionic conduction pathways in chalcogenide glasses: experimental evidence and modelling

09:15 › **Helmut Mehrer**, *University of Muenster*
Diffusion and Ionic Conduction in Glasses

09:30 › **Andreia Ruivo**, *Research Unit VICARTE – Glass and Ceramics for the Arts, Faculty of Science and Technology, NOVA University of Lisbon (VICARTE)*
Development of down converting stable and efficient materials: Silver diffusion in glass

09:45 › **Leire del Campo**, *CEMHTI*
Ionic conductivity of binary alkali borate melts

10:00 › **Takahiro Ohkubo**, *Chiba University*
Li conduction in Li2SP2S5 glasses: insights from dynamics and polarizability

10:15 › **John Kieffer**, *University of Michigan, Ann Arbor*
Structure, Ionic Mobility, and Mechanical Stiffness in Mixed-Network Former Glasses

VAUBAN

DURABILITY, DISSOLUTION & CORROSION

Session Chair: Jean-Pierre GUIN
Room: VAUBAN

08:30 › **Invited: Franck Fayon**, *CEMHTI*
Solid-state NMR study of bioglasses

09:00 › **Arun Krishnamurthy**, *Department of Chemistry, University of Manitoba*
Structure and Dissolution Behaviour of Multifunctional Borophosphate Bioactive Glasses

09:15 › **Roland Wetzel**, *Otto Schott Institute of Materials Research*
Effect of substitution amount of magnesium and zinc on dissolution behaviour and thermal properties of Bioglass 45S5

09:30 › **Xiaojing Chen**, *Xiangya Stomatological Hospital & School of Stomatology, Central South University, Dental Physical Sciences, Institute of Dentistry, Queen Mary University of London*
Influence of Strontium Substitution for Calcium on the Apatite Formation Ability of Chloride-Containing Bioactive Glasses

09:45 › **Ayush Mishra**, *BioMediTech Institute and Biomedical Sciences and Engineering faculty*
Albumin and fibronectin attachment on silicate and phosphate bioactive glasses

10:00 › **Invited: Delia S. Brauer**, *Otto Schott Institute of Materials Research, Friedrich Schiller University Jena*
Bioactive Glasses: Controlling Dissolution & Ion Release via Modifier Ionic Radius

THURSDAY 12th JULY - AM

11:00 – 12h30 › PARALLEL SESSIONS 7

	MAUPERTUIS	LAMENNAIS 1&2	LAMENNAIS 3	LAMENNAIS 4&5	VAUBAN
	PHASE CHANGE MATERIALS	WASTE GLASSES 3	THIN FILMS & GLASS SURFACE 2	OPTOELECTRONICS AND OPTICAL PROPERTIES 1	BIOGLASSES 3
11:00 – 11:15	M. WUTTIG	I. MULLER	E. GOUILLART	P. BINGHAM	R. HILL
11:15 – 11:30					
11:30 – 11:45	K. KONSTANTINOU	P. HRMA	L. MONTAGNE	P. VAN NIJNATTEN	J. CHRISTIE
11:45 – 12:00	S. KOZYUKHIN	E. REGNIER	C. RODRIGUEZ-TINOCO	T. VOLOTINEN	A.T. CONTRERAS JAIMES
12:00 – 12:15	J-B. DORY	L. GALOISY	V. KOLOSOV	G. CALAS	J. MASSERA
12:15 – 12:30	G. WANG	O. BOUTY	S. PONTON	Y. SGIBNEV	A. SANTIC

MAUPERTUIS

PHASE CHANGE MATERIALS

Session Chair: Stephen ELLIOTT
Room: MAUPERTUIS

11:00 › **Invited: Matthias Wuttig**, *I. Physikalisches Institut der RWTH, Lehrstuhl für Physik neuer Materialien*
Phase Change Materials by Design: Taming Bond No. 6

11:30 › **Konstantinos Konstantinou**, *Dept. of Chemistry, University of Cambridge*
Ab initio modelling of radiation damage in amorphous phase-change memory materials: The case of $Ge_2Sb_2Te_5$

11:45 › **Sergey Kozyukhin**, *Inst. General and Inorg. Chem., RAS, Tomsk State Univ.*
Laser-Induced Modification and Formation of Periodic Surface Structures ("Ripples") of Amorphous GST225 Phase Change Materials

12:00 › **Jean-Baptiste Dory**, *Université Grenoble Alpes, CEALETI*
Ge-Sb-S-Se-Te amorphous chalcogenide thin films for nonlinear optics in the Mid-Infrared

12:15 › **Guoxiang Wang**, *Laboratory of Infrared Material and Devices, The Research Institute of Advanced Technologies, Ningbo University, Leibniz Institute of Surface Modification (IOM)*
Controllable crystallization and interface microstructure stability of new phase-change films

THURSDAY 12th JULY - AM

LAMENNAIS 1&2

WASTE GLASSES 3

Session Chair: Albert KRUGER
Room: LAMENNAIS 1&2

11:00 › **Invited: Isabelle S. Muller**, *Vitreous State Lab., Catholic University of America*
Alteration Phases on Hanford LAW Glasses after Long-Term Leaching

11:30 › **Pavel Hrma**, *Pacific Northwest National Laboratory*
Boundary layer approach to heat transfer rate to cold cap

11:45 › **Elise Regnier**, *CEA-Marcoule*
Crystal growth in temperature gradients

12:00 › **Laurence Galoisy**, *IMPMC*
Evidence of two layers alteration gel in nuclear glasses containing Zr

12:15 › **Olivier Bouty**, *Commissariat à l'Energie Atomique - Site de Marcoule*
New insights on the structure of borosilicate glasses containing zirconium by combining Wide Angle X-ray Scattering and atomistic simulations

LAMENNAIS 3

THIN FILMS & GLASS SURFACE 2

Session Chair: Juguang HU
Room: LAMENNAIS 3

11:00 › **Invited: Emmanuelle Gouillart**, *Unité mixte CNRS/SaintGobain (SVI)*
Multicomponent diffusion in industrial glasses and thin films

11:30 › **Lionel Montagne**, *Unité de Catalyse et de Chimie du Solide*
Investigations of phosphate and silicate glasses and glass-ceramics deposited as nanometric thin films

11:45 › **Cristian Rodríguez-Tinoco**, *Institute of Physics, University of Silesia*
Emergence of a substrate-temperature-dependent dielectric process in a prototypical vapor deposited hole-transport glass

12:00 › **Vladimir Kolosov**, *Ural Federal University*
Novel Transrotational Solid State Order Discovered by TEM in Crystallizing Amorphous Films and New Model of Amorphous State Based on Nanocrystals with Curved Lattice

12:15 › **Simon Ponton**, *Centre Inter-universitaire de Recherche et d'Ingénierie des Matériaux*
Computational and Experimental Investigation of the Atmospheric Pressure Chemical Vapor Deposition of SiO_2 films from TEOS and O_2 and Determination of their Microstructural Characteristics and their Corrosion Resistance in Aggressive Aqueous Media.

THURSDAY 12th JULY - AM

LAMENNAIS 4&5

OPTOELECTRONICS AND OPTICAL PROPERTIES 1

Session Chair: Long ZHANG
Room: LAMENNAIS 4&5

11:00 › **Invited: Paul Bingham**, *Sheffield Hallam University*
Redox in glasses: interactions with radiation

11:30 › **Peter van Nijnatten**, *OMT Solutions BV*
Measurement of internal transmittance and refractive index of optical glasses at cryogenic temperatures

11:45 › **Tarja Volotinen**, *Uppsala University*
Absorption spectrum analysis of Fe-Ce- and Fe-Cu-doped soda-lime-silica glasses melted with a refiner

12:00 › **Georges Calas**, *IMPMC*
Coloration of alkali borate glasses by transition d and f elements: a review

12:15 › **Yevgeniy Sgibnev**, *ITMO University*
Spectral-luminescent properties of silver ion-exchanged aluminosilicate glass doped with Eu3+ ions

VAUBAN

BIOGLASSES 3

Session Chair: Delia BRAUER
Room: VAUBAN

11:00 › **Invited: Robert Hill**, *Queen Mary University of London*
Structure Property Relationships in OxyHalide Bioactive Glasses

11:30 › **Jamieson Christie**, *Loughborough University*
Structure-bioactivity relationships of phosphate-based glass from computer modelling

11:45 › **Altair T. Contreras Jaimes**, *Otto Schott Institute of Materials Research, Friedrich Schiller University*
Applications of bioactive glasses for glass ionomer cements

12:00 › **Jonathan Massera**, *BioMediTech Institute and Biomedical Sciences and Engineering faculty*
Amorphous Borosilicate Bioactive Glass Scaffolds Processing and In-Vitro Dissolution

12:15 › **Ana Šantić**, *Ruđer Bošković Institute*
Setting process of glass ionomer cements studied by dielectric spectroscopy

THURSDAY 12th JULY - AM

TIMETABLE

14:00 – 16h30 › **PARALLEL SESSIONS 8**

CHALCOGENIDE GLASSES – *MAUPERTUIS*
MECHANICAL PROPERTIES 2 – *LAMENNAIS 1&2*
LASER INTERACTION – *LAMENNAIS 3*
GLASS-CERAMICS 2 – *LAMENNAIS 4&5*

16:30 – 18h00 › **POSTER SESSION & COFFEE BREAK**
BOUVET & CHARCOT Rooms

19:30 - 00:00 › **BANQUET**
Salle LE GRAND LARGE

THURSDAY 12th JULY - PM

14:00 – 16h30 › PARALLEL SESSIONS 8

	MAUPERTUIS	LAMENNAIS 1&2	LAMENNAIS 3	LAMENNAIS 4&5
	CHALCOGENIDE GLASSES	MECHANICAL PROPERTIES 2	LASER INTERACTION	GLASS-CERAMICS 2
14:00 – 14:15	L. ZHANG	C. ROUNTREE	B. POUMELLEC	K. THIEME
14:15 – 14:30		T. TO		P. GLATZ
14:30 – 14:45	A. PIARRISTEGUY	Z. ROUSE	Y. BELLOUARD	C. PATZIG
14:45 – 15:00	A. ZEIDLER	C. FUSCO		A. ZANDONA
15:00 – 15:15	R. ZAITER	P. KIEFER	S. FEDOTOV	O. DYMSHITS
15:15 – 15:30	M. CHAZOT	J. MORICEAU	T. GUERINEAU	A.C. RIMBACH
15:30 – 15:45	S. HOSOKAWA	N. WILES	J. TIAN	R. AL-MUKADAM
15:45 – 16:00	A. NOVIKOVA	I. GUVEN	E. VERDIER	J. ROCHERULLE
16:00 – 16:15	M. DUSSAUZE	T. LACONDEMINE	M. POULAIN	M.R. CICCONI
16:15 – 16:30	K. RAMESH		L. KOUNDE	M. MONTAZERIAN

MAUPERTUIS

CHALCOGENIDE GLASSES

Session Chair: Jean-Luc ADAM
Room: MAUPERTUIS

14:00 › **Invited: Long Zhang**, *Shanghai Institute of Optical and Fine Mechanics, Chinese Academy of Science*
Recent development of materials for IR applications

14:30 › **Andrea Piarristeguy**, *Institut Charles Gerhardt Montpellier*
Local vibrational and mechanical characterization of Ag conducting chalcogenide glasses

14:45 › **Anita Zeidler**, *University of Bath*
Structure of Ge-Se glasses

15:00 › **Rayan Zaiter**, *Laboratoire de Physico-Chimie de l'Atmosphère*
Transport and structural properties of silver bromide doped chalcogenide glasses

15:15 › **Matthieu Chazot**, *Université de Bordeaux*
Fiber drawing region investigation and structural characterization of Ge-S-I chalcohalide glasses

15:30 › **Shinya Hosokawa**, *Kumamoto University*
Local- and intermediate-range structures of room-temperature superionic Ag-$GeSe_3$ glasses

15:45 › **Anna Novikova**, *Verres et céramiques, Diafir*
Infrared optics of chalcogenide glasses made by mechanical alloying and sintering

16:00 › **Marc Dussauze**, *Institut des Sciences Moléculaires*
Structure of Telluride Glasses: a Theoretical and Spectroscopic Investigation

16:15 › **Karuppannan Ramesh**, *Department of Physics, Indian Institute of Science*
Local structure and glass formation in $Al_{20}Te_{80}$ glass

THURSDAY 12th JULY - PM

LAMENNAIS 1&2

MECHANICAL PROPERTIES 2

Session Chair: Tanguy ROUXEL
Room: LAMENNAIS 1&2

14:00 › **Cindy Rountree**, *Service de physique de l'état condensé*
SiO_2-B_2O_3-Na_2O Glasses: Understanding how microscale changes alter macroscale fracture properties

14:15 › **Theany To**, *Glass & Mechanics Dept., Inst. of Physics, Univ. Rennes 1*
The Single-Edge Precracked Beam (SEPB) method to assess the fracture toughness, the fracture energy and the stress corrosion cracking of glass

14:30 › **Zachary Rouse**, *Cornell University, Dept. of Mater. Science and Engineering*
Effect of humidity and included OH during indentation of silica glass

14:45 › **Claudio Fusco**, *Matériaux, ingénierie et sciences de Villeurbanne*
On the role of amorphous overlays on the mechanical properties of Ni nanoparticles under compression

15:00 › **Philipe Kiefer**, *Clausthal University of Technology*
Statistical analysis of subcritical crack growth in water bearing soda-lime silicate glasses

15:15 › **Julien Moriceau**, *Dept. of Glass Mechanics, IPR, University of Rennes 1*
Synthesis by SPS of new glass matrix composite with functional properties - toward self-healing glass

15:30 › **Nicole Wiles**, *Cornell University*
Ex-situ Raman Investigation of Indentations in Vitreous Silica

15:45 › **Ibrahim Guven**, *Virginia Commonwealth University*
Erosion of Glass Substrates due to Microparticles

16:00 › **Tanguy Lacondémine**, *Univ. of Rennes 1, IPR, Dept of Glass Mechanics*
In-situ observation of the formation of indentation cracks in glass by means of synchrotron X-ray tomography

LAMENNAIS 3

LASER INTERACTION

Session Chair: Thierry CARDINAL
Room: LAMENNAIS 3

14:00 › **Invited: Bertrand Poumellec**, *Inst. de Chimie Moléculaire et des Matériaux d'Orsay*
Femtosecond laser induced structural transformations in transparent oxide glasses

14:30 › **Invited: Yves Bellouard**, *Ecole Polytechnique Fédérale de Lausanne*
Femtosecond laser three-dimensional exposure of silica substrate in the non-ablative regime : from laser-induced modifications to applications

14:45 › **Sergey Fedotov**, *D. Mendeleev Univ. of Chemical Technology of Russia*
Femtosecond laser-written nanogratings in alkali silicate glasses

15:00 › **Théo Guerineau**, *Institut de Chimie de la Matière Condensée de Bordeaux*
The impact of the silver-containing phosphate glass composition on femtosecond laser induced optical properties

15:30 › **Jing Tian**, *Institut de Chimie Moléculaire et des Matériaux d'Orsay*
Polarization dependence of femtosecond laser induced circular birefrigence in silica glass

15:45 › **Emma Verdier**, *ALPhANOV*
3D Glass Decoration by Nonlinear Absorption of Ultrafast Lasers

16:00 › **Marcel Poulain**, *Verres et Céramiques, Univ. Rennes 1, Le Verre Fluore*
Low loss fluoride optical fibers: properties and application

16:15 › **Ludovic Kounde**, *Inst. de Recherche et des Procédés d'Application du Laser*
Glass and silicon welding by femtosecond laser: set up improvement through modeling

THURSDAY 12th JULY - PM

LAMENNAIS 4&5

GLASS-CERAMICS 2

Session Chair: Joachim DEUBENER
Room: LAMENNAIS 4&5

14:00 › **Katrin Thieme**, *Otto Schott Institute of Materials Research, Jena University*
On the search for appropriate nucleating agents in BaO-SrO-ZnO-SiO_2 glasses

14:15 › **Pauline Glatz**, *Corning European Technology Center, UCCS, IMPMC*
Role of phosphorous in the nucleation of alkali aluminosilicate glass-ceramics

14:30 › **Christian Patzig**, *Fraunhofer Inst. for Microstructure of Materials and Systems*
Nucleation and Crystallization in LAS Glass Ceramics: Recent Advances in Understanding Fundamentals Based on Nanostructure Diagnostics

14:45 › **Alessio Zandona**, *Inst. Non-Metallic Materials, Clausthal Univ. of Technology*
Crystallization and ordering process in stoichiometric cordierite glass-ceramics with TiO_2 as nucleating agent

15:00 › **Olga Dymshits**, *Research and Technological Institute of Optical Materials Science Vavilov State Optical Institute*
Structural transformations and optical properties of glass-ceramics based on ZnO, β- and α- Zn_2SiO_4 nanocrystals and doped with Er_2O_3 and Yb_2O_3

15:15 › **A. Charlotte Rimbach**, *Faculty of Electrical Engineering, South Westphalia University of Applied Sciences*
Controlled crystallization in luminescent lithium borate glass for LED applications

15:30 › **Raschid Al- Mukadam**, *Institute of Non-Metallic Materials; Clausthal University of Technology*
Nucleation kinetics of lithium disilicate glasses undercooled at various speeds

15:45 › **Jean Rocherullé**, *University of Rennes*
Crystallization pathways and some properties of lithium disilicate oxynitride glasses

16:00 › **Maria Rita Cicconi**, *Friedrich-Alexander Universität*
Nucleation and crystallization of lithium silicate glass-ceramics: understanding of crack initiation

16:15 › **Maziar Montazerian**, *Dept of Materials Engineering (DEMa), CeRTEV, Federal University of São Carlos (UFSCar), São Carlos*
Past, present, and future of bioactive glass-ceramics

TIMETABLE

08:30 – 10h30 › **PARALLEL SESSIONS 9**

FIBERS 1 – *MAUPERTUIS*
STRUCTURE 6 – *LAMENNAIS 1&2*
OPTOELECTRONICS AND OPTICAL PROPERTIES 2 – *LAMENNAIS 3*
TELLURITE – *LAMENNAIS 4&5*
THERMODYNAMICS – *VAUBAN*

USTV Ph-D AWARD – *MAUPERTUIS*

10:30 - 11:00 › **COFFEE BREAK**
Salle LE GRAND LARGE

11:00 – 12h15 › **PARALLEL SESSIONS 10**

FIBERS 2 – *MAUPERTUIS*
STRUCTURE 7 – *LAMENNAIS 1&2*
FURNACE AND ELABORATION 3 – *LAMENNAIS 3*
PROPERTIES 3 – *LAMENNAIS 4&5*

12:15 - 12:30 › **CLOSING CEREMONY**
MAUPERTUIS

FRIDAY 13th JULY

08:30 – 10h30 › PARALLEL SESSIONS 9

	MAUPERTUIS	LAMENNAIS 1&2	LAMENNAIS 3	LAMENNAIS 4&5	VAUBAN
	FIBERS 1	STRUCTURE 6	OPTOELECTRONICS AND OPTICAL PROPERTIES 2	TELLURITE	THERMODYNAMICS
8:30 – 8:45	USTV Ph-D AWARD	J. DREWITT	H. FNEICH	P. THOMAS	O. GEDEON
8:45 – 9:00			A. VEBER		S. CONTE
9:00 – 9:15	T. CARDINAL	M. FICHEUX	L. PETIT	A. KHANNA	A. TAKADA
9:15 – 9:30		J. SCHNEIDER	L. BOROICA	T. KUBIENA	M.A. RAMOS
9:30 – 9:45	L. LUO	J. CHOI	J. ZHANG	N. GEDIKOGLU	A. SAITTER
9:45 – 10:00	V. SHIRYAEV	J. MARCIAL	J. WANG	E. KAMITSOS	E. CHETCHETKINA
10:00 – 10:15	S. DANTO	M. MAHFOUDHI	H. LI	M. WILDING	S. LINNENKUGEL
10:15 – 10:30	P. FROIDEVAUX	B. MOULTON	M. VERMILLAC	J. DE CLERMONT	J. PETROVIC

MAUPERTUIS

USTV Ph-D AWARD

Session Chair: Daniel NEUVILLE, President of USTV and ESG
Room: MAUPERTUIS

08:30 › **Alexandre Barnini**,
Fabrication and characterization of new ytterbium-doped silica glasses compositions using a plasma method (SPCVD) for laser fiber applications

MAUPERTUIS

FIBERS 1

Session Chair: Bertrand POUMELLEC
Room: MAUPERTUIS

09:00 › **Invited: Thierry Cardinal**, *ICMCB*
Design of oxide glass composition for laser structuring and fiber manufacturing

09:30 › **Lida Luo**, Donghua University
Preparation and characterization of high strength glass fiber from fly ash

09:45 › **Vladimir Shiryaev**, *Inst. of Chemistry of High-Purity Substances of the Russian Academy of Sciences*
Recent advances in development of high-purity chalcogenide glasses for mid-IR fiber optics

10:00 › **Sylvain Danto**, *Institut de Chimie de la Matière Condensée de Bordeaux*
Intermediate-Tg glasses for multi-materials fibers

10:15 › **Paul Froidevaux**, *Laboratoire Interdisciplinaire Carnot de Bourgogne*
Two octave mid-IR supercontinuum generation using tellurite step-index fibers

FRIDAY 13th JULY

LAMENNAIS 1&2

STRUCTURE 6

Session Chair: Bernard HEHLEN
Room: LAMENNAIS 1&2

08:30 › **Invited: James Drewitt**, *University of Bristol*
Structure of aluminate liquids and glasses under extreme conditions

09:00 › **Maxime Ficheux**, *IMPMC, Surface du Verre et Interfaces*
Structure and phase separation investigation of Zr containing Na_2O-CaO-SiO_2-Al_2O_3 glass

09:15 › **José Schneider**, *Instituto de Física de São Carlos, Universidade de São Paulo*
Ca and Sr Bonding in Mixed Phosphate Glasses

09:30 › **JoonSung Choi**, *Yonsei University*
Role of basicity and Al_2O_3 on the NBO/T in calcium aluminosilicate melts

09:45 › **Jose Marcial**, *Washington State University*
Glass structure – crystallization relationships through EPSR modelling of synchrotron X-ray total scattering data of Na, Li, Fe, and B, substituted aluminosilicate glasses

10:00 › **Mohamed Mahfoudhi**, *Laboratoire des Solides Irradiés*
Europium environment modification by Electron irradiation in metaphosphate and polyphosphate glasses: impact of electron energy

10:15 › **Benjamin Moulton**, *Univesidade Federal de Sao Carlos*
Time-resolved structural evolution of supercooled barium disilicate liquid during in-situ crystallization

LAMENNAIS 3

OPTOELECTRONICS AND OPTICAL PROPERTIES 2

Session Chair: Marc DUSSAUZE
Room: LAMENNAIS 3

08:30 › **Hussein Fneich**, *Institut Charles Gerhardt Montpellier*
Size and temperature effect on the photoluminescent properties of Europium-doped silica nanoparticles

08:45 › **Alexander Veber**, *Friedrich-Alexander Universität*
Devitrification behavior of sol-gel derived ZrO_2-SiO_2 rare-earth doped glass: correlation between structural and optical properties

09:00 › **Laeticia Petit**, *Tampere University of Technology*
Up-converter phosphate glasses prepared using direct doping method

09:15 › **Lucica Boroica**, *Nat. Inst. for Laser, Plasma and Radiation Physics, Magurele*
Cobalt oxide doped zinc-boron-phosphate glasses, preparation and properties

09:30 › **Jihong Zhang**, *State Key Laboratory of Silicate Materials for Architectures, Wuhan University of Technology*
Mutual Effect of Quantum Dots and Rare Earth Ions in glass Matrix

09:45 › **Jing Wang**, *Wuhan University of Technology*
Photoluminescence from PbSe and Sr^{2+}-doped PbSe quantum dots embedded in silicate glass

10:00 › **Hong Li**, *State Key Laboratory of Silicate Materials for Architectures, Wuhan University of Technology*
Preparation and application of phosphor-in-glass for Fabricating white LEDS

10:15 › **Manuel Vermillac**, *Institut de Physique de Nice*
Elongation, break-up, dissolution and growth of nanoparticles during the fiber drawing of silica-based optical preforms

FRIDAY 13th JULY

LAMENNAIS 4&5

TELLURITE

Session Chair: Alex HANNON
Room: LAMENNAIS 4&5

08:30 › **Invited: Philippe Thomas**, *Institut de Recherche sur les Céramiques*
Elaboration, structure, nonlinear optical and lasing properties of tellurite based glasses and glass-ceramics

09:00 › **Atul Khanna**, *Guru Nanak Dev University*
Structural studies of tellurite glass, antiglass and crystalline phases

09:15 › **Teo Kubiena**, *University of Nottingham*
Developing Structure-Property Relationships in Optical Glasses to Optimize Functional Designs

09:30 › **Nuşik Gedikoğlu**, *Yildiz Technical University*
Comparison of TeO_2 and Sb_2O_3 as Heavy Metal Oxide Glass Formers

09:45 › **E. I. Kamitsos**, *Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation*
Thermal, mechanical and structural properties of tellurite glasses

10:00 › **Martin Wilding**, *University College London*
The formation of liquids, glasses and the anti-glass phase in the system Bi_2O_3-Nb_2O_5-TeO_2

10:15 › **Jonathan de Clermont Gallerande**, *IRCER*
Structural, mechanical and optical properties of glasses within the TeO_2-TiO_2-ZnO ternary system

VAUBAN

THERMODYNAMICS

Session Chair: Roberto MORETTI
Room: VAUBAN

08:30 › **Invited: Ondrej Gedeon**, *University of Chemistry and Technology*
Origin of empirical Vogel temperature emerging from Molecular dynamics simulations

08:45 › **Sonia Conte**, *Nat. Res. Council – Inst. Sci. and Tech. of Ceramic Materials*
High temperature viscosity of the vitreous phase into porcelain stoneware bodies

09:00 › **Akira Takada**, *Asahi Glass Company*
New theoretical model for partition function and configurational entropy in non-equilibrium states

09:15 › **Miguel Angel Ramos**, *Laboratorio de Bajas Temperaturas, Departamento de Física de la Materia Condensada, Universidad Autónoma de Madrid*
Low-temperature glassy anomalies in highly stable glasses

09:30 › **Allisson Saiter**, *Groupe de Physique des Matériaux*
Segmental mobility at the glass transition in glass forming liquids: Comparison of two approaches

09:45 › **Elena Chechetkina**, *Inst. of General and Inorganic Chemistry of Russian Academy of Sciences*
Is the glass-forming melt in equilibrium state?

10:00 › **Sebastian Linnenkugel**, *School of Engineering and Advanced Technology*
Prediction of the glass transition temperature of sugar rich mixtures

10:15 › **Jelena Petrovic**, *Otto Schott Institute of Materials Research*
Glass transition and fragility of polyionic glasses

FRIDAY 13th JULY

11:00 – 12h15 › PARALLEL SESSIONS 10

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11:15 – 11:30	G. DONG	L. HENNET	F. PIGEONNEAU	M. DUSSAUZE
11:30 – 11:45	L. YANG	L. KOUDELKA	M. EISENGA	A. LIPOVSKII
11:45 – 12:00	Q. WANG	E. DE CLERMONT	E. MUIJSENBERG	B. BOUTEILLE
12:00 – 12:15	C. STRUTYNSKI	K. BODIANG	W. BATTAGLIA	M. MIKA

MAUPERTUIS

FIBERS 2

Session Chair: Bertrand POUMELLEC
Room: MAUPERTUIS

11:00 › **Andy Cassez**, *Univ. Lille, PhLAM Physique des Lasers Atomes et Molécules*
All vapor phase ytterbium doped silica glass fabrication by outside vapor deposition combined to chelate flash vaporization

11:15 › **Guoping Dong**, *South China University of Technology*
Nanocrystal-Doped Glass Ceramic Fibers: Novel Near/Mid-Infrared fiber laser materials

11:30 › **Luyun Yang**, *Wuhan National Laboratory for Optoelectronics-Huazhong University of Science and Technology*
Porous silica glasses for rare earth ions heavily doped extralarge core fiber

11:45 › **Qingwei Wang**, *Donghua University*
Effect of redox state of iron on properties of basalt fiber

12:00 › **Clément Strutynski**, *ICMCB*
Development of highlydoped rare-earth phosphate glasses for NIR and SWIR fiber Laser sources

FRIDAY 13th JULY

LAMENNAIS 1&2

STRUCTURE 7

Session Chair: Georges CALAS
Room: LAMENNAIS 1&2

11:00 › **Oliver Alderman**, *Materials Development, Inc., Argonne National Laboratory*
Amorphous Ta2O5 and its Relationship with the Liquid State

11:15 › **Louis Hennet**, *CEMHTI*
Structure and properties of strontium aluminosilicate melts

11:30 › **Ladislav Koudelka**, *University of Pardubice*
Structure and properties of barium borophosphate glasses modified with molybdenum oxide

11:45 › **Emmanuelle de Clermont Gallerande**, *IMPMC*
Oxygen environment in lithium borates and silicates: an experimental and theoretical study

12:00 › **Kadiali Bodiang**, *Unité de Catalyse et de Chimie du Solide*
^{95}Mo Solid State NMR: Structural study of molybdophosphate glasses

LAMENNAIS 3

FURNACE AND ELABORATION 3

Session Chair: Tetsuji YANO
Room: LAMENNAIS 3

11:00 › **Yoji Doi**, *Dept of Material Science and Engineering, Tokyo Institute of Technology, Production Technology Division, Asahi Glass Co., Ltd.*
Viscosity of sodalime silicate glass raw materials during batch-to-melt conversion

11:15 › **Franck Pigeonneau**, *MINES ParisTech CEMEF*
Thermoconvective instabilities of a non-uniform Joule-heated liquid enclosed in a rectangular cavity

11:30 › **Menno Eisenga**, *Glass Service B.V.*
Advantages of ES III full automatic control of glass feeders

11:45 › **Erik Muijsenberg**, *Glass Service*
Improve Glass Quality and Furnace Efficiency with advanced Simulation models

12:00 › **Walter Battaglia**, *Stazione Sperimentale del Vetro*
Sulphur balance and Carryover measurements metodologies

FRIDAY 13th JULY

LAMENNAIS 4&5

PROPERTIES 3

Session Chair: Efstratios KAMITSOS
Room: LAMENNAIS 4&5

11:00 › **Alexandra Mitchell**, *Corning Research and Development Corporation*
The Effect of Alkaline Earths on FictiveTemperature Dependent Glass Properties

11:15 › **Marc Dussauze**, *Institut des Sciences Moléculaires*
Optical and chemical functionalities controlled at the micrometer scale in glassy materials by an imprinting thermo-electrical process.

11:30 › **Andrey Lipovskii**, *St. Petersburg Academic University, Peter the Great St. Petersburg Polytechnic University*
Poled glasses: relaxation and surface relief formation

11:45 › **Barbara Bouteille**, *Physique et mécanique des milieux hétérogènes, Surface du Verre et Interfaces*
Kinetics of phase separation in barium borosilicate glass thin films deposited by magnetron sputtering

12:00 › **Martin Mika**, *University of Chemistry and Technology Prague*
Magneto-optic glass for fast infrared modulators

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3	Compositional effects on the rheology of glass particle suspensions ***Rodrigo Cardoso dos Passos***, *Hansjörg Bornhöft, Joachim Deubener*
4	Voltammetry and oxygen activity in SnO_2-doped alkali free aluminoborosilicate melts ***Geunho Choi***, *Kicheol Kim, Kidong Kim*
5	Raman spectroscopy and structure of selected Ga_2O_3-CaO-P_2O_5 glasses ***Maria Chromcikova***, *Jana Holubova, Jan Machacek, Zdenek Cernosek, Marek Liska*
6	Tellurium oxide based glasses: establishing of nonlinear optical properties from ab-initio calculations *Olivier Noguera, Eugene Roginskii, Mikhaïl Smirnov,* ***Maggy Colas***, *Olivier Masson, Philippe Thomas*
7	Structural characterization of thin film chalcogenide glasses used in ovonic threshold switches ***Francesco D'Acapito***, *Jean Raty, Antonin Verdy, Gabriele navarro, Francoise Hippert, J Gaudin, M Bernard, Pierre Noé*
8	Ag^+ and H^+ emission from sharp-edged glasses under non-vacuum atmosphere ***Yusuke Daiko***, *Kyohei Segawa, Sawao Honda, Yuji Iwamoto*
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11	Investigation of Tellurite Glasses for Radiation Applications *Volkan Akıllı, Orhan Kıbrıslı, Miray Çelikbilek Ersundu,* ***Ali Ercin Ersundu***
12	Comparison on Chemical Tempering Behavior of Commercial Aluminosilicate and Soda Lime Silicate Glasses Ahmet Caner Kayaalp, Berkel Kayacan, Nahide Özben, İlkay Sökmen, Ali Ercin Ersundu, ***Miray Celikbilek Ersundu***
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15	Dissolution dynamics of AgGeSe chalcogenide glasses in basic aqueous solutions *Orietha Cuellar Rodrigues, A Romero, María Andrea Ureña, Josefina María Silveyra,* ***Juan Manuel Conde Garrido***
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