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New Processes and Materials Based on Electrochemical Concepts at the Microscopic Level Symposium, MicroEchem 2013

Preface

Peer-review under responsibility of the Sociedad Mexicana de Electroquimica

"New Processes and Materials Based on Electrochemical Concepts at the Microscopic Level - MicroEchem 2013" was aimed to describe how, from first-principles molecular electrochemistry, new materials and processes can be developed, either at the laboratory or industrial scale, highlighting the connecting role of molecular electrochemistry between different areas of knowledge. The Symposium was held in Mision La Muralla Hotel in Amealco, Queretaro, from September 16th to 19th 2013, as a Satellite event of the 64th Annual Meeting of the International Society of Electrochemistry. As this was the first time that an ISE Annual Meeting was held in Mexico, MicroEchem 2013 allowed improving the scientific discussions from the international invited speakers, within four different areas:

1. Electrochemistry for Functional Nano/Supramolecular Structures
2. Electrochemical Tailoring of Materials for Photoelectrochemistry, Solar Cell Developments and Lithium-Ion Batteries.
3. Integral Development of Electrochemical Industrial Processes: Design, Scaling and Modelling.
4. Bioelectrochemistry at a Glance: from specific Bio-interactions to Assisted-Bioelectrochemical Processes.

MicroEchem 2013 encouraged the exchange of ideas and experiences among participants: students, researchers and special guests (keynoted invited lectures), in an isolated and warm confidence environment, which enriched and enhanced the research projects and ideas. We are very thankful for the contributions of the invited keynote lecturers: Profs. Shelley Minteer, Luis Echegoyen, Martín Cruz, Pastor Rivero, Alejandro Franco, Alexey Popov, Armando Pombeiro, Manuel Palomar, Flavio Maran and Felipe J. González. Their kind acceptance of the invitation and their helpful assistance were critical for the success of this event. In addition, we received over 30 oral contributions and 27 posters.

In this year, 2014, the MicroEchem 2013 experience was repeated, as the "First Summer School on Molecular Electrochemistry – MicroEchem 2014", which was held in Hotel Hacienda la Venta in San Juan del Río, Queretaro, from June 29th – July 2nd, 2014. The Summer School was focused on the analysis of the theoretical background in molecular electrochemistry, with tutorial lectured from different experts on the area, who presented an overview on the techniques used for the molecular understanding of electrochemical processes. In this way, a broad array of subjects can be understood and discussed, including reactivity of single molecules, Proton Coupled Electron Transfer, Nanomaterials, Surface Modification or the set-up of a usable Biosensing systems. Again, we are very thankful for the contributions of Prof. Jean Michel-Savéant, Prof. Diane K. Smith, Prof. Alexander Kuhn, Prof.

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Marilia O. F. Goulart and Prof. Felipe J. González as tutorial lecturers. Also, we thank Dr. Miguel Velázquez-Manzanares, Dr. Lindsay Hernández, Dr. Juan Manríquez-Rocha, Dr. Bernardo Frontana, Dr. Badhin Gómez and Dr. Próspero Acevedo-Peña, Dr. José Luis-Hernández and Dr. Luis Antonio Ortiz, as well as other invited lecturers presenting their contributions at this School.

The collection of articles presented in this special edition represents a variety of the research work discussed at the meetings and we thank the authors who answered to the invitation for publishing this proceedings volume. Finally, we kindly thank all the conference sponsors that believed in our capacity of organizing such an event, especially to the International Society of Electrochemistry, the Electrochemical Society and the Analytical Chemistry Division of the American Chemical Society. This event continues a long tradition of electrochemistry-devoted meetings in Mexico, organized by the Mexican Electrochemical Society, whose support was fundamental for organizing this event. Also, we thank the sponsorship by Metrohm-Mexico, Satelsa, SAIDE, IS Analitica, CIDETEQ, Miss Ella Chen from Elsevier (who kindly assisted us to organize this volume) and also to the Government of the State of Queretaro-Mexico. Also, a special thank to M. in Sc. Georgina Armendáriz-Vidales, who worked tirelessly besides the organizing committee and was determining in having two highly successful scientific events.

Looking forward for receiving you soon in forthcoming editions of MicroEchem…

On behalf of the Organizing Committee

Carlos Frontana
Guest Editor of the MicroEchem 2013 Special Issue – Procedia Chemistry