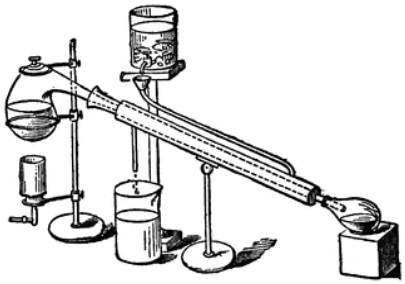
SOUTHWEST RETORT



SEVENTY-SECOND YEAR **March 2020**

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and Chemistry in this area

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Editorial and Business Offices: ***Contact the Editor for subscription and advertisement information.***
Editor: Connie Hendrickson: retort@acsdfw.org

Copy and Layout Editor: Lance Hughes: hugla64@gmail.com

Business Manager: Martha Gilchrist: Martha.Gilchrist@tccd.edu

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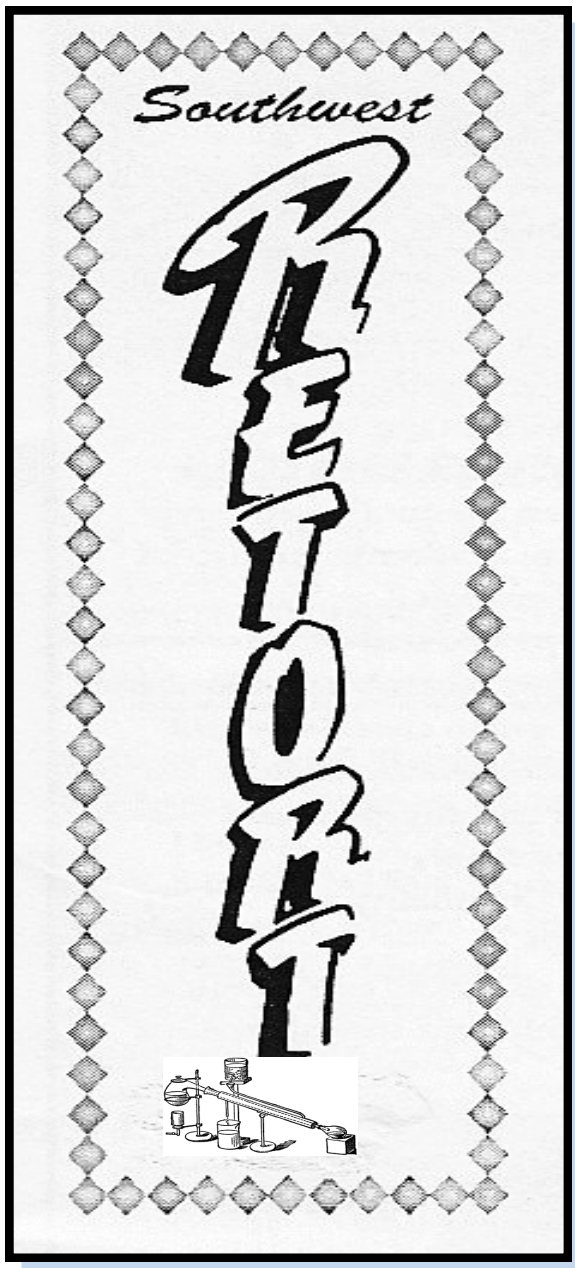

Contact the DFW Section

General: info@acsdfw.org

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FIFTY YEARS AGO IN *THE SOUTHWEST RETORT*

Compiled by E. Thomas Strom

The ACS tour speakers for the month of March are **Dr. Alfred H. Free**, Miles Laboratories, Elkhart, Indiana and **Mr. James R. Stewart** of the Scripps Institute of Oceanography in La Jolla, California.

From the South Plains ACS Section we hear that **Dr. Charles W. Shoppee** has joined the faculty of Texas Tech University as Welch Professor.

The new elected officers for 1970 for the Heart o' Texas ACS Section are Chair **Mr. C. H. Burnside** of Rocketdyne, Chair-Elect **Prof. Malcolm A. Dole** of Baylor, and Secretary-Treasurer **Prof. David Pennington** of Baylor.

In the Southeastern Texas ACS Section **Mr. Nugent Chamberlain** of Esso R & D has been promoted to Senior Research Associate. Chamberlain recently won the Southwest Regional Award of the ACS for his outstanding work in nuclear magnetic resonance.

The Third Austin Symposium on Gas Phase Molecular Structure was held March 2-4 at UT-Austin. Introductory remarks for the symposium were provided by **Drs. James W. Boggs** and **Norman Hackerman.**

In the Dallas-Fort Worth ACS Section, this year's Meeting-in-Miniature will be hosted on May 8 by the Student Affiliate Chapter of the chemistry department at East Texas State University (*now Texas A&M-Commerce*). Chemistry faculty from the department who attended the recent Welch Foundation Chemistry Conference were **Drs. Kenneth Ashley, Laurence Neff, Richard Clevenger, Larry Bone, Moses Attrep,** and **Denis Quane.** Drs. Clevenger and Bone have recently received Welch Foundation research grants.

Texas Woman's University were saddened by the recent death of former faculty member **Dr. Willis Henry Clark**. Dr. Clark was chair of the chemistry department from 1922 until 1952. He was one of the group of chemists who established the Dallas-Fort Worth ACS Section of the ACS, serving the section as chair from 1938-1939.

New faculty members at Texas Christian University are **Drs. William H. Koehler** and **Dale A. Huckaby**. At North Texas State University (*now UNT*) Welch Foundation research grants were received by **Drs. Paul R. Jones, R. Desiderato, Jr.** , and **W. H. Glaze**.

2020 DFW Section Officers

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Michael Bigwood and John McIlroy

AND ANOTHER THING...

What Now?

By: Denise L. Merkle, PhD

This is the first 'And Another Thing...' since January of last year. Many thanks to all who volunteered on behalf of Chemistry and the ACSDFW local section. If you enjoyed the programs, symposia, e-Retorts, informational e-mails, or anything local section-related, you've enjoyed the hard work of volunteers. Many volunteers' ATP molecules were sacrificed (at least temporarily) to again ensure the local section's continued effectiveness.

While the ACSDFW local section's existence is a given, the governance changes every year. As Past-Chair 2020, my role is now much less active, and it's time to ask, 'What Now?' Until the end of December 2019, when the World Health Organization recognized cases of pneumonia caused by Novel Corona virus (2019-nCoV), What Now? was primarily a rhetorical question. What project should be initiated? What volunteer activities should be pursued? What's the location of a nice vacation? All positive and even pleasant questions to answer. With COVID-19 off the chain and its attendant information and disinformation running circles around the actual virus statistics, What Now? is not only a less enjoyable question to ponder, it's also much less likely to have an actual answer. Observe, observe, observe - and wash your hands- is not a very satisfying outcome, but that's where most of the world is now.

There are very few answers, but there are some numbers that can be considered, which lend perspective if not actual utility.

COVID-19, as of **3/8/2020**: 105,586 cases globally, with >3500 deaths[1]. (Population in the world as of 3/9/2020: > 7,780,000,000[2])

1918-1919 influenza-pneumonia pandemic: 500,000 deaths *in excess of those expected*[3]. (assessed were 95 cities; total population of ~30,000,000 people).

Per the National World War II Museum, 60,000,000 military and civilian deaths occurred in **WWII**, with 25,000,000 Battle-related injuries[4].

From **2002- 2003**, Severe Acute Respiratory Syndrome (SARS, SARS-CoV), also caused by a corona virus, sickened 8,098 people worldwide, and killed 774. After 2003, no cases were reported[5]. SARS hit - and left.

HIV Diagnoses in **2018**: 37,832[6]. (This is diagnosed cases, not deaths. Anti-retrovirals are very effective).

2016 Worldwide deaths attributed to Cardiovascular Disease: >17,000,000[7].

The progression of a pandemic - or even an epidemic- *shouldn't* be compared to the effects of chronic conditions, but it is interesting to do so. As of this writing, the reported deaths due to COVID-19 are ~0.04% of the deaths due to CVD in 2016 (6months, since the COVID-19 data are for 6mos), and the deaths due to CVD in 2016 are ~28% of the total deaths caused by WWII. Without using the actual deaths per year of WWII, one year of CVD deaths is approximately equivalent to one year of war.

What is the point of all this, you might ask. The point is, it's difficult to decide how to compare and contrast the epidemiological data, especially since there's so much potential for skew and inaccuracy. It's also

AND ANOTHER THING...

nearly impossible to predict exactly what COVID-19 will do, or who has it, or who will be able to be tested for it. COVID-19 is transmissible and sometimes lethal - but so far, cardiovascular disease and war have killed many more people than this new coronavirus. Car accident stats aren't in these data at all.

What's Next? Who knows? Exercise, eat your veggies, wear your seatbelt, wash your hands - and stop going to war. Sooner or later, we'll find out What's Next.

1) Situation Report 48, March 8, 2020. Visit who.int to see more situation reports and follow updates:

https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200308-sitrep-48-covid-19.pdf?sfvrsn=16f7ccef_4

2) https://countrymeters.info/en/World

3) Collins, Selwyn D., (1930), "The Influenza Epidemic of 1928-1929 with Comparative Data for 1918-1919", *American Journal of Public Health and the Nation's Health*, XII, pp. 119-129. This is a really interesting article!

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1555806/pdf/amjphnation00618-0019.pdf

4) WWII, worldwide deaths:

https://www.nationalww2museum.org/students-teachers/student-resources/research-starters/research-starters-worldwide-deaths-world-war

5) SARS-CoV:

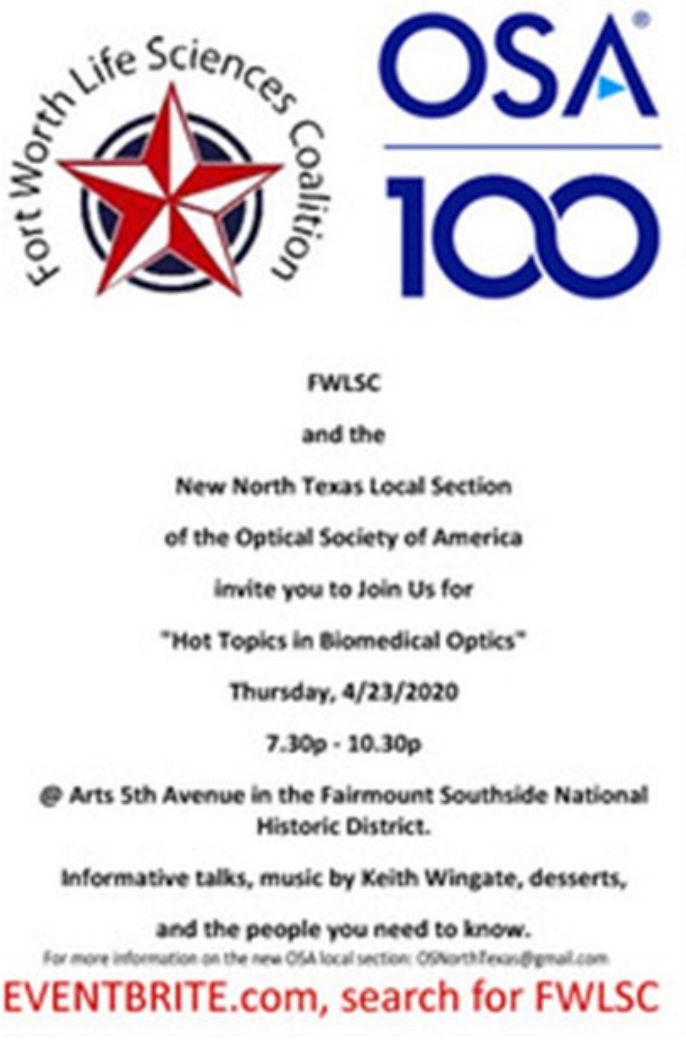
https://www.cdc.gov/sars/about/faq.html

6) HIV:

https://www.hiv.gov/hiv-basics/overview/data-and-trends/statistics

7) CVD:

https://www.ahajournals.org/doi/10.1161/CIR.0000000000000659



From the ACS Press Room

Scorpions Make a Fluorescent Compound that Could Help Protect Them from Parasites

"A Fluorescent Compound from the Exuviae of the Scorpion, Liocheles australasiae"

Journal of Natural Products

Most scorpions glow a blue-green color when illuminated by ultraviolet light or natural moonlight. Scientists aren't sure how this fluorescence benefits the creatures, but some have speculated that it acts as a sunscreen, or helps them find mates in the dark. Now, researchers reporting in ACS' ***Journal of Natural Products*** have identified a new fluorescent compound from scorpion exoskeletons. The team says that the compound could protect these arachnids from parasites.

Fluorescent compounds in the exoskeleton of scorpions make the creatures glow when viewed under a black (ultraviolet) light.
Credit: Adapted from Journal of Natural Products 2020, DOI: 10.1021/acs.jnatprod.9b0097

More than 60 years ago, scientists first recognized scorpions' propensity to glow under UV light. Until now, only two fluorescent compounds, β-carboline and 7-hydroxy-4-methylcoumarin, had been identified in scorpions' hard outer shell, or exoskeleton. Masahiro Miyashita and colleagues wondered if there might be other fluorescent molecules with different chemical properties that were missed in previous studies.

To find out, the researchers extracted compounds from molted exoskeletons of the scorpion Liocheles australasiae, using chemical conditions different from those used in prior experiments. They purified the compound showing the most intense fluorescence and identified its structure, which was a phthalate ester previously shown to have antifungal and anti-parasitic properties in other organisms. This finding suggests that the new molecule, which the researchers found in several additional scorpion species, could help guard against parasitic infections in these creatures. Compared with the two previously identified fluorescent compounds, the new molecule likely contributes more weakly to scorpion fluorescence, the scientists say.

The authors acknowledge funding from the Sasakawa Scientific Research Grant from The Japan Science Society.

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Call for Papers for BCCE 2020

Abstract submission is now opened through the American Chemical Society (ACS) Meeting Abstract Programming System site (ACS MAPS) through February 24, 2020. Registration and housing for the conference will open after March 30, 2020.

https://bcce2020.org/call-for-abstracts/

The BCCE 2020 will be held on the beautiful Campus of Oregon State University July 18 - 23. The program will feature 186 technical symposia and 137 workshops, two poster sessions, four plenary sessions, and an exhibition area with over 70 booths. Oregon State University is home of the Linus Pauling Collection. Conference participants will be able to view some of Professor Pauling's historical documents, artifacts, and rare letters.

Plus, unique to the BCCEs - a Wednesday evening social and dance with live music from Al D. Hyde and the Key Tones -

From the ACS Press Room

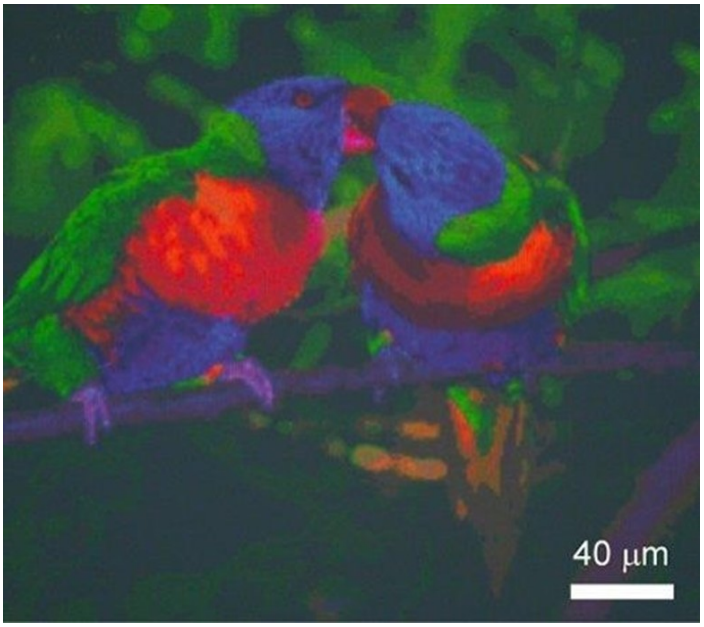
Expanding the Plasmonic Painter's Palette

"A Plasmonic Painter's Method of Color Mixing for a Continuous Red–Green–Blue Palette"

ACS Nano

By blending paints in their palette, artists can create a broad spectrum of colors with subtly different hues. However, scientists who wish to create a similar range of structural colors, like those found on butterfly wings, are much more limited. Now, researchers reporting in ***ACS Nano*** have developed a new method for mixing plasmonic red, blue and green to yield a virtually unlimited number of colors that could be used for new types of displays.

Unlike pigments, structural colors get their hues by reflecting light from microscopic textures. Scientists can create some of these colors by putting metal nanoparticles onto surfaces in various patterns. These "plasmonically induced" colors are less susceptible to fading than pigments, and they might be useful for new types of paint, electronic displays and anti-counterfeiting measures. But producing a gamut of structural colors with smooth transitions between hues and tones has been challenging. Therefore, Dimos Poulikakos, Hadi Eghlidi and colleagues wanted to develop a new plasmonic color-mixing approach that would allow countless color variations.



An image of two colorful parrots was created by mixing red, blue and green structural colors.
Credit: Adapted from ACS Nano 2020, DOI: 10.1021/acsnano.9b07523

The researchers began with a palette of three primary colors (red, green and blue). They made pixels of each color by arranging silver nanorods in lattice patterns on glass surfaces. The lengths and widths of the nanorods, and the distances between nanorods in the horizontal direction, determined whether the pixel was red, green or blue. The researchers adjusted the brightness of each color by varying the vertical distance between nanorods in the lattice. When the team interwove three of the primary color lattices in a single pixel and varied the vertical distances to adjust brightness, they could generate 2,456 unique colors with a pixel size of 4.26 × 4.26 μm. The researchers demonstrate the method to reproduce an image of two colorful parrots and a black-and-white photograph of Marie Curie.

The authors do not acknowledge any funding sources for this study.

From the ACS Press Room

Treating Wastewater with Ozone could Convert Pharmaceuticals into Toxic Compounds

"Transformation of N-Methylamine Drugs during Wastewater Ozonation: Formation of Nitromethane, an Efficient Precursor to Halonitromethanes"

Environmental Science & Technology

With water scarcity intensifying, wastewater treatment and reuse are gaining popularity. But some methods for killing microbes in wastewater create disinfection byproducts (DBPs) that could be harmful to human health. Now researchers have found that ozone treatment and subsequent chlorination can convert trace amounts of some pharmaceuticals in wastewater into DBPs called halonitromethanes. They report their results in Environmental Science & Technology.

The combination of ozone and chlorine kills most bacteria and viruses in wastewater. Compared with chlorine treatment alone, ozone also reduces the formation of many DBPs. Recently, however, scientists have discovered that ozone can increase the formation of potentially toxic halonitromethanes, such as chloropicrin, in chlorine-treated wastewater. Jiaming Lily Shi and Daniel McCurry wanted to determine which molecules in the wastewater were being converted to chloropricin and how.

To find out, the researchers collected

wastewater samples from three treatment plants in Southern California. The team discovered that ozone treatment produced nitromethane, which could have been formed from some nitrogen-containing drugs in the wastewater, including stimulants such as ephedrine and methamphetamine and certain antidepressants. Then, chlorination transformed the nitromethane into chloropricin. The pharmaceuticals, which enter wastewater through sewage, are not removed completely by conventional wastewater treatment. Future work should address how effectively processes that occur after ozone treatment can remove the nitromethane intermediate, the researchers say.

The authors acknowledge funding from the Foundation for Cross-Connection Control and Hydraulic Research.

#IYPT Still has Events

ELEMENTAL ART: A CONTEST

To celebrate the 150th anniversary of the Periodic Table,

The Division of the History of Chemistry (HIST) announces a contest OPEN TO ALL for ORIGINAL ART in one of the following categories with themes related to the chemical elements, their discovery, or uses:

1. Poem
2. Cartoon
3. Photograph

The three best works in each category (selected by a professional panel of judges) will receive certificates, monetary awards ($250, $200, or $150 for 1st, 2nd, and 3rd place, respectively), and will be published in the HIST Newsletter and Website. Depending on the number of submissions, a volume with the works may be published as well.

Please submit your original art by **July 1, 2020** to the **HIST** Program Chair (nicktsarevsky@gmail.com) as an attachment to an email, the subject line of which reads ***"Elemental Art Competition – XYZ"*** (where "XYZ" stands for the name of the person who created the artwork).

1

The winners will be notified in August 2020.

We all know that it is a challenge to fit an event like this into your AP curriculum, but most of us have some Chemistry I kiddos as well, and perhaps a little more flexibility with that schedule.

Some students are not very good at traditional pen/pencil tests and this type of contest allows kids

that are more artistically inclined to demonstrate their skills and learn something about chemistry at the same time. One suggestion is to have it be optional, for a few extra points on a quiz or test. Set up a short rubric that combines the contest elements with your own learning criteria and it is quick and easy to "grade." Just an FYI, a student in the Houston area was 2nd place in the ACS poetry contest for National Chemistry Week in 2019, so you never know.

Biennial 2020

We are in the process of updating this website with information for the 2020 conference!!
Please be patient and know that we are updating it as quickly as we finalize plans!!

Who: (Chemistry) Teachers

What: ACT2 Biennial 2020

Where: Texas A&M University - San Antonio

San Antonio, TX

When: Mon, 15 June - Thurs, 18 June, 2020

Why: share best practices

Got questions? please email them to act2biennial@gmail.com

Early Registration fees:

- staying in the dorm (assuming you are sharing a room) - $ 325
- not staying in the dorm (all meals are included) - $ TBD

If you are the primary presenter of a session, you receive a $25 discount off the above fees.

Registration cost includes:

- meals (light breakfast, lunch and dinner)
- conference t-shirt
- Banquet
- goodies
- 2 year membership in ACT2
- housing in the dorms (assuming you select that option at registration)
- ESSENTIALLY EVERYTHING EXCEPT TRAVEL TO AND FROM THE CONFERENCE!

Forms (registration, presentation proposal, scholarship application, etc) can be found on the Forms 2020 page, link.

https://sites.google.com/site/act2biennial/biennial-2014

From the ACS Press Room

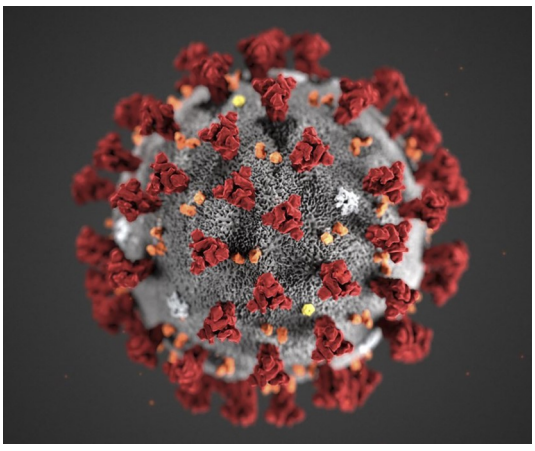
New Compounds Thwart Multiple Viruses, Including Coronavirus

"α-Ketoamides as Broad-spectrum Inhibitors of Coronavirus and Enterovirus Replication: Structure-based Design, Synthesis, and Activity Assessment"

Journal of Medicinal Chemistry

According to a February 13 report from the World Health Organization, the Wuhan coronavirus has stricken more than 46,000 people and has caused over 1,300 deaths since the first cases in Wuhan, China, in December 2019. Now, researchers reporting in ACS' Journal of Medicinal Chemistry have designed compounds that block the replication of similar coronaviruses, as well as other disease-causing viruses, in the lab. The compounds have not yet been tested in people.

The Wuhan coronavirus, also known as SARS-CoV-2 or 2019-nCoV, is a close relative to the severe acute respiratory syndrome (SARS) virus that caused an outbreak in 2003 (SARS-CoV-1), as well as the Middle-East respiratory disease virus (MERS-CoV) that emerged in 2012. All of these viruses cause flu-like symptoms and, frequently, pneumonia. However, no effective treatments have been developed, in part because the relatively small number of cases have not warranted large expenditures by pharmaceutical companies. Hong Liu, Rolf Hilgenfeld and colleagues envisioned a possible solution in the form of broad-spectrum antiviral drugs that target all coronaviruses, as well as enteroviruses — some of which cause conditions like the common cold; hand, foot and mouth disease; and the "summer flu." All of these viruses share a similar protein-cutting enzyme, called the "main protease" in coronaviruses and the "3C protease" in enteroviruses, that is essential for viral replication.



The researchers examined X-ray crystal structures of the proteases and then made a series of α-ketoamide compounds that were predicted to fit snugly in the enzymes' active sites, interfering with their function. By testing the molecules in the test tube and in human cells in petri dishes, they identified one versatile inhibitor that blocked multiple coronaviruses and enteroviruses, including SARS-CoV-1. Another molecule showed very strong activity against MERS-CoV, with moderate activity against the other viruses. Because the main proteases of SARS-CoV-2, MERS-CoV and SARS-CoV-1 are very similar, the inhibitors will most likely show good antiviral activity against the Wuhan coronavirus, the researchers say. Their next step will be to test the inhibitors in small-animal models of disease.

The authors acknowledge funding from the European Commission SILVER project, the German Center for Infection Research and the National Natural Science Foundation of China.

2020 SENCER Symposium

The Department of Chemistry and Biochemistry and the SENCER Center for Innovation Southwest (SCI-SW) hosted the fifth annual SENCER Regional Symposium at Texas Woman's University on January 31, 2020. This year's focus (***Citizen Science: The Impact on our Communities by Plastics in our Environment***) was unique since it was our first symposium directed to a complex, capacious issue rather than science education *per se* as in previous SCI-SW symposia. The day started with a poster session in the morning. Of the 100 total registered, 63 were from TWU and 39 were from other institutions. Interestingly, we had 34 TWU students who had registered for the symposium.

Throughout the day, our speakers presented information, innovation and ideas about the use of plastics in our daily lives, the impact that plastics and their degradation products have on our environment and our health, and what we can and cannot do about this critical, civic issue. Further, with the help of Dr. Cathy Middlecamp and her students, we put together the TWU Zero Impact Team of TWU undergraduate students to help plan this event as a Zero Waste event.

Our first plenary speaker, Dr. Cathy Middlecamp from the University of Wisconsin talked about the idea of planning an event, such as this symposium, in such a fashion as to minimize the environmental impact: *Planning a Zero Waste Event: The Inside Story.* Helping her with her story were undergraduate students Riley Collins and Catie McDonald of the University of Wisconsin and the TWU Zero Impact Team: Liliana Driver, Raven Gallenstein, Yesinia Olguin, Jessica Hernandez and Emily Howard, all TWU undergraduate chemistry and biochemistry majors. The TWU faculty advisor for the team is Ms. Alana Taylor. Last fall, Riley and Catie visited TWU to help our newly formed TWU Zero Impact Team organize this symposium as a Zero Waste event. Each student had a chance to talk about the project, what they learned and their experience.

Throughout the fall and early spring semesters, the TWU team met with Drs. Kohan and Sheardy and Ms. Taylor to discuss their research and findings. The team first surveyed local hotels and restaurants that cater to learn about their sustainable practices. Based on their analyses, the team recommended a local hotel to house our guest speakers and a local restaurant to cater our lunch, both of which were chosen because the students judged them to have adapted the most sustainable practices. The team also recommended the use of ceramic plates and coffee cups, metal silverware and cloth napkins since, in the long run, using these items is more sustainable than using either plastic or paper products. The team also recommended the use of reusable name tags. Finally, the food left over from the lunch was designated for composting. All of these items will be used for future conferences and events hosted by SCI-SW and the TWU Department of Chemistry and Biochemistry. Further, we will make these items available to other groups wanting to organize a zero waste event and offer our help in their planning.

Drs. Reid Bishop and Brandon Magers from Belhaven University talked about stewardship of the lower Mississippi river delta (*Plastics in the Lower Mississippi River Delta*) by presenting some of the education-

al projects they have been working on with students. Mr. David Hunter from the City of Denton spoke about Denton's concerns related to water quality (*A View from the Blue: Plastics and Related Items in Freshwater Systems, The City of Denton, the Dallas-Fort Worth Metroplex, and Beyond).* The issues of using plastics in the teaching and research laboratories was the topic of the presentation by Dr. Davida Smyth from The New.

From the ACS Press Room

'Flapping Wings' Powered by the Sun (video)

"Sunlight-Driven Continuous Flapping-Wing Motion"

ACS Applied Materials & Interfaces

In ancient Greek mythology, Icarus' wax wings melted when he dared to fly too close to the sun. Now, researchers reporting in ***ACS Applied Materials & Interfaces*** have made artificial wings that are actually powered by the sun. The tiny wings, which can flap even faster than those of butterflies, could someday be used in robots or devices for solar energy harvesting, the researchers say. Watch a video of the flapping wings in action here.

Youtube ID: wYaiKSNrcR4

Light-driven actuators — devices that convert light directly into mechanical work — have attracted attention because they are wireless and easy to control. However, to keep going, they usually require a high-intensity light source that can be turned on and off, or additional hardware. Ningyi Yuan, Jianning Ding and colleagues wanted to develop a flexible film that could convert natural sunlight into a flapping motion, without the need for additional hardware.

To make their device, which they called a flexible bio-butterfly-wing (FBBW), the researchers coated a thin polymer sheet with a nanocrystalline metallic film. When the team fixed one end of the FBBW strip to a support and shone simulated sunlight onto it, the temperature of the strip increased, and the free end curled up because of the large difference in thermal expansion between the metal and polymer layers. Then, the curved part of the FBBW shaded the metallic layer below, causing the temperature to drop and the strip to unfold. Continuous cycles of bending and unfolding produced a flapping motion that could exceed the frequency of actual butterfly wings. The team demonstrated the FBBW in a light-driven whirligig and sailboat, and in a device that converted sunlight into an electric current. It could someday be used in flying animal robots, among other applications, the researchers say.

The authors acknowledge funding from the National Key Research and Development Program of China, the National Natural Science Foundation of China and the Jiangsu Provincial "333" High-level Talent Training Project.

From the ACS Press Room

Cannabis Compound Acts as an Antibiotic

"Uncovering the Hidden Antibiotic Potential of Cannabis"

ACS Infectious Diseases

Public health agencies worldwide have identified antibiotic resistance of isease-causing bacteria as one of humanity's most critical challenges. However, scientists haven't discovered a new class of antibiotics in more than 30 years. Now, researchers reporting in ***ACS Infectious Diseases*** have uncovered the hidden antibiotic potential of a non-psychoactive cannabis compound called cannabigerol (CBG), which helped control methicillin-resistant Staphylococcus aureus (MRSA) infections in mice.

For centuries, cannabis plants have been used in folk medicine. Today, scientists are only beginning to investigate whether different cannabis compounds could be used to treat a variety of diseases. Early studies have shown that some cannabinoids can slow the growth of gram-positive bacteria, such as S. aureus, but not gram-negative bacteria, such as E. coli. Eric Brown and colleagues wanted to test the antibacterial properties of several cannabinoids against both MRSA and gram-negative bacteria.

The researchers tested the antibacterial activity of 18 cannabis-derived molecules, including cannabidiol (CBD), tetrahydrocannabinol (THC) and CBG, against MRSA. They also tested the ability of these substances to prevent the formation of biofilms on surfaces and to kill dormant "persistor" MRSA that are highly resistant to antibiotics. CBG performed the best in these tests, so the researchers chose to study it further. When they treated MRSA-infected mice with CBG, the compound worked as well as vancomycin, a powerful antibiotic. The researchers discovered that CBG targets the cell membrane of gram-positive bacteria, and by itself, it is not effective against gram-negative bacteria, which have an additional outer membrane. However, they found that if they gave CBG with another drug that pokes holes in this outer membrane, CBG could reach the inner membrane and kill gram-negative bacteria.

The authors acknowledge funding from the Canada Research Chairs program, the Canadian Institutes of Health Research Foundation Grant Program and the Michael G. DeGroote Centre for Medicinal Cannabis Research.

ACS Local Section
Dallas-Fort Worth

ACS DFW Local Section Invites Nominations

ACS DFW Local Section Invites Nominations Doherty, Schulz, and Chemistry Ambassador Awards

The Doherty Award is given for excellence in chemical research or chemistry teaching, meritorious service to ACS, the establishment of new chemical methodology (for the industry), solution of pollution problems, and advances in curative or preventive chemotherapy. Nominees may come from industry, academia, government, or small business. The nominee should be a resident member in the area served by the DFW Section, and the work should have been performed here. The award is $1500 and an engraved plaque.

The Schulz Award is given to high school chemistry teachers, who, like the late Dr. Werner Schulz, bring that something extra to the teaching of chemistry. The nominee and/or nominator need not be ACS members. Nominees should show excellence in chemistry teaching, as demonstrated by testimonials from students and fellow teachers, results in student competitions, and diligence in updating and expanding scientific/teaching credentials.

The Chemistry Ambassador Award was recently instituted by the DFW Section to recognize an outstanding Section member who has made a significant impact via promoting chemistry to the community. The 2020 Chemistry Ambassador of the Year award is based on peer or self-nominations to the selection committee. Submissions should be one page in length and address the community outreach activities either through teaching, service, or working with legislators to affect public policy. Submissions will be evaluated on the impact made, which may include but not limited to how many people were reached, impact on individual people in the community, and exemplary commitment to the promotion of chemistry in the community.

Remember, a continuous flow of nominations is needed to maintain the quality of awards. Each nomination should contain a completed nomination form, a cover letter highlighting the nominee's accomplishments, and a copy of the CV. One seconding letter may accompany nominations. The nomination package should be sent by email as a single pdf file to Professor John P. Ferraris at ferraris@utdallas.edu. Nominations remain active for five years but should be updated annually.

Deadline is May 15, 2020

Around the Area

UT Dallas

The Cancer Prevention and Research Institute of Texas (CPRIT) has awarded an Individual Investigator Award of $900,000 to Professor **Jie Zheng**, the Cecil H. and Ida Green Professor in Systems Biology Science, to improve the accuracy of computerized tomography (CT)- and fluorescence-guided kidney cancer surgery. Professor **Dean Sherry**, Cecil H. and Ida Green Distinguished Chair in Systems Biology and interim-Dean of the School of Natural Sciences & Mathematics, received an honorary doctoral degree from the University of Debrecen in Hungary for his outstanding contributions to the chemistry of lanthanide complexes used in magnetic resonance imaging for medical diagnosis.

Photos can be found at these URLs:

https://utdallas.edu/news/health-medicine/cprit-grants-2020/?WT.mc_id=NewsHomePageCenterColumn

https://utdallas.edu/news/campus-community/accolades-feb-2020/

Sherry Gets Honorary Doctoral Degree in Hungary

Dr. **A. Dean Sherry**, Cecil H. and Ida Green Distinguished Chair in Systems Biology, recently received an honorary doctoral degree from the University of Debrecen in Hungary.

Sherry, a professor of chemistry and the interim dean of the School of Natural Sciences and Mathematics, was recognized by the faculty senate for his more than four decades of continuous collaboration with chemists at the University of Debrecen. His citation also notes Sherry's "outstanding contribution to the chemistry of lanthanide complexes used in magnetic resonance imaging for medical diagnosis."

Dr. A. Dean Sherry (left) and Dr. Ernó Brücher

Sherry, who joined the UT Dallas faculty in 1972, is a pioneer in developing novel imaging agents used in MRI. His longtime collaboration with the University of Debrecen began with a 1986 visit to UT Dallas by Dr. Ernó Brücher, who spent two years on campus conducting research with Sherry in the Department of Chemistry. Since then, five other young scientists from the University of Debrecen have come to work with Sherry on medical imaging agents. Four of those researchers are now on the chemistry faculty in Debrecen, while one is a faculty member at UT Southwestern Medical Center. Those collaborations resulted in 50 scientific publications, Sherry said.

"I have deep respect for the scientists who traveled from Debrecen to work with me,"

UT Dallas, Continued

Sherry said. "They have had a profound impact on many of my students and postdoctoral researchers at UT Dallas. I was honored to travel to Hungary to receive this recognition."

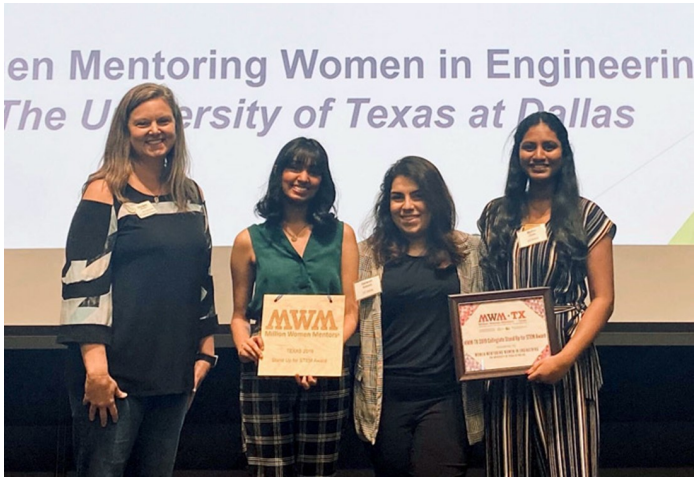
Women Mentoring Women Earns STEM Award

Student organization Women Mentoring Women in Engineering recently was honored with the Million Women Mentors Texas Stand Up for STEM Collegiate Award.

The award recognizes students or student organizations that demonstrate leadership and passion for STEM-related careers and encourage and support others to develop STEM skills through role modeling and mentoring.

Women Mentoring Women matches Erik Jonsson School of Engineering and Computer Science students with women in the workforce for a semester-long mentoring engagement that includes regular meetings to discuss issues such as resume tips, networking and interviewing. The group also helps students prepare for interviews and research opportunities.

"I was nervous before my first interview, but after talking with my group, I realized that I had to get past my nervousness and walk in with confidence to acquire a summer internship," said computer engineering senior Gelareh Nobakht, president of the organization. "This meeting motivated me, and I went in more equipped and readier with tips from the mentors and mentees who had been there before."



Tricia Berry (left), director of the Women in Engineering Program at UT Austin, presented the award to UT Dallas students Sanjana Sankaan, Gelareh Nobakht and Mythri Challa.

Women Mentoring Women received the award at the Dec. 6 Stand Up for STEM Awards ceremony during the Texas Women and Girls in STEM Summit in Austin. The group is accepting members. Email Gelareh.No@utdallas.edu for more information.

SEEKING POSITION

in DFW Area

PhD Chemist: Experience with ceramic synthesis and characterization, investigating microstructure, composition and high-temperature properties using SEM, TEM,, IR and Raman Spectroscopy, Nitrogen Adsorption Analysis, XRD, TGA, and XPS.

Contact info:

susanaaguirremedel@gmail.com

Around the Area

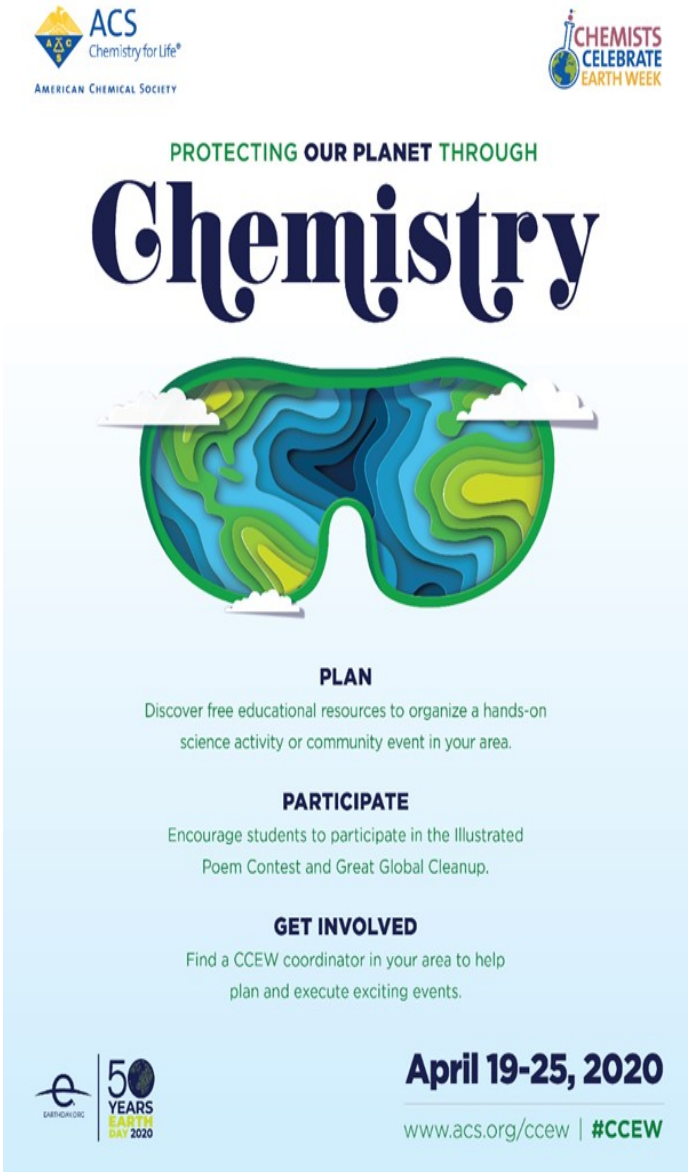
UT-Arlington

The newest faculty member in the Department of Chemistry and Biochemistry at UT-Arlington is **Professor Sherri McFarland**. She received her undergraduate degree at Hendrix College in neighboring Arkansas. She started out as an art major, but took chemistry as a distribution course and found herself loving it. She kept taking chemistry courses, and by the time she enrolled in organic chemistry, she realized she would have to switch majors.

Dr. McFarland then went to graduate school at UC-San Diego, completing her Ph.D. in physical organic chemistry in 2003. She followed her husband-to-be Dr. Colin Cameron to Canada, where she did a post doc at Dalhousie University. She took a one year position as a biochemist at Acadia University in Nova Scotia and wound up being hired full time at that predominantly undergraduate university. There she built an outstanding program in medicinal chemistry. She and her group developed a promising compound for the treatment of non-muscle invasive bladder cancer. This compound, TLD 1433, is now in Phase 2 trials. She left Acadia in 2016 to join the Chemistry and Biochemistry Department at the University of North Carolina at Greensboro. She came to UT-Arlington last fall.

She and her group have received over two million dollars in funding, and she is the holder of an NIH R01 grant. Her husband Colin Cameron has an appointment with the University as Research Professor.

Dr. Kwangho Nam Receives Two NIH Grants. Dr. Nam's most recent award was for four years for a total of $1,405, 961. The project is titled "Multiscale Modeling of Protein Kinase Structure, Catalysis, and Allostery." Last April he also received a $132,011 grant to study "Multiscale ab initio QM/MM and Machine Learning Methods for Accelerated Free Energy Simulations." His co-PI on that project is **Evgeny Epifanovsky**, a staff scientist at Q-Chem.



From the editor

For the first time in DFW Section history, the Meeting-in-Miniature will be rescheduled. Keep an eye on your emails and on the section website at dfwacs.org for other cancellations and schedule changes. The coronavirus COVID-19 is cutting a large swath across the world and is now present in the US. There's a great article about these situations and COVID-19 in particular on pages 6-7.

Get your nominations in for the Doherty, Schulz, and Chem Ambassador Awards; the deadline is May 15. Instructions and applications are online at dfwacs.org.

Be careful out there, people.