



2024_12_04

Program ICG Spring School 2024 - April 29 - May 03 2024

Title	Glass for a sustainable future: How can glass scientists help meet the challenge
Organising comitee	Organising comitee : S. Schuller, A. Goel, T. Charpentier, F. Mear, M. Lancry, X. Capilla, R. Pokorny, F. Angeli, J. Mc Cloy, L. Cormier, D. Neuville
Topic	Industrial issues and solutions
Topic	Glass science to support sustainable development

Monday April 29

8:00-8:45	Registration		
8:45-9:00	ICG SpringSchool introduction by organising comitee		
Industrial issues roadmap to reduce CO2 emission			
9:00-9:30	Introduction by glass for Europe*	Bertrand Caze	Glass for europe, Belgium
9:30-10:00	What have the Romans ever done for us? Two thousand years of glass recycling	Nadine Schibille	INSHS, CNRS, France
10:00-10:20*	Decarbonized energy roadmap - Moving away from fossil fuels (recorded presentation)	Emre Dumankaya	Şişecam Science, Technology and Design Center, Turkey
10:20-10:50	Coffee break		
10:50-11:30	Toward decarbonized speciality glass	Allison Yake	Corning Incorporated, US
11:30-12:10	Decarbonization Roadmap applied to the Glass Fiber Industry	Anne Berthereau, Eric Dallies Owens Corning, France	
12:10-12:50	Technical glass opportunities for a sustainable future and collaboration with academia	Jeff Kohli	Corning Incorporated, US
13:00-14:30	Buffet at the hotel		
What is a Glass ?			
14:30-15:10	Basic data on silicate and borosilicate glass structure	Laurent Cormier	Sorbonne University, France
15:10-15:50	Basic data on glass structure and its influence on viscosity	Daniel Neuville	CNRS - Institut de physique du globe de Paris, France
15:50-16:30	Glass and glass-ceramic formulation: an introduction	John Mc Cloy	Washington State University, US
16:30-17:00	Coffee break		
17:00-17:40	From melt to glass fibers	Yuanzheng Yue	Aalborg University, Denmark
17:40-20:00	Teasing poster (3 minutes maximum for presentation, students only)		
20:00-22:00	Buffet at the hotel		

Tuesday April 30

What are the current furnace technologies and technical solutions to reduce CO2 ?			
8:30-9:10	Development of new furnace technologies (H2, electric, blend) and constraints	Malte Sander	Glass Service, Czech Republic
9:10-9:50	Electrical melters : principle, design and limitations	Corinne Claireaux, Ankith Santosh	Celsian, Netherlands
9:50-10:30	The decarbonation pathway of a borosilicate glass furnace: recorded suceses and futur challenges	Johann Brunie	Maison Française du Verre, France
10:30-11:00	Coffee break		
11:00-11:40	Current technologies nuclear waste vitrification furnaces/Technology and issues	Emilien Sauvage	CEA/ISEC, University of Montpellier, France
11:40-12:10	Open discussion		
How to optimize the glass and glass-ceramic process?			
12:10-12:50	Glass synthesis: Focus on Industrial and nuclear glasses	Sophie Papin, S. Schuller and Richard Pokorny	SGR Paris, CEA/ISEC & UCT Prague, Czech Republic
13:00-14:30	Buffet at the hotel		
14:30-15:10	Structural design of borosilicate-based nuclear waste glasses	Ashutosh Goel	Rutgers University, US
15:10-15:50	How the redox play for stucture and properties: Implication for glass industry	Daniel Neuville	CNRS - Institut de physique du globe de Paris, France
15:50-16:30	The role of chemical diffusion in glass processes and related challenges for glass sustainability	Emmanuelle Gouillart	Saint-Gobain Research Paris, France
16:30-17:00	Coffee break		
17:00-17:40	Modern computational methodologies for new Glass developement	Alfonso Pedone	University of Modena and Reggio Emilia , Italy
17:40-18:20	Accelerating glass discovery with artificial intelligence and machine learning	Anoop Krishnan	Indian Institute of Technology Delhi, India
20:00-22:30	Poster session #1 & Cocktail dinner		

Wednesday May 01

What role does glass play in the energy transition ? & a focus on mechanical properties			
9:00-9:40	Glass for batteries	Virginie Viallet	Picardie University, France
9:40-10:20	Self-healing high temperature functional glass for hydrogen fuel cell sealing	Francois Mear	Lille University, France
10:20-11:00	Challenge and progress in solar mirrors and glass for greenhouses	Mohammad Shayesteh	AGC Inc., Innovative Technology Lab, Belgium
11:00-11:30	Coffee Break		
11:30-12:10	Observing mechanical and elastic properties of glasses by spectroscopy methods: toward weight-lightening of glass	Dominique de Ligny	Friedrich-Alexander-University Erlangen-Nürnberg, Germany
12:10-13:00	Open discussion		
13:00-14:00	Buffet at the hotel - Free afternoon		
20:00-22:00	Buffet at the hotel		

Thursday May 02

What are the Primary raw material issues and the LCV methodology ?			
8:30-9:10	General overview on critical raw material (Co, Ni, B, Li, ...)	Paul Notom	BRGM, France
9:10-9:50	Life Cycle Analysis approaches developed for glass sustainability	Anna Maria Ferrari	University of Modena and Reggio Emilia , Italy
What are the technical solutions to reduce CO2 emission ?			
9:50-10:40	Sustainable raw materials for glass production	Ateş Gösterişlioğlu,	Şişecam Science, Technology and Design Center, Turkey
10:40-11:10	Coffee break		
11:10-11:50	Sustainability in glass manufacturing: Contribution from silica and silicates	Hans Van Limpt	SIBELCO, Belgium
11:50-12:30	Schott Climate Neutral 2030 - A way to decarbonization in the glass industry	Wolfgang Schmidbauer	SCHOTT AG, Germany
12:30-13:10	Various ideas and technical foundations for achieving carbon neutral glass melting	Maehara Terutaka	AGC Inc., Innovative Technology Lab, Japan
13:10-14:30	Buffet at the hotel		
14:30-16:30	Poster session # 2		
16:00-16:30	Coffee break		
How to optimize the energy efficiency and the foaming ?			
16:30-17:10	The usefulness of modeling for improving energy efficiency	Miroslav Polak	Glass Service, Czech Republic
17:10-17:50	The contribution of thermodynamics in determining the parameters of elaboration and energy efficiency	Corinne Claireaux	Celsian, Netherlands
17:50-18:30	Refining techniques and developments	Franck Pigeonneau	Nice University, France
20:30-23:00	Banquet - Cocktail dinner - Best student poster prize		

Friday May 03

9:00-9:20	Improving container glass collection & recycling: a European perspectives (recorded presentation)	Vanessa Chesnot	FEVE, Belgium
9:20-11:00	Draft a roadmap: Glass for a sustainable future: How can glass scientists help meet the challenge ?		
11:00-11:30	Conclusion		
11:30-12:30	Brunch		

