



Serbian Ceramic Society Conference
ADVANCED CERAMICS AND APPLICATION XI
New Frontiers in Multifunctional Material Science and Processing

Serbian Ceramic Society
Institute of Technical Sciences of SASA
Institute for Testing of Materials
Institute of Chemistry Technology and Metallurgy
Institute for Technology of Nuclear and Other Raw Mineral Materials

PROGRAM AND THE BOOK OF ABSTRACTS

Serbian Academy of Sciences and Arts, Knez Mihailova 35
Serbia, Belgrade, 18-20. September 2023.

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Dear colleagues and friends,

We have great pleasure to welcome you to the Advanced Ceramic and Application XI Conference organized by the Serbian Ceramic Society in cooperation with the Institute of Technical Sciences of SASA, Institute of Chemistry Technology and Metallurgy, Institute for Technology of Nuclear and Other Raw Mineral Materials and Institute for Testing of Materials.

It is nice to host you here in Belgrade in person. We are very proud that we succeeded in bringing the scientific community together again and fostering the networking and social interactions around an interesting program on emerging advanced ceramic topics. The chosen topics cover contributions from fundamental theoretical research in advanced ceramics, computer-aided design and modeling of new ceramics products, manufacturing of nano-ceramic devices, developing of multifunctional ceramic processing routes, etc.

Traditionally, ACA Conferences gather leading researchers, engineers, specialists, professors and PhD students trying to emphasize the key achievements which will enable the widespread use of the advanced ceramics products in the High-Tech industry, renewable energy utilization, environmental efficiency, security, space technology, cultural heritage, etc.

Serbian Ceramic Society was initiated in 1995/1996 and fully registered in 1997 as Yugoslav Ceramic Society, being strongly supported by American Ceramic Society. Since 2009, it has continued as the Serbian Ceramic Society in accordance with Serbian law procedure. Serbian Ceramic Society is almost the only one Ceramic Society in South-East Europe, with members from more than 20 Institutes and Universities, active in 9 sessions..

Dr. Nina Obradović
President of the Serbian Ceramic Society

Dr. Suzana Filipović
President of the General Assembly of the Serbian Ceramic Society

Conference Topics

- Basic Ceramic Science & Sintering
- Nano-, Opto- & Bio-ceramics
- Modeling & Simulation
- Glass and Electro Ceramics
- Electrochemistry & Catalysis
- Refractory, Cements & Clays
- Renewable Energy & Composites
- Amorphous & Magnetic Ceramics
- Heritage, Art & Design

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INV20

Hybrid Nanoscale Materials for Convergent Technologies

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The convergence of nano-, bio-, and information technologies is based on the understanding of complex hierarchical structures and systems, as well as on the material unity at the nanoscale and on technology integration from that scale. A growing interest in these technologies is a result of their potential to provide solutions to numerous societal challenges, such as advanced healthcare, environmental remediation, sustainable development, and adoption of cyber-physical systems based on the Internet of Things and the Internet of Systems. Taking into account that hybrid nanomaterials possess extraordinary physical and chemical properties derived from their size in the nanoscale, the aim of this work is to present the connection between processing parameters and multifunctional properties of nano scale hybrid materials, focusing on the study of ceramic-polymer structures before they can be nano-engineered into functional devices. The unique functionality of these nanostructures has enabled their applications in numerous devices such as: micro and nano-electro-mechanical systems (MEMS/NEMS), sensors, microactuators, surface acoustic wave devices, polymer electrolyte membrane fuel cells, switches, thermistors, resonators and filters, electrooptic devices, etc. In this study special attention has been paid to their applications in the fields of electronics, biotechnology, environmental protection and remediation.