WORLD ACADEMY OF CERAMICS

The Role of Ceramics in a Metamorphosing Technological World

Discovery, Innovation, Impact



I Energy and Environmental Frontiers

Ceramics for energy conversion and storage, electrification, hydrogen technologies, catalysis, separations and environmental remediation. Emphasis on interfaces, transport and durability under realistic operating conditions

II Composites and Multifunctional Architectures

Ceramic-matrix composites, hybrid materials, architected structures and multifunctional coatings. Materials for extreme environments, damage tolerance, sensing and bioinspired or biomedical systems.

III Digital Discovery and Intelligent Design

AI/ML, physics-informed modelling, computational materials design and autonomous experimentation. Focus on connecting predictions with synthesis, net-shaping, characterization and validated material performance

IV New Paradigms in Advanced Manufacturing and Processing

Additive manufacturing, precursor-derived ceramics, field-assisted processing, low-temperature consolidation and scalable coating technologies. Emphasis on controlling defects, interfaces and microstructure across length scales.

V Circularity in Critical Materials and Resource Stewardship

Critical-material substitution, secondary feedstocks, recycling, repair and reuse of ceramics and composites. Connect materials design with energy-efficient production, life-cycle assessment and practical recovery pathways

24 - 26 May 2027
Sicily, Italy

Forum Committee

- Sanjay Mathur, Germany (Chair)
- Palani Balaya, Singapore
- William Fahrenholz, USA
- Jing-Feng Li, China
- Makio Naito, Japan
- Alberto Vomiero, Italy
- Jie Zhang, China



Venue

CDSHotels Terrasini – Città del Mare
90049 Terrasini PA, Italy

Organized by WORLD ACADEMY OF CERAMICS
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