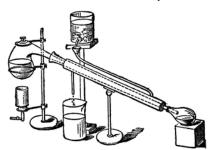


SOUTHWEST RETORT



SIXTY-NINTH YEAR

MAY 2017

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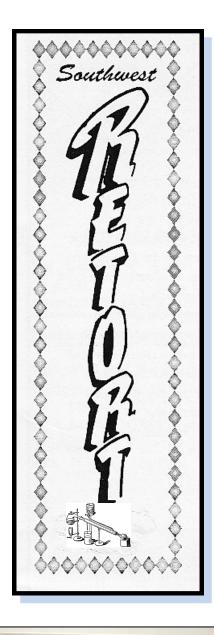


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EMPLOYMENT CLEARING HOUSE

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 list- ing, 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

POSITIONS AVAILABLE

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Location: Tianjin, China.

JenKem Technology Co. Ltd. has a current opening for a Quality Manager position for GMP manufacturing of polyethylene glycol polymers in Tianjin, China. The ideal candidate must have:

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Project Manager, GMP Manufacturing

Location: Beijing or Tianjin

General Manager, GMP Manufacturing Plant

Location: Tianjin

Central point of contact internally and for customers. Maintains positive relationships with customers.

Daily responsibilities including leading customer conference calls, providing project updates, coordination of information flow, coordination of resources, resolution of issues between customer and JenKem Technology, writing project reports, and tracking project deliverables, scope, costs and schedules.

Provide leadership to facilitate problem solving and decision making. Recommend solutions for addressing project related problems.

Maintain direct involvement with other departments within JenKem Technology to help develop specifications, provide information required for analytical methods, contribute information for GMP related documentation such as investigations, batch records and reports and translate contract requirements for JenKem Technology departments.

Advanced degree in Chemistry, Chemical Engineering, or a scientific related field of study. Knowledge of organic, polymer and analytical chemistry.

Previous working knowledge of cGMP manufacturing in the US or Europe, preferably polymer-related or pharmaceutical manufacturing.

Outstanding demonstrated interpersonal skills in English and Mandarin (Chinese) a must (both written and oral)

Proven aptitude for project management tools. Proficiency using project management tools to oversee all elements of project lifecycle including scheduling/planning, meeting coordination, tracking of costs and deliverables, reporting to stakeholders, and risk mitigation. Project Management Certification a plus.

Computer and software skills including MS Office Suite programs, Internet, email systems required.

Proven multi-tasking skills able to handle multiple projects simultaneously within a GMP environment; ability to motivate teams, work within aggressive timelines collaboratively with cross-functional departments

Demonstrated ability to work as a strong contributor in a team environment on complex projects.

Required skills include strong communication, leadership, decision-making, organizational and analytical skills. A candidate must be able to maintain customer focus, handle difficult discussions, build consensus, work independently and prioritize multiple tasks and adjust quickly, as needed. The ideal candidate must be willing to pursue tasks that may be required for projects but are not clearly defined within this job description.

Detail-oriented, dependable, motivated, ability to work with minimal supervision.

Interested candidates should submit a cover letter including salary expectations; and an updated resume at email: hr@jenkemusa.com.

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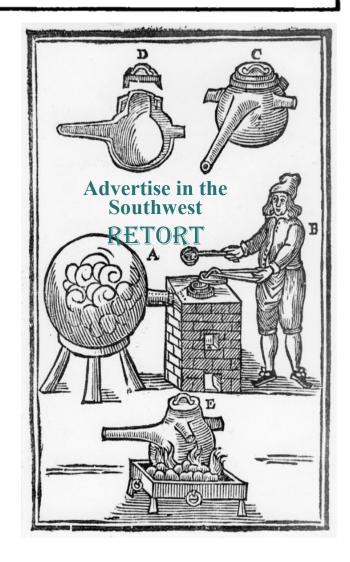


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FIFTY YEARS AGO IN THE SOUTHWEST RETORT

The Southwest Regional ACS Meeting will be held in Little Rock Dec. 7-9. The meeting hosts are the Central Arkansas and the University of Arkansas local ACS sections. The General Program Chair will be Thomas E. Shook, Chief of the Biochemistry Branch at the Pine Bluff Arsenal; and the Technical Program Chair will be Dr. Edward S. Amis of the University of Arkansas. The plenary lecture will be given by Dr. Henry Eyring of the University of Utah. Special symposia will be held in the fields of Biological Transport, Bio-Medical Application of Gas Chromatography, Modern Gas Phase Reaction Kinetics, Molecular Biology, Nuclear-, Cosmo-, and Geochemistry, Recent Topics in Inorganic Chemistry, and Pharmaceutical Chemistry.

The ACS May tour speaker is Dr. Sidney Siggia of the University of Massachusetts in Amherst. His tour topics are "Fads and Fashions in Chemical Analysis" and "Application of Differential Reaction Kinetics to the Analysis of Mixtures."

At Texas Woman's University, the new, three-story graduate research science building is scheduled for completion at the end of this summer. A medium resolution mass spectrometer is scheduled to be installed in May. Other instrumentation expected in the near future include a 500-200 cm-1 range infrared spectrophotometer and a nuclear magnetic resonance spectrometer. TWU will provide three summer short

courses for industry personnel on "Neutron Activation Analysis," "Organic Mass Spectrometry," and "Gas-Liquid Chromotography." The teachers for the first course will be Drs. William L Mecay and Everett C. Hurdis. The second course will be taught by Dr. Norman G. Foster and the third by Dr. Andrew C. Pronay. At the Southwest Center for Advanced Studies (the precursor for UT-Dallas), Drs. John Jagger, Harold Werbin, and Michael H. Patrick presented papers at the Texas Academy of Science meetings hel Mar. 17 at College Station. Dr. Philip Witonsky, assistant professor of biochemistry, is scheduled to join the staff on June 15.

At North Texas State University (now the University of North Texas), Dr. W. H. Glaze and Dr. W. T. Brady attended the spring ACS meeting in Miami Beach. Dr. James Marshall will join the faculty in September, 1967. At UT -Arlington, Dr. John Margrave of Rice gave two seminars. Faculty members Drs. John Murchison and Peter R. Girardot attended the ACS spring meeting in Miami Beach. At TCU Drs. W. H. Watson, H. C. Kelly, M. S. Shuman, and M. G. Reinecke attended the ACS meeting in Miami Beach. Dr. Clifford Venier will be

Contributed by E. Thomas Strom

ty in September.

Thinking of Getting more involved with our local ACS Section?

We Need YOU!

We Invite you to run for office!

Volunteers are elected to govern the DFW Local Section and interact with ACS National. Section officers join the Executive Committee (aka EC or Ex-Com) for the length of their terms. The DFW local section cannot carry out its mission of promoting chemistry and chemical professionals without the help of as many ACS members as possible. Serving the local section as an officer—or even as a candidate—is a great way to contribute to the community. A description of the duties of each of the open offices is available at the local section website:

http://dfw.sites.acs.org/officerduties.htm

The new terms begin on January 1, 2018.

Chair-elect: 3 year term; chair-elect 2018; chair 2019; past chair 2020

Secretary: 2 year term; 2018-2019

Councilor: 3 year term; 2018-2020

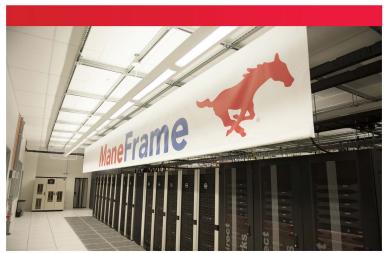
Alternate Councilor: 3 year term; 2018-2020

To run for office, please submit a 1/3 page biography, single space typed, to the Secretary of the DFW Section, Jill Willi at <u>jill.willi@verizon.net</u> as soon as possible, but no later than July 15, 2017.





Department of Chemistry smu.edu/chemistry



Introducing the Ph.D. in Theoretical and Computational Chemistry at SMU

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Outstanding candidates are also eligible for fellowships providing additional support beyond that stipend.

Course topics include molecular modeling and computer assisted drug design; training in QM/MM methods; Hartree-Fock Theory; Density Functional Theory; Electron Correlation Methods; Statistical Thermodynamics; and much more!

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Why come to SMU?

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- Participate in a vivid research program stretching from software development and coding to simulation of homogeneous and enzyme catalysis, and everything in between.
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- · Master computational tools to carry out worldclass research in a high-performance computer environment
- · Receive individual mentorship from a close community
- · Utilize SMU's **High Performance Computing Center** ("ManeFrame")

Turning chicken poop and weeds into biofuel

Bioconversion of *Tithonia diversifolia* (Mexican Sunflower) and Poultry Droppings for Energy Generation: Optimization, Mass and Energy Balances, and Economic Benefits

Energy & Fuels

Chicken is a favorite, inexpensive meat across the globe. But the bird's popularity results in a lot of waste that can pollute soil and water. One strategy for dealing with poultry poop is to turn it into biofuel, and now scientists have developed a way to do this by mixing the waste with another environmental scourge, an invasive weed that is affecting agriculture in Africa. They report their approach in ACS' journal *Energy & Fuels*.

Poultry sludge is sometimes turned into fertilizer, but recent trends in industrialized chicken farming have led to an increase in waste mismanagement and negative environmental impacts, according to the United Nations Food and Agriculture Organization. Droppings can contain nutrients, hormones, antibiotics and heavy metals and can wash into the soil and surface water. To deal with this problem, scientists have been working on ways to convert the waste into fuel. But alone, poultry droppings don't transform well into biogas, so it's mixed with plant materials such as switch grass. Samuel O. Dahunsi, Solomon U. Oranusi and colleagues wanted to see if they could



A new method for processing chicken poop with an invasive weed produces fuel and fertilizer.

Credit: Tukaram.Karve/Shutterstock.com

combine the chicken waste with *Tithonia diversifolia* (Mexican sunflower), which was introduced to Africa as an ornamental plant decades ago and has become a major weed threatening agricultural production on the continent.

The researchers developed a process to pre-treat chicken droppings, and then have anaerobic microbes digest the waste and Mexican sunflowers together. Eight kilograms of poultry waste and sunflowers produced more than 3 kg of biogas — more than enough fuel to drive the reaction and have some leftover for other uses such as powering a generator. Also, the researchers say that the residual solids from the process could be applied as fertilizer or soil conditioner.

The authors acknowledge funding from Landmark University (Nigeria).

DFW Section Awards Dinner April 25, 2017

Outstanding Undergraduate Students

David Marolf, Abilene Christian University

Steven Prinslow, Austin College

Shantel Thomas, McMurry University

Nan "Ken" Xie, Southern Methodist University

William Grumbles, Tarleton State University

Monika Hailey, Texas Christian University

Ever Rodriquez, Texas A&M University-Commerce

Paige Hall, Texas Woman's University

Madeline Zumbach, University of North Texas

Misty Martin, University of Texas at Arlington

Gino Occhialini, University of Texas at Dallas

Elizabeth LaFrance, University of Dallas

Outstanding Community College Students

Tiffany Ghanfili, Collin College

Vivian Mayora, Northlake College

60 year ACS Members 2016

James Edmund Buckley

Donald Gaylord Day

Billy George Hurd

Manfred Gordon Reinecke

Eugene Rogers Steele

60 year ACS Members 2017

John G. Albright

Andrew T. Armstrong

Bernard Korzun

Ronald Laurence Poe

Charles R. Schraeder

Donald E. Westerheide

50 year ACS Members 2016

Gerard "Gerry" R. Dobson

Charles G. Gibbs

Lawrence Spritzer

50 year ACS Members 2017

Larry James Darlage

Nikolaus H. Fischer

Dean Sherry

Larry Smith

James Takemoto

Kosaku Uyeda

Water-repellant material sheds like a snake when damaged

Molting Materials: Restoring Superhydrophobicity after Severe Damage via Snakeskin-like Shedding

Langmuir

Imagine a raincoat that heals a scratch by shedding the part of the outer layer that's damaged. To create such a material, scientists have turned to nature for inspiration. They report in ACS' journal *Langmuir* a water-repellant material that molts like a snake's skin when damaged to reveal another hydrophobic layer beneath it.

Lotus leaves, water striders and other superhydrophobic examples from nature have inspired scientists to copy their water-repelling architecture to develop new materials. Such materials are often made by coating a substrate with nanostructures, which can be shored up by adding microstructures to the mix. Superhydrophobic surfaces could be useful in a range of applications including rain gear, medical instruments and self-cleaning car windows. But most of the prototypes so far haven't been strong enough to stand up to damage by sharp objects. To address this shortcoming, Jürgen Rühe and colleagues again found a potential solution in nature — in snake and lizard skins.

The researchers stacked three layers to

create their material: a water-repellant film made with poly-1H,1H,2H,2Hperfluorodecyl acrylate (PFA) "nanograss" on the top, a watersoluble polymer in the middle and a superhydrophobic silicon nanograss film on the bottom. Nanograss consists of tiny needle-like projections sticking straight up. The team scratched the coating and submerged the material in water, which then seeped into the cut and dissolved the polymer. The top layer then peeled off like molted skin and floated away, exposing the bottom, water-repellant film. Although further work is needed to strengthen the top coating so that a scratch won't be able to penetrate all three layers, the researchers say it offers a new approach to creating self-cleaning and waterrepellant materials.

The authors acknowledge support from the German Federal Ministry of Education and Research (BMBF) and VDI/VDE/IT GmbH through project NanoTau.

Snakeskin-like material molts when damaged

Click here to watch the video



CALL FOR VOLUNTEERS: SUMMER EXPERIENCE IN ANTIBIOTIC DISCOVERY AND DEVELOPMENT (SEADD)



What is SEADD?

An advanced summer program covering the broad range of careers and experimental techniques involved in pharmaceutical development from lead compound discovery to FDA approval and commercialization. As part of the first ever Summer Experience in Antibiotic Discovery and Development (SEADD) led by The Shoulders of Giants, twenty high school girls will delve into sixty hours of hands-on curriculum with a focus on the chemistry, biochemistry, molecular biology, and microbiology involved in discovering new antibiotics.

What do we need?

We are looking for two types of volunteers, **teaching assistants** and **speakers**. Teaching assistants are students of any level or professionals with experience in organic synthesis, computational chemistry, bacterial cell culture, PCR, or gel electrophoresis. Teaching assistants can volunteer for the duration of the program or on a part-time basis in morning (9am - 12pm) or afternoon (1pm - 4pm) shifts. Speakers are experienced industry professionals or professors who feel like they could give an hour long talk on *any* topic in drug discovery or development, including but not limited to, high throughput screening, natural product synthesis, rational drug design, SAR, clinical testing, drug formulation, and process chemistry.





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Who are we?

The Shoulders of Giants (TSoG), a 501(c)(3), provides a 4,000 sq. ft. science and engineering teaching lab in northeast Dallas for passionate individuals, faculty, staff, and volunteers to innovate in the world of education. TSoG offers a year-round high school mentorship program which provides rigorous, supplementary courses in science in engineering. TSoG also presents outreach events throughout the year, bringing TSoG programming to students outside of our facility and across the metroplex.

Program held at Camp Whispering Cedars 6010 Whispering Cedars Drive, Dallas, TX 75236

This is a two day a week, five-week program that will be held Tuesdays and Thursdays between June 13th to July 20th, with no programs held during the week of July 4th. Class day schedule is 9am – 4pm with an hour break for lunch.

For more information on SEADD, as well as other STEM outreach volunteer opportunities with TSoG, please contact Mandy Dark at The Shoulders of Giants 682-552-0649 or email mandydark@tsogiants.org

Around the Area

UT-Dallas

Professor Anvar Zakhidov and Associate Professor Jung-Mo Ahn renewed their research grants with the Robert A. Welch Foundation, and Assistant Professors Sheel Dodani and Gabriele Meloni were awarded new research grants from the Foundation. Assistant Professor Jeremiah Gassensmith has been awarded a NSF Faculty Early Career Development (CAREER) Award and one of his graduate students, Candace Benjamin, has been named a NSF Graduate Research Fellow. Two graduate students in the bionanosciences group of Professor Rocky Draper and Associate Professor Paul Pantano, Sarah Karimi and Mai Huynh, were recipients of a Semiconductor Research Corporation Simon Karecki Award and a McDermott Foundation Graduate Fellowship, respectively. Professor Inga Musselman was promoted to Provost of the University.

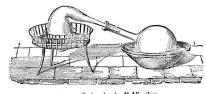
UT-Arlington

The American Society of Mass Spectrometry has named Dr. **Saiful Chowdhury** as one of 14 leading emerging investigators worldwide for his work in developing new techniques using mass spectrometry to differentiate protein modifications linked to cancer and aging.

A number of UT-Arlington undergraduate chemistry/biochemistry majors were honored recently for their accomplishments over the last academic year. The ACS Award for Outstanding Chemistry/Biochemistry Major went to **Misty Martin**. The Outstanding Freshman Award was received by **Nguyen P.**

Nguyen. The Robert Francis Award for Outstanding Sophomore went to Tu Vi Hoang Le, and the Hoyle Award for Outstanding Junior was received by Chris Abraham. The Murchison Award for Outstanding Senior went to Shariq Haseen. The Undergraduate Research Award winner was Alena Trinidad, while the Undergraduate Teaching Award winner was Kate Nguyen. The Outstanding Chemistry Clinic Tutor Award went to Jared Paris, while the Chemistry and Biochemistry Society Outstanding Member Award was received by Hina Ajaz.

Following is the list of Undergraduate Student Scholarship winners: Daniel W. and Linda Armstrong Scholarship, Catherine Fenner, Melissa Orr; Duncan and Sylvaine Aust Award, **Kevin-Loc Pham**; Chemistry and Biochemistry Society Excellence Award, Halie Rion; Sharon and Donald L. Jernigran Chemistry Scholarship, Misty Martin, Tommy Nguyen; Dennis S. Marynick Scholarship, Timothy A. West; John T. Murchison Scholarship, Lars Jimmy Quoc Nguyen, Joshua Udume. Graduate student awards and scholarships were given as follows: Graduate Teaching Award, Garrett Hellinghausen; President Spaniolo Graduate Research Award, Akinde Florence Kadjo; Charles K. Baker Fellowship Award, Parham Asgari, Atreyi Dasmahapatra, Tharun Teja Ponduru, Ravi Singh, Hope Gloria Umutesi, Maheshika Wanigasekara.



Appareil simple de dist'ha'ion.

COUNCILOR'S REPORT

Reporter, E. Thomas Strom

All four of your councilors, Jason McAfee, Mary Anderson, Linda Schultz, and myself, were present for the ACS Council meeting on April 5 at the San Francisco National Meeting. You will have noticed that we councilors have rotated the reporting duties among ourselves, and this time it is my turn.

Probably the most significant task for the councilors at the spring meeting is to choose the two candidates for ACS president from the four presented by the Committee on Nominations and Elections. The four chosen were Bonnie A. Charpentier, Mark D. Frishberg, Anne M. Gaffney, and Willie E. May. The written material provided in the councilors' packets covers their biographical information, their service to ACS, and their position statements. In addition, the Sunday of the meeting features a one-hour town hall meeting in which the candidates make brief oral statements and submit to questioning. In the council meeting each of the four makes a brief talk before the vote of the council.

How does a person choose whom to vote for? For me, three factors come into play: service to the ACS; the strength of the written statement; and the quality of the oral presentation. Being a good speaker may seem to be a superficial quality compared to the other factors, but the ACS president is the face of the ACS to the outside world.

I thought all four speakers gave a fine account of themselves. The ultimate choices of the council were Bonnie Chapentier and Willie May. There is always the possibility of a petition candidate, but

Force on Governance Descended their consumption of the suggestions from floor mand the hour-long discussion.

thus far I have not heard about any. If you attend the fall ACS national meeting, you will have an opportunity to talk to the candidates at the exposition.

The Council Policy Committee had recommended approval of a petition for the Removal of Officers and Councilors. There was some concern about the numbers of members needed to sign such a petition and also what would be considered good reasons for removal. The petition failed.

The Committee on Budget and Finance recommended that member dues for 2018 be set at the fully escalated rate of \$171. These adjustments are based on the inflation rate for the particular year. The council accepted the committee's recommendation.

Other actions taken by the council involved accepting a formula for allocating dues funds to the divisions and approving the recommendations from the Committee on Committees that Project Seed be continued and that the committees on Chemists with Disabilities, on Public Relations and Communications, and on Women Chemists be continued contingent on approval of the Board of Directors.

Very often the council will have a special, lengthy discussion of some important issue, with lots of input from councilors from the floor. It was so at this meeting, with the issue "ACS Yesterday and Today: Paving the Way to Tomorrow." The purpose of this discussion was to gather input for the Joint Board-Council Policy Committee Task Force on Governance Design. Forty councilors made their comments/ suggestions from floor microphones during the hour-long discussion.

Councilor's Report cont.

The task force offered three discussion questions: What should the Society and its governance do differently to achieve its objectives? If you could change one thing about ACS governance, what would it be? What should the task force leave "as is?" A poll conducted at the conclusion of the discussion revealed that 57% of the councilors disagreed that the current governance structure, processes, and procedures are already optimal. Of the councilors, 306 (84%) said they would be willing to provide additional input and feedback to the task force. They will be contacted by the task force.

The council meeting normally winds down with oral reports from the standing committees. These committees also have written reports in the councilors' packet, so the oral report is often just a summary of the written report. However, the oral report from the Committee on Meetings and Expositions caught my attention. First, with the news that the San Francisco meeting had an attendance of nearly 19,000, a record-setting meeting. Second, that the Committee would reexamine the awarding of the Spring 2021 ACS National Meeting to San Antonio. The issue was the so-called "bathroom bill" under consideration by the Texas legislature. Several people came to the microphones to state that ACS should yank the 2021 meeting from San Antonio, if the "bathroom bill" passes. If the bill passes, I do think there will be a move to take the meeting away from San Antonio, and I do expect such a move will be successful.

After the council meeting, I am always inspired by the number of people I meet

whose volunteer efforts help the ACS run democratically and efficiently. I am very proud to represent the Dallas-Fort Worth Section in this effort.

And Another Thing...

Nerds on the Beach

Checking out previous articles for 'And Another Thing...' in order to avoid a trip to the Department of Redundancy Department revealed that a number of topics focus on the beach. Given that the ocean is my destination of choice, this is unsurprising, although the trend toward a visit to That Department is slightly worrisome. This last column of the 2016-2017 school year was also heading shoreward when another revelation struck: Why should I have all the fun?

So, since everyone has probably read about all they want to for May, anyway, here's the summer challenge for you: Git you to the internet, set your options for 'Past Year', and search for, "top vacation destinations for scientists". The iterative nature of web investigation will take you to virtual locations you've never seen, and send you (toting so much information you'll need extra folders to hold it all) to actual destinations about which you may not have dreamed. The world is your laboratory—and then some. Stay safe, learn a lot—if you feel like it, wear that sunblock, spritz your bug spray, and keep an eye on your passport. It's the Summer of the Nerd. Enjoy!

Analysis yields clues to chemical composition, natural aging of 100-year-old beer

Analysis of 100-Years-Old Beer Originated from the Czech Republic Journal of Agricultural & Food Chemistry

Stashed away and long-forgotten, a trio of century-old bottled beers recently discovered in the Czech Republic could help scientists better understand early 20th-century brewing practices, as well as the chemical changes that occur in beer over long periods of time. A report on the well-preserved lagers appears in ACS' *Journal of Agricultural and Food Chemistry*.

Uncovered in 2015 during the reconstruction of an old brewery, the three lager beers apparently were produced during the World War I era and stored in a large cold cellar at the brewery where they remained to gather dust. The beers were bottled in dark glass and well sealed. Taking advantage of this unique discovery, Jana Olšovská and colleagues sought to produce detailed chemical profiles of these 100-year-old beers and determine the long-term effects of lager beer aging.

Initial sensory analyses found that the beers ranged from intensely sulfuric to sour, and had off-flavors that ranged from fecal to fruity. Using high performance liquid chromatography and other techniques, the researchers compared the beers' features to those of modern day brews. For example, the century-old beers had higher alcohol content and were less bitter. They also contained more iron, copper, manganese and zinc. There was also evidence of the particular yeasts used to make each of the beers, along with bacterial and fungal contaminants. The researchers conclude that chemical changes to two of the beers were likely caused by microbial contaminants while the third beer, which was better preserved, offered the best insights into the older brews' natural aging processes.

The authors acknowledge funding from the Ministry of Agriculture of the Czech Republic and Ministry of Education Youth and Sports of the Czech Republic.



Recently discovered World War I era beer could help scientists better understand the aging processes involved in brewing.

Credit: Brewing Institute, Prague

Synthetic two-sided gecko's foot could enable underwater robotics

Nanohydrogel Brushes for Switchable Underwater Adhesion

Journal of Physical Chemistry C

Geckos are well known for effortlessly scrambling up walls and upside down across ceilings. Even in slippery rain forests, the lizards maintain their grip. Now scientists have created a double-

sided adhesive that copies this reversible ability to stick and unstick to surfaces even in wet conditions. They say their development, reported in ACS' *Journal of Physical Chemistry C*, could be useful in underwater robotics, sensors and other bionic devices.

Inspired by geckos' natural ability to attach and release their

feet from surfaces as slick as glass, scientists have made a number of adhesives that can similarly stick and unstick with changes in temperature, light or magnetic field, but mostly in dry conditions. One promising approach to expanding this to underwater scenarios involves hydrogels that can swell and shrink in response to different acidity levels and other conditions. These volume differences change the gels' fric-

tion and stickiness levels. Feng Zhou, Daniele Dini and colleagues recently developed a method to integrate nanostructured hydrogel fibers on an inorganic membrane. The material's friction and stickiness levels changed with pH even when wet. The researchers wanted to further expand on this

strategy to make the adhesive work on two sides.

The researchers first made the inorganic membrane double-faced and then added the hydrogel nanofibers on both sides. Testing showed that the material exhibited ultra-high friction and adhesion in an acidic liquid (pH of 2), and would rap-

idly switch to a state of ultra-low friction and stickiness when a basic solution (pH of 12) was added. Additionally, the two sides of the material can stick and slide independently of each other.

The authors acknowledge funding from the National Natural Science Foundation of China, and the U.K.'s Engineering and Physical Sciences Research Council.



Scientists mimic the gecko's feet to create an adhesive that can stick and unstick to surfaces, even when wet.

Credit: nico99/Shutterstock.com

From the editor

Geckos and aged (*really* aged) beer: what a combo. Reading through the article on the Czech beer, the authors describe the flavors as *from fecal to fruity*. I had one salient question: who *tasted* the beer?

One of things I've always loved about chemistry is learning how simple changes can control processes (for example, changes in pH or concentration gradients). pH gradients can turn switches in chemical processes on and off. Concentration gradients drive diffusion processes, in industry, in cells (our cells). The adhesive developed by Feng Zhou, Daniele Dini and colleagues changes adhesion qualities by a change in pH: high friction/acidic pH, low friction/basic pH.

[Insert for your entertainment pleasure: Here at our lab we like geckos; we have one living in the blinds in the instrument room. It is probably the only gecko anywhere with its own two jars of jelly in the refrigerator. Yep, it eats jelly. When we first discovered him languishing in the window, looking starved, I remembered seeing geckos in Hawaii eating jelly at a café in Captain Cook, outside of Kona. If you google "geckos eating jelly" you actually get some hits, including a photo from the café where I first saw the gecko-jelly phenomenon.]

Last call until September...we're still on a nine-month schedule here at the **RETORT**. Even for those of us not on an academic calendar, there's something about summer. May you have a nice one and keep out of the Texas sun.

Best regards.