San Francisco Student Poster Session Award Winners

ECS President Tetsuya Osaka presented awards to the winners of the Student Poster Session competition. From left to right are: **Kelsey Hatzall** *(First Place, Electrochemical Science & Technology, Poster #107);* **Kristy Jost** *(First Place, Solid State Science & Technology, Poster #53);* **Vimal Chaitanya** *(organizer);* **Tobias Placke**, **Paul Meister**, *and* **Sergej Rothermel** *(Second Place, Electrochemical Science & Technology, Poster #11);* **Kalpathy Sundaram** *(organizer); ECS President* **Tetsuya Osaka**; **Takashi Suda** *(Second Place, Solid State Science & Technology, Poster #14);* **Olga Fromm** *(Second Place, Electrochemical Science & Technology, Poster #11);* **Oana Leonte** *(judge); and* **Raluca Stefan-van Staden** *(judge).*

The Society's general **Student Poster Session** in San Francisco received 148 submissions, giving the organizers and judges a full evening's work. After all the reviewing and scoring was completed, the following were announced as the winning posters. **Applied Materials** (www.appliedmaterials.com/) very generously provided the cash prizes that were presented along with the award certificates.

First Place – Electrochemistry, Poster #107: "Optimization of Flowable Electrodes for Electrochemical Flow Capacitors," by **Mohammed Boota**, **Kelsey B. Hatzall**, and **Christopher R. Dennison**, all from Drexel University.

Second Place, Electrochemical Science & Technology, Poster #11: "X-ray Diffraction Studies of the Electrochemical Interaction of Bis(trifluoromethanesulfonyl) Imide Anions into Graphite," by **Tobias Placke**, **Guido Schmuelling**, **Richard Kloepsch**, **Olga Fromm**, **Sergej Rothermel**, and **Paul Meister**, all from MEET Battery Research Center, University of Muenster.

First Place, Solid State Science & Technology, Poster #53: "Knitted Electrochemical Capacitors for Applications in Smart Garments," by **Kristy Jost** and **John McDonough**, both from Drexel University.

Second Place, Solid State Science & Technology, Poster #14: "Synthesis of Intermetallic Nanoparticles as Co-Catalyst on Anatase TiO_2 and Its Photocatalytic Activity," by **Takashi Tsuda** and **Masanari Hashimoto**, both from Kanagawa University.

The Society cannot run the General Student Poster Session without the hard work of the organizers. In San Francisco, **Venkat Subramanian**, **Vimal Chaitanya**, **Kalpathy Sundaram**, **Matt Foley**, and **Pallavi Pharkaya**, all contributed their time and energy to making the session a success.

The session also requires the intense efforts of the judges, which, in San Francisco included **Candace Chan**, **Paul Gannon**, **Frederic Hasche**, **Wesley Henderson**, **Andy Herring**, **Peter Hesketh**, **Durst Julien**, **Oana Leonte**, **Torsen Markus**, **Stefeno Meini**, **Yaw Obeng**, **Elizabeth Podlaha Murphy**, **Alice Suroviec**, **EJ Taylor**, **Raul van Staden**, **Philippe Vereecken**, and **Yang Chaun Xing**.

Arizona State University Student Chapter

The **Arizona State University Student Chapter Members** (ECS@ASU) have had a busy summer and fall, since its founding in May 2013. Members promoted the chapter at a welcome event, held their first general meeting, visited a museum, and started a monthly journal club, where each member provides a technical review and contributes to the lively discussion.

The Chapter conducted a community outreach program on October 5. The program was presented at the **Teleos Preparatory Academy** in the Eastlake Park Neighborhood in Phoenix, Arizona. The program is an original design and was funded by the Ironmen Network of the Pilgrim Rest Campus and ebike sponsorship by The Battery Bike Co.

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ECS@ASU Officers *(from left to right) are* **William Bowman**, *Community Outreach Coordinator;* **Iolanda Klein**, *Secretary;* **Tylan Watkins**, *Recruitment Coordinator; and* **Telpriore "Greg" Tucker**, *President—all preparing for the Chapter's first Community Outreach Program.*

The outreach program focused on the fundamental chemistries of emerging renewable energy sources and identification of known fossil fuels. The call-and-response presentation compared/contrasted these energy sources areas of electrochemical processes, thermodynamic efficiencies, electricity production, devices, U.S. energy consumption, anthropogenic pollution, household usage, local companies, recent news events, important persons in history, careers in chemistry, and more. Supplemental video animations of solar power and battery function were featured and a survey was taken by the students.

In the Solar Module, the group leader explained the concept of photovoltaics to the students. They exposed the amorphous silicon solar cells to direct sunlight and measured the open circuit potential with a multi-meter. Afterward they arranged the solar panel sets into a series circuit and sought the optimal angle to produce enough voltage to power an LED light bulb. The students were able to examine large outdoor 45W solar panels in application of recharging a 12V lead-acid battery.

Candace Chan, *Graduate Advisor and Chair of the local professional chapter, the Arizona Section, opened the first general meeting of the* ***ECS@ASU****.*

*Fellow **ASU Student Chapter** members had a chance to take a well-deserved break from their research and the lab. They visited the latest exhibit, "The Art of Video Gaming," at the Phoenix Art Museum during First Friday Artwalk in midtown Phoenix, AZ.*

Later they learned the how dc voltage was transferred to an inverter to create ac electricity for a standard household 110V outlet or a charger USB outlet.

In the Battery Module, students learned about the concept of electrochemical redox properties of everyday common materials for an experiment. They put zinc-coated screws (anodic electrodes) and copper pennies (cathodic electrodes) into lemons and limes (acidic electrolytes). They used alligator clips to connect these newly-made battery cells in serial and parallel circuit arrangements, which they measured the difference in voltage with a multi-meter. Lastly, the students compared the measured potentials of their semi-organic cells to standard 9V, AA, AAA, and coin cell batteries.

In the Ebike Module, the group leader explained the electrochemical processes of lead-acid and Li-ion battery systems for everyday devices. Electrical bikes (ebikes) are a form of green transportation and are now considered a disruptive technology. The ebikes used in the session enabled the students to experience a real world application and provided a little more fun to the already excitement-filled day.

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***ECS@ASU Members** and the **Ironmen Network**, Life Coaches, at the Chapter's 2013 Outreach Program.*

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*Students from the **Teleos Preparatory Academy** learned about photovoltaics at the ECS@ASU Chapter's outreach program.*

*The **Teleos Preparatory Academy** students learned about batteries at the ECS@ASU Chapter's outreach program.*

***ECS@ASU Chapter's** closed out their outreach program with a fun ride on some ebikes.*

Montréal Student Chapter

The 3rd ECS **Montréal Student Symposium** took place on June 28 at Université du Québec à Montréal (UQÀM) in collaboration with UQÀM and the NanoQAM research center. Following the 2nd Symposium, the Montréal ECS Student Chapter continued its success and reached more than 70 participants from five universities in Montréal and Québec City, as well as a national research center. The attendees enjoyed 16 talks and 17 posters, including the two invited presentations of **Mario Leclerc** (Laval University) and **Karim Zaghib** (Hydro-Québec Research Institute IREQ).

Prof. Leclerc's talk, entitled "Plastic Solar Cells," summarized the major breakthroughs of his research in the past years toward the development of polymers for light harvesting applications. This was followed by the talk of Dr. Zaghib, entitled "Li-Ion and Beyond Li-Ion for Energy Storage: Challenges and Opportunities," which discussed the research progresses at the Hydro-Québec Research Institute related to safety and characterization of different materials employed in Li-ion batteries.

Prizes for the best oral and best poster presentations were awarded to **David Polcari** from McGill University for his talk on "Quantification of Multidrug Resistance in Human Cancer Cells Using Scanning Electrochemical Microscopy" and **Mary Hanna** from Université du Québec à Montréal for her poster on the "Colloidal Synthesis and Characterization of $Cu_{1.0}(In_{1.05-x},Al_x)S_{2.1}$ Semiconducting Particles." Further information about the ECS Montréal Student Chapter can be found at http://ecsmontreal.blogspot.com or visit us on Facebook.

*Students in discussions during the poster session of the **Montréal Student Chapter's** 3rd symposium.*

*The 3rd ECS Montréal Student Symposium of the **Montréal Student Chapter** attracted more than 70 students and staff from Montréal and Québec universities and research centers.*

University of Texas at Austin Student Chapter

The **ECS Student Chapter at the University of Texas at Austin** (UT-Austin) was first established in 2007. Since then, the organization has carried out its mission of providing an environment where students over a wide range of academic disciplines can network and discuss their research in electrochemistry and solid-state sciences. The current officers are **Josephine Cunningham** (President), **Donald Robinson** (Vice-President), **Daniel Redman** (Treasurer), and **Matthew Beaudry** (Secretary). The faculty adviser is **Arumugam Manthiram**. The Chapter presently has 17 registered student members from the Cockrell School of Engineering and the College of Natural Sciences at UT. Additionally, many unregistered students and faculty members participate in activities held by the Chapter.

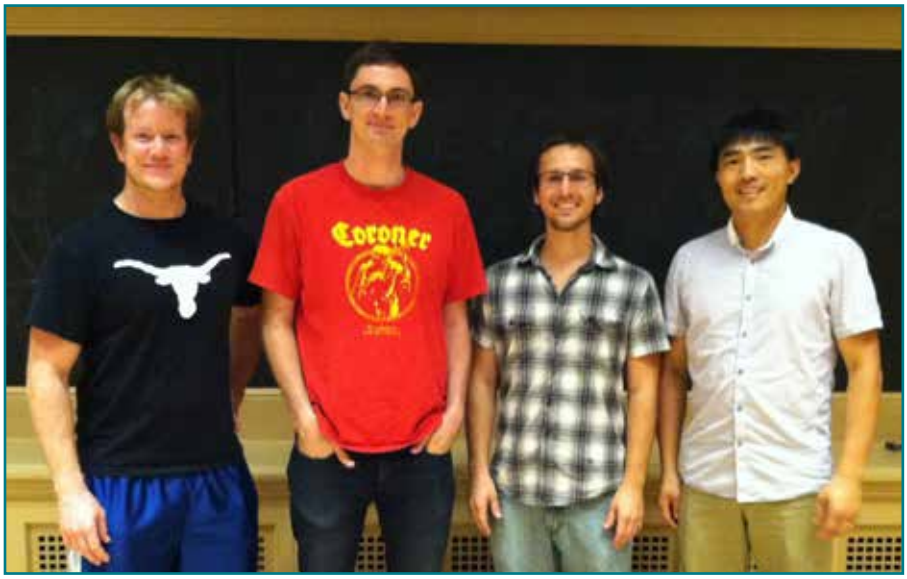
The Chapter introduced a new type of event this year, the ECS Student Chalk Talk series. A chalk talk is a casual chalkboard presentation whereby audience members are encouraged to participate and interrupt the speaker at any time with questions to stimulate discussion about the research topic. The host of the talk is a graduate student who leads the discussion based on his/her research. The first Chalk Talk featured **Jacob Goran**, a PhD candidate from the UT chemistry department, who presented his research in bioelectrochemistry on nitrogen-doped carbon nanotubes.

The Chapter held a second Chalk Talk this summer presented by **William Hardin**, a PhD candidate in the materials science program. Hardin presented his research on platinum-free electrocatalysts for oxygen reduction and oxygen evolution. Due to the success and popularity of these interactive presentations, the Chapter has decided to adopt multiple Student Chalk Talks into its yearly activities and further implement them as a means to showcase the work of exceptional graduate students and recruit more ECS members.

The Chapter was fortunate to have **Guihua Yu**, a new assistant professor in the mechanical engineering department at

*The **UT-Austin Student Chapter** officers with Will Hardin after the summer 2013 Student Chalk Talk. From left to right are* Daniel Redman, Donald Robinson, Will Hardin, Matthew Beaudry, *and* Josephine Cunningham.

*The **UT-Austin Student Chapter** hosted a Student Chalk Talk, given by PhD candidate* Will Hardin *on platinum-free electrocatalysts for oxygen reduction and evolution.*



*The **UT-Austin Student Chapter** officers and presenter, Dr. Yu. From left to right:* **Matthew Beaudry**, **Daniel Redman**, **Donald Robinson**, *and* **Guihua Yu**.

UT, as the presenter for the summer faculty seminar. Dr. Yu presented his research on investigating nanostructured conductive polymer hydrogels as electrode materials for electrochemical capacitors and as anode material supports for lithium ion batteries.

The Chapter continues to grow in membership and is currently planning next year's seminars and chalk talks along with outreach activities for science education. More information about the ECS Student Chapter at the University of Texas at Austin can be found at utelectrochem.org.

Student Awards

Call for Nominations

Visit
www.electrochem.org
and click on the "Awards" link.

For details on each award—including a list of requirements for award nominees, and in some cases, a downloadable application form—please go to the ECS website (www.electrochem.org) and click on the "Awards" link. Awards are grouped in the following sub-categories: Society Awards, ECS Division Awards, Student Awards, and ECS Section Awards. Please see the individual award call for information about where nomination materials should be sent; or contact ECS headquarters.

The **ECS Summer Fellowships** were established in 1928 to assist students during the summer months in pursuit of work in the field of interest to ECS. The next fellowships will be presented in 2013.

Nominations and supporting documents should be sent to ECS Summer Fellowships, c/o ECS, 65 S. Main Street, Building D, Pennington, NJ 08534, USA; tel: 1.609.737.1902; e-mail: awards@electrochem.org. Electronic submission of nomination packets is preferred. **Materials are due by January 15, 2014.**

The **Student Research Award of the Battery Division** was established in 1962 to recognize promising young engineers and scientists in the field of electrochemical power sources and consists of a scroll, a prize of $1,000, waiver for the meeting registration, travel assistance to the meeting if required, and membership in the Battery Division as long as a Society member. The next award will be presented at the ECS fall meeting in Cancun, Mexico, October 5-10, 2014.

Nominations and supporting documents should be sent to Battery Student Award, c/o ECS, 65 S. Main Street, Building D, Pennington, NJ 08534, USA; tel: 1.609.737.1902; e-mail: awards@electrochem.org. Electronic submission of nomination packets is preferred. **Materials are due by March 15, 2014.**

The **Canada Section Student Award** was established in 1987 for a student pursuing, at a Canadian University, an advanced degree in any area of science or engineering in which electrochemistry is the central consideration. The award consists of consists of a monetary award determined by the Section Executive Committee not to exceed $1,500 (U.S.). The next award will be presented at a meeting of the Canada Section in 2014.

Nominations and supporting documents should be sent to Canada Section Student Award, c/o ECS, 65 S. Main Street, Building D, Pennington, NJ 08534, USA; tel: 1.609.737.1902; e-mail: awards@electrochem.org. Electronic submission of nomination packets is preferred. **Materials are due by February 28, 2014.**

Student Travel Grants

Several of the Society's Divisions offer travel assistance to students and young faculty members presenting papers at ECS meetings. For details about travel grants for the 225th ECS meeting in Orlando, Florida, USA, please see the Orlando, Florida, Call for Papers; or visit the ECS website: www.electrochem.org/student/travelgrants.htm. Please be sure to click on the link for the appropriate Division as each Division requires different materials for travel grant approval. Complete the online application (preferred) or download the PDF application and send to travelgrant@electrochem.org, indicating of which Division a travel grant is being requested. **The deadline for submission for the spring 2014 travel grants is January 1, 2014.**

Awarded Student Memberships Available

ECS Divisions are offering Awarded Student Memberships to qualified full-time students. To be eligible, students must be in their final two years of an undergraduate program or enrolled in a graduate program in science, engineering, or education (with a science or engineering degree). Postdoctoral students are not eligible. Awarded memberships are renewable for up to four years; applicants must reapply each year. Memberships include article pack access to the ECS Digital Library, and a subscription to Interface. To apply for an Awarded Student Membership, use the application form on the next page or refer to the ECS website at: www.electrochem.org/awards/student/student_awards.htm#a.