

Session Program

13-17 Sept 2021

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

***H3_Materials for space applications and
extreme environments***

Virtual

Thursday 16 September

11:50

H3_Materials for space applications and extreme environments: H3_1_Materials for space environments and protection I

Session | Location: Room 16

11:50-12:10

A technological perspective on materials for a multi purpose pressurized module for lunar surface exploration (Highlight)

Speaker

Luigi Ansalone

12:10-12:30

Experimental and numerical validation of carbon ceramic foams for space vehicles

Speaker

Dr Marta Albano

12:30-12:50

Partial crystallisation processes and the interplay of short- and long-range structural ordering in Zr and Pd bulk metallic glasses

Speaker

Prof. Antonia Neels

12:50-13:10

High Thermal Conductive Metal Diamond Composites for Electronic Packages used in Space Applications

Speaker

Dr Zuzana Kovacova

13:10-13:30

Relation of soiling features and environmental parameters: effects on optical properties of solar glasses exposed in arid zones.

Speaker

Mr Javier Nuñez

13:30

14:40

H3_Materials for space applications and extreme environments: H3_2_Materials for space exploration II

Session | Location: Room 16

14:40-15:00

Euro Material Ageing - a European testbed on the International Space Station for materials science research and technology development (Highlight)

Speaker

Dr Agnieszka Suliga

15:00-15:20

Crack and void formation in flexible optical solar reflectors after simulated low earth orbit

Speaker

Megan Cordill

15:20–15:40

HNBR compounds in extreme environments; Characterisation of aged compounds over time and temperature**Speaker**

Farzaneh Hassani

15:40–16:00

Designing light weight SiC-based composites for space applications: Si-Ti alloys as filler, brazing and coating materials**Speaker**

Donatella Giuranno

16:00–16:20

New advanced SiC-based composites for use in highly oxidizing environments: SiC/IrSi₃**Speaker**

Donatella Giuranno

16:20

16:40

**H3_Materials for space applications and extreme environments:
H3_3_Materials in space labs****Session** | **Location:** Room 16

16:40–17:00

Levitation techniques on ground and under microgravity - current status and recent developments (Highlight)**Speaker**

Jürgen Brillo

17:00–17:20

The Electromagnetic Levitator on board the international space station: Precise thermophysical properties of high-temperature alloys in the liquid phase under microgravity**Speaker**

Dr Markus Mohr

17:20–17:40

Thermophysical properties of liquid Al-Ni based alloys: experiments vs modelling**Speaker**

Rada Novakovic

17:40–18:00

Density, molar volume, and surface tension of liquid Ti-V-Al and its binary systems by electromagnetic levitation**Speaker**

Benedikt Reiplinger

18:00–18:20

The Electromagnetic Levitator on board the international space station: Precise thermophysical properties of bulk metallic glasses in the liquid phase under microgravity**Speaker**

Dr Markus Mohr

18:20

Friday 17 September

09:50

H3_Materials for space applications and extreme environments: H3_4_Materials for space environments and protection II

Session | Location: Room 16

09:50–10:10

A European Technology Roadmap for Materials Space Environmental Survivability (Highlight)

Speaker

Adrian Tighe

10:10–10:30

High Entropy Alloy coatings on conductive and non-conductive substrates for extreme marine applications.

Speaker

Dr Silvia Maria Deambrosis

10:30–10:50

Structure-sensitive properties of low-temperature high-entropy liquid alloys

Speaker

Yuriy Plevachuk

10:50–11:10

Functional porous materials from particle-stabilized foams for application in aerospace environments

Speaker

Francesca Ravera

11:10–11:30

Mo-Si-B alloys for ultra-high temperature space and ground applications: liquid assisted fabrication under various temperature/time conditions

Speaker

Mr Grzegorz Bruzda

11:30

11:50

H3_Materials for space applications and extreme environments: H3_5_In situ manufacturing: Liquid assisted processes

Session | Location: Room 16

11:50–12:30

Selective Laser Melting of Metal Matrix Composite for Space Applications (Keynote)

Speaker

Mr Gaëtan Bernard

12:30–12:50

Incorporation of Additive Manufacturing and In-situ Resource Utilization for lunar exploration

Speaker

Dr Milad Hamidi

12:50-13:10

Influence of the surface tension on Al-Cr and Al-Mg based Alloys for Laser Powder Bed Fusion (L-PBF)**Speaker**

Xiao Xiao

13:10-13:30

How to Manage Phase Stability under Extreme Conditions?**Speaker**

Joonho Lee

13:30

14:40

**H3_Materials for space applications and extreme environments:
H3_6_Materials for space exploration I****Session** | **Location:** Room 16

14:40-15:20

Advances in polymeric materials and related technology development suitable for space application (Keynote)**Speaker**

Dr Ugo Lafont

15:20-15:40

Multifunctional composites with self-healing and radiation shielding properties for space applications**Speaker**

Ms Laura Pernigoni

15:40-16:00

Effect of Y-containing additives on oxidation performance of ZrB₂-SiC composites tested above 2000°C**Speaker**

Dr Zuzana Kovacova

16:00-16:20

ZrB₂-SiC composites prepared by reaction sintering using ZrSi₂, B₄C, C, and rare-earth oxide additives**Speaker**

Mr Hakan Ünsal

16:20