

10th ISE - SSRSE

10th ISE Satellite Student Regional
Symposium on Electrochemistry

2nd July 2021, online event

Conference Report



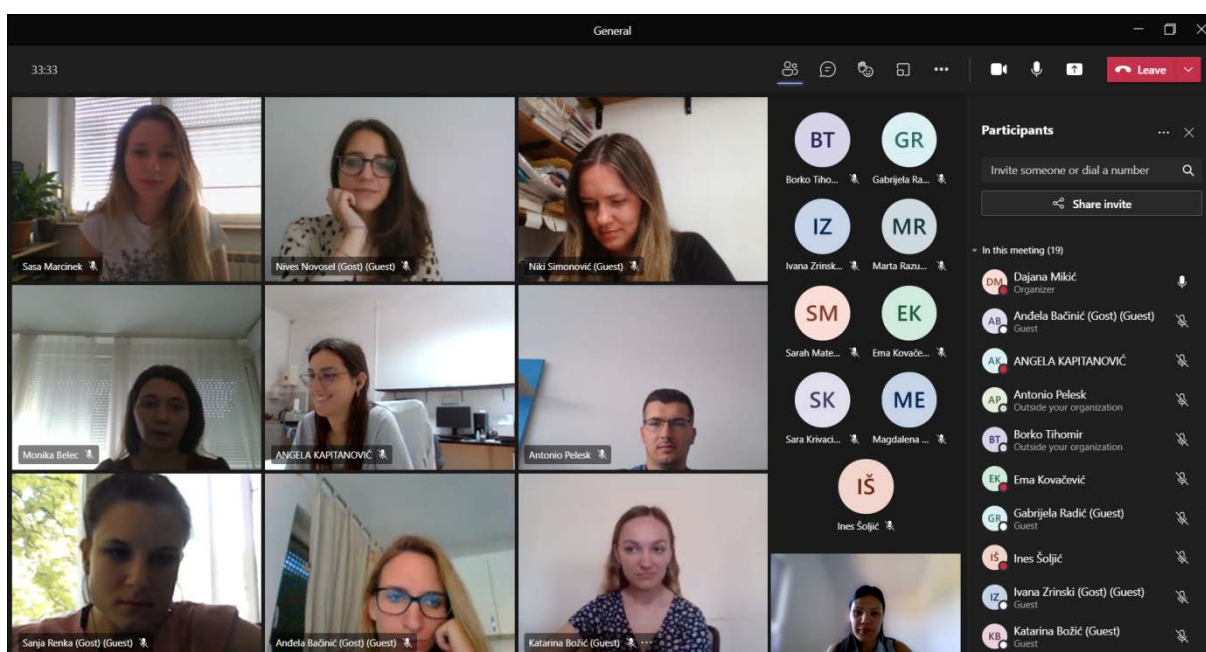
10TH ISE SATELLITE STUDENT REGIONAL SYMPOSIUM ON ELECTROCHEMISTRY

Conference Report

2nd July 2021, on-line event

The meeting of the postgraduate and graduate students, "10th ISE Satellite Regional Symposium on Electrochemistry" (10th ISE - SRSSE) was held on-line via Microsoft Teams platform on Friday, July 2nd, 2021. The symposium was held to encourage young scientists to present their research in the form of oral presentations. The meeting consisted of six sections with in total 21 presentations held by participants from Croatia, Serbia, Germany, and Austria. Sections covered broad aspects of electrochemistry fields: electrochemistry of materials for energy storage/conversion, corrosion, environmental and analytical chemistry.

The conference started at 9:00 am with a welcome by the chairs, Dajana Mikić, a PhD student from University of Zagreb, Faculty of Chemical Engineering and Technology, Croatia and Saša Marcinek, a PhD student from Ruđer Bošković Institute, Croatia.



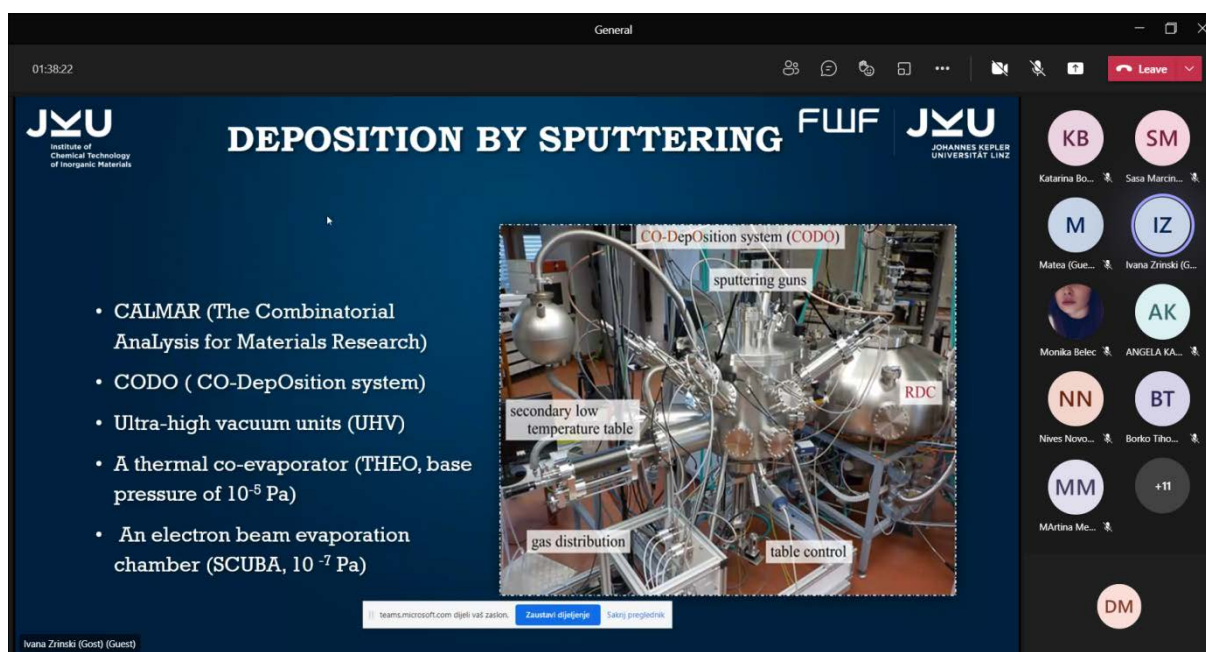
Picture 1. Participants on the online platform Microsoft Teams

First section, dedicated to green hydrogen production, included two oral presentations. graduate student Ema Kovačević opened the session presenting her research into the work of an anion exchange membrane electrolyzers, comparing the effect of the type of anion exchange membrane used. The second presentation of the first section was held by graduate student Monika Belec who presented the photoelectrochemical properties of BiVO₄ and rGO-BiVO₄ as visible light photoelectrodes concerning the role of reduced graphene oxide in the enhancement photoelectrochemical water splitting of iso-type heterojunction BiVO₄.

Second section covered energy storage and electronic devices. MSc Matea Raić opened the session presenting her investigation of silicon as a next generation anode material using honeycomb silicon nanostructure as potential anode material for Li-ion cells.

Following two presentations were held by MSc Katarina Božić who presented a novel approach for the study of the kinetics of sol-gel synthesis of titanium dioxide nanoparticles as catalyst support and MSc Ivana Zrinski who studied an influence of electrolyte species incorporation in anodic oxides on electrical and memory characteristics of memristors. Last presentation was pre-recorded video by PostDoc Milica Košević who investigated supercapacitor performance of activated carbons derived from sucrose.

Third section concerning electronic and ionic conduction, started after the coffee break. MSc Marta Razum presented her study of electronic conductivity in vanadium phosphate glasses. MSc Sanja Renka showed that the increase in sodium mobility can be achieved by the addition of WO_3 and MoO_3 , improving the overall electrical conductivity in sodium phosphate glasses. In the last presentation of the third section, MSc Gabrijele Radić presented the study of ascorbic acid as a scavenger for photogenerated holes and its effect on the electrochemical response of photocatalysts.

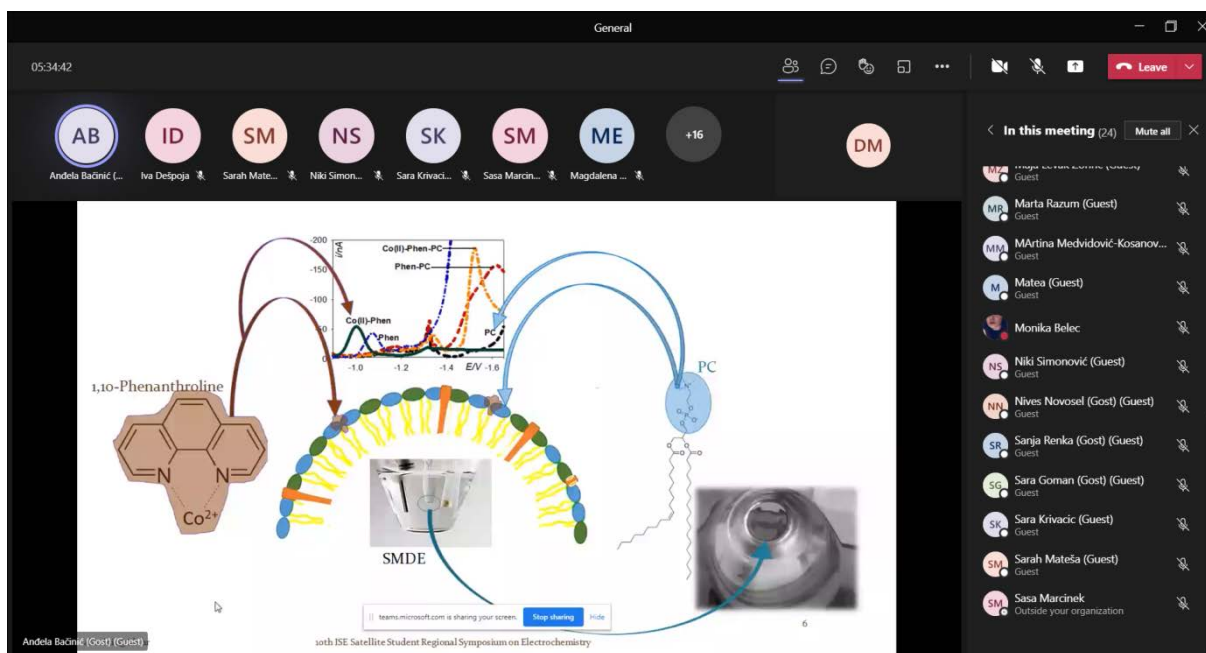


Picture 2. Online presentation

Fourth section was dedicated to corrosion science. MSc Angela Kapitanović presented a method for pretreatment of bronze artefacts exposed to outdoor atmosphere by artificially obtained sulphide patina. MSc Antonio Pelesk presented his work on carbon steel protection by volatile corrosion inhibitors. MSc Tihomir Borko studied the effectiveness of oil-soluble corrosion inhibitors within EOR projects in the oil industry. The presentation held by MSc Sara Krivačić concerned the effect of calcium phosphate coating on the corrosion resistance of titanium alloy, commercially used as an implant material in orthopedic devices.

After the lunch break, started the fifth section dedicated to electrochemistry in marine

science. MSc Niki Simonović and MSc Sarah Mateša presented their work concerning voltammetry in the study of unusual phenomena in the sea. MSc Niki Simonović studied properties of organic matter compounds based on their reactivity (hydrophobic properties) during red tide and gelatinous zooplankton blooms in the northern Adriatic Sea, while MSc Sarah Mateša studied dissolved sulfur species in aggregates of red tide blooms in the northern Adriatic Sea and in the stratified and holomictic conditions of the unique marine environment on the Adriatic coast (Rogoznica Lake). In following presentation, graduate student Iva Dešpoja presented the effect of atmospheric organic matter deposition on the copper complexing capacity in the surface seawater layer of the Middle coastal Adriatic Sea. MSc Anđela Bačinić presented her detailed investigation of cobalt binding with natural lipid phosphatidylcholine at the model surface of mercury electrode and Langmuir trough. The last presentation of the section by MSc Nives Novosel concerned surface method approach in characterization of plasma membrane vesicles derived from algal cells.



Picture 3. Online presentation

The last section was opened by MSc Magdalena Eškinja who studied the applicability of the paste electrolyte cell for in situ electrochemical testing the surface protection of bronze. The following presentation about electrochemical study of gallic acid in calcium oxalate system was held by MSc Dominik Goman. Finally, the last presentation of this year symposium was held by MSc Ines Šoljić.

After the last presentation, participating students voted for the best student presentation. During the voting, it was necessary to indicate three authors of the

presentation who stood out from the others in the voters' opinion. The top three places respectively went to: MSc Nives Novosel (14% of the vote), MSc Sarah Mateša (13% of the vote) and MSc Dominik Goman (11% of the vote).

In the end, we would like to thank all participants once again for their attention and gratefully acknowledge the International Society of Electrochemistry for the given support, providing the opportunity for young researchers to exchange their working experience in various fields of electrochemistry and make connections that may result in future collaboration. We hope this was pleasant and rewarding experience for them.

Program:

https://www.hdki.hr/images/50012653/Program_of_10th_ISE_Satellite_Student_Regional_Symposium_on_Electrochemistry.pdf

Book of abstracts:

https://www.hdki.hr/images/50013054/10th_ISE-SSRSE_2021_Book_of_Abstracts.pdf