

WELCOME TO
Twenty-sixth Annual Conference
YUCOMAT 2025

Herceg Novi, Montenegro, September 1 to 5, 2025

endorsed by

FEMS

FEDERATION OF EUROPEAN
MATERIALS SOCIETIES

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.

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CONFERENCE PROGRAM

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 Application

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 2D 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

SYMPOSIUM D: Eco-Materials and Eco Technologies

The symposium will focus on the following topics:

The conference program entitled as "Eco-technologies" might be seen as the program 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 source, 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 amount 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 method 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, cements, fibers, 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.



Conference
website

Date and venue

The conference will be held on September 01-05, 2025, at the Hunguest Hotel Sun Resort Herceg Novi, Montenegro

Important dates

May 1, 2025	Abstract Submission Deadline
July 10, 2025	Preliminary Conference Program
July 15, 2025	Regular Registration Fee Deadline (required for presentations to be including in the Book of Abstracts)
July 31, 2025	Final Conference Program (for the printed Book of Abstracts)
August 20, 2025	Final Poster Abstract Submission Deadline (to be included only in the On-site Conference Program)
September 1, 2025	Beginning of the Conference

Paper presentation and abstract preparation and publication

The conference will comprise invited plenary lectures (30 min) by the leaders in the field, invited oral (20 min), oral (15 min) and poster presentations. Abstract in English and the registration form, should be submitted by May 1, 2025. 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:

Andre Geim (Nobel Prize)

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

Andrey M. Minor, University of California, USA

Andrey Rogach, City University of Hong Kong, Hong Kong SAR

Arumugam Manthiram, University of Texas, USA

Chad Mirkin (Kavli Prize, 2024)

Gordana Vunjak-Novaković, Columbia University, USA

Ivan Bozovic, Yale University, New Haven, USA

Jeffrey Brinker, Sandia National Laboratories, New Mexico

John A. Rogers, Northwestern University, USA

Knut Urban (Kavli Prize 2020)

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

Mark Hersam, Northwestern University, USA

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

Michael Stanley Whittingham (Nobel Prize)

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

Paul Weiss, UCLA, Los Angeles, CA, USA

Prashant V. Kamath, University of Notre Dame: Notre Dame, IN, USA

Pulickel Ajayan, Rice University, Houston, USA

Ramamoorthy Ramesh, University of California, Berkeley, USA

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

Robert Ritchie, University of California, Berkeley, USA

Robert Sinclair, Stanford University, Stanford, USA

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

Samuel Stupp, Northwestern University, USA

Shizhang Qiao, School of Chemical Engineering, The University of Adelaide, Australia

Sotiris Pratsinis, Particle Technology Laboratory, ETH Zürich, Zürich, Switzerland

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

Vladimir Torchilin, Northeastern University, Boston, MA, USA

Xinliang Feng, Max Planck Institute of Microstructure Physics, Dresden, Germany

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

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

Zhong Lin Wang, Institute of Nanoenergy & Nanosystems, Chinese Academy of Sciences, Beijing, China