



Chemical Bond

Volume 58
Number 5
May 2007

St. Louis Section, American Chemical Society



Barry L. Parnas
St. Louis Chemical Science &
Technology Award Winner

**The St. Louis Section of the American Chemical
Society**

announces a

Member Picnic



Saturday, June 2

**Location: Tower Grove Park
Old Playground Shelter**

Time: 12:00 Noon

***Do not miss this event! It's more fun each year.
Section Picnic Sponsored by the St. Louis Section
ACS. Bring the family! Enjoy food, friends and
spring weather.***

Just \$5 per person. Kids under 12 free.

Questions & Reservations by May 25th, please

**Contact: Alexa Serfis -(barnoski@slu.edu)
Saint Louis University
Department of Chemistry
3501 Laclede Ave
St Louis, MO 63103
phone: (314) 977-2840
fax: (314) 977-2521**

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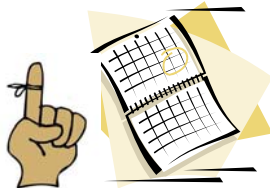
Meeting & Seminars

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: September 13
Social hour: 5:30 pm
Dinner: 6:30 pm
Business Meeting will start during dinner.

Receive e-mail reminders of upcoming ACS events and activities! To subscribe to the Reminders Listserve, send your e-mail address to Alexa Serfis at BARNOSKI@SLU.EDU.



REMINDERS

Can't wait for Snail Mail? Get the Chemical Bond at <http://www.umsl.edu/~acs/>

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ACS Center Stage

As part of the 100th year anniversary, we will be participating in the Center Stage program at the St. Louis Science Center. 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.

The Chemistry of Alternative and Sustainable Fuels

As part of the celebration of the 100th Anniversary of the St. Louis Section of the American Chemical Society, a symposium on “*The Chemistry of Alternative and Sustainable Fuels*” is being held at the St. Louis Science Center on Tuesday, **May 29, 2007**. This event is open to the public.

Location: St. Louis Science Center: Center Stage and Rooms A, B & C.

Schedule:

**1:00 - Review of Posters on Alternative Energies
from St. Louis Area Public Schools**

**1:20 - Welcome to 100th Anniversary Symposium -
Dr. Steve Kinsley, Chair of the St. Louis Section ACS**

1:25 - Dr. Catherine Hunt, Chair of the American Chemical Society

**1:35 - “Employing Biofuels in Batteries for Power Generation”
Dr. Shelley Minteer, St. Louis University**

**2:00 - “Photosynthetic Organisms as Alternative Energy Sources”
Dr. Robert Blankenship, Washington University**

**2:25 - “A Comparative Analysis of the Corn Ethanol Net Energy
Balance” Dr. Erik D. Sall, Monsanto**

**2:50 - “The Promises and Challenges of Biofuels”
Dr. James McLaren, StrathKirn® Inc.**

3:15 - Break

3:30 Panel discussion with speakers



Writing Workshop

Write Faster, Write Better, Be Understood

Communication, especially written communication, is one of the top non-technical skills required in the workplace today. The St Louis Section of the ACS and Washington University are co-sponsoring a free, one-hour workshop to help you polish your writing skills.

Betsy Frick, owner of Plain Language Solutions and award-winning instructor of Engineering Communication at Washington University in St Louis, will facilitate the workshop, “Three Elements of Better Writing on the Job.” This personalized session will provide valuable tips that will enable you to write faster, better, and more understandably.

The workshop will be held on Thursday, September 6, in Laboratory Sciences Building, room 250 at Washington University (building 6, parking at 76 at <http://visitor.wustl.edu/danforthmap.pdf>).

Refreshments and conversation at 5:30 pm; the workshop will begin promptly at 6 pm. Pre-registration required. Please bring a short sample of your own writing to use in activities.

For more information or to register, contact Lisa Balbes at lisa@balbes.com or 314-966-5298.

Pick up

rotating

Mass-Vac ad

from p. 10 of February 2007

Landmarks

The world in 1907 by Ted Gast

In 1907, the Missouri Athletic Club MAC had been open for less than 5 years. Their building at Broadway and Washington Avenues had yet to be built. Stix Baer & Fuller Department Store, located at the north side of Washington Ave. from Sixth to Seventh Streets, opened its doors. The Railway Exchange Building, home of Famous Barr, would not open until 1914, and the famous Chase hotel on Lindell did not open until the 1920's. The Planter's and Marquette Hotel's as well as Tony Asust's were the places to be.

There was already a balloon race in forest Park (10/21/1907). Pilgrim Church and Union Avenue Christian Church was opened in 1907 on Union Blvd. The Marquette Hotel opened downtown in 1906. In addition, the St. Louis Arsenal was still in operation as an army depot on Second and Arsenal and continued to be one of the most important army installations of the War Department west of the Mississippi and, indeed, the country as a whole.

Petroleum

The merger of Royal Dutch Petroleum and Shell Transport and Trading of Great Britain occurred in 1907. This merger created Shell Oil, which competed with American-based Standard Oil, which was lead by robber baron John D. Rockefeller. Rockefeller had a virtual monopoly based on his oil tank storage car, and was buying up oil companies all over the country, disallowed by the Sherman antitrust act of 1890. The supreme court would not rule against Standard Oil (incorporated in Cleveland, Ohio, in 1870) until 1911, breaking it up into five smaller parts (each of which would eventually grow to outsize the original Standard Oil).

Petroleum at that time **cost \$19.00 to \$27.00 a barrel (compared to \$65 today)**. Kerosene was actually the desired fraction at the time, gasoline being considered almost a waste product. The few cars on the roads ran on either gasoline or ethanol equally well, while some ran on steam and electricity. The famous Ford Model-T would not be available until 1908.



http://cgi.ebay.com/STANDARD-OIL-RED-CROWN-PUMP-PORCELAIN-SIGN_W0QQitemZ260103489755QQihZ016QQcategoryZ804QQtcZphotoQQssPageNameZWVDVWQQrdZ1QQcmdZViewItem#ebayphotohosting

Great Britain was trading in palm kernel oil (*Elaeis guineensis*) from Nigeria. In 1909 the Anglo-Persian Oil Company (APOC) was founded in London, with two administrations as business partners (today known as BP). The vast reserves of Spindletop Hill in Texas were discovered in 1907, but most oil in the US still came from Titusville in western Pennsylvania. Oil production world-wide reaches 158,000,000 barrels - three times what it was in 1898. Arabia, was just a forgotten backwater of the Ottoman Empire, and Arabia reserves were as yet unknown. The Saudi family wouldn't rule things for another generation or two.

Energy

Natural gas (methane) was known in the laboratory only. Most gas at the time was so called manufactured gas. It was a dirty process to make gas from coal with lots of messy by-products. Laclede Gas of St. Louis was a hot stock and one of the original 12 stocks listed on the then new Dow Jones average.

Liggett & Myers, part of the American tobacco trust, was also on the average. The Justice Department filed anti-trust charges against American Tobacco in 1907. Plug tobacco was more popular than cigarettes. Cigarettes didn't become glamorous until the 1920's with the advent of Hollywood. women did not smoke.

Railroads

Most passenger transportation was by rail, and that was dominated by the New York Central and Pennsylvania railroads, both major US corporations and bitter rivals. Union station was only 10 years old. The major passenger railroad serving St. Louis at the time was the Illinois Central running between Chicago and New Orleans through St. Louis. In addition, Wabash was running east west from Buffalo to Kansas City.

Grand Central terminal in New York City was not completed until 1913. The Terminal Railroad (TRRA), founded by robber baron Jay Gould, controlled freight traffic over the Mississippi River. It is still in existence today. James Eads Bridge still handles most traffic over the Mississippi River. They all ran steam engines, of course. Over one hundred million railroad ties both sawed and hewed were produced. In 1907, there were 1,564 separate railroad companies in the United States.

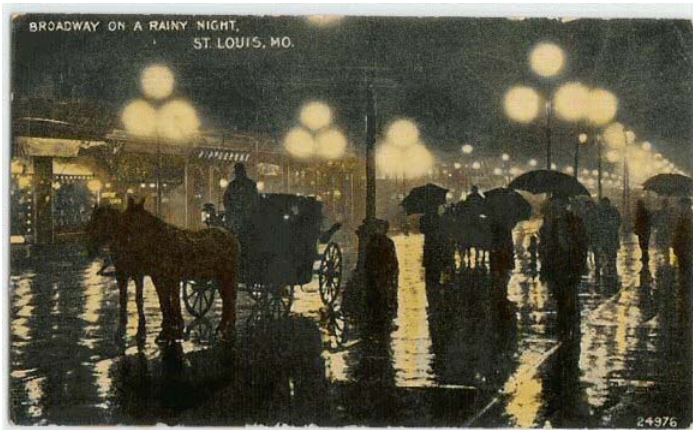


[http://www.answers.com/
topic/pennsylvania-railroad](http://www.answers.com/topic/pennsylvania-railroad)



Eads Bridge, finished in 1874.

(<http://genealogyinstlouis.accessgenealogy.com/eads.jpg>)



Broadway On A Rainy Night, St. Louis, Mo. (Published by J.S. McDermott, 709 Pine St.).
No postmark. Card dates 1907-1916.

Communication

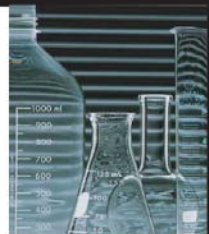
Western Union was a major corporation (controlled by Jay Gould), listed on the Dow Jones, and sending more telegrams every day. The telephone was still rare in homes. My grandmother still vividly recalls when they got “*the telephone*”. And, Many people lived their whole life never going more than 25 miles from where they were born.

Finance

There was a major financial panic at the end of 1907. (Today we would call it a recession.) It is generally accepted that the Panic of 1907—a credit crunch that spread from New York to the whole country, closing banks and businesses—was the major impetus for the formation of the Federal Reserve System. While the nation had considered central banking systems in the past, it was the severity of the Panic of 1907 (the fourth in 34 years) that inspired congressional action leading to establishment of the Federal Reserve System (<http://minneapolisfed.org/pubs/region/89-08/REG898C.cfm>).

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Recognition Night 2007

Recognition Night was held on March 31st 2007. In attendance were seven 50 year members, one of the largest groups of 50 year members in recent memory. Also present were fifteen past chairs of the St. Louis Section. A fun social hour and fine meal preceded the recognition of 50 year members and the recognition of the Past Chair, Alexa Serfis. After the presentation of the Distinguished Service Award to Hal Harris, the evening was capped with an entertaining and informative talk and demonstration by Hal.



50 Year Members of the American Chemical Society
Front Row (L-R): Roy Greenlee, Marty Rhine
Back Row(L-R): James Gabbert, Charles Hobbs, Paul Tarman, Al Hortmann, Rudy Winter
Not Pictured: Kent Dennis, Matthew Dow, Richard Pittenger.



Hal Harris and his son, Matthew, demonstrate that a shaken can of soda rolls slower than an un-shaken can.



Past Chairs (and present Chair) of the
St. Louis Section of the American Chemical Society.

**St. Louis Section-ACS
Request for Nominations
For 2008 Officers**

The St. Louis Section of the American Chemical Society requests nominations for officer, directors, and councilors to stand for election in the Fall of 2007. If you would like to nominate someone for any or all of these offices, please fill in this nomination ballot and mail it, postmarked no later than June 15, 2007 to:

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

You may also e-mail your nominations. While it will be difficult to assure your anonymity as a nominator, your identity will be removed from the e-mail before it is forwarded to the Nominating Committee. Send e-mail nominations to Steve Kinsley at sak.ltd@att.net.

Nominating Ballot
St. Louis Section-ACS
2008 Officers

Chair-Elect _____

Secretary _____

Treasurer _____

Directors (up to three) _____

Councilors (up to two) _____

Barry L. Parnas

2006 St. Louis Chemical Science and Technology Award Winner

Barry Parnas received his Bachelor of Science degree in Chemistry from Washington University (Magna cum Laud) in 1988. He received an MS in Chemistry from the University of Missouri-St. Louis in 2000. He has been employed at the legacy Monsanto the Pfizer Company in St. Louis since 1987.



In 2006, Barry has contributed to several major projects, many in collaboration with other colleagues.

One was the validation of sample quantification using Evaporative Light Scattering Detection (ELSD) In another, he installed ELSD on a high-pressure liquid chromatography system, allowing sample quantification to be performed using small amounts of sample with high detector sensitivity. Over 6,000 samples were analyzed using this method in 2006. Several research centers across Pfizer have sought guidance from Barry for the addition of ELSD to their instruments.

According to his supervisor, Dr. Peter Tidswell, Barry has performed a significant amount of high quality research in 2006 which included working with many different groups in different research centers across Pfizer as well as assisting his colleagues in the St. Louis labs to improve the quality of the data generated by his team.



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2007 St. Charles/Lincoln County Science and Engineering Fair

International Division

First Place: Robert Gilchrist, "Calcium Sensitive Dye Imaging of Seizure Activity in the Rat Neocortex", Grade 12, Wentzville, Holt High School.

Grades 9-12

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

Grades 6-8

First Place: Michael Hillman, "C for Yourself: The Effect of Fruit Juices and Vegetables on the Detection of Vitamin C", Grade 6, Francis Howell, Bryan Middle School.

Second Place: Melissa Siegrist, "Working with Chromatography", Grade 8, Wentzville, South Middle School

Third Place: Leah Adelman, "The Statue without a Face: The Effect of Acid Rain on Different Types of Stone", Grade 6, Saints Joachim and Ann

Grades kindergarten-5th: 70 purple participation ribbons & letters

2007 Illinois Junior Academy of Science Region 12 Science Fair

Grades 9-12

First Place: Jonathan Naber, "The Effect of Electrical Plasma Exposure on the Resistance-Temperature Relationship of a $\text{YBa}_2\text{Cu}_3\text{O}_7$ High Temperature Superconductor", Grade 12, Waterloo Senior High School.

Second Place: Sara Joseph, "Oxidized Pyrites Effect pm Plants", Grade 9, Alton Schools

Grades 7-8

First Place: Scott Prombo and Chris Steppig, "Do the Densities of Gasses Affect the Speed at Which They Rise Through Water?", Grade 8, Waterloo Junior High School

Second Place: Dylan Lawrence, "Do Oil Roasted Peanuts Have More BUTs Than Other Peanuts?", Grade 8, Waterloo Junior High School

Grades kindergarten-6th: 62 purple participation ribbons & letters

2007 COLLEGE AWARD WINNERS

OUTSTANDING CHEMICAL TECHNOLOGY STUDENT

Brian C. Petty

St. Louis Community College - Florissant Valley

OUTSTANDING JUNIOR CHEMISTRY STUDENT

Joshua Mosberg

Washington University

Neil K. Munjal

Saint Louis University

Lindsey N. Hamilton

SIU-Edwardsville

Adele L. Pacquette

University of Missouri – St. Louis

Andrew R. Wilhelm

Lindenwood University

Laura K. Hardebeck

Maryville University

Emily Moeller

Principia College



Meet Me in Saint Louis in 2011

The Local Section will be hosting the 46th Midwest Regional Meeting in Saint Louis in 2011. A planning committee has recently been formed. Leah O'Brien of Southern Illinois University – Edwardsville will be the General Chair and Jim O'Brien of University of Missouri - St. Louis will be the co-Chair. The Program Committee will be chaired by Keith Stine of University of Missouri - St. Louis with Bill Doub of the FDA and Todd Stark of IQsynthesis as co-Chairs. There will be an exhibit with booths from academic and industrial participants. The Exhibits Chair is Lisa Balbes of Balbes Consultants and she will be assisted by Ted Gast of the Carl F. Gast Company. Bruce Ritts from Steris will serve as the Treasurer for the meeting. The Midwest Regional meeting was last held in Saint Louis in 2000 at the King Henry VIII Hotel, which was near the airport and was demolished to make way for the new runway. The last meeting was quite successful with 370 papers presented, close to 1000 attendees, over 30 exhibitors, and numerous special symposia and events. The Midwest Regional Award is presented at the meeting, and there is a banquet for the winner. It will take a long time to plan this meeting, and so we don't yet know the location or other details. All are welcome to attend Regional meetings, so please watch your *Chemical Bond* and the Local Section website for future announcements.

2007 Chemistry Olympiad

Several outstanding high school chemistry students took a national exam in an attempt to qualify to become members of the U.S. National Chemistry Olympiad Team. The St. Louis nominees, shown below, are among the nearly 1000 nationwide that took the exam. Twenty-four of these students will go on to represent the U.S.



in the 39th International Chemistry Olympiad (IChO). The IChO involves a series of theoretical exams, laboratory exercises, and other activities aimed at identifying the best chemistry students from participating nations around the world. The U.S. has participated in this event since 1984. In 2004, the U.S. team won four silver metals.

Front Row (left to right): Andrew Liu, Parkway Central High School; Robert McGibbon, Clayton High School; Michael Hyre, Clayton High School
Second Row: Raymond Chen, Parkway Central High School

Let Us Know What You Think!

Take our 2007 Local Section Member Survey

Please share your thoughts about the activities of the Saint Louis Section by completing our 2007 member survey. Your input will help us better understand what you hope for from the Local Section in the future, your awareness of our activities, your interests and how they may be changing, and what we can do to better serve you and all of our members. Please take the survey even if (maybe *especially* if) you've never participated in any local section activities before. We'd like to know how we're failing to interest you and what we can do to make your local section membership more meaningful to you. This year, our survey is available on-line and can be accessed by entering the following address into your browser:

<http://www.surveymonkey.com/s.asp?u=485973310765>

The survey link will be available beginning on Monday, April 9th. The direct link to the on-line survey is also available on the Local Section website (www.umsl.edu/~acs). The survey should not take more than 10 minutes to complete. If you wish, you may print a copy of the survey from the Local Section website where it is available as a PDF file and mail it to Keith Stine, the Local Section Chair-Elect, at the address given below. If you are unable to access the internet, we would be glad to mail you a copy of the survey that you can fill out and return to us. Please send these requests to Keith Stine at the below address or call him at (314) 516-5346. We ask that you complete the survey by July 9, 2007. Your input is important and will impact our future planning and activities.

Member Survey
Attn: Keith J. Stine
Department of Chemistry
and Biochemistry
One University Boulevard
University of Missouri – St. Louis
St. Louis, MO 63121

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