



Chemical Bond

**Volume 56
Number 2
February 2005**

St. Louis Section, American Chemical Society



**Rosemary Davidson
2005 High School Chemistry
Teacher of the Year**

**The Department of Chemistry at the
University of Missouri–St. Louis announces**

**The Eighth Annual
Robert W. Murray Lecture**

Peter F. Bernath

**Professor of Chemistry and Physics at the
Guelph-Waterloo Center for Graduate Work**

will speak on:

**Atmospheric Chemistry Experiment:
Spectroscopy from Orbit**

Monday, March 7, 2005

Lecture at 4:00 pm in 104 Stadler Hall.
Reception 3:15 adjacent to the Lecture Theater.

All are welcome!

The Robert W. Murray Lectureship was inaugurated in 1998 as an endowed lecture series through the contributions of family, friends, former students, colleagues of Dr Murray and alumni. The Lectureship honors the distinguished research career and the many contributions to UM-St. Louis over more than 30 years by Professor Robert W. Murray, Curators' Professor Emeritus.



The University of Missouri-St. Louis

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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 Ted Gast (ted@cfgastco.com) at least one week prior to the meeting date. The cost of dinner is \$18. Members wishing to become active in section activities are welcomed to their first dinner for free, compliments of the section.

Date: *Feb. 10*

Social hour: 5:30 pm

Dinner: 6:30 pm

Business meeting: 7:15 pm

Future meeting: March 10,
April 14, May 12

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:

Amy Walker

walker@wuchem.wustl.edu

An up-to-date list of seminars is available at:

[www.chemistry.wustl.edu/
~seminars/seminars.html](http://www.chemistry.wustl.edu/~seminars/seminars.html)

University of Missouri- St. Louis

Seminars are held on Mondays at 4:00 pm in Room 451 Benton Hall unless otherwise specified. Refreshments 15 minutes prior to seminar time. (www.umsl.edu/chemistry)

February 14

Anthony Young

Pfizer

*Material Science Applications
in Pharmaceuticals*

February 21

Susan Kauzlarich

University of California-Davis
*Synthesis and Characterization
of Group IV Nanoparticles*

February 28

Michael Doyle

University of Maryland

*New Applications of Dirhodium
(II) Catalysts*

Mass Spectrometry Discussion Group

For information on the meetings contact Mike Grayson at (314) 935-7486 or grayson@wustl.edu.

February 14

Dr. David Clemmer

Indiana University

*Developing and utilizing ion
mobility techniques for protein
analysis: from the structures of
gas phase ions to a structural
map of a proteome*

Career Corner

Intellectual Property Protection Options: What Every Scientist Must Know

Presented by Sadiq Shah, Ph.D., Director,
Western Illinois Entrepreneurship Center
When: Saturday, February 26, 2005
Time: 10 am - lunch provided afterwards by ACS
Where: Washington University, Lab Science Building Room 250



Our formal education as scientists prepares us very well to create intellectual property that becomes the engine for economic growth. However, our formal education does not cover topics that deal with managing the intellectual property. The St. Louis section is organizing this workshop to educate members on what intellectual property is, why it needs to be protected, and the options available to protect it. In this globally competitive world, the 21st century economy has become the “Knowledge Based Economy.” Thus, to advance our careers, we need to be equipped with the knowledge to better manage intellectual property. This workshop will cover intellectual property related to patents, trademarks, copyrights and trade secrets. It is not only for scientists, but for those who are involved on the business side as well.

**Please, RSVP by February 18th to
Lisa Balbes at lisa@balbes.com or 314-966-5298
so we can have enough food!**

St. Louis Section of the ACS Announces a General Meeting

On: February 24, 2005

Location: The Center of Clayton

Time: 7:00 PM

***Please join us for a Round Table Discussion
On the Future of Chemistry &
The Future of the Chemistry Profession.***

*Joining the Round Table will be
Bill Carroll, President of ACS
Along with representatives from
local industry and universities.*

“Do Chemists have an independent identity?”

Out to Sea - Life in Retirement

by Jack Bornmann

Have you ever thought about an alcoholic relative, friend, acquaintance, or just someone staggering down a sidewalk and wonder what they could have done with their lives. For many in advanced stages of alcoholism the person has lost a job, a home, a wife, and even children. They gave up so much for the oblivion that alcohol provides. Imagine what they could

Letters & More Words & More

have become. Below are some stories of people who reached the top before sliding into alcoholism. They achieved fame, fortune, and recognition, but lost it all.

Lawrence “Larry” Tibbett was the son of a sheriff’s deputy who was shot and killed when Larry was about eight years old. The family was living in Bakersfield, California. At the time, Bakersfield was a very small community. Widow Tibbett struggled financially to keep a house and a home for the boy. Larry, even at a young age, had a naturally beautiful voice and he made a few dollars by singing with church choirs and at special occasions.

One day a friend and voice coach suggested to Larry that to really learn to sing he should go to New York. But Larry had no money for such a trip, not to mention the living costs and educational costs once he arrived in New York. But, with the help of a friend, some financial arrangements were made to send Lawrence Tibbett to New York City.

Lawrence Tibbett took various singing jobs including a minor singing job with the New York Metropolitan Opera. Soon he was one of the leading baritones at the Met. The audience loved him, the backstage crew loved him, even his fellow singers loved him. When radio came along he sang on the radio. He went on tours. Hollywood called and he had roles in a number of movies. He had it made!

Lawrence Tibbett’s baritone voice was smooth and melodious. It flowed out of him so easily that it was like water flowing down a slope. And he had recognition. A friend shared a taxi with Tibbett one day. Tibbett got out first and the cab driver asked who that had been. The friend told the driver that it was Lawrence Tibbett. The driver excitedly told the friend that this evening he would be able to tell his wife that Lawrence Tibbett had been in his cab. When asked, the driver admitted that he had never seen a Tibbett’s movie, never heard him sing on the radio, nor heard him sing at the Met. The friend was puzzled. “So why are you so excited about having Tibbett in your cab?” “That was Lawrence Tibbett” was all the driver could say in awe.

Lawrence Tibbett and his wife had joined the social scene in New York City. At first, the drinks had no effect Tibbett’s voice. Other singers, who had to work at producing beautiful notes, took great pains to protect their voices. But Tibbett’s voice was so natural that the alcohol had no affect . . . at first.

Musicians with good ears for music could detect the minor changes in Tibbett’s voice. They were so minor that most people did not detect them. But, the musical loss grew until Tibbett himself noticed. He turned to booze in an attempt to mellow his voice and to forget the changes. He lost his job at

Pick up

rotating

Mass-Vac ad

from p. 5 of November 2004

Continued from page 6

the Met; ticket sales on his tours fell off. It was too late to go back, to give up the alcohol and let his voice heal. His career was finished.

He had enough money saved to rent a very small apartment where he did his lonely drinking. Occasionally he wobbled down the block to the store for a little food and a lot of booze. One day he "slipped" and fell in his apartment; he gashed his head and died alone. He was found several days later.

Yes, Lawrence Tibbett not only saw the pinnacle, he had reached it. And then he fell.

Czar, Peter the Great, wanted his Russia to join the rest of the world, which to him was Europe. He was determined to bring the Russian people kicking and screaming into the European culture, which included European music. To do this Peter had his soldiers gather the peasant's musical instruments and burn them. He forbade the playing of the traditional music. Years later, in the middle of the 19th century, a group of Russian musicians gathered together with the intention of writing and performing music based on the "old music". It was the nationalistic move of *The Five*. Rimsky-Korsakov (1844-1908) was a naval officer, Borodin (1833-87) was a chemist famous for his research on aldehydes, Cesar Cui (1835-1918) was a writer, Balakirev (1837-1910) was a composer and the founder of *The Five*. The fifth member was Modest Mussorgsky (1839-81), who was a military officer and composer. In 1858 he resigned from the military and devoted his time to composing. The Five all had

individual talents and often worked together, influencing each other. Mussorgsky was largely self-taught in music and was, therefore, freer to bring folk music and myths into his music and the music of *The Five*. You may recognize his works: *Boris Guunov*, *Pictures at an Exhibition*, *Saint John's Night on Bald Mountain* (aka *Night on Bald Mountain*), as well as others.

But Mussorgsky turned to drinking. I don't know what prompted his drinking, but I have seen a picture of him taken shortly before his death that depicts a sadly debilitated man. The most striking part of the picture, to me, is his eyes. The lower part of the eyelids droop to expose not only the whites, but also the pinkness you would see if you looked in a mirror and pulled the lower lid down. The flesh of his face sags and it is the most sorrowful face that I have ever seen. Mussorgsky accomplished much, but his alcoholic death cut off a creative life.

Those of you as old as I am may remember Veronica Lake, a beautiful actress with blond hair and a curl that drooped provocatively toward her left eye. I was very young at that time I discovered her, but I thought she was beautiful. But, she too disappeared from the Hollywood scene. It was only recently when I learned that alcohol dragged her away.

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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
Dept. of Chemistry
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, MO 63121-4499
(314) 516-5717
lbrien@jinx.umsl.edu

**Nominations must be received on or before the deadline of March 31, 2005.*

Science Fair Call for Judges

Science Fair season is just around the corner, 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. Secondary-level winners receive prizes from the section (science books and more), while all elementary-level participants with chemistry-related projects receive ribbons. Everyone (both kids and judges) wins in other ways as well. This year, the judging times are as follows:

Illinois Junior Academy of Science Region 12 Science Fair
Saturday, March 5th, 9:30 AM at SIU-Edwardsville

St. Charles-Lincoln County Regional Science Fair
Monday, March 21st, 6:00 PM at St. Charles Community College

Greater St. Louis Science Fair
Primary: Monday, April 4th, 6:00 PM at Greensfelder Pavilion at Queeny Park
Secondary: Friday, April 8th, 6:00 PM at Greensfelder Pavilion at Queeny Park

Interested in judging? Please contact David Haselbauer:
phone: (314) 918-1062
email: djhase@swbell.net

Rosemary Davidson

High School Chemistry Teacher of the Year

Rosemary Davidson received the 2005 St. Louis Section ACS High School Chemistry Teaching Award. She has been teaching at St. Joseph's Academy in St. Louis since 1978. She is currently teaching 2 sections of Global Science to Freshmen, 2 sections of Chemistry in the Community to Juniors, 1 section of Environmental Science to Seniors, Beta Chi Pi and Junior Academy of Science Sponsor, School Science Fair Coordinator, Co-chair of the Technology Target Area Committee, Member of the Emergency Response Team, Freshman Homeroom moderator, Department Chair for 23 years, Science Fair judge for Parkway School District, Science Fair judge for St. Louis Area Fair, and Past Chair of the High School Chemistry Teacher's local section of the ACS.

The following are recent awards, recognitions and activities of note:

Summer 2005: Will travel with 18 students to the Great Barrier Reef;

October 2004: Outstanding Science Teacher by Science Teachers of Missouri

Fall 2004: Test piloting for Environmental



Rosemary Davidson (left) and students, teacher of the year, St. Joseph's Academy, St. Louis, Mo.

Science textbook for the American Geological Institute. Summer; 2004: Traveled with six students to Ecuador and Galapagos Islands; 2003-2004: Sponsored 14 teams in the Ecybermission contest sponsored by the US Army. (4 of these teams won a total of \$32,000 in prizes. Our top team won second place in the Northeast Division.); 2002: Selected by N.S.T.A. as WebWatcher (reviewing websites of interest to Science educators); August 2001: Presentation at Chem Ed '01, "Integrating Environmental Topics into High School Chemistry"; March, 2001: Presentation at National NSTA convention in St. Louis, "Human Impacts in Costa Rica"; 2000: Woodrow Wilson Fellowship awarded for travel to Costa Rica for the Environmental Studies group working with the Institute of Tropical Studies;

1999: Awarded by Tandy and Radioshack: The Tandy Prize for Outstanding Teaching 1996: Awarded the Monsanto Teaching Award in association with Teachers, Industry and Environment (T.I.E.)

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2005 Chemical Progress Week

April 17-23

Schedule of Events

- March 19 - Recognition Night (Glen Echo Country Club)
3401 Lucas & Hunt Road
This event honors the outgoing Chair, 50 year members and the Distinguished Service Award Winners.
- April 13 - Marcus Award
- April 16 - Undergraduate Research Symposium
St. Louis Community College at Florissant Valley
3400 Pershall Road
All undergraduate student involved in research projects in the St. Louis area are invited to attend the symposium and present their work in either a poster or an oral session.
Contact: Donna Friedman dfriedman@stlcc.cc.mo.us
- April 17 - Women Chemists Luncheon
- April 18 - Awards Night
Honors winners of the High School Chemistry Contest, the Leopold Marcus Award, the High School Teaching Award, Chemical Technician of the Year Award, and Outstanding Junoir Chemistry Students at area colleges and universities.
- April 19 - ADACIOM Luncheon
- April 22 - St. Louis Award Symposium
- April 22 - Chemistry Career Day
- April 23 - St. Louis Award Banquet

Recognition Night

New 50-year members honored, presentation of the Distinguished Service Award, Past Chair recognition and address. Come for an enjoyable evening. Spouses welcome!

Date: March 19 6:00 pm
Location: Glen Echo Country Club
3401 Lucas & Hunt Road
St. Louis, MO 63121
Cost of dinner: \$20.00 per person
Reservations:
Samir El-Antably
P.O. Box 50168
St. Louis, MO 63105
(314) 664-5522



* make checks payable to: St. Louis Section ACS
Please make your reservation by March 15.

Please Join Us - All are Welcome!
9th Annual Women Chemists Luncheon

Guest and Speaker:

Arthur B. Ellis

Director, Division of Chemistry

National Science Foundation

“New Chemical Bonds: Partnerships with the NSF”

1:00 pm, Sunday April 17 2005

St. Louis History Museum

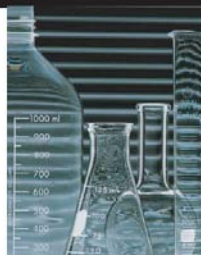
Reservations requested by April 10

To Leah O'Brien, cost \$10

(618-650-3562 or lobrien@siue.edu)

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2005 Election Results
We welcome in the new officers!

Alexa Serfis, elected as Chair-Elect for 2005

Keith Stine, elected as Secretary for 2005

Lisa Balbes, elected as Treasurer for 2005

Sue Dudek, elected as Director for 2005-2006

Hal Harris, elected as Director for 2005-2006

Bruce Ritts, elected as Director for 2005-2006

Lol Barton, elected as Councilor for 2005-2007

Greg Wall, elected as Councilor for 2005-2007

Tom Layloff, elected as Alternate Councilor for 2005-2007

Continuity Dinner 2004

The 2004 Continuity Dinner was held at Chris' Restaurant on December 9. Lisa Balbes received a Salute to Excellence for her tremendous contribution to the section as webmaven. Bijan Khazai, Section Chair, presented a plaque to Lisa before passing the gavel to Ted Gast, who will serve as Section Chair in 2005. Greg Wall gave the Henry Godt Memorial Lecture (always a surprise speaker) and re-capped the Section highlights in 2004. The food was outstanding, and many thanks to Samir El-Antably for organizing the venue and providing delicious desserts. Congratulations to Lisa, many thanks to Bijan for his leadership, and best wishes to Ted for a productive year as Chair.

“It’s candy...How hard can it be???”

The St. Louis Sections of ACS and AIChE are coming together for a joint meeting in March. The guest speaker is **Craig F. Moyer, Director of Capital Programs, Hershey Foods Corporation**. His presentation takes a look at the chemistry, physics, and mechanics of manufacturing an **American icon, the Hershey Kiss**. Come join us at CJ Muggs at 101 West Lockwood in Webster Groves. More details to follow in the Marsh issue of the Chemical Bond. Questions? Contact David Haselbauer at djhase@swbell.net or (314) 918-1062.



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Final Program

Applications of Metabolomics in Agriculture

American Chemical Society National Meeting
Agrochemicals Division Symposium
Horton Grand Hotel - San Diego, California
March 16, 2005

Session 1 – Unique Challenges for Metabolomics in Agriculture

Organizers: W. P. Ridley (Monsanto Co.) and J. N. Seiber (USDA/ARS)

Presiding: W. P. Ridley

8:30 am – Introductory Remarks

8:35 – 80. Integrated metabolite and transcript profiling for plant natural product pathway discovery and manipulation. **R. A. Dixon**, L. Achnine, B. Deavours, M. Farag, M. Naoumkina and L. W. Sumner. Plant Biology Division, Samuel Roberts Noble Foundation, Ardmore, OK

9:05 - 81. Potential/limitations of profiling methods for food safety assessment **H. A. Kuiper** and E. J. Kok. RIKILT Institute for Food Safety, Wageningen University and Research Centre, Wageningen, The Netherlands

9:35 – 82. Metabolic networks from Arabidopsis to woody plants ensure predictable orderedness in lignin/lingnan/phenylpropanoid metabolism **N. G. Lewis**. Institute of Biological Chemistry, Washington State University, Pullman, Washington

10:05 - Intermission

10:20 – 83. Specialized metabolism in aromatic plants **D. R. Gang**, Department of Plant Sciences and Bio5 Institute, University of Arizona, Tucson, AZ

10:50 – 84. Quantitating the natural variability in hybrid corn composition **T. L. Reynolds**, J. Astwood, M. Nemeth, K. Glenn and W. Ridley. Product Safety Center, Monsanto Company, St. Louis, MO

11:20 – 85. Application: NMR-based metabolomics to environmental toxicology **R. S. Tjeerdema**¹, M. R. Viant² C. A. Pincetich¹ and E. R. Rosenblum¹. (1) Department of Environmental Toxicology, University of California at Davis, Davis, California (2) School of Biosciences, The University of Birmingham

Session 2 – State of the Science in Agricultural Metabolomics

Organizers: W. P. Ridley (Monsanto Co.) and J. N. Seiber (USDA/ARS)

Presiding: J. N. Seiber

1:30 pm – Introductory Remarks

1:35 – 94. Metabolomic assessment of a potato field trial: The metabolic composition of high fructan GM potatoes is equivalent to classic cultivars **O. Fiehn**¹ and **J. Draper**². (1) UC Davis Genome Center, University of California at Davis, Davis, California (2) Institute of Biological Sciences, University of Wales

2:05 – 95. NMR profiling of transgenic peas **A. J. Charlton**. Department for Environment, Food and Rural Affairs, Central Science Laboratory, York, UK

2:35 – 96. Modification of potato alkaloids- a lesson in applied metabolomics **K. F. McCue**¹, **L. V. T. Shepherd**², **D. R. Rockhold**¹, **P. V. Allen**¹, **H. V. Davies**² and **W. R. Belknap**¹. (1) Western Research Center, USDA Agricultural Research Service, Albany, California (2) Quality, Health & Nutrition Programme, Scottish Crop Research Institute

3:05 - Intermission

3:20 – 97. Application of metabolite profiling in rice **K –H. Engel**¹, **T. Frenzel**² **A. Miller**¹, **T. Frank**¹ and **R. Roehlig**¹. (1) Department of General Food Technology, Technical University of Munich, Freising, Germany (2) Landesuntersuchungsamt Sachsen

3:50 – 98. Natural variability of bioactive components in vegetable crops **E. H. Jeffery**¹ and **J. A. Juvik**². (1) Department of Food Science and Human Nutrition, University of Illinois, Urbana, Illinois (2) Department of Natural Resources and Environmental Sciences, University of Illinois

4:20 – 99. Assessing metabolic health and dietary intervention **J. B. German**. Department of Food Science and Technology, University of California at Davis, Davis, California



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