

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

**Monday 13 September 2021 - Friday 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)**