

STUDENT NEWS

2000 Student Research Award of the Battery Division



Venkat Srinivasan is a PhD student in the department of chemical engineering at the University of South Carolina, where he is working under the guidance of Professor John Weidner. Prior to coming to USC, he obtained a bachelor's degree in electrochemical engineering at the Central Electrochemical Research Institute (CECRI), India, in 1995. After graduation, Venkat plans to join the department of mechanical engineering at The Pennsylvania State University as a research associate.

In one part of his PhD research, Venkat focused on understanding electrochemical capacitors using both theoretical and experimental investigations. He developed a first-principles mathematical model to simulate the performance of these devices under various operating conditions and used it as a means of designing electrodes to suit a particular application. Simultaneously, he developed an electrochemical route to fabricate low-cost, oxide-based electrodes, which were seen to have excellent characteristics as a capacitor material (*e.g.*, cycle life, high power utilization).

Venkat also studied the behavior of the nickel hydroxide electrode by contributing to the development of a method to relate electrochemical capacity and mass change data to changes in the structure of the active material based on a non-stoichiometric structural model. The methodology was used to explain the various signatures observed in the Ni electrode (*e.g.*, non-integer oxidation states, secondary discharge plateau, loss in capacity on cycling).

Finally, Venkat used the theory of domains, originally developed to describe hysteresis in magnetism and adsorption, to understand electrochemical hysteresis during proton intercalation/de-intercalation in the nickel hydroxide electrode. The study is expected to be useful in predicting the voltage transitions exhibited by the nickel electrode during partial charge/discharge. Venkat can be contacted via e-mail at yesvenkat@yahoo.com.

2000 Morris Cohen Graduate Student Award of the Corrosion Division



Steven Yu received his BS (1991) in aerospace and mechanical engineering, as well as his MS (1994) and PhD (1998) in materials science and engineering from the University of Virginia. Working under the guidance of Professor John R. Scully, he studied the electrochemical behaviors of titanium based alloys for use in biomedical applications. In 1998, he was awarded a National Research Council fellowship and conducted his post-doctoral research at the Naval Research Laboratory in Washington, D.C. with Dr. Paul M. Natishan, during which time he investigated the mechanisms by which chloride interacts with passive films on aluminum to cause localized corrosion.

Currently, Steven Yu is working as a research scientist in the Fiber Optics and Electronic Materials Technology Center at 3M in Austin, TX. His work focuses on numerical modeling of electrodeposition processes during microelectronic circuit production.

Student News Wanted

ECS takes an active interest in the affairs of its Student Members, and we are always interested in hearing from you about your interests, activities, and accomplishments.

Send all correspondence to:

Interface

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Pennington, NJ 08534-2839, USA

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Call for Nominations



Morris Cohen Graduate Student Award

Nominations are now being accepted for the 2001 Morris Cohen Graduate Student Award of the Corrosion Division. Named in honor of the late Dr. Morris Cohen, a renowned expert in the field of electrochemistry and corrosion science, this award was established in 1992 to recognize and reward outstanding graduate research in the field of corrosion science and/or engineering. Such early recognition of highly qualified corrosion scientists/engineers is intended to encourage especially promising researchers to remain active in the field after their graduate research is completed.

This award, for outstanding master's or PhD work, is open to graduate students who have successfully completed all the requirements for their degrees. Candidates remain eligible for two years, and those eligible for the 2001 award must have completed all requirements for their degree between January 1, 1998 and December 31, 2001. The successful candidate is expected to present a lecture on his or her research work at a Corrosion Division symposium held at the fall 2001 meeting of the Society. The award consists of a certificate plus \$1,000. Assistance for unreimbursed travel expenses, up to an additional \$1,000, can also be provided for travel expenses incurred in attending the Society meeting at which the award is presented.

Further information about this award may be obtained directly from the chairman of the award committee: Dr. Sannakaisa Virtanen, Department of Materials and Institute of Materials Chemistry and Corrosion, Swiss Federal Institute of Technology, ETH-Hoenggerberg 8093 Zurich, Switzerland, e-mail: virtanen@ibwk.baum.ethz.ch.

Nominations for the 2001 award must be received by the award committee chairman no later than December 15, 2000.

Awarded Student Memberships Available

The Society's **Corrosion, Dielectric Science and Technology, Electronics, High Temperature Materials, Industrial Electrolysis and Electrochemical Engineering, and Physical Electrochemistry**

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. Awarded memberships begin on January 1 of the calendar year following receipt of the application. Memberships include subscriptions to the *Journal of The Electrochemical Society Online*, *Electrochemical and Solid-State Letters Online*, and *Interface*.

To apply for an Awarded Student Membership, use the application form on page 39. Deadline for submission is October 15, 2000.

Student Travel Grants

Several of the Society's Divisions offer travel assistance to students presenting papers at Society meetings. These travel grants are intended to aid students in attending the meeting. **To be eligible for a grant**, applicants must be scheduled to present a paper in a symposium or session sponsored or cosponsored by the Division to which the application is made. To apply for a travel grant, use the application form on page 39.

Application Requirements—All applications for the 198th Meeting of The Electrochemical Society, Inc., in Phoenix, Arizona, October 22-27, 2000, must be received no later than September 14, 2000. To apply for travel support, please complete the Student Travel Grant Application on page 39, return it with a letter of recommendation from a faculty advisor, and a copy of the meeting abstract. See individual listings for any additional requirements.

The following Divisions are currently offering grants:

 **Dielectric Science and Technology**—The Division is offering travel grants of up to \$600 each to students presenting papers at the ECS meeting in Phoenix in October 2000.

 **Electrodeposition**—In commemoration of Abner Brenner's pioneering contributions to the field of electrodeposition, the Division offers up to three \$750 travel grants per year to graduate students who present papers in symposia sponsored or cosponsored by the Division. In addition, the Division also offers up to two \$450 travel grants per year to students making a presentation of interest to the Division in the General Society Student Poster Session.

In addition to the basic Travel Grant application requirements, a recommendation letter from the student's graduate research advisor is also required. Optional supporting documents such as article reprints, transcripts, or reports are also invited.

 **Electronics**—The Division is offering travel grants of up to \$600 each to students presenting papers in a symposium sponsored or cosponsored by the Electronics Division at the ECS meeting in Phoenix in October 2000.

 **Energy Technology**—The Division will be offering travel grants up to \$600 to students presenting a paper in a symposium sponsored or cosponsored by the Energy Technology Division and attending the ECS meeting in Phoenix in October 2000.

In addition to the basic Travel Grant application requirements, other supporting documents are also invited.

 **High Temperature Materials**—The Division will be offering travel grants up to \$500 to student members of the Division who are presenting papers at ECS meetings. These grants will be made on a first-come, first-served basis, with up to three awards made per meeting.

In addition to the basic Travel Grant application requirements, include a letter from a faculty advisor attesting to the student's financial needs.

 **Physical Electrochemistry**—The Division will support the travel of students to each ECS meeting. Eligible students must be a graduate student or upper level undergraduate and must be scheduled to present a talk at a symposium sponsored by the Physical Electrochemistry Division. The maximum amount given for travel support will be up to \$1,000 to be distributed among the awardees.

 **Sensor**—The Division will be offering travel grants of up to \$300 each to students presenting papers at the ECS meeting in Phoenix in October 2000. The student must be or become a member of ECS, be in a program of study toward an advanced degree at a university, and apply for funding at the time of submission of their abstract to ECS. ■



The Corrosion, Dielectric Science and Technology (DS&T), Electronics, High Temperature Materials (HTM), Industrial Electrolysis and Electrochemical Engineering (IE&EE), and the Physical Electrochemistry Divisions are offering Awarded Student Memberships to qualified full-time students. Eligible students must be in their final two years as undergraduates or be enrolled in a graduate program in science, engineering, or education (with a science or engineering degree). Awarded memberships are renewable for up to four years; applicants must reapply each year.

Memberships begin on January 1 of the calendar year following receipt of the application and include subscriptions to the *Journal Online*, *Letters Online*, and *Interface*. The application deadline is October 15, 2000.

AWARDED MEMBERSHIP APPLICATION

Name: _____

Home Address: _____

Date of Birth: _____

Phone #: _____

School, Division, and Department: _____

School Address: _____

Undergraduate Year (U) or Graduate Year (G) - circle one:
U3 U4 G1 G2 G3 G4 G5 GPA _____

Major Subject: _____

Have you won this award before? - circle one: Yes No

If yes, how many times? _____

Signature of Student: _____

Date: _____

Faculty member attesting to eligibility of student:

Name: _____

Department: _____

Signature: _____

Date: _____

Division under which award is being applied for:
(Applications made to multiple Divisions will be rejected)

Corrosion—Send to: G.S. Frankel, Dept. of Materials Science & Engineering, 477 Watts Hall, The Ohio State University, Columbus, OH 43210. E-mail: frankel.10@osu.edu.

DS&T—Send to: D. Misra, Dept. of Elec. and Computer Engr., NJIT, Newark, NJ 07102. E-mail: dmisra@megahertz.njit.edu.

Electronics—Send to: Arnold Reisman, NC State Univ., Department of ECE, Box 7911, Raleigh, NC 27695. E-mail: reisman@eos.ncsu.edu.

HTM—Send to: Mark D. Allendorf, Sandia National Labs, MS 9052, P. O. Box 969, Livermore, CA 94551-0969. E-mail: mdallen@sandia.gov.

IE&EE—Send to: James M. Fenton, Dept. of Chemical Engr., U-222, Rm. 208, Univ. of Connecticut, Storrs, CT 06269-3139. E-mail: jmfent@eng2.uconn.edu.

Physical Electrochemistry—Send to: Viola Birss, Dept. of Chem., University of Calgary, Calgary, AB, Canada, T2N 1N4. E-mail: birss@acs.ucalgary.ca.

The Society's Dielectric Science and Technology (DS&T), Electrodeposition, Electronics, Energy Technology, High Temperature Materials (HTM), and Physical Electrochemistry Divisions offer travel grants to students presenting papers at Society meetings. For the individual rules of each Division's grant program, please see the Student Travel Grant announcements on the preceding pages of this issue of *Interface*. To apply, complete this application and send it along with a letter from an involved faculty member attesting both to the quality of the student's work and financial needs, and a copy of the student's Meeting Abstract. (Preference for travel allocation grants will be given to ECS student members.)

STUDENT TRAVEL GRANT APPLICATION

1. Meeting Site: _____

2. Name: _____

3. School Address: _____

3. Major Subject: _____

4. Undergraduate grade point average: _____

Out of possible: _____

Graduate grade point average: _____

Out of possible: _____

5. Division Symposium Title: _____

6. Title of Paper to be Presented at Meeting: _____

7. Are you a Student Member of the Society? _____

(If not, please additionally submit the Awarded Student Membership application at left.)

8. Estimate meeting expenditures: \$ _____

9. Signature: _____

Date: _____

Check Division under which award is being applied for:
(Applications made to multiple Divisions will be rejected)

DS&T—Send to: D. Misra, Dept. of Elec. and Computer Engr., NJIT, Newark, NJ 07102. E-mail: dmisra@megahertz.njit.edu.

Electrodeposition—Send to: J. Stickney, Dept. of Chemistry, Univ. of Georgia, Athens, GA 30602. E-mail: stickney@sunchem.chem.uga.edu.

Electronics—Send to: Arnold Reisman, NC State Univ., Department of ECE, Box 7911, Raleigh, NC 27695. E-mail: reisman@eos.ncsu.edu.

Energy Technology—Send to: J. Prakash, Dept. of Chemistry & Environmental Engr., Illinois Institute of Technology, 10 West 33rd Street, Chicago, IL 60616. E-mail: prakash@charlie.cns.iit.edu.

HTM—Send to: F. Garzon, Los Alamos National Lab, MS 0429, Los Alamos, NM 87545. E-mail: garzon@lanl.gov.

Physical Electrochemistry—Send to: Viola Birss, Dept. of Chem., University of Calgary, Calgary, AB, Canada, T2N 1N4. E-mail: birss@acs.ucalgary.ca.

Sensor—Send to: Peter Hesketh, George W. Woodruff School of Mech. Eng., Georgia Inst. of Technology, Atlanta, 801 Ferst Dr., GA 30332. E-mail: peter.hesketh@me.gatech.edu.

Application and faculty letter must be received no later than one month prior the meeting for which a travel grant is sought.