



# **APTEC**

8<sup>th</sup> Annual Research Symposium  
November 6 and 7, 2020

## **Post Meeting Summary**

Hosted by



Online on



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**KeyNote Speakers: The Organizers arranged two terrific keynote speakers; Dr. Karen Wooley who opened the meeting and Dr H N Cheng who closed the first day.**



**Dr. Karen Wooley (TAMU)**

*Synthetic Strategies by Which to Afford Natural Product-based Polymers Materials: Impacts on Sustainability, Life, Health and the Environment*

I repeat to my physics students a line from a chemistry seminar: “Physicists know a lot of stuff; chemists make a lot of stuff”. And something has to happen to the stuff that chemists make. Dr Wooley encourages chemists to think about what happens to the stuff they make AFTER people are done with it. You can clean polluted water with magnets or nanostructures, address the

**A New Project: Natural product-derived hydrogels to address challenges with excessive liquid water**

My home during Hurricane Harvey August 2017

APTEC 8<sup>th</sup> Annual Research Symposium, via Gather and Zoom – November 6, 2020

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Great Pacific Garbage Patch with degradable polycarbonates, or develop hydrogels from glucose to address “excessive liquid water”. However you do it, Dr Wooley thinks chemists should conscientiously consider the impact of synthetic polymer materials, and

whether they fit within natural life cycle concepts.

**Conscientiously Consider Impact of Synthetic Polymer Materials – and, whether they fit within natural life cycle concepts**

Life Cycles and Recycling of Building Blocks/Nutrients/Resources

Geological Evolutions in the Mineral World

Animal World

Plant Kingdom

Mineral World

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## Dr. H. N. Cheng

(ACS President-Elect)

*Prospects and Opportunities in Chemistry*

If you missed Dr. Cheng's keynote speech, then you'll just have to wait until 2076 to see the future of chemistry :) Dr. Cheng, entering his term as President-Elect of the American Chemical Society is uniquely positioned to lay out a view of the evolution of chemistry and chemical engineering in the next fifty years, how that fits into the resolution of the great problems of today, and how that view fits with the theme of "Growth, Collaboration, and Advocacy", his focus as President Elect.

## The Future World – 2076 (1)



- Artificial Intelligence
  - Computer taking over human functions
  - Androids, robotics
- Energy breakthrough
  - Fusion energy, energy from sun, wind and vegetation
- Genetic revolution
  - Better medical cure
  - People with (medically) improved genes
  - Synthetic life forms (e.g., for food, feed, medicine)
- Molecular assemblers
  - Make customized materials and items you want
    - E.g., tissue engineering, membranes, packaging, gifts, etc.

## Improvise. Adapt. Overcome: Meet the Organizers

In late 2019, when a group of grad students at Tulane agreed to organize the 2020 APTEC Symposium, they expected to create a meeting more or less like those before, and use the accumulated experience of the APTEC Board and previous organizers to help them. Little did they know; faced with a lockdown due to the spread of COVID19 and completely uncertain about the future, and while I was getting the APTEC Board prepared for a complete cancellation, the students refused to give up. They identified the awesome (AND cost effective :) Gather remote meeting system (see later in this summary), identified and secured two TERRIFIC keynote speakers (see earlier :) AND, as veterans of the excruciating lockdown of New Orleans in Spring 2020, they had the wisdom to split the meeting into TWO half days (before most people had ever heard of “Zoom Fatigue”). I am in awe of their skill and dedication, and most of all, their absolute refusal to give up.

(And props to their supervising professors, who generously gave them the freedom to take on and defeat this challenge).

[ALBERT GROUP]



*Savannah Steadman*



*Samuel Bliesner*

[GRAYSON GROUP]



*McKenna Redding*



*Ashley Miles*



*Brennan Curole*



*Oluwapelumi Kareem*

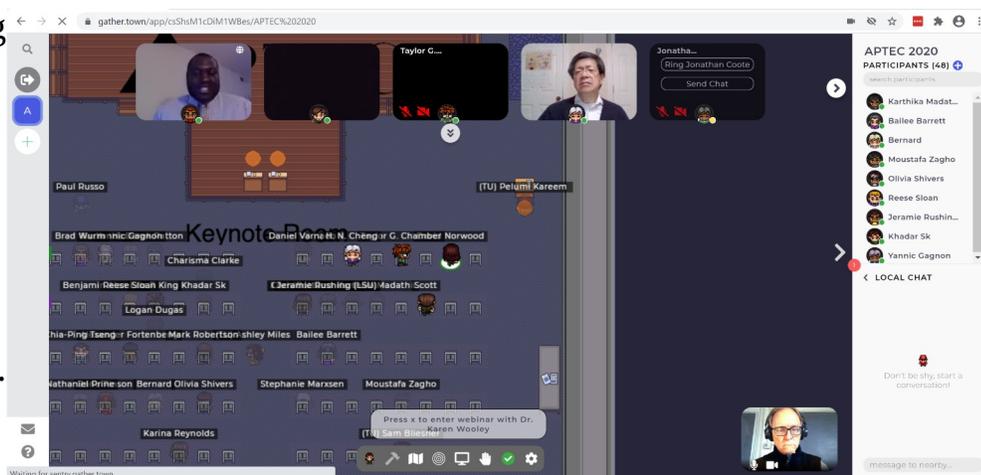
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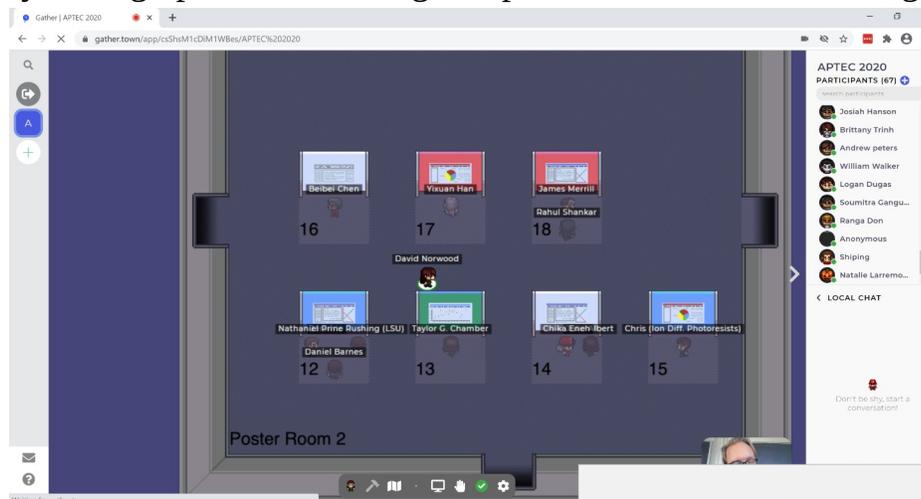
*Julia Siqueira*

## “Gathering” for the 8<sup>th</sup> APTEC Symposium

When faced with the Spring 2020 lockdown, I began to prepare the APTEC Board to face the possibility that the 2020 Annual Symposium would have to be canceled. But the student organizers (see earlier) weren't intimidated. They quickly turned to finding the best way to set up a virtual meeting, and settled upon the Gather.Town system (<https://gather.town/>). Conference attendees were very happy with the choice, giving it a rating of 5 (65%) or 4 (31%) or 3 (4%) and none rating it lower.



By setting up virtual meeting and poster rooms and even a registration and information



desk, they made the virtual meeting easy to navigate. But in THIS meeting, if you needed to find a colleague, you simply select their name and a trail is laid down that takes you right to them :) If you're young, you love Gather.Town since your years of online gaming make it easy to

use.

If you're old enough, you love Gather because it reminds you of the old-school Donkey Kong.

And both groups will love the way it seems like a regular scientific meeting.

## Food Glorious Food!

When you get the chance to go to a conference in New Orleans, the first thing you think about is: FOOD!

But alas, for this virtual meeting, attendees were on their own.

That's Board member Paul Russo's sandwich, chips and pickle slices (with a failed attempt at a mocha frappuccino :)



## The WINNERS:

The competition for best presentation was intense, with the occasional tie when judges simply couldn't distinguish between these high quality presentations.

### Oral Presentations:

- First Place (\$100 prize) - Eric King - University of Southern Mississippi  
“Gold Catalyzed Direct C-H Activation Polymerization for the Synthesis of Aromatic Polymers”
- Second Place (\$75 prize) - Mark Robertson - University of Southern Mississippi  
“Easy to pattern, chemically resistant 1 dimensional polymer photonics”
- Third Place (\$50 prize) TIE (each receiving \$50)
  - Rosa Prado - Mississippi State University - “High speed retraction behavior in a bioinspired stretchable hydrogel”
  - Alexander Fortenberry - University of Southern Mississippi - “A facile approach to prepare polymers with reversible linear cyclic topologies using an anthracene functionalized RAFT agent”

### Poster Presentations

- First Place (\$100 prize)
  - William Walker - University of Southern Mississippi - “Command destruct thermosets via photoinduced thiol catalyzed  $\beta$  scission of acyclic benzylidene acetals”
- Second Place (\$75 prize)
  - Samantha Daymon - University of Southern Mississippi - “A Comparative Study of Hydrogen Bond Organization between Hyperbranched Polymers and Dendrimers based on bis MPA”
- Third Place (\$50 prize)
  - Raman Hlushko - Texas A&M m- “Synthesis and Temperature Response of Star Polymers: Role of Molecular Architecture and a Small Molecule Competitor”

### Lightning Round

- First Place (\$100 prize) TIE - both receiving \$100
  - Alexander Fortenberry - University of Southern Mississippi
  - Karina Reynolds - University of Southern Mississippi

## “So what are you gonna do when you graduate?”

Nobody want’s to hear those words – I mean; you just got your degree, shouldn’t you be allowed to bask a little? :)

But to help with that, the organizers arranged a Careers Panel to explore the issues. With members from industry, academia and government, they more or less spanned the relevant space.



**Dr. H N Cheng**  
Research Chemist  
*USDA NOLA*



**Dr. Stassi DiMaggio**  
Professor of Chemistry  
*Xavier University of Louisiana*



**Michael Drenski**  
Co-founder and CTO  
*Fluence Analytics (New Orleans, LA)*



**Wayne Pertuit**  
*Intralox (New Orleans, LA)*



**Dr. Dawanne Poree**  
Program Manager,  
Polymer Chemistry  
*US Army Research Lab,  
Army Research Office*



**Anne Marie Sweeney-Jones**  
Production Engineer  
*BASF*

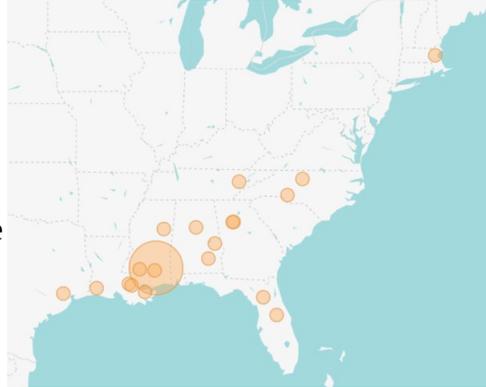


**Dr. Karen Wooley**  
Professor of Chemistry  
*Texas A&M University*

## Where did they come from?

One might think that a virtual conference could be attended by people from all over the world. One problem is time zones, though. Anyone who works virtually knows it's hard to coordinate schedules from around the world. But it's still slightly surprising that scientists who attended the conference came from very nearby, maybe because we advertise mostly to people who've come to previous in-person conferences? Still, the organizers DID expand the reach somewhat:

You can see a wide distribution of attendees, from west Texas through the southeast. The big circle is Hattiesburg, MS, home of the University of Southern Mississippi and their very active School of Polymer Science and Engineering. They are responsible for 40 of 78 conference registrations.



Everywhere else sent people in ones and twos, including one attendee from Boston MA (one of our sponsors, Cambridge Polymer Group :) From west Texas is another sponsor, Sekisui, and sponsor BASF from Baton Rouge.

From the feedback results (next up), 3 of 4 attendees were students and 2 of 3 were student presenters, which is exactly what we're about, so we're happy with that.

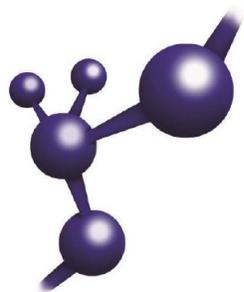
## FEEDBACK:

Out of 78 registrations, 51 (about 2 of 3) provided feedback on their experience. And consistent with my own experience at the conference, the feedback was extremely positive, with 94% of respondents stating that they were Very or Somewhat Satisfied with the Overall Conference Experience, and giving a 4 or 5 (out of 5) rating to the Overall Conference Organization. The Organizers asked about various aspects of the conference (time allowed for posters; time allotted to student speakers; etc) and generally, 80% or 90% of ratings were at the Very Satisfied or Somewhat Satisfied level. The one exception was in the Lightning Round – only 2 in 3 respondents were Very or Somewhat Satisfied, so next year’s organizers will take this feedback into consideration.

20	Timestamp	Are you...	How did you participate	Which session(s) did y	How was your experie	Please rate your e
21	11/9/2020 11:14:00	Student	As a student presenter	Lightning Round, Stude		5 Very Satisfied
22	11/9/2020 11:14:18	Student	As a student presenter	Keynote Speaker 1 - K		5 N/A
23	11/9/2020 11:19:42	Industry Personnel	As a judge for student	Poster Session 1, Stud		5 Very Satisfied
24	11/9/2020 11:22:06	Student	As a student presenter	Poster Session 1, Keyr		5 Very Satisfied
25	11/9/2020 11:30:28	Student	Only as an attendee	Keynote Speaker 1 - K		5 Very Satisfied
26	11/9/2020 11:40:47	Student	As a student presenter	Keynote Speaker 1 - K		4 Very Satisfied
27	11/9/2020 11:46:47	Student	As a student presenter	Keynote Speaker 1 - K		4 Very Satisfied
28	11/9/2020 12:14:54	Faculty	As a judge for student	Keynote Speaker 1 - K		5 Very Satisfied
29	11/9/2020 12:36:24	Faculty	As a judge for student	Keynote Speaker 1 - K		4 Very Satisfied
30	11/9/2020 12:58:15	Student	As a student presenter	Keynote Speaker 1 - K		5 Very Satisfied
31	11/9/2020 13:29:15	Student	As a student presenter	Student Talks Session		5 Very Satisfied
32	11/9/2020 13:38:41	Student	Only as an attendee	Keynote Speaker 1 - K		5 Very Satisfied
33	11/9/2020 13:49:56	Student	As a student presenter	Keynote Speaker 1 - K		5 Very Satisfied

The one, lone VERY dissatisfied customer was nevertheless Very Satisfied with the one reason they gave for coming; Networking :)

And don't forget our sponsors :)



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