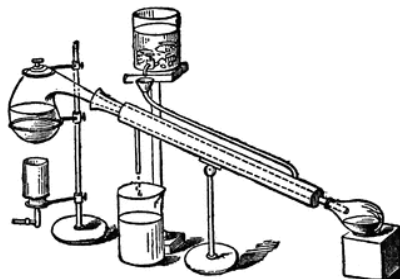




# ***SOUTHWEST RETORT***



**SIXTY-FIFTH YEAR**

**MARCH 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.

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## FIND THE MOLE!

First one to find the hidden mole and email to [retort@acsdfw.org](mailto:retort@acsdfw.org) gets a free dinner at the next section meeting, courtesy of

The Southwest RETORT!

*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.*

Remember, the Retort is on [issuu.com](http://issuu.com). One good thing about [issuu.com](http://issuu.com) is that you can *subscribe* to your publication; if you put in your email (right next to the Retort on the site), you will automatically get the Retort when we post it. *(In order to subscribe, download, or print, you need to register with [issuu.com](http://issuu.com); it's free and you can opt out of extraneous emails.)* Issues of the **RETORT** prior to Sept. 2011 are available on the DFW section's website [acsdfw.org](http://acsdfw.org).

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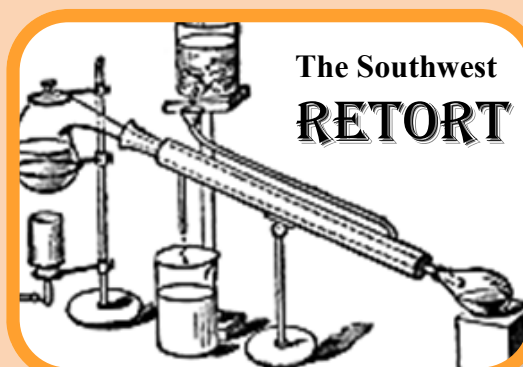
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## *FIFTY YEARS AGO IN THE SOUTHWEST RETORT*

Dallas has just launched a campaign to raise \$5,000,000 for a Science Research Center (SRC). The full name of the center will be Graduate Research Center of the Southwest. The center has an option on 1400 acres north of Dallas. The president of the new center is **Dr. Lloyd V. Berkner**, a physicist and intellectual father of the International Geophysical Year. The SRC already has a faculty. Thirty-one distinguished scientists have either already arrived in Dallas or have accepted appointments. The SRC is temporarily housed on the SMU campus, and its faculty already have \$2,000,000 in research grants. The grand design is geared toward raising the level of education in the Southwest. Dr. Berkner envisions SRC as a regional center much like Brookhaven National Laboratory, but unlike Brookhaven financed with private funds instead of federal money. SRC scientists are already engaged in cooperative research in gravitation with a University of Texas group; with space scientists at Rice; with physics researchers at North Texas State University. It is a grand design and surely if it succeeds it will shape the face of tomorrow, not only in Dallas but throughout the Southwest.

The ACS tour speakers for March are **Dr. Arthur Fry** of the University of Arkansas and **Dr. Donald W. Hood** of Texas A&M College. Dr. Fry will lecture either on "The Mechanism of Acid Catalyzed Ketone Arrangements" or "The Use of Isotope Effects in the Study of Organic Reac-

tion Mechanisms." Dr. Hood will speak on "Analytical Problems in Chemical Oceanography."

New Welch grants were given to **Dr. Edward R. Biehl** of SMU, **Drs. Burl E. Bryant** and **William H. Glaze** of NTSU, **Dr. Lyman R. Caswell** of TWU, and **Dr. Stephen L. Razniak** East Texas State College. Welch grant renewals went to **Dr. John J. Banewicz** of SMU, **Dr. E. B. Escue, Jr.** of NTSU, and **Dr. Robert W. Higgins** of TWU. **Drs. Herbert C. Tidwell** and **Dr. Donald S. Wiggins** of the Biochemistry Department at Southwestern Medical School also received renewals of their Welch grant.

**Dr. Frederick R. Duke** of Iowa State University has been named to fill the new Robert A. Welch Foundation Chair of Chemistry at Texas A&M College. Dr. Duke is one of the world's foremost authorities on oxidation and fused salt technology. The Welch Chair was endowed through a \$650,000 grant from the estate of Robert Alonzo Welch, Houston philanthropist.

The Baylor Chemistry Department has received a \$5,000 grant from DuPont to strengthen the teaching of science. The money will be used in the equipping of the new 2.5 million dollar building now under construction.

*Contributed by E. Thomas Strom*

22 Ti 47.867	23 V 50.942	24	25	26	27	28	29	30	31	32	33	34 Se 78.96	35 Br 79.904	
40 Zr 91.224	41 Nb 92.906												52 Te 127.60	53 I 126.90
72 Hf 178.49	73 Ta 180.95												84 Po (209)	85 At (210)
104 Rf (261)	105 Db (262)													
57 La 138.01	58 Ce 140.12	<b>THE COMPLETE SERVICE LAB</b> <i>Quality Analytical &amp; Environmental Services Since 1965</i>											69 Tm 168.03	70 Yb 173.04
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T104704201

JOIN US for  
OUR NEXT EVENT!  
Wednesday, April 10<sup>th</sup>  
7:30pm - 10:30pm



Topic **ROBOTICS**  
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FWLSC is a not-for-profit grassroots organization founded to educate, & to promote & support all aspects of the DFW Metroplex Life Sciences.

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## ...AND ANOTHER THING...

By Denise L. Merkle

### Beauty and the Skill Set

Last weekend, on a chilly, dark Sunday evening (*not* a dark and stormy night), the Automobile Association of America, aka AAA, performed another rescue. In much less than the time it would have taken the vehicle's occupants to figure out how to wrestle the puny emergency jack from the MSHC (Maximum Steric Hindrance Compartment), the AAA angel wielded a massive floor jack and criss-cross lug wrench to replace an SUV tire. No wasted moves, no dithering, no contemplative gazing into teeny, dark compartments wedged full of velcro-swaddled bundles of unidentifiable metal, no fuss - just complete, expert, professionalism. Be still my heart.

Expertise—in anything—is fascinating. It's as much of a joy to watch extremely competent FTIR spectra interpretation as it is to watch a good rally driver. The adrenaline rush yielded by watching a hole-shot motocross start is equivalent to the feelings engendered by witnessing drywall mudded with no need for sanding, or an experiment so well designed that there's no need to wonder if the controls were adequate or the hypothesis addressed. Beautiful.

How is it that skill is, in itself, so exciting? What evolutionary process selects for near-perfection? Is it necessary for

uman existence to be able to change a tire rapidly (disregarding the requirement for such expertise on pit crews)? Might we fail to thrive if there were no incredible artists, eloquent writers, master electricians? Would survival of the species be jeopardized by average automobile mechanics, mediocre lab technicians, ho-hum plastic surgeons? Well, maybe the plastic surgeons would have an effect.

What is the point of this, you might ask? The point is that everyone goes through life performing basically the same tasks. Not necessarily in the same way, or with the same level of training—or even the same understanding—but, to the best of our abilities, all humans do what is required to exist. And in every task, there's always someone whose skill level so surpasses others' abilities, that their actions, or the outcomes, are things of beauty. Even if you're standing in the parking lot of a gas station in some town you've never heard of, watching someone you've never seen before and never will again change a truck tire with a speed worthy of a Grand Am pit crew, you can find real joy in the skills you're witnessing.

It's a rough and sometimes boring world - Look for the joy.

*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.*



## From the ACS Press Room

### *Spent coffee grounds are a rich source of healthful antioxidants*

**Evaluation of Spent Coffee Obtained from the Most Common Coffeemakers as a Source of Hydrophilic Bioactive Compounds: *Journal of Agricultural and Food Chemistry***

To plant food, insect repellent and other homespun uses for spent coffee grounds, scientists are adding an application that could make the gunk left over from brewing coffee a valuable resource for production of dietary supplements. Their new report in ACS' *Journal of Agricultural and Food Chemistry* concludes that used coffee grounds are a rich source of healthful antioxidant substances.



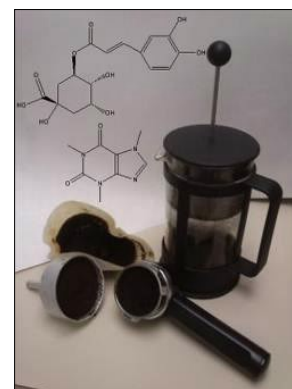
Maria-Paz de Peña and colleagues explain that people around the world drink millions of cups of coffee every day, generating about **20 million tons of used grounds annually**. Although some spent coffee grounds find commercial use as farm fertilizer, most end up in trash destined for landfills. Coffee itself is a rich source of healthful antioxidants. De Peña's team

wondered about the amount of antioxidants that remained in used coffee grounds from different coffee-making methods.

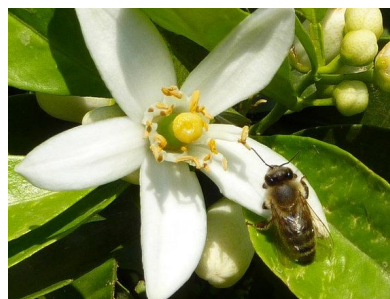
They found that filter, plunger and espresso -type coffeemakers left more antioxidants in coffee grounds, while mocha coffeemakers left the least. Because filter and espresso coffeemakers are more common in homes and commercial kitchens, the authors report that most grounds are likely to be good sources of antioxidants and other useful substances. They note that after these compounds are extracted, the grounds can still be used for fertilizer.

Credit: American Chemical Society

The researchers acknowledge funding from the **Spanish Ministry of Economy and Competitiveness**.



**Ed. Note: A current article in *Science***



**tells us that bees like nectar with caffeine and tend to return to those flowers...an apiarian Starbucks?**

**Here's a little more about it on [science.nbcnews.com](http://science.nbcnews.com).**

# *DFW Section Meeting*

Tuesday, March 26, 2013  
University of Texas at Arlington



**Distinguished Scholar Professor  
Rasika Dias  
Chairman, Dept. of Chemistry and Biochemistry**

**will speak on  
Chemistry of Gold and Other Metals  
of the Olympics**



Copper, silver, and gold represent the primary metals associated with Olympic Medals. They are also some of the oldest metals known. Gold and silver are renowned for their inertness and important in a variety of uses ranging from coins to jewelry. Key discoveries from our laboratory that point to the rich chemistry of Cu, Ag, and Au will be covered.. These include (i) “bottle-able” molecules with bonds between ethylene and copper or silver that can serve as models for ethylene binding site of plants and intermediates in ethylene oxidation processes, (ii) copper-based catalysts for polymerizing simple organic compounds via an oxidation process, (iii) silver-containing molecules that catalyze the activation of inert C-Cl and C-H bonds with high efficiency, (iv) coordination chemistry of gold, and (v) preparation of molecules that emit light of different colors, ranging from blue to red.

**Biography:** Rasika Dias received his B.Sc. degree in chemistry from University of Peradeniya, Sri Lanka, in 1983, and Ph.D. in chemistry from the University of California-Davis, in 1988. After spending about three years at Du Pont Central R&D as a Visiting Research Scientist, Rasika joined the UTA faculty in 1992, where he is presently the Chair of and a **Distinguished Scholar Professor** in the Department of Chemistry and Biochemistry. His current research activities cover a variety of topics, including homogeneous catalysis, photoluminescent materials, reaction intermediates, bio-mimetic chemistry, greener routes to chemicals, disinfectants and preservatives, and the study of bonding in metal adducts. He is the author or co-author of several patents and over 170 papers in leading, peer-reviewed journals (H-index = 44). He has won awards for all key categories (i.e., research, teaching, and service), including the Outstanding Research Achievement Award at UTA, and was inducted to UTA Academy of Distinguished Scholars in 2012. Rasika also received the 2009 ACS Southwest Regional Award, 2009 Doherty Award, and 2004-2005 Robert A. Welch Foundation Lectureship.

*Meeting info on next page*

## *DFW Section Meeting cont.*

**Social hour 6:00 pm**      **Chemistry/Physics Bldg., Room 303**

**Dinner 6:30-7:30 pm**      **Chemistry/Physics Bldg., Room 303**

**Talk 7:30-8:30 pm**      **Chemistry/Physics Bldg., Room 303**

**Meal \$15:** includes side dishes, dessert, and ice water or tea

**Choice of**    **Pecan Crusted Chicken with Teriyaki Sauce**

**OR**    **Vegetarian option**

**Deadline for RSVP Tuesday March 19**

**817-272-0378 or email [dcooke@UTA.edu](mailto:dcooke@UTA.edu) (Debby Cooke) with your meal choice**



**iPad WORKSHOP \$50**

**AGENDA**

8:00 AM	Registration
8:30 AM	Introductions
9:00 AM	The iPad study
9:30 PM	Implementing the iPad on campus
10:00 PM	Break
10:30 PM	Experience classroom activities
11:00 PM	Develop & Share
12:00 PM	Lunch (included!)
1:00 PM	Apps and active learning
2:00 PM	iPads and probeware
2:30 PM	Break
3:00 PM	Hands on activities
4:00 PM	Done

**Dr. Bob Shelton**  
Austin Peay State University, Clarksville, TN  
**MARCH 25, 2013**

The purpose of this workshop is to equip chemical educators with practical activities and logistical training to incorporate iPads into their chemistry curriculum. During this workshop, participants will gain hands on experience using the iPads, gain familiarity with general chemistry classroom/lab activities, learn about logistics related to implementation, and develop new activities for the future.


**University of North Texas, Denton**

Registration:      Deadline March 8!  
Make check to:    G. Robert Shelton, PhD  
Mail check to:     Dr. Diana Mason  
                                 1155 Union Circle #305070  
                                 University of North Texas  
                                 Department of Chemistry  
                                 Denton, TX 76210-5017

For questions contact:  
Dr. Diana Mason, [drdiana@alumni.utexas.net](mailto:drdiana@alumni.utexas.net)  
Dr. Bob Shelton, [shelton@apsu.edu](mailto:shelton@apsu.edu)  
(Best place to park is in the Parking Garage on Welch, \$10.)

## Around the Area

**69<sup>th</sup> SWRM**  
**November 17-20 2013**  
**Waco Texas**



**Special Symposia and Workshops**

- Bioinorganic Chemistry
- Pharmaceuticals in the Environment
- The Gooch-Stephens Lectures
- Spectroscopy, Dynamics, and Kinetics
- Synthesis and Synthetic Methodology
- The Stone Symposium
- Emerging Structural Analyses in X-omics
- Organometallic Chemistry and Catalysis
- Instrumentation Workshops
- Nanoparticle Optics and Sensing
- And many more...

**CONTACTS**

Program Chair:  
Kevin\_Chambliss@baylor.edu

General Chair:  
Bob\_Kane@baylor.edu

Host Hotel:  
Hilton Waco  
1-254-754-8484

**All roads lead to Waco!**

The *Heart O' Texas* section will host the 2013 Southwest Regional ACS meeting. Organizing of symposia will begin soon, under the direction of Dr. Bob Kane of Baylor University's Chemistry Department.

**The DFW Section**  
**needs a**  
**-Webmaster!**  
**Contact**  
**[info@acsdfw.org](mailto:info@acsdfw.org)**



### *DFW to host SWRM 2014*

#### **Volunteers Needed!**

As many of you know, the Dallas-Fort Worth Local Section will host the 2014 Southwest Regional Meeting (SWRM 2014). Local sections within the Region typically host SWRM every 10 years. SWRM 2004 was quite successful, and we look forward to maintaining the same high standard in 2014.

Volunteers will form the backbone of success for SWRM 2014. We are in the planning stages for SWRM 2014, and we need volunteers to serve in a variety of capacities. We are looking for volunteers related to PR, funding, exhibits, as well as program chair. If you would like to organize a symposium or event, that would be great. No effort is too small to make a big contribution.

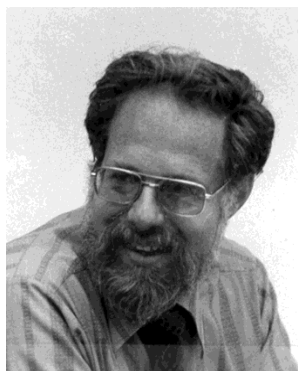
If you would like to be involved in any way in SWRM 2014, please contact me as soon as possible at [swrm@acsdfw.org](mailto:swrm@acsdfw.org). More details about the planning meeting will be circulated via email soon. Participating in a SWRM is a unique and rewarding experience, and I encourage you all to consider how you can play a part! **Kirby B. Drake, General Chair SWRM 2014**

## University of Arkansas

In Memoriam

### Emeritus Professor George Blyholder

Once again the members of the department of chemistry and biochemistry were saddened by the loss of one of the faculty

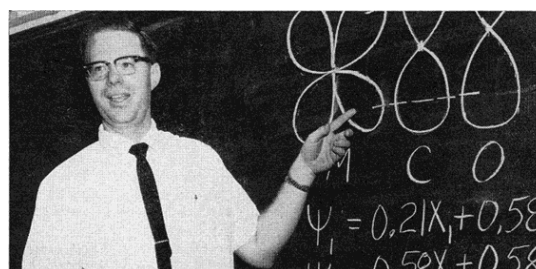


members that made the department what it is today. George Blyholder died February 27, 2013, after a lengthy battle with what he may have called entropy – old age to most others.

Professor Blyholder was a member of the physical chemistry division for 37 years and retired in 1996 just about the time we moved into the new research wing. He was born in Elizabeth, New Jersey, in 1931. He obtained a BA degree from Valparaiso University, a BS degree from Purdue University in chemical engineering and a Ph.D. from the University of Utah under the direction of Henry Eyring (a major contributor to modern kinetics) in 1956.

Before coming to the University of Arkansas in 1959, he was a postdoctoral fellow at the University of Minnesota and a research chemist at The Johns Hopkins University. Professor Blyholder's research was in the broad area of catalysis, but his focus was on the interaction of CO on surfaces. He was a major contributor to this

field and was internationally recognized for some of the models he developed which still hold today. For example, in 1964, Professor Blyholder published an article in the *Journal of Physical Chemistry* (68, 2772) that has been cited 1351 times to date, including 25 citations in 2012 alone. Professor Blyholder used computer calculations to probe the theoretical aspects of problems, and he was a talented experimentalist. He used IR spectroscopy to probe the surfaces of metals and he was proficient in the application of the technically challenging technique called matrix isolation. The technique allows an investigator to capture atoms or small molecules in a matrix of frozen argon. IR spectroscopy then provides a means of analyzing the nature of these molecules captured in the matrix that essentially isolates them from interaction with any other material. Exposure to light can be used to create highly reactive intermediates which cannot be produced in any other



manner. Publications such as “Infrared Spectrum of Carbon Monoxide Chemisorbed on Nickel at 44 K by a Matrix Isolation Technique” and “Adsorbed Species on Dark and

Illuminated Zinc Oxide” are representative of the work described by the nearly 100 papers produced through his research efforts.

Professor Blyholder is survived by his wife of 57 years, Betty Sue Conrod. They have two daughters, Sylvia and Victoria, and one son, Andrew.

*Contributed by Bill Durham*

### UA Events

**Peter Pulay** had an invitation to give a Distinguished Lecture Seminar at City University, Hong Kong. Subsequently, he will visit and give seminars at Zhejiang University, Xi'an Jiaotong University, and Beijing Tsinghua University in China during the 2013 Spring Break.

**Julie Stenken** served on the NIH Biomaterials and Biointerfaces (BMBI) study section in San Francisco, Feb. 7-8.

**Feng Wang** delivered a talk “Determining Challenging Thermodynamic Properties of Water with Only Electronic Structure Information” at Missouri State University February 6, 2013. He also delivered a theory talk “Accurate simulations at micro-second time scale: Investigating challenging properties of water with electronic structure accuracy,” to the Department of Chemistry at NYU.

**Julie Stenken**, accompanied by undergraduate Honors students **Kevin Kelly** and **Fang Weng**, presented their research at the annual undergraduate

research symposium February 23 at the University of Memphis. The titles of their talks were: Fang Q. Weng, Randy F. Espinal Cabrera, Julie A. Stenken, “Utilization of Transmembrane Convection to Increase Microdialysis Sampling Recovery,” and Kevin P. Kelly, Cynthia R. Sides, Lynsey Carrier, Jennifer Gidden, Jackson O. Lay, Julie A. Stenken, “Comparing MALDI-TOF Spectra for Egg Lipids vs. Quantitation via GC-FID.”

### Publications

A paper by **Eric R. Pinnick**, **Camilo E. Calderon**, **Andrew J. Rusnak**, and **Feng Wang** was selected for inclusion in the book *Highlights in theoretical chemistry: From Quantum Mechanics to Force Fields*, edited by Jean-Philip Piquemal and Kenneth D. Jordan. The paper’s title is “Achieving fast convergence of *ab initio* free energy perturbation calculations with the adaptive force matching method.”

**Benard Omogo**, **Jose F. Aldana**, and **Colin D. Heyes** published “Radiative and Non-Radiative Lifetime Engineering of Quantum Dots in Multiple Solvents by Surface Atom Stoichiometry and Ligands.” in *J. Phys. Chem. C.* (2013) 117, 2317-2327.

**Thaddeus Vasicek**, **Matthew Jackson**, **Tina Poseno**, and **Julie Stenken’s** manuscript, “*In Vivo* Microdialysis Sampling of Cytokines from Rat Hippocampus: Comparison of Cannula Implantation Procedures” was accepted by *Chemical Neuroscience*.

## East Texas

### 2013 Section Meetings

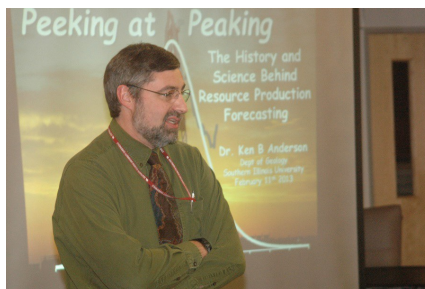
March 5 at ETBU: Angela Wilson

April 25 at Kilgore College: George Cobb

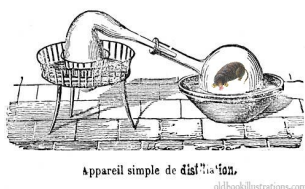
September at SFASU: Sharon Vercellotti

October 22 at Texarkana College:  
Joe Jeffers

November 14 at Jarvis Christian College:  
Ann Nalley



**Ken Anderson spoke at the February meeting about resource production forecasting**



**Passing the torch: Current ET Chair Ruth Hathaway (left) presents service award to past chair Amy Calhoun**

## UTA

**Harry Fred Tibbals, III**, has joined UT Arlington as Research Professor in Materials Science and Engineering. He retired last year from UT Southwestern Medical Center. He has recently co-authored textbooks on nanoscience and nanotechnology, and his most recent book, *Medical Nanotechnology and Nanomedicine*, published in 2010, will be appearing in a new Chinese edition in 2013. He is active in reviews for NIH and NSF, and in speaking and consulting engagements. Prof. Tibbals has been a member of ACS since 1966, but is in his 50th year since joining as a student member in 1963 at Baylor University, where he studied under Prof. T. C. Franklin and was president of the ACS student chapter.



Associate professor **Kevin Schug** will be recognized this month at Pittcon 2013 for his outstanding contributions to analytical chemistry. He will receive the ACS Division of Analytical Chemistry Award for Young Investigators in Separation Science. Dr. Schug has been appointed as a Senior Editor of the *Journal of Separation Science*.



## From the ACS Press Room

### *A self-healing protective coating for concrete*

**Sunlight-Induced Self-Healing of a Microcapsule-Type Protective Coating:**  
*ACS Applied Materials & Interfaces*

Scientists are reporting development of what they describe as the first self-healing protective coating for cracks in concrete, the world's most widely used building material. Their study on the material — which is inexpensive and environmentally friend-



ly — appears in the journal *ACS Applied Materials & Interfaces*.

Chan-Moon Chung and col-

leagues explain that protecting concrete roads, bridges and other structures from developing tiny cracks has been a major technological challenge. Cracks allow water, salt used for deicing and air to enter the concrete. During winter weather, water in the cracks freezes, expands and the cracks get bigger, with road salt speeding concrete's deterioration. "Although several reports of self-healing anticorrosive coatings for metal protection have appeared, there have been no reports on self-healing protective coating for concrete," say the scientists.

They describe development of such a coating, one that contains microcapsules loaded with a material that seals cracks. Cracking ruptures the microcapsules, releasing the healing agent. Sunlight shining onto the concrete activates and solidifies the sealant. "Our self-healing coating is the first example of capsule-type photo-induced self-healing system, and offers the advantages of catalyst-free, environment-friendly, inexpensive, practical healing," the report states.

The authors acknowledge research supported by Korea Institute of Construction & Transportation Technology Evaluation and Planning Grant funded by Ministry of Land, Transport and Maritime Affairs and by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology.





## From the ACS Press Room

### *Six in 10 people worldwide lack access to flush toilets or other adequate sanitation*

#### **Sanitation: A Global Estimate of Sewerage Connections without Treatment and the Resulting Impact on MDG Progress: *Environmental Science & Technology***

It may be the 21<sup>st</sup> century, with all its technological marvels, but 6 out of every 10 people on Earth still do not have access to flush toilets or other adequate sanitation that protects the user and the surrounding community from harmful health effects, a new study has found. The research, published in



Credit: Ingram Publishing/Thinkstock

ACS' journal *Environmental Science & Technology*, says the number of people without access to improved sanitation is almost double the previous estimate.

Jamie Bartram and colleagues explain that the current definition of "improved sanitation" focuses on separating humans from human excrement, but does not include treating that sewage or other measures to prevent it from contaminating rivers, lakes and oceans.

Using that definition, the 2010 United Nations estimates concluded that 4.3 billion people had access to improved sanitation and 2.6 billion did not.

The new estimates used what the authors regarded as a more realistic definition from the standpoint of global health, since untreated sewage is a major cause of disease. They refined the definition of "improved sanitation" by discounting sewage systems lacking access to sewage treatment. They concluded that about 60 percent of the world's population does not have access to improved sanitation, up from the previous estimate of 38 percent.

Check it out: Who really invented the [flush toilet](#)?



Early flush toilet design by J. G. Jennings (1877)

**Should we be using fresh water to flush toilets at all?**



# Texas A&M University- Commerce

## Saturday, April 27, 2013 The 46<sup>th</sup> ACS DFW MEETING-in-MINIATURE



The 46th ACS DFW Meeting-in-Miniature (MiM) will be held at the Keith D. McFarland Science Building of Texas A&M University-Commerce on Saturday, April 27, 2013. All students are invited to present their research results.

For each presentation, the **Abstract** is due by **April 5, 2013**. The abstract should follow the format on the next page. Please submit the abstract via e-mail as an MS Word attachment. Submit the abstract to Dr. Bukuo Ni, [bukuo.ni@tamuc.edu](mailto:bukuo.ni@tamuc.edu), (903) 886-5382.

Group Activities: Planetarium show or horse riding activity may be arranged depending on the interest. Please check the links below for more info.

Planetarium: <http://web.tamu-commerce.edu/communityOutreach/planetarium/default.aspx>

Equine Center; <http://web.tamu-commerce.edu/academics/colleges/scienceEngineeringAgriculture/departments/agriculturalSciences/farms/equineCenter/default.aspx>

Further information on the meeting may be obtained from MiM Conference Chair: Dr. Allan Headley, [allan.headley@tamuc.edu](mailto:allan.headley@tamuc.edu), (903) 886-5392 or FAX (903) 468-6020.

# Meeting-in-Miniature Abstract Form

## Abstract Format

Title:

Authors: (Please underline the presenting author and put \* by the faculty adviser)

Affiliation:

Division: Analytical, biochem, inorganic, organic, or physical, etc.

Email: (of the presenting author)

Category: oral (undergraduate or graduate) or poster (community college or high school)

Abstract: (up to 150 words)

## Example below

### **Recent Advances of the Non-thermal Plasma Technology for Catalyst Development and Design**

Yanan Li, Bin Zhu, and Ben W.-L. Jang\*

Chemistry Department, Texas A&M University-Commerce, Commerce, TX 75429-3011, USA

Division: Physical chemistry

Email: [yanan.li@tamuc.edu](mailto:yanan.li@tamuc.edu)

Category: oral, Graduate

Abstract

Non-thermal plasma technology has recently been successfully applied to modify and promote supported metal catalysts. Materials with unique and promising catalytic properties have been reported and reviewed. There are two situations where applying plasma treatment in catalyst preparation is advantageous (a) modifying and tuning the interaction between metal and support such that particle size and metal-support interaction can be controlled, (b) removing encapsulation agents to form nanoparticles such that new methods based on colloidal preparation of metal nanoparticles can be employed. The evidences in these two areas will be discussed and summarized.

## FIVE QUESTIONS FOR...

Our interviewee for March 2013 is Dr. **Thomas R. Cundari**, Regents Professor of Chemistry at the University of North Texas. Professor Cundari holds a BS in Chemistry from Pace University in New York, and a



PhD in Inorganic Chemistry from the University of Florida in Gainesville.

Dr. Cundari's current research focuses on Computational Inorganic & Organometallic Chemistry.

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

HS Senior - College Freshman

2) What led you to Computational Chemistry?

My lack of luck with synthesis labs in sophomore organic chemistry! I was never an "instrument guy," but fortunately, my undergrad advisor, Dr. Mary Beth Krogh-Jespersen (Pace U), was a comp chemist, back in the day when there were few of those running around. I did better at inorganic synthesis in grad school @ UF, but by then I was hooked on modeling and electronic structure.

3) What is your favorite part of your career/job?

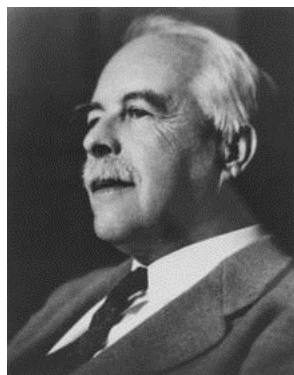
Watching my junior colleagues - undergrads, grads, and postdocs - make the transition to independent scientist.

4) If you could change anything you wanted about chemistry, the way it's taught, or how it's perceived, what would it be?

I think there is too little emphasis on developing students' "innovation" skills. I think we spend a lot of time on mastering concepts and facts, but not enough on how to take these and generate new science with them.

5) Who is your Science Hero? And why?

G. N. Lewis. His contributions to chemistry, which we still teach in Gen Chem, more than a century later—lone pairs, dot structures, multiple bonds, acids,



bases, etc.—are impressive, particularly in light of the fact that the quantum mechanics, in general, and its application to molecules, in particular, were only in their infancy. It's proof

that one does not need fancy computers and machines to do chemical research, just a fertile imagination and an eye for important problems.

*Thank you, Dr. Cundari, for your interesting remarks!*

*Interviewees are needed; To participate, contact [retort@acsd fw.org](mailto:retort@acsd fw.org).*

## From the editor

The annual Meeting-in-Miniature is scheduled for Saturday, April 27, at Texas A&M Commerce. It's a long ride for most of us, but the importance of this student event cannot be over-emphasized. I gave my first presentation as a graduate student at a Southwest Regional Meeting in Baton Rouge (in 1973, just in case you were wondering!), and I will never forget the *thud* my heart made as it hit the floor when three of my undergraduate professors walked in to hear my talk. It is a great opportunity for undergraduates and grad students to get their feet wet in the world of academic meetings. This year the DFW Section Meeting-in-Miniature will have poster sessions for community college and high school students, as well as the traditional talks.

I think the most important point in this issue—from a world view—is the ACS Press Room article about flush toilets and sewage treatment systems, and the lack thereof, for 60% (6 out of 10 of the world's population). This estimate only includes “improved sanitation”, defined as systems which include treatment of sewage. Earlier, lower estimates did not include systems which separate people from excrement but did not include the treatment of sewage, a major cause of disease. In an environmental chemistry course which I taught several years ago, I asked students on the last day to tell me and the rest of the class what was the most interesting thing they learned in the course. When one of the young women said “Sewage. I liked the unit on sewage treatment, and the alternatives to the systems we use in this country,” all of the other students laughed. But she was right; it was one of the most important topics—if not the most important—covered in that course. Point for thought, however...should we be using water for that purpose if there are alternatives?—click on the hyperlink for a discussion .

Best regards,



Connie

