## **STUDENT NEWS**

#### Charles Arvin IE&EE Division Student Achievement Award Winner



Charles Arvin earned a BS in chemical engineering at Rose-Hulman Institute of Technology in 1993. He worked as a process engineer at Union Camp Corporation in Savannah, GA from 1993 to 1998. He worked in the environmental group for the first three years, with responsibilities for compliance and permitting of two landfills and a thirty million gallon per day biological waste-

water treatment facility. The remaining period was spent as a paper mill process engineer with responsibilities for machine improvement and product development.

The time spent in this capacity emphasized the detrimental affects that chemicals can have on equipment through processes such as corrosion. The desire to better understand the mechanisms and how to minimize the consequences of corrosion inspired Mr. Arvin to return to academia at the University of Notre Dame where he is currently a doctoral candidate in the Department of Chemical Engineering. Mr. Arvin is working under Dr. Albert E. Miller in the University of Notre Dame's electrochemistry focus group. His current project is the study and analysis of the mechanism through which hexavalent chromium inhibits corrosion. Once the mechanism is understood, a replacement for chromium Cr(VI) with a nontoxic compound will be proposed. Preliminary trials, based upon a proposed mechanism where Cr(VI) is acting as a mediator in the inhibition process have shown no corrosion in a salt spray test that has exceeded 12 months. This effort has led directly to the study of inhibitors with Cr(VI) concentrations below the EPA limit of 100  $\mu$ g/L that is allowed in drinking water.

#### Kavita M. Jeerage IE&EE Division The H. H. Dow Memorial Student Award Winner



Kavita Jeerage earned a B ChE in chemical engineering from the University of Minnesota in 1996. Her education was enriched by summer positions at Honeywell, Inc., as well as undergraduate research projects in both electrical and chemical engineering. These experiences led her to pursue graduate studies at the University of Washington, where she is currently a PhD candidate in the

Department of Chemical Engineering and is supported in part by a National Science Foundation Fellowship.

Ms. Jeerage works with Professor Daniel T. Schwartz to synthesize and study electroactive films such as nickel hexacyanoferrate or polyvinylferrocene for electrochemically switched ion exchange, an environmentally benign separation process. Her research focuses on evaluating the ion selectivity and long term stability of these materials. She has shown that quantitative ion selectivities can be determined by a unique combination of X-ray spectroscopy and electrochemical measurements. Ms. Jeerage presented this work at the 1998 Fall Meeting of The Electrochemical Society and the 1999 Fall Meeting of the American Chemical Society.

#### Awarded Student Memberships Available

The Society's Corrosion, Dielectric Science and Technology, Electronics, **High Temperature Materials, Industrial Electrolysis and Electrochemical Engi**neering, 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 both 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 48. 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 48.

Application Requirements—All applications for the 197th Meeting of The Electrochemical Society, Inc., in Toronto, Canada, May 14-18, 2000, must be received no later than April 14, 2000. To apply for travel support, please complete the Student Travel Grant Application on page 48, 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 Toronto in May 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 Toronto in May 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 Toronto in May 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.



# The Electrochemical Society (29) Awarded Membership & Travel Grant Forms

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	1. Meeting Site:
Home Address:	2. Name:
	3. School Address:
Date of Birth:	
Phone #:	
School, Division, and Department:	
	3. Major Subject:
School Address:	4. Undergraduate grade point average:
	Out of possible:
	Graduate grade point average:
Undergraduate Year (U) or Graduate Year (G) - circle one:	Out of possible:
U3 U4 G1 G2 G3 G4 G5 GPA	5. Division Symposium Title:
Major Subject:	
Have you won this award before? - circle one: Yes No	
If yes, how many times?	6. Title of Paper to be Presented at Meeting:
Signature of Student:	
Date:	
Faculty member attesting to eligibility of student:	7. Are you a Student Member of the Society?
Name:	application at left.)
Department:	8. Estimate meeting expenditures: \$
Signature:	9. Signature:
Date:	Date:
Division under which award is being applied for: (Applications made to multiple Divisions will be rejected)	Check Division under which award is being applied for: ( <i>Applications made to multiple Divisions will be rejected</i> )
□ <b>Corrosion</b> — <i>Send to:</i> G.S. Frankel, Dept. of Materials Science & Engineering, 477 Watts Hall, The Ohio State University, Columbus,	□ <b>DS&amp;T</b> — <i>Send to:</i> D. Misra, Dept. of Elec. and Computer Engr., NJIT, Newark, NJ 07102. E-mail: dmisra@megahertz.njit.edu.
OH 43210. E-mail: frankel.10@osu.edu.	□ <b>Electrodeposition</b> — <i>Send to:</i> J. Stickney, Dept. of Chemistry, Univ. of
□ <b>DS&amp;T</b> — <i>Send to:</i> 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., Depart-
□ <b>Electronics</b> — <i>Send to:</i> Arnold Reisman, NC State Univ., Depart- ment of ECE, Box 7911, Raleigh, NC 27695. E-mail:	ment 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:	Environmental Engr., Illinois Institute of Technology, 10 West 33rd Street, Chicago, IL 60616. E-mail: prakash@charlie.cns.iit.edu.
mdallen@sandia.gov.	□ HTM—Send to: F. Garzon, Los Alamos National Lab, MS 0429, Los
□ 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.	<ul> <li>Alamos, NM 87545. E-mail: garzon@ianl.gov.</li> <li>Physical Electrochemistry—Send to: Viola Birss, Dept. of Chem., University of Calgary, Calgary, AB, Canada, T2N 1N4.</li> </ul>
Physical Electrochemistry—Send to: Viola Birss Dept. of Chem	E-mail: birss@acs.ucalgary.ca.
University of Calgary, Calgary, AB, Canada, T2N 1N4. E-mail: birss@acs.ucalgary.ca.	Application and faculty letter must be received no later than one month prior the Meeting for which a travel grant is sought.

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 preceeding 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**