

Second International Conference on Electron Microscopy of Nanostructures - ELMINA2022

<http://elmina.tmf.bg.ac.rs>

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Abstract

The Second International Conference on Electron Microscopy of Nanostructures ELMINA2022 was organized by the Serbian Academy of Sciences and Arts (SASA) and the Faculty of Technology and metallurgy (FTM), University of Belgrade, Serbia and held at SASA in Belgrade, from 22 to 26 August 2022. The scope of ELMINA2022 was focused on electron microscopy methods applied to nanoscience and nanotechnology (physics, chemistry, physical metallurgy, materials science, earth, and life sciences). It highlighted recent progress in instrumentation, imaging and data analysis, large data set handling, as well as time and environment dependent processes. The scientific program contained the following topics:

- Instrumentation and New Methods
- Diffraction and Crystallography
- HRTEM and Electron Holography
- Analytical Microscopy
- In-situ Electron Microscopy
- Nanoscience and Nanotechnology
- Life Sciences

Keywords: nanoscience; nanotechnology; materials science; engineering; biology

Available on-line at the Journal web address: <http://www.ache.org.rs/HI/>

BOOK AND EVENT REVIEW

UDC: 005.745:77.026.34

Hem. Ind. **76(4)** 267-269 (2022)

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Unfortunately, ELMINA2022 had a few last-minute cancellations due to COVID related issues, which is a sobering reminder that the pandemic is not behind us.

The audience could hear about the newest results in a broad range of topics, including: nanomedicine applications (*i.e.* optimizing nanoparticles for early cancer detection), energy conversion and storage (*i.e.* phenomena in Li-ion batteries and organic solar cells at the nanoscale) or just state of the art characterization methods such as *in situ*

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investigation of strain induced changes in material properties or integrated Differential Phase Contrast (iDPC) STEM for beam sensitive materials.

Additionally, forty-one poster was presented. It is noteworthy that most posters were presented by PhD students as well as young researchers for whom the possibility to learn about the most recent microscopy techniques and novel nanomaterials as well as to present and discuss their research findings with the world leading scientists was indispensable.

Based on the quality of plenary talks and poster presentations as well as the fact that the conference was attended by many young researchers (more than 70), most of who were from Serbia, it was concluded that the ELMINA2022 conference was very successful. Due to the huge interest from young researchers as well as plenary speaker suggestions, it was decided that ELMINA should continue its biennial format, with ELMINA2024 planned September 9 - 13, 2024.

We would like to take this opportunity to thank first and foremost the Serbian Academy of Sciences and Arts, Faculty of Technology and Metallurgy of Belgrade University and its Innovation Center. Additionally, we would like to thank ThermoFisher Scientific as well as NanoMegas, JEOL/Scan, Analysis Ltd., Tescan Orsay/Mikrolux Ltd., Dectris, Institute for Testing Materials Serbia, European Microscopy Society, and the Federation of European Materials Societies, without whose support this conference would not have been possible.



ELMINA2022 Group Photo

Druga međunarodna konferencija o elektronskoj mikroskopiji nanostruktura ELMINA2022

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Izvod

Druga međunarodna konferencija o elektronskoj mikroskopiji nanostruktura ELMINA2022 organizovana od strane Srpske akademije nauka i umetnosti (SANU) i Tehnološko-metalurškog fakulteta (TMF) Univerziteta u Beogradu, se održala u SANU od 22. do 26. Avgusta 2022. Fokus konferencije ELMINA2022 će biti na metodama elektronske mikroskopije primenjenim u nanonaukama i nanotehnologijama (fizika, hemija, nauka o materijalima, geologija i biomedicinske nauke). Konferencija je bila posvećena teorijskim osnovama i metodama elektronske mikroskopije koje se primenjuju u istraživanjima u oblastima nanonauka i nanotehnologija, u okviru većeg broja fakulteta i instituta koji se bave fundamentalnim i primenjenim istraživanjima.

Naučni program Konferencije je obuhvatao više oblasti, kao što su:

- Instrumentacija i nove metode
- Difrakcija i kristalografija
- Visokorezoluciona elektronska mikroskopija i elektronska holografija
- Analitičke metode
- In situ mikroskopija
- Nanonauke i nanotehnologije
- Bio-medicinske nauke (konvencionalna i krio-elektronska mikroskopija)

Ključne reči: naonauke; nanotehno-logija; nauka o materijalima; inženjerstvo, biologija

