# Second ISE Satellite Student Regional Symposium on Electrochemistry in Ireland

Bernal Institute-University of Limerick

Friday 9<sup>th</sup> of November 2018



# **Conference Report**

The "Second ISE Satellite Student Regional Symposium on Electrochemistry in Ireland" was attended by 27 electrochemist from Universities across the Republic of Ireland. From these, 7 were PhD students from Tyndall National Institute in Cork, 8 from the University of Limerick, 2 from Trinity College Dublin, 2 from the Dublin Institute of Technology, 1 from Dublin City University, 1 from University College Dublin, 1 from Maynooth University and 1 from University College Cork. In addition, 1 Postdoc and 1 Researcher from Tyndall National Institute, 1 Researcher from the University of Limerick and the ISE representative in Ireland (James Rohan) also attended the symposium.

The Symposium started at 10:30 a.m with the registration and was divided into 3 oral presentation sessions and 1 poster session. The first presentation was given by Andres Molina, who welcomed the attendees and highlighted the main objectives of the symposium.



Figure 1. Andrés Molina welcoming the attendees.

The session continued with the presentation of Kamil Cywinski from the University of Limerick, who presented his work on the photo-electrochemistry of TiO<sub>2</sub> films at the interface between two immiscible liquids. This was followed by Jack Robinson from Dublin City University and his work on the investigation of transmembrane proteins using electrochemical impedance spectroscopy. The first session continued until 12:30 p.m and was closed by Dr Micheal Scanlon from the University of Limerick, who presented the facilities and the electrochemistry groups working in the Bernal Institute in the University of Limerick.



Figure 2. Kamil Cywinski from the University of Limerick presenting his work on the photo-electrochemistry of semiconductors at the interface between two immiscible liquids (left), and attendees to the Symposium (right).

The second oral presentation session started at 1:30 p.m after a 1-hour lunch break with a quick presentation by Dr James Rohan, the ISE representative in Ireland, who presented the activities of the ISE, and encouraged the attendees to become members of the society. Luiza Wasiewska from Tyndall national Institute in Cork followed him with a presentation on the electrochemical detection of Silver ions in aqueous solutions using localized pH control. Swapnil Ingle, one of the two attendees from Trinity College Dublin, presented his work on materials for the oxygen reduction reaction. The session continued with John O'Donnell from the University of Limerick and finished at 3:00 p.m with Louise McGrath from Tyndall and her work on ionic-liquid based electrolytes for Li-Ion batteries.



Figure 3. Dr James Rohan, the ISE representative in Ireland, presenting the attendees with the different divisions of the ISE (left), and Swapnil Ingle from Trinity College Dublin (right).

5 PhD students presented their work in the poster session which took place from 3:00 to 3:40 p.m. Sally O'Hanlon from the University College Cork, Noell Purcell from the University of Limerick, and Ian Seymour, Fernando Garrido, and Benjamin O'Sullivan from the Tyndall national institute shared their work in a session that was accompanied by a coffee break.



Figure 4. Andres Molina (organizer) and James Rohan (ISE representative) in the poster session.

The final session was opened by Julia Madden from Tyndall national Institute, who shared her work on the modification of ultramicroelectrodes for Glucose sensing. Prabhakar Sidambaram from the Dublin Institute of Technology continued with an interesting talk about the use of micro and nano electrodes for the detection of radicals. Khairul Hoque presented his work on the electrochemical study of Nitrogen doped carbon electrodes which was followed by Niall Dalton with a talk on Carbon fibres for Vanadium flow batteries. The oral presentation sessions was closed by Ehren Dixon form Tyndall, who talked about lithographic and electrochemical deposition of copper conductors.

The symposium was closed with a short reception with finger food and drinks provided by the organization to all the participants.

The organizers and all the attendees are very grateful to the ISE for the financial support.

Andrés F. Molina Osorio Dr Micheál Scanlon Organizing committee



Figure 5. Participants of the Second ISE Satellite Student Regional Symposium on Electrochemistry in Ireland.

### **Media impact**

The conference, and thereby electrochemistry in Ireland and the ISE, were publicized in real time on Twitter (https://twitter.com/AFMolinaO/status/1049590401454264320)



As of 07/12/2018, this tweet has the following stats:

Impressions: 1202

Total engagements: 86

Media engagement: 32

Likes: 17

Link clicks: 10

# Program

# Second ISE Satellite Student Regional Symposium on Electrochemistry in Ireland

Bernal Institute-University of Limerick

Friday 9<sup>th</sup> of November 2018



#### Schedule for the day:

10.30-11.00: Registration-Lobby Analog Devices Building

11.00-11.10: Andres Molina-UL "Welcome and objectives of the day"

#### Presentation session 1:

<u>11.10-11.30</u>: **Kamil Cywinski - UL** "Photo-electrochemistry of Dye-sensitized Titanium Dioxide Nanoparticle Films at Polarized Soft Interfaces"

<u>11.30-11.50</u>: Jack Robinson-DCU "Investigation of Transmembrane Proteins on Suspended Lipid Bilayers on Gold Microcavity Arrays using Electrochemical Impedance Spectroscopy"

<u>11.50-12.10</u>: Caoimhe Robinson-Tyndall "Electrochemical Detection of Bovine IgG in Serum"

<u>12.10-12.30</u>: **Kieran McCarthy-UL** "The use of Electrochemical Impedance Spectroscopy for the estimation of State-of-Health and State-of-Charge of Lithium-ion Batteries"

12.30-13.30: Lunch

#### 13.30-13.40: Dr James Rohan-ISE representative in Ireland "The ISE in Ireland"

## Presentation session 2:

<u>13.40-14.00</u>: Luiza Wasiewska-Tyndall "Reagent-free electrochemical-based detection of silver ions in aqueous solutions using localized pH control"

<u>14.00-14.20</u>: **Swapnil Ingle-TCD** "Synthesis of N/Fe doped carbon macropores using hydrothermal method for oxygen reduction reaction"

<u>14.20-14.40</u>: John O'Donnell-UL "Suitable reference electrodes for use in acidic media applications"

<u>14.40-15.00</u>: Louise McGrath-Tyndall "Ionic Liquid Based Flexible Polymer Gel Electrolytes for Li Ion batteries"

## 15.00-15-40: Poster session and coffee break

# Presentation session 3:

<u>15.50-16.00</u>: Julia Madden-Tyndall "Modification of ultramicroelectrodes for Glucose Sensing"

<u>16.00-16.20</u>: **Prabhakar Sidambaram-DIT** "Micro and nano electrodes: Fabrication, characterization and application. The detection of Silver and ROS/RNS in Biological buffer"

<u>16.20-16.40</u>: **Khairul Hoque-TCD** "A Study of the Electrochemical Capacitance of Nitrogen Doped Amorphous Carbon Thin Film Electrodes"

<u>16.40-17.00</u>: Niall Dalton-UL "Bio-Based Electrospun Carbon Nanofibres as Vanadium Flow Battery Electrodes"

<u>17.00-17.20</u>: **Ehren Dixon-Tyndall** "Lithographic patterning and electrochemical deposition of copper conductors"

17.30-19.00: Reception in "The Stables club-UL"

#### List of attendees

Name	Surname	University	E-mail
Julia	Madden	Tyndall	julia.madden@tyndall.ie
Jack	Robinson	DCU	jack.robinson23@mail.dcu.ie
Niall	Dalton	UL	niall.dalton@ul.ie
Ehren	Dixon	Tyndall	ehren.dixon@tyndall.ie
Kamil	Cywinski	UL	kamil.cywinski@ul.ie
John	O'Donnell	UL	John.ODonnell@ul.ie
Khairul	Hoque	TCD	hoquemk@tcd.ie
Prabhakar	Sidambaram	DIT	d15127795@mydit.ie
Caoimhe	Robinson	Tyndall	caoimhe.robinson@tyndall.ie
Louise	Mc Grath	Tyndall	louise.mcgrath@tyndall.ie
swapnil	ingle	TCD	ingles@tcd.ie
Luiza	Wasiewska	Tyndall	luiza.wasiewska@tyndall.ie
Kieran	Mc Carthy	UL	kieran.mccarthy@ul.ie
lan	Seymour	Tyndall	ian.seymour@tyndall.ie
Fernando	Garrido Diaz	Tyndall	fernando.diaz@tyndall.ie
Benjamin	O'Sullivan	Tyndall	benjamin.osullivan@tyndall.ie
Sally	O'Hanlon	UCC	ohanlonsal@gmail.com
Noel	Purcell	UL	Noel.Purcell@ul.ie
Seamus	Kilian	UL	<u>seamus.kilian@ul.ie</u>
Lee	Byrne	Maynooth	lee.byrne.2015@mumail.ie
Anna	Banasiak	DIT	<u>d14126212@mydit.ie</u>
Maria	Alhajji	UL	<u>Maria.Alhajji@ul.ie</u>
Andres	Molina	UL	andres.molina@ul.ie
James	Rohan	Tyndall	james.rohan@tyndall.ie
Alan	O'Riordan	Tyndall	alan.oriordan@tyndall.ie
Fiona	Barry	Tyndall	fiona.barry@tyndall.ie
Micheal	Scanlon	UL	micheal.scanlon@ul.ie