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Central Texas ACS

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Newsletter of the Central Texas Section of the American Chemical Society

Wednesday, March 25th, 6:30 PM-9:00 PM (Dinner at 7:00)

The Interface Chemistry of Nanomaterials for Thermomanagement

James Novak, PhD

Senior Scientist, Applied Nanotech, Inc.

Opal Divine's at Penn Field

3601 S. Congress Ave., Austin TX

\$10 for members/adults, \$5 for students

Please RSVP by email to malcolmdprouty@gmail.com or call (512) 968-4750

Talk Abstract

A novel thermal management nanocomposite material (CarbAlTM composite) has been developed by means of high-pressure impregnation process. CarbAlTM composite comprises a porous carbonaceous matrix, dispersed aluminum component and a tailored amount of chemical additive. The CarbAlTM composite presents a unique microstructure, low thermal expansion, high thermal conductivity and excellent thermal diffusivity. Its thermal diffusivity is 2.5 – 3 times higher than that of Cu and Al. The excellent properties are related to the surface chemistry between these interfacial regions in the material. We will explore the role of the additive and its function of managing both the interface structure and the heat transfer within the material. CarbAlTM composite has promising application prospects in high-power, high-speed electronic fields.

Dr. Jaime Novak

Dr. Novak's expertise is focused on the optical and electronic properties of nanomaterials. As a graduate student at NC State University under the direction of Prof. Dan Feldheim, Dr. Novak learned the physical chemistry of metal nanoparticles, including the study of their optical and electron transfer characteristics. After graduate school, Dr. Novak was the recipient of a National Research Council Post-Doctoral Fellowship at the US Naval Research Laboratory in Washington, DC. While at NRL he expanded his knowledge of nanomaterials through work creating carbon nanotube electronic devices such as thin-film transistors on plastic and flexible substrates. It was at NRL where he gained an understanding of the electronic interaction of nanomaterials into solid-state devices. It was also at NRL where the notion that the fundamental understanding of the interface and surface chemistry of nanomaterials was the key to integrating them with the outside world. Dr. Novak joined Applied Nanotech, Inc. (Austin, TX) in 2004 to continue his development of novel nanomaterials applications. His current research programs include development of CNT-TFTs for display applications, high quality thermal management materials and a wide range of functional nanomaterials. While at ANI, he has developed several solid-state nanocatalytic materials and utilized their enhanced surface reactions for low-power chemical gas sensors. Dr. Novak has authored 20 refereed papers, presented talks at national and international meetings and has multiple patents issued and pending.

Education: Dr. Novak earned a BS in Chemistry from UNC Wilmington (1990) and a PhD from NC State University (2001) studying electronic and optical applications of colloidal metal nanoparticles. He then completed a National Research Council Postdoctoral Fellowship at the US Naval Research Laboratory in Washington, DC.

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Chair's Page

Dr. David Wasmund Retiring from TLU

David Wasmund has decided to retire after 33 years of teaching chemistry at Texas Lutheran University. This is an invitation for you to join us on Saturday, April 4, 2009 for a reception and dinner in his honor. The reception will begin at 6:30pm in the Katie Conference Room with dinner following at 7:00pm in the Timmerman Room of Hein Dining Hall on the TLU campus. The cost of dinner will be \$20.

RSVP to Hope Dean at (830) 372-6030 or hdean@tlu.edu.
To share a story about Dave or send pictures, contact John McClusky at (830) 372-6571 or jmclusky@tlu.edu.

Chemical Safety Resources

The Committee on Chemical Safety (CCS) published the 3rd edition of the *Chemical Safety Manual for Small Businesses*. Information presented in this manual includes safety recommendations for all of those who work with chemicals and may not have specialized expertise in chemical safety, as well as information on hazardous material management regulations pertaining to small businesses.

CCS also completed an online Eye Protection presentation, to be used with the Safety in Academic Laboratory brochure, which is one of the most widely used laboratory safety guidance publications.

For more information about chemical safety resources, please contact Marta Gmurczyk at m_gmurczyk@acs.org

The Eye Protection presentation may be accessed from the CCS website:

<http://www.speakerspresentations.com/ACS/ep/player.html>
or on YouTube:

http://www.youtube.com/watch?v=r8RD_sn4GIE (Part 1)
http://www.youtube.com/watch?v=X5K-_6VYUJY (Part 2).

ACS Supports Out-Of-Work Members

By Susan J. Ainsworth
(excerpt from *Chemical & Engineering News*; March 2, 2009; p. 48)

As more American Chemical Society members face the prospect of unemployment during the current economic downturn, they will undoubtedly look for ways to save money and perhaps even consider not renewing their ACS memberships.

Recognizing this, ACS has launched a campaign to remind members of the many benefits available in times of unemployment, including a dues waiver that may allow out-of-work members to retain all the benefits of membership for free for up to two years.

To begin to tap into these benefits, unemployed ACS members must first apply for the special dues waiver by contacting ACS with their name and member number via e-mail at service@acs.org or by calling (800) 333-9511 or (614) 447-3776.

After receiving approval, members can benefit from free registration at ACS national meetings and attend regional meetings for a reduced registration fee of \$25. While attending the meetings, members can take advantage of networking opportunities and participate in interviews with potential employers at the on-site ACS Career Fairs.

Unemployed members also get special discounts for a variety of career-building classes, including ACS Harvard Business courses, which are offered online through the ACS Center for Professional Development. The 42 courses cover areas such as budgeting, career management, marketing essentials, and writing skills.

In addition to taking discounted courses, unemployed chemists can tap into the ACS Network, a professional networking platform that allows members and global partners to connect and communicate with friends, colleagues, and potential employers. The network now includes more than 16,000 scientific professionals.

Unemployed members also have access to free guidance from ACS career consultants, a legion of trained ACS members who volunteer to offer assistance and advice in preparing résumés, building interviewing skills, searching for jobs, and negotiating salaries. All members may tap into this service by visiting www.acs.org/careers.

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Calendar of Events

ACS 237th National Meeting Salt Lake City, Utah



The overarching theme for the Spring 2009 National Meeting in Salt Lake City is nanoscience and nanotechnology. Programming is planned by our 34 technical divisions that cover all scientific fields, secretariats that focus on multidisciplinary programming, and ACS committees. This meeting will feature 7,275 presentations organized into technical symposia that highlight important research advances. The technical program will feature original programming hosted by our technical divisions, secretariats, committees, and the ACS president. Multidisciplinary thematic programming will be organized around nanoscience. Over 10,000 chemists, chemical engineers, academicians, undergraduates, graduate students, and other professionals are expected to attend.

Early registration is closed for this event, but regular registration remains open until March 20th.

**You may register online at
<https://www.xpressreg.net/register/acsa039/start.asp>
or by calling (800) 251-8629.**

**Central Texas ACS Spring Awards Banquet
April 14, 2009; Time & Venue TBA
"Rediscovery of the Elements"
Jim & Jenny Marshall**

Chemists Celebrate Earth Day 2009 "Air—The Sky's the Limit"



Austin's Chemists Celebrate Earth Day event will be held on **April 18th** from 12:00 PM to 4:00 PM at Zilker Park in the Austin Children's Museum Splash Exhibit. Many volunteers will be needed for this fun and exciting event!

To volunteer or for more information regarding Chemists Celebrate Earth Day, contact Jackie Padilla:
jackie.padilla@gmail.com
(512) 653-6311

Priscilla Carney Jones Scholarship for Female Chemistry Undergraduates

Application Deadline: April 1

The Priscilla Carney Jones Scholarship was established by Paul R. Jones, in memory of his wife. It provides scholarships for female undergraduate majors in chemistry or related disciplines who are beginning their junior or senior year of study. Priscilla Carney Jones wished to have this scholarship established because of the difficulties she faced as a female chemist early in her career.

The scholarship is open to rising junior or senior female undergraduate students majoring in chemistry or chemistry-related fields who can demonstrate a significant financial need. To see if you qualify and to apply for this scholarship, visit <http://www.acs.org> and search for "Priscilla Carney Jones Scholarship."