

Could this be your last Chemical Bond?

Well, not quite, but that certainly got your attention.

The printed version of the *Chemical Bond* is in jeopardy. Since the beginning of 2009, we have been without a permanent editor. The interim editor needs an exit strategy, and *soon!*

Do you have what it takes?

- Excellent written English and organizational skills
- Knowledge of, or willingness to learn, a full-featured desktop publishing software package
- Ability to meet deadlines
- Enthusiasm for involvement in the local ACS Section

If this is you, or if you know someone like this, we want—need—to hear from you. The Search Committee will be accepting inquiries until June 15th, and will then meet to select the best candidate. Others may be invited to act as staff writers or Assistant Editor.

The selectee will have a comfortable couple of months to learn the ropes in time for the September issue (production in August). Copious help for the transition is available on request. The Section provides a laptop with InDesign software if you need it.

If we can't fill this position, we will be forced to implement Plan B, which will probably terminate the production and mailing of a printed *Chemical Bond* by the end of the year.

Email editor@stlacs.org with a statement of interest, a brief summary of your pertinent qualifications, and contact information. If you'd like more information about what the position entails ... same email.

Could this be your last



Chemical Bond

Volume 60
Number 5
May, 2009

St. Louis Section, American Chemical Society

???

Turn the page to find out
why we are even asking the question



Chemical Bond

Volume 60

No. 5

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In this issue

- 2 Editor's notice: a *must-read*
- 4 Meetings and Seminars
- 5 Nominate for 2010 Section Officers
- 6 Bond Briefs—four interesting items
- 8 Reports from Awards Season
- 10 Final reminder: RSVP for Section Picnic
- 11 Recognition Night in words and pictures
- 13 Letter to the Editor
- 14 More fun with molecules

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: May 14

Social hour: 5:30 pm

Dinner: 6:30 pm

Business meeting: 7:15 pm

Future Meetings: Sep 10, Oct 8

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.

No seminars are listed for May.

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.

May 4

22nd Distinguished Alumni Lecture

Donald G. Hesse

VP, Information Technology
St Louis Post-Dispatch

After Graduation: Fulfilling the Scientist's Desire to Experiment, Discover and Solve

Washington University

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

No seminars are listed for May.



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Request for Nominations for 2010 Officers

The St Louis Section of the American Chemical Society requests nominations for officers, directors, and councilors to stand for election in the Fall of 2009. If you would like to nominate someone, including yourself, for any or all of these offices, please fill in this nomination ballot and mail it, postmarked no later than June 15, 2009 to:

Dr. Jeffrey Cornelius
Department of Chemistry
Principia College
1 Maybeck Place
Elsah, IL 62028

You may also email your nominations. While it will be difficult to assure your anonymity as a nominator, your identity will be removed before it is forwarded to the Nominating Committee. Send email nominations to Jeffrey Cornelius, sec@stlacs.org.

Nominating Ballot St Louis Section-ACS 2009 Officers

Chair-Elect _____

Secretary _____

Treasurer _____

Directors
(up to 3) _____

Councilors
(up to 2) _____

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Bond Briefs

Boy Scouts need chemistry— and you!

Join us this September 19 for a full-day workshop to teach the Chemistry Merit Badge to 40+ teen-age Boy Scouts.

If you're interested in helping out at the 5th annual clinic, please contact Lisa Balbes, lisa@balbes.com or 314.966.5298.

Nominate for a High School Chemistry Teacher award

Has your high school student had an exceptional chemistry teacher? Have you met a great high school chemistry teacher through outreach or science fair activities?

Nominate a teacher for the 2009-2010 High School Teaching Award. A great teacher exemplifies excellence in teaching chemistry at the high school level; and contributes to other aspects of teaching, such as professional growth, curriculum development, course materials preparation, workshop participation, chemical or educational research, publications and other activities. A candidate must work within the geographic region of the St Louis Section-ACS and may not be a past winner of the award.

Please contact Virginia Kirwin to obtain nomination forms and to verify eligibility: vkirwin@att.net or 636.225.5513.

Chemistry at the Illinois State Fair

A group of ACS sections in Illinois have sponsored a booth at the Illinois State Fair for the past several years. Our section has sent volunteers to work the booth since 2004. This year's Fair will be in Springfield, IL, August 14–23.

The booth, in the Conservation World section, features continuous demos for the public and hands-on activities and displays for children and young adults. Volunteers work four-hour or full day shifts as greeters or activity leaders. If you sign up in advance, you receive free parking in a lot closer to where the booth is located.

Please check the local section website for further information as it becomes available. For additional information, contact Keith Stine, kstine@umsl.edu or 314.516.5346.

Help your Congresscritter "Get it"

In conjunction with the 2009 ACS Fall National Meeting in Washington, DC, August 17-19, ACS is urging its members to meet with their members of Congress.

This is an exciting opportunity. You can become a resource and potentially provide ongoing scientific advice and technical expertise to your Congressperson. No experience is necessary—ACS staff has developed on-line training and briefing materials.

For more information, go to the ACS Network, www.acs.org/network, select groups, and search for *DC National Meeting Congressional Visits*. You can also contact the section's government affairs committee chair, Dave Garin, 314.516.5349 or garin@umsl.edu.

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Reports from Awards Season

It is the season for recognizing achievement, skill, and excellence. Here's a brief rundown of recent winners of awards and competitions. There are more details on these items at the section's website, under Awards. See also the report on Recognition Night, page 11.

Leopold Marcus Award

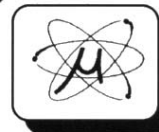
Xiaoming Shi was named the winner of the 39th Leopold Marcus Award competition held at Saint Louis University on April 1, 2009.

Shi was chosen on the basis of his presentation, *Crossing the Blood-Brain Barrier. Nitrosyl Bipyridyl Rhenacarborane Complexes: Synthesis, Characterization, and Use as Drug Delivery Vehicles*, carried out under the direction of Dr Paul Jelliss.

In addition to Shi, the other finalists were:

- Vanichpat Prathuangasuk, *A Host to Study Anion-Pi Bonding* with Dr Mike Lewis
- Jay Breeden, *Characterization of Azine Polymer Dyes and the Possibility of Drug Delivery* with Dr Shelley Minter
- Michael Hankins, *The Design of an Efficient Pacemaker: Optimal Entrainment of a Chemical Oscillator* with Dr Istvan Kiss
- Justin Sheehy, *Thermodynamic Parameters of Naturally Occurring RNA Tetraloops* with Dr Brent Znosko

The winner and finalists received their awards and citations at the Awards Night Banquet at C J Muggs in Webster Groves on April 20, 2009.



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Schools at War meet in Decisive Battle

On Thursday, March 5, 14 teams from 8 local high schools gathered to participate in the Battle of the



Heated action in the Battle of the Burets

Burets competition at St Louis Community College–Florissant Valley. Pairs were judged on their ability to accurately determine the normality of an unknown acid solution within a six-minute time period.



Winning titrators receive their trophy

Two teams from Kirkwood High School and single teams from Clayton and Pattonville qualified for

the championship round. The final results of this light-hearted but hard-fought competition:

- 1st—Jay Frick and Maddie McRaven, Kirkwood, teacher Lisa Autry
- 2nd—Nick Lucas and Gus Heil, Clayton, teacher Nathan Peck
- 3rd—Kelly Mackenzie and Sierra Horton, Kirkwood, teacher Lisa Autry
- 4th—Sydnie Frazier and Ana Solario, Pattonville, teacher Kathleen Shearrer

Outstanding Junior Chemistry Students

...from colleges and universities in the St Louis Section territory:
Phu Nguyen—Greenville C.
Rachelle Wilson—Lindenwood U.
Tyler J. Yeargain—Maryville U.
Brian K. Kamusinga—Principia C.
Pamela Vanegas—Saint Louis U.
Kelli Levek—SIU—Edwardsville
Mary E. Keithly—UM—St Louis
Jason Shield—Washington U.

Science Fair winners in chemistry selected by ACS Section

Reported by Science Fair Coordinator
Sheryl J Loux

The biggest regional fair, the St Louis Post-Dispatch Science Fair is still to come, May 5 and 6. Contact Sheryl J Loux, 636.237.5149 or sjloux@gmail.com if you would like to help with judging.

Here are results for the other regional science fairs.

see **Briefs**, page 12

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

Dept of Chemistry and Biochemistry
University of Missouri–Saint Louis
St Louis, MO 63121
314.516.5346 or kstine@umsl.edu



Need event reminders?

Would you like an email reminder of upcoming ACS events and activities? Join the ACS reminders listserv. Email Alexa Serfis at barnoski@slu.edu and ask to be put on the list. You can also add or remove yourself at the website, stlacs.org, and click on Event reminders–subscribe or Event reminders–unsubscribe. Subscription comes with a money-back no-spam guarantee.



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Recognition Night 2009

... was held at Glen Echo Country Club March 28, with about 50 people in attendance.

As the first order of business (after the socializing and eating was out of the way), chair Bill Doub convened a brief General Meeting of the Section to formally vote on the changes to the Section Bylaws. These are the same bylaw changes that were approved at the Continuity Dinner in December, but there were not enough members in attendance then to constitute a quorum. This time there were, and the changes were approved unanimously.

A main attraction at Recognition Night is longevity. Five of the eleven 50-year members and two of nine 60-year members attended and received certificates from ACS.

John Baldus (Pfizer) was presented the St Louis Section Award for Science and Technology (see below for why) and Eric Ressler (Sigma-Aldrich) received the

2008 award for Distinguished Service to the St Louis Section. Past Chair Keith Stine received a plaque commemorating his service as Chair of the Section in 2008 and an ACS Past Chair pin. Keith gave a cultural and historical look at 1949 and 1959, the years in which the new 50- and 60-year members joined ACS.

Chemical Science and Technology Award Citation

John Baldus earned a BS in Chemistry at the University of Illinois in 1986. Over his ensuing 23-year career at Sigma and Pfizer,



John Baldus (l.) receives the Science & Technology Award from Ted Gast (r.) as Bill Doub checks spelling

John has continually demonstrated his prowess as a practical synthetic chemist. John is particularly gifted at rapid and scalable method development, and has demonstrated the value of this expertise for many research projects and with all types of chemistry.

John has an uncanny knack for cutting quickly to the key experiments that will define the practicality of a given method. He applies parallel technology to rapidly

see **Recognition**, page 12



Eric Ressler gets plaqued for Distinguished Service to the Section

Briefs, from page 9

Illinois Junior Academy of Science Region 12 Science Fair

Grades 9–12

1st Place—Appie Peterson, *Don't Sweat It: Electrolyte Drinks that Keep you Hydrated*, Grade 11, Governor French Academy, O'Fallon



Blue-ribbon winner with her poster

2nd Place—Connor Henderson, *Illinoisan Wood Heat Exertion*, Grade 9, Alton Senior High School
3rd Place—none awarded

Grades 5–8

1st Place—Thomas Hildebrand, *Effectiveness of Hydrogen Fuel Cells*, Grade 7, Alton Middle School
2nd Place—Breanna Frechman, *Got Thirst?*, Grade 5, Good Shepherd Lutheran School, Collinsville

Recognition, from page 11

screen ideas and is excellent at interpreting the data. He takes all this information and distills it back into a robust method that is amenable for scale-up. And he does this faster and better than almost anyone else!

John is a man of many interests. Outside of the lab, John is an ac-

3rd Place—Thomas Luge, *The Little Purple Pill: To Take or not to Take*, Grade 7, Cathedral Grade School, Belleville

Missouri Tri-County Regional Science and Engineering Fair

Honors Division

No awards were given this year. There were no entrants in chemistry or chemistry-related fields.

Grades 9–12

No awards were given this year. There were no entrants in chemistry or chemistry-related fields.

Grades 5–8

1st Place—Brendan Ritchie, *Now You "C" It*, Grade 5, Rock Creek Elementary School, O'Fallon
2nd Place—Hunter Noel, *Time Too Split*, Grade 7, Frontier Middle School, Wentzville
3rd Place—Rachael Niec, *Amount of Vitamin C in Different Types of Orange Juice*, Grade 7, South Middle School, Wentzville

Grades K–4

All 51 chemistry-related entrants received a congratulatory letter and a purple participation ribbon.

We get mail

Well, actually, we don't get much at all. So when a Letter to the Editor comes in, we like to try to publish it.

Call for Professional Volunteers in Secondary Schools

I believe this country is losing potential scientists in the high school years. Elementary students do much hands-on experimentation and become excited about science. However, after spending the secondary years learning the facts and theories of science, but not being able to do science, the 1-2% of students who are serious about pursuing a science career may become attracted to a different field of endeavor.

Secondary science teachers typically have little or no time to supervise students performing full-year or semester-long independent science research projects. However, there should be a number of retired research scientists who have time to give serious science students the opportunity to experience the essence of science, which is the process of performing research aimed at discovering new knowledge. This of course, is what scientists love to do, and what provides them with much satisfaction.

I have been volunteering in a high school science department for three years. The first year I prepared solutions for labs and developed and tested new lab experiments, which required 5-7 hours per week of my time. This was greatly appreciated by the science teachers, who now did not have to come in on Saturdays and Sundays to prepare labs, and who did not have to rely on inexperi-

enced students to hopefully prepare solutions correctly.

The next year, I convinced the administration that since I was a volunteer (so there would be very little cost involved), it would be advantageous to offer a research course for the serious students who were interested in a career in science, medicine or engineering. This course was offered during the first semester, and in addition to presenting PowerPoint presentations of their projects at the end of the semester, the students entered their projects in the Honors and Secondary Divisions of the Greater St. Louis Science Fair. In the last two years, nine of our school's students have entered the fairs, and three have won scholarships plus additional awards.

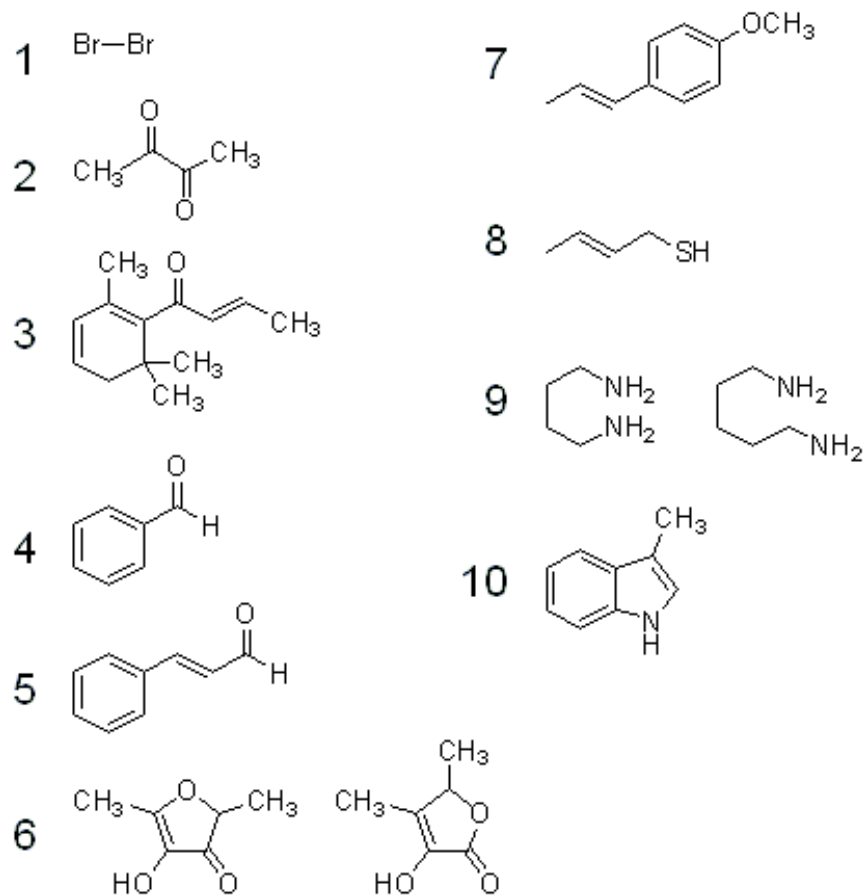
I suggest that scientists who have retired or are near retirement would find it very rewarding and actually lots of fun to volunteer at a local high school. It should be possible to teach an independent science research class and prepare solutions for laboratories in about 8-10 hours per week.

If you offer your services to the science departments at local high schools, I suspect that you would find one who would be happy to have you on board. In fact, I am looking for someone to share the fun at my school, so if you are interested, please email me at bbjoern@att.net.

William A. Joern, Ph.D.

Fun with Molecules

This month's Fun with Molecules is thematic: all the compounds are aroma compounds. Some of them are more properly odor compounds, as aroma connotes to most a pleasant sensation. They are assuredly not all pleasant to smell.



If you've come this far ...

... you probably have a real appreciation for the *Chemical Bond*, or a lot of time to spare, or both.

If so, take another look at page 2, and do a self-assessment. Could you be the next Editor of the *Chemical Bond*, and not have known it until this very moment?

Don't *not* respond because "someone else surely will." **You are that someone.**

- 1 bromine (from Greek *bromos* = stench not advisable to sniff as it is also toxic
- 2 biacetyl or diacetyl: butter prolonged exposure suspected of causing irreversible obstructive lung disease
- 3 β -damascenone: rose
- 4 benzaldehyde: almonds
- 5 cinnamaldehyde: cinnamon
- 6 a two-fer: on the left, furanol: strawberry on the right, sotolon: curry, maple syrup, fenugreek interesting how such similar structures can have such different smells
- 7 anethole: anise
- 8 (*E*)-2-butenethiol: skunk
- 9 another two-fer: cadaverine and putrescine: odors of rotting flesh
- not so interesting that such similar structures have such similar smells
- 10 skatole (from Greek *skato* = dung): feces



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