
PHYSICAL AND ANALYTICAL ELECTROCHEMISTRY DIVISION (PAED) NEWSLETTER

May 2006

Division Website: www.electrochem.org/ecs/tia/paed/paed.htm

Division Officers (2005-2007)

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Vice-Chair :	Dr. Hugh De Long hugh.delong@afosr.af.mil
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Recent Activities

Division Name Change

The Physical Electrochemistry Division (PED) has officially changed its name to the Physical and Analytical Electrochemistry Division (PAED). Following the recommendation of the Executive Committee and in accordance with the PED Bylaws, a vote was held at the Annual Luncheon and Business Meeting on May 16, 2005, in Québec City where the motion passed overwhelmingly.

Election of Division Officers for 2005 - 2007

In conjunction with the end of the PED and the “birth” of the PAED, we marked the end of the term for our Division Chair, Viola Birss, and her supporting officers and Members at Large. The 2005 – 2007 slate of Division Officers and Members at Large (see above) was voted into office at the Annual Luncheon and Business Meeting on May 16, 2005, in Québec City. Congratulations to our new Division Chair, Gessie Brisard. We look forward to two exciting years under her leadership. We would also like to thank Viola for all her efforts in making these last two years ones of great growth and success.

A New Division Web Site

The Society web site has been significantly updated and expanded. In the process the PAED web site has moved. All you would ever want to know about the division, its officers, finances, past and current newsletters, and awards can now be found at a new location, www.electrochem.org/divisions/ped.htm.

ECS Transactions is here!

The LA meeting marked the launch of the Society's new online publication, *ECS Transactions* (ECST). ECST includes full-text content that has been presented at ECS meetings and ECS-sponsored meetings. The papers appearing in ECST are reviewed to ensure that submissions meet generally-accepted scientific standards. Individual articles are available for sale. ECST will replace the traditional bound ECS proceedings volumes. However, ECST articles from symposia may be compiled into single issues for sale in hardcover version.

Symposia

At the fall 2005 meeting in Los Angeles, the division sponsored or co-sponsored 9 symposia. The spring 2006 meeting in Denver will see the division sponsoring or co-sponsoring 11 symposia. A list of these symposia appears later in this newsletter. At the upcoming Joint International Meeting in Cancun in October of 2006, the Division will sponsor The list of these symposia and call for papers appear later in this newsletter.

Individuals wishing to submit symposia topics for future meetings should contact Dr. Hugh C. De Long, hugh.delong@afosr.af.mil.

Student Travel Awards

Denver, May 2006

Five students received travel awards for the 2006 spring meeting in Denver. Four of these students received travel awards directly from PAED, and one received a travel grant via a PAED sponsored symposium. These five students will be recognized at the Annual Luncheon and Business Meeting on Monday 8th. The awardees and their University affiliations are:

- Shelly Brown – KTH Chemical Engineering and Technology, Stockholm, Sweden
- Jodie L. Lutkenhaus – Massachusetts Institute of Technology, Cambridge, MA, USA
- Jaak Nerut – University of Tartu, Tartu
- Kenneth C. Neyerlin – University of Rochester, Rochester, NY, USA (*Declined to accept an award from another division*)
- Erin Patrick – University of Florida, Gainesville, FL, USA
- Peterson M. Guto – University of Connecticut, Storrs, CT, USA

Los Angeles, Oct 2005

At the Fall Meeting of the Electrochemistry Society in Los Angeles, the first Symposium focused on Durability and Reliability of Low-Temperature Fuel Cells and Fuel Cell Systems within the Physical and Analytical Electrochemistry Division was held (organized by H. A. Gasteiger, T. Jarvi and S. Cleghorn). The generous sponsorship of this Symposium by Argonne National Laboratory, UTC Fuel Cells, Asahi Kasei Chemicals and General Motors allowed for the presentation of 6 student *Travel Grants* awarded to the following student presenters; M. Dowlapalli, J. Kim, V. Mittal, S. He, M. Blanco and B. Padhy. In addition, two *Outstanding Student/Postdoc Presentation Awards* of \$500 each were presented to;

- Vishal Mittal of the University of Connecticut for his paper entitled; “Factors accelerating membrane degradation rate and the underlying degradation mechanism in PEMFC”. In this paper, co-authored by H.R. Kuntz and J.M. Fenton, experiments were performed to elucidate the factors and conditions important for PEM degradation.
- Suhao He of the Pennsylvania State University for his paper entitled; “1-D transient model of shutdown to a frozen state in a polymer electrolyte fuel cell”. This paper co-authored by M.M. Mench described a 1-D model developed to describe transient liquid water distribution and freezing, including the formation of ice lenses with the PEMFC.

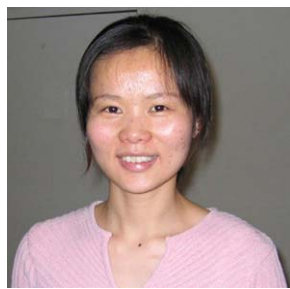
Quebec City, May 2005

Six travel awards were given by the PAED at the Spring 2005 ECS Meeting in Québec City. Five of these students were recognized by our Division Chair, Viola Briss, at the 2005 Annual Luncheon and Business Meeting (see below). The six awardees are listed below along with their University affiliation and their research supervisors.

- Jianer Bao (Penn State, Dr. Digby Macdonald)
- Bernard John V. Tongol (Tohoku University, Dr. Christina A. Binag)
- Nicoletta Ditaranto, (Universita di Bari, Dr. L. Torsi)
- Anne Fischer (Michigan State University, Dr. Greg Swain)
- Jie Li (University of Guelph, Dr. J. Lipkowski)
- Padhmodhbhava Yoga Narasimhan (University of Arkansas, Dr. Ingrid Fritsch)

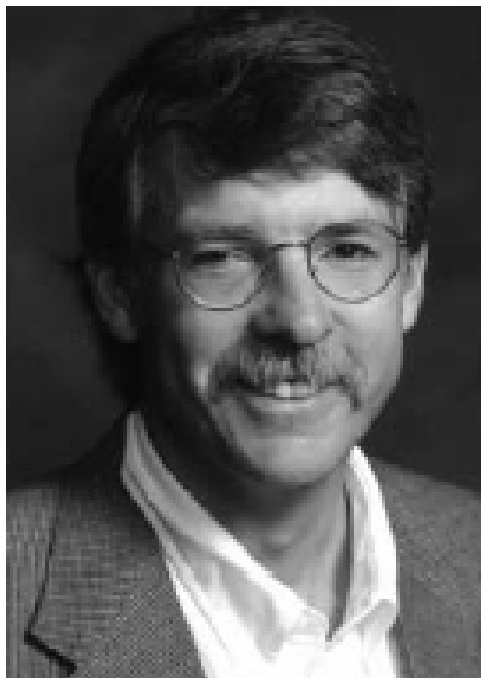


The Chair of the Division, Viola Birss (far right), with the Student travel Awardees from the Quebec City Meeting (from left to right) Bernard John Tongol, Nicoletta Ditaranto, Jie Li, Anne Fischer, Padhmodhbhava Yoga Narasimhan



Jianer Bao

2005 David C. Grahame Award



Prof. Henry White from the University of Utah was presented the *2005 David C. Grahame Award for Physical Electrochemistry* at the Spring meeting in Quebec City. Prof. White was selected for this prestigious award for his research in experimental and fundamental electrochemistry.

The David C. Grahame award was established in 1981 to "*encourage excellence in physical electrochemistry research.*" It is sponsored by General Electric and the Ford Foundation. The award winner is presented with a scroll and a check for \$1500.

DENVER SPONSORED SYMPOSIA

PAED Sponsored or Co-Sponsored Symposia

T1- Physical and Analytical Electrochemistry General Session

(Physical and Analytical Electrochemistry)

Organizers: H. DeLong

T2- Electroanalytical Chemistry: Symposium in Honor of Robert Osteryoung

(Physical and Analytical Electrochemistry)

Organizers: R. Mantz, P. Trulove, P. Pickup, M. Ciszowska

U1- Electrochemistry of Novel Materials

(Physical and Analytical Electrochemistry / Energy Technology)

Organizers: C. Bock, I. Fritsch, B. Marsan, M. Mench

V1- Direct Methanol Fuel Cells

(Physical and Analytical Electrochemistry / Battery / Energy Technology)

Organizers: P. Zelenay, S. Gottesfeld, C.Y. Wang, A. Wieckowski, T. Fuller, D. Scherson, J. Vohs, R. Gorte

W1- Impedance in Electrochemistry: From Analytical Application to Mechanistic Speculations

(Physical and Analytical Electrochemistry / Corrosion / Industrial Electrolysis and Electrochemical Engineering)

Organizers: P. Vanysek, D. Hansen, M. Orazem, A. Lasia

X1- Electron Transfer Reactions at Organic/Metal Interfaces: From Molecular Monolayer Modified Electrodes to Buried Polymer Metal Interfaces

(Physical and Analytical Electrochemistry / Corrosion / Fullerenes, Nanotubes, and Carbon Nanostructures)

Organizers: M. Rohwerder, E. J. Calvo, G. Frankel, P. Kamat

Y1- Molecular Modeling of Electrochemical Systems

(Physical and Analytical Electrochemistry / Organic and Biological Electrochemistry / Industrial Electrolysis and Electrochemical Engineering)

Organizers: S. Paddison, A. Fry, P. Balbuena, Gerhard Ceder

E1- Electrode Materials and Processes for Energy Conversion and Storage

(Battery / Energy Technology / Industrial Electrolysis and Electrochemical Engineering / Physical and Analytical Electrochemistry)

Organizers: D. A. Scherson, V. Srinivasan, S.C. Barton, J. Weidner

M1-Biological Fuel Cells

(Energy Technology / Organic and Biological Electrochemistry / Physical and Analytical Electrochemistry)

Organizers: S.C. Barton, J.D. Burgess, K. Kano, P. Atanassov, H.C. DeLong, I. Taniguchi, S. Minteer

P1- Hydrogen Production, Transport, and Storage

(High Temperature Materials / Physical and Analytical Electrochemistry / Energy Technology)

Organizers: E.D. Wachsman, M.C. Williams, P.H. Maupin, S. Narayanan, A. Manivanna, M. Heben

AA1- New Sensor Materials

(Sensor / Fullerenes, Nanotubes, and Carbon Nanostructures / Dielectric Science and Technology / Physical and Analytical Electrochemistry)

Organizers: J. Li, M. Josowicz, D. Hatchett, M.J. Deen, S. Akbar, F. D'Souza

UPCOMING SYMPOSIA

2006 Joint International Meeting

Cancun Mexico

October 29-November 3, 2006

210th Meeting of The Electrochemical Society, Inc.

XXI Congreso de la Sociedad Mexicana de Electroquímica

Cosponsored by the Sociedad Iberoamericana de Electroquímica

The Executive committee of the Physical and Analytical Electrochemistry Division cordially invites you to participate at the 2006 Joint International Meeting, which will be held October 29 – November 3 in Cancun Mexico. There will be six symposia where the Physical Division is either the organizer or the lead co-organizer and five symposia, on which the Physical Electrochemistry Division participates as a co-organizer.

PAED Sponsored and Co-Sponsored Symposia

I1 - Physical and Analytical Electrochemistry General Session

(Physical and Analytical Electrochemistry)

Organizer: H. De Long

I2 - Electrochemistry at the Liquid-Liquid Interfaces

(Physical and Analytical Electrochemistry)

Organizers: P. Vanýsek, M. Mirkin

I3 - The Electrode-Electrolyte Interface at the Atomic and Molecular Level

(SME / Physical and Analytical Electrochemistry)

Organizers: M. P. Soriaga, N. Batina

I4 - Molten Salts XV, in Memory of Robert Osteryoung

(Physical and Analytical Electrochemistry / Electrodeposition / High Temperature Materials / Battery / Energy Technology)

Organizer: D. Costa, H. De Long, R. Hagiwara, R. Mantz, G. Stafford, P. Trulove, K. Zaghib

I5 - Supramolecular Electrochemistry

(Physical and Analytical Electrochemistry / Fullerenes, Nanotubes and Carbon Nanostructures)

Organizers: A. Kaifer, L. Godinez, F. D'Souza

E9 - Multifunctional Carbon Materials for Electrochemical and Electronic Applications

(Physical and Analytical Electrochemistry / Fullerenes, Nanotubes and Carbon Nanostructures / Dielectric Science and Technology / Energy Technology / Battery / Industrial Electrolysis and Electrochemical Engineering)

Organizers: G. M. Swain, M. D. Porter, R. L. McCreery, D. Scherson, J. L. Davidson, P. V. Kamat, A. Wieckowski

B1 - Electrochemical Capacitor and High Power Batteries

(Battery / Energy Technology / Physical and Analytical Electrochemistry / The Committee of Capacitor Technology of the Electrochemical Society of Japan and Capacitor Division of the Korean Electrochemical Society)

Organizers: R. Brodd, D. Doughty, K. Naoi, M. Morita, J. Kim, G. Nagasubramanian, P. Simon, Z. Ogumi

B6 - Proton Exchange Membrane Fuel Cells VI

(Energy Technology / Physical and Analytical Electrochemistry / Battery / Industrial Electrolysis and Electrochemical Engineering)

Organizer: Stuve, C. Bock, T. Zawodzinski, T. Fuller, T. V. Nguyen, M. F. Mathias, T. D. Jarvi, H. A. Gasteiger, S. Cleghorn

C1 - Biological Nanostructures, Materials, and Applications

(Nanotechnology Subcommittee / Organic and Biological Electrochemistry / Physical and Analytical Electrochemistry / Sensor)

Organizers: M. Demirel, J. L. Moran Lopez

C2 - Molecular Electrochemistry

(SME / Organic and Biological Electrochemistry / Physical and Analytical Electrochemistry)

Organizers: A. J. Fry, B. A. Frontana Uribe, J. Rusling

F5 - Nanostructured Metal Oxides: Processing and Applications

(Nanotechnology Subcommittee / High Temperature Materials / Electrodeposition / Physical and Analytical Electrochemistry / Sensor)

Organizers: E. Traversa, G. Oskam, G. Hunter, R. L. Penn, P. C. Searson, D. A. Scherson

211th Meeting - Chicago May 6-12, 2007

The Executive committee of the Physical and Analytical Electrochemistry Division cordially invites you to participate at the 211th Meeting of the Electrochemical Society, which will be held May 6 – 12, in Chicago. There are currently eight symposia where the Physical Division is either the organizer or co-organizer.

I1 – Physical and Analytical Electrochemistry General Session

(Physical and Analytical Electrochemistry)

Organizers: H. De Long

B1 – Electrochemistry of Novel Electrode Materials for Energy Conversion and Storage

(Battery / Physical & Analytical Electrochemistry / Energy Technology)

Organizers: J. J. Xu, A. Manthiram, P. H. Smith.

B4 – Hydrogen Production, Transport, and Storage 2

(Energy Technology / Industrial Electrolysis & Electrochemical Engineering / Battery / Physical & Analytical Electrochemistry)

Organizers: E. D. Wachsman, M. C. Williams, A. Manivannan,

C2 – Building Complexity into Electrodes and Electrode Processes

(Organic & Biological Electrochemistry / Physical & Analytical Electrochemistry)

Organizers: A. J. Fry, J. F. Rusling,

C3 – New Bioanalytical and Biomedical Methods

(Organic & Biological Electrochemistry / Physical & Analytical Electrochemistry)

Organizers: J. F. Rusling, G. Brisard,

C4 – Organic and Biological Nanosystems

(Organic & Biological Electrochemistry / Energy Technology / Physical & Analytical Electrochemistry)

Organizers: F. Maran, M. S. Workentin

G2 – Design of Electrode Structures

(Industrial Electrolysis & Electrochemical Engineering / Energy Technology / Physical & Analytical Electrochemistry)

Organizers: D. T. Mah, E. DeCastro, L. Lipp.

G4 – Multi-Scale Simulations of Electrochemical Systems

(Industrial Electrolysis & Electrochemical Engineering / Energy Technology / Electrodeposition / Physical & Analytical Electrochemistry)

Organizers: V. Ramani, V. Subramanian

212th Meeting - Washington DC

October 7 – 12, 2007

Tentative Symposia for Washington

- Bioelectrochemical Aspects of Physical Chemistry – Dan Bizzotto
- Electrophoresis and Microfluidics
- Photoelectrochemistry
- “That won’t work” overcoming obstacles to key technologies in electrochemistry.
- PEM VII
- Electrokinetic Phenomena
- Microfluidics for electrochemical systems
- Electrochemical Microscopy

Future Meeting Dates

Spring 2008

May 18 – 23

Phoenix

Fall 2008

Oct 12 – 17

Honolulu

Spring 2009

May 24 – 29

San Francisco

Fall 2009

Oct 4 – 9

Vienna Austria

