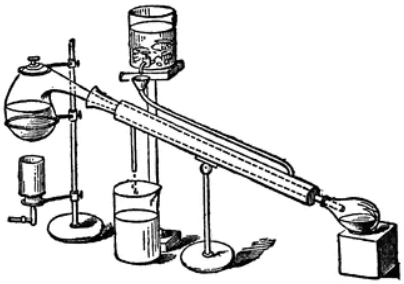
SOUTHWEST RETORT



SIXTY-SEVENTH YEAR **JANUARY 2015**

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. 67(5) JANUARY 2015

Editorial and Business Offices: ***Contact the Editor for subscription and advertisement information.***
Editor: Connie Hendrickson, 802 South Jefferson, Irving, TX 75060; 972-786-4249; retort@acsdfw.org

Copy Editor: Mike Vance, vance2276@gmail.com

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.

TABLE OF CONTENTS

Fifty Years Ago…….....7
Employment Clearing House……...….3-4

ARTICLES and COLUMNS

Hydrogen Fuel Cell Vehicles….....8
And Another Thing……..……...……..10
FIVE QUESTIONS……...……..17
Letter from the Editor……...……..……20

NEWS SHORTS

Nanowire clothing for warmth...…….....11
Cleaning the Taj Mahal.....…13
Sensitive tooth treatment…...……..14
Bee hive sealant for hair regrowth……..19

AROUND-THE-AREA……..……...…15

UTD Seminar Schedule…...……..……16

DFW SECTION NEWS

Letter from the Chair…...……..…..12

INDEX OF ADVERTISERS

ANA-LAB……...……...……..6
Huffman Laboratories……...……5
Veritas Testing……...……5
Vance Editing…...……...5

Contact the DFW Section

General: info@acsdfw.org
Education: ncw@acsdfw.org
Elections: candidates@acsdfw.org
Twitter: acsdfw

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.

JENKEM TECHNOLOGY

The PEG and PEGylation Technology People

Job Title: Sales/Marketing Assistant

Name of Company: JenKem Technology USA Inc.

Nature of Business: Polyethylene Glycol (PEG) Polymers for Pharmaceutical and Biotech Applications

Job ID: JKUSA-20140801

Job Type: Full-time

Salary Range: Base salary $25,000.00 to $35,000.00; plus Sales Commission

Location: United States - Texas – Plano

Additional notes: Must be legally authorized to work in the United States. Local candidates preferred, no relocation benefits are provided for the position.

Job Functions: Sales and marketing for PEGylation products and services: provides quotations and information on product availability, and provides answers to technical questions to customers, by phone or email; processes orders, shipping, and payments; develops and maintains customer relationships; identifies and develops new customers and new markets for PEGylation products and services; and performs other tasks as assigned by the manager.

Job Requirements: Bachelor's degree or higher (Chemistry/Biology/Biochemistry or similar background REQUIRED); Excellent interpersonal and communication skills; Excellent reading, speaking, and writing skills in business English; Good arithmetic skills and attention to details required; Proficiency in the use of Microsoft Word, Excel, PowerPoint, and Outlook required; English/Chinese bilingual preferred; Ability to work independently required.

To Apply:
Interested candidates should submit a cover letter including salary expectations, and an updated resume at email: hr@jenkemusa.com. Please do not call, we will contact only select candidates.

hr@jenkemusa.com.

CEM

Tomorrow's Science Today

Job Title: **Field Sales Specialist — Analytical and Process Sales**

Location: Dallas area

Summary: The successful candidate will be responsible for direct sales for both the Analytical and Process business units. Candidate must be willing to seek out and establish relationships with prospects in the chemical, general food, meat, dairy, university, and testing lab industries in order to obtain orders for CEM equipment. Territory to include: TX, OK, NM

Responsibilities: Prospecting, closing, developing markets, providing installations and operator training as well any other duties as defined to promote sales, grow the territory and achieve the territory goals on an annual basis.

Requirements: BS degree in Chemistry, Biochemistry, Pharmacy, Biology or related science
2-5 years prior sales experience in a related industry (or lab experience)
Ability to travel up 70% with overnight stays
Proven direct sales experience preferably into the above industries
Strong work ethic
Excellent communication skills
Microsoft Office and/or other computer software package aptitude
Salesforce.com training a plus

Salary: Base salary will be paid based upon market rates, experience, education and achievements.

Other: Expenses remunerated via CEM policy. Company car and employee benefits package (medical/dental/flexspending/401k/ProfitSharing).

Please forward your resume to **Greg.Barlow@cem.com**. Click the logo or the button for more information.

CEM

SERVICES

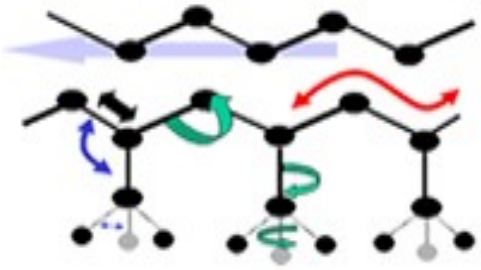
Elemental Analysis

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

Veritas Testing and Consulting LLC



Polymer and Materials Testing and Consulting
Thermal and Infrared Analysis including
DSC, TGA, TMA, DMA, etc.

Suite 376-253
2436 S Interstate 35 East
Denton Texas 76205-4992

www.veritaslab.net
info@veritaslab.net 940-367-1128

EDITING AND PROOF-READING 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:

vance2276@gmail.com

408-786-7451

ANA-LAB CORP.®

THE COMPLETE SERVICE LAB

Quality Analytical & Environmental Services Since 1965

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

ACIL Seal of Excellence Program

BBB ACCREDITED BUSINESS

ACCREDITED

nelap

T104704201

FIFTY YEARS AGO IN THE SOUTHWEST RETORT

The tour speakers for January are Dr. Mary L. Willard of Penn State University speaking on "Criminalistics" and recent Southwest Regional Award winner Dr. Raymond Reiser of Texas A&M University talking about either "Cholesterol Transport as Influenced by the Nature of Diet Fat" or "New Concepts of Fat Digestion, Absorption, Transport and Deposition."

Following are the officers for the Ark-La-Tex ACS Section: Chair, Mr. Leonard E. Savory, United Gas Corp.; Chair-Elect, Marshall Kesling, Longhorn Army Ammunition Plant; Secretary-Treasurer, Dr. John B. Sardisco, United Gas Corp.; Councilor, Dr. Harold E. Abbott, Stephen F. Austin College; Alternate Councilor, Dr. Alan H. Crosby, Northwestern State College; Executive Committee, Dr. John B. Entrikin, Centenary College, Dr. R. Lewis Etter, Texas Eastman, Mr. John Falkner, Falkner Petroleum Testing Laboratory.

The officers for 1965 for the Brazosport ACS Section are as follows: Chair, Dr. G. E. Ham; Chair-Elect, B. H. Miles; Secretary, R. A. Newton; Treasurer, Dr. P. D. Ludwig; Directors, K. M. Tolleson, J. P. Buettner.

The Southern Research Support Center was opened last March at the Veterans Administration Hospital in Little Rock. Its function is to provide interdisciplinary research support to VA field investigators over a twelve state area. The research areas covered include biochemistry, physical chemistry, biomedical engineering, psychology, statistics, and biophysics. The organization is headed by Dr. W. H. Perkins.

Activities at the Southeastern Texas ACS Section at the University of Houston include Dr. Richard Fuchs attending a symposium on "Linear Free-Energy Correlations" at the Army Research Office in North Carolina, the ACS student affiliate chapter visiting NASA in November, and presentations at the recent Southwest Regional ACS meeting by Drs. E. N. McElrath, Wayne Wentworth, and Ed Chen. A grant of $28,000 was received from NSF for purchase of NMR equipment. Dr. John Oro was the subject of an article in the Houston Post describing his work on the analysis of meteorites.

South Plains ACS Local Section Reporters H. J. Shine and C. M. McPherson tell us that local officers for 1965 will be Dr. R. J. Thompson, Chair-Elect; Mr. Avery Fix, Treasurer, and Dr. J. A. Adamcik, Secretary. Dr. W. Wendlandt's book "Thermal Methods of Analysis" was published last November by Wiley-Interscience.

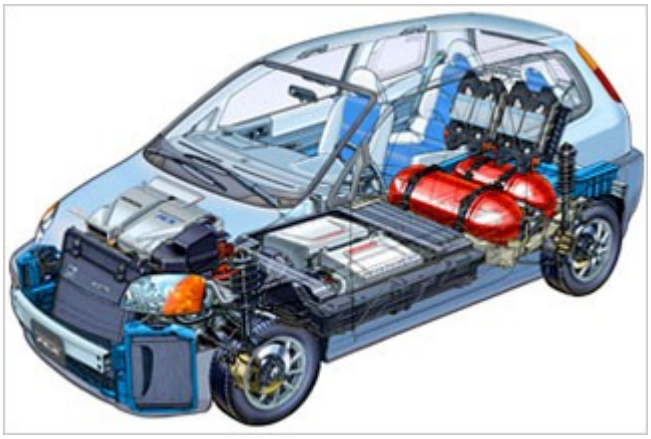
The November speaker for the Texas A&M-Baylor ACS Section was Dr. Ralph L. Shriner, Advisory Professor of Chemistry at SMU and Editor-in-Chief of Chemical Reviews. The topic of his talk was "The Anthocyanins."

Contributed by

E. Thomas Strom

Hydrogen Fuel Cell Powered Vehicle 2015
By
John E. Spessard, PhD, PE

The November 17, 2014 issue of *C&EN* had a very interesting article on the development of the hydrogen powered vehicle using fuel cells. Toyota is successfully operating a prototype with a range of 400 miles. General Motors (GM) and Honda are also active in the development of similar vehicles. The article states that technical advances are necessary to make these vehicles cost competitive.



A major breakthrough is Toyota's development of a hydrogen fuel tank that can hold hydrogen at 70 megapascals (10,000 pounds per square inch) pressure. In an earlier article, I found that 3,500 psi was the working limit of a compressed gas fuel tank. This raises some questions:

♦♦What would be the fate of this tank in an accident?

♦♦The pressure reduction valves and fittings connecting the fuel tank to the fuel cell are a more likely source of leaks and failures. Are there safety issues?

♦♦How willing will a driver be to sit on a 10K psi hydrogen tank?

♦♦How much maintenance will be required for the tank, valves, fittings, etc. How expensive will this maintenance be? What skill levels (and cost) would be required to do this maintenance? Obviously preventive maintenance will be a must.

♦♦What will be the service life of this tank?

The article states that the establishment of a network of refueling stations is a necessity. Refueling can be accomplished in three minutes. This raises more questions:

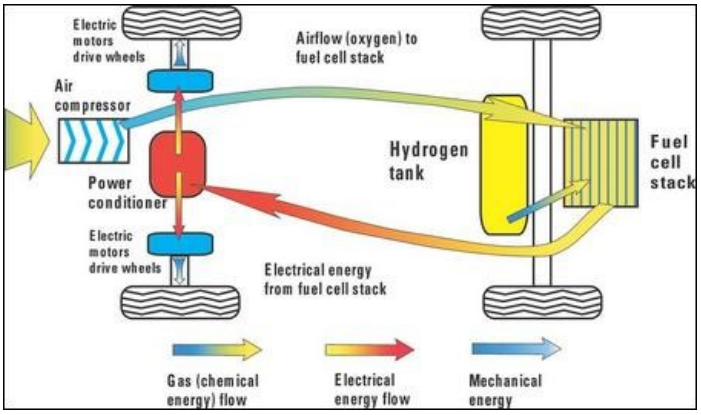
♦♦Do YOU really want a 10K psi hydrogen refueling station in YOUR immediate neighborhood?

♦♦What skills and training will be required to operate such a station? What will the station operators have to be paid? Obviously dealing with 10K psi hydrogen is more dangerous than handling ambient pressure gasoline. It will also be more expensive.

♦♦Gasoline refueling stations' economics depend upon selling tobacco, food, beverages, lottery tickets, etc. Can such an economic market be established for the hydrogen refueling stations?

The article makes it very clear that the fuel cell advocates are convinced that the electric battery-powered vehicle has very limited potential for technical advances. Is this so? The article cites, as evidence, the all-electric Nissan Leaf with a range of 66 to 84 miles. The Tesla motors Model S has an

EPA range of 265 miles. The Model S is now on the market. To me this is a significant advance. I believe that batteries have more potential for technical advances than is stated in the *C&EN* article.



The *C&EN* article addresses the limitations of producing hydrogen for a fuel cell. The present commercial method for producing hydrogen is from methane. The methane carbon is converted to CO_2. Electrolyzing water to produce hydrogen makes no sense. Water is at the bottom of a very deep energy well. It would make more sense to directly use the electricity to power a vehicle. The article cites green electricity from wind as a means of producing hydrogen. This is practical only if a means of energy storage is developed. If you have that means, direct use of electricity to power a vehicle makes more sense.

In the early 1900s, there were three types of automobiles on the market. (This is really before my time.) They were internal combustion, steam and electric. Each type had a serious problem. For the internal combustion, it was starting it: a lot of shoulders were broken while crank-starting the Model T. For steam, it was the time needed to get running from a cold start. For electric, it was the size, weight and cost of the batteries as well as the time needed to recharge the batteries. Charles Kettering solved the problem for the internal combustion engine. Kettering realized that you could safely overload a small electric motor for a few seconds. This is the modern starter.

The innovative technology vehicles have their limitations. Which ones will overcome these limitations? If I knew I would be making investments in the winner.

Zombie Zombie...Continued from page 10

stop running —but avoid charging into oncoming Un-Dead, of course. Do not hide in small rooms where the only exit is full of zombies. Make sure your companions are more out of shape than you are, and once you've left them in the dust, do not go back. And, for Petey's sake, ***stay away from the fugu.***

[1, 2] http://science.howstuffworks.com/science-vs-myth/strange-creatures/zombie3.htm
[3] http://www.cdc.gov/niosh/ershdb/EmergencyResponseCard_29750019.html
[4] http://maths.adelaide.edu.au/hayden.tronnolone/teaching/mad/media/1/EpidemiologyAndZombies.pdf
[5] http://press.princeton.edu/titles/10305.html, eBook | ISBN: 9781400851928
[6] http://www.dailymail.co.uk/sciencetech/article-2865792/The-science-ZOMBIES-Neuroscientists-reveal-anatomy-undead-s-brain-avoid-dinner.html
[7] http://screencrush.com/how-to-be-on-the-walking-dead/

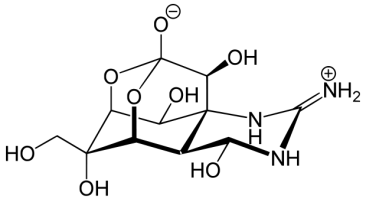
...And Another Thing…

by Denise L. Merkle, PhD

Zombie-Zombie

Do not give your only weapon to a hysterical person. According to Tracy V. Wilson of howstuffworks.com, committing this act of folly guarantees that one will be zombiefied[1]. At some point. Eventually. Zombies are persistent but slow—also information that's Good to Know. It seems that one would be well served to avoid giving any weapon to anyone whose emotions are uncontrolled, but it is (allegedly) a critical error to do so in a zombie attack.

Why Zombies? I do not know. The inexorable approach of the undead is terrifying to almost everyone, yet these vectors of virulent infection are immensely popular in today's culture. There's something about being hunted by mindless, inexplicable beings that, well, creeps everybody out —but that doesn't stop their fans. That zombies are especially menacing when one has fled to the basement wearing inadequate clothing and devoid of provisions sufficient to withstand a siege is likely due in large part to Hollywood. The idea that zombies could exist at all is likely due to tetrodotoxin and other natural compounds: The chemistry of Voodoo[2]. Turns out that tetrodotoxin, an unfriendly molecule that can sometimes be found in the organs of puffer fish and other seafood, induces neurological effects similar to those found in death[3]. All the voodoo practitioner has to do is reversibly poison The Object of the spell, wait until the mourners have dispersed, and dig The Object up before actual death occurs. When the effects of the poison wear off (note that reversibility is key for the success of the spell), The Object is now Un-Dead.



As was pointed out to me today, Vampires are passé. It's now zombies, all the time. They're now so mainstream, a zombie apocalypse is used to model epidemics[4], and the new diagnosis zombism, (T. Verstynen & Voytek, B. [2014], "Do Zombies Dream of Undead Sheep? A Neuroscientific View of the Zombie Brain"; Princeton University Press)[5], is a teaching tool for neuroscience. Do you have Consciousness Deficit Hypoactivity Disorder [2]? If so, you're a fast zombie—but your Orbitofrontal Cortex is still badly defective.[6] Zombies' lack of articulate speech is a problem for them, but is even more of an issue for zombiephobes whose friends' hippocampi allow them to watch zombie shows over and over. And over. And who started telling people about Zombie School?[7] Yes. There is one.

What is the point of all this, you may ask? Well, if a zombie approaches, ***Run***. Do not

From the ACS Press Room

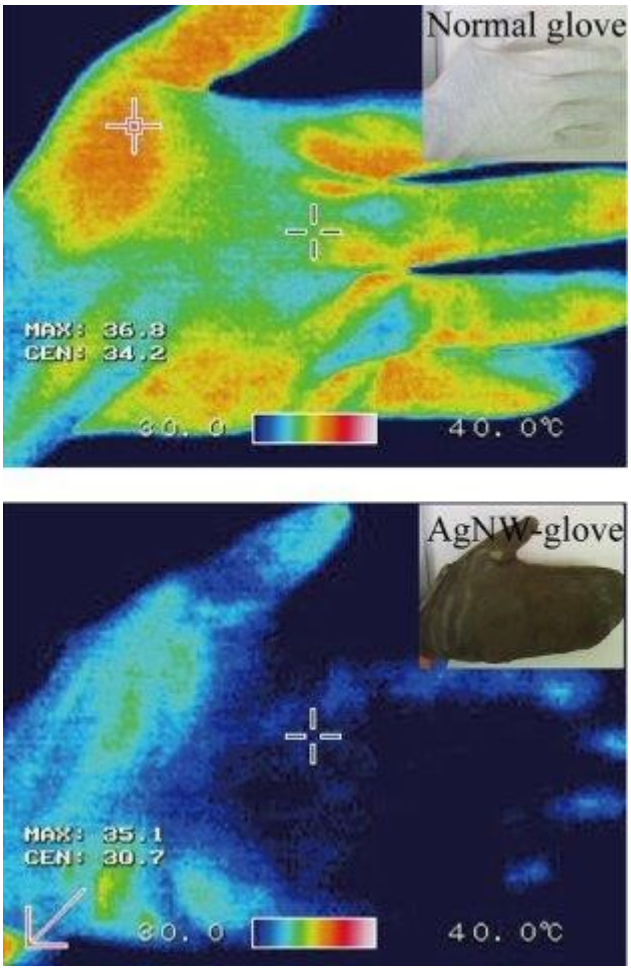
Nanowire clothing could keep people warm — without heating everything else

Personal Thermal Management by Metallic Nanowire-Coated Textile
Nano Letters

To stay warm when temperatures drop outside, we heat our indoor spaces — even when no one is in them. But scientists have now developed a novel nanowire coating for clothes that can both generate heat and trap the heat from our bodies better than regular clothes. They report on their technology, which could help us reduce our reliance on conventional energy sources, in the ACS journal *Nano Letters*.

Yi Cui and colleagues note that nearly half of global energy consumption goes toward heating buildings and homes. But this comfort comes with a considerable environmental cost – it's responsible for up to a third of the world's total greenhouse gas emissions. Scientists and policymakers have tried to reduce the impact of indoor heating by improving insulation and construction materials to keep fuel-generated warmth inside. Cui's team wanted to take a different approach and focus on people rather than spaces.

The researchers developed lightweight, breathable mesh materials that are flexible enough to coat normal clothes. When compared to regular clothing material, the special nanowire cloth trapped body heat far more effectively. Because the coatings are made out of conductive materials, they can also be actively warmed with an electricity source to further crank up the heat. The researchers calculated that their thermal textiles could save about 1,000 kilowatt hours per person every year — that's about how much electricity an average U.S. home consumes in one month.



Heat-based images show a conventional cloth glove (top) lets warmth escape while a nanowire glove traps it. Credit: American Chemical Society

ACS DFW Local Section

Dear colleagues,
I hope that the chilly holidays have treated you all well and that the new year has been off to a great and productive start! This year, we have some wonderful events planned for the Spring semester. This January 17th, a group of us watched the Dallas Stars Hockey team play the Washington Capitals.

At the end of February, we will screen the documentary film ***Haber*** at the University of Texas at Dallas. Please watch your email for more details to come in the next few weeks to RSVP! To find out more about the film, feel free to investigate here:
http://www.haberfilm.com/education.html

April will be host to our annual Meeting in Miniature, this year held at the University of Texas at Arlington. Additionally, we will hold a second event in April to honor our local section award winners. Be on the lookout for more information coming!

I send you all my absolute best for the year to come! I look forward to interacting with you all at some point this year. As always, please feel free to contact me with any questions or comments.

All the best,
Shana Marie Santos
Local Section Chair 2015
shana.marie.santos@gmail.com

From the ACS Press Room

What's in the grime tarnishing the Taj Mahal?

The Discoloration of the Taj Mahal due to Particulate Carbon and Dust Deposition
Environmental Science & Technology

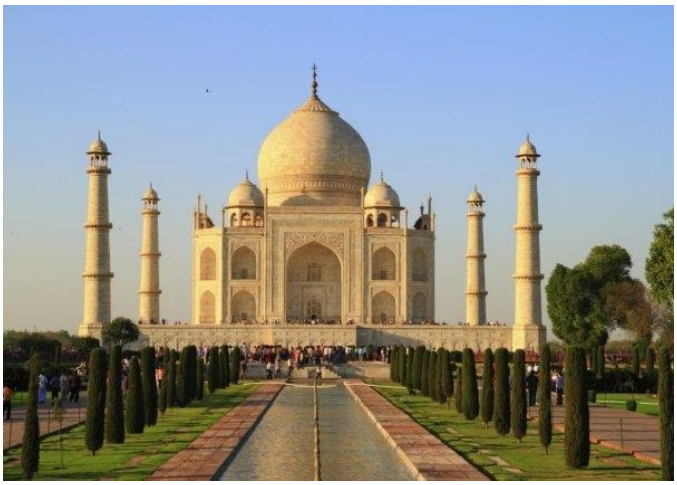
Every several years, workers apply a clay mask to India's iconic but yellowing Taj Mahal to remove layers of grime and reveal the white marble underneath. Now scientists are getting to the bottom of what kinds of pollutants are discoloring one of the world's celebrated wonders. Their findings, published in the ACS journal *Environmental Science & Technology*, could help inform efforts to protect the mausoleum and other surfaces from pollution.

Mike H. Bergin, Sachchida Nand Tripathi and colleagues note that Indian officials have tried to reduce the effects of pollution on the Taj Mahal by restricting nearby traffic and limiting local industrial emissions. But despite regulations and an occasional deep clean, the domes and minarets continue to accrue a layer of soot. So far, no published studies have looked closely at what specific compounds are causing it to appear yellow. Bergin's and Tripathi's teams wanted to find out.

The researchers analyzed particles in the air and on marble samples near the main dome over several months. Using a novel method they developed, the team estimated how these specks reflect light and therefore affect the color of the building.

They conclude that black carbon and brown carbon from the burning of trash, fuels and other materials are among the primary pollutants tarnishing the Taj Mahal. In the future, their approach could be used to craft strategies to address the chronic yellowing and improve air quality, they say.

The authors acknowledge funding from the Indo-U.S. Science and Technology Forum, the Environmental Protection Agency and the National Science Foundation.



Further info: Article from ***The Guardian***:

http://www.theguardian.com/world/2010/dec/02/taj-mahal-threatened-pollution

From the ACS Press Room

A potential long-lasting treatment for sensitive teeth

A Mesoporous Silica Biomaterial for Dental Biomimetic Crystallization
ACS Nano

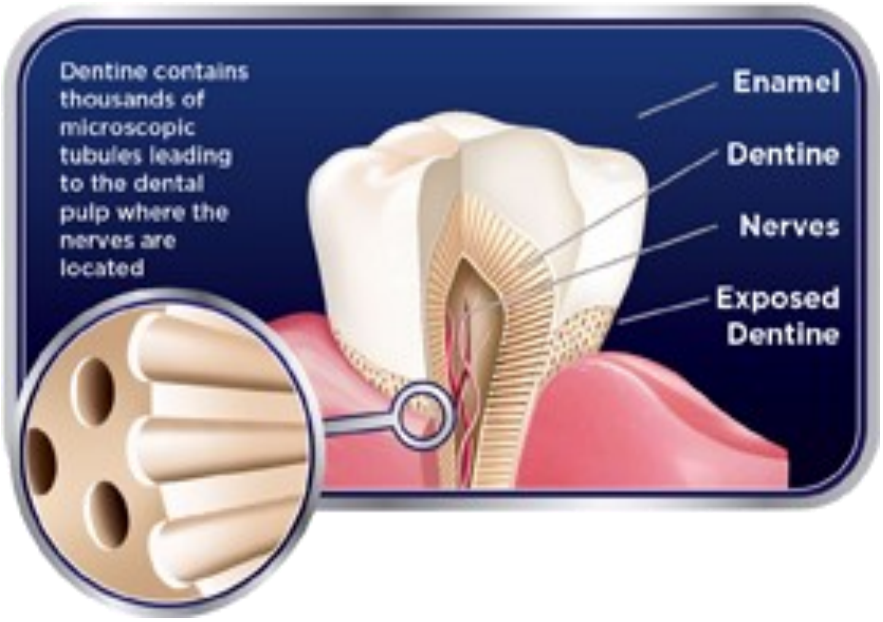
Rather than soothe and comfort, a hot cup of tea or cocoa can cause people with sensitive teeth a jolt of pain. But scientists are now developing a new biomaterial that can potentially rebuild worn enamel and reduce tooth sensitivity for an extended period. They describe the material, which they tested on dogs, in the journal *ACS Nano*.

Chun-Pin Lin and colleagues note that tooth sensitivity is one of the most common complaints among dental patients. Not only does it cause sharp pains, but it can also lead to more serious dental problems. The condition occurs when a tooth's enamel degrades, exposing tiny, porous tubes and allowing underlying nerves to become more vulnerable to hot and cold.

Current treatments, including special toothpastes, work by blocking the openings of the tubes. But the seal they create is superficial and doesn't stand up to the wear-and-tear of daily brushing and chewing. Lin's team wanted to find a more durable way to address the condition.

The researchers made a novel paste based on the elements found in teeth, namely calcium and phosphorus. They applied the mixture to dogs' teeth and found that it plugged exposed tubes more deeply than other treatments. This depth could be the key, the researchers conclude, to repairing damaged enamel and providing longer-lasting relief from tooth sensitivity.

The authors acknowledge funding from Taiwan's National Science Council and the National Taiwan University Hospital.



Around the Area

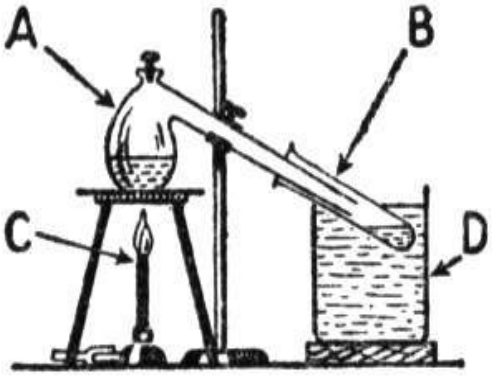
University of Texas Arlington

Dr. **Junha Jeon**, Assistant Professor of Chemistry, has been given a two year $110,000 PRF grant. This comes from the New Investigator Program, in which start-up funding is provided for new investigators during the first three years of their career. Dr. Jeon and his students will study the reaction mechanisms at work with ruthenium benzylidene catalysts useful in the energy and pharmaceutical industries.

Welch Professor Dr. **Daniel Armstrong** was recently inducted into the National Academy of Inventors. He recently gave two plenary lectures: "Ionic Liquids in Separations and Mass Spectrometry" at ISC 2014 in Salzburg, Austria, and "Enantiomeric Separations in Pharmaceutical Science" at the 2nd Congress of the Brazilian Association of Pharmaceutical Sciences, in Rio de Janeiro, Brazil.

In addition to those UTA faculty noted last month, additional presentations at the ACS Southwest Regional Meeting in Fort Worth came from the groups of Drs. **Armstrong, Dias, Foss, Jeon, Johnson-Winters, Kroll, Lovely, MacDonnell, Mandal,** and **Pierce**.

Send your seminar schedules for the semester or the year to the RETORT.



A, retort; B, receiver; C, flame to heat retort; D, water to keep receiver cool.

retort@acsdfw.org

UT DALLAS
The University of Texas at Dallas
CHEMISTRY

Date	Speaker	School
January 23	Dr Eduard Chekmenev	Vanderbilt University
January 30	Dr Donovan Haines	Sam Houston State University
February 6	Dr Wei Zhang	University of Colorado
February 13	Dr Ivan Aprahamian	Dartmouth
February 20	Dr Susan Kauzlarich	University of California Davis
February 27	Dr Wei Chen	University of Central Oklahoma
March 6	Dr Jose Gutierrez-Gonzales	University of Texas Pan American
March 13	Dr Richard Willson	University of Houston
March 27	Dr Saiful Chowdhury	University of Texas Arlington
April 6	Dr Ali Trabolsi	New York University Abu Dhabi
April 10	Dr. Warren Chan	University of Toronto
April 17	Dr Gang-Yu	University of California Davis
April 24	Dr Nathaniel Rosi	University of Pittsburgh
May 1	Dr Jennifer Irvin	Texas State University

800 West Campbell Rd. Richardson, TX Contact: gassensmith@utdallas.edu

FIVE QUESTIONS FOR…

The 2014 Southwest Regional Meeting, hosted by the DFW local section of the ACS, is now history...it's so last year. Data compilation for such a complex undertaking requires many months; neither the final statistics nor the Meeting Report will be available for quite a while. In the meantime, here's a quick '5 Questions' about SWRM 2014. Keep in mind that the answers are unofficial.

We all know that SWRM 2014 was held from November 19-22, 2014, at the Renaissance Worthington Hotel in Fort Worth, that the theme was 'Cowboys, Culture, Chemistry,' and that lots of special programming included the Grad School Fair on Friday November 21, after the Undergraduate Poster Session & Ice Cream Social. The EXPO was held on Thursday and Friday, the 20th and 21st, with an Exhibitor Thank You Reception on the evening of the 19th.

1. How many attendees participated in SWRM 2014?

Approximately 750.

2. How many symposia were run?

44 half-day sessions and 3 poster sessions

3. What was the new event at SWRM 2014 that was well received?

Dine Arounds! This activity, offered on two nights of SWRM 2014, allowed attendees to meet up with fellow attendees and their guests to try out local restaurants. A good time was had by all!

4. And how about the EXPO?

43 exhibitors participated in the EXPO and Graduate School Fair. Companies and Schools traveled from all over the US and Canada to promote their products and programs, respectively. Poster sessions and coffee breaks were held in the EXPO Hall, which optimized the time attendees could have with the exhibitors.

5. SWRM 2014 General Chair, Kirby Drake, whose day job as Partner in Klemchuk LLP is now much less SWRM-y, also answered this final question: **What aspects of the meeting did you enjoy the most?**

"I enjoyed the varied programming that SWRM 2014 had to offer for attendees in academia, industry and beyond. The day of undergraduate programming, including the fantastic grad school fair, was another highlight. And of course, the gala reception sponsored by Klemchuk Kubasta LLP, was another highlight for me—particularly the s'mores bar!"

SWRM 2014 was a very successful meeting, keeping up the DFW local section tradition of wowing the chemists. Many thanks to all who attended and/or participated in the EXPO and Graduate School Fair, with Metroplex-sized thank yous to Kirby Drake, the SWRM 2014 committee, and the other volunteers who made the success possible. November 4-7, 2015, will find SERMACS and SWRM in Memphis, for the quinquennial joint Regional Meeting. For information on SERMACS/SWRM 2015, contact Dennis Merat: dmerat@cbu.edu

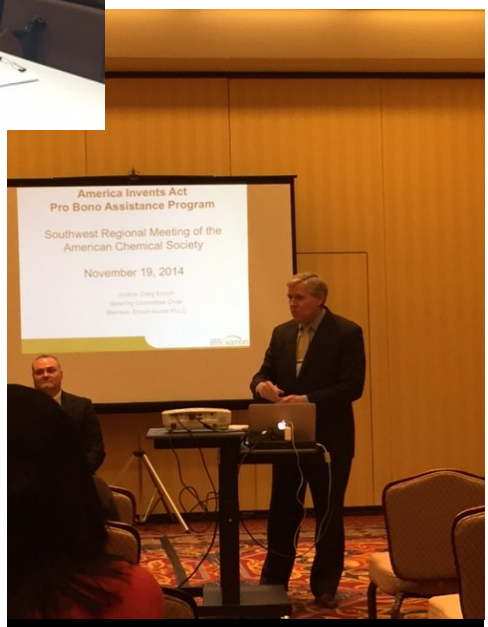
Thank you, SWRM 2014 and Kirby Drake, for participating in the first '5Q' of 2015!

To sign up to be interviewed for 5Q, contact: **retort@acsdfw.org**.

Undergraduate poster session winner

Grad School Fair

Ann Nalley presenting to Mamie Moy



Former Texas Supreme Court Justice Craig Enoch

From the ACS Press Room

Honeybee hive sealant promotes hair growth in mice

Stimulatory Effect of Brazilian Propolis on Hair Growth through Proliferation of Keratinocytes in Mice
Journal of Agricultural and Food Chemistry

Hair loss can be devastating for the millions of men and women who experience it. Now scientists are reporting that a substance from honeybee hives might contain clues for developing a potential new therapy. They found that the material, called propolis, encouraged hair growth in mice. The study appears in ACS' *Journal of Agricultural and Food Chemistry*.

Ken Kobayashi and colleagues note that propolis is a resin-like material that honeybees use to seal small gaps in their hives. Not only does it work as a physical barrier, but it also contains active compounds that fight fungal and bacterial invasions. People from ancient times had noticed propolis' special properties and used it to treat tumors, inflammation and wounds. More recently, research has shown that the substance promotes the growth of certain cells involved in hair growth, though no one had yet tested whether that in turn would result in new locks. Kobayashi's team wanted to find out.

When the researchers tested propolis on mice that had been shaved or waxed, the mice that received the treatment regrew their fur faster than those that didn't. The scientists also noticed that after the topical application, the number of special cells involved in the process of growing hair increased. Although they tried the material on mice that could grow fur rather than balding mice, the researchers note that hair loss conditions often result from abnormal inflammation. Propolis contains anti-inflammatory compounds, so they expect it could help treat balding conditions. They add that further testing is needed to see if the beehive material affects human hair follicles.

Bee carrying propolis

The authors acknowledge funding from the Yamada Bee Farm, Inc., and the Japan Society for the Promotion of Science.

General info: **http://www.beekeeping.com/info/produits/propolis_us.htm**

From the editor

I cannot decide this month whether the article on bee propolis and hair growth, or the article on zombies, is my favorite. Both contain the elements of "strange chemistry," which always attract me.

If you are a fan of crime shows of the forensic investigation genre, you have probably heard of the zombie-producing properties of puffer fish, or rather, the tetrodotoxin found in the fish. [There is a nice discussion of this on that font of all (sometimes inaccurate) information, Wikipedia (**tetrodotoxin**) if you are interested.] A little googling and I learned that this toxin is actually produced by symbiotic bacteria in various species, mostly aquatic, so that it is not species-specific. The toxin blocks the sodium transport channels: voila! no nerve-muscle transmission and you drop like a rock...or zombie. The blue-ringed octopus, a little cute mollusk not much bigger than the palm of your hand, is actually pretty drab until disturbed, when its blue rings light up; it is classified as one of the world's most dangerous marine animals. The tetrodotoxin is produced by the bacteria in its salivary glands. It is listed as one of those things that can kill you if you look at it cross-eyed, right along with poison dart frogs, gila monsters, and wolverines. There is no consensus, however, on a connection between zombies and voodoo and the use of tetrodotoxin.

After all that, I'll just leave the bee article for you to read!

Best regards,
Connie