



NATIONAL INSTITUTE OF CHEMISTRY



9th ISE Satellite Student Regional Symposium on Electrochemistry (9th ISE - SSRSE)



CONFERENCE REPORT

Zagreb, Croatia, Friday 14th June 2019



The gathering of the postgraduate/graduate students, post-doctoral researches and invited researches from the National Institute of Chemistry, Ljubljana, Slovenia, "9th ISE Satellite Regional Symposium on Electrochemistry" (ISE - SRSSE) was held on Friday 14th June 2019 at Ruđer Bošković Institute, Zagreb, Croatia starting at 8:00 am. The symposium was held to encourage young scientists to present their research in the form of oral presentations. The meeting consists of three sections that cover broad aspects of electrochemistry fields, from analytical chemistry, corrosion, atmospheric electrochemistry, electrochemistry of materials for energy storage/conversion, with in total 20 presentations with participants from Croatia, Serbia, Slovenia, and France. Apart from the three sections, a plenary section was included as well, where experienced researchers introduced their work in the field of electrochemistry.

The beginning of the conference started at 8:00 am with registration and short coffee time together with a welcome by the chairs, Kristijan Vidović, a Ph.D. student from University of Ljubljana, National Institute of Chemistry, Slovenia, Sarah Mateša, a Ph.D. student from University of Zagreb, Ruđer Bošković Institute, Croatia. After the opening ceremony, the first part of the two-part plenary section took place and the invited researches from the National Institute of Chemistry, Ljubljana, Slovenia, had their oral presentations associated with their fields of work.





The first plenary lecturer, who opened the 9th ISE – SSRSE, was Sc.D. Nejc Hodnik, whose presentation was about the usage of identical location electron microscopy (IL-EM) to track the evolution of the nanocrystals during materials electrochemical biasing down to atomic level. Sc.D. Primož Jovanovič was the following plenary lecturer, who presented electrocatalysts stability investigation by electrochemical flow cell analytics. After the first part of the plenary session, there was a short coffee break.





The next participant, in the second part of the plenary lectures, was Sc.D. Martin Šala, who gave a lecture on the potential of preparation of compounds in an electrochemical way and subsequent analysis in Mass Spectrometry, and possibilities in studying the reaction mechanisms with both techniques. The following invited lecturer was Sc.D. Ana Kroflič, who presented the overview of the usage of electrochemistry in atmospheric chemistry and simplified mechanisms of specific reactions in the atmosphere. The lunch break took place after this section, followed by the tour of the Institute Ruđer Bošković and a group photo.



The next session, about electrochemical processes and mechanisms, was opened by MSc Kristijan Vidović, who explained the complex atmospheric condense-phased mechanisms and reactions, by using electrochemistry as an impressive tool. The following oral presentation was from MSc Dajana Mikić, with the title, research of phosphoric acid protection films on different metal surfaces by electrochemical quartz-crystal microbalance. MSc Juraj Nikolić explained to us how the impedance spectroscopy could be a powerful method for analysis of electrical processes in



lithium tungsten phosphate glass ceramics, followed by MSc Martin Rozman that presented, lead(II) oxide-based electrochromic cell that can be used in a smart window application. MSc Nicole Mesaroš gave a lecture on electrochemical synthesis of graphene paper for advanced electronic applications. Two more students held oral presentations, in this section, MSc Matea Raić with the title, next-generation anodes for lithium-ion batteries, and MSc Nikola Vugrinec with the title super-condensers based on composite conductive materials polymer/graphene.





The corrosion section was presented by MSc Sanja Renka with the theme of ionic conductivity in mixed-alkali aluminophosphate glasses. MSc Ana Kraš presented the process of the optimization of the protective layer of non-toxic corrosion inhibitors. The student who closed this section was MSc Marija Tadić with the presentation entitled crosslinking of self-assembled coating using ionizing irradiation.

The last section of electroanalysis started with MSc Ivana Tomac that presented the electrochemical analysis of the C vitamin. MSc Tatjana Šfarič talked about the electrochemical determination of ascorbic acid on a silica nanosphere/graphene composite modified graphite electrode. MSc Sarah Mateša presented her work about electroanalytical methods in the characterization of an aqueous environment. The next student was MSc Jelena Isailović with the theme regarding the security and environmental application of the electrochemical sensors. An additional exciting presentation was held by MSc Ana Rebeka Kamšek, who introduced us to atomic force microscopy and its usage in the electrochemistry. Last but not the least was the presentation held by MSc Arnaud Chapoulié, who spoke about the application of Cu(II) ion-selective electrode (Cu-ISE) for Cu speciation in coastal waters.





We would like to gratefully acknowledge the ISE sponsorship for the given financial support and provided opportunities for students and young researchers to gather and exchange their scientific ideas in various fields of electrochemistry as well as to establish connections.

We hope that the 9th ISE Satellite Regional Symposium on Electrochemistry met the expectations of participants to present and discuss their results and create contacts that may result in future collaboration making this meeting a pleasant and rewarding experience.



NATIONAL INSTITUTE OF CHEMISTRY





Book of Abstracts: <https://www.irb.hr/Kalendar/Arhiva-dogadaja/9th-ISE-Satellite-Student-Regional-Symposium-on-Electrochemistry>