



Materials Research Society of Serbia

Call for Abstracts



24th Annual Conference

YUCOMAT 2023

Herceg Novi, Montenegro, 04 – 08 September, 2023

endorsed by



Materials Research Society of Serbia



Materials science and engineering incorporate acquiring of knowledge on synthesis and processing of materials, their composition and structure, properties and behavior, functions and potentialities as well as application of that knowledge to various final products. Economic prosperity, life quality, and healthy environment are tightly connected with the improvements in the existing and the development of new materials and processing technologies. These improvements and development can contribute greatly to the national priorities: energy saving, environment and health protection, food, information and communication, infrastructure, transportation, etc. The First Conference on materials science and engineering, including physics, physical chemistry, condensed matter chemistry, and technology in general, was held in September 1995, in Herceg Novi. The Yugoslav Materials Research Society (Yu-MRS), a non-government and non-profit scientific association, was founded in 1997 to promote multidisciplinary goal-oriented research in materials science and engineering. The main task and objective of the Society is to encourage creativity in materials research and engineering to reach a harmonic coordination between achievements in this field in our country and analogous activities in the world with an aim to include our country into global international projects. In 2008, MRS-Serbia became a member of FEMS (Federation of European Materials Societies).

MRS-Serbia

President of the Council:	Slobodan Milonjić
President of the Presidency:	Dragan Uskoković
Vice-presidents:	Velimir Radmilović, Dejan Raković, Smilja Marković
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International Advisory Board

Honorary Chair:	Robert Sinclair (USA)
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SYMPOSIUM A ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

The symposium will focus on the following topics:

- Chemical methods in synthesis;
- Synthesis via reactions in solid, liquid and gaseous phase;
- Sol-gel method;
- Self-propagating high-temperature synthesis;
- Electrochemical processing;
- Plasma and laser processing and ion implantation;
- Mechanochemistry;
- Different processes for powder consolidation;
- Severe plastic deformation;
- Synthesis and processing of materials under extreme conditions;
- Different methods in synthesis of thin films;
- Radiation processing.

SYMPOSIUM B ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATIONS

The symposium will focus on the following topics:

- High-purity materials;
- Diamond and related materials, graphene, fullerenes and novel forms of carbons;
- Boron nitride and other non-oxide materials;
- Superconductors;
- Electronic materials;
- Electrode materials, including superionic conductors;
- Catalysts;
- Intermetallics, superalloys, and special steels;
- Composites;
- Smart materials;
- New polymer materials;
- Applications of advanced materials in high technologies;
- Characterization of materials (analytical, microstructural, optical, spectroscopic, physicochemical, etc.).

SYMPOSIUM C NANOSTRUCTURED MATERIALS

The symposium will focus on the following topics:

- Synthesis and processing of inorganic, organic and composite nanosized materials by physical, chemical and biological methods;
- Low-dimensional semiconductor structures;
- Modeling and simulation of synthetic, assembly and interaction processes;
- Surface and interface phenomena.
- Powders, coatings, and compact nanostructured materials;
- Characterization of nanostructured materials (mechanical, magnetic, chemical, catalytic, electrical, optical, tribological, etc.);
- Application of nanostructured materials.

Conference Programme

SYMPOSIUM D ECO-MATERIALS AND ECO-TECHNOLOGIES

The conference programme entitled as “Eco-materials and Eco-technologies” might be seen as the programme for assembling various scientific achievements either from the field of material processing and evaluation, or from the design of technological processes. Technologies that benefit the earth climate by reducing greenhouse emissions, and provide the use of renewable energy sources, such as photovoltaics, fuel cells, wind turbines or certain cogeneration technologies, might be seen as an example of the latter, as well as the technologies that focus on increasing productivity per unit of water or per any other unit of a precious natural resources. Materials produced with an aim of decreasing the amounts of its toxic elements, or using safer pathways of production, whereby keeping its performance on a satisfying level, together with materials and technologies that implement the use of local resources, might belong to the class of eco-materials.

SYMPOSIUM E BIOMATERIALS

The symposium will focus on the following topics:

- New methods for processing of advanced metal, ceramic, polymer and composite-based biomaterials;
- Molecular design biomaterials;
- Biomimetics;
- Correlation between synthetic parameters and structure and properties of biomaterials (powders, compacts, fibres, composites, coatings, cements, surface modifications, etc.);
- Characterization of biomaterials;
- Biological response to implants (experiments in vivo and in vitro);
- Clinical experiences in implantation of biomaterials.

General Information

Date and venue

The YUCOMAT 2023 will be held from 04 - 08th September, 2023, at the Hunguest Hotel Sun Resort Herceg Novi**** Herceg Novi, Montenegro.

Paper presentation and abstract preparation and publication

The conference will comprise invited plenary lectures (30 min) by the leaders in the field, oral (15 min) and poster presentations. Abstract in English and the registration form, **should be submitted by May 1, 2023**. The Scientific Committee will evaluate the submitted abstracts and, on the basis of their contents, assign the papers, taking into account author's wishes as much as possible, to the oral or poster presentation. Abstracts will be included in a Book of Abstracts and distributed to each participant at the conference registration.

Plenary speakers from previous YUCOMAT conferences:

Markus Antonietti, Max Planck Institute of Colloids and Interfaces, Research Campus Golm, Potsdam, Germany

Yoshio Bando, Institute of Molecular Plus, Tianjin University, Tianjin, China

Jeffrey Brinker, Sandia National Laboratories, New Mexico

Andrea C. Ferrari, Cambridge Graphene Centre, University of Cambridge, Cambridge, United Kingdom

Yury Gogotsi, A. J. Drexel Nanomaterials Institute, Drexel University, Philadelphia, USA

Lei Jiang, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing, P.R.China

Mohammad Khaja Nazeeruddin, Ecole Polytechnique Fédérale de Lausanne, Sion, Switzerland

Velimir Radmilović, University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia

Ramamoorthy Ramesh, Dept of Materials Science and Engineering, University of California, Berkeley, USA

Richard W. Siegel, Rensselaer Polytechnic Institute, Troy, New York, USA

Robert Sinclair, Dept of Materials Science & Engineering, Stanford University, Stanford, USA

Ruslan Z. Valiev, Saint Petersburg State University, Saint Petersburg, Russia

Paul Weiss, Dept. of Chemistry & Biochemistry and Materials Science & Engineering, UCLA, Los Angeles, CA, USA

Michael Stanley Whittingham, Binghamton University, State University of New York, USA

Additional activities

An exhibition of synthesis and characterization equipment will be held during the conference. Traditional Cocktail Party on Monday evening and excursion on Thursday afternoon (boat trip around Boka Kotorska Bay) will be organized again.

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DEADLINE FOR ONLINE ABSTRACT SUBMISSION: May 1, 2023

Abstracts for poster presentations can still be submitted online until August 15, 2023, and will be included in the Final conference program, but not in the printed Book of Abstracts.

<https://www.mrs-serbia.org.rs/>