



# Chemical Bond

Volume 60  
Number 3  
March, 2009

St. Louis Section, American Chemical Society

## Banquet and Picnic Seasons Approach

Plan now and make your reservations soon

Recognition Night, March 28 ... page 9

Awards Night, April 30 ... page 9

Picnic, June 6 ... page 2

It's time to plan for the  
5th Annual Member Picnic  
Saint Louis Section-ACS

**Date:** Saturday June 6, 2009

**Time:** 12 noon-5 pm

**Location:** Tilles Park (corner of  
McKnight and Litzsinger in  
Ladue) at the Skow Shelter

Bring the family! Just \$5 per person. Kids under 12 free.

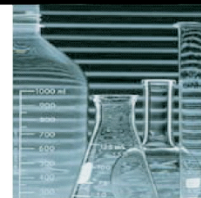
Please reserve by June 1st so we can plan for food and drink,  
and crowd control.

Questions and Reservations to Keith Stine  
Department of Chemistry and Biochemistry  
University of Missouri-Saint Louis  
St Louis, MO 63121  
phone: (314) 516-5346  
kstine@umsl.edu



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## In this issue

- |    |   |
|----|---|
| 2  | Picnic Notice (June, already?)              |
| 4  | Meetings and Seminars                       |
| 7  | Bond Briefs                                 |
| 9  | Recognition Night/Awards Night reservations |
| 10 | Nominate for a major award                  |
| 11 | Marcus Award competition                    |

# Meeting & Seminars

## Board of Directors

The Board 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 have voice but no vote.

If you want to attend for dinner, contact Bill Doub ([william.doub@fda.hhs.gov](mailto:william.doub@fda.hhs.gov) or 314-651-7514) at least a week in advance. Usual cost for dinner is \$24. Members wishing to become active in section activities are welcomed for their first dinner as guests of the section.

**Date:** March 14

**Social hour:** 5:30 pm

**Dinner:** 6:30 pm

**Business meeting:** 7:15 pm

**Future meetings:** Apr 10; May 14

## Saint Louis University

Seminars start at 4 pm in Room 12 Monsanto Hall, except as noted. All March topics were TBA as of press time. For more information, contact the Chem Dept, 314-977-2850.

Mar 6

**Randy Wadkins**  
University of Alabama

Mar 16, 12 noon

**Paul Benny**  
Washington State University

Mar 20

**George Gokel**  
University of Missouri–St. Louis

## SIU–Edwardsville

The 33rd William J Probst Lectures:

Mar 31

**William A Eaton**

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) of National Institutes of Health (NIH)

2 pm - *Protein Folding Dynamics*  
7 pm - *Searching for a Cure for Sickle Cell Disease*

## 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 Chem Dept, 314-516-5311.

Mar 2

**Ernesto Abel Santos**

University of Nevada–Las Vegas  
*Germinants, autogerminants, and inhibitors of Bacillus spores*

Mar 9

**Jackson Lay**  
University of Arkansas  
TBA

Mar 16

**Samuel Wickline, MD**  
Washington University–St. Louis  
*Nanomedicine theranostic agents for cancer and cardiovascular disease*

Mar 30

**David Schultz**  
North Carolina State University  
TBA

## Washington University

Seminars are in McMillen 311 at 4 pm unless otherwise noted. For in-

formation, contact Lev Gelb,  
gelb@wustl.edu

March 5

**Ram Mohan**

Illinois Wesleyan University  
TBA

Mar 6, 2 pm

**Hitoshi Tamiyaki**

Ritsumeikan University (Shiga, JP)  
*Photochemistry of chlorophylls  
and their synthetic analogs*

Mar 19

**Sue Clark**

Washington State University  
TBA

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*Chromatography  
Discussion Group*

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Announcing the reactivation of  
the St Louis Section Chromatogra-  
phy Discussion Group. Focus here  
or on the Discussion Group meet-

ings page of the website for the time  
and place of the first meeting.

Meetings will feature refresh-  
ments, a speaker, and lots of inter-  
esting discussion. Plan on attending  
to learn more about chromatogra-  
phy, meet new colleagues, and rees-  
tablish old contacts.

Chair: Bob Klute,  
robert.klute@covidien.com

Co-chair: Arindam Roy,  
arindam.roy@covidien.com

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of December, 2008, issue

# Bond Briefs

## Judge at a Fair

Science Fair season is upon us. Sheryl Loux, coordinator for the Saint Louis Section, is seeking volunteers to judge science fair projects in chemistry. *Your participation as a judge would be greatly appreciated!* To volunteer, contact Sheryl J Loux at 636-237-5149 or [sjloux@gmail.com](mailto:sjloux@gmail.com).

Upcoming events are:

Saturday, March 14  
Illinois Junior Academy of Sciences  
Regional Science Fair  
Morris University Center  
SIU—Edwardsville  
Edwardsville, IL 62026

Hosts over 200 of the best 5th–12th grade student projects from a ten-county area.

8:30 am—organizational meeting  
9 to noon—judging

Saturday, March 21  
Missouri Tri-county Regional  
Science and Engineering Fair  
College Student Center  
St Charles Community College

8 am—Free judges' breakfast  
9 to noon—Judging

Tuesday, May 5  
Greater St Louis  
Elementary Science Fair  
Queeney Park Recreation Complex  
Ballwin, MO 63011

6 to 8:30 pm—Participation Awards distributed to chemistry related projects. No judging.

Wednesday, May 6  
Greater St Louis  
Secondary Science Fair  
Queeney Park Recreation Complex  
Ballwin, MO 63011  
3 to 8:30pm—judging  
Free dinner for judges on site.

## A Fair of a Different Stripe

Make an investment in the future of chemistry. Share the enthusiasm you have in being a chemist. Be a role model for the next generation of chemists. Do it all at the St Louis Public Schools Career Awareness Fair, America's Center, March 24-25.

Help the 8th grade students make informed career choices. If interested or need more information, contact Greg Wall, [gwall37@msn.com](mailto:gwall37@msn.com), or David Haselbauer, [djhase@swbell.net](mailto:djhase@swbell.net). You can make a difference in the lives of students making their career decisions, and shape the future of chemistry.

## Bylaws Vote ... Again

Don't forget, we'll be voting again on the bylaws changes (this time with a quorum practically guaranteed) at the Recognition Night Banquet, March 28th. A good reason to attend, if you need another one.

### ELEMENTAL ANALYSIS

C, H, N, O, S, P • Halogens • Ash • Metals  
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ICP • ICP/MS • IC  
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### HUFFMAN

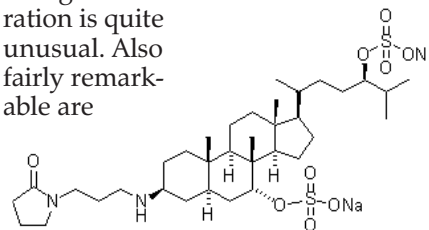
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## Molecule of the Month to occupy that last empty page

This month's molecule sounds by name more paleontological than chemical: petromyzonamine disulfate. It's a mostly unremarkable molecule, a standard steroid structure, though that lactam decoration is quite unusual. Also fairly remarkable are



the two sulfate groups, resembling the sort of thing our livers might do to increase water solubility and enhance excretion. That water solubility feature will come in handy.

It turns out this molecule is important to the sea lamprey. Sea lampreys are primitive, ugly-to-all-but-other-lampreys, living their lives as (mothers, shield your children's eyes) parasites, attaching to the flank of large fish, rasping through their skin, and consuming their blood and tissues, usually killing them. The lamprey is an invasive species in the Great Lakes that has taken a toll on the natural fishery, since they have no natural predators there, and fish have no hands with which to detach them.

Lampreys mate in clean, free-flowing streams with gravel beds. Larval lampreys live in the stream bed for up to six years before emerging as adults and returning to the lakes. Adult lampreys find suitable streams for mating by following chemical cues excreted by lamprey larvae. If there are larvae there, it must be a suitable stream. Q.E.D.

Adult male lampreys follow the larval signal, excavate nesting sites, then excrete a pheromone to attract females. PMZ-diS is the key component of that pheromone.

Side note here: when you think about pheromones, you usually consider compounds that are carried by the air, and thus must have significant vapor pressure. That steroid sulfate salt surely doesn't look particularly vaporous. But wait! This is a pheromone for aquatic species. So water solubility, not evaporation, is the key to dispersal.

Further aside: what does it mean for a fish to smell something?

Which brings us to the point. Control of lamprey populations has until now relied on chemical lampricides and traps. Researchers are using lamprey pheromones to attract females to unsuitable streams (no larvae, and by the way, no males either). Pheromones are environmentally benign compared to toxic pesticides, and much less would be



Adult lamprey. Mouth is a cross between a suction cup and a well-drilling bit. Very effective.

needed. Female lampreys home on picomolar ( $10^{-12}$  M) concentrations of PMZ-diS.

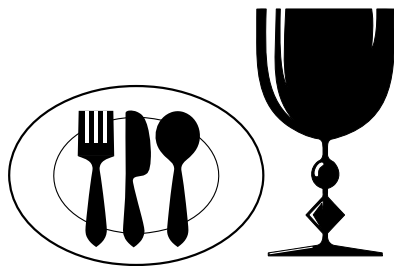
Structure elucidation: [pubs.acs.org/cen/news/83/i41/8341lamprey.html](http://pubs.acs.org/cen/news/83/i41/8341lamprey.html)

Recent lamprey control trials: [www.stateneews.com/index.php/article/2009/01/new\\_lamprey\\_control\\_method](http://www.stateneews.com/index.php/article/2009/01/new_lamprey_control_method)

## Recognition Night 2009

**Saturday, March 28:** Please join us in the clubhouse at Glen Echo Country Club to celebrate and honor members who have helped make this section great. The Distinguished Service Award will be presented, new 50- and 60-year members will be honored, and Keith Stine will give the traditional Past Chair's address.

5:30 social hour, 6:30 dinner and program. To reserve your place(s) at this grand event, please return the reservation form by March 23rd.



### Recognition Night Reservation Form

Member name: \_\_\_\_\_

Number attending \_\_\_\_\_ × \$26 = \_\_\_\_\_ (amount remitted)

Please make check payable to: Saint Louis Section-ACS  
and mail with form by March 20 to:

Samir El-Antably  
Camela Medical Equipment Company  
P.O. Box 50168  
Saint Louis, MO 63105

## Awards Night 2009

**Monday, April 20:** A banquet honoring the winners of the High School Chemistry Contest, the Leopold Marcus Award, the High School Teaching Award, the Chemical Science and Technology Award, and the outstanding junior chemistry students at area colleges. CJ Muggs, 101 W Lockwood Ave, Webster Groves.

5:30 social hour, 6:30 dinner, 7:30 program. Please return the reservation form by April 15th.



### Awards Night Reservation Form

Member name: \_\_\_\_\_

Number attending \_\_\_\_\_ × \$20 = \_\_\_\_\_ (amount remitted)

Please make check payable to: Saint Louis Section-ACS  
and mail with form by April 13th to:

Pat Burrell-Standley  
1716 Eldon Ridge Court  
St Louis, MO 63017

## Saint Louis Section-ACS Top Awards Seek Nominees

### Saint Louis Award

The St Louis Award, sponsored by the Monsanto Company and administered by the St Louis Section-ACS, recognizes individuals who have made outstanding contributions to the profession of chemistry and demonstrated potential to advance the chemical profession.

The award, consisting of a \$1,000 honorarium and a plaque, is presented at the St Louis Award Banquet during National Chemistry Week in October. (This is change from past practice, in an effort to more evenly distribute major events throughout the year.)

At the time of nomination, the nominee must be a member or affiliate of the St Louis Section of the ACS and may not have previously received the Midwest Award or any national ACS-sponsored award. Nomination packets **received by March 31st** are considered for award presentation in October. For 2009, the award symposium will take place on Friday, October 16, and the banquet will be at Kemoll's on Saturday, October 17.

Nominations should include a nominating letter, two or more seconding letters from individuals who have had a close professional affiliation with the nominee, a brief biography, a description of the nominee's accomplishments, and a list of publications and patents.

see *Saint Louis Award*, page 11

### Midwest Award

The St Louis Section-ACS solicits nominations for the 2009 Midwest Award.

The St Louis Section established the ACS Midwest Award in 1944 to publicly recognize outstanding contributions to the advancement of pure or applied chemistry, chemical education, and the profession of chemistry. These contributions must

**Help an exceptional colleague get the recognition s/he deserves. Nominate for an award.**

have been made during a period of residence in the geographic area defined as the Midwest Region of the ACS. Nominees can be from industry, academia, government,

or private practice, and need not be members of the ACS.

The 2009 ACS Midwest Regional Award will be presented at the 44th Midwest Regional Meeting in Iowa City on October 22. The ceremonies will feature the Midwest Award Lecture, a dinner honoring the medalist, and the presentation of the award which shall be a medallion and a cash honorarium.

Nominations include a nominating letter, two or more seconding letters, a curriculum vitae, a brief biography, documented and objective information regarding the outstanding achievements of the nominee, and if the nominee is an academician, a list of persons who have received advanced degrees under his or her direction. All materials must be received on or before

see *Midwest Award*, page 11

## Marcus Award Competition Slated at SLU

The Leopold Marcus Award was established by the late Jack and Gertrude Marcus in memory of his father. It is administered by the Department of Chemistry at Saint Louis University and the St Louis Section of the American Chemical Society.

The 2009 Leopold Marcus Award competition will be held Wednesday, April 1 at 4:00 p.m. in the Pere Marquette Gallery on the campus of Saint Louis University. The gallery is

located on the second floor of DuBourg Hall.

The competition consists of presentations based on the undergraduate research projects of senior chemistry majors at Saint Louis University. The candidates, chosen by the faculty, will each make a fifteen-minute presentation.

The winner is determined by vote of the professional chemists in the audience. All ACS members are invited to attend and are, of course, eligible to vote. Refreshments will be available after the competition. For further information, contact Bruce Kowert at (314) 977-2837 or [kowertba@slu.edu](mailto:kowertba@slu.edu).

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Saint Louis Award from page 10

Additional details can be found at [www.stlacs.org/stlouisaward.html](http://www.stlacs.org/stlouisaward.html).

Please send nominations to:

Joseph J H Ackerman  
Dept of Chemistry  
Campus Box 1134  
Washington University  
One Brookings Drive  
Saint Louis, MO 63130

Midwest Award from page 10

the **deadline of March 31**. Additional details can be found at [www.stlacs.org/midwestaward.html](http://www.stlacs.org/midwestaward.html).

Please submit nine copies of all nomination material to:

Jim O'Brien  
Department of Chemistry  
University of Missouri—St Louis  
1 University Blvd  
Saint Louis, MO 63121



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