



Chemical Bond

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St. Louis Section, American Chemical Society



Dr. John J. Talley
2001 St Louis Awardee

Dr. John Talley: 2001 St. Louis Awardee

Dr. John J. Talley was born in Waterloo, Iowa. He attended the University of Northern Iowa in Cedar Falls and graduated with a BA in science in 1974 and a BA degree in chemistry in 1975. He was awarded a Ph.D. in organic chemistry from the University of Minnesota in 1979.

After seven years at General Electric's Corporate Research and Development Center in Schenectady, New York, he joined Monsanto's Central Research Laboratories in 1986.

Since joining Monsanto, he has conducted investigations in asymmetric catalysis, HIV protease inhibition, and COX-2 inhibition. His research efforts have produced 106 patents and 45 publications.

Dr. Talley is co-inventor of the hydroxyethyl sulfonamide isostere useful for HIV-protease inhibition. amprenavir (Agenerase™), was licensed by Searle to Vertex and is currently used for treatment of AIDS.

Dr. Talley is the lead inventor of the COX-2 inhibitors celecoxib, (Celebrex™), valdecoxib and parecoxib. Celebrex has the distinction of being the most successful new product introduction in pharmaceutical history, with more than \$1.5 billion in first-year sales. Celebrex is currently the leading brand of prescription arthritis pain medication.

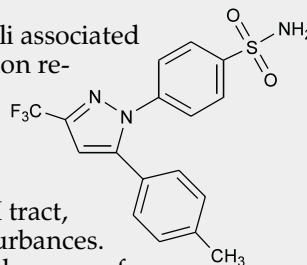
Valdecoxib, a second-generation COX-2 inhibitor for the treatment of arthritis and pain, is scheduled to be submitted for regulatory approval in 2001. Parecoxib, the first investigational injectable COX-2 inhibitor, is currently under regulatory review for the treatment of acute severe to moderate pain.

Dr. Talley is currently a Senior Research Fellow in the discovery medicinal chemistry department at Pharmacia Corporation in St. Louis, Missouri.

Celecoxib is the first of a new class of NSAIDs (non-steroidal anti-inflammatory drugs), the selective COX-2 inhibitors. COX-2 (cyclooxygenase-2) is an enzyme in the biosynthetic pathway of prostaglandins, thought to be responsible for a wide variety of painful stimuli associated with inflammation. Inhibiting their production reduces pain.

Classical NSAIDs like aspirin, acetaminophen, ibuprofen, and naproxen are non-specific COX inhibitors. Trouble is, COX-1 function is necessary for a healthy GI tract, so inhibiting it causes all sorts of gastric disturbances. Many people can't tolerate classical NSAIDs because of the severe side-effects.

Celecoxib leaves COX-1 largely unaffected. Interesting compound: a medicinal chemist looking at the structure is almost sure to see an anti-infective—because it is a sulfonamide—not an anti-inflammatory drug. Dr. Talley didn't see it that way.



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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.

Date: May 10

Social hour: 5:30 pm

Dinner: 6:30 pm

Business meeting: 7:15 pm

Future meetings: Sep 13

Saint Louis University

Seminars start at 3:30 pm in Room 204 Macelwane Hall. Refreshments follow. For more information, contact Dana Spence, spenced@slu.edu.

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.

April 30, 2001

Dr. Marjorie Jones

Illinois State University
*Coproporphyrinogen Oxidase—
Studies of a Really Neat Enzyme*

May 7, 2001

Alumni Lecture

Mr. Ken Owens

University of Missouri—St. Louis
*Sharp Objects and Fires,
Daily Fare for the Glassblower*

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

Locations vary, but the time is generally 5:30 for refreshments, and 6 pm for the talk. For more information, contact Marcia Fenley, 314-862-0451, sfenley@artsci.wustl.edu or Philippa Jayatilleke, 314-647-1099, pjayat@tripos.com

Tuesday, May 15

Benton Hall 451, UM—St. Louis

Dr. Shashidhar N. Rao

Molecular Simulations, Inc.

*Molecular Modeling Studies
on Organophosphorus Inhibitors
of Acetylcholinesterase*

Environmental Science/Technology Discussion Group

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

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from February 2001, p. 7

Chemicals on the Brain

by Jack Bornmann

This is the era of the brain. In high school my brother was "the brain." In college some of my classmates could be considered "brains." However, when I write that this is the era of the brain, I do

Letters & More Words & More

not mean a person. I am referring to that magnificent organ that we all depend upon but know so little about. Definitely in this century, and perhaps in the next 25 years, there will be a tremendous breakthrough in understanding the brain.

First, we need to escape from terminology with origins in ignorance. I refer to the phrase "chemi-

cal imbalance" to explain mental illnesses. Schizophrenia, depression, bipolar disorder, etc., are caused by "chemical imbalance." This phrase shows both enlightenment and ignorance.

Of course, mental illness is caused by a chemical imbalance. What disorder is not? Osteoporosis happens when the calcium balance between blood, bones and food is out of whack; diabetes when sugar and insulin are not in balance. Estrogen and testosterone have a chemical balance in men and women; imbalances cause problems. A friend had gluten intolerance because she did not produce the enzyme to metabolize it. Lactose intolerance, too, is a chemical imbalance. Do you have high blood pressure? What is the first thing your physician recommends?

see **Chemicals on the Brain** p. 8



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**Request for Nominations
for 2002 Officers
St. Louis Section-ACS**

The St. Louis Section of the American Chemical Society requests nominations for officers, directors, councilors, and alternate councilors to stand for election in the fall of 2001. If you would like to nominate someone for any or all of these offices, please fill in this nominating ballot and mail it, postmarked no later than May 31, 2001 to:

Jerry Hook, Secretary
St. Louis Section-American Chemical Society
6008 Bissonnet Ct
St Louis, MO 63129-2103

.....
Nominating Ballot
St. Louis Section-ACS
2002 Officers

Chair-Elect _____

Secretary _____

Treasurer _____

Directors
(up to three) _____

Councilors
(up to two) _____

Alternate Councilors
(up to two) _____

Chemicals on the Brain from p. 6

Lower your sodium intake. You have a sodium imbalance.

Saying simply that a chemical imbalance is the cause of a mental disorder is both true and trivial. It reminds me of van der Waals' forces with gases. Real gases do not follow the ideal gas equation all the time. Van der Waals proposed that molecules of a gas had a finite size and attractive force. Soon scientists were explaining away the attractive forces between molecules by saying, "Oh, that is just a case of van der Waals' forces." By doing so they revealed that they actually did not know what caused those forces. The phrase was a convenient way of hiding one's ignorance. It was used very widely.

"Chemical imbalance" as a cause of mental disorder is just a convenient way of hiding one's igno-

rance of brain function. When we rid ourselves of the use of "chemical imbalance" to explain mental disorders, we open the gates to a real understanding of the operation of the brain. And what a wonderful experience that will be for us!

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Chemical Technician Award Call For Nominations

The St. Louis Section Chemical Technician Award will be presented to a chemical technician in the St. Louis area who has demonstrated an extremely high degree of professionalism as a chemical technician.

Criteria used to judge the award include technical skills, safety and housekeeping, relationship with co-workers, publications and presentations, reliability, communication skills, innovation and contribution to team efforts, and additional professional activities.

The award will consist of a plaque, a check for \$250.00, dinner for the awardee and a guest at the Chemical Progress Week Awards Night ceremony, and nomination for the National Chemical Technician Award. The award will be presented at the Awards Night Banquet in April of 2002.

A chemical technician is a person whose training includes successful completion of an Associate or Bachelor Degree in a chemistry or chemistry-related curriculum, or

the equivalent knowledge gained by experience. The primary work of a chemical technician is conducting experimentation and/or correlating information to help solve chemical problems and/or discover new chemical knowledge.

Letters of nomination must be received by

Sue Dudek
Pharmacia Corp. Mail Code T2J
800 N. Lindbergh Blvd.
St. Louis, MO 63167

by October 22, 2001. Nominations, including seconding letters, must not exceed six pages. The nominating letters should address each of the criteria above. A current work address, phone number and fax number must be provided for each nominee. Include an e-mail address if one is available.

Chemical technicians need not be TECH Division affiliates or ACS members to be eligible. This award is administered by the St. Louis Section-ACS.

For more information contact
Sue Dudek:
phone 314-694-2464
fax 314-694-5216
e-mail susan.dudek@pharmacia.com

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Recognition Night 2001: A Night to Remember

The 2001 Recognition Night was held on Saturday, March 10, at the Glen Echo Country Club. The Country Club was a beautiful venue for this event, and thanks go to Lol Barton for making the arrangements for us to use it. Thanks also to Samir El-Antably, who

was in charge of the dinner, which was excellent as usual.

Recognition Night is a very distinctive event for the St. Louis Sec-




Chair Sue Dudek with new 50-year members Robert Murray (left) and Robert Freeman (right)



Current chair Sue Dudek presents past-chair recognition plaque to Pauline Bellavance (left).





tion. It is an evening when we recognize individuals who have made a difference by their contributions to the Section. We recognized the new 50-year members of the St. Louis Section, the past 50-year members, past Section Chairs and past recipients of the Distinguished Service Award. In addition to the usual acknowledgements, this year a "Salute to Excel-



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Jed White receives St Louis Section Distinguished Service Award from ... yes, it's ... chair Sue Dudek.

lence" award was presented to the Science Center for their cooperation with the St. Louis Section in public outreach programs. Accepting the award was Carol Valenta, Science Center Senior Vice President of Education, Exhibits and Programs.

We acknowledged Dr. J. Edmund White, recipient of the 2001 Distinguished Service Award. Jed has served the Section in a variety of positions including Section Chair, Secretary, and chair of several committees.

We recognized Pauline Bellavance, Immediate Past-Chair, for her contributions to the

Section. In 2000, Pauline led the Section as we hosted the very successful Midwest Regional Meeting, she updated the Section Job Manual and dedicated herself to the Section in so many other ways. She gave the traditional Past-Chair's Address, which was a delightful dissertation on the joys of teaching.

The program ended around 9:00 pm and everyone seemed to enjoy a nice evening. Why not plan on joining us next year? For information on Recognition Night 2002, con-

contact the Section Chair at susan.dudek@pharmacia.com.



Carol Valenta accepted the "Salute to Excellence" Award on behalf of the St Louis Science center from ... could it be? ... Sue Dudek.

Bond Briefs

College Awards Announced

This from Michael Hauser, chair of the College Awards Committee:

The St. Louis Section 2001 winners of the College Awards are:

Outstanding
Junior Chemistry
Student Award
Washington U: Eve Hindin and
Erin Brew (co-winners)
Saint Louis U: Katie J. Mang
Southern Illinois U-Edwardsville:
Kristy M. Homann
U of Missouri-St. Louis: Kim
Nguyen
Lindenwood U: Angela D. Tidwell
Maryville U: Stephen Reale
Principia C: Cynthia Akpene Fianu
Outstanding
Chemical Technology
Student Award
St. Louis C C-Florissant Valley:
Susan M. Vallely
Congratulations to all!

More ChemInvolve Ops

There was a record turnout at the Science Center March 24th for the "Kids & Chemistry" event. Some may suggest a fortunate conjunction of bad weather and a free Grossology exhibit contributed to the success, but we know it must

have been the other way 'round. (Mother Nature to self: "Why bother with sun when everyone will be indoors at the Science Center?") All the kids looked great in their new safety goggles, and the makins for Slime were completely depleted by 4 pm.

The K&C team is now gearing up for return engagements on June 2 and September 8. If you would like to be a Cheminvolunteer for this fun and rewarding public outreach program, please contact Anna Scarim by e-mail at scarimal@slu.edu.

Cheminvolunteers are also needed at the St. Louis Science Center on May 12, 10 am to 3 pm for the "Community Science Day". If you would like to participate at the Section booth, please contact Greg Wall at 800-325-5832 ext. 3139 or by e-mail at gwall@sial.com.

Section Members to Present for 125th

There will be a special 125th Anniversary poster session at the August national ACS meeting in Chicago. It's on *The History of the ACS through its Local Sections*, and two members of our section, Lawrence Barton and Jane A. Miller of UMSL, have had their poster ac-

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cepted: "The St. Louis Section: Approaching 100 Years."

If you'll be there at the SCIMIX event, stop by and offer some moral support.

By-Laws to Get a Tune-up

Donna Friedman and Karl Markl have been convened as an ad hoc committee to review the section's by-laws and bring them into congruence with current practices (or vice versa).

The by-laws last got a complete overhaul in 1994, and one wag at

the Board meeting, remembering how painful the process was, suggested we "let by-laws be by-laws." That suggestion was greeted with unanimous indifference, and so Donna and Karl will undertake a kinder, gentler review.

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Councilors' Report from San Diego

Our section was well represented by its Councilors at the April national ACS meeting in San Diego. A joint report from all six of them was presented to the Board on April 10th, with additional verbal remarks from Lol Barton and Donna Friedman.

Herewith, the high points:

- The meeting was the third largest ever. Registration was nearing 18,000 on Tuesday with two days remaining.
- In honor of the 125th birthday of ACS, President Bush sent a letter commending the society for its contributions. Congressional representatives of President Attila Pavlath and Board Chair Nina McClelland read remarks into the *Congressional Record*.
- Chemical Abstracts Service is using its new data center, with a capacity of 48 TB (that's terabytes or 10^{12} bytes)—a nine-fold increase over previous capacity. With another nine-fold increase down the road a few years, they'll be getting close to a nanomole of bytes!
- The ACS has redesigned its home page and renamed it Chemistry.org. It's intended to appeal to an audience that includes media, legislators, teachers and the intellectually curious general public in addition to chemists.
- Preview the expanded job search and recruitment site, jobspectrum.org, scheduled for full implementation on June 1.
- For the first time in years, the automatic dues escalator clause was not re-debated, and an increase, indexed to the CPI, was allowed to take effect. Annual dues will rise from \$108 to \$112.
- The theme for National Chemistry Week 2001 will be "Chemistry and Art" The Local Section Activities Committee is considering a move to October for this annual event. Would it be too much to hope that it will coincide with Mole Day?

Recollections from Spring 1967

Lol Barton

This period in the history of the St. Louis Section saw many developments which shaped it into what it is today. In February, Sec-

CHEMISTRY

tion Chair Leo Spillane announced the formation of a Long-Range Steering committee under the direction of Chair-Elect Henry Godt. Of course this tradition continues today; the Chair-Elect chairs and appoints members to the Steering Committee.

The first order of business was to consider changing the format of the presentation of the Midwest Award. The committee was charged with soliciting a capital fund to support the award and the discussed presenting the award at the ACS Regional Meeting. Again this tradition continues today.

The Section's operating budget for 1967 was \$4,900.

Among the activities during spring 1967 were an "ACS Wives" luncheon and meetings of the Organic, Inorganic-Physical and Education Topical Groups. Also scheduled were meetings of the AIChE St. Louis Section, the American Society for Quality Control and the St. Louis Society of Analysts. Venues included the Cheshire Inn, St. Louis College of Pharmacy, Clayton High School and Webster College. Among the activities of the Section was a series of lectures run through the Washington Uni-

versity Continuing Education Department by Jack Marcus. The author remembers this series vividly. Many very distinguished chemists participated.

Recognition Night was held as a joint meeting with the Education Topical Group at the Flaming Pit Restaurant on Manchester Road and it also involved a tour of the McGraw-Hill Publishing Company. The 50-year members honored at the meeting were Edward P. Gillian, former Technical Manager of the Corn Products Division of Anheuser-Busch, and Edward Doisy, Distinguished Service Professor in the School of Medicine at Washington University and formerly a faculty member at St. Louis University. Dr. Doisy won the Nobel Prize for Medicine in 1943.

One of the high points of spring 1967 was a General Meeting of the Section, held at the Engineers' Club on Lindell Boulevard. The speaker was Dr. Barry Commoner, Professor of Plant Physiology at Washington University. He had just completed a six-year term as chairman of the Committee on Science in the Promotion of Human Welfare of the AAAS. A world-renowned environmental activist, he spoke on "Chemistry and Environmental Pollution".

Several personalities who should be recognizable to current Section members were mentioned in issues of the Chemical Bond in spring 1967. Dr. Derek Redmore was named group leader of exploratory synthesis in the Hydrocarbon Research Section at Petrolite Inc. Charles Gerfen, Mallinckrodt, completed a six-year term on the ACS Council Committee on Membership Affairs. G. Brooke Hoey was named Director of Research for the

Pharmaceutical Division of Mallinckrodt Inc. An ad appeared in the Chemical Bond for the Du Good Chemical Laboratory. The Director was Dr. Lincoln I. Diuguid, who recently was honored with a 2000 ACS "Salutes to Excellence" award. Ferd B. Zienty, who served as Section Chair in 1949, was chosen to receive a University of Michigan Sesquicentennial Award at an honors banquet in Ann Arbor. Finally, it was noted that Edward Mallinckrodt, Jr., passed away on January 19 at the age of 88. He had served as Chairman of the Board of the chemical and pharmaceutical company that bore his name for 37 years. A lifelong St. Louis resident, he had been a founding member of the St. Louis Section in 1907.

This is the second article in the series on Section history based on memory and on old issues of the Chemical Bond. If you have comments or corrections, or if you would like to contribute to this series, please contact me at lbarton@umsl.edu

Career Self-Management Works

A workshop on managing your career and job search is coming up: Saturday, May 19, 8:30 am to 4 pm Sheraton Clayton Plaza Hotel 7730 Bonhomme, Clayton

Career Corner

Learn to locate your most important career tools inside yourself. The morning program is a symposium on "Launching an Effective Job Search," and the afternoon includes interview preparation, one-on-one r, sum, review, and extras on networking.

The cost of the full-day program, including morning refreshments and lunch, is \$18 (free for ACS student affiliates, new ACS members approaching graduation, and unemployed ACS members). Send a statement of what you expect or need from the program, any dietary restrictions, and your check (or proof of fee-waiver status) to:

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