



The Slovak and Czech Glass Conference 2025

Topic | Innovation and sustainability
in the glass industry

Registration | www.rona.glass/saczk

Date | 12 - 14 November 2025 Place | Klub AS Trenčín, Sihor'

* The Organizer reserves the right to make alterations in the format, agenda or program of the Slovak and Czech Glass Conference 2025

Wednesday 12.11.2025

11:30-12:30	Registration
12:30-13:55	Lunch
13:55-14:00	Open conference

Composition, structure, and properties of glass

Chair: E. Bernardo

14:00-14:30	Lothar Wondraczek	Some open questions in fundamental glass research
14:30-15:00	Christian Roos	Properties of thermally poled and gas discharge treated glass-ceramic surfaces
15:00-15:20	Branislav Hruška	Role of Lithium Oxide in Modifying Thermal and Physical Properties of Alkaline Aluminosilicate Glasses
15:20-15:40	Ali Talimian	Effects of Nb ₂ O ₅ on the short- and medium-range structure of sodium zinc tellurite (TZN) oxide glasses
15:40-16:00	Hamid Hassani	Effect of Alkali Substitution on Structure and Mechanical Performance of Chemically Tempered Silicate Glasses
16:00-16:20	Coffee break	

Functional properties of special glasses (biological)

Chair: L. Wondraczek

16:20-16:50	Aldo Boccaccini	Bioactive glasses: from bone regeneration to biofabrication and ionic medicine
16:50-17:10	Martin Michálek	Bone Regeneration by A Multifunctional Bioactive Glass- Magnetic Nanocomposite with Dual Ion-Doping for Enhanced Angiogenesis and Osteogenesis
17:10-17:30	Maryam Ahmadi	Structural, and Bioactive Properties of Nitrogen-Doped Alkali-Free Glasses for Biomedical Applications
17:30-17:50	Aleksandra Nowicka	Mesoporous bioactive glass coatings on zirconia – based ceramic substrates
17:50-18:10	Nariman Alipanah	Development of a hydrogel composite incorporating calcium-silicate bioactive glass and antibacterial propolis@ZIF-8 particles for tissue regeneration
18:10-18:30	Ahmed Gamal	Greener, safer, and stronger: plasma ion-exchanged pharmaceutical glass vials for precision drug delivery dosing
18:30-19:30	Welcome dinner & Poster session	
19:30	Presentation of the stadium & Poster session	

Thursday 13.11.2025

EverGlass Symposium on Glass Recycling

Chair: E. Muijsenberg

9:00-9:30	Alicia Durán	Glass, the hidden gem of sustainability
9:30-09:50	Jozef Kraxner	Everglass – Innovative Glass Recycling Technology Process
9:50-10:10	Abel Ourgessa	Preparation of waste glass/waste refractory-based lightweight alkali-activated materials via direct ink writing
10:10-10:30	Giulio Gorni	Glass waste collection, properties characterization and conditioning for glass laser morphing
10:30-10:50	Hamza Sajjad	Experimental research on the development of Glass Laser Morphing for borosilicate glass recycling
10:50-11:10	Coffee break	

Chair: J. Kraxner

11:10-11:40	Enrico Bernardo	Glass foams: conventional and updated processes for sustainable reuse of cullet
11:40-12:00	Hana Kaňková	Selection of suitable instrumental techniques for quantitative chemical analysis of glass
12:00-12:20	Vlastimil Hotař	The use of waste glass as a sustainability challenge
12:20-12:40	Nicolas Legendre	Glass laser morphing: a solution to limit critical raw materials depletion?
12:40-14:00	Lunch break	

Thursday 13.11.2025

Computer simulations, AI, and machine learning in glass

Chair: M. Liška

14:00-14:30	Ondrej Gedeon	Simulation in glass science – approximations, limitations, achievements, and challenges
14:30-14:50	Alfredo Sanchez	Insights into Na ⁺ /K ⁺ ion exchange in alkali-lime-silicate glasses using molecular dynamics study
14:50-15:10	Ali Najafzadeh	Impact damage resistance of pharmaceutical glass: a finite element analysis-machine learning collaborative approach
15:10-15:30	Miroslav Polák	Mathematical modelling of glass furnaces and its importance for simulation of refractory materials corrosion
15:30-15:50	Jörg Kuhnert	MESHFREE – A generalized continuum mechanics approach for glass manufacturing applications
15:50-16:10	Coffee break	

Functional properties (optical, electric, magnetic) of special glasses, including functional coatings II

Chair: M. Janek

16:10-16:30	Amol Logavi	Design and development of hydrophobic antireflective coatings for solar cell cover glasses
16:30-16:50	Shubham Gupta	Synthesis and Optimization of Series of CaLiLa(MoO ₄) ₄ :Eu ³⁺ Phosphors for Enhanced Thermal Stability in High-Power LED Applications
19:30-00:00	Galla dinner	
21:00	Night program - Folklore Band "Trúfalci"	

Friday 14.11.2025

Decarbonisation of glass production

Chair: C. Roos

9:00-9:30	Erik Muijsenberg	Decarbonization & Sustainability Pathway of the Glass Industry: Challenges, Opportunities Across Segments, and Possible Solutions
9:30-9:50	Jozef Šuška	Decarbonization and intensification of high temperature processes by oxygen and hydrogen burners
9:50-10:10	Sheeraz Khan	Corrosion mechanisms of AZS refractories in contact with Barium crystallin glass
10:10-10:30	Coffee break	

Glass forming, including additive manufacturing and advanced processing techniques

Chair: V. Hotař

10:30-11:00	Marián Janek	Fused filament fabrication of glass - the opportunities and limitations
11:00-11:20	Mokhtar Mahmoud	Fused Deposition Modeling of Biopolymer-Bioactive Glass Composite Filaments for Bone Regeneration Applications
11:20-11:40	Michaela Benköová	Additive Manufacturing of Glass Structures via Fused Filament Fabrication
11:40-12:00	Andrea Cibrínová	Optimisation of 3D printing and sintering parameters required for PiG (phosphor in glass) preparation
12:00-12:20	Tomáš Tesař	Plasma spraying for glass production and design
12:20	Lunch	
14:00	Tour of the FunGlass	
14:00-14:30	Transport to Rona	
14:30 - 15:30	Tour of the Rona	

Poster session

Poster session

1	Richard Burian	Project planning for general repairs of glass furnaces. Importance of project management
2	Ayesha Amjad	High temperature ceramic coatings based on Yb ₂ Zr ₂ O ₇ under corrosion environment
3	Jana Šulcová	Effect of Aging on Surface Properties of Nanostructured TiO ₂ Films
4	Lenka Buňová	In-house glass standards for analysis of lithium-containing minerals
5	Laura Löwy	Effect of reducing agents on rhenium retention during nuclear waste vitrification
6	Radek Pezl	Effect of melter operating conditions on subsurface and neck corrosion of high-chromium refractories
7	Matouš Eret	Kinetics of silica dissolution during glass batch melting
8	Dana Rohanová	Bohemia and Moravia in the migration Period – Contacts Reflected in Glass Vessels and Their Chemical Composition
9	Robert Janík	Plasma-Enhanced Surface Modification of Glass via DCSBD: Influence of Extended Distance on Surface Activation
10	Hannah Kissel	Synthesis and Characterization of Lithium-Releasing Mesoporous Bioactive Glass Nanoparticles for Articular Cartilage Repair
11	Valeria Diamanti	Highly porous 3D-printed 70S30C bioglass scaffolds from engineered silicone-based emulsions
12	Karol Kuglarz	A cerium-oxide-based low temperature sealing glass of alumina in the semiconductor industry
13	Koshika Padney	SAY Glass-Ceramics as Filler for SiC/SiC Joining: Insights from Furnace and Laser Joining Techniques
14	Xiaoyi Xu	Fracture toughness of zeolitic imidazolate framework crystal-glass composites revealed by molecular dynamics simulations
15	Linda Daugé	Cold Sintering” for Consolidation of Amorphous Calcium Phosphate Bioceramics
16	Kinga Kowalska	Erbium Doped Fluorotellurite – Phosphate Glasses for Efficient Green Light Emission
17	Sachin Pundir	Waste-Glass-Based Conductive Electrodes Prepared by Additive Manufacturing for Electrochemical Applications
18	Vaclav Kulas	Long-acting glass fertiliser based on phosphate glass
19	Monika Michálková	Effect of Glass Refractive Index on Phosphor-in-Glass Luminescence Performance
20	Aleksandra Bak	Phase composition, microstructure, and thermal shock resistance of spinel-based refractory composites modified with CaTiO ₃ , CaZrO ₃ , and Al ₂ TiO ₅
21	Mansi Dua	DLP-Based Additive Manufacturing of Photocatalytic Glass-Ceramic Membranes for Wastewater Treatment
22	Sajana Mohanan	An approach towards converting heterogeneous waste glass into structural glass-ceramic parts through binder jetting 3D printing
23	Vojtech Soltész	Impact of Radiation Load on Glass-Fibre Insulation from the Viewpoint of Coolant Recirculation under Emergency Conditions of Pressurized Water Reactor Nuclear Power Plants
24	Maria Waqar	From Waste to Value: Reaction Mechanism and Durability of Waste Glass-Brown Mud Alkali-Activated Binary Systems
25	Gabriela Goleba	Effect of Boron Source on the Structure and Bioactivity of Borate-Based Bioactive Glasses
26	Michal Kananowicz	Effect of glass matrix type and synthesis method on the structural and dissolution behavior of Cu/Co-doped bioactive glasses

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