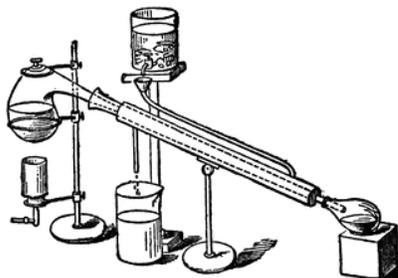




# ***SOUTHWEST RETORT***



**SEVENTY-SECOND YEAR**

**May 2020**

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

published by

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**Editorial and Business Offices: *Contact the Editor for subscription and advertisement information.***

**Editor: Connie Hendrickson: [retort@acsdfw.org](mailto:retort@acsdfw.org)**

**Copy and Layout Editor: Lance Hughes: [hugla64@gmail.com](mailto:hugla64@gmail.com)**

**Business Manager: Martha Gilchrist: [Martha.Gilchrist@tccd.edu](mailto:Martha.Gilchrist@tccd.edu)**

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*Contact the DFW Section*  
 General: [info@acsdfw.org](mailto:info@acsdfw.org)  
 Education: [new@acsdfw.org](mailto:new@acsdfw.org)  
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[candidates@acsdfw.org](mailto:candidates@acsdfw.org)  
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 Phone / Fax 956-831-6437  
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Houston, TX  
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Norman, OK  
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 Email: [oklahoma@ana-lab.com](mailto:oklahoma@ana-lab.com)

Shreveport, LA  
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 Email: [arkla@ana-lab.com](mailto:arkla@ana-lab.com)



T104704201

## FIFTY YEARS AGO IN *THE SOUTHWEST RETORT*

The Southwest area has been blessed with The ACS tour speaker for May is **Mr. J. Fred Wilkes** from the Dearborn Chemical Division of W. R. Grace in Chicago. His talk will be on “Water and Pollution---Challenges to Chemistry.”

Texas Woman’s University (TWU) is going to offer eight two-week summer courses in analytical instrumentation. These courses will be held in conjunction with an NSF supported “Summer Institute for College Teachers” to take place June 8 to July 31. Graduate credit of two hours will be given for each course taken. By arrangement with North Texas State University (*Now UNT*), men students may enroll and receive credit from that institution. Letters of inquiry regarding the courses may be sent to **Dr. Norman G. Foster** at TWU.

At SMU **Dr. Edward Biehl** is currently spending his sabbatical year in Munich, Germany. **Dr. Ralph Shriner** will attend the joint CIC-ACS Conference in Toronto. **Dr. C. T. Kenner** attended a meeting of the Science Advisors to the FDA in Washington, D.C.

The unique Mobil Field Research Lab Colloquium was held on May 4-8. This series has brought to Mobil distinguished speakers in the fields of Oceanography, Astronomy, Physics, Chemistry and other sciences. This year’s speaker was **Professor Howard Brenner** of Carnegie-Mellon University lecturing on “Transport Processes in Fluid-Particle Systems.”

At UT-Arlington **Dr. Andrew L. Ternay** joined the faculty as an Associate Professor.

He came to Arlington from Western Reserve University. Also joining the Arlington faculty was **Dr. Slayton Evans** from Western Reserve University. A \$17,000 Cottrell grant was given to UT-Arlington by Research Corp. for the purchase of a 100 MHz NMR spectrometer. UTA provided a matching grant for the spectrometer purchase. **Dr. Andrew T. Armstrong** was awarded a three-year \$36,000 Welch grant to study “Molecular Spectroscopy Studies of Oxyanion Salts.”

Fifty-two abstracts have been received for the Meeting-in-Miniature to be held at East Texas State University May 8. At North Texas State University **Drs. J. L. Marshall, W. T. Brady, and P. R. Jones** attended the ACS national meeting held in Houston. Dr. Marshall chaired a session in organic chemistry.

At Texas Instruments **Dr. Gordon K. Teal** has received honorary degrees of Doctor of Science from Brown University and Doctor of Law from Baylor University in recognition of his contributions to transistors and the development of the semiconductor and electronics industries.

Compiled by  
**E. Thomas Strom**



# And Another Thing...

## Perception, Perception, Perception

By: Denise L. Merkle, PhD

As the last '...And Another Thing' of the 2019-2020 school year, this commentary has none of the joyous admonitions of 'Don't Reach Where You Can't See' and 'Wear Sunscreen', that accompanied anticipation of wild and sunny adventures in previous end-of-schoolyear columns. Since most of us are web-based, the analogous exhortations would be, 'Don't Open Files of Unknown Origin', 'Mute Before Shouting at the Dog', and 'Don't Zoom in Your Undies', none of which conjure up mental images of blissful beaches and marvelous mountains. But that's not the point of this. The point is, now, more than ever, those who can, *should* fully assess the available data before drawing conclusions, and those conclusions must be open to modification when further valid data are revealed. The world is in an enhanced state of uncertainty and flux. Short of wartime, which many are fortunate enough to have experienced only through historical accounts, the current world situation is more fluid than ever.

What do we know? Do we define our living situation based on what we see or what we hear? What we actually observe and experience? What we read? Whom do we trust? Do we wait for peer-review or accept, with reservations, papers which are e-published without extra input? Do we believe for-profit companies that promise wonder drugs? When do we act and when do we wait? These questions are not new. They're posed by scientists regardless of microbial threats. People who want information ask these questions of their media sources and elected officials. When do we know what's accurate, what's real only when specific conditions are met, and what's actual-

ly anomalous?

We don't. The stunning amount of knowledge we use to interact with the natural world - macro and micro- has tremendous gaps. We can only gather, analyze, revise, and iterate. If the events of the last eight months are an indication, a startling percentage of the information we have is nebulous -and it seems change every twenty minutes or so. This, of course, is not what scientists want to think, however, this is where scientists are right now. We know a lot - and we need to determine much more.

All threats end at some point, whether by mutation, treatment, removal of hosts, or even serendipity. We need more data, and, as with all aspects of life, also crucial are considering the sources, refraining from using hypotheses as givens, and revising as needed, without prejudice. We know what we know, except when we don't.

The storylines in Joanna Cannon's book, 'The Trouble With Goats and Sheep'<sup>1</sup>, intertwine to demonstrate the need to fully assess what's 'known' -and why- before drawing conclusions. It's a light summer read - something to peruse as you're basking in the sunlight shining in your living room windows. It's also a non-scientific way to get an unexpected jolt of Don't Let Perceptions Ruin Your Data.

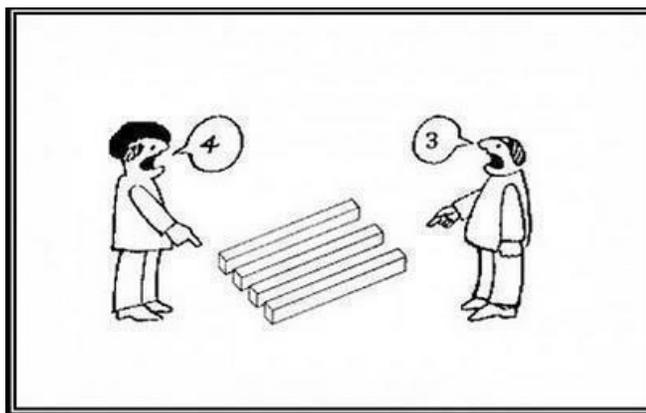
Sooner or later, when enough data are amassed<sup>2</sup>, interventions are available, and we're all allowed out of captivity, our interactions with our environment and those

in it are unlikely to remain the same. Be ready to evolve faster than viruses. Don't Assume, Wear Sunblock, Don't Reach Where You Can't See - and Wash Your Hands!

Best wishes for exciting data - and a marvelous Summer!

1) <https://www.simonandschuster.com/books/The-Trouble-with-Goats-and-Sheep/Joanna-Cannon/9781501121906>

2) <https://www.who.int/>



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Michael Bigwood, John McIlroy, and Daniela Hutanu



Due to concerns regarding the Coronavirus outbreak, the ACS DFW local section and the University of Texas at Dallas are canceling the ACS Meeting in Miniature Meeting, which was scheduled for April 18. We are planning to reschedule the meeting in September. We will continue to post updates regarding the rescheduling of the 2020 Meeting in Miniature Meeting.

THE AMERICAN CHEMICAL SOCIETY OF DFW PRESENTS:  
THE 2020 MEETING IN  
MINIATURE AT UT DALLAS

Save the Date!  
April 18<sup>th</sup>

### About

Please mark your calendars for **The 2020 Meeting in Miniature at UT Dallas**. This meeting will be hosted by The University of Texas at Dallas in Richardson, Texas on April 18th.

We look forward to seeing you at UT Dallas! WHOOSH!

### Location

The University of Texas at Dallas  
800 West Campbell Rd  
Richardson, TX 75080

To volunteer as a presentation judge or for other inquiries please reach out to Dr. Jeremiah Gassensmith.

## From the ACS Press Room

### *Sensitive New Test Detects Antibodies Against SARS-CoV-2 in Only 10 Minutes*

*“Rapid and Sensitive Detection of Anti-SARS-CoV-2 IgG Using Lanthanide-doped Nanoparticles-based Lateral Flow Immunoassay”*

#### **Analytical Chemistry**

As the COVID-19 curve shows signs of flattening in the U.S. and elsewhere, public health officials are trying to grasp just how many people have been infected. Now, a proof-of-concept study in ACS’ *Analytical Chemistry* describes a quick, sensitive test for antibodies against the coronavirus in human blood. The test could help doctors track a person’s exposure to the disease, as well as confirm suspected COVID-19 cases that tested negative by other methods.

Because COVID-19 symptoms range from mild to severe, with some people apparently having no symptoms, the number of people who have been infected with the SARS-CoV-2 virus at some point is likely much higher than the number of confirmed cases. As U.S. states begin to ease lockdown restrictions, widespread testing of the general population will be important to identify people at early stages of disease, or people who lack symptoms but can still infect others. Also, although more research needs to be done, it is possible that people with antibodies to the virus could be immune to future COVID-19 outbreaks. To help identify people with current or past exposure to SARS-CoV-2, Lei Yu, Yingsong Wu, Guanfeng Lin and col-

leagues wanted to develop a fast, sensitive antibody test.

The researchers based their test on a technique called a lateral flow immunoassay (LFA); a home pregnancy test is an example of this kind of assay.

*continued on page 9*



**A new lateral flow immunoassay can detect antibodies against SARS-CoV-2, which appear as a bright orange line when placed on a fluorescence reader (right).**

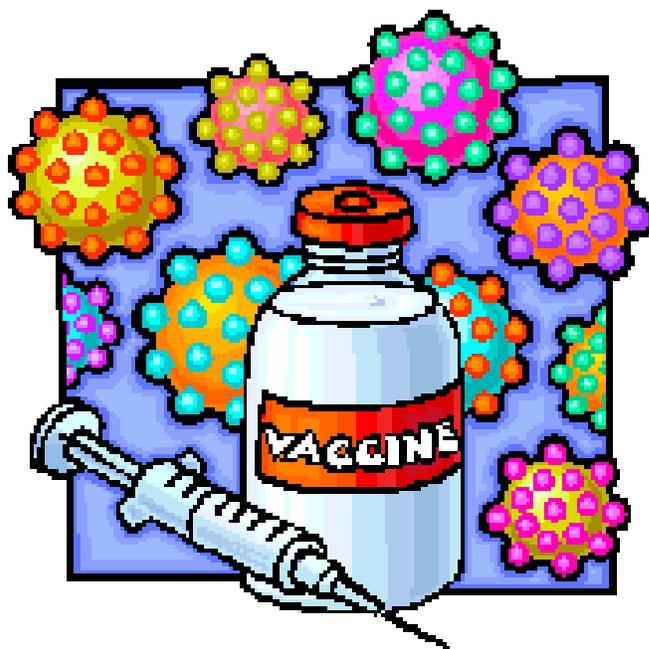
## *From the ACS Press Room*

*continued from page 8*

They attached a viral coat protein to a specific region on a strip of nitrocellulose, and then added human serum. The serum flowed from one end of the strip to the other, and any antibodies against the viral protein bound to that region on the strip. Then, the team detected the anti-SARS-CoV-2 antibodies with a fluorescently labeled antibody. This fluorescence-based detection is much more sensitive than some other LFAs, such as pregnancy tests, that can be read by the naked eye. The researchers tested the new assay on seven serum samples from COVID-19 patients and 12 samples from people who had tested negative for the disease by reverse transcriptase-polymerase chain reaction (RT-PCR), a common diagnostic test that occasionally fails to detect positive cases. The new assay correctly diagnosed all seven samples as positive — as well as an additional “negative” case that had suspicious clinical symptoms — in only 10 minutes per sample. The immunoassay could be helpful in confirming negative diagnoses, monitoring a patient’s recovery, studying past exposures, and identifying recovered individuals with high levels of antibodies as potential convalescent plasma donors, the researchers say.

The authors acknowledge funding from the National Natural Science Foundation of China and the China Postdoctoral Science Foundation.

## *Could a polio vaccine stop the coronavirus pandemic?*



### *Video*

**WASHINGTON, May 4, 2020 —** The COVID-19 pandemic has scientists considering a few less-conventional options while vaccines against SARS-CoV-2 are being developed. One option might be the oral polio vaccine. We chatted with one of the researchers proposing the idea — Robert Gallo, M.D. — to understand why a vaccine that hasn’t been used in the U.S. for two decades might provide short-term protection against this new coronavirus: <https://youtu.be/Wqw4aX4c33c>.

<https://youtu.be/Wqw4aX4c33c>

## #IYPT Still has Events



# ELEMENTAL ART: A CONTEST

To celebrate the 150<sup>th</sup> 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 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> 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 ([nicksarevsky@gmail.com](mailto:nicksarevsky@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 2<sup>nd</sup> place in the ACS poetry contest for National Chemistry Week in 2019, so you never know.

## From the ACS Press Room

# COVID-19 Diagnostic Tests Highlighted in Special Report

### “Assay Techniques and Test Development for COVID-19 Diagnosis”

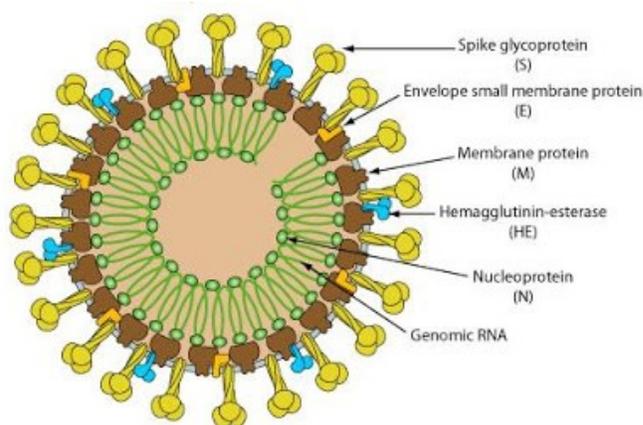
#### ACS Central Science

As the new coronavirus continues to claim lives, the race is on to develop fast, convenient and accurate diagnostic tests for COVID-19. Now, researchers from CAS, a division of the American Chemical Society specializing in scientific information solutions, have compiled a special report published in *ACS Central Science*. Drawing from published journal articles and a variety of other published resources, this report provides a detailed overview of COVID-19 diagnostic tests, trends and resources.

According to the World Health Organization, as of April 26, 2020, the COVID-19 pandemic has caused more than 2.8 million confirmed illnesses and more than 193,000 deaths. Social distancing requirements and business lockdowns have slowed the virus’ spread, but at the same time, these measures have disrupted people’s lives and weakened economies. To help prevent future outbreaks of COVID-19, experts agree that fast, convenient and accurate diagnostic tests are desperately needed. Widespread testing of the general population would allow public health officials to identify and isolate patients early in the course of their illness, as well as asymptomatic people who might unknowingly spread the disease. To help better understand the numerous diagnostic tests available, a group of CAS scientists led by Cynthia Liu summarized the basic principles

of molecular and serological assays underlying these tests. The researchers also provided a high-level view of the more than 200 diagnostic tests currently available.

Tests for COVID-19 currently fall into two major categories: those that detect the RNA of SARS-CoV-2, the virus that causes COVID-19; and those that detect antibodies in the blood of people who at some point were infected with the virus. In the first category, the most common tests rely on the reverse-transcriptase-polymerase chain reac-



tion (RT-PCR), which amplifies a tiny amount of viral RNA collected from nasopharyngeal swabs. Because RT-PCR requires expensive instruments, trained personnel and often several days to generate results, researchers are avidly exploring other methods, such as isothermal nucleic acid amplification and transcription-mediated amplification, as well as CRISPR technologies. The second category of tests cannot be used for early diagnosis because antibodies do not appear in the blood for days to weeks

*Continued on page 12*

## *From the ACS Press Room*

# *COVID-19 Diagnostic Tests Highlighted in Special Report*

### *Continued from page 11*

after infection. However, serological and immunological assays could be used to confirm suspected cases, monitor the progress of an individual's disease, or identify people with past infection and potential immunity. Scientists are researching many different types of assays, such as the traditional enzyme-linked immunosorbent assay (known as ELISA), lateral flow immunoassays and

surface plasmon resonance-based biosensors. Widespread deployment of both categories of tests could help manage people's return to normal activities, but many questions, including the specificity and sensitivity of the tests, remain to be answered, the researchers say.

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

## Protect yourself and others from getting sick **Wash your hands**



- after coughing or sneezing
- when caring for the sick
- before, during and after you prepare food
- before eating
- after toilet use
- when hands are visibly dirty
- after handling animals or animal waste



## From the ACS Press Room

# The Best Material for Homemade Face Masks may be a Combination of Two Fabrics

### “Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks”

#### ACS Nano

In the wake of the COVID-19 pandemic, the U.S. Centers for Disease Control and Prevention recommends that people wear masks in public. Because N95 and surgical masks are scarce and should be reserved for health care workers, many people are making their own coverings. Now, researchers report in *ACS Nano* that a combination of cotton with natural silk or chiffon can effectively



filter out aerosol particles — if the fit is good.

SARS-CoV-2, the new coronavirus

that causes COVID-19, is thought to spread mainly through respiratory droplets when an infected person coughs, sneezes, speaks or breathes. These droplets form in a wide range of sizes, but the tiniest ones, called aerosols, can easily slip through the openings between certain cloth fibers, leading some people to question whether cloth masks can actually help prevent disease. Therefore, Supratik Guha at the University of Chicago and colleagues wanted to study the ability of common fabrics, alone or in combination, to filter out aerosols similar in

size to respiratory droplets.

The researchers used an aerosol mixing chamber to produce particles ranging from 10 nm to 6  $\mu\text{m}$  in diameter. A fan blew the aerosol across various cloth samples at an airflow rate corresponding to a person’s respiration at rest, and the team measured the number and size of particles in air before and after passing through the fabric. One layer of a tightly woven cotton sheet combined with two layers of polyester-spandex chiffon — a sheer fabric often used in evening gowns — filtered out the most aerosol particles (80–99%, depending on particle size), with performance close to that of an N95 mask material. Substituting the chiffon with natural silk or flannel, or simply using a cotton quilt with cotton-polyester batting, produced similar results. The researchers point out that tightly woven fabrics, such as cotton, can act as a mechanical barrier to particles, whereas fabrics that hold a static charge, like certain types of chiffon and natural silk, serve as an electrostatic barrier. However, a 1% gap reduced the filtering efficiency of all masks by half or more, emphasizing the importance of a properly fitted mask.

The authors acknowledge use of the U.S. Department of Energy’s Center for Nanoscale Materials user facility at Argonne National Laboratory and funding from the U.S. Department of Defense’s Vannevar Bush Fellowship.

## *From the ACS Press Room*

# *Bone Proteomics could Reveal How Long a Corpse has been Underwater*

*“Aquatic Decomposition of Mammalian Corpses: A Forensic Proteomic Approach”*

*Journal of Proteome Research*

When a dead body is found, one of the first things a forensic pathologist tries to do is estimate the time of death. There are several ways to do this, including measuring body temperature or observing insect activity, but these methods don't always work for corpses found in water. Now, researchers are reporting a mouse study in ACS' *Journal of Proteome Research* showing that certain proteins in bones could be used for this determination.

An accurate estimate of when someone died can help investigators better understand what happened to the person and can help them



identify possible murder suspects, if foul play was involved. However, determining the length of time a body has been underwater, or the post-mortem submerged interval (PMSI), can be very challenging. One way is to examine the decomposition stage of several areas of the body, but factors like water salinity, depth, tides, temperature, presence of bacteria and scavengers can

make PMSI estimation difficult. But bones are stronger than soft tissues, and they lie deep within the body, so the proteins within them might be shielded from some of these effects. So, Noemi Procopio and colleagues wondered if monitoring the levels of certain proteins in bones could reveal the amount of time that a mouse's corpse is underwater, and also whether different types of water mattered.

To find out, the researchers placed fresh mouse carcasses in bottles of tap water, salt-water, pond water or chlorinated water. After a PMSI of 1 or 3 weeks, the team collected the tibia, or lower leg bones, from the corpses, extracted the proteins and analyzed them by mass spectrometry. The researchers found that the time since submersion had a greater effect on protein levels than the different types of water. In particular, a protein called fructose-bisphosphate aldolase A decreased in bone with increasing PMSI. In pond water, a protein called fetuin-A was more likely to undergo a chemical modification, called deamidation, than in the other types of water, which could help reveal if a body was once submerged in pond water and then moved. These and other potential biomarkers identified in the study could be useful for PMSI estimation in different aquatic environments, the researchers say.

The authors acknowledge funding from Northumbria University.

## From the ACS Press Room

### Spider Combs Tame Unruly Nanofibers (video)

*“Biomimetic Combs as Antiadhesive Tools to Manipulate Nanofibers”*

#### *ACS Applied Nano Materials*

Cribellate spiders spin thousands of tiny nanofibers into sticky threads. To keep from getting caught in their own webs, these spiders use a nonstick comb on their back legs. Now, researchers reporting in *ACS Applied Nano Materials* have patterned an antiadhesive nanostructure inspired by this comb onto a foil surface, creating a handy tool to control sticky lab-made nanomaterials for medical, smart textile and other applications. Watch a video of the combs in action here.

**Youtube ID: tz7XJkKxgeY**

Unlike most spiders, which produce silk coated in a sticky glue, cribellate spiders' threads resemble a bristly wool that embeds into the bodies of their prey. During web-making, the spider's comb, or calamistrum, grabs onto the nanofibers emerging from its abdomen and assembles them into threads. Anna-Christin Joel and colleagues wondered why the sticky nanofibers don't cling to the spider's comb. They figured that the answer could reveal new strategies for handling synthetic nanomaterials and nanofibers, which can be tacky.

The researchers began by shaving off the calamistrum from a group of “lace weaver” spiders. In contrast to normal spiders, those lacking combs showed a buildup of nanofibers where the comb should have been. The team also observed that in normal spi-



ders, the surface of the comb was covered with fingerprint-like nanoripples.

They found that this structure prevents nanofibers from closely contacting the surface of the spider's leg in the region of the comb, reducing adhesive van der Waals forces. To make an artificial nonstick surface inspired by the

spiders' combs, the researchers used lasers to pattern similar nanostructures onto poly (ethylene terephthalate) (PET) foils and then coated the foils with gold. When tested for antiadhesive properties against spider silk, the artificial comb performed almost as well as the natural version.

The authors acknowledge funding from the European Union's Horizon 2020 research and innovation program, the Excellence Initiative of the German federal and state governments and the Deutsche Forschungsgemeinschaft.

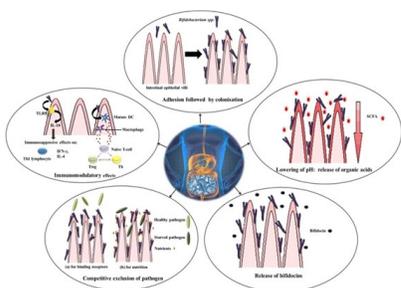
## From the ACS Press Room

# How Probiotic Bifidobacteria could Help Celiac Disease patients

**“Digestion of Intact Gluten Proteins by Bifidobacterium Species: Reduction of Cytotoxicity and Pro-Inflammatory Responses”**

**Journal of Agricultural and Food Chemistry**

Gluten is enemy No. 1 for those with celiac disease, and it’s hard to avoid. Episodes of this chronic autoimmune illness can be triggered by ingesting gluten, a key protein in wheat and some other grains. Researchers have been exploring how gut bacteria, especially Bifidobacteria, could be used as a treatment. Now, scientists publishing the results of laboratory experiments in ACS’ *Journal of Agricultural and Food Chemistry* report how specific types of Bifidobacteria work.



Humans have many types of bacteria living in their digestive systems, but those with celiac disease have altered levels of “beneficial” and “harmful” gut bacteria. And even if they stick to a strict gluten-free diet, celiac disease patients typically cannot reestablish an ideal gut microbiome on their own. In particular, the levels of bacteria in the Bifidobacteria family are lower in those

with the condition than in healthy individuals. These bacteria can chop up gluten proteins into smaller fragments that are not as triggering or damaging in patients, which has led researchers to try using the microbes as a probiotic to treat gastrointestinal diseases. So Edson Rodrigues-Filho, Natália E. C. de Almeida and colleagues set out to see exactly how various Bifidobacteria strains break down gluten peptides and what effect these smaller gluten-derived peptides would have on the immune response.

The researchers extracted gluten proteins from wheat flour and cultivated four strains of the Bifidobacteria family, both separately and in one large group. In an artificial intestinal environment, *B. longum* chopped up gluten proteins into the most fragments, compared to the other strains and the mixture of all four strains. From there, the team analyzed the cytotoxic and inflammatory responses to the various peptides, and found that those from the *B. longum* strain caused the least harm to intestinal cells in petri dishes. These results mark the first identification of specific gluten-derived peptides generated directly from intact gluten proteins by Bifidobacteria activity and the immunological responses to them by human cells, paving the way for new treatments and better patient outcomes, say the researchers.

The authors acknowledge funding from the São Paulo Research Foundation and the Brazilian National Council for Scientific and Technological Development.



ACS Local Section  
Dallas-Fort Worth

## ACS DFW Section Invites Nominations: DEADLINE EXTENDED

### 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.



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](mailto:ferraris@utdallas.edu). Nominations remain active for five years but should be updated annually.

**The deadline for submissions of nominations for Doherty Award, Schulz Award, and Chemistry Ambassador Award is extended to June 15.** The nomination package should be sent by email as a single pdf file to Professor John P. Ferraris at [ferraris@utdallas.edu](mailto:ferraris@utdallas.edu). Nominations remain active for five years but should be updated annually.



## EUNICE BONAR



Former UTA faculty member Eunice Bonar died April 20 at age 95. She taught chemistry for 20 years at UT-Arlington. She was a graduate of Ohio Wesleyan and SMU. She and her husband Chester M. Bonar, Jr. came to this area when he joined Atlantic Richfield. She was also a proud “Rosie Riveter,” which means she worked in the defense industry during World War II. For many years she was the Business Manager of The Southwest Retort and Chair of the DFW Section in 1985. A lover of classical music, she served on the Board of Directors for both the Dallas Opera and the Dallas Symphony. Her husband Chet preceded her in death as did her son Chester M. Bonar III. She is survived by her daughter Becky, three grandchildren, four great grandchildren, and a sister.

[Dallas Morning News Obituary](#)

## Around the Area



### UT Arlington

Welch Professor **Daniel Armstrong** received the LCGC Lifetime Achievement Award on Mar. 3 at the 2020 Pittsburgh Conference in Chicago. The award session took place over two days with ten speakers.

The sixth book on chemical history co-edited by Dr. **E. Thomas Strom** was published online on April 10, with hard copies from Oxford University Press available toward the end of this year. The title of this ACS Symposium Book is “Pioneers of Magnetic Resonance,” and it was based on a symposium that Tom and his co-editor Dr. **Vera V. Mainz** organized for the ACS National Meeting held in the spring of last year in Orlando. For this book Tom contributed a chapter on NMR pioneer Donald E. Woessner. Previously Tom has co-edited books on polymer chemistry, quantum chemistry, and physical organic chemistry, plus two books titled “The Posthumous Nobel Prize in Chemistry,” which pointed out unfair ways in which women (Vol. 2) and men (Vol. 1) chemists have been omitted from Nobel Prize glory.

Chemistry graduate student **Melissa Orr** is one of three UT-Arlington graduate students to receive a prestigious fellowship from the NSF Graduate Research Fellowship Program (GRFP). The GRFP provides a three year annual stipend of \$34,000 along with a \$12,000 cost of education allowance for tuition and fees.

## Around the Area



### UT Dallas

Professor **Jie Zheng** has been elected to the College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE) for “his outstanding contributions to fundamental understandings of in vivo nanoparticle transport and the development of renal-clearable nanomedicines”.

<https://www.utdallas.edu/news/faculty-staff/accolades-april-2020/>



Dr. **Jie Zheng**, professor of chemistry, has been elected to the College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE). He is among 156 new fellows announced March 24.

Zheng was elected for “his outstanding contributions to fundamental understandings of in vivo nanoparticle transport and the development of renal clearable nanomedicines,” according to the institute.

“It is my great honor to be elected to AIMBE, and I am very glad that some contributions we made to human health care as chemists are recognized by my biomedical

engineer fellows,” said Zheng, the Cecil H. and Ida Green Professor in Systems Biology Science. “I truly appreciate the tremendous support from our university and funding agencies and will continue dedicating my career to addressing challenges in medical research.”

Zheng’s research focuses on nanomedicines that can clear out of the body through the urinary system while also selectively targeting a variety of diseases, including kidney dysfunction and cancer. His work has advanced the fundamental understanding of kidney physiology at the nanoscale and is being applied toward the development of new imaging techniques for early detection, diagnosis and treatment of kidney disease.

Zheng’s research has been supported by state, federal and private entities, including the Cancer Prevention and Research Institute of Texas, the National Institute of Diabetes and Digestive and Kidney Diseases, and The Welch Foundation.

In addition to Zheng, other UT Dallas faculty members who have been elected to the College of Fellows are: Dr. **Joseph Pancrazio**, vice president for research and professor of bioengineering; Dr. **Stuart Cogan**, professor of bioengineering; and Dr. **Baowei Fei**, professor of bioengineering and Cecil H. and Ida Green Chair in Systems Biology Science.

AIMBE’s College of Fellows comprises more than 2,000 individuals who represent the top 2% of the medical and biological engineering community in academia, industry, clinical practice and government.

## *From the editor*

Eunice Bonar, who taught at UTA for 20 years and was very active in the DFW Section, passed away in April at the age of 95. Seeing her obit was a walk down memory lane for me. In many ways, Eunice was my mentor in local ACS affairs. I collaborated with her on a number of projects during the '80s and '90s. She was kind and easy to work with, and really got me started on participating in the ACS, local and national.

There are not many announcements right now, due to the COVID-19 pandemic (note the number of Press Releases on that topic). Please note that the deadline for submission of nominations for the DFW Section awards has been extended to June 15, so there is still time to get in a nomination. Check the section website for instructions and forms: <https://acsdfw.org/event/awards-nomination-deadline-extended/>

This is the last issue of the Retort for the 2019-2020; we'll be back in September. Rescheduling of events such as the Meeting-in-Miniature, changes and announcements during the summer will be sent via email, so keep an eye on your mail.

*Best regards,  
Connie*