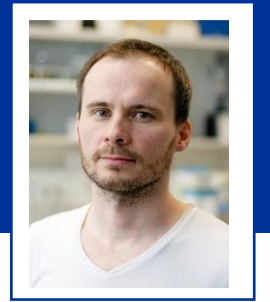


Session	Decarbonizing the Glass Industry (II)
Date	APRIL 11, 2025
Time (CET)	14:30 - 14:45
Chair	Değer Demircan Acıloğlu



Everglass – Innovative Glass Recycling Technology Process

Jozef Kraxner¹, Hana Kaňková¹, Rafael Comesana², Giulio Gorni³, María Jesús Pascual³, Juan Pou³, Dušan Galusek⁴

¹FunGlass, Alexander Dubcek University of Trenčín, Slovakia

²CINTECX, School of Engineering, University of Vigo, Spain

³Ceramics and Glass Institute (CSIC), Spain

⁴Joint Glass Centre of the IIC SAS, Slovakia

Biography

Jozef Kraxner leads a group of researchers and PhD students focusing on the development and preparation of new materials from waste glasses (recycling/upcycling process), glass and glass-ceramic foams, solid, hollow, and porous glass microspheres for various applications, new glass-ceramic composites, BIO-active 3D scaffolds/structures prepared by various additive manufacturing techniques, and cooperation with the glass industries on various topics.

Abstract

Glass as a material plays an important role in the carbon-neutral future, but current technology does not allow full recycling. While Europe has efficient processes for recycling soda-lime glass, recycling of many other types, for example, optical glass, electronic screens, and glass wool, is often neglected. With the increasing amount of this glass waste, much is either landfilled. This problem also applies to waste from the medical and digital technologies sectors, which produce waste glass from X-ray tube glass, pharmaceutical vials, and LCD screens. Given the rapid expansion of these industries, it is imperative to address the increasing volume of this polluting glass waste. The current model, which recycles only a small fraction of glass, must evolve into a comprehensive recovery strategy capable of processing all glass types, which can be recycled indefinitely.

This study focuses on developing a laboratory-scale prototype Everglass recycling process, employing Gmorph-Glass Laser Morphing to process various waste glasses into novel 3D objects. This innovative approach seeks to unveil sustainable pathways for efficient recycling of various glass systems, thereby tackling critical environmental and industrial challenges.

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