



Chemical Bond

Volume 54
Number 2
February, 2003

St. Louis Section, American Chemical Society



*Can Spring
be Far Behind?*

Officers 2003

Here is an abbreviated list of section officers and major committee chairs for 2003. If you are interested in getting involved in the activities of the section, get in touch with any of the officers, or a specific committee chair if you have a specific activity you are interested in. More detailed information on members active in the section can be found on our website, www.umsl.edu/~acs.

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Volume 54

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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.

If you want to attend for dinner, please contact Lean O'Brien (lobrien@siue.edu or 618-650-3562) at least a week prior to the meeting date. The usual cost of the dinner is \$15. Members wishing to become active in section activities are welcomed for their first dinner as guests of the section.

Date: February 13
Social hour: 5:30 pm
Dinner: 6:30 pm
Business meeting: 7:15 pm
Future meetings: Mar 13, Apr 10

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.

Friday, Feb 7

Alexei Demchenko

University of Missouri-St Louis
*New Methods and Strategies
for the Synthesis of Ambiguous
1,2-cis-Glycosides*

Tuesday, Feb 24

Tom Bitterwolf

University of Idaho
*Chemistry and Photochemistry
of Iron Sulfur Tetrahedranes*

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, Feb 3

Dr. Michael Greenlief

University of Missouri-Columbia
*Attachment of Organic Molecules
at Semiconductor Interfaces*

Monday, Feb 10

Dr. Amy Walker

Washington University
*Controlling metallic contacts
to self-assembled monolayers
and molecular electronic devices*

Monday, Feb 17

Dr Thomas A. Holme

Univ of Wisconsin-Milwaukee
*Computer Use And Chemistry Stu-
dent Learning*

Monday, Feb 24

Dr Thomas E. Bitterwolf

University of Idaho
*Chemistry and Photochemistry
of Iron Sulfur Tetrahedranes*

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.

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Thursday, Jan 30
Prof. James M. Mayer
University of Washington
*Hydrogen atom transfer reactions
involving metal complexes:
From organic radical chemistry
to Marcus theory*

Tuesday, Feb 11
Prof. Katherine L. Seley
Georgia Institute of Technology
TBA

Thursday, Feb 13
Prof. Peter C.M. van Zijl
Johns Hopkins University
Medical School
TBA

Tuesday, Feb. 18
Marcus Lecture
Prof. Gregory C. Fu
Massachusetts Inst of Technology
TBA

Thursday, Feb 20
Prof. James R. Norris, Jr
University of Chicago
*Determining Redox Heterogeneity
of Molecular Wires*

Monday, Feb. 24
CBI Seminar (reception following)
Prof. Marvin H. Caruthers
Univeristy of Colorado-Boulder
TBA

Thursday, Feb. 27
Madeleine Jacobs
Editor-in-chief, C&E News
*The Challenges of Editing the
Newsmagazine of the Chemical World*

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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Small threats

by Jack Bornmann

Recently I read about some research in which hypnosis was used along with regular anesthesia during dental procedures. When hypnosis was used, the dental patient needed less anesthesia. This is a case of trance in dental medication.

Letters & More

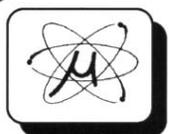
We humans are lucky. We are the only species, or one of the few, that can live to an old age and simply die without being eaten. For other creatures, the rule of the jungle applies: those who are weak because of sickness, injury or old age are taken down by a predator and consumed.

Consider the King of the Jungle, the male lion. If he is lucky

enough, he takes over a pride of female lions. In return for his sexual favors the lionesses provide him with food. The females are the hunters and when they make a kill, he comes roaring up and they step back to allow him to feed first. When he is finished, then they eat. After several years of driving away any male intruders, he loses a battle and he is driven away instead. But he has gotten fat and lazy and cannot hunt on his own. No pride will take him in and no group of young males wants him around. The once proud and mighty lion weakens and is taken down by a predator such as a hyena.

If we humans survive to old age we start with a cane, go to a walker, then to a wheel chair, and finally to bed. When we slip away into oblivion, predators do not eat us.

We do not need to be concerned about the big predators. It is the little ones that should worry us. Lit-



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tle one-celled creatures can do us in by attacking from within. One flesh-eating bacterium seems to be able to dissolve the cell walls within our flesh and feast on the cytoplasm that spills out.

These little bacteria are becoming more and more fearsome. The medicines we once used to poison them now often have no effect. The pneumococcus bacteria have developed a resistance to almost all antibiotics. Remember those kindly old physicians in the movies who made house calls and sat up all night with the very sick patient? They came down the next morning to say, "The crisis has passed. She will recover." Her body successfully fought off the bacterial attack. In the near future when antibiotics no longer work, we may go back to simply sitting and waiting for the body's natural defense mechanism to bring about the cure (or not).

In the 1930s and '40s there was an infectious agent which ran through the filters that catch bacteria. Injection of the filtrate into a mouse produced the infection. It wasn't until we had electron microscopes that we finally saw the invisible critter, a virus. The virus was different from a bacterial cell. They both have genetic material (nucleic acid), but the virus lacks a cell membrane and the organelles

necessary to carry on the basic functions of life, metabolism and reproduction. It is just DNA or RNA bundled in a protein coat.

Just recently a new infectious agent has been discovered, a prion. It seems to be simply protein with no cytoplasm or nuclear (DNA) material. Prions are the causative agents in mad cow disease, scrapie in sheep, and Creutzfeld-Jacob disease in humans.

The infecting germs, viruses and prions are frequently species-specific, and modifications must be made to infect another species. Recently I read about a virus that attacks a specific bacterium and only that bacterium. We may be on the verge of a brand new type of antibiotic. Suppose we developed a virus that attacks the drug-resistant pneumococcus. The species-specific virus would attack only the pneumococcus and not the human host.

If we are successful at that level, we might try to find a species-specific prion that will attack a certain virus. For example, we might kill the AIDS virus using a special prion.

We have managed to protect human kind from the big predators. The future may bring protection from the teeny-tiny predators as well.

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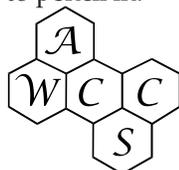
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Bond Briefs

Plan ahead—way ahead

It's not too soon to clear your calendars for the upcoming events in and around Chemical Progress Week. A full schedule of events will appear in next month's *Bond*, but here are two early announcements to pencil in.



Plan to attend the 7th Annual **Women Chemists Luncheon**, on Sunday, April 13, 12 noon at the St

Louis Science Center.

The speaker will be Madeleine Jacobs, editor-in-chief of *Chemical & Engineering News*. Her talk will be entitled *Lessons Learned from a Lifetime of Communicating Chemistry*.

Reservations requested by April 10 to:

Leah O'Brien
phone 618-650-3562
email lobrien@siue.edu

The cost is \$12. All are welcome.



Recognition Night festivities on March 29 will honor new 50-year members

and mark the presentation of the Distinguished Service Award to Donna Friedman. Lisa Balbes will be recognized for her service as chair last year and will give the Past Chair's address.

Always an affair to remember ... this year again at Glen Echo Country Club, 3401 Lucas and Hunt Road. For reservations, contact:

Samir El-Antably
P.O. Box 50168
St Louis MO 63105
314-644-5522

Make your reservations before March 27. Mail check for \$20 per person, payable to St Louis Section-ACS.



The undergraduate research symposium will be held on Saturday, April 26th,

1:00-4:00 pm, in McDonnell Douglas Hall, Saint Louis University campus. Parking will be available at the Olive-Compton garage. For more details or directions, contact:

Alexa Serfis
314-977-2842
barnoski@slu.edu

ToY Announced

The winner of the St Louis High School Chemistry Teacher of the Year was announced at the January board meeting. She is Jeanette Hencken of Webster Groves High School. Ms Hencken automatically becomes eligible for regional ToY.

Congratulations to the winner and to all the chemistry students at Webster Groves High.

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Budget grabs spotlight at board meeting

The section budget was the traditional hot topic at the January board meeting. Treasurer Bruce Ritts presented a summary of the end-of-year financial picture and then led the discussion of the proposed 2003 budget.

The 2002 picture showed almost exactly balanced income and expenses (actually a 3.43% deficit), a far brighter picture than the budgeted numbers, which showed spending more than twice revenue.

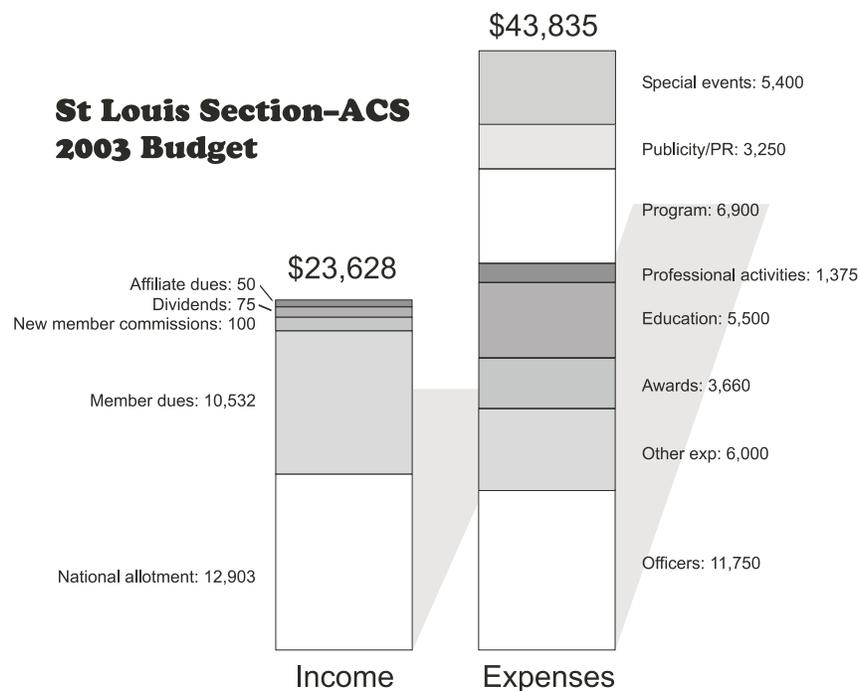
This is the usual situation (compare 2002 budget vs. actual numbers). Activities are budgeted and not completed or completed under budget. Some of the largest line items, involving officer and councilor travel, are often reduced by employers' funding of attendance at national meetings. But the funds

must be budgeted for proposed activities and travel nevertheless.

The proposed budget for 2003 is similar, though the Steering Committee has tried to rein in some of the obviously inflated items. In the process, they managed to trim almost \$4,000 from the prior year proposal.

There was again discussion about the irresponsibility of "planning" to spend twice what we take in, but the majority in attendance pragmatically accepted that this is the way our section works. Ultimately, the total budget was passed unanimously.

In the interest of space, expense items shown below and at right are rolled up to committee level. Endowed award accounts (St Louis Award, Midwest Award, and Marcus Award) are not included.



	2002 Budget	2002 Actual	2003 Budget
Income			
Affiliate dues	50	86	50
Dividends	300	79	75
New member commissions	100	75	100
Member dues	10,500	10,632	10,500
National allotment	12,669	12,629	12,903
Total income	23,619	23,501	23,628
Expenses			
Officers	11,750	4,465	11,750
Other (board mtg, councilors)	6,000	3,629	6,000
Awards	3,640	2,854	3,660
Education	6,300	3,336	5,500
Professional activities	1,625	716	1,375
Program	8,350	2,582	6,900
Publicity and public relations	4,160	2,555	3,250
Special events	5,700	4,169	5,400
Total expenses	47,525	24,306	43,835

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