

# SEAC *communications*

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## PRESIDENT'S MESSAGE

Dear Members of SEAC and any and all interested parties:

It's astonishing to realize that yet another year has gone by and Pittcon is upon us once again: how time flies when we're so immersed in all things electroanalytical! Phil has once again done an excellent job using this issue of SEACcommunications to highlight the excellent and expansive contributions of SEAC and its members to the Pittcon Technical Program.

I am certain that all SEAC members will join me in both congratulating and thanking our 2014 award winners for their magnificent contributions to our field. Joe Hupp of Northwestern University and Stephen Maldonado of The University of Michigan will be honored during the Reilley Award Symposium on the Monday afternoon of the Pittcon week.

But the gathering of awards does not end there! Our very own Dick Crooks will receive the Pittsburgh Analytical Chemistry Award (Tuesday morning) and Mark Meyerhoff will receive the Ralph N. Adams Award (Wednesday afternoon). Dick and Mark: congratulations to you both for these well-deserved honors. It's really too bad that Pittcon does not do an Olympic-style medal count – clearly, this would be the The Year of SEAC!

Please also join me in recognizing our 2014 Graduate Student Travel Award winners. They are **Stephen Fosdick** (University of Texas), **Stephen Percival** (University of Washington), **Jacob Goran** (University of Texas), **Maral Mousavi** (University of Minnesota), and **Tessa Carducci** (UNC Chapel Hill).

Information on each of these young stars of electroanalytical chemistry is contained in this newsletter.

SEAC is deeply grateful to its faithful sponsors for their continued support of our activities in the field of electroanalysis.

I invite you to participate fully in SEAC's activities during Pittcon in Chicago, including our annual meeting, which will follow the Reilley Award Symposium, and our reception immediately following. Everyone is welcome to attend the reception (the dinner following is by reservation: contact Shelley Minter to find out if reservations can still be made).

See you all very soon in the warm climes of Chicago in March! Let no one tell you electrochemists aren't a tough breed.

Cheers,

Adrian

### In this issue--

#### President's Message

#### Pittcon 2014

- Awards Symposium
- Reception, Banquet, and Board Meeting
- Electrochemistry Sessions at Pittcon
- Student Travel Award Winners

#### Meetings to Come

#### Job Openings

- Postdoctoral Positions University of Connecticut

#### ISE Satellite Meeting Down Under Glucose Sensor on a Contact Lens?

#### Member News

- Scott Shaw
- Ralph N. Adams Institute
- Allen J. Bard
- Richard Crooks
- Amitava Choudhury (seeking PAR EG&G 273 electrometer)
- FDA Draft Guidances Glucose Monitors (by Pete Kissinger)
- Michael Freund
- Chuck Martin

#### Welcome New Lifetime Members

- Stephanie Daniel
- Mario Alpuche-Aviles

#### How Easy it is to Become a SEAC Member

## PITTCON 2014—MARCH 2–6

### *Charles N. Reilley and Young Investigator Awards Symposium*

The highlight of the SEAC activities at Pittcon will be the presentation of the 2014 C. N. Reilley Award to Joseph Hupp of Northwestern University and the Young Investigator Award to Stephen Maldonado of the University of Michigan. The symposium in their honor has been arranged by Mark Ratner, Northwestern University, and will be held 1:30 to 5:10 PM on Monday, March 3, 2014, in Room S402A of the McCormick Convention Center, Chicago IL.

- 1:30 PM Introductory Remarks – Mark Ratner
- 1:35 PM Presentation of the 2014 Charles N. Reilley Award to Joseph Hupp, Northwestern University, by Mark Ratner, Northwestern University
- 1:40 PM Interfaces for Photoelectrochemical Energy Conversion, Joseph Hupp, Northwestern University
- 2:15 PM Photoelectrochemical Investigation of Outersphere Redox Shuttles in Dye Sensitized Solar Cells, Thomas Hamann, Northwestern University
- 2:50 PM Some Science for Joe, Mark Ratner, Northwestern University
- 3:25 PM Recess
- 3:40 PM Presentation of the 2014 Young Investigator Award to Stephen Maldonado, University of Michigan, by Mark Ratner, Northwestern University
- 3:45 PM New Ideas for Liquid Metal Electrodes, Stephen Maldonado, University of Michigan
- 4:20 PM Spectroelectrochemical Studies of Energy Materials Interphases and Interfaces, Keith Stevenson, The University of Texas at Austin

### *Other SEAC Activities at Pittcon*

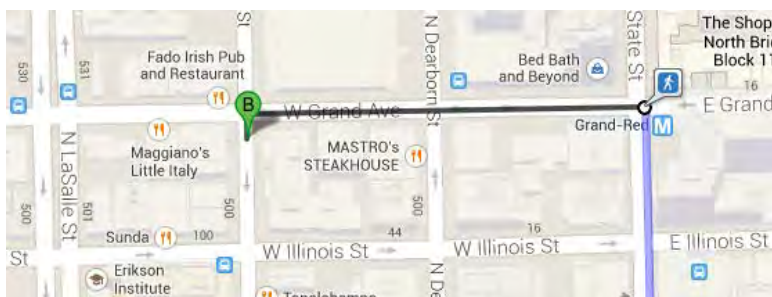
The brief Annual Business Meeting will follow the awards symposium for about 10 minutes (room S402A at around 4:55 PM on March 3). Please plan to stay for the meeting, as it is required of all tax-exempt organizations. Prospective members and guests are welcome to attend the business meeting.

The **SEAC Award Reception** will be from **5:30–7:00 PM at Maggiano's Little Italy** at 516 N Clark St. in Chicago on Monday, March 3, 2013. No reservations are needed for the reception and all are welcome.

The **SEAC banquet** will follow at **7:00 PM at Maggiano's**. Dinner will cost \$55 per person, paid to the treasurer at the dinner by cash/check or you also have the option (new this year) to prepay by PayPal or credit card on the SEAC website at <http://electroanalytical.org/membership.html>.

There will be a cash bar at both the reception and the dinner. Reservations for the dinner were due to Shelley Minter (minter@chem.utah.edu) by February 15th at the latest, as noted in an e-mail earlier this year. If you use PayPal to make your payment, make sure you have RSVP'd to Shelley.

The **board-of-directors meeting** is scheduled for **Monday, March 3rd, Room W190b, 11:45AM–1:15 PM**. A cheese/crackers/bread tray will be available along with a fruit tray and beverages. The cost will be \$8.00 each. Former members of the Board are always welcome to attend.



The **Maggiano's Little Italy** is at 516 N Clark St. (B in the maps above), 3.4 miles from the conference center. Take the **Red Line** from Cermak Chinatown to Grand-Red (7 min, 5 stops) or a taxi (about 10 min in favorable traffic).

### ***Electrochemistry Sessions at Pittcon (Including Poster Sessions)***

#### **SUNDAY AFTERNOON, MARCH 2**

- *Session 50* Controlled Nanopores for Chemical Separations and Sensing, Room S401d, 1:30 PM
- *Session 140* Bioanalytical Applications of Electrochemistry, Room S501bc, 1:30 PM

#### **MONDAY MORNING, MARCH 13**

- *Session 360 SEAC:* Electroanalysis in Unusual and Extreme Environments, Room S405a, 8:30 AM
- *Session 380* Ionophore-based Chemical Sensors I, Room S503a, 8:30 AM
- *Session 420* Bioanalytical Electrochemistry: Assorted Applications and Methods, Room S501bc, 8:30 AM
- *Session 480* Nanotechnology: Sensors and Electrochemistry, Room S504d, 8:30 AM
- *Poster Session 510* Electrochemistry: Methods and Applications, Exposition Floor, Back of Aisles

1000–2500, authors present 10:00 AM–12:00 PM

- *Poster Session 550* Nanotechnology: Fluorescence, Extraction, Electrophoresis and Electrochemistry, Exposition Floor, Back of Aisles 1000–2500, authors present 10:00 AM–12:00 PM

### **MONDAY AFTERNOON, MARCH 3**

- *Session 590* Charles N. Reilley and Young Investigator Awards – **SEAC**, Room S402a, 1:30 PM
- *Session 710* Ionophore-based Chemical Sensors II, Room S503a, 1:30 PM
- *Session 730* Biomedical Samples and Sensors, Room S501a, 1:30 PM
- *Session 750* Electrochemical Sensors for Bioanalysis, Room S501d, 1:30 PM
- *Session 780* Neurochemical Applications of Electrochemistry, Room S505A, 1:30 PM

### **TUESDAY MORNING, MARCH 4**

- *Session 980* **SEAC**: The First Student Session in Electroanalysis, Room S503b, 8:30 AM
- *Session 870* Pittsburgh Analytical Chemistry Award to Richard M. Crooks, Room S401bc, 8:30 AM

### **TUESDAY AFTERNOON, MARCH 4**

- *Session 1350* Neurochemistry: Dopamine and Serotonin, Room S503b, 1:30 PM
- *Poster Session 1430* Sensors: General Interest and Others, Exposition Floor, Back of Aisles 1000–2500, authors present 1:00 PM–3:00 PM

### **WEDNESDAY MORNING, MARCH 5**

- *Poster Session 1710* **SEAC**: Society for Electroanalytical Chemistry Poster Session, Exposition Floor, Back of Aisles 1000–2500, authors present 10:00 AM–12:00 PM

### **WEDNESDAY AFTERNOON, MARCH 5**

- *Session 1730* Ralph N. Adams Award to Mark E. Meyerhoff, Room S401a, 1:30 PM
- *Session 1790* Biosensors and Single Cells: Speed, Sensitivity, Spatial Resolution, Room S404bc, 1:30 PM
- *Session 1810* New Enabling Analytical Techniques for Electrochemical Energy Materials, Room S404d, 1:30 PM
- *Session 1850* Advances in Renewable Energy Research: Devices and Analyses, Room S501a, 1:30 PM
- *Poster Session 2040* Sensors: Bioanalytical and Biomedical, Exposition Floor, Back of Aisles 1000–2500, authors present 1:00 PM–3:00 PM

### **THURSDAY MORNING, MARCH 6**

- *Session 2190* Electrodes and Electrode Surfaces, Room S502a, 8:30 AM
- *Session 2230* Neurochemistry: Peptides, Amino Acids, Adenosine, Norepinephrine, Peroxide, and Oxygen, Room S503b, 8:30 PM

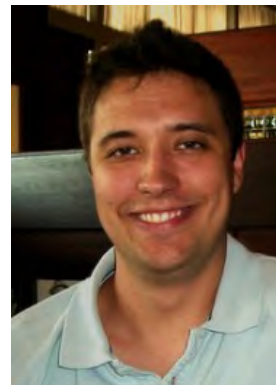
### **THURSDAY AFTERNOON, MARCH 6**

- *Session 2310* Electroanalytical Chemistry on the Nanoscale, Room S401a, 1:30 PM
- *Session 2390* Voltammetry, Room S404bc, 1:30 PM

## SEAC STUDENT TRAVEL AWARD WINNERS

**Winners of the student travel awards are Stephen Fosdick**, (Univ. of Texas, advisor: Richard Crooks), **Stephen Percival** (Univ. of Washington, advisor: Bo Zhang), **Jacob Goran** (Univ. of Texas, advisor: Keith Stephenson), **Maral Mousavi** (Univ. of Minnesota, advisor: Phil Buhlmann), and **Tessa Carducci** (Univ. of North Carolina, advisor: Royce Murray). Congratulations to all of them!

**Stephen Fosdick** (Advisor: Richard M. Crooks, The University of Texas at Austin) will present “Electrocatalyst Screening with Bipolar Electrochemistry” at Pittcon 2014 on Tuesday morning in the SEAC: The First Student Session in Electroanalysis session. Stephen’s research focuses on the development of an electrocatalyst screening platform using bipolar electrochemistry where a single electrode acts as both an anode and cathode simultaneously without requiring a direct connection to the electrode. Stephen has used these advantages of bipolar electrodes to evaluate electrocatalyst candidates in a highly parallel manner using simple instrumentation and readout. Stephen will discuss his work to develop the platform and how the project has progressed over his graduate career. Outside of lab, Stephen enjoys travel and photography.



**Stephen J. Percival** (Mentor: Bo Zhang, University of Washington) will present “Single-Nanoparticle Electrocatalysis on Nanoscale Electrodes” at Pittcon 2014 on Monday morning in the Nanotechnology: Sensors and Electrochemistry session. Stephen’s research focuses mainly on the study of the fundamental properties and electrocatalytic activity of different nanomaterials such as nanoparticles and nanowires. The electrocatalytic amplification of hydrazine oxidation can be observed from single nanoparticles as they collide with the surface of an inert electrode over time. Using the well-established technique of Fast Scan Cyclic Voltammetry (FSCV) for the purpose of nanoparticle detection, many Cyclic Voltammograms (CVs) can be obtained that correspond to single nanoparticles. These single nanoparticle CVs provide detailed chemical information about the specific electrocatalytic activity of the nanoparticle and can also give information about the nanoparticle material. Using nanoelectrodes that have been developed in the Zhang lab it is possible to obtain Electron Microscopy images of the nanoparticles that land on the electrode surface and compare them to the detailed FSCV electrochemical information. Outside of the lab, Stephen enjoys playing basketball, billiards and spending time outdoors.



**Tessa Carducci** (Mentor: Royce W. Murray, UNC-Chapel Hill) will present “Electron Transfer in < 2 nm Au Nanoclusters” at Pittcon 2014 on Monday at 10:45 am in Session 480 – “Nanotechnology: Sensors and Electrochemistry.” Tessa’s research utilizes electrochemical methods in novel ways to characterize electron transfers between small nanoparticles of gold or metal oxide. The number of applications of these types of nanoparticles in a very small size regime (< 2 nm) has exploded in recent years with an increasing emphasis on defining the core size and molecular formula (i.e. Au<sub>144</sub>L<sub>60</sub>). Her research aims to quantify the rates of electron transfer in highly monodisperse samples of well-defined, small nanoparticles in hopes that it will inspire more highly tailored applications of nanoparticles in electronic components, sensors, and as catalysts. Tessa is also interested in low temperature electron transfer behavior, ligand exchange



kinetics, and advances in nanoparticle synthesis. Her favorite pastimes are skiing and snowboarding. Tessa is also involved with the technology development office on campus as well as dance.

**Jacob Goran** will present a talk at the SEAC first student session in electroanalysis on the electrocatalytic oxidation of the enzymatic cofactor, dihydronicotinamide adenine dinucleotide (NADH), at nitrogen-doped carbon nanotube electrodes. This study has implications for biosensor and biofuel cell applications where researchers are using the oxidation of NADH at electrode surfaces to measure enzyme kinetics. Originally from Champaign/Urbana in Illinois, Jake graduated from the University of Louisville (KY) in 2007 with a degree in Music and Chemistry. After graduation, Jake worked as an analytical chemist at IMR Metallurgical Services in Louisville until he started graduate studies at the University of Texas at Austin under the direction of Keith J. Stevenson.

**Maral Mousavi** (Mentor: Phil Buhlmann, University of Minnesota) will deliver an oral presentation, "Reference Electrodes with Salt Bridges Contained in Nanoporous Glass: An Underappreciated Source of Error" on Monday afternoon in the session of Electrochemical Sensors for Bioanalysis in Pittcon 2014. Maral discovered that the commonly used reference electrodes equipped with nanoporous glass plugs (better known under the brand names Vycor or CoralPor) perform much poorer than anticipated and show potential dependence on sample composition. She systematically assessed the limitations of these reference electrodes and identified the conditions under which their performance is reliable.

Maral's research is focused on expanding the application of fluorine-phase ion-selective electrodes (ISEs) in real life samples, and the development of novel cations for applications in energy storage devices and in sensing with ion-selective electrodes, in particular, for the development of fluorine ion-selective microelectrodes. She will present her work on the electrochemical stability of quaternary ammonium cations commonly used in electrolytes for energy storage devices in a poster entitled "Development of Novel Cations to Extend the Electrochemical Window of Ionic Liquids: Improving the Energy Density of Nanostructured Supercapacitors for Electrical Energy Storage" on Wednesday morning in the SEAC poster session.



## MEETINGS TO COME

Meetings of interest to our SEAC members abound during the coming year, with symposia being organized by some among us.

<b>Meeting</b>	<b>When</b>	<b>Where</b>	<b>Link for More Information</b>
Pittcon 2014	2014, March 2–6	Chicago, IL, USA	<a href="http://www.pittcon.org/">http://www.pittcon.org/</a>
American Chemical Society Spring Meeting	2014, March 16–20	Texas TX, USA	<a href="http://portal.acs.org/">http://portal.acs.org/</a>
14 <sup>th</sup> ISE Topical Meeting	2014, March 28–31	Nanjing, China	<a href="http://www.ise-online.org/annmeet/next_meetings.php">http://www.ise-online.org/annmeet/next_meetings.php</a>
15 <sup>th</sup> ISE Topical Meeting	2014, April 27–30	Niagara Falls, Canada	<a href="http://www.ise-online.org/annmeet/next_meetings.php">http://www.ise-online.org/annmeet/next_meetings.php</a>
Gordon Research Conf.: Electronic Processes in Organic Materials	2014, May 4–9	Lucca, Italy	<a href="http://www.grc.org/programs.aspx?year=2014&amp;program=elecproc">http://www.grc.org/programs.aspx?year=2014&amp;program=elecproc</a>
225 <sup>th</sup> ECS Spring meeting	2014, May. 11–16	Orlando FL, USA	<a href="http://www.electrochem.org/meetings/biannual/fut_mtgs.htm">http://www.electrochem.org/meetings/biannual/fut_mtgs.htm</a>
15 <sup>th</sup> International Conference on Electroanalysis ESEAC	2014, June 11–15	Malmö, Sweden	<a href="http://eseac2014.com">http://eseac2014.com</a>
2014 Matrafured International Conference on Electrochemical Sensors	2014, June 15–20	Near Budapest, Hungary	<a href="http://www.matrafured-conference.bme.hu">http://www.matrafured-conference.bme.hu</a>
Gordon Research Conference: Bioanalytical Sensors	2014, June 22–27	Newport RI, USA	<a href="http://www.grc.org/programs.aspx?year=2014&amp;program=biosens">http://www.grc.org/programs.aspx?year=2014&amp;program=biosens</a>
Gordon Research Conference: Bioelectrochemistry	2014, July 6–11	Biddeford ME, USA	<a href="http://www.grc.org/programs.aspx?year=2014&amp;program=bioelec">http://www.grc.org/programs.aspx?year=2014&amp;program=bioelec</a>
Gordon Research Conference: Electrodeposition	2014, July 27–August 1	Biddeford ME, USA	<a href="http://www.grc.org/programs.aspx?year=2014&amp;program=elecdep">http://www.grc.org/programs.aspx?year=2014&amp;program=elecdep</a>
American Chemical Society Fall Meeting	2014, Aug. 10–14	San Francisco CA, USA	<a href="http://portal.acs.org/">http://portal.acs.org/</a>
65 <sup>th</sup> Annual ISE Meeting	2014, August 31–September 5	Lausanne, Switzerland	<a href="http://www.ise-online.org/annmeet/next_meetings.php">http://www.ise-online.org/annmeet/next_meetings.php</a>
226 <sup>th</sup> ECS Fall meeting	2014, October 5–11	Cancun, Mexico	<a href="http://www.electrochem.org/meetings/biannual/fut_mtgs.htm">http://www.electrochem.org/meetings/biannual/fut_mtgs.htm</a>
Pittcon 2015	2015, March 8–14	New Orleans, LA, USA	<a href="http://www.pittcon.org/">http://www.pittcon.org/</a>
66 <sup>th</sup> Annual ISE Meeting	2015, October 4–9	Taipeh, Taiwan	<a href="http://www.ise-online.org/annmeet/next_meetings.php">http://www.ise-online.org/annmeet/next_meetings.php</a>

### 2014 Gordon Research Conference on Bioanalytical Sensors

Sue Lunte is co-chair of the [Gordon Research Conference on Bioanalytical Sensors](#) (Twenty First Century Technologies for Probing Biological Systems) in June of 2014 with Paul Cremer. It features 9 sessions with a total of 29 speakers. June 22-27, 2014 Salve Regina University Newport, RI.



## JOB OPENINGS

**Postdoctoral Fellow.** (Search began 02/06/2014). **Department of Chemistry, University of Connecticut**, Storrs, CT. A postdoctoral researcher with experience in electrochemistry, microfluidics, immunoassays, nanoparticle science and electrochemiluminescence (ECL) is sought. The successful candidate will have prior knowledge of electrochemistry, and the majority of the areas mentioned. The project involves a 5-University collaboration between the US and Ireland to develop and validate with patent samples a panel for aggressive prostate cancer diagnostics. The candidate will develop multiplexed protein assay methodologies with an existing ultrasensitive microfluidic immunoassay system developed at the University of Connecticut previously, and be part of a team that assays patient samples from Ireland and the US for validation. Some travel to Ireland may be required, and opportunities to explore advances in the assay system will be encouraged. Please send your resume, list of publications, graduate GPA, and 3 letters of recommendation from professional references to Prof. James Rusling <[james.rusling@uconn.edu](mailto:james.rusling@uconn.edu)>. The search will continue until an appointment is made. For the bioanalytical technologies involved, see

James F. Rusling, Gregory W. Bishop, Nhi Doan, and Fotios Papadimitrakopoulos, Feature Article: Nanomaterials and biomaterials in electrochemical arrays for protein detection, *J. Materials Chem. B*, **2014**, 2, 12–30.

**Anticipated Postdoctoral Position** (search began 02/10/2014, earliest appointment July, 2014). **Department of Chemistry, University of Connecticut**, Storrs, CT. A postdoctoral researcher with experience in electrochemistry, microfluidics, electrochemiluminescence, metabolism and metabolic enzymes, and mass spectrometry is sought. The successful candidate will have prior knowledge of and experience with the majority of these areas. The project involves ongoing collaboration with the University of Connecticut Health Center aimed at developing new high throughput methods of elucidating the chemical aspects of metabolite-based genotoxicity utilizing nanomaterials and DNA damage targets. Major focuses of the project include in vitro profiling of organ-based toxicity and codon damage to tumor suppressor genes such as p53. Please send your resume, list of publications, graduate GPA, and 3 letters of recommendation from professional references to Prof. James Rusling <[james.rusling@uconn.edu](mailto:james.rusling@uconn.edu)>. For previous bioanalytical technologies developed in this project, see

Eli G. Hvastkovs, John B. Schenkman and James F Rusling, Metabolic Toxicity Screening Using Electrochemiluminescence Arrays Coupled with Enzyme-DNA biocolloid reactors and LC-MS, *Annu. Rev. Anal. Chem.*, **2012**, 5, 79–105. (PMCID: [PMC3399491](https://pubmed.ncbi.nlm.nih.gov/PMC3399491/))

Please see the SEAC website at <http://electroanalytical.org/employment.html> for additional opportunities.

# ISE SATELLITE STUDENT REGIONAL SYMPOSIUM “THE FUTURE OF AUSTRALIAN AND NEW ZEALAND ELECTROCHEMISTRY”

*A contribution by Cameron Bentley*

An ISE satellite student regional symposium was held at the CSIRO Clayton laboratories on November 25<sup>th</sup> 2013 in conjunction with the RACI sponsored “19<sup>th</sup> Australia and New Zealand Electrochemistry Symposium (19ANZES)” on November 26<sup>th</sup> 2013. The number of applicants at this joint meeting vastly exceeded our expectations: in total there were over 120 delegates, representing most of the major electrochemistry groups in Australia and New Zealand. Over the two days, there were 4 plenary lectures, 45 oral presentations and 42 poster presentations. This postgraduate student-focused meeting was organized in association with the organizing committee of the 19ANZES and aimed to promote networking and highlight the diversity of the electrochemical research taking place in Australia and New Zealand.



The meeting kicked-off at 8.30am in the Ian Wark Lecture Theatre with opening addresses from Prof. Alan Bond (Monash University) and myself on behalf of the organizing committee. First up was a plenary lecture from one of our invited speakers, Prof. Julie Macpherson (Warwick University), who gave an excellent presentation on the topic of boron-doped diamond electrodes titled “When is it best to use conducting diamonds in electrochemical research”. Next was the first session, which could be broadly described as “room temperature ionic liquid themed”: talk topics included electroanalytical applications, corrosion inhibition, oxygen reduction/detection and hydrogen peroxide production.

After a short break, the second session commenced, which had a general focus on “energy applications”, with talks on topics such as water oxidation (oxygen evolution), electrochemical capacitors, electrogenerated chemiluminescence and lithium-ion batteries. After the second session, the winner of the AM Bond Medal, Dr. Debbie Silvester (Curtin University) was presented with her medal and then gave a fantastic presentation outlining her research titled “Electrochemical Detection of Gases on Screen-Printed Electrodes in Ionic Liquids: Advantages and Challenges”.

During the lunch break, there was plenty of time for discussion while enjoying the freshly prepared food. After lunch, our second plenary speaker, Prof. David Williams (University of Auckland) gave a terrific overview of his experiences working in the field of electrochemistry titled “From sensors to systems to networks for air quality measurement: a tale of science and commercialization”. Following the plenary lecture, the third session commenced which covered broad research topics in the field of electrochemistry, with presentations focusing on Fourier transformed AC voltammetry, surface modified electrodes (graphene and electroactive monolayers), photoelectrochemistry and photocatalysis.

After a short break for afternoon tea, the fourth and final session commenced, which was “electrochemical sensor themed”: talk topics included low cost sensing with paper electrodes, gas sensing with metal nanoparticles, biological sensing (proteins and microRNA), biomimetic sensing and sulphite sensing with functionalized carbon nanotubes. Following the conclusion of the oral presentations, the poster presentations were



held in the canteen adjacent to the lecture theatre. Drinks were served and discussions were had as everybody wound down from what had been a veritable feast of electrochemistry over the course of the day.

To finish off the day, the conference dinner buffet, which had been prepared on site was held in the canteen area. Following dinner and dessert, the oral/poster presentation awards (sponsored by the Monash Postgraduate Association) were presented by our invited speakers, David Williams and Julie Macpherson. Mr. David Bower (Latrobe University) was awarded the prestigious Bloom-Gutmann award for his oral presentation titled “Co-reactant electrogenerated chemiluminescence (ECL) from carbon dioxide in ionic liquids”. The first, second and third place winners of the poster presentation awards were respectively; Mr. Lachlan Carter (UNSW, “Utilising Nanoparticle-Mediated Electrochemical Gating to Prepare a Novel Sensing Platform”), Mr. Changlong Xiao (UNSW, “Electrochemical Determination of Trace Water in Non-aqueous Media”) and Ms. Lita Lee (University of Canterbury, “Preparation of a Monolayer Tether based on the Electroreduction of a Protected Aryldiazonium Salt”).



Overall, the meeting was a great success which I’m sure was a pleasant and rewarding experience for all attendees. Special thanks to the sponsors of the event for their financial support and all of the post-graduate students who helped with the setting up and running of the symposium.

## GLUCOSE SENSOR ON A CONTACT LENS?

*A contribution by student editor Xu U. Zou*

Google is testing a prototype for a contact lens that would help people with diabetes monitor their disease. The lens will measure glucose in tears continuously using a wireless chip and miniaturized glucose sensor, which is a less invasive method of measuring glucose levels than finger-pricking. The sensor would be embedded between two layers of soft contact lens material, with a pinhole in the lens allowing fluid from the surface of the eye to flow into the sensor. It is an exciting idea but Google still warned that there would still be a lot of work before it turned into a useful product.



[googleblog.blogspot.com](http://googleblog.blogspot.com)

## NEWS FROM MEMBERS

**Scott K. Shaw**, a new member to the SEAC, joined the Chemistry faculty at the University of Iowa in the fall of 2012. Scott previously held postdoctoral positions with Jeanne Pemberton (Univ. of Arizona) and David Schiffrin (Liverpool, UK), and received doctoral training under Andy Gewirth (UIUC). His growing research group at Iowa focuses on molecular-level analysis of interfaces and thin films using mainly spectroscopic and electrochemical methods. Current projects include measuring the structure and properties of ionic liquid interfaces, developing electrochemical systems for CO<sub>2</sub> reduction to hydrocarbon feed stocks, and linking the architectures of environmental interfaces (the surfaces of windows, walls, foliage, etc.) to their roles in mediating the transport and degradation of persistent organic pollutants. (Submitted by: Johna Leddy, Univ. of Iowa)



The **Ralph N. Adams Institute for Bioanalytical Chemistry newsletter** for 2013 has been posted. You are invited to take a moment to catch up with the events of the last year. [Please download the pdf here.](#)

**Prof. Allen J. Bard**, The University of Texas at Austin, has been selected by President Obama for the Enrico Fermi Award. The award will be made on Feb. 3 by the Secretary of Energy. <http://science.energy.gov/news/featured-articles/2014/01-13-14/>

**Prof. Richard (Dick) Crooks**, Robert A. Welch Chair in Materials Chemistry, The University of Texas at Austin, will receive the 2014 Pittsburgh Analytical Chemistry Award at a symposium at Pittcon on Tuesday morning, March 4 (see above). The speakers in the symposium are Al Bard, George Whitesides, Chad Mirkin, Tony Ricco, and Dick himself.

<http://pittcon.org/technical-program/pittcon-award-winners/>

From **Amitava Choudhury, Missouri S & T** (formerly University of Missouri-Rolla): I am an assistant professor in Missouri S&T, Rolla. I work on Li-ion battery materials. I had acquired a few used potentiostats/galvanostats for my electrochemistry work. It has been going on fine until the electrometer (the small box that comes with the potentiostat) for PAR EG&G 273 broke. I cannot find a replacement from the company, they only make spare electrometers for model 273A and not 273. So I am hoping to find someone who could spare an electrometer for EG&G 273 (similar to the one in the attached figure), which may not be used in research any more. Please let me know if you have any such PAR EG&G 273 electrometer in your lab that can be donated/sold. Looking forward to your reply. Amitava (choudhurya[at]mst.edu, <http://web.mst.edu/~choudhurya/>)



On January 7, 2014 the FDA issued two **"draft Guidances" on glucose monitoring systems**, one for home use devices and one for use in clinical settings. These are a very good opportunity for graduate students to begin to understand the process of device approval and the expectations for success. They, in part, reflect some problems with these familiar devices when used in setting for which they were not designed. Given that amperometric glucose measurements are the most popular electrochemical measuring device in history, dwarfing such tools as cyclic voltammetry, pH meters, oxygen electrodes, stripping voltammetry, battery testers and all the rest; those interested in biosensors will learn something from a quick review of these brief documents available at [www.fda.gov](http://www.fda.gov). (Contribution by **Pete Kissinger**, Purdue University)

**Michael Freund**, Professor of Chemistry at the University of Manitoba, has been awarded a Tier 1 Canada Research Chair in Conducting Polymers and Electronic Materials in recognition of his work in sensing, electronics and energy conversion. The Canada Research Chairs program invests significant operating and infrastructure funds and provides teaching relief to attract and retain leading scientific researchers. The award has a 7-year term, renewable indefinitely. Details of the chair can be found at the following link.

<http://www.chairs-chaire.gc.ca/chairholders-titulaires/profile-eng.aspx?profileId=1114>



News from **Chuck Martin**, University of Florida: I write today from the art/science interface. I just release my 5th studio album called "Genius Boy Music." It is my first solo album and a departure in musical styles than anything I've previously.

Genius Boy Music, not just a clever title. I pack a mammoth slice of Americana and more – R&B, show tunes, rock, jazz, pop, country, soul – mixed, matched and minced into twelve 3-minute songs.

How is that possible? Slap bass-driven 'Hit 10 Joints' suggests where my brain might have been during the songwriting process. That and I'm a scientific genius who beseeched his idol, Marvin Gaye, for guidance when recording blue-eyed funk vocals on 'Over to me.' Did it work?

Diversity defines Genius Boy Music. Overly candid songwriting unites it. I tell it up front in 'Heppest Cat' - I ain't square like Cincinnati. But I am cat crazy. Scary/sweet rocker 'Me & Stella' and 'High Cotton,' a symphonic lullaby, are about my cat, the daughter I never had. The thundering guitars on 'Ambiguous Kiss' are all the times I got shot down in a bar, a theme I return to in alt-county, 'You Won't.' I got shot down a lot.

Finally, what are the three best days of your life? I tell you mine in the last track, 'Best Days,' which ends with me singing – These are the best days of my life, so far. So inspiring.

No Really. What are your three best days?

[Genius Boy Music iTunes](#)

[Genius Boy Music @ Amazon](#)

## WELCOME OUR NEW LIFETIME MEMBERS

We welcome Stephanie Daniel, Atlanta, and Mario Alpuche-Aviles, assistant professor in the department of chemistry, University of Nevada, as new lifetime members. Thank you!

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