



SIGMA XI NEWSLETTER

Iowa State University
March 2011

INITIATION BANQUET Thursday, April 28, 2011 Scheman Continuing Education Building

5:30PM: Social Hour
6:15PM: Dinner
7:15PM: Initiation and Awards
8:00PM: Retiring President's Address

New chemistries for new lithium batteries for a green future: Why the Chevy Volt only goes 40 miles on a charge

Professor Steve W. Martin
Anson Marston Distinguished Professor of Materials Science and Engineering

Abstract: *While batteries have long been in everything from cars to portable electronics, they have also been their weak link. Expensive, short lasting, and holding limited charge, a marvelous combination for the profit seeking battery makers, these critical problems are now creating serious limitations in the world's move towards greener, non-polluting energy sources. Better batteries are needed to help move the US and other countries off of crude oil as a portable energy source and batteries are equally critical in moving the world off of the mining and combustion of coal to renewable solar and wind energies. Hence, the potential opportunities for new high energy density, low cost, and long last batteries are enormous. In this talk, we will discuss why such batteries are not available yet and why, for example, the Chevy Volt (and other plug-in electric vehicles) can only go about 40 miles between full charges. We will also discuss new battery chemistries that hold the potential to break this paradigm of high cost and low performance.*

Upcoming election of Sigma Xi officers: A ballot will be distributed to all currently active chapter members during the week of March 28. Steve Martin will step down as President and Diane Birt will assume the office of President. F. Chris Minion has agreed to become President Elect and, thus, will also serve as Program Chairperson for 2011-12. Steve Martin and Harry Horner will be retiring from the Executive Committee, although Steve Martin will continue to participate as President Emeritus. In this election we will therefore elect two new members to the Executive Committee. In addition, we will be electing two new members to the Membership Committee to replace retiring members Mark Gleason and Carol Vleck, and a new three-member Nominating Committee is elected each year. The ballot strives to retain a balance among disciplines on the various committees. Newly elected committee members will be introduced at the Banquet.

Banquet Details: Sigma Xi initiates are guests of the Chapter, for all others, cost is \$30.00 per person. There is a choice of dinner entrées, see the banquet reservation form on page 4 below. The deadline for receipt of reservations is Friday, April 22 (please return reservations sooner, if at all possible). Last minute reservations or changes can be made by phone to Paul Sacks (294-8143). Checks, made out to **Sigma Xi**, should be sent to Paul Sacks, Department of Mathematics, ISU, before the banquet.

Golden Anniversary Members: Each year we recognize and invite as our guests to the Banquet, those who have been active members of Sigma Xi for 50 years. This year, we have three Golden Anniversary Members: John Cleasby, Dale Grosvenor, and Harry Horner. We will also be pleased to welcome other previously recognized Golden Anniversary Members to the Banquet.

Dues Structure: Each year the dues structure of the Society is evaluated based on a formula tied to the Higher Education Price Index (HEPI), which is comparable to but not the same as the Consumer Price Index (CPI). Based on this formula, delegates at the 2009 Annual Meeting approved a dues structure for 2010-11, which is unchanged from the previous year: Dues for new (and continuing) Full and Associate Members (non full-time students) are \$95.00; full-time student dues are \$25.00; initiation fee is \$15.00; promotion fee is \$25.00. In addition to National dues, the local Chapter has local dues of \$11.00. However, as is customary, local dues are waived for initiates and those being promoted.

Headquarters Address: For inquiries to the National Office, use the following address:

Sigma Xi
3106 East N.C. Highway 54
Research Triangle Park, NC 27709

QUESTIONS, COMMENTS, CONCERNS? Contact Paul Sacks, Secretary/Treasurer, 396 Carver Hall,
294-8143, psacks@iastate.edu

OFFICERS OF THE CHAPTER

President	Steve Martin
President Elect	Diane Birt
President Emeritus	Steven Kawaler
Secretary-Treasurer	Paul Sacks

COMMITTEE ON MEMBERSHIP

Mark Gleason	2008-11
Carol Vleck	2008-11
Amy Bix	2009-12
Nick Christians	2009-12
Thomas Sauer	2010-13
Curtis Struck	2010-13

Executive Committee

Steve Martin	2008-11
Harry Horner	2008-11
Diane Birt	2009-12
David White	2010-12
W. Sue Fairbanks	2010-13
F. Chris Minion	2010-13
Paul Sacks	2010-13

**NOMINATING COMMITTEE
(one-year terms)**

Jay-Lin Jane Thomas Jurik
Charles Schwab

Please print out and use this page to make reservations for the Sigma Xi Initiation Banquet. The deadline for receipt of reservations is Friday, April 22. Tickets will be mailed, or they can be picked up at the Banquet. Reservations which might not make it in the mail and late cancellations can be made by phone, 294-8143 (leave a message, if necessary). A check, made out to **Sigma Xi**, should be enclosed with this reservation form, and both sent to

**Paul Sacks, Sigma Xi
Department of Mathematics
Iowa State University
Ames, IA 50011**

SIGMA XI BANQUET, Thursday, April 28, 2011, 5:30PM, rooms 260-262 Scheman Building

Name _____ No. of tickets _____

Address _____

Cost: Initiates are guests of the Chapter. The cost to others is **\$30.00 per ticket**. Initiates who made guest reservations with their acceptance should not return this form. Please indicate entrée choice, and numbers if applicable, below.

Raspberry Chicken _____ Midwest Broil (beef) _____ Stuffed Portabella Mushroom _____

(A vegan alternative is also available upon request)