



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

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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.

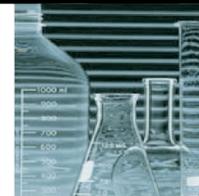
Please reserve by June 1st so we can plan for food and drink,
and crowd control.

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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Interim Editor	Eric Ressner	314.962.6415 editor@stlacs.org
Assistant Editor & Advertising Manager	Sue Saum	314.513.4808 ssaum@stlcc.edu
Business Manager	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*

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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 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

*Chromatography
Discussion Group*

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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from IBC

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.

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, or David Haselbauer, 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.

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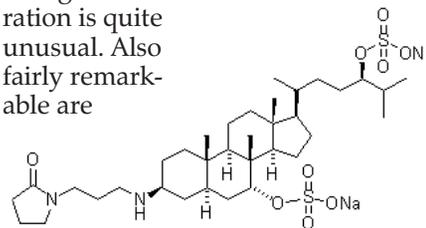
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Molecule of the Month to occupy that last empty page

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.

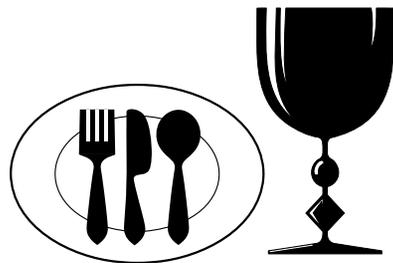
Structure elucidation: pubs.acs.org/cen/news/83/i41/8341lamprey.html

Recent lamprey control trials: 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.

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Additional details can be found at
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.

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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