

Call for Abstracts

Joint event:

Twenty-third Annual Conference  
**YUCOMAT 2022**  
&  
Twelfth World Round Table Conference  
on Sintering  
**WRTCS 2022**

Herceg Novi, Montenegro  
August 29 – September 2, 2022

Organised by



Materials Research Society of Serbia

IISS - МИНС



International Institute for the Science of Sintering

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. 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.  
**Secretary General:** Nenad Ignjatović  
**Members:** Gordana Ćirić-Marjanović, Vera Dondur, Đorđe Janačković, Dragana Jugović, Đuro Koruga, Slavko Mentus, Bojana Obradović, Zoran Petrović, Milenko Plavšić, Zoran Popović, Vladimir Srđić, Jovan Šetrajić, Petar Uskoković, Miodrag Zlatanović.

### International Advisory Board

**Honorary Chair:** Robert Sinclair (USA)  
**Chair:** Yury Gogotsi (USA)  
**Members:** Markus Antonietti (Germany), Yoshio Bando (Japan), Xavier Batlle (Spain), David C. Bell (USA), Serena Best (UK), Ivan Božović (USA), Jeffrey S. Brinker (USA), Philippe Colomban (France), Uli Dahmen (USA), Rafal Dunin-Borkowski (Germany), Andrea C. Ferrari (UK), Mauro Ferrari (USA), Laszlo Forro (Switzerland), Elvira Maria Correia Fortunato (Portugal), Hamis Fraser (USA), Aharon Gedanken (Israel), Horst Hahn (Germany), Robert Hull (USA), Jose M. Kenny (Italy), Alexander H. King (USA), Feng-Huei Lin (Taiwan), Milan Mrksich (USA), Mohammad Khaja Nazeeruddin (Switzerland), Eiji Osawa (Japan), Eva Olsson (Sweden), Davor Pavuna (Switzerland), Doug Perovic (Canada), Robert Ritchie (USA), Peter Franz Rogl (Austria), Frances Ross (USA), Mamoru Senna (Japan), Richard W. Siegel (USA), Danilo Suvorov (Slovenia), Vladimir Torchilin (USA), Enrico Traversa (Italy), Shizhang Qiao (Australia), Knut Urban (Germany), Vuk Uskoković (USA), Gordana Vunjak Novaković (USA), Paul Weiss (USA), Jackie Ying (Singapore), Yuntian T. Zhu (USA).

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## CONFERENCE PROGRAM

**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

## CONFIRMED PLENARY SPEAKERS

- Nobel Laureate in Chemistry 2019 for the development of lithium-ion batteries:  
**Michael Stanley Whittingham**, Binghamton University, State University of New York, USA
- Nobel Laureate in Chemistry 2016 for the design and synthesis of molecular machines:  
**Sir Fraser Stoddart**, Northwestern University, Evanston, IL, USA
- Nobel Laureate in Physics 2010 for his work on graphene:  
**Sir Andre K. Geim**, The University of Manchester, UK
- **Pulickel Ajayan**, RICE University, Houston, TX, USA
- **Yi Cui**, Stanford University, USA
- **Yury Gogotsi**, Drexel University, Philadelphia, USA
- **Michael Graetzel**, Ecole Polytechnique Federale de Lausanne, Switzerland
- **Seeram Ramakrishna**, Centre for Nanofibers & Nanotechnology, National University of Singapore
- **Samuel I. Stupp**, Simpson Querrey Institute, Northwestern University, Evanston, IL, USA
- **Paul S. Weiss**, University of California, Los Angeles, USA
- **John A. Rogers**, Northwestern University, USA
- **Joseph Wang**, Center of Wearable Sensors, University California San Diego, La Jolla CA, USA
- **Younan Xia**, Georgia Institute of Technology, Atlanta, Georgia, USA

See the full list: <https://www.mrs-serbia.org.rs/index.php/confirmed-plenary-speakers-2022>

## Twelfth World Round Table Conference on Sintering and IISS

The International Institute for the Science of Sintering (IISS <https://www.iiss-sci.org/>) was originally established in 1968 as the International Team of Study of Sintering, based in Belgrade, Yugoslavia (today the Republic of Serbia) at the Vinča Institute of Nuclear Science. The founding assembly was held next year in Herceg Novi, and it brought about one hundred scientists from different parts of the world. This was an open symposium where all the founders gave plenary lectures on their most up-to-date research. The team decided to organize this conference at the same place every other year. After the first one, the interest grew rapidly in the world, so by 1973 many new members joined. The International Team for the Study of Sintering soon became the International Institute for the Science of Sintering. At the initiative of the President of the Serbian Academy of Science and Arts (SASA), Pavle Savić, the Institute received the patronage of SASA and eminent institutions from the member countries. At that time, the Institute played an enormous role in bringing scientists from all over the world closer together. This was especially important during the Cold War when Yugoslavia was the only place where scientists from the East and from the West could meet.

The 11<sup>th</sup> conference was held in 2019 in Herceg Novi, Montenegro (<https://www.mrs-serbia.org.rs/files/50.pdf>) in the same hotel resort where the first conference was organized more than 50 years ago. It re-established the activity of the Institute and marked the new beginning of new series of famous Yugoslav Sintering Conferences.

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### CONFERENCE PROGRAM

Particular emphasis is placed on the following topics, but are not limited to:

- Theory and technology of solid state and liquid phase sintering – fundamental and applied aspects;
- Grain boundary phenomena for advanced materials;
- Novel sintering methods: sintering under high pressure; shocked wave sintering; cold sintering; severe plastic deformation; low temperature sintering; hot pressing and hot isostatic pressing; laser sintering; spark plasma sintering; flash sintering
- Controlled synthesis and processing of nanomaterials;
- Processing and properties of high-entropy materials;
- Microstructural control during sintering at multiple scales from nano to macro level
- Hybride organic-inorganic materials;
- Sintering in additive manufacturing;
- Application of sintering theory in advance technology.

#### Managing Board

<b>President of IISS Assembly:</b>	Danilo Suvorov
<b>President:</b>	Dragan P. Uskoković
<b>Members:</b>	Rajenda Bordia, Suk-Joong L. Kang, Bernd Kieback, Zoran S. Nikolić, Eugen A. Olevsky, Andrey B. Ragulya, Masahiro Yoshimura.
<b>General Secretary:</b>	<a href="#">Vojislav Mitić</a>

#### Conference Local (Serbia) Co-Chair

Biljana Stojanović and Đorđe Janacković

### CONFIRMED PLENARY SPEAKERS

- **Randall German**, Review of Gravitational Effects on Sintering and the Inability to Sinter to Full Density, San Diego State University, San Diego, California, USA
- **Rishi Raj**, Flash Sintering Tungsten, Materials Science and Engineering Program, University of Colorado Boulder, USA
- **Olivier Guillon**, Electric Field Assisted Sintering of Oxide Ceramics: Fields Matter!, RWTH Aachen University, Germany
- **Ruslan Valiev**, Severe Plastic Deformation of Nano-size particles, Ufa State Aviation Technical University and Saint Petersburg State University, Russia
- **Eugene A. Olevsky**, Sintering-Assisted Additive Manufacturing, San Diego State University, USA
- **Suk-Joong L. Kang**, Grain growth: a mixed control process of atom transport, Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), South Korea

See the full list: <https://www.iiss-sci.org/index.php/confirmed-plenary-speakers>

The final program will be time-tabled on the basis of submitted abstracts. The preliminary YUCOMAT & WRTCS 2022 scientific program will be available through the Internet:

<http://www.mrs-serbia.org.rs> and <https://www.iiss-sci.org> on July 1, 2022

## GENERAL INFORMATION

### Date and venue

The conference will be held on August 29 – September 2, 2022, at the Hunguest Hotel Sun Resort Herceg Novi\*\*\*\* ([http://www.hunguesthotels.hu/en/hotel/herceg\\_novi/hunguest\\_hotel\\_sun\\_resort/](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, 2022. (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 program and further information about the conference will be sent to registered participants, who paid the registration fee, by **July 25, 2022**.

### Conference awards

Joint Award by MRS-Singapore and MRS-Serbia at the YUCOMAT & WRTCS 2022 Conference. Sponsorship of the ten Awards in the financial amount by the MRS-Singapore, to the authors not older than 35 for the best: Five Oral presentation and Five Posters presentation. Awarded authors will be announced at the Closing Ceremony of the Conference. Each award consists of a financial amount honorarium, diploma, meeting registration fee to attend the next YUCOMAT 2023 Conference, and a one-year MRS Serbia membership.

### 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.

### Conference information

YUCOMAT & WRTCS 2022 Conference information is available on its official WEB pages:

<https://www.mrs-serbia.org.rs/index.php/youcomat/youcomat-2022> and <https://www.iiss-sci.org/index.php/xii-wrtcs>  
or from: Conference Secretary, E-mail: [yucomat@mrs-serbia.org.rs](mailto:yucomat@mrs-serbia.org.rs) and [iiss@iiss-sci.org](mailto:iiss@iiss-sci.org).

### 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:

<https://www.mrs-serbia.org.rs/index.php/general-information-2022/abstract-instructions-2022> or  
<https://www.iiss-sci.org/index.php/general-informations/abstract-preparation-instructions>

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: [www.mrs-serbia.org.rs/index.php/registration-2022](http://www.mrs-serbia.org.rs/index.php/registration-2022) or [www.iiss-sci.org/index.php/registration](http://www.iiss-sci.org/index.php/registration). 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, 2022

Abstracts for poster presentations can still be submitted online until August 15, 2022, and will be included in the Final conference program, but not in the printed Book of Abstracts.

