

Call for Abstracts

Twenty-second Annual Conference

YUCOMAT 2020

Herceg Novi, Montenegro, September 7 - 11, 2020

Organised by
Materials Research Society of Serbia



endorsed by



YUCOMAT and MRS-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. An initiative to establish the Yugoslav Materials Research Society was born at the conference and, similar to other MR societies in the world, the programme was made and objectives determined. 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. Until 2003, Conferences were held every second year and then they grew into Annual Conferences traditionally held in Herceg Novi in September of every year. In 2007 Yu-MRS formed two new MRS: MRS-Serbia (official successor of Yu-MRS) and MRS-Montenegro (in founding). In 2008, MRS – Serbia became a member of FEMS (Federation of European Materials Societies).

MRS-Serbia

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Vice-presidents: Slobodan Milonjić, Velimir Radmilović, Dejan Raković

Secretary General: Nenad Ignjatović

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CONFERENCE PROGRAMME

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|--------------------|---|
| SYMPOSIUM A | Advanced Methods in Synthesis and Processing of Materials |
| SYMPOSIUM B | Advanced Materials for High-Technology Application |
| SYMPOSIUM C | Nanostructured Materials |
| SYMPOSIUM D | Eco-Materials and Eco-Technologies |
| SYMPOSIUM E | Biomaterials |

The final programme will be time-tabled on the basis of submitted abstracts. The preliminary YUCOMAT 2020 scientific programme will be available through the Internet:

<http://www.mrs-serbia.org.rs> on July 6, 2020

SYMPOSIUM A **ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS**

The symposium will focus on the following topics:

- 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 related 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.);
- Carbon and other non-oxide materials.

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.

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 conference will be held on September 7–11, 2020, at the Hunguest Hotel Sun Resort Herceg Novi**** (http://www.hunguesthotels.hu/en/hotel/herceg_novi/hunguest_hotel_sun_resort/), Herceg Novi, Montenegro (<http://www.hercegnovi.me/en/>).

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, 2020. (the recommended abstract format is given below). 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. The preliminary conference programme and further information about the conference will be sent to registered participants, who paid the registration fee, by **July 6, 2020**.

Conference awards

The Presidency of the MRS-Serbia, at the proposal of the Awards Committee, will award the authors (preferably young members under 35) of the best oral and poster presentation at the conference, and also the authors of highly rated PhD theses defended between two conferences. Awarded researchers are granted free registration at the next YUCOMAT Conference.

Additional activities

An exhibition of synthesis and characterization equipment will be held during the conference. Traditional Cocktail party on Monday evening and an excursion on Thursday afternoon will be organized again.

Conference information

YUCOMAT Conference information is available on its official WEB page: www.mrs-serbia.org.rs or from: Conference Secretary, Materials Research Society of Serbia, P. O. Box 433, 11001, Belgrade Serbia, E-mail: yucomat@mrs-serbia.org.rs.

Instructions for preparing abstracts

Participants are invited to submit an abstract, with title, names of authors and affiliation included, of no more than one page. Authors should use the following file types: MS WORD 365 and older (*.doc(x)), or Rich Text Format (*.rtf). The paper size of the abstract should be 21x29.7 cm (A4) with a margin of 2.5 cm on the left and 6 cm at the right and 2.5 cm on the top and 8.0 cm at the bottom. The abstract should be formatted using Calibri font throughout and single-spaced lines.

File name: Last name of the first author-two first words of the title (for example: Smit-Fast_transfer.doc)

Title: 12 pts, bold, centered not all caps (for example, Mechanism of stereoselective...)

Empty space: 10 pts.

Author names: 11 pts, centered, not all caps; use first names, initials (optional) and last name; one author must be underlined as the author who will present the paper

(for example: John Smith¹, Petar Petrović², ...)

Affiliation: 11 pts, italic, centered; put all authors' addresses delineated by the number (No) against each name

for example: ¹CNR, Roma, Italy; ²ITN-SANU, Belgrade, Serbia...

Empty space: 10 pts.

Abstract text: 11 pts, justified (maximum one page including Title, Authors names and Affiliation)

Please use **TEMPLATE to write an abstract** (can be downloaded from the conference WEB site). Please do not forget to add acknowledgement at the end of body text, if your project grant requires it. Online registration and abstract SUBMISSION: <http://www.mrs-serbia.org.rs/index.php/registration-2020> Registration form is filled in for a contact author. One registration form per abstract. Please note there is a rule that one conference fee is for one abstract only. Only online submissions will be acknowledged.

DEADLINE FOR ONLINE ABSTRACT SUBMISSION: May 1, 2020

Abstracts for poster presentations can still be submitted online until August 20, 2020, and will be included in the Final conference program, but not in the printed Book of Abstracts.

