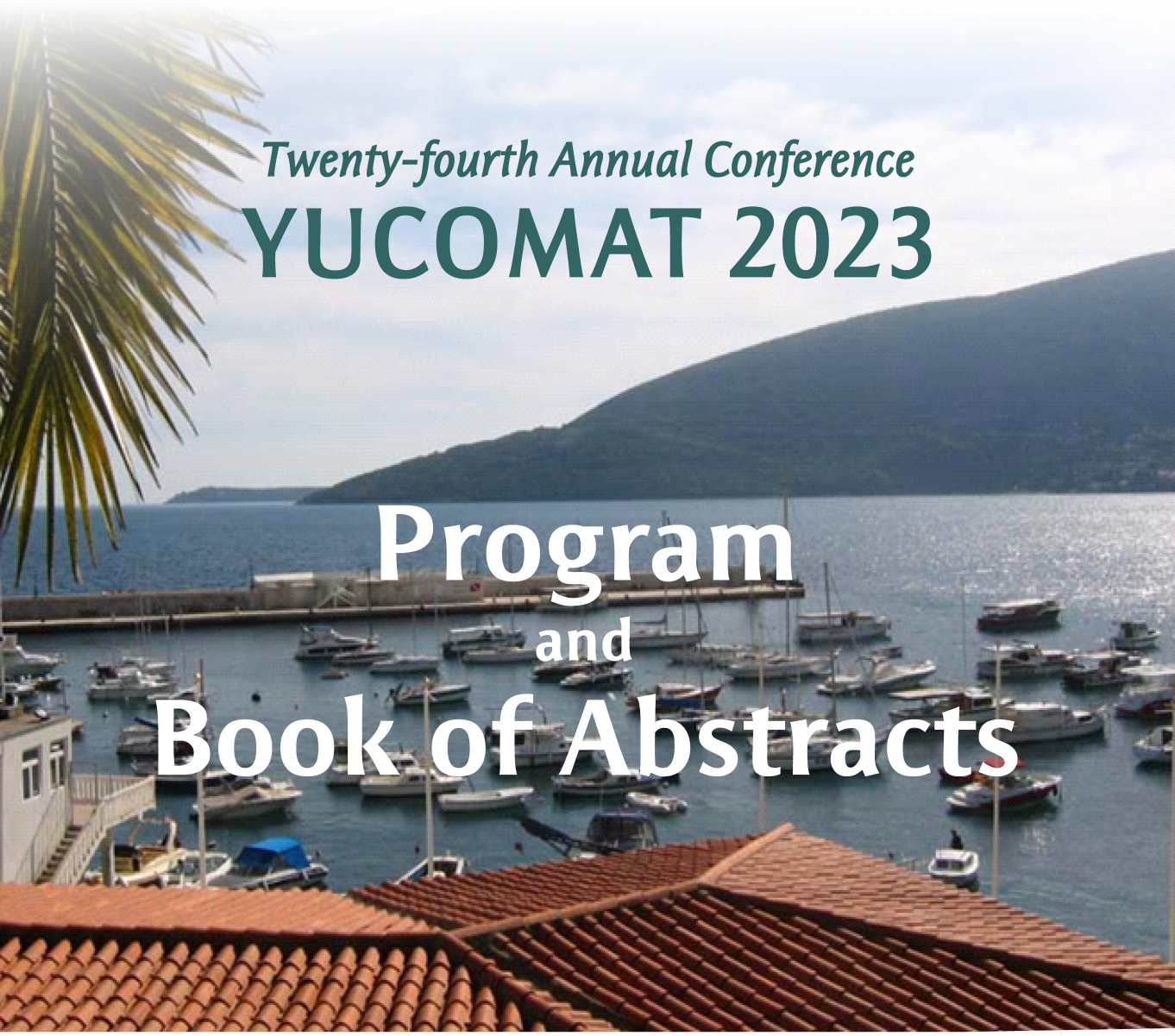
SERBIA MRS Materials Research Society of Serbia



Twenty-fourth Annual Conference

YUCOMAT 2023

Program and Book of Abstracts

endorsed by

FEMS

FEDERATION OF EUROPEAN MATERIALS SOCIETIES

Materials Research Society of Serbia

24 conference

SERBIA MRS

YUCOMAT 2023

Herceg Novi, Montenegro :: September 4-8, 2023

TWENTY-FOURTH ANNUAL CONFERENCE

YUCOMAT 2023

Hunguest Hotel Sun Resort, Herceg Novi, Montenegro
September 4 - 8, 2023

Program
and
Book of Abstracts

Organised by
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History

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 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. 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 the global international projects. Until 2003, Conferences were held every second year and then they grew into Annual Conferences that were traditionally held in Herceg Novi in September of every year. Following the political separation between Serbia and Montenegro, 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).

General information

DATE AND VENUE: The conference will be held on September 4-8, 2023, at the Hunguest Hotel Sun Resort, in Herceg Novi, Montenegro. Participants will also be accommodated there. The conference will begin on Monday, September 4th, at 08.30 and end on Friday, September 8th, 2023, at 12.30.

REGISTRATION: Registration, registration fee payment, conference materials distribution, etc, will take place at the conference desk (Conference Secretariat) open on Sunday, September 3rd, and Monday, September 4th, from 7.30 to 19.00, on Tuesday, Wednesday and Thursday 07.30-12.00 and 19.00-20.00, and on Friday from 07.30 to 12.00. At registration, the participants are requested to submit a proof of their advance registration fee payment.

INSTRUCTION FOR AUTHORS: The conference will feature Plenary Sessions, Oral Sessions, and Poster Sessions. Time of papers' presentations to be given in Oral Sessions is limited. Time available for delivery is 40 min for plenary and 15 min for other papers, including discussion. Video-beam is available. PowerPoint presentations, recorded on CD or USB flash- memory, should be given at the start of the session. In Poster Sessions, the authors are requested to display their posters minimum one hour before the session and to be present beside their posters during the session. The poster sessions' venue will be open from Tuesday to Thursday.

CONFERENCE AWARDS: Joint Award by MRS-Singapore and MRS-Serbia at the YUCOMAT 2023 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, Five Posters presentation, and one PhD Thesis. 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 2024 Conference, and a one-year MRS Serbia membership.

ADDITIONAL ACTIVITIES: Traditional Cocktail Party on Monday evening and excursion on Thursday afternoon (boat trip around Boka Kotorska Bay) will be organized again.

Wednesday, September 6, 2023

Second Poster Session, National Restaurant Jadranka Terrace

08.00-09.45
Chairperson: Đorđe Veljović, Branko Matović

YUCOMAT SYMPOSIUM A:
ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

P.S.38.
The application of a ball-milled Fe-CuSn-Ni powder mixture to fabricate sintered diamond tools
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Kielce University of Technology, Kielce, Poland

P.S.39.
Physico-mechanical properties of powder coatings using residues of industrial wastewater treatment
Gennadii Kochetov[1], Dmytro Samchenko[1], Tetiana Prikhna[2], Oles Lastivka[1], Dmitro Derecha[3]
[1]Kyiv National University of Construction and Architecture, Ukraine,[2]V. Bakul Institute for Superhard Materials, Kyiv, Ukraine, [3]Institute of Magnetism, Kyiv, Ukraine

P.S.40.
Synthesis and characterization of Ni(III) complex with condensation product of 2-acetylpyridine and Girard's P reagent
Milica Savić[1], Mima Jevtović[2], Matija Zlatar[1], Maja Gruden[3], Dragana Mitić[2], Božidar Čobeljić[3], Katarina Anđelković[3]
[1]University of Belgrade - ICTM, Department of Chemistry, Belgrade, Serbia, [2]Innovative Centre of Faculty of Chemistry, Belgrade, Serbia, [3]University of Belgrade, Faculty of Chemistry, Belgrade, Serbia

P.S.41.
Optimisation, prototyping and production of metallic catalyst supports from $CuNi_2SiCr$ by selective laser melting technology
Bartosz Jóźwik[1,3], Marcin Polak[1], Adrian Radoń[1,2], Santina Topolska[2], Wojciech Łoński[2]
[1]Łukasiewicz Research Network, Institute of Non-Ferrous Metals, Gliwice, Poland, [2]Faculty of Mechanical Engineering, Silesian University of Technology, Gliwice, Poland, [3]Doctoral School, Silesian University of Technology, Gliwice, Poland

P.S.42.
A study of long-term oxidation resistance and its mechanism in films based on CrN deposited on stainless steel
Viktoriya Podhurska[1], Jaroslav Milewski[2], Olexander Kuprin[3], Pavel Shuhayeu[2]
[1]Karpenko Physico-Mechanical Institute of the NAS of Ukraine, Lviv, Ukraine, [2]Warsaw University of Technology, Warsaw, Poland, [3]National Science Center "Kharkiv Institute of Physics and Technology" of NASU, Kharkiv, Ukraine

P.S.40.

Synthesis and characterization of Ni(III) complex with condensation product of 2-acetylpyridine and Girard's P reagent

Milica Savić[1], Mima Jevtović[2], Matija Zlatar[1], Maja Gruden[3], Dragana Mitić[2], Božidar Čobeljić[3], Katarina Anđelković[3]

[1]University of Belgrade - ICTM, Department of Chemistry, Belgrade, Serbia,
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[3]University of Belgrade - Faculty of Chemistry, Belgrade, Serbia

The ligand (HLCl) was synthetized by the reaction of 2-acetylpyridine and Girard's P reagent in molar ratio 1 : 1 in ethanol (1–2 drops of cc. HCl were added). The reaction of hydrazone ligand with the metal salt $Ni(BF_4)_2 \cdot 6H_2O$ and NaN_3 in a molar ratio 1:1:4 in methanol/acetonitrile/water mixture results in the formation of Ni(III) complex with composition $[NiL(N_3)_3]$ (Figure 1). The tridentate ligand (HLCl) is coordinated in deprotonated, formally neutral, form to the nickel ion through NNO set of donor atoms forming two five-membered chelate rings and the other three coordination sites are occupied by meridionally coordinated azide anions. The ligand (HLCl) was characterized by elemental analysis, IR and NMR spectroscopy and structure of the complex was defined by X-ray analysis, IR and EPR spectroscopy, molar conductivity and elemental analysis. DFT calculations were performed to determine stability and rationalise formation of Ni(III) complex.

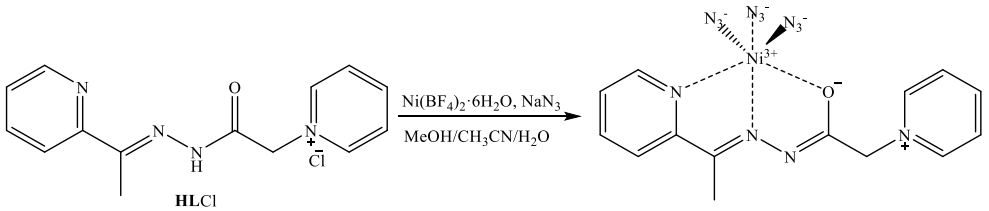

Figure 1. *Synthesis of complex [Ni(**L**)(N3)3].*

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