

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

13 September 2021 - 17 September 2021

Virtual

Scientific Programme

Symposia structure and organizers can be found here: [Link](#)

A1. 2D materials: Fundamentals, synthesis and applications

A2. Synthesis and applications of functional materials

A3. Nanowires and nanotubes: From growth phenomena to devices

A4. Materials for catalysis and porous materials

A5. Materials for photonics and optics

A6. Characterisation of functional materials

A7. Nanostructured network materials (merged to A8)

A8. Multi-purpose materials (electronic, magnetic, thermal, sensors/actuators, network materials)- incl. A7 & A10

A9. Photovoltaics/ solar cells (merged to E5)

A10. Flexible functional oxides (merged to A8)

B1. Advanced steels and cast irons

B2. Light weight metals

B3. High-temperature alloys and intermetallic, titanium aluminides

B4. Advanced structural ceramics

B5. High entropy alloys

B6. Fatigue, wear and corrosion of materials and structures

B7. Material testing, characterisation and modelling (incl. C8)

B8. Advanced cast irons and tool steels

B8. Theory-guided development structural materials

C1. Additive manufacturing processes and modelling (incl. C2 & D10)

C2. Additive manufacturing 2: Indirect/ sinter-based techniques (merged to C1)

C3. Advanced subtractive manufacturing / machining (merged to C4)

C4. Powder technologies to obtain high performance materials (incl. C3)

C5. Liquid metal processing

C6. Solidification, casting and advanced metallurgical processing

C7. Green polymer processing (merged to H1)

C8. Innovative heat treating routes (merged to B7)

C9. Advanced ceramic materials processing

C10. Coatings and surface modification technologies

C11. Laser based processing and manufacturing

C12. Joining

C13. Wetting, high-temperature capillarity, interface design & modeling

C14. Thermomechanical processing, severe plastic deformation & nanostructuring

D1. Advanced microscopy in materials research

D2. Characterization of 1D, 2D materials, ceramics and their composites (incl. D4)

D3. Micro- and nano-mechanics - Characterization and modelling (old D5)

D4. Characterization of 1D and 2D materials (merged to D2)

D6. Atomic scale modelling of advanced materials - Ab initio, molecular dynamics and Monte-Carlo simulations

D7. Integrated computational materials engineering - Interoperability, simulation platforms and applications

D8. Multiscale and multiphysics modelling of materials, processes and products

D9. Modelling of solidification, casting and remelting

D10. Modelling of additive manufacturing (merged to C1)

E1. Advanced materials for transport applications

E2. Battery materials - from fundamentals to cell development

E3. Anion and cation transport in materials for energy storage

E4. Solid state batteries and components

E5. New concepts, materials and technologies for photovoltaic devices (incl. A9)

E6. Materials for hydrogen technologies

F1. Bioceramics and bioglasses (incl. old D3)

F2. From academic biomaterials research toward commercial application

F3. Additive manufacturing of biomaterials

F4. Bioinspired materials

F5. Synthetic polymer for medical applications (incl. F8)

F6. Biologically instructive biomaterials

F7. Metallic biomaterials

F8. Biomaterials enabling therapeutic delivery of bioactive molecules (merged to F5)

F9. Smart biomaterials

G1. Materials education in an on-line world

G2. Gaming and virtual reality as a method for materials knowledge education and dissemination

G3. Additive manufacturing: From research to industrial application

H1. Bio-based and Polymeric materials in the circular economy (incl. C7 & H2 & H4)

H2. Inorganic and critical raw materials for the circular, low-carbon, and digital economy (new-H3 & H5 & H6 & H7)

H3. Materials for space applications and extreme environments (new - old H8)

H4. Progress and challenges in plastics recycling (merged to H1)

H5. Critical raw materials in a data-driven world (merged to H2)

H6. Inorganic-nonmetallic materials in the circular economy (merged to H2)

H7. Materials to address the 3R (Reduce, Reuse, Recycle) challenges (merged to H2)

H8. Materials for space applications and extreme environments (new H3)