E-MRS European Materials Research Society

2027 Spring Meeting

May 17 – 21 | Strasbourg Convention Centre

Date
May 17–19, 2027

Format
Invitation only

Venue
Palais de la Musique et des Congrès, Strasbourg, FRANCE

RSVP
by December 31, 2026

Global Materials Frontiers Forum

Discovery, Innovation and Impact

Defining the next 50 years of materials science and engineering – in discovery, performance, applications, and circularity.

Aim

Rising materials demand, critical-resource constraints and the need for viable substitutes and circular material flows are reshaping the future of materials science. At the same time, advances in AI, autonomous discovery, computation and characterization are opening new possibilities. What should the field prioritize over the next ten, twenty and thirty years?

This invitation-only Forum brings together a small group of leading thinkers across disciplines, sectors and regions. Brief, forward-looking talks will open substantive discussions on unresolved questions, theories yet to be formulated, capabilities still to be developed and applications yet to be realized. An informal setting and the Chatham House Rule will encourage candid exchange.

Participants will shape a concise Materials Futures Agenda, identifying transformative research questions, essential capabilities and opportunities for international collaboration. A working draft will be circulated for their input before finalisation.

Topical Tracks

DISCOVERING AND DESIGNING MATERIALS

01 AI, Computation & Autonomous Discovery: Integrating theory, data, robotics and synthesis to accelerate materials discovery and validation.

02 Materials in Action: Next-generation characterization across scales, operando measurements and predictive understanding of interfaces, defects and degradation.

MATERIALS FOR SOCIETAL AND TECHNOLOGICAL TRANSFORMATION

03 Energy, Climate & Environmental Resilience: Materials for energy conversion and storage, clean fuels, carbon management, water technologies and adaptation to a changing climate.

04 Emerging Functions & Extreme Performance: Quantum, electronic, photonic and multifunctional materials; architectures for demanding thermal, mechanical, chemical and radiation environments.

05 Living Interfaces & Human Health: Biointegrated, bioinspired and adaptive materials for diagnostics, therapeutics, regeneration and human–technology interfaces.

RESOURCE-RESILIENT AND CIRCULAR MATERIALS SYSTEMS

06 Critical Resources & Strategic Substitution: Materials criticality, supply resilience, resource-efficient design and alternatives to scarce or geographically concentrated feedstocks.

07 Circularity by Design: Durability, repair, reuse, disassembly and recovery; secondary feedstocks and life-cycle-informed design within planetary boundaries.

08 Sustainable Manufacturing & Industrial Translatio

ORGANIZED BY THE EMRS SPRING 2027MEETING CHAIRS



Sanjay Mathur
University of Cologne, Germany
sanjay.mathur@uni-koeln.de



Guo-Hua Hu
University of Lorraine, France
guo-hua.hu@univ-lorraine.fr