



International Society of Electrochemistry

associated organization of IUPAC

Chemin de Closelet 2
CH-1006 Lausanne
Switzerland

Fax: +41 21 648 39 75
E-mail: info@ise-online.org
Web: <http://www.ise-online.org>

Dear friends, colleagues, and ISE members:

At the end of each year, it is the habit that the ISE President circulates a newsletter to all members. I am therefore delighted to keep with this tradition and have this opportunity to bring you up-to-date with the activities of our Society during 2016, the second and final year of my term of office as President of the Society.

These past last 12 months have been rich in events. Three very successful meetings were held in Gwangju, Auckland and The Hague. Three new members have been elected in the Executive Committee, as well as a new generation of Division officers and several Regional Representatives whom I wish to congratulate for their elections and their dedication to work in the interest of ISE and of all its Members. Indeed, ISE has continued its spectacular growth in the number of members evidencing that more and more electrochemists across the world trust what ISE can bring them and do for them.

Scientific Meetings

This year's Topical Meetings were held in Gwanju, Korea, "Oxygen Electrocatalysis in Chemical Energy Conversion and Storage Technologies", and in Auckland, New Zealand, "Electrochemistry at Modified Interfaces". The Annual Meeting was held in The Hague, The Netherlands. Its theme was "Electrochemistry: from sense to sustainability". According to the usual policy of the Society and its Journal, *Electrochimica Acta* will publish Special Issues for the Annual and Topical Meetings. In the following, I summarize the key points of the reports of the Organizing Committee Co-chairs, already published on the ISE website.

Annual Meeting

The 67th Annual Meeting of the ISE took place at the World Forum, The Hague, almost three decades after the last ISE meeting in The Netherlands (Maastricht, 1987). It was attended by 1634 participants, representing 57 countries, including 795 students.

The Hague, the third largest city in The Netherlands is the seat of the government and is internationally recognized as the city of justice and peace, having hosted the world's first peace conference in 1899. It is home to many world-class museums, e.g. the Mauritshuis and the Escher Museum.

The scientific theme of the meeting "Electrochemistry: from sense to sustainability" underscored the key role of electrochemistry as a fundamental discipline for important applications contributing to a better and more sustainable society.

The annual meeting started with three tutorial lectures on Sunday afternoon: Nanoscale Electrochemical Imaging (Patrick Unwin and Marcel Rost), Electrochemical Instrumentation (Tamás Pajkossy and Soma Vesztegom), Water Desalination by Capacitive Deionization: Introduction & Basic Concepts (Maarten Biesheuvel and Matthew Suss)

Five plenary lectures were presented by George Whitesides (Harvard University, USA), Linda Nazar (University of Waterloo, Canada), Anders Nilsson (University of Stockholm, Sweden), Serge Lemay (Twente University, The Netherlands) and Yuri Pleskov (A.N. Frumkin Institute of Physical Chemistry and Electrochemistry, Russia) who presented the Frumkin Memorial Medal lecture.

The scientific program of the conference included 52 keynote lectures, 511 oral communications and 1013 posters, distributed over a total of 20 symposia. A special "Electrochemistry in Action" symposium was organized on Wednesday, coupled to special excursions to the chlor-alkali plant of Akzo Nobel, in the harbor of Rotterdam, and to the conservation department of the Rijksmuseum in Amsterdam.

The traditional conference banquet was held at the Kurhaus, a landmark building of the beach of Scheveningen. During this event, the winners of the poster prizes were announced and celebrated.

Topical Meetings

The 18th Topical Meeting of the International Society of Electrochemistry (ISE) was held at Oryong Hall of Gwangju Institute of Science and Technology in Gwangju, South Korea. The 214 participants came from 22 countries with a large majority from Asia (72%) in agreement with the large expansion of our membership in Asian countries these past years.

The theme of the meeting, sponsored by Divisions 3 and 4, was "Oxygen Electrocatalysis in Chemical Energy Conversion and Storage Technologies". During the conference, the researches on noble and non-noble electrocatalysts, *in operando* analysis, catalyst design based on theory, catalyst support, bi-functional catalysts, fuel cells, water electrolysis, metal-air batteries, fuels from CO₂, and electrode architecture were covered. Highlights of some of the latest advancements were presented in 7 keynote lectures, 19 invited lectures, 43 oral and 103 poster presentations.

Hasuck Kim, former president of ISE, delivered an opening speech entitled "Will H₂ be an Option for the Future Energy after Fossil Fuels?" The seven keynote lectures were given by Robert Schlögl, "*On the surface chemistry of OER electrodes*"; Nenad M. Markovic, "*Electrochemical interfaces, electrocatalysis and green energy*"; Hubert Girault, "*Oxygen electrocatalysis at soft interfaces. Indirect water electrolysis using a vanadium/cerium redox flow battery*"; Dang-Sheng Su, "*On the Activity Origin in Metal-Free Nitrogen-Doped Carbons for Oxygen Reduction Reaction and Their Mechanisms*"; Hideo Daimon, "*Development of Highly Active Pt Core-Shell Catalyst for PEFCs*"; Piotr Zelenay, "*Precious Metal-Free Electrocatalysts for Fuel Cell Applications: In Pursuit of Performance and Understanding*"; Yung-Eun Sung "*Electrocatalyst design from nanoscale to macroscale for fuel cells*". After the keynote lectures, two oral sessions were run in parallel.

In the poster session, 103 presentations were given. During the conference dinner, five best poster prizes were awarded to: Hansaem Jang (Gwangju Institute of Science and Technology, Korea), Balwinder Kaur (Indian Institute of Technology Ropar, India), Seonggyu Lee (POSTECH, Korea), Silver Sepp (University of Tartu, Estonia), and Kuang-Hsu Wu (Chinese Academy of Sciences, China). An excursion to Damyang was organized, which included a Korean traditional snack-making activity, a Bamboo forest visit, and a traditional Korean dinner.

The 19th Topical Meeting "Electrochemistry at Modified Interfaces", sponsored by Divisions 1 and 4, was held at the University of Auckland, New Zealand. The 220 delegates came from 35 countries, with 44 % from Asia, 24 % from Australia and New Zealand and 22 % from Europe. Four keynote lectures, 11 invited lectures, 90 contributed orals and approximately 100 posters presented broad ranging research, emphasising the importance of modified interfaces in analysis, smart materials, energy generation and storage, corrosion and biological electron transfer. Many papers presented advances in catalytic electrodes, new materials and new insights into interfaces relevant to supercapacitors and batteries.

Keynote lectures were given by Justin Gooding, "*Light activated electrochemistry: A strategy for performing voltammetry on a monolithic surface where you want, when you want with micron scale spatial resolution*", Ulrich Stimming, "*Vanadium Electron Transfer on Modified Carbon Electrodes*", Mary Ryan, "*Understanding the Bioreactivity of Nanoparticles: Toxicity and Therapeutics*" and Jadranka Travas-Sejdic, "*Polymer Brushes Grafted Conjugated Polymers for Biomedical Applications*". Three oral sessions ran in parallel throughout the meeting. Invited speakers were: Hubert Girault, Anthony O'Mullane, Anthony Kucernak, Richard McCreery, Nick Birbilis, Byungchan Han, Neso Sojic,

Viola Birss, Zong-Qun Tian, Frédéric Barrière and Alan Bond. The single poster session was enhanced by local food, and wine from the University of Auckland's winery.

The conference dinner was held at the Royal New Zealand Yacht Squadron clubrooms, in a beautiful location on the Auckland waterfront. During the evening, I presented poster prizes to five students: Benjamin J. J. Austen (Curtin University, Australia); Chun-Chen Yang (Ming Chi University of Technology, Taiwan); Xinyi Chia (Nanyang Technological University, Singapore); Bicheng Zhu (University of Auckland, New Zealand) and Camilo Gonzalez-Vargas (Universidad de Santiago de Chile, Chile).

For these successful meetings, I gratefully thank all public and private institutions which provided financial support, the co-chairs of the Organizing Committees, Marc Koper and Maarten Van Brussel (The Hague), Jaeyoung Lee and Bongjin Simon Mun (Gwangju), Alison Downard and David Williams (Auckland), all their co-workers and the many student helpers who enthusiastically assisted the delegates. None of these successful meetings would have been possible without the dedicated effort and competence of the staff of the ISE Office, Thierry Lenzin, Kathleen Vionnet and Gil Bourgeois.

The ISE meetings 2017 promise to maintain the high scientific and organizational standard that have become customary for our Society. Our program includes:

- 19-22 March, Buenos Aires, Argentina, 20th ISE Topical Meeting "Advances in Lithium and Hydrogen Electrochemical Systems for Energy Conversion and Storage"
- 23-26 April, Szeged, Hungary, 21st ISE Topical Meeting "Photoelectrochemistry of semiconductors at the nanoscale: from fundamental aspects to practical applications"
- 27 August-1 September, Providence, RI, USA, 68th Annual Meeting "Electrochemistry without Borders"

Detailed information is available in the web sites of each meeting, easily accessible from the ISE homepage.

Sponsored Meetings

ISE not only offers its Members excellent scientific meetings in sensational locations but also sponsored 45 meetings held in 2016, the largest number ever. Financial support was offered by the ISE Divisions or by the Executive Committee and ISE publicized them through personalized messages to its members. An exhaustive list is available on the website of the Society (<http://www.ise-online.org/ise-sponsoring/past-sponsored.php>).

Fellows

Seven new ISE Fellows were appointed in 2016 in recognition of their outstanding scientific achievements. They are: Justin Gooding, Richard McCreery, Petr Novák, Stefano Passerini, Patrice Simon, Alain Walcarius, Li-Jun Wan. Those who were present in The Hague were presented their medals during the General Assembly of the Society. The others will receive them during a forthcoming ISE meeting. I still regret that no female Fellows could be appointed since I know how many of our female colleagues deserve to join the ranks of ISE Fellows. So, the Executive Committee and myself would love that more of them are nominated by the Members, that is you among others, to share this honor. We are happy that nominations for ISE Fellow submitted during the last few weeks indicate that you have decided to proceed in this direction. Your nominations are presently being examined by the Fellows Nominating Committee.

Awards

Eleven ISE Prizes were awarded in 2016 and announced in The Hague.

- The Electrochimica Acta Gold Medal 2016 was awarded to Hector Abruña, Cornell University, Ithaca, NY, USA, for his sustained excellent multidisciplinary studies of electrochemical phenomena using innovative combinations of electrochemical, SECM, differential electrochemical mass spectrometry and X-ray techniques.

- The ISE-Elsevier Prize for Experimental Electrochemistry was awarded to Nongjian Tao, Arizona State University, USA, in recognition of his outstanding contribution to molecular electronics and particularly for the development of methods to measure conductivity of single molecules.
- The Bioelectrochemistry Prize of ISE Division 2 was awarded to Jacek Lipkowski, University of Guelph, Canada, for his outstanding pioneering work on the structure of gold-supported biomimetic membranes incorporating channel-forming peptides.
- The Brian Conway Prize for Physical Electrochemistry was awarded to Marc Koper, Leiden University, Netherlands, in recognition of his contributions to developments of the fundamental understanding of the reactivity of electrified interfaces, using a combination of theoretical and experimental approaches.
- The Tajima Prize was awarded to Mikhail L. Zheludkevich, University of Kiel, Germany, for his outstanding researches in corrosion science, especially on localized electrochemical techniques and innovative protective coatings.
- The Jaroslav Heyrovsky Prize for Molecular Electrochemistry was awarded to Ismael Diez Perez, University of Barcelona, Spain, for his outstanding contributions to the field of molecular electron transfer obtained through electrochemically controlled single-molecule approaches.
- The ISE Prize for Electrochemical Materials Science was awarded to Claire Villevieille, Paul Scherrer Institute, Villigen, Switzerland, for her contributions to synthesis and characterization of electroactive materials for energy storage application.
- The ISE Prize for Green Electrochemistry was awarded to Javier Llanos, Chemical Engineering Department, University of Castilla-la Mancha, Spain, in recognition of his significant contributions to developing electrochemical approaches for the reclamation of urban wastewater and treatment of industrial waste.
- The ISE-Elsevier Prize for Applied Electrochemistry was awarded to Shaojun Guo, Pecking University, China for outstanding advances in the molecular design of electrocatalysts, battery materials, and electrochemical sensors.
- The Early Career Analytical Electrochemistry Prize of ISE Division 1 was awarded to Ino Kosuke, Tohoku University, Sendai, Japan, in recognition of his research on integrated electrochemical devices based on micro/nano-chemistry for bioassays and the development of high-resolution electrochemical imaging.
- The Oronzio and Niccolò De Nora Young Author Prize was awarded to Lin Lu-Yin, National Taipei University of Technology, Taipei, Taiwan, author of the article "Bifunctional Zinc Oxide Nanoburger Aggregates as the Dye-Adsorption and Light-Scattering Layer for Dye-Sensitized Solar Cells", *Electrochimica Acta* 169 (2015) 456–461 (co-authors: Wei-Chen Chang and Wan-Chin Yu).

Thanks to a donation made by Chinese scientists, a new ISE prize aimed at honoring the former ISE Vice President Prof. Zhao-Wu Tian was created and will be awarded for the first time this year. The Zhao-Wu Tian Prize for Energy Electrochemistry is intended to be awarded annually to a scientist of less than 40 years of age, in recognition of recent achievements in the field of electrochemistry for energy.

Nominations and applications for the ISE Prizes 2017 are invited and must be submitted to the ISE Office between February 1st and May 1st, 2017.

Three *Electrochimica Acta* Travel Awards for Young Electrochemists, sponsored by Elsevier, and seven ISE Travel Awards, aimed at encouraging the participation of young scientists in the 67th ISE Annual Meeting, were awarded to Dejun Chen (USA), Maria Cuartero Botia (Switzerland), Vlastimil Vyskocil (Czech Republic), Lourdes Mónica Bravo Anaya (Mexico), Meng Nan Chong (Malaysia), Maria Escudero-Escribano (Denmark), Ken Sakaushi (Japan), Jane Stockmann (France), Reza Younesi (Sweden) and Ulmas Zhumaev (Germany).

Similar Travel Awards will be made in 2017, to enable young researchers to participate in the 68th Annual Meeting, in Providence, RI, USA.

Society Journal

Following the continuous growth of our Society journal, its Board of Editors has been further strengthened and includes now Robert Hillman, Editor-in-Chief, Sergio Trasatti, Special Issues Editor, and twelve Editors: Philippe Allongue, Gary Attard, Nick Birbilis, Aicheng Chen, Elena Ferapontova, Laurence Hardwick, Robert KostECKI, Rüdiger Kötz, Pawel Kulesza, Tomokazu Matsue, Sotiris Sotiropoulos, and Shi-Gang Sun.

The ISE Executive Committee has appointed Andrea Balducci, Fethi Bedioui, Daniel Belanger, Johan Bobacka, Vito Di Noto, Maria Forsyth, Takayuki Homma, Panagiotis Lianos, Elisabeth Lojou, Jiri Ludvik, Masatoshi Osawa, and Vincent Vivier as members of the Advisory Board of *Electrochimica Acta*, for the term 2017-2019.

The Impact Factor of *Electrochimica Acta* has further improved to a new maximum, 4.803 for 2015, as compared to 4.504 for 2014 and 4.086 for 2013. The new Impact Factor strengthens the position of *Electrochimica Acta* among electrochemical journals.

Executive Committee

Elections were held, May-June 2016, to renew one third of the members of the Executive Committee. The ISE membership elected Zhongqun Tian, Marilia Goulart and Gunther Wittstock to the positions of President Elect (2017-2018), Vice President (2017-2019) and Treasurer (2017-2019), respectively. I am glad to welcome them and I am sure that they will greatly contribute to the future life of our Society. The term of service of Hasuck Kim, Yunny Meas and Bernard Tribollet came to an end on 31 December 2016. I am very grateful to them for their excellent service to the Society and their always friendly and constructive attitude.

The election of Secretary General and two Vice Presidents (2018-2020) will take place during the spring 2017. A Nominating Committee chaired by Phil Bartlett, who succeeds me as The President of the Society in 2017-2018, and comprising myself, acting as the former President, Susana Cordoba de Torresi, Nadine Pébère and Michael Eikerling is in charge of selecting the candidates.

Divisions

At the beginning of each odd-numbered year the divisional boards are renewed. Thus, Alain Walcarius, Elena Ferapontova, Francesca Soavi, Monica Santamaria, Gerardine Botte, Patrizia Mussini and Angel Cuesta-Ciscar have become Chairs Elect of Divisions 1 to 7, respectively. The divisions have then completed their boards by appointing the Vice Chairs. You may find the composition of the Divisional Boards on the ISE website (<http://www.ise-online.org/divisions/index.php>). I wish to thank personally all the previous Officers who dedicated so much of their precious times to help the Divisions, and sincerely congratulate all the new elected Chairs and Vice Chairs for their involvement on behalf of ISE.

Regional Sections

In the calendar year 2016, the ISE had 44 recognized Regional Sections. The reports on the activities of most Regional Sections are available on the website of the Society (http://www.ise-online.org/ise-committees/RRreports/RR_Reports_2016.pdf).

Elections of Regional Representatives for the term 2017-2019 were held in various Regions. J. Calderon (Caribbean Region), E. Härk (Estonia), B. Wilson (Finland), S.K. Aggarwal (India), S. Kuwabata (Japan), R. Pauliukaite (Lithuania), A. Dekanski (Serbia), E. Herrero (Spain) and M.S. Yazici (Turkey) were re-elected for a second term. S. Szunerits (France), L. Alfonta (Israel), T. Pajkossy (Hungary), G. Denuault (UK) and S. Minter (USA) will each serve their first term in 2017-2019.

I wish to thank the former Regional Representatives for their activities on behalf of ISE and to congratulate the new ones on their election. Their active participation in the life of the Society, especially in recruiting new members and in maintaining and strengthening the links between the ISE and the local electrochemical communities, is of primary importance.

Committees

The term of Kenneth Ozoemena as member of the Scientific Meetings Committee (SMC) ended on 31st December 2016. Agustin Bolzan will replace him and will serve on the SMC for 3 years (2017-2019). Petr Krtil will chair the SMC in 2017, the final year of his term.

The Executive Committee has appointed Yong-Yao Xia as New Topics Committee Chair Elect.

In the Fellows Nominating Committee (FNC), Hasuck Kim was appointed to replace Digby Macdonald, whose ordinary five-year term ended on 31st December 2016. Digby will serve one more year as Past Chair, to ensure continuity in the operation of the FNC. Alan Bond will chair the committee in 2017.

In the Publications Committee, chaired by Christopher Brett, the term of Renata Bilewicz and Roberto Torresi was extended for one more year. I wish to thank Ken and Digby, for their numerous valuable contributions to the activity of the ISE committees, Agustin and Hasuck, for agreeing to serve.

The Executive Committee has decided to constitute a "Working Party for Diversity" chaired by Tomokazu Matsue and comprising Shelley Minter and Elena Ferapontova. The aim of this Working Party is to consider issues of diversity within ISE in the broad sense, to advise the Executive Committee on diversity issues, and make recommendations of any steps that may be required to ensure equal opportunities for all ISE members.

Membership

The ISE membership reached an historical maximum of 3918 members in 2016, after remaining essentially stable over the previous three years (3537 members in 2015, 3544 members in 2014, 3587 members in 2013). This new, spectacular growth proves the appreciation of the international electrochemical community for ISE activities. Although Europe still accounts for almost 50% of the members, the ISE geographical balance has changed, because most new members are from Asia. I expect that the ISE meetings 2017 that will take place in the Americas, Topical Meeting in Buenos Aires and Annual Meeting in Providence, will boost the ISE membership in those areas.

After a very long period of stable fees, the Executive Committee has decided to rise the membership fees from 40 to 50 € for ordinary members and from 10 to 15 € for young and emeritus members. I am sure that the members of our Society realize that the costs for running the Society have increased since the year 2000, and that such fees are still low if compared to those of other scientific societies. Thus, I am confident that there will be no negative impact on the Society membership.

At the end of my second and final year of service as President of the Society, my feeling is that ISE is in excellent health and its activities become richer and more interesting every year, thus providing an ever better service to its members. This is possible thanks to the contribution of officers, meeting organizers, symposium organizers and all other dedicated members, whom I warmly thank. I look forward to meeting you all at ISE meetings during the coming year. I wish you all a successful and happy New Year!

Sincerely,



Christian Amatore
ISE President 2015-2016
Paris, December 31st, 2016