



SCI Electrochemistry Postgraduate Conference  
in partnership with RSC and ISE

*AN ISE REGIONAL STUDENT MEETING*

## **CONFERENCE REPORT**



Friday 19<sup>th</sup> May 2017

Electrochemical Engineering Laboratory  
Faculty of Engineering and the Environment  
University of Southampton



UNIVERSITY OF  
**Southampton**  
Clean Carbon USRG

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Friday 19<sup>th</sup> May 2017, University of Southampton

#### Summary

*Following the initiative of the Electrochemical Technology Group of the Society of Chemical Industry, this year's edition of **SCI Electrochemistry Postgraduate Conference** was hosted by the Energy Technology Group of the Faculty of Engineering and the Environment of the University of Southampton. SCI-EPC 2017 was a partnership with the Electrochemistry Interest Group of the Royal Society of Chemistry and the International Society of Electrochemistry. Additional support was provided by STFC Batteries Network and Clean Carbon USRG.*

*The event brought together more than 60 delegates from many nationalities, including PhD students, postdoctoral researchers and renowned academics from 9 universities in the United Kingdom. The meeting aimed to promote discussions on the practical applications of electrochemistry and to celebrate the regional postgraduate community in the field. Participants from the Engineering Faculty and the Department of Chemistry of the University of Southampton also found an opportunity to meet each other and discover links between their work.*

*Registered delegates and guests met from 10:00 to 18:00 at the Hartley Suite of the Staff Social Centre in Highfield Campus on Friday 19<sup>th</sup> May 2017. The programme featured one keynote, an invited lecture, 10 oral presentations from PhD students and postdoctoral researchers as well as 15 posters. There were two coffee breaks between the sessions, a working lunch and an informal networking reception.*

*The Faculty of Engineering and the Environment hosted SCI-EPC 2017 as part of its activities towards achieving leadership in electrochemical energy storage, battery management systems and optimization of the power grid.*

<https://sites.google.com/site/sciepc2017>

## Event account

The conference started with a welcome message to the delegates presented by Luis F. Arenas on behalf of the SCI Electrochemical Technology Group Executive Committee. Luis then introduced Professor Andy Cruden, who presented the research carried out at the Electrochemical Engineering Laboratory of the University of Southampton.



*Professor Andy Cruden introducing the activities of the Electrochemical Engineering Laboratory of the Faculty of Engineering and the Environment.*

After this, Dr. Guy Denuault from the Electrochemistry Group and UK Regional Representative of the International Society of Electrochemistry, talked about the activities and benefits of this society and invited the delegates to become members. Professor Phil Bartlett, the current president of the ISE, was also present during the event.



*Dr. Guy Denuault from the Electrochemistry Group of the Department of Chemistry giving a message on behalf of ISE.*

The stage was then handed over to the keynote speaker, Dr. Kathryn Toghil, an early career lecturer at Lancaster University and coordinator of the UK Redox Flow Battery Network. In her talk, she explained the exiting

opportunities in the field of electrochemical energy storage and her work on new organic chemistries for redox flow batteries.



*Dr. Kathryn Toghill (Lancaster University) giving a talk on the current challenges and opportunities in electrochemical energy storage.*

The keynote was followed by Dr. Rachel McKerracher's (University of Southampton) invited lecture on catalysts and gas diffusion electrodes for metal-air batteries and on her recent work on aluminium-ionic liquid batteries. There then followed a short coffee break and a first look at the posters.



*Students during the morning poster session and coffee break.*

The second session began after a short coffee break, chaired by Alex Holland. Luis F. Arenas (University of Southampton) gave the first talk, which considered the scale-up of electrochemical flow reactors for cerium-based redox flow batteries. Next, Joshua Bates (University of Surrey) presented his work on modelling of lithium-air cells and its validation against charge-discharge curves. Stanislav V. Sokolov (University of Oxford) then explained the detection of silver nanoparticles at random assemblies of microelectrodes in a wall-jet cell and Catalina Pino (Imperial College London) talked about performance models for hydrogen-vanadium regenerative fuel cells.



*Luis F. Arenas (University of Southampton) giving a talk on the scale-up of cerium redox flow batteries.*



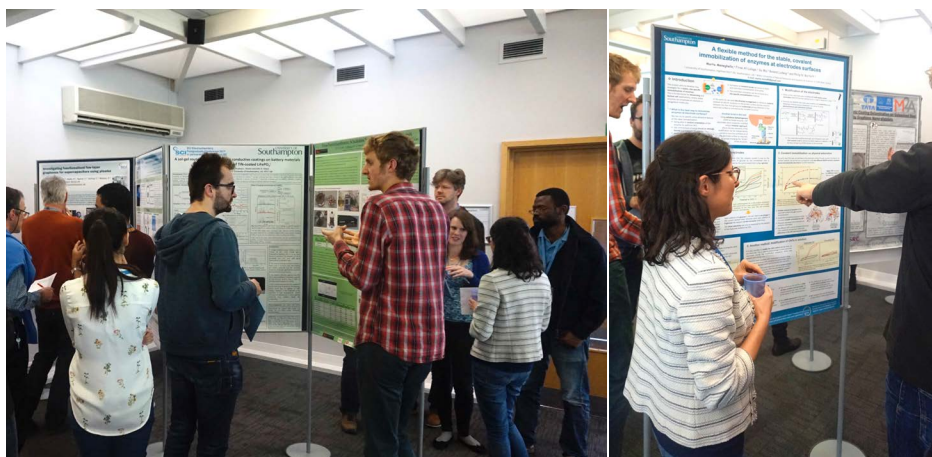
*Catalina Pino (Imperial College London) sharing her work on modelling of redox flow batteries.*



*Stanislav V. Sokolov (University of Oxford) explaining the femtomolar detection of nanoparticles at arrays of microelectrodes.*

Lunch ensued after the second session. This time was well spent by the delegates, who engaged in interesting conversations with colleagues. The menu choice was appreciated by all. The third session followed lunch and





*Students discussing their work during the afternoon poster session and tea break.*

The last session was chaired by Associate Professor Carlos Ponce de León. It began with the talk by Elena Madrid, (University of Bath) on the electroluminescence of a nanostructured polymer supported on tin-doped indium oxide. Afterwards, Alex Nielsen (Swansea University) presented his work on the analysis of brass corrosion via a scanning Kelvin probe. Tammy Nimmo (University of Southampton) then closed the series of talks with her work on the study of catalysts for the reduction of oxygen at platinum electrodes.



*Alex Holland presenting the best poster award to Marta Meneghello (University of Southampton) and the best presentation award to Stanislav V. Sokolov (University of Oxford).*

To finalize the event, Luis F. Arenas gave a summary of the meeting and acknowledged the contribution of all those involved in the organisation and sponsorship of the event. After this, Alex Holland presented the coveted best poster and presentation awards to Marta Meneghello (University of Southampton) and Stanislav V. Sokolov (University of Oxford), respectively. The prizes included £50 gift vouchers and the winner of the best presentation award also received a one-year SCI full membership.

The day finished with an informal networking reception, which lasted until 7:00 pm. Everyone enjoyed drinks and nibbles whilst discussing the day, interchanging emails, and making plans for the weekend. Some took the chance to have dinner in Southampton before taking the train back home and even to have a short holiday in this coastal city. We are sure that the delegates will look forward to SCI Electrochemistry Conference 2018.



*Conference delegates at the networking reception with drinks and nibbles.*

*Luis F. Arenas and Alex Holland  
Organising Committee of SCI-EPC 2017  
University of Southampton, UK.*

<https://sites.google.com/site/sciepc2017>

Student volunteers from the Electrochemical Engineering Laboratory:  
Keletso Orapeleng, Christian Harito and Abdulaziz Abbahusain

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