



Chemical Bond

Volume 58
Number 3
March 2007

St. Louis Section, American Chemical Society

*Congratulations to:
Sandy Burkhard-Canellas
the 2007 High School Chemistry
Teacher of the Year*



It is disconcerting to reflect on the number of students we have flunked in chemistry for not knowing what we later found to be untrue.

- quoted in Robert L. Weber,
Science With a Smile (1992)



SOUTHERN ILLINOIS UNIVERSITY
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The Department of Chemistry and the Chemistry Club
announce the **31st Annual William J. Probst
Memorial Lecture**

Manya: A Living History of Marie Curie

Monday, March 19, 2007

7:30 pm, Meridian Ballroom, Morris University Center

Performance by
Ms. Susan Marie Frontczak, Storysmith

This program honors a preeminent woman of science: Madame Curie was the first European woman to earn a doctorate in the sciences; the first woman to receive a Nobel Prize; the first woman to teach at the Sorbonne; and the first person to receive a second Nobel Prize (a feat not to be repeated for another 50 years). Audience witnesses the origins of scientific discoveries we now take for granted. They re-live the remarkable collaboration between husband and wife, Pierre and Marie, companion scientists.



Funded in part by: Sigma-Aldrich Corporation, Women Chemists Committee, St. Louis Section ACS, SIUE Office of the Provost, College of Arts & Sciences, Graduate School, Department of Chemistry and Chemistry Club. Funded in whole or in part by Student Activities Fees


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In this issue . . .

4	Meetings & Seminars
6	A Look Back
7	Section Goes Center Stage
7	Women Chemists Spring Event
8	2007 High School Chemistry Teacher of the Year
10	Chemical Progress Week Schedule
11	Talking to Our Legislators
13	Science Fair: Call for Judges
14	Recognition Night: Reservation Form
15	Chemical Progress Week: Reservation Form

Meeting & Seminars

Board of Directors

St. Louis Section—ACS Board of Directors meets on the second Thursday of each month, 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 have the right to vote; others in attendance have voice but no vote. If you want to attend the dinner, please contact Steve Kinsley (kinsley@wuchem.wustl.edu) at least one week prior to the meeting date. The cost of dinner is \$20. Members wishing to become active in section activities are welcomed to their first dinner for free, compliments of the section.

Date: March 8

Social hour: 5:30 pm

Dinner: 6:30 pm

Business Meeting will start during dinner.

Future meetings:

April 12, May 10

University of Missouri- St. Louis

Seminars are held on Mondays at 4:00 pm in Room 451 Benton Hall.

March 12

Location: 104 Stadler Hall
Robert W. Murray Lecturer,
Chad Mirkin

Northwestern University
Nanoparticles in Diagnostics and Therapeutics

March 19

Charles C. Chusuei
University of Missouri-Rolla
Probing Pt Nanoparticle Binding on Carbon Nanotube Fuel Cell Catalyst Surfaces

FRIDAY, March 23

Chris Orvig
University of British Columbia
Carbohydrate Conjugates in Medicinal Inorganic Chemistry

March 26

Spring Break - No Seminar

April 2

Milton R. Smith
Michigan State University
Iridium Catalyzed Borylations of C-H Bonds: Evolution of an Intriguing Observation into an Efficient and Selective Synthetic Method

April 9

Gregory L. Côté
U.S.D.A.
Prebiotic Research at U.S.D.A.

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Position Available: Full-Time Lecturer

A position is available in the Department of Chemistry at Washington University in St. Louis for a permanent, full-time, non-tenure track lecturer to participate in the instruction in the General Chemistry lecture courses and to play an integral role in curriculum development. The successful candidate must have a Ph.D. in chemistry, preferably with a specialization in physical, physical-inorganic, or physical-organic chemistry. The successful candidate should also have postdoctoral experience in instruction or research, and a past record of accomplishment in teaching either as a graduate-teaching assistant or preferably as an instructor of chemistry-lecture courses at the college level. Further details about the position are available on the Department web site: www.chemistry.wustl.edu. Send a *curriculum vitae*, a statement of career goals, and the names of three references who can provide recommendations concerning teaching skills by April 15, 2007 to:

Chemistry Lecturer Search Committee

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Department of Chemistry

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A Look Back...by Steve Kinsley



The St. Louis Section of the American Chemical Society held its first meeting in 1907. We share our birth year with many other fine organizations. The Illinois Academy of Science, Montessori Schools, and the Chemical Abstract Service were all founded in 1907.

On January 1st, 1907, President Theodore Roosevelt shook hands with a record 8513 people. Roosevelt had been elected by male voters only. In 1907, Finland became the first European Country to grant voting rights to women; this would not happen in the United States until 1920. In March, the United States Marines invaded Honduras after revolutionaries threatened Americans living there. In November, Oklahoma was admitted as the 46th state. In December of that year, the Great White Fleet sailed from Hampton Roads to begin an around the world tour. The British “super liners” Mauritania and the Lusitania both had their maiden voyage in 1907. In response to these fast liners, the White Star Line began the plans for three new liners, with the emphasis of luxury over speed. The second of the three was the Titanic. On April 17th, the Ellis Island immigration center in New York Harbor processed a record 11,747 immigrants, part of a record 1,004,756 for the year. Between 1820 and 1970, the year 1907 saw the largest number of immigrants to the U.S., 1,285,349.

St. Louis was the fourth largest city in the United States, with a 1900 census population of over half a million people. Then as now, the weather was unpredictable. March of that year ranks as the fifth warmest March ever, but April was the coldest April on record. St. Louisans had yet to see their first airplane (Glenn Curtis flew the first airplane in St. Louis in 1909). St. Louis was quick to catch up in aeronautics, however, with the first commercial airliner (the Benoist Flying Boat, tested at Creve Coeur Lake in 1913) and the first parachute jump from an airplane (Jefferson Barracks, 1912).

Most St. Louisans at this time did not own an automobile and probably had yet to ride in one. Postcards and pictures from that year show that horse drawn wagons and carriages were still popular, along with an extensive streetcar system. St. Louis, however, was a leading center for this emerging automotive technology. Many of the automobiles driven in St. Louis at this time were manufactured in St. Louis. The St. Louis Auto Dealers Association was founded in 1907. In 1905, when St. Louisans Harry Grenner and Clem Laessig used a garden hose to get gas from a drum to the automobile tank, they opened the first retail gas station in the United States. By 1907, they expanded to 40 stations in St. Louis.

St. Louis had two major league baseball teams. The older team, the National League Cardinals, played at League Park at Vandeventer and Natural Bridge across from Fairgrounds Park. Later the name of this park was changed to Robison Field (Beaumont High School is now on the site). The park was famous for the “Chute the Chutes” a roller coaster just past or possibly part of the left field wall. The Cardinals did not play at Sportsman’s Park at Grand and Dodier until the 1920’s. Even then, they were the tenants of the upstart St. Louis Browns, who owned the stadium. The 1907 Cardinals were almost 20 years away from their first pennant and World Series; they finished in last place.

Construction was started on the New Cathedral in 1907. Now housing the largest collection of mosaic art in the world, it was not completed until the 1990's.

A 30 year old St. Louisan had seen amazing changes. Born into a world of leather, wood and fire, the 30 year old would have already seen the invention of the telephone, the light bulb, the phonograph and in 1907, the first automatic washer and dryer. Great advances had been made in public health and sanitation. Medical doctors now understood germ theory and sterilization of instruments. Chemists were supplying them with new "wonder" drugs such as aspirin. The first all synthetic polymer, Bakelite, was made by Leo Baekeland in 1907. The element lutetium was discovered in 1907, but it was still some time before chemists decided where it should be placed on the table. The separation of the f-block elements from the d-block that appears on the modern periodic table was not prevalent until the 1950's.

As the year 1907 came to a close, the Red Cross sold Christmas Seals for the first time at a United States Post Office in Wilmington, Delaware. And on that evening, Dec. 9th, 1907, St. Louis chemists met for the first meeting of the St. Louis Section of the American Chemical Society.



Section Goes Center Stage

As part of the 100th year anniversary, we will be participating in the Center Stage program at the St. Louis Science Center. These programs will be the third Friday of every month this year. They will be at 12 pm and the programs will last about 30-45 minutes. The presentations should be geared to a general audience and can be on a topic of your choice. There are still some open dates. If you would like the opportunity to present a program, please contact Greg Wall by telephone at 800-325-5832 ext. 3139 or by e-mail at gwall@sial.com.

Women Chemists Spring Event

Monday, March 19 2007, 7:30 pm

"Manya: A Living History of Marie Curie"

SIUE Meridian Ballroom

This year the Women Chemists Group will be combining with the SIUE Probst Lecture. Join us for dinner and a special performance by Storysmith Susan Marie Frontczak as she presents a 1-woman theatrical performance as Madame Curie. For details and reservations please contact Leah O'Brien at lobrien@siue.edu or 618-650-3562.



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**2007
High
School
Chemistry**

Teacher of the Year:

Sandy Burkhard-Canellas

Sandy Burkhard-Canellas was born and raised in Los Angeles. She received her B.S. in biochemistry from University of California Davis. After getting her Ph.D. in biochemistry from the University of Wyoming, Sandy held an NIH Postdoctoral Fellowship at the University of California, Riverside. Following this, she held a postdoctoral fellowship at the University of Wisconsin, Madison where she received her teaching credentials in math, chemistry, and biology. She moved to St. Louis in 1985 and taught chemistry at Affton High School for 11 years, until 1996. Following this, Sandy taught chemistry at Clayton High School for 4 years. She is currently teaching chemistry and AP biology at Ladue High School, where she has been since 2000. Sandy was the science department chair at all three high schools.

Sandy's service activities include presiding as the Education Topical Group chairperson for two years and the Education Committee chairperson for one year for the St. Louis Section of the ACS. She is also a member of the USABO National Teacher Resource Board and an AP consultant for Science Vertical Teams.

Her personal life is flourishing also. She has been married to Pedro (Paco) Canellas (a supervisor at Sigma Chemical Co.) for 23 years and has three children. Michael (18) is a freshman at Mizzou and Marc and Maureen (both 16) attend Parkway West High.

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Chemical Progress Week

Monday, April 16:

Awards Night

Honors winners of the:

- High School Chem. Contest
- Leopold Marcus Award
- High School Teaching Award
- Chemical Sci. & Tech. Award
- Outstanding Junior Chemistry Students at area colleges and universities

Kemoll's Restaurant, One Metropolitan

Sq., St. Louis

\$25.00/person

5:30 pm - Social Hour

6:30 pm - Dinner

7:30 pm - Program

Contact: Samir El-Antably

(314-664-5522)

Tuesday, April 17

Adaciom Luncheon

TBA

Friday, April 20

St. Louis Award Symposium

Honoring Dr. William L. Neumann, Mallinckrodt, Inc.-Tyco Healthcare Recipient of the 2007 St. Louis Award University of Missouri - St. Louis Speakers, Times and Room - TBA
Contact Lol Barton (314-516-5334 or lbarton@umsl.edu)

Saturday, April 21

St. Louis Award Banquet

Honoring Dr. William L. Neumann, Mallinckrodt, Inc.-Tyco Healthcare Recipient of the 2007 St. Louis Award Kemoll's Restaurant, One Metropolitan

Sq., St. Louis

\$40.00/person

6:00 pm - Cocktails

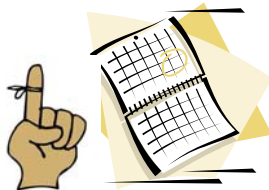
7:00 pm - Banquet

8:00 pm - Program

Contact Samir El-Antably

(314-664-5522)

DATES



TO REMEMBER

Local ACS Spring Events

Friday, April 6

Greater St. Louis Science Fair

Greensfelder Pavilion, Queeny Park

6:00 pm

Contact John Kauffman (*see page 13)

Wednesday, April 11

Marcus Award Competition

Department of Chemistry, SLU

4:00 - 6:00 pm

Contact Bruce Kowert (*see page 11)

Friday, April 13

Undergraduate Res. Symposium

Washington University

Contact Amy Walker

(walker@wustl.edu or 314-935-8496)

Saturday, April 21

Chemistry Olympiad

St. Louis CC at Florissant Valley

8:00 am - 2:00 pm

Contact Donna Friedman

(friedman@stlcc.edu) or Myron

Reese (mreese@mckendree.edu)

Friday, April 27

Chemistry Career Day

An introduction to Chemistry Careers for high school chemistry classes

9:00 am - 12:30 pm

University of Missouri, St. Louis

Contact Keith Stine (kstine@umsl.edu

or 314-516-5346) or Jim O'Brien

(obrien@jinx.umsl.edu or 314-516-5717)

Talking to Our Legislators

By David L. Garin

I was one of 14 ACS local section Government Affairs Committee chairs invited to Washington, D.C. on Nov 13-14 to meet with Congressional representatives. Our goal was to request support for President Bush's American Competitiveness Initiative and to encourage lawmakers to pass the appropriations bills that fund science agencies during the "lame duck" session of Congress. They didn't, which resulted in a lower level of funding under the "continuing resolution".

During the two days, we attended presentations by members of the ACS national staff including Brad Smith, who is in the office of legislative and government affairs, and ACS President-Elect Catherine Hunt, and were briefed by two congressional staff members. Armed with information packets and accompanied by a member of the ACS staff, we spent one day visiting several legislative offices in both the House and Senate. My main focus was representatives from Missouri and southern Illinois. The legislative assistants with whom I spoke were genuinely interested in our forthcoming centennial celebration and I promised to send them information as it became available.

An unexpected highlight for us was the farewell party for the outgoing chair of the House Science Committee, Sherwood Boehlert (R-NY). During the contentious 109th Congress, the Science Committee was one of very few committees recognized for its bipartisan cooperation. This was evident in comments by both Boehlert and the new chair, Bart Gordon (D-TN).

The November ACS summit event came just after a historic election when the party leadership of both houses of Congress was changing. It was reminiscent of the year I served as an ACS Congressional Science Fellow (1980-81) and observed a similar "revolution" when both the Presidency and the Senate shifted from one party to another.

St. Louis section members who are not yet part of the legislative action network and wish to join should contact David Garin (garin@umsl.edu), or email OLGA@acs.org in Washington, D.C., or Brad Smith at b_smith@acs.org. It is one way to ensure that scientists' voices are heard in our nation's capital.

Marcus Award Competition Slated at SLU

The 2007 Leopold Marcus Award competition will be held **Wednesday, April 11** 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. The candidates, chosen by the faculty, will be making fifteen-minute presentations.

The winner of the award 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.

Call for Nominations for Midwest Regional Award

The ACS Midwest Regional Award, established in 1944, recognizes outstanding achievement in chemistry done in the midwestern region of the United States. 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 reside currently within the Region.) Nominations must include a nominating letter, two or more seconding letters, a curriculum vitae, a brief biography, and documented objective information regarding the outstanding achievements of the nominee. If the nominee is an academician, a list of persons who have received advanced degrees under his or her direction should be included. Please submit nine copies of all nomination material to:

Jim O'Brien, Chair
Midwest Award Committee
University of Missouri-St. Louis
Dept. of Chemistry
8001 Natural Bridge Road
St. Louis, MO 63121-4499
(314) 516-5711 / obrien@jinx.umsf.edu

**Nominations must be received on or before the deadline of March 31, 2007.*

**Department of Chemistry and Biochemistry at
University of Missouri–St. Louis**

Announces

The 10th Annual

Robert W. Murray Lecture

Dr. Chad A. Mirkin

***Nanoparticles in Diagnostics
and Therapeutics***

on

Monday, March 12, 2007

Lecture at 4:00 pm in 104 Stadler Hall.

Reception at 3:15 adjacent to the Lecture.

Science Fair Call for Judges

Science Fair season is almost upon us, and so is another opportunity for you to encourage an understanding of good science by participating as a Science Fair judge. Members of the ACS St. Louis Section are needed as judges to evaluate chemistry projects for special awards at regional science fairs in the greater St. Louis area. High School and Junior High winners receive prizes from the section (science books and more), while all elementary school participants with chemistry related projects receive participation ribbons. Judging times for 2007 are as follows:

St. Charles/Lincoln County Science and Engineering Fair

Monday, March 12, 2007 at St. Charles Community College

Judging starts at 7:00pm.

Illinois Junior Academy of Science Region 12 Science Fair

Saturday, March 17th at SIU-Edwardsville

Judging starts at 9:00am and ends by 12:00pm. Awards at 12:30pm.

Greater St Louis Elementary Science Fair

Monday, May 7th, at Queeny Park

We will distribute participation ribbons to entrants with chemistry projects beginning at 6:00pm.

Greater St Louis Secondary Science Fair

Thursday, May 10th, at Queeny Park

Judging starts at 6:00pm

Interested in judging? Please contact John Kauffman

phone: (573) 356-1142

e-mail: kauffmanj@centurytel.net or John.Kauffman@fda.hhs.gov

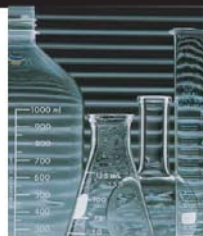
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Recognition Night 2007

Saturday, March 31, 2007

Glen Echo Country Club

3401 Lucas and Hunt Road, St. Louis, MO 63121

(314) 383-1500

**Come for an enjoyable evening.
Spouses welcome!**

Please join us to celebrate and honor members who have helped make this section great. We will have a presentation of the Distinguished Service Award and the Past Chair address, among other things. Cost is \$25.00 per person. Please send in payment and the reservation form below by March 27th to Samir El-Altably.

Recognition Night Reservation Form

Member name:

Number attending _____ X \$25 = Amount remitted _____

Reservations must be received by **March 27, 2007**.

Don't miss out!

If you would like to be reminded of upcoming ACS events, subscribe to our e-mail notification list. List members will receive periodic reminders of ACS-St. Louis Section activities. To become list member, send your e-mail address to: barnoski@slu.edu



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Chemical Progress Week 2007

Please send Reservations to:

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Clayton, MO 63105
(314) 664-5522

Make checks payable to:
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*Please make your reservations
by April 9.*



Awards Night Dinner Reservation

Date: Monday, April 16

5:30 pm Cocktails, 6:30 pm Dinner, 7:30 pm Program

Member
name _____

Number attending _____ x \$25.00 = Amount remitted \$ _____

St. Louis Award Banquet Reservation

Date: Saturday, April 21

6:00 pm Cocktails, 7:00 pm Banquet, 8:00 pm Program

Member
name _____

Number attending _____ x \$40.00 = Amount remitted \$ _____

*Pick up back cover
from back of previous issue*