

Volume 60
Number 6
September, 2009

St. Louis Section, American Chemical Society



*Dr. Christopher D. Spilling
University of Missouri–St Louis
2009 Saint Louis Awardee*

Chemical Bond

Volume 60

No. 6 September, 2009

The *Chemical Bond* is published January through May and September through December by the St. Louis Section–American Chemical Society. It is mailed free of charge to members of the section at their address on file at ACS National Headquarters. Changes of address for members will be made automatically upon notification to National ACS Headquarters; send old and new address with zip codes to ACS Subscription Service Department, 1155 16th St. N.W., Washington, DC 20036 or visit chemistry.org, log in, and go to Update my Profile. Allow eight weeks for change to take effect.

The domestic subscription rate for non-members/affiliates is \$15.00 per year. Subscription orders and changes of address for non-members/affiliates should be mailed to St. Louis Section–ACS, 125 West Argonne Drive, St. Louis, Missouri 63122 or e-mailed to the Editor.

Interim Editor Eric Ressner 314.962.6415
editor@stlacs.org

Asst Editor/Advert Mgr Sue Saum 314.513.4808
ssaum@stlcc.edu

Business Mgr Donna Friedman 314.513.4388
dfriedman@stlcc.edu

Website www.stlacs.org

Webmaster Eric Ressner webmaster@stlacs.org

Correspondence, letters to the Editor, etc., should be sent to

St. Louis Section–American Chemical Society

125 West Argonne Drive, St. Louis, MO 63122

Copyright © 2009 American Chemical Society and the St. Louis Section–ACS

Vacuum Pump Rebuilding from Mass-Vac!

GET the most out of your pump!

GET it serviced right the first time!

There IS a difference in vacuum pump rebuilding services. Mass-Vac has been rebuilding vacuum pumps since 1971.

Regardless of type or manufacturer, call Mass-Vac.

FAST turnaround.

FREE Pick Up and Delivery.

CALL for details:

978 667 2393



PRODUCTS

A Division of Mass-Vac, Inc.

247 Rangeway Road, PO Box 359
North Billerica, MA 01862

978 667 2393
Fax 978 671 0014

sales@massvac.com www.massvac.com

In this issue

- 4 Meetings and seminars
- 6 2009 St. Louis Award: Dr Chris Spilling
- 8 Section picnic in words and pictures
- 10 National Chemistry Week kickoff
Brain buster
- 11 YCC Chemistry Career Night announcement

Meeting & Seminars

Board of Directors

St. Louis Section-ACS Board of Directors meets the second Thursday of each month, usually at the Glen Echo Country Club (map available on website). Meetings are open to all members, and all are encouraged to attend. Elected officers and chairs of major committees vote on questions put to the Board; others in attendance have voice but no vote.

If you want to attend for dinner, please contact Bill Doub (william.doub@fda.hhs.gov or 314.651.7514) at least a week in advance. Usual cost of the dinner is \$20. Members wishing to become active in section activities are welcomed for their first dinner as guests of the section.

Date: Sep 10

Social hour: 5:30 pm

Dinner: 6:30 pm

Business meeting: 7:15 pm

Future Meetings: Oct 8, Nov 12

Saint Louis University

Seminars start at 4 pm in Room 12 Monsanto Hall, except as noted. For more information, contact the Chemistry Department, 314.977.2850. All topics are TBA.

.....
August 28

Dr. Michael Lewis
Saint Louis University

.....
September 4

Dr. Brent Znosko
Saint Louis University

.....
September 11

Dr. John Pojman
Louisiana State University

.....
September 18

Dr. Svetlana M. Mitrovski
Eastern Illinois University

.....
September 25

Dr. Punit Kohli
So. Illinois University-Carbondale

University of Missouri-St Louis

Fridays at 4 pm in 451 Benton Hall, unless otherwise specified. Refreshments 15 minutes prior to seminar time. For more information, contact the Chemistry Department, 314.516.5311.

.....
August 31

Michael Nichols
University of Missouri-St. Louis
Amyloid- β and the Innate Immune Response

.....
September 14

Stephen Holmes
University of Missouri-St. Louis
Systematic Approaches for Engineering Molecule-Based Magnetic and Photo-responsive Materials

.....
September 21

Zhi Xu

POLYMER STANDARDS FOR GPC/SEC
MOLECULAR WEIGHT ANALYSIS
GPC/SEC COLUMN REPACKING

American Polymer Standards Corporation
8680 Tyler Boulevard, Mentor, OH 44060
Phone: 440-255-2211 Fax: 440-255-8397

University of Missouri-St. Louis
Development of Non-invasive Blood Glucose Detector for Better Diabetes Control

Washington University

Seminars are in McMillen 311 at 4 pm unless otherwise noted. For information, contact Lev Gelb, gelb@wustl.edu

.....
August 27

Erick D. Ellis
Jackson State University
TBA

Special Interest Group Meeting

Our speaker is a PhD chemist and a patent attorney. She helps her clients procure patent rights in the U.S. and around the world and supports her clients' capital acquisition and due diligence activities.

.....
September 24, 6:30 pm

Dr. Janet Hendrickson
Senniger Powers Law Firm
Patent Primer: What an Inventor Needs to Know About Patent Law
The meeting is in the Gast Confer-

ence Room of the Weidenbaum Center (Seigle Bldg) on the main Washington University campus.

YCC Career Night

The Younger Chemists Committee invites you to this evening of career advice, discussion, and networking. See announcement on page 11 for full details.

.....
September 17, 6-8 pm

Expert panel from
• Sigma-Aldrich • Monsanto
• Balbes Consultants • Covidien
• Washington University

Chemical Analysis Services

- Materials Identification and Deformation
- Product Defects / Failure Analysis
- Thermal and Physical Testing (ASTM)
- Polymer Testing



C H E M I R

Analytical Services

chemir.com

(800) 659-7659

2672 Metro Blvd., Maryland Heights, MO 63043

St Louis Award, 2009



Dr Christopher D Spilling, Saint Louis University

Dr Christopher D Spilling came to St Louis in August 1989 to join the faculty of the Chemistry Department at the University of Missouri–St Louis as Assistant Professor. Prior to that he spent three years as a postdoctoral fellow at Northwestern University with Professor Tony Barrett. At UM–St Louis, he was promoted to Associate Professor with tenure in 1996 and in 2001 to Full Professor. During the 1996–97 academic year he was a visiting scholar with Professor Steven V Ley at Cambridge University. Chris was the obvious choice for department chair in 2004 when the former chair, Gordon Anderson, left the University.

An Englishman, he was born in Norwich, East Anglia, and was educated at the University of Loughborough, where he received a BSc degree in chemistry in 1983 and a PhD degree in organic chemistry under the direction of Brian Marples in 1986.

At UM–St Louis, he developed a very productive, high quality research program. He has published about 70 articles, four patents, several chapters, reviews, etc. He has garnered substantial external funding for his research, both from granting agencies and industry, for the support of his graduate students and postdoctoral research associates. He has also presented his work many times at meetings and conferences and has given about 60 invited lectures at other universities. In 1991, the graduate students

voted him the best teacher in the chemistry department. Chris has also been an active and contributing participant in the affairs of the St Louis Section of the American Chemical Society. He served as ACS Student Affiliates advisor in his early years at UM–St Louis and since 1994, he has served as the St Louis Section representative to the ACS Midwest Regional Steering



Dr Chris Spilling

Committee. He chaired the 2000 Midwest Regional Meeting in St Louis, a very successful one, and perhaps an important reason the St Louis Section won the Award for Outstanding Performance by a Large Section the following year.

Early in his career he developed a research program that had three foci: the use of phosphorus reagents for asymmetric synthesis, the chemistry of glucal halohydrins

and the total synthesis of marine sponge metabolites. More recently his work has taken a more biological bent as the world-wide emphasis in organic chemistry moves in that direction. He and his students are now using their phosphorus chemistry to prepare biologically active molecules and testing them on cell lines and enzymes.

A relatively recent development in his research activity is in entrepreneurship. He has on several occasions consulted with local firms, but recently he and some colleagues founded the company Alkymos in order to fund some collaborative research. A consequence of that is that the University of Missouri System-Wide Faculty Entrepreneur of the Year Award for 2009 went to Professors Wes Harris and Chris Spilling for their work

on removal of aluminum from infant feeding solutions. The award was established to honor a University of Missouri faculty member for a record of entrepreneurial innovation that demonstrates commercial utility, contributes to the public welfare, and brings visibility to the University of Missouri.

Chris lives in Bel-Nor with his wife Kathy and three sons: Andrew, Robert, and William. He still plays soccer and racquetball and enjoys a beer on Friday evenings with his colleagues.

The St. Louis Award Symposium will be held on October 16, and the Banquet on October 17. Check the website and the October *Bond* for up-to-the-minute information.



micron inc.

Analytical Services

Complete Materials Characterization
Morphology Chemistry Structure

SEM - TEM - EPA - ESCA - AUGER
XRF - XRD - FTIR - DSC - TGA

3815 LANCASTER PIKE, WILMINGTON DE.19805
PHONE 302 - 998 - 1184, FAX 302 - 998 - 1836
E-MAIL MICRONANALYTICAL@COMPUSERVE.COM
WEB PAGE WWW.MICRONANALYTICAL.COM

Picnic, Take 5

The 5th Annual St Louis ACS Section picnic was held in Tilles Park on June 6, 2009—a new location after the Tower Grove Park venue of the previous four picnics. The Skow Shelter was a fine spot, with plenty of shade, picnic benches, and nearby restrooms. The weather was good this year (for a change), and the turnout was a respectable 26 adults and several children, from infant to ... no longer children. There were members of the Younger Chemists Committee, old-time Board members, spouses and guests, and some for whom this was the first section event they had ever attended.

The section served up a barbeque of bratwursts, hot dogs, burgers, and chicken—plenty for everyone—and lots of beverages, chips, and cookies to go along with it. Past-Chair Keith Stine was the grill ninja. Sheryl Loux brought a game of Kubb (a Swedish game, rhymes with rube). Kubb teams were so captivated with the competition that they almost forgot to eat. Sheryl also helped avert disaster by running out for charcoal lighter fluid we desperately needed to get off the ground. You would think a bunch of chemists could come up with better ways to light charcoal, but no one had any magnesium with them. Later in the afternoon, Frisbees appeared to help people work off their indulgence before we cleaned up and headed home.



Grill ninja Keith Stine looks on from a safe distance as the charcoal lighter fluid works its chemical magic



Part of the larger group of picnicers eating and chatting under the Skow shelter



Eric Bruton's baton toss during the grueling Kubb finals



Tempting to caption this, "Sheryl Loux after the winning toss in Kubb finals," but it's obvious the king remains standing, just to the left of Arindam Roy's right hip



Future chemist works on his Frisbee skills

Conversation moved out into the dappled sunlight after the eating phase was over



COBERT ASSOCIATES

QUALITY PRODUCTS FOR CHROMATOGRAPHY



XPERTEK® • CAPILLARY COLUMNS • HPLC COLUMNS • SPE VIALS AND ACCESSORIES • FILTRATION PRODUCTS



Stocking Distributor for More than 75 Manufacturers, Including:



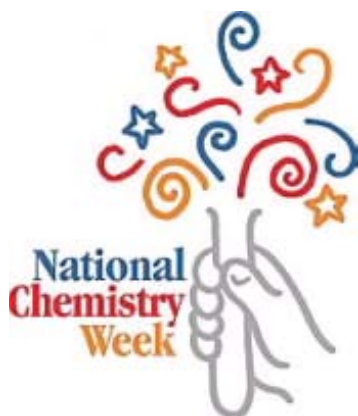
- Grace/Alltech
- Higgins
- Pierce
- Shodex
- Whatman
- Grace/Vydac
- Optimize
- Rheodyne
- Upchurch
- Wheaton
- Hamilton
- PE-Brownlee
- SGE
- Vaplock
- YMC

P.J. COBERT ASSOCIATES, INC. • P.O. BOX 460046 • ST. LOUIS, MO 63146
1-800-972-4766 • (314) 993-2390 • FAX: (314) 993-2491
E-MAIL cobert@cobertassoc.com • WEBSITE www.cobertassoc.com

“Chemistry— It’s Elemental”

... is this year’s theme for National Chemistry Week, October 18-24, 2009, and it is time to start planning how you are going to celebrate it along with other ACS members around the country. As this is the 140th year of the Periodic Table developed by Dmitri Mendeleev, we are planning activities that will commemorate both events ... possibly a human Periodic Table?

As part of the 20th National Chemistry Week, we will be holding our annual Industry Expo at the Science Center on October 24 from 10 am to 4 pm. So break out your Periodic Table tie and anything else that is elemental to you, and join the fun. This is our best public outreach event of the year—your opportunity to let others



know you are a chemist and how chemistry affects all of our everyday lives.

For holding an event, to reserve your spot as an Academic or Industrial participant in the Industry Expo, or just to volunteer, contact Greg Wall at 314.435.6487 or gwall37@msn.com.

After all, It’s Elemental!

Brain Buster

Encrypted below is a chemical compound that is essential to all life. Find the chemical in

HIJKLMNO

Answer to be found in the next *Chemical Bond*. Or, if you just can’t wait, send \$50 and an autographed rookie Stan Musial baseball card to: “I Just Can’t Wait” Teaser
P.O. Box 6.02E23
Isocyanide, NC

ELEMENTAL ANALYSIS

C, H, N, O, S, P • Halogens • Ash • Metals
TOC • TOX • BTU • Molecular Weights
ICP • ICP/MS • IC
Custom Analysis • Problem Solving

HUFFMAN

LABORATORIES, INC.
Quality Analytical Services Since 1936

4630 Indiana Street • Golden, CO 80403
Phone: (303) 278-4455 • Fax: (303) 278-7012
Chemistry@huffmanlabs.com
www.huffmanlabs.com



*Younger Chemists Committee of ACS, St. Louis Section
Presents*



CHEMISTRY CAREER NIGHT



Thursday, September 17, 2009

6:00 – 8:00 P.M.

Sigma Aldrich Corporation
2909 Laclede Avenue
St. Louis, MO 63103

Event Includes

Presentations from Industry Leaders
Question & Answer Session
Networking Opportunity
Food & Beverage
Free Admission

Expert Panel

Dr. Jai Nagarkatti, *CEO, Sigma Aldrich*
Dr. Jeff Graham, *Technology Lead, Monsanto*
Dr. Lisa Balbes, *Consultant, Balbes Consultants*
Dr. Ralph Heasley, *VP, Global R & D, Covidien*
Dr. Michael Gross, *Professor, Washington University*

The Younger Chemists Committee of Saint Louis (YCC STL) and the Saint Louis Section of the American Chemical Society cordially invite you to attend *Chemistry Career Night*. Please RSVP to Dayna Turner at turner.dayna@gmail.com by September 7th, 2009. On-site parking will be available free of charge for attendees.

We hope you will be able to participate in this unique opportunity to explore possible careers in chemistry.

St. Louis Section
American Chemical Society
125 West Argonne Drive
Kirkwood, MO 63122

Non-profit
U.S. Postage
PAID
St. Louis, MO
Permit No. 850

Rush—Dated Material Inside



ALDRICH
Chemistry

Look for the new 2009-2010 Aldrich Handbook of Fine Chemicals — now available!

Find the world's largest selection of new and innovative products for chemical synthesis, materials science and drug discovery research.

Also receive the Sigma-Aldrich Labware Catalog.

Reserve your two-volume set now by visiting
sigma-aldrich.com/aldrichcat.

sigma-aldrich.com

SIGMA-ALDRICH®