



Invited Session

„Thin Film Metallic Glasses“

organized by Philippe Steyer, INSA Lyon, MATEIS Lab, France

September 2, 2026 | 13:30 – 17:00 | Erst-Abbe-Saal, Trade Fair Erfurt, Germany

Bulk Metallic glasses (BMGs) were intensively studied since the 60's for their amorphous structure and associated outstanding properties. However, applications of BMGs have stayed limited due to the fast quenching imposed to avoid the crystallization, and leading to small pieces. The condensation from the vapor phase to form a solid film in PVD processes constitutes another alternative to design metallic glasses. We then refer to Thin Film Metallic Glasses (TFMGs). Devoid from metallurgical defects (grain boundaries, precipitates...), unexpected mechanical, physico-chemical and biological properties can be obtained.

This session will focus on TFMGs and other coatings characterized by a disordered structure. The session is open for papers in the wide fields where such disordered films can be met, like healthcare, mechanics, electronics, corrosion. A special attention will be paid to the relationships between the functional characteristics of films and their microstructure, chemical composition, thermal stability and application.

Keynote: Metallic Glasses Evolving from Academic Research to Specialty Applications in Tribology, Biomedicine and Green Energy

Florian Spieckermann, Technical University of Leoben, Austria

Thin-film metallic glasses in the binary W-Zr system: Opportunity for advanced functional coatings

Petr Zeman, University of West Bohemia, Czech Republic

CuZn-based alloy coatings to reveal bactericidal activity mechanisms

Anne-Lise Thomann, Université Orléans, France

Environmental and Thermal Stability of Amorphous AlMgB14 Thin Films for Low-Adhesion and Tribological Applications

Paul Mayrhofer, TU Wien, Austria

Multi-element amorphous thin films as protective barrier against carbon diffusion

Aurélien Besnard, Université Marie et Louis Pasteur, France



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Spontaneously formed Ag nanoparticles yield dynamic electrical and optical responses in Zr-Ag metallic films

Alejandro Borroto, Université de Lorraine, France

AlMgB14 – based coatings as PFAS-free coating solution with anti-stick properties

Noora Manninen, Oerlikon Surface Solutions AG, Liechtenstein

Synthesis and characterization of DC magnetron sputtered SiBCON thin films

Alexander Kirnbauer, TU Wien, Austria

Influence of low-Ag contents Zr-Cu TFMGs on their antibacterial activity, effect of a further fs-laser texturing

Philippe Steyer, INSA de Lyon, France