

Dear friends and colleagues, dear members,

At the end of each year it is traditional to circulate a newsletter to all members. I am therefore delighted to have this opportunity to bring you up to date with the activities of ISE during 2010. This has been the second and final year of my term of office as President. Many important events have occurred. Just to mention a few: the largest ISE Annual Meeting ever was held in Nice; elections led to an extensive renewal of the personnel of many ISE bodies; a new agreement between ISE and Elsevier was signed to extend and reinforce the partnership between the Society and the publisher of its Journal; new Regional Sections were constituted in South Africa and Australia; the membership attained a new maximum.

### **Scientific Meetings**

Following now well-established tradition, ISE organised two major scientific meetings in 2010. The 8<sup>th</sup> Spring Meeting in Columbus, Ohio, USA was the first Spring Meeting organized in North America. The 61<sup>st</sup> Annual Meeting in Nice, France marked the return of ISE to this country, 13 years after the Annual Meeting held in Paris, jointly with the Electrochemical Society. Both the Spring Meeting and the Annual Meeting were scientifically very successful and contributed to strengthening the image of ISE as a Society actively pursuing scientific excellence in electrochemical research and technology. Furthermore, both meetings generated a financial surplus that will be shared amongst the Regions hosting the meetings, the Divisions involved in the Spring Meeting organization and the ISE central funds. The latter component will be invested in future activities, including an increased number of travel awards aimed at encouraging the participation of young scientists in the Society meetings.

### Annual Meeting

The 61<sup>st</sup> ISE Annual Meeting, held in the Nice Acropolis convention centre, was attended by 1862 participants including 571 students, who could enjoy - besides excellent science - all the enchantments of the France Riviera: charming markets, narrow lanes, delicious food, art and gorgeous architecture. The delegates came from 60 different countries, the most represented being France (350 delegates) Germany (177), Japan (143), United Kingdom (110), USA (88), Korea (81), Brazil (69), Italy (68), Spain (64) and Poland (59).

The main theme of the Meeting was “**Electrochemistry from Biology to Physics**” to represent the forefront not only of electrochemical science but of science at large. This theme was chosen so as to give a feeling of where electrochemistry stands today, and to demonstrate the enormous potential of electrochemistry for tackling future problems which emerge not only from within its own sub-fields but also in important areas of other sciences with high impact on intellectual and societal issues.

At the Opening Ceremony, the participants were welcomed by Jean-Marc Lardeaux (Vice-President of Research at Nice University), Robert Hillman (ISE President) and Bernard Tribollet (Chair of the Organizing Committee). The 2009 ISE Award winners were announced by Sharon Roscoe (ISE Secretary General).

The scientific contributions from the participants were extensive and excellent in quality. The five plenary lectures were presented by Andrew Ewing (Sweden), Gerald S. Frankel (USA), Allen Bard (USA), Philippe Allongue (France), and Galina Tsirlina (Russia) who gave the lecture on behalf of Oleg A. Petrii (Russia), winner of the Frumkin Memorial Medal 2009. The other award winners included Olaf Magnussen (Prix Jacques Tacussel), Serge Cosnier (Katsumi Niki Prize for Bioelectrochemistry), Patrice Simon (Tajima Prize), Karl Mayrhofer (Hans-Jürgen Engell Prize), Carlos Martinez-Huitle (Oronzio and Niccolò De Nora Foundation Prize of ISE on Environmental Electrochemistry), Charles Delacourt and Dan Brett (joint winners of the Oronzio and Niccolò De Nora Foundation Prize of ISE on Applied Electrochemistry), and Chih-Yu Hsu (Oronzio and Niccolò De Nora Foundation Young Author Prize). In total the program included 5 plenary lectures, 76 keynote lectures, 695 oral communications and 1179 posters presentations, distributed among 16

Symposia. Two very successful tutorial courses were held on Sunday afternoon: “Redox Protein and Redox Enzyme Electrochemistry: Fundamental Studies and Applications” with lectures by Philip Bartlett and Christophe Léger, and “Electrochemical Quartz Crystal Microbalance” with lectures by Hubert Perrot and Robert Hillman.

The participants could also enjoy many social activities during the week: a Welcome Reception on Sunday evening, two other receptions on Monday and Tuesday evenings, a choice of four excursions on Wednesday afternoon (Grasse, Monte-Carlo and Monaco, Tourettes sur Loup and St Paul de Vence, the Cimiez and Marc Chagall Museum), and a banquet on Thursday held in the Palais de la Méditerranée.

During the conference, ISE held meetings pertaining to the organization of the Society: Regional Representatives’ Meeting, Division Officers’ Meeting, Council Meeting and General Assembly. Each of the seven Divisions of ISE held a luncheon meeting at which the members were asked to provide input and suggestions for future activities, especially forthcoming Annual Meetings.

On behalf of all ISE members, I wholeheartedly thank Bernard Tribollet and Christian Amatore, co-chairs of the Organizing Committee, and all the excellent staff they assembled, from the Symposium Organizers to the enthusiastic and effective student helpers, from many different French Universities, for their generous effort and enthusiasm that resulted in a great scientific and organizational success.

The 62<sup>nd</sup> Annual Meeting will take place in Niigata, Japan on September 11<sup>th</sup> - 16<sup>th</sup>, 2011. Its theme will be “**Electrochemical Frontiers in Global Environment and Energy**”. The meeting will include special events linked to the International Year of Chemistry. I do hope that a large number of ISE members will participate in this event to present their work, discuss the latest advances in our discipline, create new contacts and refresh old ones. In subsequent years, the ISE Annual Meeting will continue to move around the world: to Prague, Czech Republic (2012); to Santiago de Querétaro, Mexico (2013); to Lausanne, Switzerland (2014); and thereafter to other exciting venues yet to be decided, so please consult the Society web site regularly.

### Spring Meeting

The 2010 ISE Spring Meeting was held on the campus of The Ohio State University in Columbus, Ohio. The meeting was focused on “**Advances in Corrosion Science for Lifetime Prediction and Sustainability**” and it was also a celebration of the 100<sup>th</sup> anniversary of the birth of Mars G. Fontana. There were 154 attendees from 28 countries, 32 of whom were students.

Following a rainy Sunday, the weather was spectacular and the conference venues showed off the best that OSU has to offer. The welcoming reception on Sunday night, sponsored by DNV, was at the brand new Ohio Union. The technical sessions were held at the 4-H Center, a certified green building. Keynote addresses were given by Digby Macdonald, Roger Staehle, Roger Newman, Ivan Cole, and Martin Stratmann. At other times there were three or four parallel sessions on the following topics: Coatings, High Temperature Corrosion, Iron and Nickel Alloys, Stress Corrosion Cracking, Concrete, Atmospheric Corrosion, Light Metals, Modeling, Copper, and Oil/Gas/Pipeline Corrosion. In total there were 108 oral presentations and 43 poster presentations.

The social program included a short outing to the Columbus Museum of Art, and the conference banquet, in the newly renovated OSU Main Library, to which all four of Fontana’s children and their spouses were present.

The meeting was financially supported by DNV, MTI, ONR, SERDP, Elsevier, OSU College of Engineering and OSU Institute for Materials Research, to whom the Society is extremely grateful. Thanks are due Jerry Frankel and Rudy Buchheit, co-chairs of the Organizing Committee, to their colleagues and students, and to the staff of the Fontana Corrosion Center for their efforts in making the meeting a technical success and for creating a collegial environment.

The 9<sup>th</sup> Spring Meeting, “**Electrochemical Sensors: From Nanoscale Engineering to Industrial Applications**” will take place in Turku, Finland on 8<sup>th</sup> – 11<sup>th</sup> May, 2011, with the contribution of ISE Divisions 1 and 5. A record number of abstracts for a Spring Meeting have been submitted, demonstrating the timeliness of the topic and guaranteeing a technically strong meeting. Registration is now open. The following year, the ISE will have two Spring Meetings, in Perth, Australia on “**Electrochemical Science and Technology in the Solution of Real Life Problems – New Approaches to Nanostructuring Electrodes for Electroanalysis and Energy Storage**” and in Washington DC, USA on “**Theoretical and Computational Electrochemistry**”, combined with the ISE Training School on Theoretical and Computational Electrochemistry.

### Sponsored Meetings

Many international meetings were sponsored in 2010 by the ISE Divisions or by the Executive Committee, as indicated below.

- Conservation of Archaeological and Historic Metallic Artefacts: The need for Electrochemical Techniques, 11-15 January 2010, Leiden, The Netherlands, Divisions 1 and 4
- The 13th Annual Meeting of the Israel Analytical Chemical Society, 19-20 January 2010, Tel Aviv Israel, Division 4
- 4<sup>th</sup> ISEAC Triennial International Conference on ElectroAnalytical Chemistry and Allied Topics (ELAC-2010), 16-18 March 2010, Puri, India, Division 1
- 2<sup>nd</sup> International Conference on Functional Nanocoatings, 28-31 March 2010, Dresden, Germany, Division 4
- 43<sup>rd</sup> Heyrovsky Discussion on Electrochemistry of Organic Molecules and Coordination Compounds, 30 May -3 June 2010, Castle Trest (Jihlava), Czech Republic, Division 6
- Second Regional Symposium on Electrochemistry - South-East Europe, 6-10 June 2010, Belgrade, Serbia, Executive Committee
- 8<sup>th</sup> International Symposium on Electrochemical Impedance Spectroscopy, 6-11 June 2010, Carvoeiro, Algarve, Division 4
- Next Generation Battery Materials, 17-19 June 2010, Delmenhorst, Germany, Division 3
- 6<sup>th</sup> ECHEMS Meeting: Electrochemistry in Interfacial Nanoscience, 20-23 June 2010, Sandbjerg Estate, Denmark, Division 4 and 6
- International Conference on Electrified Interfaces, 20-25 June 2010, Geneva, NY, USA, Division 7
- XIX Congreso de la Sociedad Iberoamericana de Electroquímica, 27 June - 2 July 2010, Alcalá de Henares (Madrid), Spain, Executive Committee
- AB Initio Electrochemistry, 12-14 July 2010, Lausanne, Switzerland, Division 7
- Electrocatalysis: Molecular Level Approach to Modern Applications, 22-25 August 2010, Irsee, Germany, Division 3
- 12<sup>th</sup> International Symposium on Polymer Electrolytes (ISPE-12), 29 August - 3 September 2010, Padova (PD), Italy, Division 3
- Faraday Discussion 149: Analysis for Healthcare Diagnostics and Theranostics, 6-8 September 2010, Edinburgh, UK, Division 1 and 2
- XII Iberic Meeting of Electrochemistry & XVI Meeting of the Portuguese Electrochemical Society, 8-11 September 2010, Lisbon, Portugal, Executive Committee
- Electrochemistry 2010 - From microscopic understanding to global impact, 13 -15 September 2010, Bochum, Germany, Division 1 and 2
- Electrochemistry Conference, 14-15 September 2010, Wolverhampton, United Kingdom, Executive Committee
- Progress in MEA components for Medium and High Temperature Polymer Electrolyte Fuel Cells, 19-22 September 2010, La Grande Motte, France, Division 3

- The Eight International Symposium on Electrochemical Micro & Nanosystem Technologies, 22-25 September 2010, Cannes-Mandelieu, France, Executive Committee
- 6<sup>th</sup> Workshop on Scanning Electrochemical Microscopy, 3-7 October 2010, Villa Clythia, Frejus, France, Division 1
- 9<sup>th</sup> International Frumkin Symposium "Electrochemical Technologies and Materials for 21<sup>st</sup> Century", 24-29 October 2010, Moscow, Russia, Executive Committee
- The International Symposium on ElectroChemical Machining Technology, 4-5 November 2010, Brussels, Belgium, Division 5
- 2<sup>nd</sup> Regional Electrochemistry Meeting of South-East Asia (REMSEA) 2010, 16-19 November 2010, Bangkok, Thailand, Divisions 1 and 4.

The effectiveness of this means of providing ISE support for scientific meetings is reflected in the presence of 11 future ISE sponsored meetings on the Society web site – a number which will no doubt have grown between the time of writing this newsletter and its appearance.

### **Fellows**

Seven new ISE Fellows were appointed in 2010 in recognition of their scientific achievements. They are: Doron Aurbach, Elton Cairns, Richard Compton, Serge Cosnier, Juan Feliu, Zhongqun Tian and George Wilson. Most of them participated in the Annual Meeting in Nice, were presented their medals during the General Assembly and received sincere applause from the ISE members. Gyorgy Inzelt, Wolfgang Schmickler and Bruno Scrosati, appointed in previous years, were also presented their medals.

### **Awards**

Eight ISE Prizes were awarded in 2010 to recognize the scientific work of outstanding scientists and promising young researchers. The winners were announced in Nice.

- The Electrochimica Acta Gold Medal was awarded to Ulrich Stimming, Technische Universität München, Germany, for the wide breath and the high creativity of his insightful research work encompassing fundamental and applied aspects from molecular level studies with single nanoparticles to design of industrial scale fuel cells.
- The Brian Conway Prize for Physical Electrochemistry was awarded to Shi-Gang Sun, Xiamen University, China, for his significant contributions to the understanding of the molecular-level aspects of the mechanism and kinetics of electrocatalytic reactions, in particular through the use of in situ FTIR spectroscopy, and for his development of the electrochemical shape-controlled synthesis of metal nano-crystal catalysts.
- The Alexander Kuznetsov Prize for Theoretical Electrochemistry was awarded to Michael Urbakh, Tel Aviv University, Israel, for his groundbreaking theoretical work in the area of electrical, optical, and frictional properties of electrified interfaces, including liquid-liquid interfaces.
- The Tajima Prize was awarded to Shelley Minteer, Saint Louis University, USA, for her outstanding scientific activity in the field of bioelectrochemistry. Prof. Minteer's research on biofuel cells, including the studies on various dehydrogenase enzymes, has made a strong impact in both the fundamental and applied electrochemical communities.
- The Oronzio and Niccolò De Nora Foundation Prize of ISE on Environmental Electrochemistry was awarded jointly to Ignacio Sirés Sadornil, University of Barcelona, Spain and to Minghua Zhou, Nankai University, Tianjin, China, in recognition of their significant contribution to the use of advanced electrochemical technologies for wastewater treatment.
- The Oronzio and Niccolò De Nora Foundation Prize of ISE on Applied Electrochemistry was awarded to Marian Chatenet, Grenoble-INP, LEMPI, France, for his outstanding research accomplishments on fuel cell catalysts and durability.
- The Oronzio and Niccolò De Nora Foundation Young Author Prize was awarded to Katarzyna Szot, Polish Academy of Sciences, Warsaw, Poland, author of the article

“Hydrophilic carbon nanoparticle-laccase thin film electrode for mediatorless dioxygen reduction SECM activity mapping and application in zinc-dioxygen battery” published in *Electrochimica Acta* 54 (2009) 4620.

Nominations and applications for the ISE Prizes 2011 are invited and must be submitted to the ISE Office between February 1<sup>st</sup> and May 1<sup>st</sup>, 2011.

The *Electrochimica Acta* Travel Awards for Young Electrochemists 2010, offered by Elsevier and aimed at encouraging the participation of young scientists in the ISE Annual Meeting, were awarded to In-Su Park (Georgetown University, USA) and Luhua Jiang (Dailan Institute, China). In recognition of the very high quality of other applications, the ISE Executive Committee decided to award further ISE Travel Awards to Ian Burgess (University of Saskatchewan, Canada), Suhui Sun (University of Western Ontario) and Jen-Hsien Huang (Research Center for Applied Sciences, Taiwan). Two *Electrochimica Acta* Travel Awards and up to eight ISE Travel Awards will be made in 2011, to enable young researchers to participate in the 62<sup>nd</sup> Annual Meeting, in Niigata.

### **Society Journal**

The overall situation of *Electrochimica Acta*, the Journal of our Society, is truly excellent. Its Impact Factor has shown further progress, attaining a historical maximum at 3.325 for 2009, compared to 3.078 for 2008, 2.848 for 2007, 2.955 for 2006 and 2.453 for 2005. The Journal attracts an ever-increasing number of manuscripts, effectively handled by an Editorial Board formed by Sergio Trasatti (Editor-in-Chief), Tomokazu Matsue and Andrzej Wieckowski (Editors) and Sotirios Sotiropoulos (Associate Editor). This excellent team will be further reinforced in 2011, with the appointment of three additional Associate Editors: Nick Birbilis, Rüdiger Kötz and Pawel Kulesza.

A new agreement between ISE and Elsevier was recently signed, to extend our successful and mutually beneficial partnership for the next five years (2011-2015).

### **Executive Committee**

The Executive Committee maintained in 2010 the same composition as in the previous year, because no election was required to take place in 2009. In contrast, 2011 will be a year of major changes since four new members will enter the Executive Committee. They are: Hasuck Kim (President Elect, 2011-2012), Christian Amatore and Hiroshi Nishihara (Vice Presidents, 2011-2013) and Bernard Tribollet (Treasurer, 2011-2013). Sharon Roscoe will serve as Secretary General for another three-year term (2011-2013), ensuring the necessary continuity of action. Chris Brett, Annick Hubin, Petr Novák and Elisabeth Ahlberg will leave the Executive Committee after enthusiastic and diligent service to the Society. The terms of office of Ernesto Calvo and Richard McCreery will be completed on December 31<sup>st</sup>, 2011. Thus, in June 2011 there will be elections for two Vice Presidents. In the course of time, I invite you all to participate in these online elections.

### **Divisions**

From January 1<sup>st</sup> 2011, the ISE Divisions will be chaired by A. Bond (Division 1), A. Kuhn (Division 2), E. Frackowiak (Division 3), P. Schmuki (Division 4), T. Homma (Division 5), J. Ludvik (Division 6) and E. Savinova (Division 7); the New Topics Committee will be chaired by H. Abruña. Division Chairs Elect were recently chosen through the vote of the divisional membership. They are: A. Downard (Division 1), E. Katz (Division 2), D. Jones (Division 3), M. Ryan (Division 4), F. Lapique (Division 5), M. Goulart (Division 6) and M. Eickerling (Division 7). The divisional boards will have a leading role in the scientific life of the Society, particularly in the establishment of symposia at forthcoming Annual Meetings and in the choice of topics for the ISE Spring Meetings. As divisional members, if you have good ideas on topics for symposia, may I encourage you to communicate these to your Division Officers. The Division Officers are now busy preparing their annual reports on the divisional activities during 2010 and these will be published on the Society website in the near future.

## **Regional Sections**

January 2010, a new Regional Section was constituted in South Africa, and K. Ozoemena was elected as first Regional Representative of his country for the term 2010-2012. Recently the Executive Committee received an official request to constitute a Regional Section in Australia, and unanimously approved it. A few days ago, J. Gooding was elected Regional Representative of Australia for the term 2011-2013. The birth of these sections in “new continents” makes clearer than ever that ISE is a truly world-wide organisation. Regional Representatives of 10 other sections were recently elected. A. Jänes (Estonia), R. Ramanauskas (Lithuania) and C. Muller (Spain) were re-elected for a second term. R.-M. Latonen (Finland), N. Pébère (France), L. Peter (Hungary), A. Vaskevich (Israel), T. Matsue (Japan), A. Dekanski (Serbia) and T. Albrect (UK) will each serve their first term in the period 2011-2013. 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 ISE and the local electrochemical communities, will be of primary importance. Perusal of the list of Sponsored Meetings will also make it clear that the Regional Representatives continue to play an important role in the identification and support of these meetings.

## **Committees**

The term of Hasuck Kim as member of the Scientific Meetings Committee (SMC) ended on December 31<sup>st</sup>, 2010. He will be replaced by Zhongqun Tian who will serve on the SMC for three years (2011-2013). Manuela Rueda will Chair the SMC in 2011, the last year of her term.

December 31<sup>st</sup>, 2010 also marked the end of the term of Kohei Uosaki as a member of the Publication Committee (PC). On the same date Rüdiger Kötz left the PC, so as to avoid a conflict of interest with his new role of Associate Editor of the Society journal. The Executive Committee has appointed Dennis Evans, already a PC member, as its new Chair, and appointed Ana Oliveira-Brett and Daniel Mandler as PC members. Both of them will serve for the term 2011-2013.

In the Fellows Nominating Committee (FNC), Jens Ulstrup was appointed to replace Jacek Lipkowski, whose term ended on December 31<sup>st</sup>, 2010.

I wish to thank Hasuck, Rüdiger, Kohei and Jacek for their numerous valuable contributions to the activity of the ISE committees. It may often be difficult to quantify these contributions, but experience has shown that when an activity is successful, the origins of this success can be traced back to some innovation and effort shown by an imaginative Committee member.

## **Membership**

In 2010, the Society membership reached the number of 2686 active members, the highest ever, compared with 2330 in 2009, 2114 in 2008, 1910 in 2007 and 1682 members in 2006. Although the ISE priority is scientific excellence, not size, this growth encourages the Executive Committee to think that the Society, its meetings, its journal and all its other activities are increasingly appreciated by the electrochemical community worldwide.

At the end of my term as President of the Society I am delighted to report that ISE is in excellent health and, through the efforts of members, grows stronger every year. Through its scientific and educational activities, ISE is set to make positive and substantive contributions to our scientific discipline and, through these, to society at large. I have greatly enjoyed the opportunity to meet so many more members during this past year and I look forward to meeting you all at ISE meetings during the coming year. May I end with two messages. First, I offer my sincere thanks to all those colleagues who have contributed to the life of the Society in so many diverse ways. Second, I offer my best wishes to my able successor, Mark Orazem, and hope that he will enjoy the support and interchange that I have found so collegial. I am confident that ISE will continue to innovate and

advance under his leadership. I wish you all a successful New Year and continued enjoyment of the benefits of ISE membership.

**Robert Hillman, ISE President 2009-2010**

**Leicester, January 2011**