ACS Local Section
Silicon Valley

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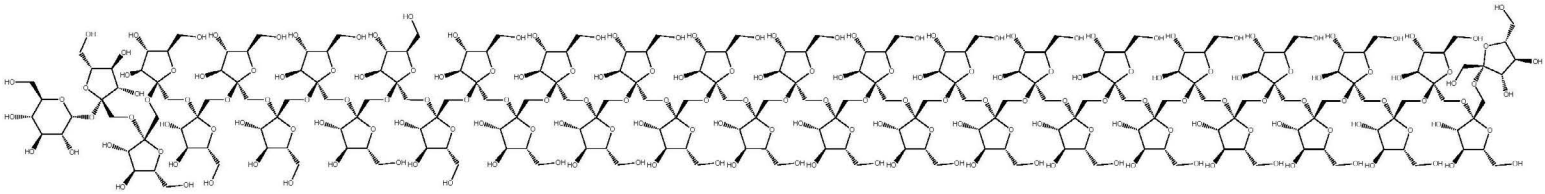
SILICON VALLEY CHEMIST



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SVACS and Golden Gate Polymer Forum 2020 Joint Event

Replacing Plastics: Can Bacteria Help Us Break the Habit?

Dr. Molly Morse, CEO of Mango Materials

Abstract:

Mango Materials manufactures biodegradable materials from waste methane. The Company's end product is a naturally occurring biopolymer that can biodegrade in many different environments. Collaborations with industrial partners have led to the formulation of biopolymers for numerous applications including textile fibers as a polyester replacement and injection molded packaging for the cosmetics industry. Overall, the company is focused on applications where new end-of-life properties are desirable. Mango Materials is scaling up its process and operates at a wastewater treatment plant in the San Francisco Bay area. Additional background information can be found at ***Mango Materials*** and ***NPR/KQED article***.

Biography:

Dr. Morse is the CEO and co-founder of Mango Materials, a San Francisco Bay Area-based, next generation, biomanufacturing, start-up company. Mango Materials converts abundant methane gas into low-cost, high-value, biodegradable materials. They believe waste facilities are the goldmines of the future and are dedicated to

continued on next page

Chair's Message

Matt Greaney

I hope this message finds you well. As I write this from my home office, it's becoming tougher and tougher to remember what my "normal" routine really is. The current Coronavirus pandemic has undoubtedly affected everyone, but some have been able to handle the changes with more versatility than others. Not everyone has the luxury of being able to work from home. Many in our community have been forced out of their normal routines without any options until the shelter-in-place is lifted and regular work resumes. ACS is aware of the situation and is actively working to support member needs. Anyone can access a slew of ACS efforts & resources on COVID-19 by going to the following URL ***https://www.acs.org/content/acs/en/covid-19.html***, which contains multiple platforms for networking, attending virtual events & trainings, and learning about recent coronavirus research efforts. Additionally, ACS and the Committee for Economic and Professional Affairs (CEPA) are working on updating the Society's Mass Layoff Response Plan, which is intended to help members deal with sudden changes in the chemical employment landscape. I'll report on this in a future Chair's message once the new plan

continued on next page

UPCOMING EVENTS

On-going ***ACS Webinars*** (Free)
Broadcasts every day of the week at 11am Pacific Time! Sessions on Thursdays are open to everyone. ***Join Our Mailing List!*** Over 250+ archived webinars are available to ACS members.

Jun 8-9 ***Golden Gate Polymer Forum Short Course: Introduction to Polymer Science and Engineering***
Prof. Gary Wnek, Case Western Reserve University
Virtual; registration is required.

Jun 15-19 ***24th Annual ACS Green Chemistry and Engineering Conference***
Virtual Conference. Free, registration is required.

Jun 24 ***Replacing Plastics: Can Bacteria Help Us Break the Habit?***
Dr. Molly Morse, CEO of Mango Materials
TBD: Michael's at Shoreline or virtual
A joint event of the Golden Gate Polymer Forum and ACS Silicon Valley Section

Jul 11 ***SVACS Annual Picnic, Awards, & Wine/Beer-Tasting***
Postponed Stanford Chemistry Department

Aug 16-20 ***ACS Fall 2020 National Meeting & Expo***
San Francisco

Replacing Plastics, continued from front page

building closed loop, cradle-to-cradle technologies in order to recycle carbon naturally and sustainably.

Dr. Morse received her Ph.D. in Civil & Environmental Engineering–with an emphasis on anaerobic biodegradation of biocomposites for the building industry–from Stanford University, and her B.S. in Civil and Environmental Engineering from Cornell University. She has contributed to multiple patents, publications, and presentations. Along with other Mango Materials team members, she is currently working to up-scale the biomanufacturing technology of using methane gas to produce biodegradable materials.

COVID-19 Comment:

At the time of this newsletter's publication, the Mango Materials event is still scheduled to take place on June 24, either at the restaurant venue or virtually, on-line. Stay tuned to the ***SVACS website*** for updates. Any paid registrations will be refunded in full if the event takes place virtually.

Date: **Wednesday, June 24, 2020**

Location: **Michael's at Shoreline**

2960 N Shoreline Blvd, Mountain View, CA ***Map***

Timing: **6:00 PM** social hour
7:00 PM dinner
8:00 PM lecture

Cost	Employed/ postdoc	Student/ unemployed/ retired
Registration	**$30**	**$15**
Walk-in (not guaranteed)	**$40**	**$25**

Lecture-only is free if there is space, but please let us know you are attending. Register for the free talk-only option.

Payment:

We accept cash or checks at the door, or online payment via credit card on the registration website. No-shows are responsible for full payment of registration fee.

Registration required: please register online at ***http://ggpf.org/events/?ee=273***

Deadline for registration: **5:00PM, Sunday, June 21** for regular registration. Registration may close earlier when capacity is reached. Walk-in attendance may or may not be available. If available, walk-ins will be charged the higher price listed above.

Dinner Selection:

- Seafood - Broiled salmon with lemon beurre blanc
- Chicken - Chicken breast coq au vin
- Vegetarian - Mushroom crepes

You should receive confirmation of your registration; if not, please ***contact us*** again. When registering, please answer the question to indicate if you are primarily associated with GGPF, with SVACS, or both/neither.

About Golden Gate Polymer Forum (GGPF)

The GGPF is a non-profit educational and scientific organization dedicated to the study of polymeric materials and devices. It sponsors monthly dinner lectures and occasional short courses and symposia with events based in the San Francisco Bay Area. Participants are individuals working in both industry and academia from a variety of disciplines. All interested in the study of polymers are welcome to attend.

Springer Nature Partners with PubChem to Improve Accessibility to Material and Property Data

Open access chemistry database PubChem will now include thousands of links to chemical and physical properties of materials from the SpringerMaterials database

"A new partnership between Springer Nature and the open access database PubChem, hosted by the US National Institute of Health, now enables researchers to quickly identify reliable property information of materials and links to primary research. Springer Nature's materials and properties database, ***SpringerMaterials*** serves researchers in the fields of chemistry, materials science, physics and beyond. This new collaboration means that over 32,000 compounds found on PubChem directly link to critically evaluated property data on SpringerMaterials."

Explore or download: ***PubChem > Data Sources > SpringerMaterials***

Chair's Message, continued from front page

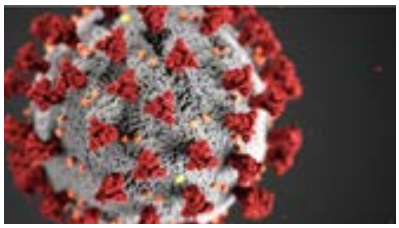
is finalized and available to the public.

As for our local SVACS activities, we're in the same boat as everyone else. All annual events and monthly meetings are tentative at best, with postponements or going virtual the preferred options over cancellations. Our next event is the annual joint meeting with the Golden Gate Polymer Forum, (still) scheduled for Wednesday, June 24, with Dr. Molly Morse, CEO of Mango Materials (one can register at ***http://ggpf.org/events/?ee=273***). However, we are currently deciding whether it makes more sense to hold this event in person or shift it to a purely virtual meeting. Stay tuned for updates on the SVACS and GGPF websites and in our June newsletter. Additionally, our festive outdoor annual awards picnic scheduled for Saturday, July 11, has been postponed. There are too many uncertainties at the moment to lock in a concrete schedule for in person events during the next few months. Rest assured, we will err on the side of caution rather than forge ahead with public events that compromise public safety. Announcements about upcoming events will be posted in our June and July newsletters and on our website, ***www.svacs.org***.

Despite interruptions to our physical meetings, ACS business continues through the use of virtual platforms. While the Spring National Meeting was cancelled, a special session of the ACS Council was held on Monday, April 20, to hear from the four candidates for 2021 ACS President-Elect. Two of these four candidates will be selected by the Council for the general membership vote later this year. Additionally, most ACS national committees held some sort of virtual meeting in place of the usual all-day meetings that are held at every National Meeting. The SVACS Executive Committee has continued its monthly meetings too, albeit 100% virtually. These meetings are (still) open to the public, so please reach out to me or one of our Councilors or Officers for login info if you'd like to join (security is also a concern, so we will not publicly post this login info).

Although the disruptions to our normal routines have been intrusive and abrupt, I hope we can look at the glass half full and consider continuing some of these now daily practices as permanent options. When the Bay Area is operating at full speed, it can take hours to drive to an Executive Committee meeting during rush hour on a Monday evening. Why not join virtually from the comfort of your home and save a few hours behind the wheel? Travel to National Meetings is a huge cost for the Society and the attendees. Why not participate virtually at a fraction of the time and cost? I'm not suggesting we do away completely with physical interactions and default to 100% virtual, but it's worth considering a modest and reasonable shift to virtual platforms for many of our traditionally physical meetings. The current pandemic has brought a ridiculous amount of hardship and suffering. I hope that when we get through this, we can hang on to the few positive lessons learned from living in a lockdown to improve life for everyone.

COVID-19 Response: New Resources Available From CAS (Chemical Abstracts Service)



Beating COVID-19: Insights and strategies for new vaccines and therapies

"New vaccines and therapies are on the forefront of what has now been declared a pandemic by the World Health Organization ("WHO") that is overwhelming healthcare systems in many countries and imposing a major impact on the world economy."

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R&D on Therapeutic Agents and Vaccines for COVID-19 and Related Human Coronavirus Diseases

"This CAS special report provides a comprehensive overview of published scientific information highlighting antiviral strategies involving small molecules and biologics targeting complex molecular interactions." ***Read the article in ACS Central Science***

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Download CAS COVID-19 Antiviral Candidate Compounds Dataset

"The open source dataset of nearly 50K chemical substances includes antiviral drugs and related compounds that are structurally similar to known antivirals for use in applications including research, data mining, machine learning, and analytics."

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COVID-19 Protein Target Thesaurus

"This collection of human-curated protein targets and their synonyms from CAS Registry and the CAS Thesaurus provides additional points of discovery to supplement your research."

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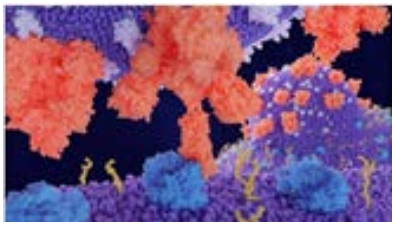

Targeting ACE2 – Closing COVID-19's cellular doorway

by Angela Zhou, Information Scientist, CAS, Posted April 16, 2020

"ACE2 (angiotensin-converting enzyme 2) has drawn significant attention as a human cell viral receptor. Could this membrane protein with the enzymatic domain located on the outer surface of the human cells be the answer to eradicating COVID-19?"

In This Together: CAS Joining Forces with Researchers and Data Scientists to Accelerate COVID-19 Treatments

"CAS is updating the data collection underlying information solutions including SciFinder-n, STNext, and Formulus and is making these resources available to the scientific community to aid in the fight against COVID-19."

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Custom Services: What more can we do for you?

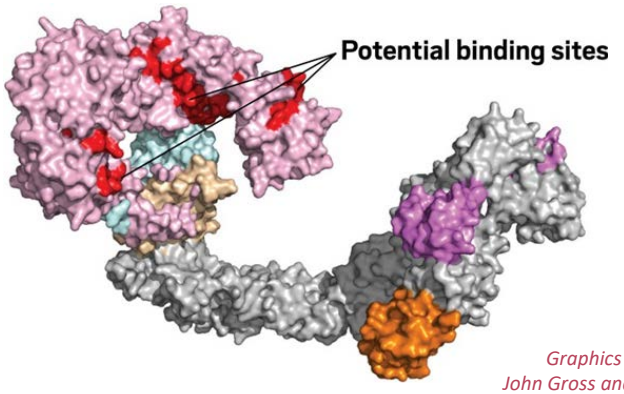
"With a rapidly evolving and complex challenge like COVID-19, custom support is often most effective. To whatever extent the capabilities and expertise of CAS scientists and technologists are valuable to augment your COVID-19 research efforts, we are available to consult with you at no charge."

About CAS

"CAS (Chemical Abstracts Service), a division of the American Chemical Society, partners with R&D organizations globally to provide actionable scientific insights that help them plan, innovate, protect their innovations, and predict how new markets and opportunities will evolve. Leverage our unparalleled content, specialized technology, and unmatched human expertise to customize solutions that will give your organization an information advantage."

Protein-Protein Interaction Map Reveals Drug Targets and Potential Drug-Repurposing

https://cen.acs.org/biological-chemistry/infectious-disease/Protein-mapping-finds-over-60/98/i12



Graphics Credit: John Gross and Xi Liu

A model of the human protein complex CUL2ZYG11B that shows the predicted binding sites (red) of the SARS-CoV-2 proteins. Proteins not involved in binding are shown in different colors.

An international team of dozens of scientists has found 69 drug candidates that might help treat COVID-19. Forty-one of the candidates are either already approved by the US FDA or are in clinical trials for other uses. (bioRxiv, 2020. DOI: ***10.1101/2020.03.22.002386***).

The team identified 332 proteins that SARS-CoV-2 proteins bind to and use to replicate inside the human body. They then identified compounds to interfere with the virus's ability to interact with cells.

Knowing the sequence of the SARS-CoV-2 genome, the team identified 29 viral genes corresponding to 29 proteins that human proteins interact with, and connected 26 of the viral proteins with 332 human proteins.

Small molecule chemists and computational biologists generated a list of drugs that target the host proteins. Tests are ongoing in infected cells for activity in blocking viral replication without harmful side effects.

What normally takes a couple of years was accomplished in weeks due to the widespread collaboration between hundreds of scientists in >20 laboratories worldwide.

ACS Efforts and Resources on COVID-19

As a leading scientific society and publisher of scientific research and information, the American Chemical Society (ACS) is committed to helping combat the global COVID-19 pandemic. Browse ACS's resources and initiatives and share them with colleagues, friends and family.

Watch message from ACS President Luis Echegoyen

Read ACS Letter to Congressional Leadership outlining key areas for investment in response to COVID-19 pandemic

Other COVID-19 pandemic advocacy efforts

ACS Network: We are in this together! Connect and share information, concerns, and solutions about the COVID-19 pandemic with others in the chemistry community.

- ***Share Chemistry***: Resources to help improve the understanding of coronavirus research
- ***Network & Connect***: Finding ways to support and empower our members during the COVID-19 pandemic
- ***Educate***: Opportunities to aid in effective chemistry and chemistry-related education to support transition to remote teaching and learning
- ***Communicate***: Information to help communicate about the coronavirus with the public, policymakers and the media.
- ***Virtual Events & Training***: Upcoming events, online training and related resources to support the chemistry enterprise.

A Special Note for Members: During this COVID-19 crisis, we are offering renewing members a one-year waiver on your unpaid national dues if you've suffered hardships due to the pandemic. If you have become unemployed, furloughed, have your hours or wages reduced, or are facing illness or family care responsibilities, please contact Member Services at ***service@acs.org*** or via phone at 1-800-333-9511 (1-614-447-3776 for members outside the United States).

Do You Qualify for Additional Discounts? Are you a student or have a disability? We are here to help. Learn more about special dues and categories.

Welcome to the Silicon Valley Section of ACS

Each month, the section receives a spreadsheet from national ACS with the names of members new to our section. The members are either new to ACS, have transferred in from other areas, or are the newest members – students. To welcome you to the section and get to know you, the Executive Committee offers new members a free dinner! To encourage you to attend a monthly section seminar meeting, we would like you to be our guest. When you register, make certain to mention that you are a new member and you and a friend will be our guests. The seminar meetings are held at a number of local venues. Consider joining us for an outreach event, like judging a science fair, proctoring the Chemistry Olympiad or participating in a National Chemistry Week event in October. Our annual beer & wine tasting and awards picnic held outdoors on the Stanford campus on a sunny Saturday in July is a great way to meet the section, families included. The local section is a volunteer organization. Please attend an event, volunteer to help and get to know your local fellow chemists. Welcome!

NEW MEMBERS

Dr. Kathleen Carmody Alexander
Peter Buchowiecki
Meng Cai
Dr. Brian E. Cathers
Naomi Clayman
Qiang Cong
Dr. Rebecca Corman
Mr. Dave Edgren
Dazhong Fan
Rebecca Fenselau
Jane Findley
Mr. Kenneth Scott Hettie
Chao-I Hung
James Kammert
Kelly Kishton
Dr. Stephanie Lau
Dr. Julian Castro Lo
Qin Lu
Dr. Wenchen Luo
Jaba Mitra
Dr. Ryan Quiroz
Andrea Nikole Sanchez
Ms. Kriti Shukla
Mr. Yilei Wu
Oliver Yang
Timothy Yang
Sungtae Yoon
Dr. Yong-Kang Zhang

ACS Green Chemistry Institute
Chemistry for Life®

GC&E Conference Registration Is Now Open!

Registration is now open for the 24th Annual Green Chemistry & Engineering (GC&E) Virtual Conference, hosted by the ACS Green Chemistry Institute®. Originally scheduled for June 16-18, 2020, in Seattle, Washington, GC&E has gone virtual due to the COVID-19 pandemic. The Virtual Conference is free and will take place June 15-19, 2020.

Register For Free

Keynote Speakers

A global meeting ground for academics, students and industry leaders to advance sustainable science and solutions, this year's conference theme is "Systems-Inspired Design". Each day, a keynote speaker will explore our theme through an academic or an industry lens. The keynote speakers are:

- Jeannette M. Garcia, Ph.D., IBM Research
- Bruce Lipshutz, Ph.D., University of California, Santa Barbara

Winners of the ACS Sustainable Chemistry and Engineering Lectureship Awards:

- Jonas Baltrusaitis, Ph.D., Lehigh University
- Katalin Barta, Ph.D., Karl-Franzens University of Graz and University of Groningen
- Fen Wang, Ph.D., Dalian Institute of Chemical Physics

Virtual Conference Schedule-at-a-Glance

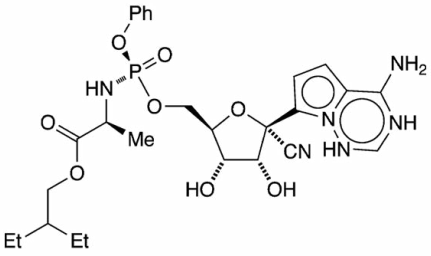
High-impact sessions will run daily, June 15-19, from 11 a.m - 5:30 p.m EDT. The daily schedule will include:

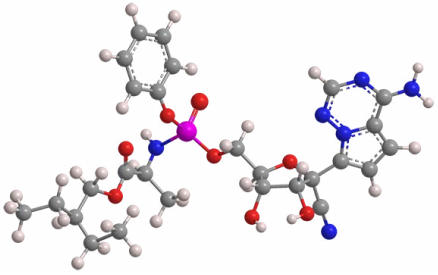
- Live Keynote Address and Q&A
- Interactive Poster Session
- Virtual Green Expo
- Breakout Technical Sessions & Live Discussions
- Virtual Networking Coffee Break
- #gcande "Happy Hour"
- And much more!

See the complete schedule-at-a-glance

CHEMISTRY Quiz

The jury is out on my effectiveness against COVID-19.





What molecule am I?

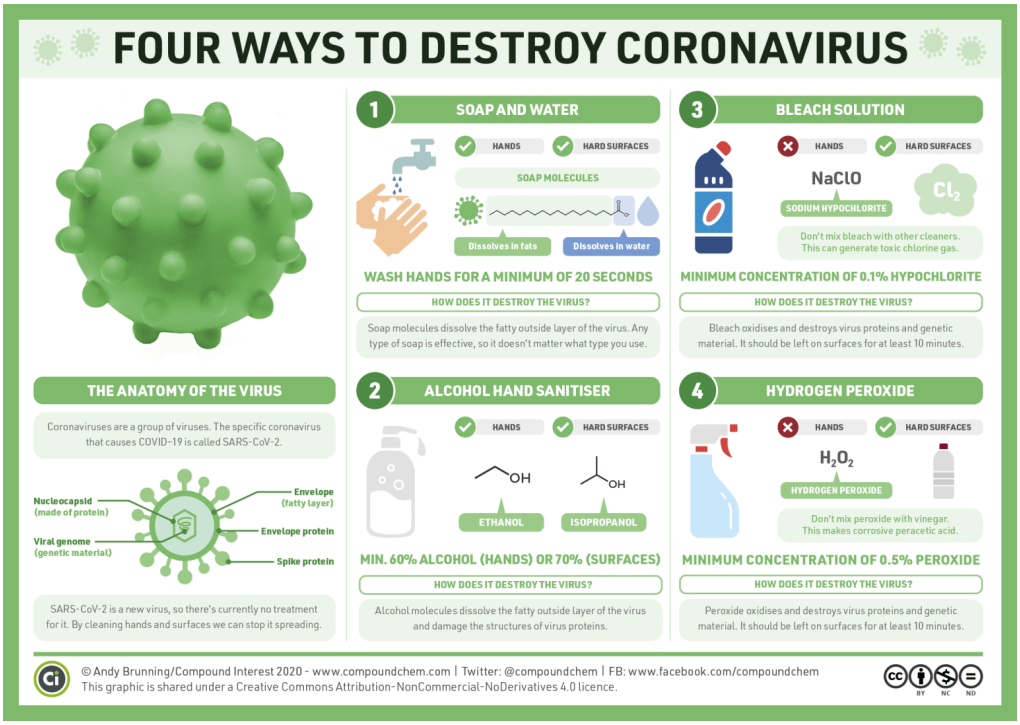
Answer

COVID-19: An Illustrated Scientific Summary

Watch video: ***https://youtu.be/AaXZfILkB80***

Science Will Win

Watch video: ***https://www.youtube.com/watch?v=Xl0tEfLve1U***



Click to enlarge

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Silicon Valley

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