

Session Program

13-17 Sept 2021

**EUROPEAN CONGRESS AND EXHIBITION ON
ADVANCED MATERIALS AND PROCESSES -
EUROMAT 2021**

***C10_Coatings and surface modification
technologies***

Virtual

Monday 13 September

11:00

C10_Coatings and surface modification technologies: C10_1_Spraying, Laser Technology and Friction Steer Processing of Coatings

Session | Location: Room 10

11:00–11:20

Investigation on microstructure and mechanical properties of HVOF sprayed composite coatings (WC-Co+Cr) on ductile cast iron (Highlight)

Speaker

Prof. Marzanna Ksiazek

11:40–12:00

Laser surface pretreatment for structural bonding and coating

Speaker

Dr Miriam Löbbecke

12:00–12:20

The application of coated carbon nanotubes in metal matrix composites

Speaker

Nur Syazana Natasha binti Hisham

12:20–12:40

Microstructure and properties of SnSbCu bearing alloy after FSP process

Speaker

Prof. Beata Leszczyńska-Madej

12:40

14:00

C10_Coatings and surface modification technologies: C10_2_Diffusion, Oxidation and Thermal Stability

Session | Location: Room 10

14:00–14:20

Innovative glass-based oxidation protective coatings for thermoelectric materials (Highlight)

Speaker

Dr Fabiana D'Isanto

14:20–14:40

Protective Chromium Diffusion Coatings on Refractory Metals

Speaker

Ms Katharina Beck

14:40–15:00

Structure and thermal stability of refractory high entropy alloy thin films

Speaker

Mr Georg C. Gruber

15:00–15:20

First-principles and molecular dynamics study of Ag transport in self-lubricating coatings

Speaker

Dr Veniero Lenzi

15:20–15:40

Development of PVD barriers against carbon diffusion during SPS sintering process.**Speaker**

Dr Maria-Rosa Ardigo-Besnard

15:40

16:00

**C10_Coatings and surface modification technologies:
C10_3 Electrophoretic Deposition, Electroplating and Atomic Layer Deposition****Session** | **Location:** Room 10

16:00–16:20

In-situ TEM annealing, DSC and hot extraction analysis to understand the microstructure of electrodeposited trivalent chromium (Highlight)**Speaker**

Walid Bedjou

16:20–16:40

Seedless Cu electroplating on Co-W thin films in low pH electrolyte - Early stages of formation**Speaker**

Dr Rúben Santos

16:40–17:00

Hard Anodizing and Plasma Electrolytic Oxidation of an Al₁₀Si₁Mg fabricated by Direct Metal Laser Sintering**Speaker**

Dr Hugo Mora-Sanchez

17:00–17:20

Pulsed-DC Electrophoretic Deposition of Platinum Nanoparticles on neural electrodes significantly lowers their Impedance**Speaker**

Ms Vijayanthi Ramesh

17:20–17:40

Atomic layer deposition of oxide coatings on porous additively manufactured metal and polymer structures**Speaker**

Dr Reinhard Kaindl

17:40

Tuesday 14 September

09:50

C10_Coatings and surface modification technologies: C10_4_Mechanical and Tribological Properties of Coatings

Session | Location: Room 10

09:50–10:10

The potential of Mo-Se-(C) sputtered coatings for sliding against rubber (Highlight)

Speaker

Prof. Albano Cavaleiro

10:10–10:30

Microstructure and mechanical properties of arc evaporated Ti(Al,Si)N coatings

Speaker

Ms Yvonne Moritz

10:30–10:50

In-situ stress evolution of magnetron-sputtered Cu/W multilayers in dependence of the deposition conditions

Speaker

Mr Giacomo Lorenzin

10:50–11:10

Tribological properties of Mo films deposited on polyimide substrates without and with prior straining

Speaker

Edyta Kobierska

11:10–11:30

Micromechanical characterization of crack tolerance of doped tetrahedral amorphous carbon coatings by scratch test, indentation test and high deformation bending

Speaker

Martin Zawischa

11:30

11:50

C10_Coatings and surface modification technologies: C10_5_Polymer Coatings and Coatings for Polymers

Session | Location: Room 10

11:50–12:10

Development of a system for the design and synthesis of tailor-made peptides for the treatment of polymers prior to plastic metallization (Highlight)

Speaker

Ms Tina Kießlich

12:10–12:30

Designing a facile preparation mode for the development of transparent and durable antisoiling coatings with enhanced anti-static properties

Speaker

Dr Konstantinos Giannakopoulos

12:30–12:50

Design and testing of polyurethane-based nanocomposite coatings with hydrophobic and icephobic properties for wind rotor blades**Speaker**

Dr Angelos Filippatos

12:50–13:10

Modification of steel-polymer interfacial adhesion using Al₂O₃ and TiO₂ surfaces produced via ALD**Speaker**

Dr M.J. Lima

13:10–13:30

Anti-adhesive organosilane coatings functionalized with fluorescent markers**Speaker**

Prof. Wolfgang Kern

13:30

15:20

C10_Coatings and surface modification technologies: C10_6_Coatings for Biological Applications**Session** | **Location:** Room 10

15:20–15:40

Insole Coatings to Prevent Diabetic Foot Infections (Highlight)**Speaker**

Prof. S. Carvalho

15:40–16:00

Development of new osseointegrated and antimicrobial tantalum implant**Speaker**

Ms Luísa Fialho

16:00–16:20

Enhancing antibacterial properties on micro-/nano-patterned Ti-based bulk metallic glass via self-organizing hierarchical biopolymers for hard tissue implant applications**Speaker**

Mr Fei-Fan Cai

16:20–16:40

Direct Laser Writing and Wet Metallization of Bioinspired Artificial Bacterial Flagella**Speaker**

Dr Roberto Bernasconi

16:40–17:00

Improving the radiopacity of biodegradable Fe-Mn alloys by W-rich magnetron sputtered coatings for thin stent applications**Speaker**

Ms Samira Ravanbakhsh

17:00

17:20

C10_Coatings and surface modification technologies: C10_7_Metastable Phases and Nanostructures Coatings

Session | **Location:** Room 10

17:20–17:40

Nanocrystalline mixtures of AlN and ZrN in CVD grown AlZrN coatings (Highlight)

Speaker

Roland Haubner

17:40–18:00

Thermal stability of nanostructured TiAlBN coatings deposited by HiPIMS

Speaker

Álvaro Méndez Fernández

18:00–18:20

Metastable structures in magnetron sputtered W-Zr thin-film alloys: properties and thermal behavior

Speaker

Prof. Petr Zeman

18:20–18:40

Magnetron sputtered titania films on CSP mirrors

Speaker

Konstantinos Giannakopoulos

18:40–19:00

ZrCuAg thin film metallic glasses: toward biostatic durable advanced surfaces

Speaker

Ms Solène Comby-Dassonneville

19:00