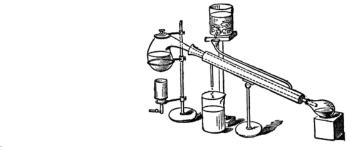


SOUTHWEST RETORT



SIXTY-FIFTH YEAR

APRIL 2013

Published for the advancement of Chemists, Chemical Engineers and Chemistry in this area

published by

The Dallas-Fort Worth Section, with the cooperation of five other local sections of the American Chemical Society in the Southwest Region.

Vol. 65(8) APRIL 2013

Editorial and Business Offices:

Editor: Connie Hendrickson, 802 South Jefferson, Irving, TX 75060;

972-786-4249; <u>retort@acsdfw.org</u>

Copy Editor: Mike Vance: <u>vance2276@gmail.com</u>

Business Manager: Danny Dunn, 6717 Lahontan, Fort Worth, TX 76132;

817-361-0943; dannyldunn@sbcglobal.net

The Southwest Retort is published monthly, September through May, by the Dallas-Ft. Worth Section of the American Chemical Society, Inc., for the ACS Sections of the Southwest Region. Contact the Editor for subscription and advertisement information.



TABLE OF CONTENTS

Fifty Years Ago4
ARTICLES and COLUMNS
Dr. Bob Gawley Obituary14
And Another Thing10
Caffeine-Addicted Bacteria7
Non-Animal Skin Testing15
Olive Oil and Alzheimer's17
Five Questions18
From the Editor20
AROUND-THE-AREA12-13
Employment Listings3
DFW SECTION
50– and 60–Year Members6
Volunteers for M-in-M16
OTHER MEETINGS
SWRM 2013: WACO 8-9
ACS Dallas 2014 Previews11

Contact the DFW Section

General: info@acsdfw.org

Education: ncw@acsdfw.org

Elections:

canddates@acsdfw.org

Twitter: acsdfw

INDEX OF ADVERTISERS

ANA-LAB	5
Huffman Laboratories	.3
Sponsor Members	2

OXYCHEM
HALLIBURTON
TEXAS EASTMAN

EMPLOYMENT CLEARING HOUSE

Job applicants should send name, email, and phone, along with type of position and geographical area desired; employers may contact job applicants directly. If you have an opening, send your listing, including contact info for your company, to retort@acsdfw.org. Deadlines are the 7th of each month.

EDITING AND PROOFREADING SERVICES

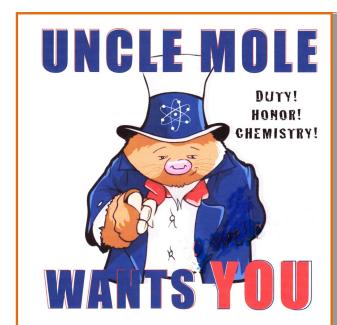
Need someone to proof or edit your next paper, grant, or presentation? Let an experienced proofreader and PhD chemist do it for you! I have a strong grasp of English grammar and scientific writing and can condense text without losing the underlying meaning. Competitive rates! Contact Mike Vance:

Neat

work

vance2276@gmail.com

408-786-7451



to send your articles, news items, and opinion pieces to the Southwest **RETORT!**

retort@acsdfw.org

Elemental Analysis

CHNOS Ash
ICP · AA · ICP/MS
TOC · TOX · BTU
Problem Solving

HUFFMAN

LABORATORIES, INC. Quality Analytical Services Since 1936

Phone: (303) 278-4455 FAX: (303) 278-7012 chemistry@huffmanlabs.com www.huffmanlabs.com

FIFTY YEARS AGO IN THE SOUTHWEST RETORT

Note from Tom Strom. The April 1963 issue of The Southwest Retort gave the first local reaction to Rachel Carson's Silent Spring. I am reprinting The Southwest Retort's strong negative reaction. The article reprinted from the Farm Journal was more balanced than The Retort's introduction. You older readers may recall that C&EN was equally negative.

Chemical Industry Under Attack! A storm over pesticides broke in October with the release of "Silent Spring." It is being further aggravated by TV Spectaculars, scare talk. This article reprinted from Farm Journal points out the threat to you from these half truths and how you can help defeat it. Ed. Note: see article for good overview of the reaction.

Arlington State College will offer a course in Gas Chromatrophy Aug. 5-7. This was announced by **Dr. John T. Murchison** of the chemistry department. The cost is \$75, which includes the text but not board or room. Among the lecturers will be: **Dr. Joe Hodgkins** of TCU, **John T. Lynch** of Ling-Temco-Vaught and **George McIver** of Socony Mobil. Several other companies are participating by loaning instruments and personnel for this special course. Inquiries should be sent to John T. Murchison, Arlington State College, Arlington, Texas.

The ACS tour speakers for April are **Dr. Edward L. Haenisch** from Wabash College in Crawfordsville, Indiana, and **Dr. Gerad Kraus** from Phillips Petroleum Co., Bartleville, Oklahoma. Dr. Haenisch's topic is "The Revolution in Science Teach

ing," and Dr. Kraus will speak on "The New Elastomers, Structure and Properties."

The University of Texas recently instituted a graduate program leading to a Ph.D. in chemical physics. Professors **F. M. Marsen, L. O. Morgan** and others of the UT staff will be the primary directors of this area of graduate study.

Dr. George L. Landolt, Professor of Chemistry at Austin College, will be visiting Professor of Chemistry at Chung Hsing University, and engineering and agriculture university. It is located in Taichung, Taiwan. Dr. Landolt will be serving as an educational missionary of the Presbyterian Church U.S. on leave of absence from Austin College for three years.

The 1963 officers for the Dallas Society of Analytical Chemists are Chief Analyst, Phil Kane, Assistant Chief Analyst, Graydon Larrabee, Statistical Analyst, Bob Morrison, and Recording Analyst, Paul Blatz. Visiting speakers included Stephen Del Nogare in January and M Margoshes in April.

An ACS Petroleum Research Fund International Faculty Award has been given to **Dr. Samuel Siegel** of the University of Arkansas. He will spend the 1963-64 academic year as Visiting Professor at Queen's University, Belfast, Northern Ireland.

CONTRIBUTED BY E. THOMAS STROM





ANA-LAB CORPORATION

2600 Dudley Road • P. O. Box 9000 Kilgore, Texas 75663-9000

903-984-0551 • Fax: 903-984-5914

www.ana-lab.com • Email: corp@ana-lab.com

Ana-Lab Corporation is an employee-owned organization which provides superior, innovative and cost effective solutions for clients though exceptional science, processes and people. With a staff of experienced, professional and talented chemists and technicians supported by sophisticated laboratory testing equipment, Ana-Lab is the preferred environmental testing laboratory serving clients nationwide.

Regional Service Centers

Amarillo, TX Phone / Fax 806-355-3556 Email: panhandlesales@ana-lab.com

Dallas, TX Phone / Fax 972-837-9412 Email: northtex@ana-lab.com

Austin, TX Phone / Fax 512-821-0045 Email: centex@ana-lab.com

Brownsville, TX Phone / Fax 956-831-6437 Email: rgvtex@ana-lab.com Houston, TX Phone / Fax 281-333-9414 Email: gulfcoastsales@ana-lab.com

Norman, OK Phone / Fax 405-590-2533 Email: oklahoma@ana-lab.com

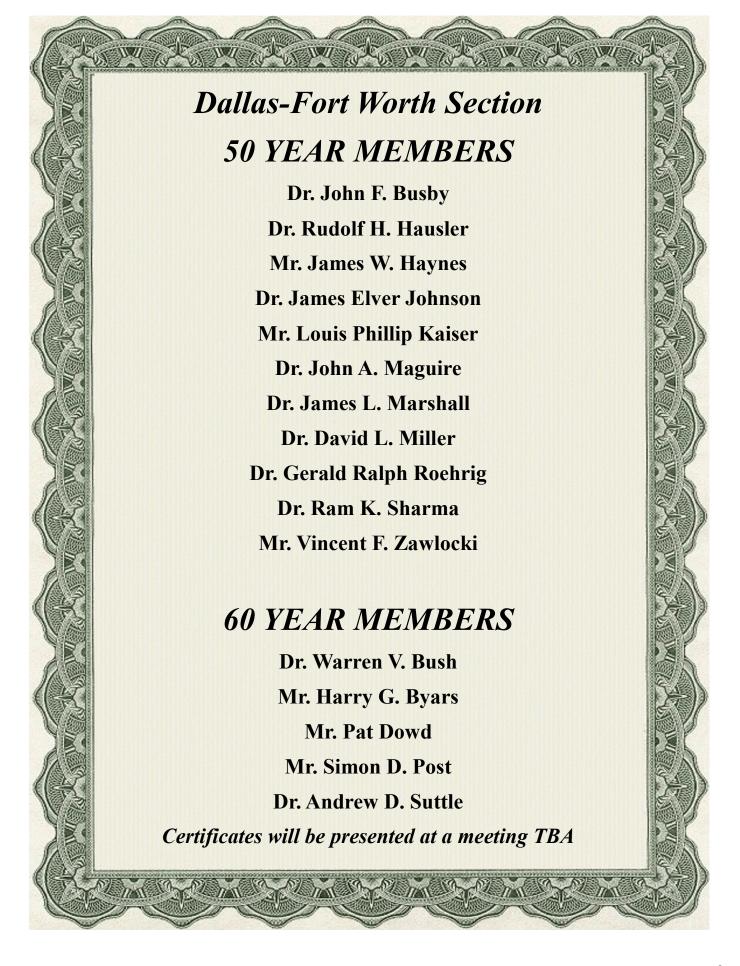
Shreveport, LA Phone / Fax 318-219-9300 Email: arkla@ana-lab.com











From the ACS Press Room

The first caffeine-'addicted'

bacteria: Genetically engineered bacteria are "addicted" to caffeine in a way that promises practical uses, ranging from decontamination of wastewater to bioproduction of medications for asthma.

"Decaffeination and Measurement of **Caffeine Content by Addicted** Escherichia coli with a Refactored N-**Demethylation Operon from** Pseudomonas putida CBB5" ACS Synthetic Biology

Some people may joke about living on caffeine, but scientists now have genetically engineered E. coli bacteria to do that — literally. Their report in the journal ACS Synthetic Biology describes bacteria being "addicted" to caffeine in a way that promises practical uses ranging from decontamination of wastewater to bioproduction of medications for asthma.

Jeffrey E. Barrick and colleagues note that caffeine and related chemical compounds have become important water pollutants due to widespread use in coffee, soda pop, tea, energy drinks, chocolate and certain medications. These include prescription drugs for asthma and other lung diseases. The scientists knew that a natural soil bacterium, *Pseudomonas putida* CBB5, can actually live solely on caffeine and could be used to clean up such environmental contamination. So they set out to transfer

genetic gear for metabolizing, or breaking down, caffeine from P. putida into that old workhorse of biotechnology, E. coli, which

> is easy to handle and grow.

The study reports the E. coli for

their success in doing so, as well as use of

decaffeination and measuring the caffeine content of beverages. It describes development of a synthetic packet of genes for breaking down caffeine and related compounds that can be moved easily to other microbes. When engineered into certain E. coli, the result was bacteria literally addicted to caffeine. The genetic packet could have applications beyond environmental remediation, the scientists say, citing potential use as a sensor to measure caffeine levels in beverages, in recovery of nutrient-rich byproducts of coffee processing and for the cost-effective bioproduction of medicines.



The author and co-authors acknowledge financial support from the University of Texas at Austin and the University of Iowa.

November 17-20, 2013 Waco Convention Center



American Chemical Society





69th Southwest Regional Meeting

November 17-20, 2013 Waco Convention Center

Join us in downtown Waco for our FIRST EVER SWRM! We have a great meeting planned...

High-school program (Saturday 11/16)

Undergraduate program including posters, oral presentations, and demo fair

Awards banquet

Mixers, Expo, and Grad School Fair

W. Dial Black Family Lecture - Stephen Fesik (Vanderbilt)

Gooch - Stephens Lecture - t.b.a.

The Stone Symposium - Synthetic and Structural Inorganic Chemistry Numerous technical symposia including:

Bioinorganic Chemistry

Advances in Computational and Theoretical Chemisty

Recent Advances in NMR in Chemistry

Organic Synthesis and Catalysis

Atmospheric Chemistry

Chemical Biology in Texas

Chemistry on Surfaces and Interfaces

Fundamental Aspects of X-omics & Mass Spectrometry Studies

Applications of Modern X-omics Mass Spectrometry

Targeting the Tumor Microenvironment

Reaction Dynamics in Condensed and Gas-Phases

Chemical Neuroscience

Spectoscopic Methods for Atmosphere & Combustion

Electroanalytical Chemistry

Energy Symposium

Frontiers in Nucleic Acids



...AND ANOTHER THING...

By Denise L. Merkle

Hey, Jude

While researching and ultimately discarding the initial topic selected for this month's, 'And Another Thing...', I came across a blurb announcing Julian Lennon's 50th birthday. Julian Lennon is 50. He was born in 1963, lost his father to violence in 1980, and released his first album, 'Valotte', in 1984, not quite four years after John Lennon's untimely death. 'Valotte' was certified gold (more than 500,000 records shipped) in early 1985. A prolific artist and philanthropist, Julian Lennon released his 6th album, 'Everything Changes,' in 2011. It is as bizarre to think that Julian Lennon is half-a-century old as it is to realize that the Beatles were formed in 1957. According to thebeatles.com, their last photo session as a band was in 1969, when Julian Lennon — now 50 — was six.

In one **photo**, the significantly bearded, bell-bottom-clad band is posed on a parapet. They gaze unsmiling into the cameramatter-of-fact or defiant—who can tell?

They don't look like parents, spouses, sons— or musicians. They could be chums during a long weekend outing, collected, against their will, to preserve the gathering for eternity. Yet, The Beatles, originally assembled in 1957 and defunct in 1970, has sold more than 1×10^9 units (albums, songs, whatever), far beyond gold, platinum, or even super platinum. They are the best selling band in history, and continue

to sell music even though they disbanded—literally—when Julian Lennon, now 50, was seven. Forty three years after the Beatles called it quits as an act, their influence is still so strong that an article originally intended to focus on the thoughts stirred up by Julian Lennon's 50th birthday has been hijacked by the enormity of the societal changes documented—if not inspired by his father's band.

What is the point of all this, you ask? Why does it matter that Julian Lennon is 50? Or that a group of young guys from Liverpool were so driven, and so convinced that success was possible, that they worked until it was so? Why should anyone care that the structure of our music and the goals of young musicians are heavily rooted in a band that existed for little more than a decade?

Perhaps the point is that vision is necessary for success, and total dedication to the dream is necessary for success, and the willingness to step outside the box —or the zebra crossing—is necessary for success, and being in the right place, at the right time, with the right people, and the courage to move forward together are necessary for success.

And Another Thing...is meant to inspire thought and discourse. In no way is it intended to criticize the efforts of those who devote their time and energy to improve others' opportunities.

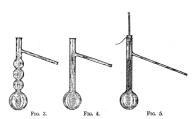
SYMPOSIA OF INTEREST DALLAS 2014 ACS MEETING

Dallas will be the site of the Spring ACS Meeting on March 16-20, 2014. We already have news of two symposia to be held there, one of particular interest to local area chemists. These symposia are being arranged by the ACS Division of the History of Chemistry (HIST). One symposium is called "History of Chemistry in North Texas," and it is cosponsored by the Dallas-Fort Worth ACS Section. The organizers are Dr. E. Thomas Strom, Department of Chemistry and Biochemistry, University of Texas at Arlington, P. O. Box 19065, Arlington, TX 76019-0065, Tel. 817-272-5441, tomstrom@juno.com, and Professor Manfred G. Reinecke, Department of Chemistry, Texas Christian University, Fort Worth, TX 76129, Tel. 817-257-6204, m.reinecke@tcu.edu. The organizers are planning for a half day symposium. Possible topics would be the history of local chemistry departments and industrial/governmental laboratories, but contributed papers on other topics are welcome. Abstracts will probably be due in either late September or early October. Potential contributors should contact one of the organizers to insure there are no duplications of topics.

The second symposium is "Fifty Years of the James Flack Norris Award. The Foundations of Physical Organic Chemistry." The year 2014 marks the awarding of the 50th James Flack Norris Award in

Physical Organic chemistry. The symposium is being cosponsored by the ACS Division of Organic Chemistry (ORGN), and it is expected that a second cosponsor will be the Northeastern ACS Local Section. The organizers are Dr. E. Thomas Strom (contact information above) and Dr. Jeff Seeman, Department of Chemistry, University of Richmond, Westhampton Drive, Richmond, VA 23173, Tel. 804 -794-1218, jiseeman@yahoo.com. Presentations will include a history of James Flack Norris and of the award, talks by some of the older winners of the award, and presentations on some of the deceased winners of the award. For example, the first and second awards were given, respectively, to Christopher Ingold and Louis Hammett, two chemists who provided much of the foundation of physical organic chemistry. There will be room for some contributed presentations. but, again, potential contributors should contact one of the organizers before submitting an abstract. It is expected that presenters will be open to later expanding their presentations to either an article for The Bulletin for the History of Chemistry or to a chapter for an ACS symposium book. We are sure there will be additional interesting symposia from other ACS divisions to make the Dallas ACS meeting one NOT to be missed.

CONTRIBUTED BY E. THOMAS STROM



Around the Area

TEXAS TECH

Dr. Stephen Buchwald, Camille Dreyfus Professor of Chemistry at MIT, was the guest speaker at the 13th Annual Henry J. Shine Lecture on Mar 5-6, 2013 at Texas Tech University.



L to R: Dr. Lawrence Schovanec (TTU Interim President), Dr. Stephen Buchwald (MIT), Dr. Carol Korzeniewski (Chair, TTU Chemistry & Biochemistry)

Dr. Buchwald gave a presentation entitled "Palladium-Catalyzed Carbon-Nitrogen and Carbon-Carbon Bond-Forming Reactions: Progress, Applications and Mechanistic Studies" for the general public on the evening of Mar 5. A more technical presentation entitled "Flow Chemistry: Opportunities for the Development of New and Useful Synthetic Methodology" was then given at noon on Mar 6.

This year's event was also used to recognize the 90th birthday in January of

Dr. Henry Shine, Emeritus Paul Whitfield Horn Professor of Chemistry at TTU. Dr. Lawrence Schovanec, TTU Interim President, gave introductory remarks on the career of Dr. Shine which began at TTU in 1954. In addition to Dr. Shine's distinguished career in Physical Organic Chemistry, he has also previously served as a Chair of the department. He maintains a presence in the Chemistry & Biochemistry



department at Texas Tech and continues to make professional contributions to the field.

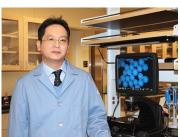


See also http://www.dailytoreador.com/news/article 7320563c-861f-11e2-b479-0019bb30f31a.html

UTD

The chemistry department welcomes two new assistant professors to the faculty, **Jiyong Lee** and **Ron Smaldone.**

Jiyong's research interests include protein



-protein interactions and high-throughput screening of small -molecule libraries; he earned his Ph.D.

from UT Southwestern and was a postdoc at Scripps in LaJolla.

Ron's research interests include nanoporous polymers and organic



materials science; he earned his Ph.D. from UI-Urbana Champaign and was a postdoc at Northwestern.

Texas Wesleyan

Dr. Bob Landolt of Texas Wesleyan
University has been awarded a Presidential
Climate Science Challenge Grant from
ACS and the Dallas/Fort Worth Section.
The DFW ACS Section proposes to
provide up to 200 Community College
Science Faculty with orientation and
hands-on experience using the ACS
Climate Science Toolkit and online
Energy/Environment Simulations. In

cooperation with the Dallas, Tarrant and neighboring Community College systems, a multiphase program will be developed and delivered to faculty through a Climate



Change Science Colloquium involving both group meetings and channels for electronic communication.

University of Arkansas

Kolawole Ayinuola is giving a talk, Intercepting the Breslow Intermediate via Claisen Rearrangement: Synthesis of complex tertiary alcohols without organometallic reagents, at the New Orleans ACS meeting, April 7-11, 2013.

Julie Stenken organized and presided over the PittCon session: Detecting the Cytokine Network: Towards
Understanding Chemical
Communication in the Immune System.
The title of her talk was: Cytokines
Recovered during Microdialysis
Sampling: Do they represent damage or disease? Philadelphia, PA, March 2013.

R Katikanei, R Gulati, D Suh, Joshua Sakon, A Seymour, T Ponnapakkam, R Gensure, Therapy for alopecia areata in mice using parathyroid hormone agonists and antagonists, linked to a collagen binding domain. Journal of Investigative Dermatology Symposium Proceedings, 2013 (invited).

IN MEMORIAM ROBERT E. GAWLEY



Robert E. Gawley, 64, distinguished professor and chair of the chemistry and biochemistry department at

the University of Arkansas, died on March 18 while skiing with friends near Steamboat Springs, Colo.

Gawley's research interests included stereochemistry and methods of asymmetric synthesis; carbanion chemistry, with an emphasis on structure, reactions, and synthetic applications of chiral organometallics; new Nheterocyclic carbene ligands; and dendrimers as ligands for monofunctionalization of nanocrystals.

His work "contributed to the advancement of organic chemistry, added great value to organic chemistry methodologies, and found applications worldwide in many syntheses in academia and in the pharmaceutical industry," says Ahmed F. Abdel-Magid, executive vice president and chief scientific officer of Therachem Research Medilab, in India, who served with Gawley on the executive committee of the American Chemical Society's Division of Organic Chemistry (ORGN).

Gawley joined ACS in 1971 and was the cur

rent program chair for ORGN. He had been planning symposia for the spring ACS national meeting in New Orleans. "He was a tireless worker and could always be counted on to get things done the right way the first time," says Lawrence Scott, chair of ORGN and Louise & Jim Vanderslice Professor of Chemistry at Boston College. "His easygoing nature concealed a driving passion for excellence in everything he did. We will miss his warm friendship and wise counsel."

Gawley was also a passionate educator, notes Jeffrey Aubé, professor of medicinal chemistry at the University of Kansas. "I did undergraduate research with Bob when he was an assistant professor at the University of Miami," Aubé says. "He was really the reason I went into chemistry, and it was because he brought this incredible enthusiasm for science that was coupled with absolutely no artifice. He was intensely interested in chemistry for chemistry's sake."

Gawley and Aubé collaborated on numerous projects over the years. "He wasn't a guy who walked around with a big ego," Aubé says. "He was just a very down-to-earth, grounded person. He had this big laugh, and there was a real sense of generosity about him."

At the University of Arkansas, Gawley cofounded the U.S.-E.U. Atlantis transatlantic dual-degree exchange program in chemistry. For this work, he won the 2010 Bene Merenti Medal of the University of Regensburg, in Germany, the highest award given to someone outside the university.

Continued on page 18

From the ACS Press Room



New test for skin sensitization without using animals

"Development of an in Vitro Dendritic Cell-Based Test for Skin Sensitizer Identification"

Chem. Research in Toxicology

Allergy testing of new cosmetics and other skin-care products may be done with a highly accurate new test that does not involve animals.

In an advance in efforts to reduce the use of animals in testing new cosmetic and other product ingredients for skin allergies, scientists are describing a new, highly accurate non-animal test for these skinsensitizers. Their study appears in ACS' journal *Chemical Research in Toxicology*. Bruno Miguel Neves and colleagues explain that concerns about the ethics and costs of animal-based tests for skin sensitizers, plus regulations in the European Union, are fostering a search for alternative tests. Testing product ingredients prior

to marketing is important, because allergic contact dermatitis is the most prevalent form of immunotoxicity in humans. The scientists describe development of a cell-based alternative test that enlists genes and signaling pathways in mouse skin cells growing in the laboratory. Exposure to skin sensitizers triggers characteristic responses, activating genes and making cells release substances that communicate with adjacent cells. Evaluation of the test on 18 compounds showed that it had a sensitivity of 92 percent in correctly identifying actual sensitizers. It had a specificity of 100 percent and did not produce any false positive results — indicating that a substance caused sensitization when, in fact, it did not. The approach could be "extremely valuable" in revealing the interaction of skin cells with sensitizers, the scientists say.

The authors acknowledge funding from Fundação para a Ciência e a Tecnologia (FCT), Fundo Comunitário Europeu (FEDER) and Programa Operacional Factores de Competitividade (COMPETE).

VOLUNTEERS NEEDED FOR THE MEETING-IN-MINIATURE

Texas A&M University-Commerce is hosting the 46th ACS DFW Meeting-in-Miniature (MiM) on Saturday, April 27, 2013. We are looking for judges and session chairs for the event to help evaluate the students oral presentations. If you would like to volunteer, please contact Laurence-Angel@tamuc.edu or at 903- 886-5391, or register for the event through our web-

site: www.tamuc.edu/chemistrymim

Registration for volunteers is due by April 19, 2013, and more details about the submission process can be found at the website.

Texas A&M University-Commerce is a member of the Texas A&M University System and was established in 1889 and is the fifth oldest university in the state, and we look forward to having everyone on our campus.



If you send a news item or contribution to the RETORT and do not receive an acknowledgement, we didn't get it! This sometimes happens, with attachments and with simple messages. In such case, just send it again.

From the ACS Press Room

Explaining how extra virgin olive oil protects against Alzheimer's disease

"Olive-Oil-Derived Oleocanthal Enhances β-Amyloid Clearance as a Potential Neuroprotective Mechanism against Alzheimer's Disease: In Vitro and in Vivo Studies"

ACS Chemical Neuroscience



The mystery of exactly how consumption of extra virgin olive oil helps reduce the risk of Alzheimer's disease (AD) may lie in one component of olive oil that helps shuttle the abnormal AD proteins out of the brain, scientists are reporting in a

new study. It appears in the journal ACS Chemical Neuroscience.

Amal Kaddoumi and colleagues note that AD affects about 30 million people worldwide, but the prevalence is lower in Mediterranean countries. Scientists once attributed it to the high concentration of healthful monounsaturated fats in olive oil — consumed in large amounts in the Mediterranean diet. Newer research suggested that the actual protective agent might be a substance called oleocanthal, which has effects that protect nerve cells from the kind of damage that occurs in AD. Kaddoumi's team sought evidence on whether oleocanthal helps de-

crease the accumulation of beta-amyloid $(A\beta)$ in the brain, believed to be the culprit in AD.

They describe tracking the effects of oleocanthal in the brains and cultured brain cells of laboratory mice used as stand-ins for humans in such research. In both instances, oleocanthal showed a consistent pattern in which it boosted production of two proteins and key enzymes believed to

be critical in removing Aß from the brain. "Extra-virgin olive oilderived oleocanthal associated with the consump-



tion of Mediterranean diet has the potential to reduce the risk of AD or related neurodegenerative dementias," the report concludes.

The authors acknowledge funding from the <u>National Institute of General Medicine</u> of the <u>National Institutes of Health</u>.



SKSHORDINGHPO

FIVE QUESTIONS FOR...

Our April 2013 '5 Questions' participant is



Dr. Danny L.
Dunn, retired
Vice-President,
Analytical
Chemistry at Alcon Laboratories
and current
Treasurer of the
ACS DFW local
section. Dr.

Dunn holds a BS in Chemistry and an MS in Organic Chemistry from Wichita State University, and earned his PhD in Organic Chemistry from the University of North Texas

1) How old were you when you realized you wanted to be a scientist?

I was fortunate to have many excellent science teachers in high school and college who kept my interest in science burning bright. However, I would have to give credit to my Middle School science teacher, Ms. Lois Bennett, for instilling the desire to become a scientist. She taught science in a way that stimulated my curiosity and made me want to learn even more about nature. This must have been when I was 12 or 13 years old.

2) You recently retired from Alcon. What do (did?) you most enjoy about the scientific path you chose?

Without a doubt, it was technical problem solving. The Analytical Chemistry Group

had many outstanding chemists, and when a technical problem arose, 6-8 senior people would meet and brainstorm. We would propose several appropriate experiments, generate new data, and then meet again to discuss the results. Slowly, but surely, we usually could focus in on a possible solution. When a viable solution was finally discovered, the feeling was very satisfying because it was a real team effort.

3) If you had the chance to change something about your life in science, what would it be?

It's a natural career progression in industry to start working at the bench, and then to go into management. After I became a vice-president, I enjoyed hiring new people, fighting for a reasonable budget, obtaining needed capital equipment, and trying to build a first-class Analytical Chemistry Group. However, to be honest, I always missed the hands-on bench work. Now that I am retired, I often daydream about doing a synthesis in graduate school or developing analytical methods at Alcon.

4) What advice would you give to scientists who are considering a non-academic career?

Work on your written and oral communication skills. In the pharmaceutical business, lengthy, detailed, reports are needed to document your work. These documents are then submitted to regulatory agencies all over the world to obtain product approvals. *Continued on next page*

Continued from previous page

You can do excellent work at the bench, but if you cannot document your work in an articulate report, it's is going to hold back your career. Verbal skills are also important, because you will continually need to be defending your results and ideas to others in meetings.

5) Who is your Science Hero? and why?



I would have to say Louis Pasteur. This might be a surprise to some. Why would I pick a scientist who is considered to be the Father of Medical

Microbiology, who discovered vaccines for rabies and anthrax, developed a pasteurization process to prevent the spoiling of beverages, etc.? As I frequently pointed out to my friends in the Microbiolo-

gy Group at Alcon, Pasteur actually started out as a chemist. In 1848, his work on tartaric acid led to the first demonstration of chiral molecules. The story of Pasteur using a pair of tweezers to isolate



tartaric acid crystals which were mirror images has always fascinated me. Pasteur was an interdisciplinary free thinker, and this is the essence of any great scientist.

Thank you, Dr. Dunn, for your interesting remarks and your service to chemistry! To participate in 5Q, contact rtort@acsdfw.org.

Continued from page 14

Gawley authored many papers. Last month, he published a paper in the Journal of Organic Chemistry titled "Double-Asymmetric Hydrogenation Strategy for the Reduction of 1,1-Diaryl Olefins Applied to an Improved Synthesis of CuIPhEt, a C2 Symmetric N Heterocyclic Carbenoid. DOI: 10.1021/jo3026548.

Prior to moving to the University of Arkansas, Gawley served as a faculty member at the University of Miami from 1977 to 2002. He was also a visiting professor at Colorado State University; the Swiss Federal Institute of Technology, Zurich; and the University of Exeter and the University of Sheffield in England.

He earned a B.S. in chemistry from Stetson University in 1970 and a Ph.D. in organic chemistry from Duke University in 1975. He served as a research associate at the University of North Carolina from 1975 to 1977.

In addition to his passion for chemistry, Gawley loved music and loved to dance, says Abdel-Magid, who recalls watching Gawley and his wife Lorraine dance during the Wednesday night ORGN poster session at the ACS national meeting in Denver in fall 2011. "He will be missed."

Gawley is survived by his wife and two sons, John Joseph and James O'Brien.

From C&EN

From the editor

Last month, we had caffeine-addicted bees; now we have caffeine-addicted bacteria?! There actually is a naturally-occurring soil bacterium (*Pseudomonas putida* CBB5) which can exist solely on caffeine (like in graduate school...). Hopefully, the genetically altered microbes derived from this organism will help in wastewater cleanup and bioproduction of asthma medications...but how the heck did that guy get addicted to the stuff?

I was particularly taken this month by thoughts of Danny Dunn's science hero, Louis Pasteur. As a kid, I read a biography of Pasteur, and was overwhelmed and fascinated by the sheer magnitude and variety of his achievements: germ theory of disease (oh, for a look at those

swan-necks in the Pasteur institute), development of rabies and anthrax vaccines, pasteurization for wine and milk, antisepsis, silkworm disease. And, of course, as Danny said, there is, dear to all organic chemists, the concept of stereochemistry...achieved by the sorting of mirror image crys-

tals with a microscope and tweezers (and true, compared to Kekule's tail-biting snakes). Many of Pasteur's activities were prompted by requests from the French government, as when the cattle

and chicken, silkworm and wine-making industries were threatened by infections.

While in graduate school, I decided that someday I would write an operetta about Louis Pasteur. In this production, chorus lines—in the Greek tradition—of various groups saved by Pasteur (Russian peasants linking arms with wolves, cows and chickens, silkworms, tartaric

acid crystals, bottles of wine and monks, etc.) would come out in turn, and do a French cancan (or a Russian Mazurka, as the case might be) all the while intoning "Louis, save France! Louis, save France!" Dr. Pasteur would then come on stage and do a little eccentric dancing, while looking into a microscope...Is this a case of science inspires art? Or is it a case of that graduate school caffeine overdose syndrome?

Best regards,



