

Newsletter for GERA

APS Topical Group on Energy Research and Applications

Fall 2014

Message from the Chair

The APS Topical Group on Energy Research and Applications (GERA) seeks “to




promote communication relevant to the physics involved in humankind's safe generation, transmission, storage, and efficient use of energy with as small an impact on the Earth's environment and resources as feasible. GERA fosters the education and networking of scientists and engineers active in these fields and the next generations of researchers and educators.” In its first years of existence, GERA has established a strong presence at the APS March meeting and contributed to the April meeting. GERA is adding student

representation to the Executive Committee and had its first APS Fellows in 2013. This year, GERA selected the first Ovshinsky Sustainable Energy Fellow and will again be hosting the popular energy workshop targeting graduate students that will be held again in 2015 on the Sunday before the beginning of the March meeting.

This newsletter discusses some of the ongoing activities of GERA, including the upcoming election and activities at the 2015 March and April meetings. More information on GERA is available at: <http://aps.org/units/gera/>

I encourage you to send me your ideas for GERA and to become involved!

Regards,

A handwritten signature in cursive script that reads "Sue A. Carter".

Sue A. Carter

The Stanford R. Ovshinsky Sustainable Energy Fellowship

The American Physical Society has approved establishment of the Stanford R. Ovshinsky Sustainable Energy Fellowship, which is intended to stimulate and support the incubation stage of highly creative and innovative ideas of young scientists working on the problems of energy sustainability. Applications for the first Ovshinsky Sustainable Energy Fellowship in 2015 will be received and reviewed by a selection committee from the Topical Group on Energy Research and Application (GERA). The annual fellowship, in the amount of \$15,000, will be given to the awardee's institution by the American Physical Society for the purpose of the recipient's energy sustainability research. Awardees will also receive an allowance for travel to a meeting at which the fellowship is awarded and a certificate is presented. The recipient may also be invited to present a talk at an appropriate meeting during the year.

The Ovshinsky Sustainable Energy Fellowship was established in 2013 by Stan's widow, Rosa Young Ovshinsky, and his children to recognize his inventive spirit in science and to honor his lifelong dedication and contributions to developing efficient energy conversion technologies to meet global energy needs. The fellowship is being created with the strong conviction that it is now more important than ever to develop efficient and low-cost energy conversion technologies (such as photovoltaic cells, hydrogen fuel cells, or rechargeable batteries) that do not rely on fossil fuels and so provide sustainable carbon-free energy to the growing world population.

Stanford Robert Ovshinsky (November 24, 1922–October 17, 2012) was a scientist as well as a prolific American inventor granted well over 400 patents, mostly in the areas of energy and information. His most prominent inventions are in the areas of nickel-metal hydride batteries, continuous web multi-junction thin-film solar energy panels, flat screen liquid crystal displays, rewritable CD and DVD discs, hydrogen fuel cells, and nonvolatile phase-change memory, in which he pioneered the use of amorphous and disordered materials. His major inventions have had widespread application in, for instance, such common electronic devices as FAX machines, copiers, and printers. Ovshinsky is also distinguished in being self-taught, without formal college training. Throughout his life, his love for science and his social convictions were the primary engines for his work.

A number of applications were received with the help of FIAP and DMS, and the applications are now closed for this year. It is expected that the first

winner of the Ovshinsky Award will be announced before the 2015 March Meeting.

Election of new officers and members of the GERA Executive Committee.

GERA will soon elect a new Vice-Chair, a Secretary-Treasurer and Members of the Executive Committee (see <http://www.aps.org/units/gera/governance/officers/index.cfm>). On January 1, 2014, GERA Chair Sue Carter becomes Past-Chair, Chair-Elect Dave Ginely becomes the Chair and Vice-Chair Talat Rahman becomes Chair-Elect. Our Secretary-Treasurer Jim McGuire and four members of the Executive Committee [Franz Himpsel, James Misewich, Joseph Poon, and Donald Siegel] will leave office January 1, 2015. In addition, this year GERA is planning to add a graduate student representative to the Executive Committee. We encourage GERA members to submit nominations for the open positions of Vice Chair and on the Executive Committee. Suggestions may be sent to the Chair of the Nominations Committee, Sue Carter (sacarter@uscs.edu) by November 8, 2014. GERA is particularly interested in attracting a member in fields supported by the April Meeting to help strengthen activities in that area.

As you consider making a nomination, please keep in mind the APS Statement on Diversity (2012): “Attracting and serving a diverse and inclusive membership worldwide is a primary goal for APS. In calling for nominations, we wish to remind you how important it is to give full consideration to qualified women, members of underrepresented minority groups, and scientists from outside the United States.”

2015 March Meeting

GERA Workshop on Energy Research and Applications, Sunday March 1st

GERA sponsors an annual Workshop held the Sunday before the beginning of the March Meeting for the last few years. This event, intended primarily for graduate students, has proven to be very popular. Each year the Workshop is organized around a theme. The 2015 workshop to be held in San Antonio, TX on Sunday, March 1st will focus on and overview of topics in “Energy Research and Applications” The workshop consists of a series of talks by leading experts in the field, lunch with the experts, and a panel discussion. The organizing committee includes: Sue Carter, Dave Ginley, Reuben Collins,

Talat Rahman, and Jim McGuire, with inestimable help from *Ken Cole* of APS, who has been instrumental in getting the workshop off the ground and keeping it running smoothly.

GERA sponsored Focus Sessions

In addition to the workshop, GERA is organizing an invited symposium on energy research and sponsoring or co-sponsoring six focus topics at the March meeting. The focus topics are (along with their sorting category numbers):

21.1.1: Thermoelectric Phenomena, Materials, Devices, and Applications
(GERA/DMP/FIAP)

21.1.2: Organic Electronic Systems for Solar Energy Conversion

21.1.3: Materials for Electrochemical Energy Storage
(GERA/DMP/FIAP/DCOMP)

21.1.4: Polymers for Energy Storage and Conversion (DPOLY/GERA)

21.1.5: Novel Photophysics and Transport Mechanisms for Nanostructured Photovoltaics

Information about focus topics and GERA's additional (non focused) sorting categories can be found under topic area 21 on the webpage:

<http://www.aps.org/meetings/march/scientific/categories.cfm#21>

The abstract submission deadline is Friday, November 14, 2014 5:00 p.m. EST. For submission of abstracts please see:

<http://www.aps.org/meetings/march/scientific/index.cfm>

2015 April Meeting.

The 2014 April Meeting will be held in Baltimore, MD and GERA will again be coordinating invited symposia with the Forum on Physics and Society. Symposium topics are currently under development, but will include a carbon sequestration and ARPA-E session.

Call for Nominations GERA sponsored APS Fellowship.

GERA may sponsor 1-3 new members for Fellowship in the American Physical Society each year. You are invited to nominate deserving colleagues. The nomination process may be done directly on-line at:

<http://www.aps.org/programs/honors/fellowships/nomination-requirements.cfm> . **The deadline for nomination is April 1, 2015.**

Call for Articles for our Newsletter

We would like to publish articles related to energy research and applications in our Newsletter. We also invite announcements related to energy research and applications from other organizations and APS units. Please send these to Jim McGuire (mcguire@tulane.edu).

New Members

If you know someone interested in membership, please encourage them to click on the "Join this Unit" link on the right of the GERA homepage (<http://aps.org/units/gera/>).

Help needed to develop the GERA website

We'd like to upgrade our GERA website (<http://aps.org/units/gera/>) If you are interested helping, please contact Jim McGuire (mcguire@tulane.edu).

Current GERA Leadership: Sue Carter (Chair), Dave Ginley (Chair-Elect), Talat Rahman (Vice Chair), Reuben Collins (Past Chair); Jim McGuire (Sec/Treas.)

Executive Committee Members: Joe Poon, Jim Misewich , Don Seigel, and Franz Himpfel.