



# Chemical Bond

Volume 55  
Number 9  
December 2004

**St. Louis Section, American Chemical Society**

Is it written on my face?



I love National Chemistry Week!

# PASSING THE TORCH...

Dear Members, Volunteers, and Friends,

In a few short weeks my term as Chair will come to an end and I will be passing the torch to the able hands of our incoming Chair, Ted Gast, and our incoming Chair-elect, Alexa Serfis.

I am happy to report that not only did I keep my promise to Lisa, my spiritual chemical advisor, by not bringing the house down, but I also survived! Well, that is good for me, but it does not tell the whole story. "Survived" implies that I had to endure unimaginable hardship; nothing could be further from the truth.

The fact is that I had a lot of fun working with the dedicated group of people who so generously volunteer their time to keep the section's engine running year in and year out. The same group of people that provide us with a forum to communicate our thoughts and ideas with our peers in the community. The same group of people that promote all that is good about our profession to the local community. The same group of people that provide us with the opportunity to network with the local institutions and industries for professional exchange or career development. The same group of people that help us be recognized for our professional contributions to the society. The same group of people who ... I could go on and on.

It was with their help that the section had another successful year, not only maintaining the level of programs and activities of the previous year, but also adding additional programs. It was with their help that the section was able to better gauge the needs of our membership and take the necessary measures to implement them. It was with their help that we were able to energize our general membership into a more active participation in the section's affairs as evidenced by the significant increase in voter turnout during our recent local section elections. And it was with their help that we were able to knock on doors raising funds that help offset our costs for the numerous local programs and activities sponsored by the section.

So, my friends, I had no problem surviving the year. In truth, it was our section

that survived me, and that would not have been possible but for the help and perseverance of our dedicated volunteers. Because of them, I leave the Chair's position confident of the section's solid foundation and its continued success.



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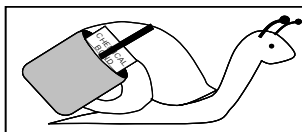
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# Meeting & Seminars

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## Board of Directors

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St. Louis Section–ACS Board of Directors meets on the second Thursday of each month, at the Alumni Center, University of Missouri–St. Louis. Meetings are open to all members, and all are encouraged to attend. Elected officers and chairs of major committees have the right to vote; others in attendance have voice but no vote. If you want to attend the dinner, please contact Bijan Khazai (bkhazai@sentortech.com or 314/497-8629) at least one week prior to the meeting date. The usual cost of dinner is \$15. Members wishing to become active in section activities are welcomed for their first dinner for free, compliments of the section.

**Date:** Dec. 9

**Social hour:** 5:30 pm

**Dinner:** 6:30 pm

**Business meeting:** 7:15 pm

**Future meetings:** Jan. 13

Feb. 10

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## University of Missouri- St. Louis

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Seminars are held on Mondays at 4:00 pm in Room 451 Benton Hall unless otherwise specified. Refreshments 15 minutes prior to seminar time.

January 10

**Sophia Hayes**

Washington University

*Solid-state NMR of Crystalline Optical Memory/Optical Switch Materials*

January 24

**David Vaknin**

Ames Lab, Iowa State University  
TBA

January 31

**G. Ali Mansorri**

University of Illinois-Chicago

*Organic Nanostructures Derived From Petroleum*

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## Washington University

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Seminars are in McMillen 311 at 4 pm unless otherwise noted. Coffee is available 20 minutes prior to the talk, and refreshments follow. For information, contact:

Amy Walker

walker@wuchem.wustl.edu

An up-to-date list of seminars is available at:

[www.chemistry.wustl.edu/  
~seminars/seminars.html](http://www.chemistry.wustl.edu/~seminars/seminars.html)

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# Careers for St. Louis Chemists



## St. Louis Chemists Jobs Online

Did you know that the St. Louis section has an email list just for chemists interested in the St. Louis job market? New openings are posted as they occur, and job seekers are encouraged to share leads with others. The addresses on the list are never shared with anyone, not even other list members, and are never used for any other purpose. If you're interested in being on this list, email me at [lisa@bables.com](mailto:lisa@bables.com).

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## Writing an eye-catching resume just got a little easier...

The ACS Department of Career Services staff has developed a new, online workshop on resume preparation. This workshop - the first in ACS' catalogue of workshops to be placed online — explains the basic principles of writing resumes. It also includes a sample resume that a user can view to see how the various sections fit together. Access this workshop from the left-hand navigation of our homepage at [www.chemistry.org/careers](http://www.chemistry.org/careers)

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## Extrapolating Science

by Jack Bornmann

About twenty years ago Sandy and I were planning a trip to Hawaii. While Sandy made plans for the air flight from St. Louis to Hawaii, flights between the islands, car rentals, bed-and-breakfasts, and all the other things that must be worked out ahead of time, I prepared for the trip by reading. We

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## Letters & More

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learned that there was an island of Hawaii and there were the islands of Hawaii. The island of Hawaii is the most eastward island and (to avoid confusion) it is called The Big Island.

I read about Pele (pay-lay), the goddess of fire and volcanoes, and her sister the goddess of water and the seas. I read about their sibling rivalry and their continuous conflict in the production of each of the Hawaiian Islands. Pele would show her anger by setting off volcanic activity. The magma from her volcano flowing into the sea where her sister fought back by breaking up the hot lava. Thermal shock is the first step of breaking up red hot lava, then the rolling seas crash against the cooled and hardened lava. After Pele turns off the volcano her sister continues to wear away the newly created island by pelting it with rain. This makes a nice story that neatly fits the observed facts. It is no wonder that the native Hawaiians accepted the existence of these two goddesses.

I learned that the most active volcanoes were on the eastern islands, while the extinct volcanoes were the oldest islands, those to the west. The dormant volcanoes were on the middle islands. The oldest islands were to the

west and the youngest were to the east. Sandy and I visited one of the western islands and it reminded me of the hills of West Virginia where I grew up. Even though West Virginia is in the Appalachian Mountain Range, the mounts of West Virginia are old, and worn down, in stark contrast to the Rocky Mountains. Like an old man, they are shorter and round-shouldered. The hills on that western island of Hawaii are also worn down and in stark contrast to the younger, eastern islands.

When I studied a map of the Hawaiian Islands with their volcanoes, I was struck by the fact that I was able to draw two straight lines through the volcanoes. The lines were parallel and the volcanoes alternated between the two lines as one moved eastward toward the most active volcanoes. The map looked like a record of Pele's footsteps as she walked from the oldest islands to the youngest. By extending the lines beyond The Big Island it was as if I could predict the creation of the next volcano and its island. Before we left on our trip I put a mental "X" on the position where I expected this to occur some time in the future.

While visiting the Big Island, Sandy and I went to the Volcano Visitors Center. A young lady stood behind a counter ready to answer questions about the volcanos. I got the impression she was a graduate student performing this work as part of her duties as a graduate assistant. She was pleasant and informative, but a little bored. So, I told her about my map and hypothesis, and pointed to a large map on the counter showing her where I expected the next volcano and island to appear. She became agitated, bouncing back and forth from one foot to the other, and exclaimed, "It's there! It's already forming! It is way below the surface of the ocean, but it's growing."

*Continued from page 6*

While a student at Carnegie Tech (now Carnegie Mellon University) more than 50 years ago, I read an essay by Madame Payne-Gaposchkin, a noted astronomer. In her essay she presented her belief that we should be able to take principles from one science and apply it to another. I like to think that I took the principles and techniques of physical chemistry and applied them to volcanism.

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## *An Invitation From CEPA*

The ACS Committee on Economic and Professional Affairs (CEPA) has created a Message Board on Globalization Issues on the web to facilitate discussion surrounding globalization and the chemical profession. This is part of CEPA's effort to explore globalization and associated issues as they affect you and your job. The committee is monitoring the news and the literature, studying their impact on the profession and the industries that hire chemical professionals, and assessing their effects on the careers and the employment of chemists. You are invited to visit the Message Board and browse or post messages pertaining to globalization. The URL is:

**[www.websitetoolbox.com/  
tool/mb/cepa](http://www.websitetoolbox.com/tool/mb/cepa)**

*Continued from page 2*

As I bid you farewell, I would like to express my deepest gratitude and appreciation to all those who supported me with their thoughts, ideas and hard work. While the full list of our volunteers is too large to fit in the space available to me, I would like to especially thank and recognize by name, in no specific order, our officers, councilors, directors, coordinators, and last but not least our committee chairs who helped me with the operation of the section: Leah O'Brien, Ted Gast, Keith Stine, Bruce Ritts, Bill Doub, Sue Dudek, Greg Wall, Hal Harris, Eric Ressner, Samir El-Antably, Lawrence Barton, Thomas Layloff, Donna Friedman, Sadiq Shah, Lisa Balbes, Michael Shaw, Donald G. Leavitt, Lynda McDowell, Alexa Serfis, Jim O'Brien, Joseph Ackerman, Bruce Kowert, Mike Hauser, Virginia Kirwin, David Haselbauer, Jeffrey Cornelius, Myron Reese, Marie Sherman, Anna Scarim, Sue Saum, Azmy Azmy, Masangu Shabangi, Dave Garin, Wanda Seyton, Shelley D. Minter, Robert Morrison, Philippa Jayatilleke, Rose McBryan Davidson, Mike Grayson, Mark Conradi, Joel Garbow, Olivier J.-C. Nicaise, Steve Kinsley, Pat Burrell-Standley, Andrea Reaka, John Bornmann, Eric Voss, Eric Malina

I wish you all a very joyful holiday season and a happy, healthy and successful New Year!

*Bijan Khazai*

2004 Chair, St. Louis Section of the American Chemical Society

*Pick up*

*rotating*

*Mass-Vac ad*

*from p. 8 of September 2004*

# 12th Annual Battle of the Burets

The 12th annual Battle of the Burets was held October 27th at the St. Louis Community College - Florissant Valley in conjunction with National Chemistry Week. Twenty-eight teams from 14 area high schools participated in this exciting test of titration skills. Four preliminary rounds were held and the winning teams competed in the final round for the grand championship. Teachers and fellow students looked on as teams of two students performed the titrations with speed and accuracy. The schools participating in this event were: Roxana, Visitation Academy, Trinity, Marquette, Pattonville, Francis Howell North, Clayton, Westminster Christian Academy, McCluer South Berkeley, St. Charles West, Kirkwood, Festus, Parkway West, M-RH.

**The First Round trophies were awarded to Clayton and Visitation High Schools. The grand champions were Liz Hill and Meghan Chlebowski from Visitation.** All students who participated in this event received certificates of participation. This evening not only provides competition but also a chance for the science students from these different schools to meet and share refreshments.

The Battle of the Burets is cosponsored by the St. Louis ACS and the Chemistry Department of SLCC-FV. The Battle of the Burets Committee appreciates the time and efforts of **Ricca Midwest/Solutions Plus** for preparing, certifying, and donating the titrants. We would also like to thank Florissant Valley's staff and ChemTech students for the tremendous amount of work needed to support this event. Refreshments were donated by the St. Louis Community College.



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## Midwest Award Banquet

The Midwest Award Banquet and Symposium was held October 21st at the ACS Regional Meeting in Manhattan, Kansas. This year's Midwest Award winner was Professor Mark Gordon (2nd from the right, his wife is on the far right) from Iowa State University. He has over 380 publications in the field of quantum chemistry and has made a significant impact on the field of theoretical chemistry and has made a significant impact on the field of theoretical chemistry. He presented the Midwest Award Lecture entitled "Effective Fragment Potential: Theory and Applications". In his honor, colleagues Mike Schmidt (middle) and Klaus Ruedenberg (far left) from Iowa State University also gave presentations. Professor Schmidt spoke about "Parallelization of the GAMESS Electronic Structure Code", and Professor Ruedenberg spoke on "Controlled Correlation Energy Extrapolation by Intrinsic Scaling". The lectures were well attended, with about 40 people in attendance. A social hour and Awards Banquet followed the symposium, and were also well-attended. Chair-Elect Ted Gast said a few words about the history of the Midwest Award, recognized former winner Richard Schowen (who was in attendance), then presented Professor Gordon with a plaque and honorarium.





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## ACS ProSpectives Announces the 2005 Conference Schedule:

- \* Process Chemistry in the Pharmaceutical Industry  
February 6 - 9, Miami
- \* Interplay of Chemistry and Biology in Integrative Drug Discovery  
March 6 - 9, Miami
- \* Advanced Forensic Science to Combat Counterfeit Drugs, Crime & Terrorism  
May 1 - 5, San Diego
- \* Advances in Structure-Based Drug Discovery  
June 5 - 8, Philadelphia
- \* Discovery and Selection of Successful Drug Candidates  
May 15 - 18, Boston
- \* Organic Microelectronics (joint with IEEE and MRS)  
July 10 - 13, Newport, RI
- \* Mechanisms of Chemical Toxicity As Applied to Drug Safety Prediction  
September, Philadelphia
- \* Exploring Opportunities Along the Nano-Bio Interface  
1. (joint with MRS, ACS POLY and ACS PMSE divisions)  
TBD

PLEASE GO TO [WWW.ACSPROSPECTIVES.ORG](http://WWW.ACSPROSPECTIVES.ORG) for speakers, topics and program details. The American Chemical Society created ACS ProSpectives to provide chemical professionals — and others who rely on chemistry-based information — with conferences that explore chemistry's role in advancing molecular science across disciplines.

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# Make a Difference!

## 2005 Annual Career Awareness Fair May 10-11

Did you remember to mark your calendars for the 22nd Annual CAREER AWARENESS FAIR. The St. Louis City & County Public Schools will hold this annual event for 8th grade students on Tuesday - Wednesday, May 10-11, 2005 in Halls 1 & 2 - America's Center. Help invest in a world-class workforce by joining me and other section members as we continue our participation in this program sponsored by the St. Louis Public Schools Career & Technical Education Office and the Career Awareness Fair Business Advisory Committee. For more information or to volunteer (never too early), contact Greg Wall at 1-800-325-5832 ext. 3139 or e-mail: [gwall@sial.com](mailto:gwall@sial.com).

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