

## **List of ISMANAM 2025 Contributions (ordered alphabetically by presenting author)**

### **Plenary Lectures**

Multicomponent High-Entropy Cantor alloys  
Brian Cantor

Tuning Disorder and Heterogeneity of Metallic Glasses  
Jurgen Eckert

Atomic cooperativity and deformation in metallic glasses  
Takeshi Egami

Development of Super Plastic Bulk Metallic Glasses via Tailoring of Icosahedral Ordering  
Eun Soo Park

Using TEM to link structure with shear band evolution in metallic glasses  
Christoph Gammer

Opportunities and Problems with Ultrafast Calorimetry of Metallic Glasses  
A. Lindsay Greer

Advanced Analytical Electron Microscopy for Amorphous and Nanostructured systems  
Demie Kepaptsoglou

Correlative fast differential scanning calorimetry on metallic glasses  
Jörg F. Löffler

Nanocrystallization technology for high Fe content amorphous alloy  
Motoki Ohta

Examination of Amorphization and Primary Crystallization by High Rate Nanocalorimetry  
John H. Perepezko

From Ribbons to Bulk: Tuning Magnetic Properties in Fe-Si-B Alloys with Advanced Manufacturing  
Paola Tiberto

Atomic Mobility in Metallic Liquids and Glasses  
Paul M. Voyles

A new generation of high-frequency amorphous/nanocrystalline soft magnetic materials for matching third-generation semiconductors  
Wei Hua Wang

## **Keynote Lectures**

Ceramic biomaterials: From traditional technologies to novel applications  
Katalin Balazsi

Aging effects of Lunar Glasses  
Bo Zhang

Interface energies and hydrogen storage properties of Mg/Additives/MgH<sub>2</sub>  
Walter J. Botta

Ni-Ti based shape memory alloy nanostructures using amorphous phase as a precursor  
Do Hyang Kim

## **Invited Lectures**

Mechanochemistry - Solvent-free and green methodology to yield nanostructured metal chalcogenides with versatile applications  
Matej Baláž

Structural Aspects of Stress-Induced Magnetic Anisotropy in Fe-based Nanocomposite: Insights from Synchrotron Experiments  
Jozef Bednarčík

Dependences of phase distribution and magnetic properties on compositional tailoring in Mn(CoFe)(GeSi) series obtained from mechanically alloyed amorphous precursors  
Javier S. Blázquez

Negative/zero/positive thermal expansion alloys  
Matthias Bönisch

Probing Short-Range Order in Fe-Co-Si-B-Mo-P Amorphous Alloy Using Mössbauer Spectroscopy and High-Energy X-ray Diffraction  
Martin Cesnek

Soft Magnetic Nanocrystalline Materials in Vacuumschmelze Portfolio and their Application  
Marián Deanko

The Roles of Nanostructures in Enhancing the Strength-Ductility Synergy of Powder Metallurgy Near-alpha Titanium Alloys  
Deliang Zhang

Hardness and strength of dual – phase boride/carbide high entropy ceramics at nano/micro scale  
Jan Dusza

Ultra-rapid Annealing by Joule Heating: the Novel Setup for Precise Thermal Cycle and In-situ Measurements  
Jarosław Ferenc

Vitrification of metallic liquids – uncovering the structural pathway to metallic glasses  
Kostas Georgarakis

Tailoring Microstructure and Creep-Induced Anisotropy in Co-Based Amorphous Wires for Enhanced Functional Magnetic Properties  
Nicoleta Lupu

Perovskite Thin Film Growth: Structural and Optoelectronic Characterization

Nada Mrkyvkova

Medium and High Entropy Multicomponent Alloys - a wide variety of structures, properties and processing routes

Dariusz Oleszak

Magneto-optical observations of cylindrical magnetic microwires with Matteucci effect

Kornel Richter

Surface modification of biocompatible Ti-based amorphous alloys by dealloying to improve implant cytocompatibility

Paola Rizzi

Fabrication of multicomponent nanoporous metallic materials by vapor phase dealloying

Oleksandr Roik

Large-angle Lorentz 4-Dimensional Scanning Transmission Electron Microscopy for Simultaneous Local Magnetization, Strain and Structure Mapping

Sangjun Kang

Impact of elevated temperature on soft magnetic properties of rapidly annealed nanocrystalline high- $B_s$  Fe-Co-B-Cu alloys

Ivan Škorvánek

Tuning the Degree of Rejuvenation in Metallic Glasses

Daniel Šopu

High-capacity Metal hydride / Air secondary battery

Tony Spassov

Application of synchrotron-based quantifiers for the characterization of conventionally and additively processed metallic glasses

Florian Spieckermann

Transition of fluctuation-modifying to bond-modifying Invar effect in ferromagnetic bulk metallic glasses

Mihai Stoica

Tailoring of soft magnetic properties and Giant Magnetoimpedance effect of amorphous microwires by stress-annealing

Arcady Zhukov

## Oral Contributions

Evaluation of hardening and structural change during deformation in as-cast CuZr based bulk metallic glass  
Ahmad Oweisi Fordoei

Microstructural Influence on Creep Resistance and Fracture Behavior of CoCrFeNi Multi-Principal Element Alloy Fabricated via Laser Powder Bed Fusion  
Amey Parnaik

Capturing Ultrafast Melting in Palladium  
Jerzy Antonowicz

Comparative Tribological Study of Wrought and LPBF C300 Maraging Steel: Influence of Heat Treatment and Microstructural Characteristics  
Ashwani Chaudhary

Electronic structure of high-entropy alloys: prospects and challenges  
Emil Babic

Structure, anticorrosion and mechanical properties of CoCrFeNiMs (Ms=Nb,Mo,B,Si) high entropy alloys prepared by rapid solidification method  
Rafal Babilas

Phase transformation and mechanical properties of silicide-strengthened  $(\text{TiZrHfNb})_{100-x}\text{Si}_x$  ( $x=0, 1, 5, 7, 10$  and  $15$ ) high entropy alloys  
Binbin Liu

The low temperature relaxation behaviors and their dynamic responses  
Bing Wang

Mechanochemical synthesis: a pathway to novel high-entropy oxide perovskite structures  
Javier S. Blázquez

Crystallisation of Metallic Glasses in Complex Multicomponent Carboborides  
Walter J. Botta

On the improvement of the corrosion resistance of two families of High-Entropy Metallic Glasses  
Pere Bruna

A remarkable inversion of oxidation rate and unique oxide morphology of  $\text{Cu}_{60}\text{Zr}_{40}$  metallic glass at  $100\text{-}300\text{ }^{\circ}\text{C}$   
Caiyun Liu

On advanced quality electromagnetic yokes based on amorphous ribbons for steel health monitoring  
Tatiana Damatopoulou

Phase-separated Zr-Al-Fe-Y metallic glasses with suitable mechanical properties for possible implant applications  
Devinder Singh

A DFT study on the effect of vacancies on the formation of deformation twins in Cu alloys  
Eun-Ae Choi

Interface asymmetry and phase transformation of the Cu layer-inserted Al/Cu/Ni/Cu multilayers  
Feng Ye

Crystallization Temperature Driven Phase Evolution and Magnetic Behaviour in Fe-Ni-P-C Ribbons  
Carlos.Iglesias Fernández-Cuevas

Structure, Properties and Crystallization Behavior of FeSiBPCuNb Soft Magnetic Nanocrystalline Alloy  
Fushan Li

Sustainable Aerospace Manufacturing: Recycling of Aerospace-Grade Titanium Alloys via Rapid Solidification of Swarf Waste  
Kostas Georgarakis

Additive manufacturing of Ti-Nb-based biomaterial  
Konda Gokuldoss Prashanth

Molecular Dynamics Simulation study on deformation mechanism of Bombyx mori silk and hydroxyapatite under mechanical loading  
Gopal Nandan Tiwari

Cu-Zr-Al thin film metallic glasses in a wide range of compositions and growth conditions  
Jiri Houska

Medium-range atomic correlation and local chemical order in metallic glasses  
Chae Woo Ryu

Longitudinal and transversal flexibility influence on magnetic properties of amorphous glass covered microwires  
Alexander Chizhik

Effect of High-Entropy Reinforcements on the Strength and Toughness of Tungsten-Based Alloys  
Chun-Liang Chen

3D-printed Topologically Structured Electrodes with Exceptional Mechanical Properties and Electrochemical Performance for Flexible Li-ion Batteries  
Ying Ian Chen

Glass-Forming Ability of Cu-Ag Eutectic Alloys  
Jinfu Li

Achieving ultra-strong and ductile CoNi-based FCC multi-principal element alloys via alloying with Mo and W refractory elements  
Kaiju Lu

Crystallization kinetics of supercooled liquid Palladium  
Zuzanna Kostera

B2 CuZr phase formation in Cu-Zr-Al bulk metallic glass matrix composites  
Tomasz Koziel

Interfaces in Phase-Separated Pd-Au-Si Metallic Glass Alter Phase Transformation Kinetics  
Min Kyung Kwak

Unique deformation mechanisms in an FCC/BCC dual-phase high entropy alloy at high temperatures  
Lin Liu

Effects of melting processing on the characteristics and structure of microporous metal-organic framework ZIF-62 glasses  
Iryna V. Matsukevich

Design strategy for metallic glass composites  
Mo Li

Fictive temperature-based annealing effects on metallic glasses with different initial structure

Myeong Jun Lee

Novel antibacterial Ti-Based Alloys for Biomedical Applications

Neda Shojae

Effect of casting conditions on the structure and mechanical properties of bulk metallic glasses

Krzysztof Pajor

As-cast Al-Fe-Co-Ni-Cu alloys: microstructure, phase constitution, and oxidation resistance

Marián Palcut

Ultra-Fine Nanocrystallization in Fe-Rich FeSiBPNbCu Alloys: Mechanisms and Microstructural Evolution

Premkumar Murugaiyan

Effects of Ni addition on the magnetic and structural properties in Fe-Si-B-Nb alloy by different casting techniques

Purbasha Sharangi

Synthesis and characterization of soft magnetic metallic glass nanoparticles via laser ablation

Parthiban Ramasamy

Short-range order of the liquid Al-Sn-Cu alloys

Oleksandr Roik

Influence of remelting in PBF-LB of KUAMET®6B2

Felix Römer

Analysis of Deformation Behavior of Zr-Cu-Al Bulk Metallic Glass with Gradient Relaxation Structure by Digital Image Correlation

Junji Saida

Effect of Nanoimprint-Induced Structural Heterogeneity on the Oxidation Behavior of Zr-Based Metallic Glasses

Sang Tae Woo

Direct observation of quadrupolar strain fields forming a shear band in metallic glasses

Sangjun Kang

Atomic Disorder in Laser Beam-Shape-Tailored 3D-Printed Zr-Based Bulk Metallic Glass Under In-Situ Heating During High-Energy X-Ray Diffraction

Sepide Hadibeik

Strengthening by heterogeneously nucleated and grown G-phase in Cu-Ni-Si-Mn alloy

Seung Zeon Han

Investigating the Formation Condition of Amorphous Solid

Baoshuang Shang

Frontiers of Amorphous Materials: Metallic glass thin films, microfibers and bulk systems for biomedical applications

Elham Sharifikolouei

Geometrical porometry as a method for calculating the free volume of condensed systems.

Ihor Shtablayvi

Kinetic and thermodynamic studies of ion-induced gradient rejuvenated amorphous microwires

Shuang Su

Creep and Cyclic Tensile Behaviors and Structural Evolution Mechanisms of Metallic Glasses  
ShuYi Liang

High Corrosion Resistance and Biocompatible Zr-Based Bulk Metallic Glasses for Load-Bearing Implants  
Fereshteh Sourani

W-based metallic glasses for nuclear fusion applications  
Martin E. Stiehler

Experimental and Molecular Dynamics simulation study on deformation mechanism of CoCrNi MEA under nanoscratch test  
Vamsi K. Majeti

Heterogeneous lamella structure induced precipitation-hardened Fe-rich complex concentrated alloys  
Vikas Shivam

Characterization of different carbide distributions for a Cr-Co-Ni alloy  
Witor Wolf

Tailoring Microstructures and Tribological Performance in Quasicrystalline-Reinforced Coatings and Surfaces  
Witor Wolf

Interfacial strain concentration and relaxation along crystalline-amorphous boundaries of B2-reinforced bulk-metallic-glass-composites during loading  
Xiaoling Fu

Dual-phase nanocomposite coatings based on crystalline ZrN and glassy ZrCu  
Petr Zeman

Tribo-corrosion behaviors of Al-based amorphous coatings prepared using HVOF spraying techniques  
Zhiyuan Jing

## Poster Contributions

Study of the ferromagnetic nanoparticles - biological cells adherence by TEM imaging at room temperature  
Gabriel Ababei

Significant Enhancement of Yield Strength in Ti80Cr20-x(CoFeNi)x Alloys Through Phase Stability Modulation and Ultrafine Eutectic Structure  
Muhammad Aoun Abbas

Bulk metallic glasses surface modification by low-temperature plasma nitriding and oxidation  
Piotr Blyskun

Long-term magnetic stability of nanocrystalline FeCuBPSi alloys  
Beata Butvinová

Experimental and thermal study of SAC305-xGa solder alloys  
Patrícia Danišovičová

Exploring the Mechanochemical Reduction of Ilmenite for the production of TiFe Hydrogen Storage Alloys  
Stefano Deledda

Influence of V on the microstructure and mechanical characteristics of (CrFeNiCu)<sub>100-x</sub>V<sub>x</sub> high entropy alloys  
Dilshodbek Bakhtiyarovich Yusupov

Alloy Design and Optimized Metal Oxide Photo-reactive Nanostructure for Water Splitting  
Hae Jin Park

Effect of MoO<sub>2</sub> Powder Packing Density on Sintering Kinetics and Grain Growth  
Haguk Jeong

Maximum achievable N content in amorphous nitrides  
Jiri Houska

Carbon formation characteristics of IPA decomposed on the nickel impregnated SBA-15  
Hung-Lung Chiang

Variations in the Motion of Magnetic Particles in a Thin Film under Magnetic Fields  
Hyo-Soo Lee

Mechanically Alloying Synthesized Nanostructured Electrodes and Electrolytes for Advanced Batteries  
Ying Ian Chen

Enhanced Antibacterial Activity of Surface-Modified Zr<sub>50</sub>Cu<sub>50</sub> Metallic Glass  
Ka Ram Lim

Nanocrystalline and amorphous Al<sub>40</sub>Mg<sub>40</sub>Ti<sub>20</sub> and Al<sub>40</sub>Mg<sub>20</sub>Ti<sub>40</sub> alloys  
Marek Krasnowski

Crystallization Kinetics of Bulk Metallic Glass with Oxidation-Induced Heterogeneity  
Min Kyung Kwak

Nanostructured amorphous arsenoselenides  
Zdenka Lukáčová Bujňáková

Analysis of growth of intermetallic layers (Cu<sub>3</sub>Sn, Cu<sub>6</sub>Sn<sub>5</sub>) at Sn-solder/Cu substrate interface  
Tereza Machajdíkova



Comparison of the tribological and anticorrosion properties of multi-principal element alloys: CoNiMo, CoCrNiMo, CoCrCu<sub>0.1</sub>NiMo  
Katarzyna Młynarek-Zak

Soft Explosive Crystallization and Viscous Flow in Fe<sub>83</sub>B<sub>17</sub> Amorphous Alloy: Glass Transition Temperature Insights  
Javier Alberto Moya

Investigation of helium ion irradiation response with Zr-based metallic glasses with different glassy structure  
Myeong Jun Lee

Nb-Zr-Pt-Ti high entropy alloy superconducting bulk: synthesis and structure-property correlation  
Nitin Srivastava

Synthesis of amorphous Co-based multi-component thin film by magnetron sputtering  
Yulia Nykyruy

Direct Visualization of Magnetic Domain Walls in Submicronic Amorphous Wires  
Tibor-Adrian Óvári

Structure-Property Relationships in Cu-Zr-Al Alloy: Influence of Crystalline Precipitates on Mechanical Performance  
Denis Pikulski

Development of High Entropy Alloy via Thermo-Calc and remelting technique  
Wirginia Pilarczyk

Structure and electrical resistivity of the Bi-In-Sn-Zn-Cu-Ag alloys  
Yuriy Plevachuk

Oxide nanostructure cathodes and engineered anodes for rechargeable Zn-ion/air batteries  
Ranjit Bauri

Tetragonal-to-Cubic Phase Transition in Gd-doped BaTiO<sub>3</sub> Nanorods: Diamagnetic-to-Ferromagnetic Shift and Enhanced Photocatalytic Properties  
Sandeep Kumar Singh Patel

Enhancing Ductility in Metallic Glasses through High-Pressure Torsion  
Sangjun Kang

Formation of ordered metal arrays as a result of rapid solidification of alloys  
Ihor Shtablayvi

Achieving excellent tensile plasticity in amorphous microwires through ion-induced nonlinear gradient rejuvenation  
Shuang Su

A study on chromaticity and mechanical properties of Cu-Ge-Al alloys with bimodal-sized intermetallic compound  
Sung Hwan Hong

Low temperature plasma assisted fabrication of multi-metallic nanomaterials for electrodes of energy storage systems  
Nikolai Tarasenko

Development of Fe-rich complex concentrated alloys (CCAs) for high-temperature applications  
Vikas Shivam

Hybrid solder joints: characterization of the core/shell Fe/oxide nanosized particles  
Andriy Yakymovych

Influence of configuration entropy and cocktail effect on the corrosion resistance of Pd-based Metallic Glasses  
Yating Zhou

Preparation and Characterization of New Highly Entropy Alloys  
Valentina Zhukova