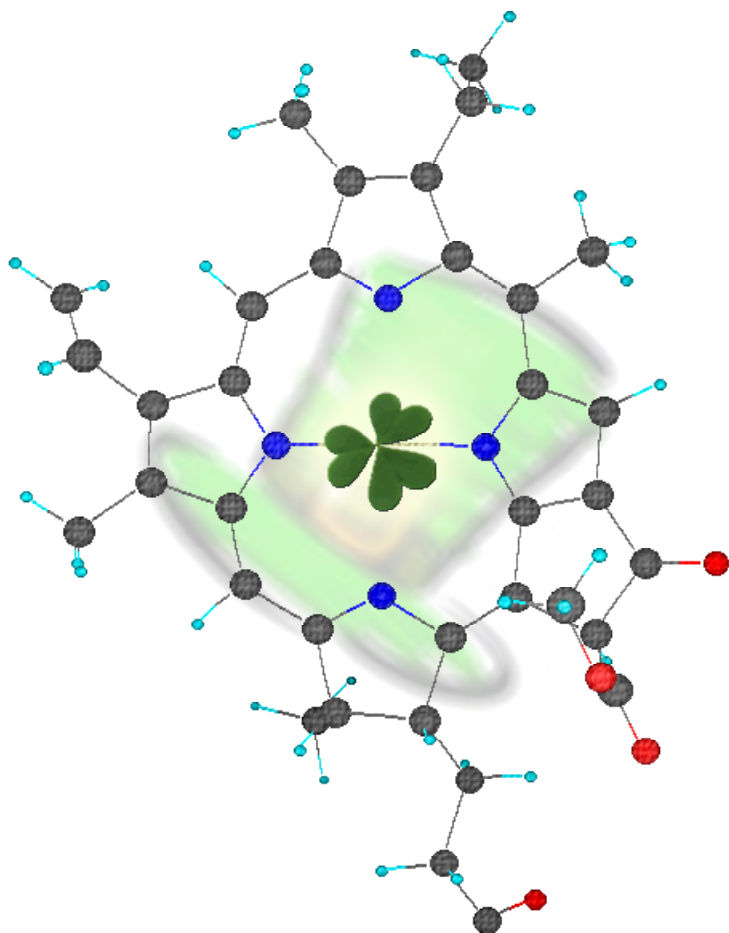




# Chemical Bond

Volume 54  
Number 3  
March, 2002

**St. Louis Section, American Chemical Society**



## January Board Meeting Clears Old Business and New

On a mild January night, the Board of Directors met to take care of some unfinished business. The ceremonial passing of the gavel, uncompleted at the Continuity Dinner in December, was handed off by outgoing Chair Sue Dudek to incoming Chair Lisa Balbes.

The fallout from newly elected treasurer Pauline Bellavance's move to South Carolina necessitated several changes in the governance structure. Bruce Ritts was appointed to serve Pauline's term as Treasurer. Mike Shaw fills in for Bruce as Director, and Sadiq Shah takes a seat on the Investment Committee.

Hal Harris announced that St Louis will host a Flinn Workshop for high school chemistry teachers beginning July 26, 2002. Sigma and UMSL are cosponsors.

Finally, the main business of every January board meeting: the section budget. There was little discussion except for comments about the alarming "deficit" nature of the balance sheet. This is the way the budget looks every year, but as can be seen from 2001, the final income and expenses are nearly balanced.

The expense numbers are consolidations to the Committee level in the interest of space. The General Fund budget does not include income and expenses for endowed awards (the Midwest Award, the St Louis Award, and the Marcus Award).

	2001 Budget	2001 Actual	2002 Budget
<b>Income</b>			
Affiliate dues	50.00	1.00	50.00
Dividends	700.00	273.16	300.00
Member dues	10,500.00	10,601.49	10,500.00
National ACS allotment	12,135.00	12,135.00	12,669.00
New members	100.00	30.00	100.00
<b>Total income</b>	<b>23,485.00</b>	<b>23,040.65</b>	<b>23,619.00</b>
<b>Expenses</b>			
Officers	12,000.00	4,808.07	11,750.00
Other exp (board meetings, councilor travel)	6,000.00	3,355.63	6,000.00
Awards Committee	3,300.00	2,133.39	3,640.00
Education Committee	6,350.00	5,377.74	6,300.00
Professional Activities	3,225.00	651.50	1,825.00
Program Committee	8,475.00	3,435.18	8,150.00
Publicity and Public Relations	4,285.00	3,133.68	4,160.00
Special Events	6,200.00	3,095.24	5,700.00
<b>Total expenses</b>	<b>49,835.00</b>	<b>25,990.43</b>	<b>47,525.00</b>

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# Meeting & Seminars

## Board of Directors

St. Louis Section—ACS Board of Directors meets the second Thursday of each month at the Alumni Center, University of Missouri—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. For more information or to make a reservation for dinner, call the Section Chair, Lisa Balbes, at 314-966-5298.

**Date:** Mar 14

**Social hour:** 5:30 pm

**Dinner:** 6:30 pm

**Business meeting:** 7:15 pm

**Future meetings:** Apr 11, May 9

## Saint Louis University

Seminars start at 3:30 pm in Room 204 Macelwane Hall. Coffee and doughnuts before the seminar; refreshments after in Room 115 Monsanto Hall. For more information, contact Dana Spence, spenced@slu.edu or call 314-977-2836.

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## University of Missouri— St. Louis

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

Monday, Mar 11

**Andy LiWang**

TBA

Monday, Mar 18

**J. Fraser Stoddart**

TBA

Monday, Apr 1

**Peter H. Seeberger**

TBA

Monday, Apr 8

**W. Dean Harman**

TBA

## Washington University

Seminars are in McMillen 311 at 4 pm unless otherwise noted. Coffee is available outside the seminar room 20 minutes prior to the talk, and refreshments follow. For up-to-date information, check [wunmr.wustl.edu/Events/seminars.html](http://wunmr.wustl.edu/Events/seminars.html)

Thursday, Mar 7

**Prof. Neil Kelleher**

Univ. of Illinois—Champaign/Urbana

TBA

Thursday, Mar 14

**Prof. Ralf Warmuth**

Kansas State University

TBA

Monday, Mar 18

CBI Seminar

**Prof. Eric T. Kool**

Stanford University

Mimicking Structures and Functions in  
DNA Replication and Repair

Thursday, Mar 21

**Prof. Jef de Brabander**

Univ. of Texas–Southwestern

TBA

Thursday, Mar 28

**Prof. David Sherman**

University of Minnesota

The Chemical Biology of Combinatorial  
Biosynthesis

Tuesday, Apr 2

**Prof. Stanley J. Opella**

Univ. of California–San Diego

TBA

Thursday, Apr 4

**Prof. Christopher Sotak**

Worcester Polytechnic Institute

TBA

### ***Computational Chemistry Discussion Group***

Meetings kick off again this month at  
Tripos, Inc., 1699 South Hanley Road.  
Parking is available in the rear of the  
building. Refreshments at 5:30, seminar  
at 6 pm. For more information, or if you  
would like to make a presentation at a  
future meeting, contact Philippa  
Wolohan, 314-647-1099,  
pwolohan@tripos.com

Tuesday, March 19th

**Charles Jeffreys**

University of Missouri–St Louis

Thermodynamics and Molecular  
Dynamics Simulations Involving Poly-  
mer–Small Molecule Interactions

### ***NMR Discussion Group***

All seminars are in 241 Compton,  
Washington University. For more info,  
call Mark Conradi at 935-6418 or 935-  
6292. Seminars are followed by an  
informal discussion over beer, soda, and  
chips.

### ***Biochem/Biotech Discus- sion Group***

A new discussion group for St Louis.  
This group is tentatively called the  
Biochemistry and Biotechnology  
Discussion Group, but the specific areas  
will be decided by the interests of the  
members. The presentation will be  
preceded by an informal get-together  
with snacks, soft drinks and if desired,  
pizza, sandwiches etc. This is an  
opportunity to meet your colleagues,  
hear state-of-the-art research and  
network. All members of the ACS are  
welcome.

Tuesday, March 26

Organizational Meeting ... plus ...

**Dr. Cindy Dupureur**

Univ. Missouri–St. Louis

Restriction Enzyme Structure and  
Function

If you need directions and/or parking  
ideas, contact Cindy Dupureur at 516-  
4392 or cdup@umsl.edu. If you can't  
make the meeting but are interested in  
the group, please contact Gerry  
Moskowitz at splmosk3@msn.com or  
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by Jack Bornmann

## Round-tripping to Riches

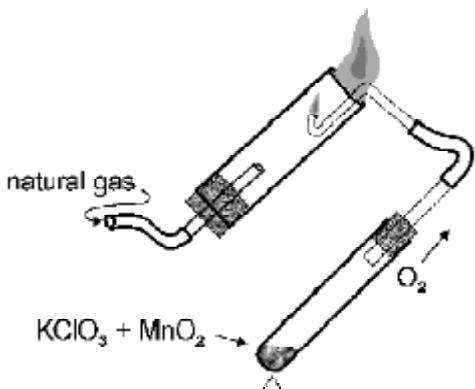
It depends on how you look at it! A lot can be learned just by looking at something from a different viewpoint or even the opposite viewpoint.

When two chemical substances burn, which is the fuel and which supports combustion? We were taught many years ago that air (actually oxygen) supports combustion and therefore the other stuff is the fuel. It all seemed obvious; just look at the pilot light in the water heater and you will see a flame sitting on the end of the tube carrying the natural gas. The fat part of the flame is at the tube tip where the gas is and the flame tapers off at the top where the gas isn't. It is pretty clear that the gas is burning. Thus the gas must be the fuel. Right?

When I was in high school I set up a demonstration for the chemistry class. I found a piece of glass tubing with a large diameter. To one end of the glass tube I fitted a cork with a small glass tube through it. In this way I could introduce natural gas into the fat glass tube. I wrapped the large glass tube with wide mesh screening in case of an explosion. I connected the natural gas to the small glass tube, turned on the gas

and lit the open end of the large glass tube. I got a flame just like you would have expected.

Next I set up the standard (in those days) method of obtaining oxygen, i.e., heating potassium chlorate with manganese dioxide catalyst in a test tube. By gently heating the tilted test tube I was able to generate a steady flow of oxygen.



Two flames: natural gas burning in air and oxygen burning in natural gas. Don't try this at home or anywhere else for that matter. The original demonstration was done in a kinder and definitely less safety-obsessed time.

With natural gas flowing nicely and burning at the open end of the large glass tube and with oxygen flowing through a tubing system, I inserted the oxygen tube through the flame and into the chamber filled with natural gas. A flame appeared at the end of the oxygen tube. The flame was fattest where the oxygen was and thinnest where the oxygen wasn't. It certainly looked like oxygen was the fuel and natural gas was supporting combustion.


That demonstration was done about 55 years ago. In recent years I learned that Saturn's largest moon, Titan, has an atmosphere of methane. On Titan, our air would burn as a fuel in their atmosphere.

Here is the great idea. I'm going to send "empty" space tankers from Earth to Titan. When the space ship arrives, I'll unload its cargo of air for a significant price. The now empty tanker will return to earth, where its methane cargo will again be un-

loaded for a healthy price. Just think of it: free cargo both ways, no export taxes either way.

It depends on how you look at it.

Editor's note: for a different view of energy "generated" by round-tripping, see Isaac Asimov's brilliant *The Gods Themselves*, one hard science fiction novel with enough imagination for three by any other author.




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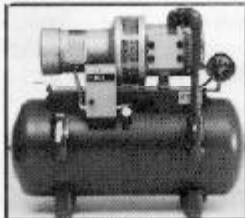
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## Bond Briefs

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### Judge at a Science Fair

Science Fair season is again upon us, and judges are needed for many local fairs. Our section gives special awards to secondary level students with chemistry-related projects, while elementary students all receive ribbons. Judging one event takes only about two hours and is a great way to help our local schools.

And this year the judging times are (envelope, please):

#### **St. Charles/Lincoln County Regional Science Fair**

Monday, March 11th, 6:00 p.m.  
at St. Charles Community College

#### **Illinois Jr. Academy of Science**

Region 12 Science Fair  
Saturday, March 23rd, 9:30 a.m.  
at SIU-Edwardsville

#### **Greater St. Louis Science Fair**

Friday, April 12th, 6:00 p.m.  
at Greensfelder Pavilion, Queeny Park

Interested in judging? Contact Pat Burrell-Standley:  
phone: (636) 537-8745  
e-mail: standley@mvp.net

### Legislative Action Network (LAN)

Did you know that ACS has a grassroots advocacy program through which members are alerted to important legislation regarding science issues? In 2001, six Action Alerts were sent to members of the program regarding K-12 science education, an R&D component of the Energy bill, funding for NSF, basic research funding, and appropriations for DOE.

Participating members receive a detailed description of the proposed legislation and pointers on sending their own opinions on the matter to their congress-

sional representatives. Congressional offices report that timely mail from constituents is always read and factors into debates on pending issues.

If you want to become a LAN participant, go to [www.chemistry.org](http://www.chemistry.org), click on policy makers, and sign up. At the very least you'll become better informed, and you might just make a difference.

### Midwest Award Call for Nominations

The ACS Midwest Award was established in 1944 to recognize outstanding achievement in chemistry in the midwest region. The award is conferred annually by the St. Louis section on a scientist who has made meritorious contributions to pure or applied chemistry, chemical education, and the chemistry profession.

To be eligible, a nominee must have performed the cited work while residing within the Midwest region of the ACS. The nominee does not have to be an ACS member and does not have to reside currently within the region.

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. Please submit nine copies of all nomination material to:  
Leah O'Brien, Chair  
Midwest Award Committee  
Department of Chemistry  
So. Illinois Univ.-Edwardsville  
Edwardsville, IL 62026-1652

Nominations must be received on or before the deadline of March 31, 2002. The 57th Midwest Award will be

presented at the 37th Midwest Regional Meeting in October. The ceremonies will feature the Midwest Award Lecture, a dinner honoring the medalist, and the presentation of the Award (medallion and honorarium). Contact Leah O'Brien at 618-650-3562 or lobrien@siue.edu.

### **Marcus Award Competition Slated at SLU**

The 2002 Leopold Marcus Award competition will be held Wednesday, April 3 at 4:00 p.m. in Lee Hall (Lecture Hall 1) on the campus of Saint Louis University.

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 competition consists of presentations based on the undergraduate research projects of senior chemistry majors at Saint Louis University. Each candidate, chosen by the faculty, will make a 15-minute presentation. The winner is determined by vote of the professional chemists in the audience. All ACS members are invited to attend. Refreshments will be available after the competition. For further information, contact Bruce Kowert at (314) 977-2837 or kowertba@slu.edu.

### **Women Chemists Host Luncheon**

The 6th Annual Women Chemists Luncheon is set for Sunday, April 14, 2002, 12 noon at the St. Louis Art Museum Restaurant.

The guest speaker is Dr. Catherine Didion, Executive Director of the Association for Women in Science.

Reservations are requested by April 10th.

Please contact Leah O'Brien at 618-650-3562 or lobrien@siue.edu. The cost of the event is \$12.

### **High School Chemistry Teaching Award**

The 2001-2002 St. Louis Section High School Chemistry Teaching Award will be presented to Marilyn Jean Ackerman. Dr. Ackerman is currently the chair of the Science Department at Mary Institute and Country Day. Until recently she also chaired the high school chemistry teachers' topics group. Dr. Ackerman is also the St. Louis Section nominee for the 2003 Regional Award in High School Chemistry Teaching.

### **Did we abandon you? How could you think it?**

If your Chemical Bond arrived really late in January and February — or if it didn't arrive at all — you may have begun thinking your local section had dropped you like a bad habit. Nothing could be more unlikely.

Two misfortunes rang in the new year, though. Most of the M's, N's, and O's and about half of the P's were inadvertently omitted from our mail list file by national ACS. And there were some ... uh, discontinuities ... in generating mailing labels from the electronic list.

The mail list file has been repaired. We have procedures to QC future lists for significant omissions. And we have a new bulk mail processing service after many, mostly successful years with the former vendor.

We do apologize for any issues missing in action. We can't offer to replace them because we just don't have many extras. But as always, you can catch up by visiting the section's website, [www.umsl.edu/~acs](http://www.umsl.edu/~acs).

## Chemical Progress Week, April 14–20

### Preliminary Schedule of Events

Sunday April 14	<p><b>Women Chemists Luncheon</b>            Speaker: <b>Dr. Catherine Didion</b>, Exec. Director, Association for Women in Science            St Louis Art Museum Restaurant, Forest Park, 12 noon            Contact: Leah O'Brien (lobrien@slue.edu or 618-650-3562)</p>
Monday April 15	<p><b>Awards Night</b>            Honors winners of the High School Chemistry Contest, College Awards, the Leopold Marcus Award, the High School Teaching Award, Technician of the Year award and outstanding students at area colleges and universities            Radisson Hotel, 7750 Carondelet, Clayton            5:30 pm social hour, 6:30 dinner, 7:15 program            Speaker: TBA            Cost: \$18, contact Samir El-Antably (314-664-5522 or samire1938@earthlink.net)</p>
Tuesday April 16	<p><b>ADACTOM Luncheon</b>            Sheraton Clayton Hotel, 7730 Bonhomme, Clayton, 11:30 am            Speaker: <b>Jack Daley</b> of Daley International            Cost: \$35 advance, \$40 at the door, contact Cathy Murphy            (cmurphy@berlinpackaging.com)</p>
Wednesday April 17	<p><b>Chemistry Career Day</b>            15 minute talks by speakers representing different areas of chemical employment and education. Tours of the UM–St. Louis chemistry facilities            451 Benton Hall, UM–St. Louis, 9-11:30 am            Contact the UM–St. Louis Chemistry Dept for more information 314-516-5311.</p>
Friday April 19	<p><b>St Louis Award Symposium</b>            Awardee, Location and Contact: TBA            Check the section website for up-to-the-minute details, <a href="http://www.umsl.edu/~acs">www.umsl.edu/~acs</a></p>
Saturday April 20	<p><b>St Louis Award Banquet</b>            Kemol's Restaurant, 1 Metropolitan Square, St Louis            6 pm cocktails (open bar), 7:00 banquet, 8:00 program            Cost \$25, contact Samir El-Antably (314-664-5522 or samire1938@earthlink.net)</p>

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