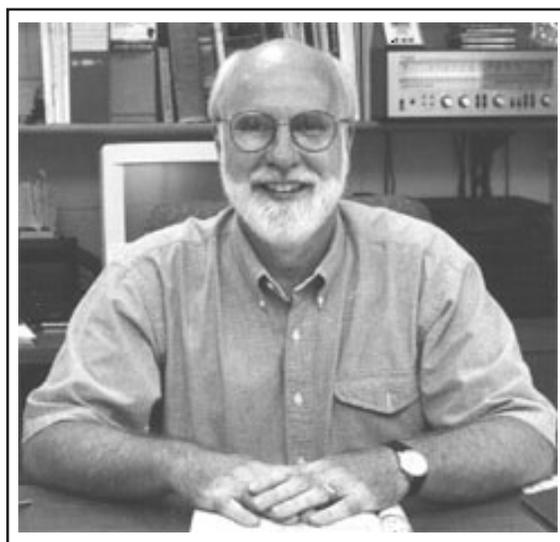




Chemical Bond

Volume 53
Number 7
October, 2002

St. Louis Section, American Chemical Society



58th St Louis Award
Michael Gross

Midwest Award to Michael Gross

The 58th ACS Midwest Award winner, Professor Michael Gross, boasts a distinguished academic career first at the University of Nebraska-Lincoln (1968-94) and, since 1994, at Washington University in St. Louis.

Mike has authored over 400 scientific articles and book chapters, edited or co-edited four books, and trained over 80 graduate students, postdoctoral associates, and staff.

Mike's notable contributions to the field of mass spectrometry began early in his career and include the first observation of a gas-phase distonic ion and the discovery of "charge-remote fragmentation."

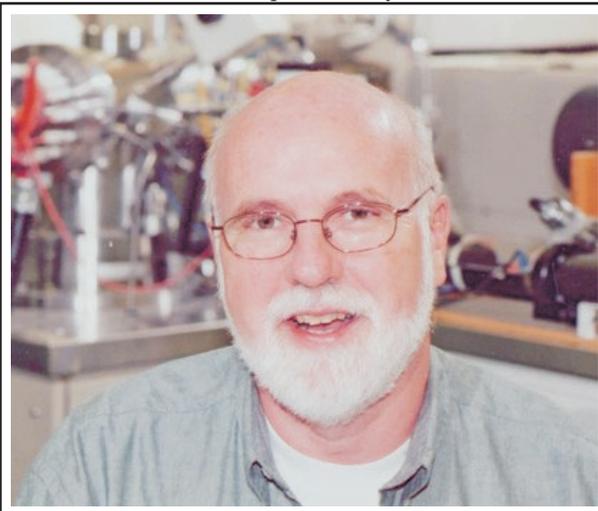
He demonstrated the feasibility of GC/high-resolving-power MS analysis at the parts-per-trillion level, a technique that led Mike and EPA coworkers to the discovery that "dioxin" (2,3,7,8-TCDD) had accumulated in the tissues of Vietnam veterans who had handled the herbicide Agent Orange. For this contribution Mike was awarded the "Pioneer Award—In search of the health consequences of dioxin in the environment."

Mike commissioned the first analytical three-sector tandem mass spectrometer, and published over 100 articles demonstrating that tandem MS was to be an important tool in biology.

One of these manuscripts reports the first sequencing by tandem MS of a peptide of unknown structure. With coworker Charles Wilkins, Mike built the second FT-ICR mass spectrometer in the late 1970s and went on to demonstrate a number of significant analytical applications such as GC/FTMS, laser desorption FTMS, high-pressure trapping in FTMS, and the algorithm for exact mass measurements.

Current research has as goals the development of a low-magnetic field MALDI instrument that employs high-pressure focusing, the use of H/D exchange to understand protein/ligand interactions, and the use of mass spectrometry in cancer research.

Mike is editor of the *Journal of the American Society of Mass Spectrometry* (since 1990), and former editor of *Mass Spectrometry Reviews* (1982-1990) and was recently awarded the ACS Field and Franklin Award in Mass Spectrometry.



Award winner Professor Michael Gross in his Washington University lab

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.

Date: October 10

Social hour: 5:30 pm

Dinner: 6:30 pm

Business meeting: 7:15 pm

Future meetings: Nov 14 (special program at "Center of Clayton" Conference Center, see p. 14 for details); Dec 12 (Continuity Dinner)

Saint Louis University

Seminars start at 3:30 pm in Room 204 Macelwane Hall. Refreshments follow. For more information, contact Paul Jelliss, jellissp@slu.edu.

Wednesday, October 2

Dr. Sophia Hayes

Washington University

*A New Type of NMR-Laser Enhanced
NMR of Semiconductors*

Wednesday, October 16

Dr. Merlin Bruening

Michigan State University
*Ultrathin Separation Membranes
Prepared by Layer-by-Layer
Deposition of Polyelectrolytes
on Porous Supports*

October 30

Dr. Paul Duval

University of Missouri-Columbia
To be announced

University of Missouri- St. Louis

Refreshments at 3:45; seminars at 4 pm in 451 Benton Hall. For further information, contact Prof. Chris Spilling, 314-516-5314, cspill@umsl.edu

Monday, September 30

Prof. Chris Cahill

George Washington University
*Open-Structured Actinide
Compounds by Design:
A Chemist's Interest in Mineralogy*

Monday, October 7

Prof. Todd Lowary

Ohio State University
To be announced

Monday, October 28

Prof. Graham Moran

University of Wisconsin
To be announced

see **Meetings & Seminars**

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from April, 2002, p. 8.

Language without Words

by Jack Bornmann

Last month I wrote about oral communication from a primitive "grunt language" to the more sophisticated languages of today.

Letters & Words & More

There are also non-verbal forms of communication. We use our eyes, faces, bodies, arms and hands.

A face can show fear, anger, despair and pain. We don't need to attend acting school; we do it naturally. Seeing someone's face while speaking was so important to me that I preferred to walk down four flights of stairs and walk to the next building rather than communicate on the telephone. Once I watched someone on TV making a speech. Every time he made an affirmative statement, his head slightly shook with a "no" message. I did not believe him.

I talk with my hands. I try not to, but when I'm not looking, they go into motion. I have studied my hand motion seeking a relationship to the words I speak. Rarely can I find a connection. Besides such

Brownian motion, some hand signals have specific meanings. In Germany, if you use your index finger to pull down the lower lid of your eye, that is a sign of disbelief. If you extend the index and little finger while curling the middle fingers into the palm and thrust your hand upward, that is the sign of the Texas Longhorns. On the other hand if you point those two fingers at a naughty child and waggle them, that means, "The devil is going to get you!" I think that sign is of Italian origin.

I think the devotees of body language interpretation sometimes go too far. For example, if you cross your legs, you are sexually repressed. What about those people, mostly women but also myself, who "double cross" their legs? (To "double cross" your legs cross the left leg over the right knee and then take the toe of the left foot and tuck it behind the right ankle.) Folding the arms is supposed to imply rejection. This interpretation is so widely accepted, a speaker may be offended by folded arms in the audience.

The FBI and the Customs Office have initiated training in body language for their inspectors. I am sure that they will be teaching what we have been using intuitively for years. I have watched



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students for shifting eyes, shaking hands, or a breaking voice. It was a warning to me to check further their stories carefully. Apparently the FBI and customs officers will use body language the same way. If you plan to go through Customs

or security checkpoints, you should go to an auction and practice sitting quietly and nearly emotionless. Not too emotionless, though; that signals something is wrong.

I've decided to stay home.

Crime Pays for Improving Science Education

by Harold Messler

Popular TV programs like *CSI* and media coverage of high-profile criminal cases like the OJ trial, the Unabomber, and an epidemic of child abductions have piqued the interest of today's students in the work of forensic scientists.

To capitalize on this interest, the American Academy of Forensic Sciences (AAFS), Pace University, and Court TV announced plans for a Forensic Science Educational Conference. The first one was held in St. Louis July 25-27, 2002, at Saint Louis University Medical School. It was presented by the AAFS, SLU School of Medicine, and the Saigh Foundation.

The conference aimed to increase middle- and high-school science teachers' knowledge of the

forensic sciences, enabling them to develop challenging, relevant curriculum modules in the sciences. One-hundred-fifty teachers from thirty-seven states participated.

The program consisted of lectures, roundtables, and hands-on workshops, many of which were keyed to the high school lab environment. AAFS forensic scientists presented workshops on topics like: ☉ Impression evidence ☉ Chemical and biological presumptive testing ☉ Physical matching and physical patterns ☉ Questioned documents ☉ Blood spatter pattern analysis ☉ Hair identification ☉ Fingerprints ☉ DNA testing and serology ☉ Toxicology ☉ Anthropology

The debut conference was a great success. The second conference, on the campus of Pace University (across from City Hall in New York City), will be held October 25-27, 2002.

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Chemir/Polytech ad

from film provided

Nominees for Office St. Louis Section-ACS

The Nominating Committee presents the following candidates for office to the St. Louis Section-ACS for 2003. Their professional affiliations and prior service in ACS offices, local and national, are listed as specified in the Section By-laws.

All members of the St. Louis Section are eligible to vote. Please mark the enclosed ballot, following the instructions printed on the reverse side, and return no later than October 31, 2002. Ballots post-marked after that date will not be counted.

Chair-Elect (vote for one)

Bijan Khazai, Manager of Technology, Sentor Technologies, Inc. – Science Fair judge (1996); Kids in Chemistry coordinator (1996-99).

Secretary (vote for one)

Keith Stine, Associate Professor, UM-St. Louis – Midwest Award subcommittee chair (1993); St. Louis Award subcommittee chair (1998-2000); Midwest Regional Meeting program chair (2000); Surface Science Discussion Group subcommittee chair (1993-1999); Materials Chemistry Discussion Group subcommittee chair (2000); Director (2001); Career Day co-chair (2001); Secretary (2002).

Treasurer (vote for one)

Bruce Ritts, Principal Scientist, Steris Corporation – Treasurer (2002, appointed); Director (2001); Publicity and Public Relations Committee chair (2000); Chemical Progress Week coordinator

2003

(1997-1999, 2001-2002); Program Committee chair (1996); Education Committee chair (1994, 1995); National Chemistry Week coordinator (1993); Donation Committee chair (1992).

Directors (vote for three)

Hal Harris, Professor of Chemistry, UM-St Louis – has served the St. Louis Section as Chair (1994), and as Director for many years before and after his Chairship. He is very interested in bringing a better public understanding and appreciation of chemistry through responses to distortions in the media, and has for several years headed a committee for that purpose in the Section.

Sue Dudek, Research Technician, Pharmacia Corporation – Technician Affiliate Group chair (1993); Alternate Councilor (1994, 1997); Director (1995, 1998-1999); St Louis Technician Award chair (1998-); Career Awareness Fair booth chair (1993-2002); "Battle of the Burets" co-chair (2000); Section Chair (2001).

At the national level: National Technician Award chair (1995).

Eric Ressler, Technical Communications Scientist, Sigma-Aldrich Corporation – *Chemical Bond* editor (1996-).

Councilor (vote for one)

Donna G. Friedman, Professor of Chemistry and department chair, St. Louis Community College-Florissant Valley – *Chemical*

Bond business manager (1983-1985, 1999-2002); Treasurer (1986-1987); Awards Committee chair (1988); College Awards subcommittee chair (1989-1990); Steering Committee (1990-1993, 1997, 1999, 2000); special event "Proud to be a Chemist" co-chair, (1991); National Chemistry Week acting coordinator (1991); Section Chair (1992); Director (1993); Bylaws Committee chair (1993-1994); National Chemistry Week coordinator (1994); Science Fair subcommittee chair (1995); Audit Committee chair (1996-2002); Investment Trustee (1999-2002); Parliamentarian (2002).

At the national level: Council Committee on Technician Activities (1991-1994); Division of Chemical Technicians Education committee chair (1994-1996); Council Committee on Constitution and Bylaws (1994-2000); Council Committee on

Membership Affairs (2001-02); District V Councilors Caucus secretary (1997-2002); Councilor (1994-2002).



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Lab Support

from p. 5

of September, 2002, issue

Bond Briefs

Local ChemOlympians

In the recently completed National Chemistry Olympiad, four of the six local students taking the exam earned recognition.

- High honors (national top 50):
 - Arvind Ravi
- Honors (national top 150):
 - Karth Ponnusamy
 - Jonathan Ray
 - Peter Scully

Congratulations to all competitors!

...and more winners

This just in from Sue Dudek, Immediate Past Chair:

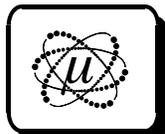
I am pleased to announce that at the ACS National Meeting in Boston, the St Louis Local Section was awarded a ChemLuninary Award for "An Activity or Program that Best Addresses the ACS Strategic Thrusts." We were cited for our Chemical Progress Month activities in April, 2001.

I was honored to receive the award on behalf of the Section. Even though the award was presented to me, it is your award. It represents numerous hours of effort from many of you.

With all of our hard-working, dedicated members, its no wonder we are an award-winning organization.

Congratulations and many thanks to all of you!

see **Briefs**
page 14



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In a Chemist role, you will work in one of several cGMP analytical laboratories on pharmaceutical development projects. Duties vary with position and section, but will include analytical method development and validation for active pharmaceutical ingredients and drug product (small & large molecule), clinical release testing and/or stability and dissolution testing. A solid knowledge of analytical techniques, especially in chromatography is required. The ability to maintain clear and accurate records, efficiently communicate and work well with cross-functional team members is essential. Organization, documentation and computer literacy skills are a must.

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Meetings & Seminars

from page 4

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.

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@tripos.com

Wednesday, October 16

Anita C. White, Ph. D.

Pharmacia Corporation

In Silico Approaches for the Prediction of Toxicity and Metabolic Fate

Environmental Science/Technology Discussion Group

Contact Dr. Kwok-Keung Au ("Amos") for information: call 618-239-0547 or e-mail amos@bellevillelab.com

NCW, St Louis–Style

The St. Louis section of ACS will be celebrating National Chemistry Week October 20-26. This year's theme is *Chemistry Keeps Us Clean*. The Section has the following events planned:

- A poster contest for children, grades K–12, on the *Chemistry Keeps Us Clean* theme. Awards will be given to outstanding posters by to grade level. Winning posters will be displayed October 19th at the St. Louis Science Center. The poster submission deadline is October 11th to Alexa Serfis.
- The annual "Day at the Science Center" will be Saturday October 19th from 10 a.m. to 4 p.m. There will be an academic/industrial exposition, with many displays and hands-on activities for children. There will also be special presentations pertaining to this year's theme given by Buckeye International, Steris

Corporation, and Marie Sherman of Ursuline Academy.

- The 10th Annual Battle of the Burettes will be held for area high school students on October 30th at Florissant Valley Community College.

For more information, contact:

Alexa Serfis
NCWeek Co-Chair
(314) 977-2842
barnoski@slu.edu



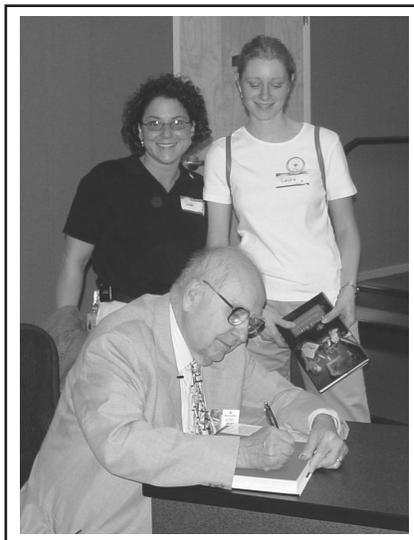
Anniversary Bash

The St Louis section's 95th anniversary was celebrated last month, marked primarily by a visit from Dr Aldred Bader, founder of Aldrich Chemical Company. Dr Bader presented a series of three lectures at three different venues around town, on three quite different topics. Also by way of celebrating, many members sported the



95th anniversary button.

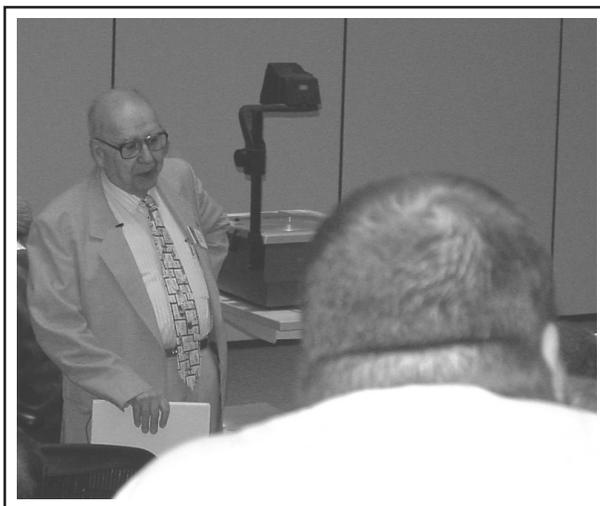
Our photo-journalism coverage comes from the presentation at the Sigma-Aldrich Life Science and High Technology Center, where Dr. Bader spoke on the history of Aldrich and the Sigma-Aldrich Corporation. About 70 people attended, split about equally between Sigma-Aldrich employees and ... not. One non-scientist in the audience was heard to comment, "I thought it might be boring, but he was really interesting. He has a good sense of



Dr Bader signs his book for two happy attendees

humor and he's a good story-teller."

If these raucous events have convinced you that chemists are a party crowd, just wait five years! The 100th offers even more excuses for excess. See you all in 2007?



Dr Bader as story-teller; the audience member in the extreme foreground was not identified.

Briefs

from page 10

**WSU Announces
RSEC Fellowships**

Wichita State University has received a *Research Sites for Educators of Chemistry* (RSEC) grant from the NSF to support two or more visiting faculty in 2003-04. Candidates must have a Ph.D. degree in chemistry; be currently employed by a 2- or 4-year college; have effective writing and interpersonal communication skills; demonstrate ability to work with diverse populations; and be committed to diversity.

RSEC Fellows spend one academic semester plus a summer at WSU's newly renovated 96,000 ft² facility, with over \$2 million of instrumentation. Fellows will

- pursue a research project under the direction of a WSU faculty member;
- mentor the teaching activities of a postdoctoral fellow; and
- supervise the summer research activity of an undergraduate student recruited from their home institution.

The fellowship stipend is \$35,000 plus a travel allowance to give a talk based on the research done. Preference will be given to applicants who combine the fellowship with a one-semester sabbatical from their home institution.

For more information about the application process, contact Professor D. Paul Rillema
Department of Chemistry
Wichita State University
Wichita, KS 67260-0051
voice 316-978-3732
e-mail paul.rillema@wichita.edu.

**Special November
Board Meeting Includes
General Meeting**

The November 14th St Louis ACS Board of Directors meeting will be held at the "Center of Clayton" Conference Center to accommodate the general meeting that follows.

A working dinner with Board business will be held from 6:30 to 7:30 pm. If you would like dinner, please contact Lisa Balbes on or before Friday, November 8, to make reservations. She can be reached at lisa@balbes.com or 314-966-5298.

At 7:30 pm, a General Meeting of the section will feature special guest Atila Pavlath, Past President of the American Chemical Society. We don't know yet what his topic

will be, but it is sure to be of interest to all members. More information should be available in the November issue and on the section website.

You may attend the General Meeting without attending the Board meeting, but all members are welcome for both parts of the program. No reservations are required for the General Meeting.

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