



Chemical Bond

Volume 54
Number 1
January, 2003

St. Louis Section, American Chemical Society



***Marie Sherman's
Salute to Excellence
"Chemistry is pHun"***

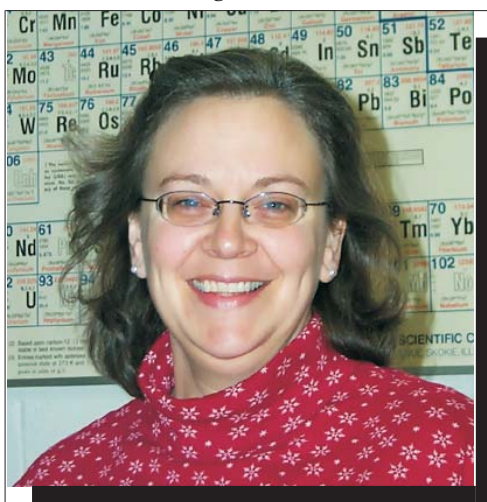
From the Chair

It is mid-December as I sit down to write the "Incoming Chair's Message" for the January 2003 *Chemical Bond*. I'll bet this was the time of year when each new chair wondered "Why did I agree to do this?!" My thoughts on this are: a lapse in sanity; a surge of guilt; a cosmic ray to the brain; and, "good question—why the %\$^&* did I agree to do this?" Lisa must have asked me on a *very* good day.

In addition, though, are my thoughts that my experiences with the St. Louis Section have (for the most part) been enjoyable and interesting. I have really liked the Women Chemists' lunches—meeting local women chemists and meeting the speakers. I have enjoyed attending the St. Louis Award and Midwest Award ceremonies—we have many, many accomplished chemists in the local section. I truly like working with children at schools and talking with them at the Career Awareness Fair. I am impressed with the quality and number of activities that the section supports. So thus it is that I will be the new section chair, with all the hope, expectations, and paperwork (!!!) that a new year brings, as the St. Louis Section commences its 96th year on January 1, 2003.

The section will begin the year on solid footing. Despite the stalled economy, section membership continues to increase—we have over 1800 members—providing solid financial backing for the section's activities. The poor stock market, however, has taken a bite out of the

endowments that support the St. Louis Award and the Midwest Award—plans to seek additional funding are being considered for this coming year. Have we used our resources and talents well? I believe the answer is decidedly "yes." We have eight topical groups, nine professional activities groups, an active Education Committee with numerous subcommittees that organize outreach



Leah O'Brien, 2003 St. Louis Section Chair

activities for students and the community, and we sponsor (and co-sponsor) numerous awards for high school students, high school teachers, college students, and professional chemists working in higher education, government, and industrial labs. The St. Louis Section is recognized within the ACS as an active, innovative local section.

If you are already active in the St. Louis Section, I thank you and look forward to working with you and hearing about your activities. If you would like to become (more)

see **From the Chair**, p. 9

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Editor	Eric Ressner	314-962-6415 (H) 314-286-6600 x2199 (O) ressner@worldnet.att.net
Advertising Manager	Sue Saum	636-949-4735 SSaum@lindenwood.edu
Business Manager	Donna Friedman	314-595-4388 dfriedman@stlcc.cc.mo.us
Staff Writer	John Bornmann	636-946-5161 jbornmann@msn.com
World Wide Web		http://www.umsl.edu/~acs
Webmaven	Lisa Balbes	lisa@balbes.com

*Correspondence, letters to the Editor, etc., should be sent to
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Meeting & Seminars

Board of Directors

St. Louis Section-ACS Board of Directors meets the second Thursday of each month, usually at the Alumni Center, UM-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.

Date: January 9
Social hour: 5:30 pm
Dinner: 6:30 pm
Business meeting: 7:15 pm
Future meetings: Feb 13; Mar 13

Saint Louis University

Seminars start at 3:30 pm in Room 204 Macelwane Hall, except as noted. Refreshments follow. For more information, contact Paul Jelliss, jellissp@slu.edu.

University of Missouri-St. Louis

Refreshments at 3:45; seminars at 4 pm in 451 Benton Hall. For further information, contact Prof Keith Stine, 314-516-5346, kstine@jinx.umsl.edu

Monday, Jan 13
Dr. Bruce Fegley
Washington University
Chemistry of Volcanic Eruptions on Jupiter's Satellite Io

Monday, Jan 27
Dr. Timothy C. Steimle
Arizona State University
Zeeman and Stark Spectroscopic Studies of Transition Metal Containing Radicals

Monday, Feb 3

Dr. Michael Greenlief
University of Missouri-Columbia
Attachment of Organic Molecules at Semiconductor Interfaces

Washington University

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 Thomas P Vaid, vaid@wuchem.wustl.edu

Monday, Jan 6

Dr Xi Chen
Neose Technologies
Glycoscience: An Integration of Organic Chemistry, Biochemistry, and Biotechnology

Tuesday, Jan 7

Dr Jeffrey Bode
Tokyo Institute of Technology
TBA

Thursday, Jan 9

Dr Sergey Savinov
Penn State University
Molecular Engineering at the Interface of Chemistry and Biology: from Orbital Effects to Molecular Recognition and Catalysis

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Tuesday, Jan 14
Dr Vladimir Birman
Columbia University
*Pt I: Application of the Heck
Cyclization Methodology to
the Synthesis of Geissochizine*
*Pt II: The Total Synthesis of
(±)-Merrilactone A*

Thursday, Jan 16
Prof Robert Waymouth
Stanford University
TBA

Monday, Jan 27 (CBI Seminar)
Prof David Tirrell
California Inst. of Technology
TBA

Thursday, Jan 30
Prof James M Mayer
University of Washington
TBA

Computational Chemistry Discussion Group


Meetings are held at Tripos, Inc.,
1699 S. Hanley Road. Refreshments
at 4:30, seminar at 5 pm. For more
information, or if you would like to
speak at a future meeting, contact
Philippa Wolohan, 314-647-8837
x3201, pwolohan@tripos.com or
Mitchell Polley x3358, mpolley@tri-
pos.com

Biotechnology Discussion Group

The organizers of the Biotech Dis-
cussion Group have thrown in the
towel after two start-up meetings
early in 2002 with very low atten-
dance. Seems a shame for a region
that boasts so many biotech re-
search centers. If anyone wishes to
try to resuscitate the group, contact
Dr. Cindy Dupureur at 516-4392 or
cdup@umsl.edu.

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You've got some nerve!

by Jack Bornmann

The earliest electronic computers had vacuum tubes and other electrical parts directly connected by wires. Changes required disconnecting wires and reconnecting

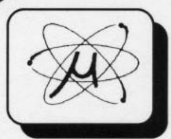
Letters & Words & More

them in another configuration. The computers were "hard-wired." Later computers had a "punch-board", a rectangle of conducting holes wired to various components. Short wires from one hole to another made many configurations possible. Changes were easy compared to using a soldering gun to disconnect and make new connections. However the punch-board

was usually a confusing mass of wires running hither and yon.

According to the central dogma of brain activity that has held sway for decades our brains are "hard-wired" into specialized areas for smell, sight, taste, etc. These areas are as restricted as hard-nosed zoning laws. Not only is the brain separated into specialized areas, but it was also taught that if a brain cell dies, it could not be replaced. Nearly every other cell in the body can reproduce itself and heal itself, but according to the dogma nerve cells cannot. This peculiarity of brain cells did not make sense but in the old days the truth of the dogma was evident by just looking at stroke victims and victims of spinal cord injuries. Their nerve cells were not getting repaired or replaced.

see **Some Nerve** p. 11



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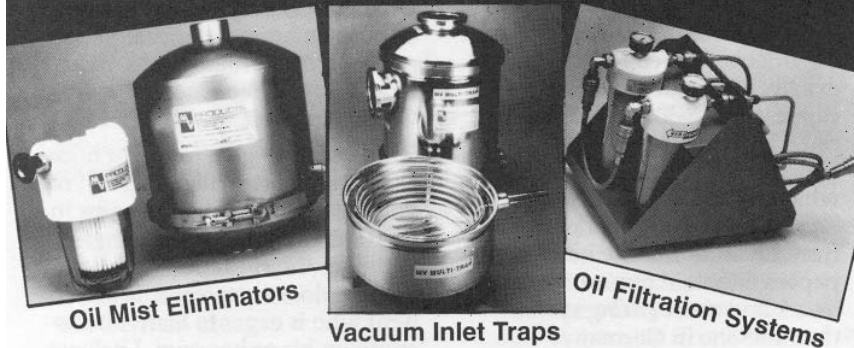
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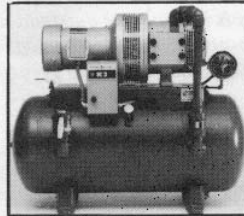


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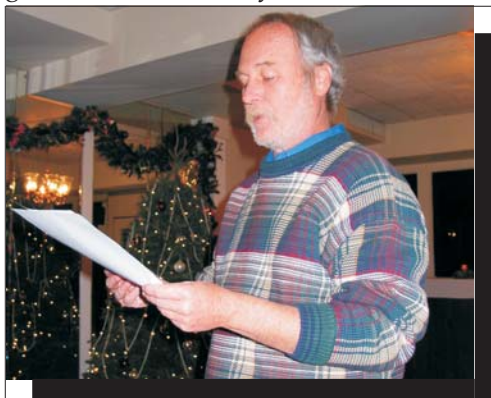
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If you missed the Continuity Dinner....

St Louis, MO, December 12 — The Continuity Dinner convened on a pleasant December evening at Spiro's East. There were 32 attendees, almost half "irregulars"—members who rarely or never before attended a local ACS meeting. Certainly a ripe fruit basket from which to pick volunteers for the upcoming year's activities.

Lisa Balbes reported that as of this night, all the offices and committee chairs had been filled for 2003. Lisa also gave the chair-elect's report for the absent Leah O'Brien (no report) and the immediate past chair's report for Sue Dudek (no report). It appeared that Lisa was guarding her reputation for running meetings with little wasted motion.

Greg Wall was the closely guarded secret "Henry Godt



Greg Wall engages the HGML audience with poesy

Memorial" Lecturer. He recapped the year's activities and accomplishments in rare style: anapestic tetrameter. It was the first time in anyone's memory that the lecture rhymed and honored a meter ... mostly. The full text is on page 12.

Donna Friedman was honored as the Distinguished Service Award winner. The award recognized long and diligent participation in



Yes, Donna was surprised by the Distinguished Service Award.

the section's activities, in tasks from glorious to thankless. Thanks, Donna.

A Salute to Excellence was awarded to Marie Sherman for her widely revered "Chemistry is Fun" outreach program. Marie has been taking her show on the road to about 25 elementary and middle schools a year for the past 15 years. In addition, Marie is a peer reviewer for the *Journal of Chemical Education*, has spoken at state and national teaching conferences, and has won awards for teaching excellence at local, state, and national levels. How she finds time for all this around her teaching duties at Ursuline Academy is anyone's guess.

Several members of Marie's family were in attendance for the award bestowal. Marie recognized them for their forbearance through the years, even though they often wondered, "Is it a chemistry demonstration or is it dinner?"

Our dinner was excellent, and dessert, provided by Samir

El-Antably, was a special capstone to a delightful gathering.



Marie Sherman clutches her Salute to Excellence

From the Chair

from page 2

active, please look through the *Bond* and at the web pages (www.umsl.edu/~acs) describing our activities and events, and join us! If you have ideas or know of opportunities and resources that are available, please feel free to contact me or any one of the coordinators listed on the web pages.

I hope you all will join me in a great big THANK YOU to Lisa Balbes for her hard work and dedication as the 2002 section chair—great job, Lisa! Thanks in advance for your future support and a sincere wish to you all for a Happy New Year.

Leah O'Brien
lobrien@siue.edu
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Project SEED offers high school students exciting summer research opportunities in academic, industrial, and government research laboratories. It allows high school students to expand their career outlook and provides opportunities for students who historically lack exposure to scientific careers.

The Summer I program provides first-time participants (rising juniors or seniors) a fellowship award of \$1,750. The Summer II program provides an additional summer scientific research experience for prior year Summer I participants. These students will receive a fellowship award of \$2,000. Because of limited funds, preference is given to applicants with matching funds from national, state or local sources.

Each student performs scientific research in chemistry or a related field under the direct supervision of a scientist-mentor. Participants must be enrolled in high school or be recent high school graduates and must have taken one year of high school chemistry.

Although the mentors receive no financial reward from the ACS, chemists and chemistry departments who have participated have found Project SEED a positive experience. It is a rewarding opportunity for community service and a chance to guide a young, enthusiastic mind toward a possible scientific career.

Bond Briefs

*Get job listings ...
free delivery*

Our Career Resources services now include an email list for job seekers.

We occasionally get job descriptions from employers and recruiters in the St Louis area who have positions to fill. Anyone who would be interested in hearing about these openings can drop Lisa Balbes an email (lisa@balbes.com) and ask to be put on the chemistry jobs list. And stay tuned for information on a career development workshop series planned for early next year....

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Some Nerve

from page 6


That idea is changing. You might say that we are teaching old dog-mas new tricks. Researchers have shown that extra use of a portion of a human brain can make it bigger.

In one significant study, the brains of violinists were compared to those of non-violinists. The four fingers of the left hand of a violinist get the most use. The thumb of the left hand merely supports the neck of the violin. The right hand is used to move the bow. Thus the right hand is important for drawing out the tone quality (the soul of the violin) but is used much less than the fingers of the left hand. A study of the brains of violinists and non-violinists showed no differences in the area of the brain controlling the fingers of the right hand. However there were significant differences in the area controlling the fingers of the left hand. That area of violinists' brains was much larger.

Most professional violinists start playing when they are children, when the brain is pliable and maturing. However even people who took up the violin as adults had an increase in brain size.



In another experiment, brain scans were taken of two groups: one was given finger exercises on the piano while the other was told to imagine they were doing the same exercises but without a piano and without physically moving their fingers. The area of the brain controlling finger movement was enlarged in both groups. In other words the brain can be used to change itself! By thinking about doing something, the brain prepares itself to do it.

With new scanning techniques and the application of chemistry and the other sciences to the study of the brain, we are on the verge of a new era, The Age of the Brain.





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95 and Still Alive

by Greg Wall

The full text of the Henry Godt Memorial Lecture follows:

Year 2002 has come and soon to pass,
lately they all seem to fly by so fast.
We end this year on a cheery note
because our section is still afloat.

Lisa Balbes has been at the helm this year,
charting our course, knowing no fear.
Like those before her and those to come,
she picked up the gavel and the legacy lives on.

For our Section turned 95 this year
and it is time for a toast and good cheer.
What did we do that made it so great?
Listen closely so I can relate.

With topical groups that meet fairly often,
they kept us updated; they gave us the scoop.
They were the Mass Spec, NMR,
Comp Chem, and Educational Topical Group.

Public outreach is something we like to do,
to get chemistry out for the public to view.
Like the Career Awareness Fair,
Kids & Chemistry and National Chemistry Week,
there's the Minority Scientist Showcase to celebrate,
the contributions that these fellow scientists make.
But let's not forget those who helped us grow,
for it is on Recognition Night we remember their role.

Five more members joined the 50-year club,
while we honored Pauline Bellavance for her service,
Ray Mount for his distinguished service,
and a Salute to Excellence to Dr. Bill Knowles,

Sue Dudek gave her past-chair report
bringing her term to a close.
To grow, we add to our ranks,
we work with young chemists and give them our thanks,

we hold High School Chemistry Contest
and a Chemistry Olympiad,
we held an undergraduate symposium
and a Chemistry Career Day,
and the Marcus Award has been a mainstay.

We pay homage during Chemical Progress Week,
to those who have left a mark, who are at their peak.
The St Louis Award went to Scott Gilbertson this year
for his contributions to organic chemistry we say, "Hear, hear."

But we impact others with our reach
by sponsoring the Flinn Workshop for those who teach.
This year was special, we turned 95.
We invited Dr. Bader, he decided to drive.

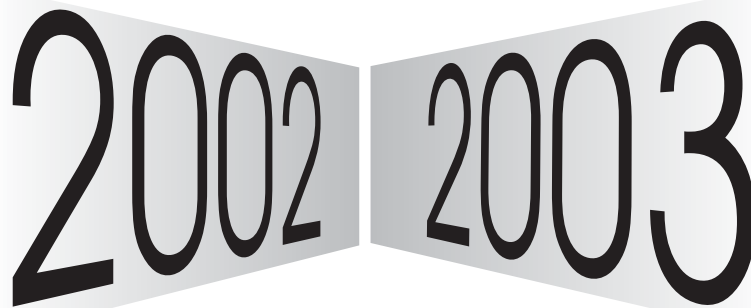
He presented three lectures but wanted to do more,
I passed out buttons and programs at the door.
The Midwest Award is in its 58th year,
Mike Gross was honored,
for his work with Mass Spec is much revered.

We held a general meeting for those who could come,
with special guest Attila Pavlath (he's Hungarian).
With a Salute to Excellence and a job well done,
we honored Marie Sherman for making chemistry fun.

Our Section has been busy, we work very hard,
and we even took time to get an award.
For addressing the ACS strategic thrust
with activities and programs galore,
we ranked the highest, we got top score.

There are many more things that we have done
and many more yet to come.
It would just be a dream that didn't come true,
if it weren't for members just like you.

Thank you all for a great 2002.



2002 2003

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