

## **Electrochemistry: Exploring the Frontiers**

*Playa del Carmen, 8 – 11 February 2009*

The aim of this conference was to highlight the current state-of-the-art and new directions in electrochemistry. A wide spectrum of topics was considered, including fundamental aspects of electrochemistry, new materials, ultra-sensitive techniques and applications in the life sciences. Plenary lectures were given by some of the top electrochemists globally who discussed new and exciting developments. A number of delegates informed me that this was the best line-up of key lecturers they had seen at an electrochemistry conference. The programme was relaxed and included ample opportunity for discussion.

The meeting kicked off in style with a lecture from Royce Murray (UNC, Chapel Hill, USA) who discussed recent studies from his group concerned with new analyses of nanoparticle structure and applications. Nongjian Tao (Arizona State University, USA), discussed electron transport through  $sp^2$  carbons, with interesting new data on graphene. Phil Bartlett (Southampton, UK) gave a terrific overview of the creation of structured surfaces for electrochemical SERS and showed new data which highlighted the excellent sensitivity of this approach. This complemented a later presentation by Zhong-Qun Tian (Ziamen, China) on the development of core-shell nanostructures for electrochemical SERS, which also have exciting potential. On the theme of nanoscale electrochemistry, Henry White (Utah, USA) discussed his seminal studies with nanodisk electrodes and nanopores, in which the response can be gated by the electrical double layer.

Electrocatalysis is a key theme in electrochemistry and this was discussed in the context of both soft and hard interfaces. Fraser Armstrong (Oxford, UK) a pioneer in the use of enzymes for electrocatalysis, gave an outstanding lecture on enzymes and metal-complex analogues for oxygen and hydrogen electrocatalysis. This aspect was again picked up by Hubert Girault (EPFL, Switzerland) who showed that oxygen reduction can be catalysed at liquid/liquid interfaces. Hubert also gave an excellent tutorial on liquid/liquid interfaces! Marc Koper (Leiden, Netherlands) showed how the study of electrocatalytic processes on well-defined single crystal surfaces provides key information on a wide range of important electrocatalytic processes. As Chair of the conference, the final plenary lecture was from Pat Unwin (Warwick, UK), who discussed recent developments in high resolution probes of interfacial processes.

The plenary lectures were supported by 16 shorter contributions covering a wide range of electrochemistry, with delegates from Europe, North and South America, Asia and South Africa. There were 15 posters, with a significant proportion from students. The informal atmosphere, and small size, of the meeting gave opportunity for discussion inside and outside the lecture room.

While the meeting was in an exotic location, this was not a holiday! Rather, the location and hotel provided a convivial atmosphere in which some exciting scientific discussion could take place, aided by the odd cocktail or two. Coming from Europe, it was rather nice to escape a long and gloomy winter and to enjoy interacting with some great colleagues. The format of the meeting was reminiscent of Gordon Conferences, with lectures in the morning, followed by a leisurely lunch and part of

the afternoon to relax in the sun, followed by further lectures from late in the afternoon into the evening.

In summary, this was a very high quality conference, in which all of the plenary lecturers contributed significantly by presenting exciting, high quality lectures. The Zing team organise conferences professionally and provide considerable support in the run up to the meeting and during the conference itself. This was the 1st Zing Electrochemistry conference and it has the potential to become a firm favourite in the electrochemistry calendar as a distinctive high quality meeting.

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