



# CORNUCOPIA

including the AGFD program for the  
267th American Chemical Society (virtual & live) National Meeting on  
March 17 - 21, 2024

in

## NEW ORLEANS

Jason Soares & Liz Kreger  
Program Chairs

**Going to New Orleans? Join the AGFD Chair's Reception at the  
Palace Café 605 Canal Street (between Chartres and Exchange)  
Tuesday, March 19, 6:00 - 8:00 pm**

20 minute walking directions from the Convention Center – exit the Center onto Convention Center Blvd. Turn right. Continue on Convention Center Blvd. to Poydras Street. Turn left on Poydras and continue to S. Peters St. Turn right on St. Peters to Canal St. Cross Canal (watch out for streetcars!). Once across Canal turn left on continue a few blocks to 605 Canal. Palace Café will be on your right.

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Visit our website - [www.agfoodchem.org](http://www.agfoodchem.org) - for a pdf of Cornucopia, job postings, awards and much more.  
Check out our Facebook page - [www.facebook.com/agandfood](http://www.facebook.com/agandfood)  
We're on LinkedIn, too!

## MESSAGE FROM THE CHAIR

It is with great pleasure that I transitioned to the AGFD Division Chair role in January 2024 with gratitude for all the guidance and direction from my predecessor, Dr. Jonathan Beauchamp. Dr. Beauchamp and other key AGFD leaders, including the Executive Committee, have been integral to a smooth transition and I express my sincere gratitude and appreciation for all their support. Special thanks to Mike Appell, Elyse Doria, Carl Frey, Alyson Mitchell, Mike Morello, Steve Toth, LinShu Lui and Mike Tunick for guiding and supporting me as Chair-Elect in 2023 and continuing to point me in the right direction as Chair in 2024. I am humbled by this great opportunity and will strive to keep pushing AGFD forward both technically and programmatically.

Firstly, I want to thank all AGFD members who continue to support the Division by attending and participating in our national meeting programming. Special appreciation and thanks to all the symposium organizers and presiders who continue to go above and beyond to provide the AGFD community programming in relevant and emerging research topics highlighting the latest state-of-the-art research and capabilities in the field of agriculture and food chemistry and more specifically, specific programming aligned with our sub-divisions: Food Bioengineering, Flavor, Food Safety, Functional Foods & Natural Products, Nutrition and Gut Microbiome, Sustainability & Green Technology, and Agriceuticals. Additionally, special thanks to all the presenters. We cannot continue to succeed without your valued contributions and your willingness to share your astounding research with your AGFD community members. Before I highlight the remarkable AGFD Spring 2024 program, I want to reach back to the 2023 briefly where, although hybrid and virtual options were still available, we saw increasing in-person attendance to AGFD programming at the national meetings, especially at the fall 2023 national meeting in San Francisco. It was great to return to in-person attendance as a Division and once again connect and network with AGFD peers face-to-face. The AGFD program at the Fall 2023 was incredible with over 20 technical symposia comprised of 39 total sessions (13 in-person, 18 hybrid and 8 virtual) with over 300 oral presentations and 100 posters. Technical topics ranged from Forever Chemicals to Sustainable Agriculture to Artificial Intelligence to the Chemistry of Wine Making, amongst others. Also included was the inaugural technical programming for the two recently funded ACS Convergent Chemistry Community grants entitled “Food Security: Tackling Hunger” and ACS Microbiome Research Consortium while the Virtual Graduate Students Symposium in Asia-Pacific Region on Agricultural and Food Chemistry was selected as an ACS President recommendation. Lastly, I want to once again congratulate Liangli (Lucy) Yu, Ph.D., University of Maryland, who won the prestigious 2023 Award for the Advancement of Application of Agricultural and Food Chemistry as well as Xiaonan Sui, Ph.D., Northeast Agricultural University, Harbin, China, who received the 2023 AGFD Young Scientist Award and Zhuohong (Kenny) Xie, Ph.D., US Pharmacopeia, Rockville, MD, who was the inaugural recipient of the AGFD Young Industrial Scientist Award.

The spring 2024 national meeting in New Orleans is especially exciting because of the alignment to the ACS theme “Many Flavors in Chemistry“. Special thanks to Dr. Neil Da Costa, thematic chair, for his support of the AGFD programming and organizing an amazing plenary session as well as the Kavli Lectures Series that I encourage all of you to attend. The AGFD Spring 2024 program has 13 technical symposia, 6 specifically aligned with the theme, with 20 sessions (14 in-person, 5 hybrid, 1 virtual) with 145 oral presentations and over 95 posters. Special events include an Urban South Brewery tour and the C4 Communicating Chemistry Culinary Competition at Dickie Brennan’s Steakhouse on Tuesday as well as the Withycombe-Charalambous Graduate Student Award Symposium and the AGFD Undergraduate Poster Competition. Technical topics include Paring Flavors with Health and Wellness Food Products, Chemistry of Alcoholic Beverages, A Natural and Sustainable Future for Flavors, Food Allergen Characterization, Modification, and Detection, Toward Precision Nutrition, Sensory beyond Earth: The relevance of flavor chemistry in space exploration, Mycotoxins: Challenges and Future Perspectives, and Food Security: Tackling World Hunger, amongst others. Lastly, I want to highlight the two memorial symposia for key members of the AGFD community – Michael Granvogl Memorial Symposium and Agnes Rimando Memorial International Student Symposium that I encourage you to attend. I want to thank all of the symposium organizers for their outstanding efforts in collectively bringing together a fantastic program that I know the AGFD community will deeply value.

I close with gratitude for being involved in AGFD, not only as Chair in 2024 but also as an AGFD member, and the opportunity to connect and network with all that support our Division. I wish you an enjoyable meeting and for those

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of you coming in-person to New Orleans, I hope to see you at the symposia and perhaps at the Chair's Reception on Tuesday where we can enjoy the company of our peers and perhaps share a drink in appreciation of all the hard work each of us does each day. I am looking forward to seeing you in NOLA!

**Jason Soares**  
AGFD Chair 2024

CORNUCOPIA EDITORIAL STAFF & CONTACT INFORMATION	
Editor-in-Chief	C. Frey cfreyenterprise@gmail.com
General Manager	P. White
Staff	C. Kent, L. Lane, J. Olsen

## FUTURE PROGRAMS

**DENVER August 18-22, 2024**

ACS Meeting Theme – Elevating Chemistry
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**Advancement of Application of Agricultural and Food Chemistry Award Symposium** Michael Morello  
mjmorello226@gmail.com Jason Soares Jason.w.soares.civ@army.mil

**Young Scientist Award** Youngmok Kim youngmok.kim@finlays.net Bhimu Patil b-patil@tamu.edu

**Bioproducts from Biomass: Renewable Chemicals and Polymers** Helen Ngo Majher Sarker Brajendra Sharma  
Madhav Yadav Jinwen Zhang jwzhang@wsu.edu

**Chemistry and Health of Highly Processed Foods** Alyson Mitchell aemitchell@ucdavis.edu Fereidoon Shahidi  
fshahidi@mun.ca

**Chemistry of Alcoholic Beverages** Nick Flynn nflynn@wtamu.edu

**Elevating Sustainability and Greentech in Agriculture and Plant-based Foods** Michael Appell  
michael.appell@gmail.com Lingyun Chen lingyun.chen@ualberta.ca Omowunmi Sadik sadik@njit.edu Y. Jane  
Tseng yjtseng@csie.ntu.edu.tw Liangli (Lucy) Yu lyu5@umd.edu

**Extraction, Recombinant Production and Function of Proteins of Food Safety & Food Manufacturing  
Importance** Yuzhu Zhang yuzhu.zhang@usda.gov

**General Papers** Elizabeth Kreger Elizabeth.Kreger@sensient.com Jason Soares Jason.w.soares.civ@army.mil

**General Posters** Elizabeth Kreger Elizabeth.Kreger@sensient.com Jason Soares Jason.w.soares.civ@army.mil

**Honoring Professor Chi-Tang Ho on the Occasion of his 80th Birthday** Ronald B. Pegg rpegg@uga.edu  
Shengmin Sang ssang@ncat.edu Fereidoon Shahidi fshahidi@mun.ca Liangli (Lucy) Yu lyu5@umd.edu

**JAFC Best Paper Award** Thomas Hofmann jafc@jafc.acs.org William King WKing@acs-i.org Jason Soares  
Jason.w.soares.civ@army.mil

**Precision Fermentation and Cellular Agriculture** Majher Sarker Jianping Wu jwu3@ualberta.ca

**Processing and Storage Induced Toxins** Lauren Jackson Lauren.Jackson@fda.hhs.gov Alyson Mitchell  
aemitchell@ucdavis.edu Liangli (Lucy) Yu lyu5@umd.edu

**Sterling B. Hendricks Memorial Lectureship Award** Sarah Leibowitz Michael Morello  
mjmorello226@gmail.com

**Sustainable Agriceuticals** Hyunsook Kim Bailiang Li LinShu Liu linshu.liu@usda.gov Wally Yokoyama

**Role of Chemistry in Indoor Agriculture** Xiaofen Du xdu@twu.edu Yun Yin yunyin2@vt.edu

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**Virtual Graduate Student Symposium in Asia-Pacific Region on Agricultural and Food Chemistry** Chunxiao Zheng czheng@acs-i.org

**Waste Upcycling and Natural Flavor Ingredients** Keith Caldwellader Xiaofen Du xdu@twu.edu

**Whole Grain Bioactives & Human Health** Shengmin Sang ssang@ncat.edu Dmitriy Smolensky Chris Zhu

**SAN DIEGO March 23 – 27, 2025**

**3rd Global Symposium on Chemistry and Biological Effects of Maple Food Products** Hang Ma, hang\_ma@uri.edu Navindra Seeram nseeram@uri.edu

**James Seiber Memorial Symposium** Alyson Mitchell aemitchell@ucdavis.edu

**Flavor Preferences of Companion Animals** Scott McGrane scott.mcgrane@effem.com Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de

**Celebrating Citrus Research with Russell Rouseff on his 80th Birthday** Xiaofen Du xdu@twu.edu

**Forever Chemicals in the Environment - Distribution & Risk** Christine Sayes christie\_sayes@baylor.edu

**Microbial-Based Green Chemistry to Carbon-Neutral/Negative** organizers?

**Chemistry of Aroma and Taste Modification** Robert McGorrin robert.mcgorrin@oregonstate.edu

**WASHINGTON DC August 17 – 21, 2025**

**Micro/Nanoplastics in Food and the Need for Developing Biodegradable Polymers** Changqing Wu changwu@udel.edu Xuetong Fan Xuetong.fan@usda.gov

**Application of Renewable Chemicals and Polymers in Agriculture** Jinwen Zhang jwzhang@wsu.edu Long Jiang long.jiang@ndsu.edu

**CCC Food Security Reducing Food Waste** Michael Tunick mht39@drexel.edu

**Food Fraud: Chemistry Strategies for Detecting and Reducing Food Crimes** Neil Da Costa neil.dacosta@iff.com

**OTHER SYMPOSIA OF INTEREST November 4-7, 2024, Auckland, New Zealand**

**4<sup>th</sup> International Flavor and Fragrance Conference** Michael Qian michael.qian@oregonstate.edu

### **Urban South Brewery Tour & Tasting**

At 6:30 PM on March 18th you can (if 21 & over) learn more about how a brewery is set up and sample some fine beers at the Urban South Brewery, 1645 Tchoupitoulas Street in the Lower Garden District of New Orleans. (504) 267-4852. Participants need to register (\$25) through the link [Urban South Brewery Tour & Tasting](#). Note that YCC is sponsoring a separately ticketed Homebrew Workshop immediately following the Brewery Tour. Procure tickets for the Homebrew Workshop through ACS registration. For more information contact Dr. Nick Flynn (806-651-2542) or nflynn@wtamu.edu

### **\*\*\*\*\* CORRECTION \*\*\*\*\***

The AGFD Officer and Committee Leadership Roster appearing in the Spring and Fall 2023 *Cornucopia* issues was incomplete. The correct roster should have listed both Karley Mahalak and Hye-Seon Kim as co-chairs for the Nutrition and Gut Microbiome Subdivision. Thx to Youngmok Kim for pointing out this oversight.

## Executive Committee Meeting Minutes

Monday August 14, 2023 5:00-8:00 PM Moscone Center, San Francisco

Attendance: Alyson Mitchell, Jonathan Beauchamp, Jason Soares, Elyse Doria, Tom Wang, Karley Mahalak, Lauren Jackson, Stephen Toth, Kathryn Deibler, Gal Kreitman, Jianping Wu, Liz Kreger, Mike Tunick, LinShu Liu, Lucy Yu, Roberta Tardugno, James Lee, Bhimu Patil, Jinwen Zhang, Yun Yin, Michael Appell, Keith Cadwallader, Michael Morello

Jonathan Beauchamp called the meeting to order at 5:10 PM.

The minutes of the previous Executive Committee Meeting were approved with no changes and are published in the Fall 2023 Cornucopia.

Stephen Toth gave the Treasurer's Report. Councilor reimbursements from the Spring 2023 meeting in Indianapolis have not yet been received by the Division. Revenue for the year was \$52,193 and expenditures were \$42,620. The Division has \$1,041,279 in total assets and is financially healthy. A standing budget for swag was proposed at \$2,500 for each meeting and approved by the Executive Committee. A budget of \$50,000 was set and approved by the Committee for the Spring 2024 meeting in New Orleans.

Jonathan Beauchamp summarized the Awards Committee Report for Michael Morello (who was unable to attend at the start of the meeting). The IFF Award for the Advancement of Application of Agricultural and Food Chemistry was conferred to Liangli (Lucy) Yu from the University of Maryland. The Young Scientist Award was given to Xiaonan Sui from the Northeast Agricultural University, China. The Young Industrial Scientist Award was awarded to Zhuohong (Kenny) Xie, from US Pharmacopeia, Rockville, MD. The AGFD Fellow Award was awarded to Shiming Li from Huanggang Normal University, China and Rickey Y. Yada from the University of British Columbia, Canada. The Teranishi Fellowship was awarded to Kaidi Wang from McGill University, Canada. The Graduate Student Symposium was cancelled due to a lack of submissions. Two students, Celina Paoletta, Newport University and Christopher Prajogo, UC Davis, California tied for first place in the Undergraduate Poster Competition. Second place was shared by Bret Watson and Jordon Scalia, Shippensburg University, Pennsylvania for their joint contribution and Kourtney Collier, Purdue, Indianapolis received third place in the competition. Michael Morello obtained a list of our 25 and 50 year members and pins will be mailed out by Stephen Toth. Bhimu Patil volunteered to assist Michael Morello with the Young Industrial Scientist Award. The JAFCD-AGFD Division Best Research Article of year award went to Shari Dhaene as lead author of an article titled "Sweet Biotechnology: Enzymatic Production and Digestibility Screening of Novel Kojibiose and Nigerose Analogues". The Sterling B. Hendricks Memorial Lectureship was awarded to Gary List from the University of Illinois, Urbana-Champaign and the Kenneth A Spencer Award for Food and Agricultural Chemistry was awarded to Dr. Joel Coats, from Iowa State University.

The Student Committee Report was given by Elyse Doria who indicated that she had organized a student social at the Fall 2023 meeting, which was well attended. She continues to collect student emails during the poster session and is growing the student email list-serve. Several new student members were recruited during the San Francisco meeting.

In the Program Report, Jason Soares indicated that there are about 40 sessions, more than 20 symposia, 116 posters in addition to 20 virtual sessions being presented in San Francisco. Overall, the Division did a great job at programming. The two virtual sessions promoted by ACS for the China Chapter had about 20 sessions. Jason indicated that the new changes in ACS programming have resulted in the Division being allotted a limited number of 4-hour (half-day) sessions. Allotment is based upon average attendance from the previous meetings. As AGFD had light programming in Indianapolis, space was somewhat restricted for San Francisco. This change makes larger programs more challenging for the Program Chair as AGFD historically has fewer symposia in the Spring and therefore receive fewer allotments for Fall programming. Jonathan Beauchamp indicated that Elyse Doria made a spreadsheet for volunteering to help manage the conference information table. The sign-up sheet was sent out to the Executive Committee prior to the meeting. This practice will be continued for the New Orleans meeting. Jonathan also indicated that the ACS Proud to be a Chemist campaign is doing a video series and is interviewing several people from the Division to give short one-on-one interviews. Jonathan will ask if the Division can have video cuts for posting on the Division website. The Spring 2024 National Meeting will be held in New Orleans March 17-21, 2024. The theme of the meeting is the Many Flavors

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of Chemistry. To date we have 14 symposia planned and 7 are in alignment with the thematic programming. The Division has been allotted 16 sessions. ACS funding is now prioritized for joint programming. The abstract call will close Oct 2, 2023. Program workbooks are due mid-October and the final program due in mid-November. Kathryn Deibler asked that we try and make ACS aware that the graduate award deadline of Sept. 29th is unreasonable as students are just returning to campuses at this time. Liz Kreger asked if we could hand out “food gifts” at the New Orleans meeting. All agreed this would be in alignment with what the Division has done at previous ACS meetings. A budget of \$11,000 was set and approved in support of the AGFD Communicating Culinary Chemistry Competition: Coastal Cuisine, which will take place during the 267th ACS National Meeting in New Orleans. Liz Kreger indicated that there are already 16 symposia planned for the Fall 2024 National Meeting. Some of the award symposia are going to be combined. AGRO will host the Spencer Award. The 4th International Flavor and Fragrance Conference will be held in New Zealand in 2024.

In Subdivision Reports, LinShu Liu indicated that the Agricutical Subdivision programmed three sessions in San Francisco and that Bailiang Li, Northeast Agricultural University, China will be the Division secretary for 2024. Gal Kreitman indicated that the Flavor Subdivision held two symposia in San Francisco that were well attended (~75 people). For New Orleans, the Flavor Subdivision has six sessions planned. Yun Yin, Vermont University will be will be the Subdivision secretary for 2024. James Lee indicated that the Food Bioengineering Subdivision has one session in San Francisco and one planned for New Orleans. Jinwen Zhang, Washington State University will be the Subdivision secretary for 2024. A report for the Food Safety Division was not given and a secretary for this Subdivision still needs to be identified. Jianping Wu gave the report for the Functional Foods & Natural Products Subdivision. Jianping indicated that one symposium was given in the San Francisco and that there are two symposia planned for next year. Xiaohong Sun, Dalhouse University will be the Subdivision secretary for 2024. Karley Mahalak indicated that the Nutrition & Gut Microbiome Subdivision was very busy and held an ACS microbiome kick-off with four sessions and 30 speakers in Fall 2023. Jenny Firman, Eastern Regional Research Center, USDA, will be the Subdivision secretary for 2024. The Sustainable & Green Technology Subdivision has four sessions planned for next year. A secretary for this Subdivision still needs to be identified.

The Councilors Report was given by Lauren Jackson, Michael Tunick and Alyson Mitchell. Several petitions are before the council, amending the rules in case a council member is inactive. There is also a petition to amend the council executive function; removing the oral reporting requirement for non-elected society committees and a petition to add an international representation to the Board of Directors, decreasing the total number of Directors at Large from six to five and creating an International District Director. Michael Tunick gave an update on DAC activities and indicated that the Division of Biological Chemistry is petitioning to change their name to Biochemistry and Chemical Biology. He also indicated that there were only six Innovative Project Grants (IPG) and two strategic planning retreat grants submitted. ACS will spend \$67,000 but budgeted \$100,000 and will therefore distribute the excess funds to the Divisions.

The Nominations Report was given by LinShu Liu. The nomination of Professor Coralía Osario Roa, University of Columbia as the 2024 Vice-Chair was approved. Alyson Mitchell and Stephen Toth were both approved to continue in their roles as Division Secretary and Division Treasurer, respectively, for 2024. The Division approved the nomination of Alyson Mitchell and Lauren Jackson to serve as Councilors for the Division (2024-26) and the nomination of Brian Guthrie as an Alternate Councilor (2024-26) for the Division. The Division bylaws allows for electronic balloting. The deadline for the voting is November. Alyson asked that another Executive Committee member run the balloting to avoid any potential conflict of interest. Michael Appell will run the balloting.

The Cornucopia Report was given by Alyson Mitchell on behalf of Carl Frey. An electronic version of the Cornucopia was sent out to members via email and 100 hard copies of the short (no abstracts) version were printed for distribution at the San Francisco meeting. The Fall 2023 Cornucopia without abstracts (28 pages) and with abstracts (136 pages) were both record page counts for our Division. A few minor edits received after the document went to the printer appear in the version posted on the AGFD site. Jonathan suggested having an earlier deadline for Carl so that edits can be corrected prior to printing.

The Hospitality/Public Relations Report was given by Alyson Mitchell who indicated that 80 tickets were made available for the Division Awards Dinner being held Tuesday, August 15 from 6:00-8:00 PM at Fogo De Chao. A dinner for the Executive Committee was organized for after the Executive Committee meeting.

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Jonathan Beauchamp gave the Membership Report on behalf of Michael Qian. Current Division membership is lower than pre-COVID and is about ~1800, however several new members were recruited during the SF meeting.

The Journal Report was given by Michael Tunick on behalf of Lucy Yu. The Journal of Agricultural and Food Chemistry expects 10,000 submissions in 2023. The impact factor of the Journal is now 6.1. Lucy Yu and Veronika Somoza are now executive editors. The impact factor of ACS Food Science and Technology and ACS Agricultural Science and Technology are 2.3 and 2.5, respectively. Fall symposia organizers will be asked to solicit their speakers for interest in putting together a special issue for these journals.

Mike Appell gave the Communications Report and indicated that he has successfully sent out emails from the WIX website server. Alyson will be working with Michael to migrate the AGFD Listserv to the WIX website server. There was discussion regarding the best way to achieve a seamless transition. Alyson will send out two notifications to the old Listserv letting recipients know that the Listserv will be discontinued and ask members to update their email addresses in the ACS membership profiles. A change will be made from monthly newsletters to quarterly newsletters.

An update on the upcoming Strategic Planning Retreat was given by Lauren Jackson. The retreat is planned for Oct 7-8th in Washington D.C. A survey was sent out to members, however to date the response level has been low (~55 responses out of ~1800 members). The survey will be held open for another week and Michael Appell will send out a survey reminder email via the WIX website server.

Michael Morello gave the report for the Senior Program Guidance Committee. The committee met twice since the Spring 2023 Executive Committee Meeting. The committee addressed promotion for the Fall 2023 meeting and the space limitations imposed by ACS related to previous in-person programming. Moving forward, ACS will be using an algorithm to assign space and ACS will be trying different programming models for the Spring and Fall Meetings, with greater emphasis on in-person attendance at the spring meeting. AGFD has always had larger programs in the Fall so the new ACS model will present on-going challenges for AGFD. The committee discussed ways to either limit symposia or incorporate more time for discussion and networking. The committee proposed having a subcommittee to create webinars for the Division, identify speakers, work on registration and operations and on promoting the webinars. The idea of having AGFD Subdivisions rotate annually to give a webinar was presented. It was noted that other ACS Divisions are giving high level training classes (short courses) as Webinars (3-4 lectures) and that this may be a good option for our Division. SPGC now has access to Subdivision member lists and will work with Subdivision leaders on how best to engage members.

In New Business, Jason Soares gave an ACS slide presentation on reimagining the ACS meetings through 2030 to better meet the needs of key stakeholders. The new ACS program will be rolled out 2025-2027. The impact of these changes on the Division was discussed and will be addressed during the Strategic Planning Retreat. The impact of the new limits in allotted symposia/sessions at National Meetings was discussed. The strategy of joint programming to share sessions, was recognized, however concern was voiced that joint programming across divisions will become a tall task for volunteer organizers. The pros and cons of limiting the number of sessions in each symposium to two was discussed.

Fereidoon Shahidi discussed a resolution to have AGFD serve as the official scientific body of the International Union/Academy of Food Science and Technology (IUFoST/IAFoST) representing USA. This topic will be discussed during the Business Meeting as Fereidoon was not present to discuss this resolution.

Michael Morello has the new pins for our 25-year members and has ordered past-chair pins which will be given out at the next meeting. The Membership Chair is responsible for identifying 25 and 50 year members. Michael Qian will be reminded of this obligation. Michael Tunick indicated that he is not getting any nominations for the Division Service Award and asked for folks to make more nominations. Kathryn Deibler indicated that it would be helpful to have a redacted paper copy of names of our members for the meetings. This would help in identifying members when giving out swag and tickets for the awards reception.

Michael Morello is timing out of the term-limited ComSci committee and a position for 2024-27 will be open. The various committees of ComSci were discussed. Nominations for the ComSci will be open until Oct 6th. The Division makes the nominations. AGFD members will be notified of this opportunity via email.

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Johnathan Beauchamp recapped the objectives of the Past-Chairs Club which were clarified during the Strategic Planning Committee meeting. The Executive Committee approved the formation of this new committee, which will have no authority or over-sight and agreed that it will provide the Division with critical institutional knowledge and support. Participation on the committee is voluntary.

The meeting adjourned at 7:32 PM.

*Minutes submitted by Alyson Mitchell*

## Business Meeting Minutes

Wednesday August 15, 2023 12:00-1:00 PM Moscone Center, San Francisco

Attendance: Alyson Mitchell, Jonathan Beauchamp, Jason Soares, Elyse Doria, Lucy Yu, Roberta Tardugno, Michael Morello, Michael Appell, Tom Wang, Xuetong Fan, Fereidoon Shahidi, Mathias, Michael Tunick, Robert McGorrin

Jonathan Beauchamp called the meeting to order at 12:07 PM

Alyson Mitchell summarized the minutes of the Executive Committee meeting. A motion was approved to create a *Past-Chairs Club* as an advisory council for the Division.

The slate of candidates proposed for two Councillors and one Alternative Councillor positions, presented during the *Executive Committee* meeting, was approved and passed unanimously. Councillors nominated include: Alyson Mitchell and Lauren Jackson (Councillors 2024-2026) and Brian Guthrie (Alternative Councillor 2024-2026). Michael Appell will conduct an electronic vote to fill these positions prior to November.

Fereidoon Shahidi discussed a resolution to have AGFD serve as the official scientific body of the International Union/Academy of Food Science and Technology (IUFoST/IAFoST) representing USA. The 22<sup>nd</sup> IUFoST World Congress 2024 will be held in Italy. IUFoST membership is composed of multiple organizations. To be a part of IUFoST there is a nominal fee (~\$500). Members can vote and be involved in programming and leadership. Fereidoon requests an AGFD affiliation for co-programming. It was noted that all affiliations need to go through ACS for approval. Michael Appell put forward a motion to proceed with exploring this affiliation, with a limit of \$1,000 in financial membership commitment, and that Jonathan Beauchamp act as AGFD liaison in this process. The motion was approved.

The meeting adjourned at 1:00 PM.

*Minutes submitted by Alyson Mitchell*

## AWARD NEWS

### IUFoST Lifetime Achievement Award



The International Union of Food Science and Technology announced **Fereidoon Shahidi**, University Research Professor and Distinguished Scholar in the Department of Biochemistry at Memorial University of Newfoundland, as the winner of its prestigious Lifetime Achievement Award, recognizing his pre-eminence in and contributions to the field of Food Science and Technology, especially in the field of nutraceuticals and functional foods. Dr. Shahidi's nominating peers highlighted his Food Science research contributions and education efforts. He has >1,000 publications (books, chapters, reviewed journal articles). His research and publications have contributed profoundly to understanding the composition and properties of many raw materials and processed foods. In 2023 Prof. Shahidi received the IFT Chicago section Lifetime Achievement Award in honor of Nicolas Appert. Fereidoon served in the AGFD leadership rotation culminating in AGFD Chair, as Alternate Councilor, leads the AGFD Fellows Selection Committee and helped originate the Functional Foods and Natural Products subdivision. He is an AGFD and ACS Fellow.

**AGFD congratulates Fereidoon and looks forward to his continued success and contributions.**



## SECRET FLAVORS OF NEW ORLEANS

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66				67						68			
69				70						71			

A prize to the first send  
a correct solution to Carl Frey  
(via smartphone photo/e-mail) at -  
cfreyenterprise@gmail.com

Congratulations to  
Veronica Mall of Leibniz Institute for  
Food Systems Biology  
for submitting a correct solution to  
the Fall '23 Cornucopia puzzle

## ACROSS

- 1 Woodworker's tool  
5 Email addy component  
11 Usual T-shirt size options  
14 Film unit or fishing need  
15 Bryce Canyon formation  
16 N.C. river (w/2 DOWN)  
17 \*Member of a clever elite  
19 Enough! Give \_\_\_ rest!  
20 Chimpanzee or bonobo  
21 Fancy glass-stoppered perfume bottle  
23 Thief's flight: 'on the \_\_\_'  
26 \*Cue to C & W singer McEntire  
30 Tijuana bud  
32 Tijuana year  
33 *O Sole* \_\_\_  
34 A nod and a wink  
37 WED, THU, \_\_, SAT  
40 'Inside' prefix  
41 Woe is me.  
42 Actor Hale, Alda or Ladd  
43 Big outdoor gear retailer

## 44 Guitar lick played by

- actor Crothers  
46 Ignited, illuminated  
48 Keats' *Ode* \_\_\_ *Nightingale*  
49 Proposal, suggestion  
50 \*The skinny on the baby powder biz  
54 Notable time period  
55 Sandwich from Viet Nam  
56 Ford sedan of the 70's  
58 Miner's quest  
59 \*Hey, I'm looking for Bert's roomie.  
66 Some characters other than LTRS  
67 'And others' in ancient Rome  
68 Pleasant town on the French Riviera  
69 Short typed dashes  
70 Like stronger coffee, usually  
71 A pair of plow pullers on a farm

## DOWN

- 1 \_\_\_ chair or \_\_\_ candy  
2 See 16 ACROSS  
3 A school of Buddhism  
4 *Frozen* queen  
5 Oh, man! Do I have to?  
6 Ballet dancer support, often  
7 He can be 'II', sometimes  
8 Despot Amin  
9 Cheer for a flying saucer  
10 One urban renewal aim  
11 Variety, or a hint to \* clues  
12 Anti-sexual abuse movement  
13 Singer/songwriter Rimes  
18 Lab/kitchen splash guard  
22 Jackie's #2  
23 Point of amusement for a cat  
24 Many a molecule with N  
25 \*It's often just the sniffles or a tummy ache  
27 Rice that smells nice  
28 Jennifer of *Friends*  
29 Roll you bring to the gym  
31 \_\_\_-cache or \_\_\_metric

- 35 Spasm that sounds like a clock  
36 Document signed to protect IP  
38 US decathlete gold medalist: \_\_\_ Johnson  
39 Spectroscopic structure determination method: \_\_\_-red  
42 'Who's a good dog?' response  
44 Unable to solve a puzzle  
45 Nick of 1982 flick *48 Hrs.*  
47 Line from 1963 JFK speech: "\_\_\_ bin ein Berliner."  
50 Singer/songwriter Burnett  
51 Hammerin' Hank \_\_\_  
52 Sporty Mazda 2 seater  
53 *Pomp and Circumstance* composer  
57 Bond nemesis with a mechanical 1 DOWN  
60 Long, narrow fish  
61 Sort, type, kind  
62 'Never' in Nuremberg  
63 Put the kibosh on  
64 Sometimes cubical cooler  
65 Poetic late day

## AGFD DIVISION MEMBERSHIP APPLICATION

The Agricultural and Food Chemistry Division (AGFD) of the American Chemical Society (ACS) is a non-profit organization dedicated to the technical advancement of all aspects of agricultural and food chemistry. AGFD encourages technical advancement in the field by -

- organizing symposia/workshops on agricultural/food chemistry at ACS national meetings and other venues
- publishing proceedings of AGFD symposia
- publishing the *Cornucopia* newsletter
- updating members several times a year via e-mail blasts
- hosting social and networking gatherings at ACS national meetings
- providing cash awards and recognition to leading undergraduate and graduate students, young scientists and established scientists in the field of agricultural and food chemistry

At ACS National Meetings you can discuss division activities at the AGFD information table located near the AGFD technical session rooms. Join ~1800 AGFD members via the application form (below) or on-line at [www.agfoodchem.org](http://www.agfoodchem.org) or [www.acs.org](http://www.acs.org) (click on [Communities](#), [Technical Divisions](#), [Technical Division List](#)) or call ACS (800)333-9511 (in US) or 616-447-3776 (outside US). Payment by Visa/MasterCard or AmEx.

Check out AGFD on You Tube: <https://www.youtube.com/watch?v=CyBMAAnOuFKE>

<b>APPLICATION FOR AGFD DIVISION MEMBERSHIP (7623P)</b>	
Title	
Name	
1 <sup>st</sup> address line	
2 <sup>nd</sup> address line	
City	
State	
Zip code	
Country	
e-mail address	
Phone	
check one	<b>MEMBERSHIP FEE</b>
<input type="checkbox"/>	I am an ACS member and wish to join AGFD (\$10.00)
<input type="checkbox"/>	I am not an ACS member and wish to join AGFD (\$15.00)
<input type="checkbox"/>	I am a full-time student and wish to join AGFD (\$10.00)
<b>Be cool JOIN AGFD</b>	Return application, with payment (payable to American Chemical Society), to AGFD Membership Chair: Michael Qian, Professor Department of Food Science and Technology Oregon State University Corvallis OR 97330

## ROSTER OF AGFD OFFICERS & COMMITTEE LEADERSHIP

**Chair** - Serves 1 year. Presides over Division meetings/appoints committees  
Jason W. Soares US Army DEVCOM  
Soldier Ctr Jason.w.soares.civ@army.mil

**Chair-Elect** - Serves 1 year. Substitutes for Chair as needed. Organizes technical programs at national meetings.  
Liz Kreger Sensient Flavors & Extracts  
Elizabeth.Kreger@sensient.com

**Vice-Chair** - Serves 1 year. Assists Chair-elect. Develops future technical programs.  
Coralia Osorio Roa UNAL  
cosorior@unal.edu.co

**Secretary** - Responsible for Division correspondence and meeting minutes.  
Alyson Mitchell  
University of California, Davis  
aemitchell@ucdavis.edu

**Treasurer** - Responsible for Division finances.  
Stephen Toth III  
International Flavors & Fragrances R&D  
Union Beach NJ stephen.toth@iff.com

**Cornucopia Editor** - Edits newsletter.  
Carl Frey cfreyenterprise@gmail.com

**Councilors** - Represent Division for 3 years on ACS council.  
Alyson Mitchell (thru '26)  
aemitchell@ucdavis.edu  
Lauren Jackson (thru '26)  
lauren.jackson@fda.hhs.gov  
Michael Tunick (thru '24)  
mht39@drexel.edu

**Website Editor** - Maintains web site.  
Michael Appell  
michael.appell@ars.usda.gov

**Student Activities** - Attracts and retains graduate/undergraduate student members. 2 year term.  
Elyse Lauren Doria, eldoria@ucdavis.edu

**Nominations** - Develops officer slate. Served by immediate past chair.  
Jonathan Beauchamp  
jonathan.beauchamp@ivv.fraunhofer.de

**Finance** - Monitors Div. finances. 1 year term. Served by immediate past chair.  
Jonathan Beauchamp  
jonathan.beauchamp@ivv.fraunhofer.de

**Hospitality** - Organizes receptions and banquets. Alyson Mitchell  
aemitchell@ucdavis.edu

**Alternate Councilors** - Substitute for Councilors. Serve 3 years.  
Kathryn Deibler (thru '24)  
kdd3@cornell.edu  
Michael Qian (thru '24)  
Michael.qian@oregonstate.edu  
Brian Guthrie (thru '26)  
Brian\_Guthrie@cargill.com

### At-Large Executive Committee

**Members** - Assist in Div. management. Serve 3 years.  
Jane Leland (thru '26)  
JLelandEnterprises@gmail.com  
Robert McGorin (thru '26)  
robert.mcgorin@oregonstate.edu  
Bosoon Park (thru '24)  
bosoon.park@usda.gov  
One vacancy

### Awards – Oversee awards process.

Chair Michael Morello  
mjmorello226@gmail.com  
AGFD Fellow Awards  
Fereidoon Shahidi fshahidi@mun.ca  
Young Scientist Award  
Youngmok Kim  
youngmok.kim@finlays.net  
Young Industrial Scientist Award  
Bhimanagouda (Bhimu) Patil  
b-patil@tamu.edu  
AGFD Distinguished Service Award  
Michael Tunick mht39@drexel.edu  
Roy Teranishi Graduate Fellowship  
Liangli (Lucy) Yu lyu5@umd.edu  
Student Awards  
Kathryn Deibler kdd3@cornell.edu

**Multidisciplinary Program Planner**  
Helps coordinate nat'l mtg programs  
Neil Da Costa International Flavors & Fragrances  
neil.dacosta@iff.com

**Public Relations** – Publicizes Div.  
Alyson Mitchell  
aemitchell@ucdavis.edu

**Membership** - Recruits and retains Division members. Michael Qian  
michael.qian@oregonstate.edu

### Agricultural Sub.Div.

Chair Hyunsook Kim  
Hyunsk15@henyang.ac.kr  
Chair-elect, Yuzhu Zhang  
yuzhu.zhang@usda.gov  
V-chair Ying Wu ywu@Tnstate.edu  
Secretary Bailiang Li  
15846092362@163.com

### Food Bioengineering Sub.Div.

Chair Kwang-Guen Lee  
kwglee@dongguk.edu  
Chair-elect, Hongsik Hwang  
hongsik.hwang@usda.gov  
Vice-chair Changqing Wu,  
changwu@udel.edu  
Secretary Jinwen Zhang  
jwzhang@wsu.edu

### Flavor Sub.Div.

Chair Xiaofen Du xdu@twu.edu  
Chair-elect Joonhyuk Suh J.Suh@uga.edu  
Vice-chair Yun Yin yunyin2@vt.edu  
Secretary Yu Fang yufang@coca-cola.com

### Food Safety Sub.Div.

Chair Xiaonan Lu xiaonan.lu@mcgill.ca  
Chair-elect Boyan Gao  
gaoboyan@sjtu.edu.cn  
V-chair Vivian Wu vivian.wu@usda.gov  
Secretary Yanhong Liu  
Yanhong.liu@usda.gov

### Functional Food/Nat. Product SubDiv

Chair Kenny Xie KYX@usp.org  
Chair-elect Yingdong Zhu  
yzhu1@ncat.edu  
Vice-chair Khizar Hayat  
khizaraura@gmail.com  
Secretary Xiaohong Sun  
Xiaohong.sun@dal.ca

### Nutrition & Gut Microbiome Sub.Div.

Chair Laurel Doherty  
Laurel.a.doherty.civ@mail.mil  
Chair-elect Ida Pantoja-Feliciano  
Ida.g.pantojafeliciano.civ@mail.mil  
Vice-chair Tom Wang  
Tom.wang@usda.gov  
Secretary Jenni Firrman  
Jenni.firrman@usda.gov

### Sustainability/Green Tech. Sub.Div.

Chair Yufeng Jane Tseng  
ytseng@csie.ntu.edu.tw  
Chair-elect Lingyun Chen  
lingyun.chen@ualberta.ca  
Vice-chair Omowunmi "Wunmi" Sadik  
sadik@njit.edu  
Secretary Yi-Shu Tu  
georgetu@gmail.com

## Food Security: Tackling World Hunger CCC – March 17–20, 2024

CCC will emphasize the role of chemistry in addressing world hunger through food security via 3 blocks of activities:

- 1) Flagship symposium: crop production nanotechnology, sustainable food packaging & advanced food safety solutions.
- 2) Student Posters: novel food ingredients and technologies for improving food security.
- 3) Co-sponsored symposia: challenges and advancements in food allergen detection, sustainable flavor extraction, mycotoxin management and research aimed at enhancing global food security and safety.

**CCC Flagship Symposium** (March 17) at Morial Conv. Ctr.

**Food Security: Tackling World Hunger CCC: Highlighting Chemistry from Multiple Divisions** 8:30am - 11:45am rm 336  
Michael Morello, Zhuohong Xie organizers/presiders, Christy Haynes, Slawo Lomnicki, Sherine Obare, presiders

**Graphene synthesized from a microbial culture as a nanocarrier for plants** Nandini Bhattacharya, presenter; Mandira Kochar, Himadri Bohidar, Wenrong Yang, David Cahill

**Silica nanomaterials to improve crop production**  
Christy Haynes, presenter

**Assessment of the antioxidant potential of Indian spice extracts for enhancing the oxidative stability of salmon fish oil** Nutan Kaushik, presenter, Asha Kumari, Rasa Slizyte, Revilija Mozuraityte, Hedi Johnsen

**Incorporation of dairy by-products into hydrogel structures for cultivated meat production** Patrick Charron, Christopher Foley, Irfan Tahir, Rachael Floreani, presenter

**Pioneering sustainable food packaging: Biodegradable anti-bacterial silk coating for enhanced food safety and waste reduction** Yagmur Yegin, presenter, Benedetto Marelli

**Food Security: Tackling World Hunger CCC: Highlighting Chemistry from Multiple Divisions:** 2:00pm - 06:00pm rm 336  
Michael Morello, Zhuohong Xie, organizers/presiders, Christy Haynes, Slawo Lomnicki, Sherine Obare, presiders

**Iron-based amendments decrease bioaccumulation of arsenic in lettuce grown in a contaminated soil** Adeyemi Adeleye, presenter, Ziwei Han

**Blighia sapida, a versatile fruit, alleviating hunger and promoting good health** Andrea M. Goldson-Barnaby, presenter, Debbie Phillips

**Flavors of specialty crops from controlled environment agriculture**  
Yun Yin, presenter, Jingsi Liu, Isabel Gutierrez, Michael Evans

**Novel nanoparticle platforms for improved plant genetic engineering** Gozde Demirel, presenter

**Development of phage-CRISPR nexus for microbial food safety**  
Juhong Chen, presenter

**Sustainable technologies for protein ingredient production from alternate crops: A path forward for zero hunger** Nandika Bandara, presenter, Thilini Dissanayake, Anuruddika Hetti Hewage

**Functional foods in the daily diet: The potential of plants and fruits traditionally consumed in the Yucatan peninsula** Luis Pena-Rodriguez, presenter

**CCC Student posters** (March 17) at Morial Conv. Ctr. Hall C  
**AGFD General Poster Session and Undergraduate Poster Competition** 7:00pm - 9:00pm  
Kathryn Deibler, Elizabeth Kreger, Jason Soares, organizers

**Variation in the  $\beta$ -carotene content of Blighia sapida under various processing methods** Debbie Ann Phillips, presenter, Andrea M. Goldson-Barnaby

**Narrow-wavelength red LED lighting on quality and aroma expression of hydroponic fennel (Foeniculum vulgare Mill.)**  
Jingsi Liu, presenter, Adam Sumner, Alex Harris, Song Li, Bastiaan Bargmann, David Haak, Yun Yin

**On-site fluorescent detection of microbial contamination using a graphene oxide CRISPR-Cas12a (GO-CRISPR) sensor**  
Tom Kasputis, presenter, Qiaoqiao Ci, Juhong Chen

**Sustainable plant protein ingredient production from fava bean using choline chloride and glycerol deep eutectic solvent system**  
Anuruddika Hetti Hewage, presenter

**Mung bean protein isolate: A novel food ingredient with enhanced functional properties extracted by a deep eutectic solvent** Thilini Dissanayake, presenter

**Characterization of purple star apple (Chrysophyllum cainito L.) as a promising functional food** Gabriela Rubi Tapia-Alvarez, presenter, Elida Gastelum-Martinez, Karlina Garcia-Sosa, Lia Valencia-Chan, Rosa Moo-Puc, Inocencio Higuera-Ciagara, Luis Pena-Rodriguez

**Carbon nanodots for the delivery of biomolecules in N. benthamiana** Jesus Galeana, presenter

**Mechanisms of arsenic immobilization by iron nanoparticles in a cultivated soil: Arsenic speciation and the role of iron sulfidation**  
Ziwei Han, presenter, Adeyemi Adeleye

**Co-Sponsoring symposia** (all in Morial Conv. Ctr.)  
**Food Allergen Characterization, Modification, and Detection**  
8:00am - 11:45am March 17 rm 357  
Christopher P. Mattison, Qinchun Rao organizers/presiders

**Extraction & Biotechnology: A Natural and Sustainable Future for Flavors:** 8:00am - 11:50am March 18 rm 337  
Xiaofen Du, organizer, Lewis Jones, Elizabeth Kreger organizers/presiders

**Mycotoxins: Challenges and Future Perspectives:**  
8:00am - 12:00pm March 19 rm 357  
Hans-Ulrich Humpf, Lauren Jackson organizers/presiders, Benedikt Cramer, presider

**Mycotoxins: Challenges and Future Perspectives**  
2:00pm - 06:00pm March 19 rm 357  
Hans-Ulrich Humpf, Lauren Jackson organizers/presiders, Hamed Abbas, presider

**Paring Flavors with Health and Wellness Food Products**  
2:00pm - 05:30pm March 19 rm 336  
Xiaofen Du, Danhui Wang organizers/presiders,

**Mycotoxins: Challenges and Future Perspectives**  
8:00am - 12:00pm March 20 rm 340 Hans-Ulrich Humpf, Lauren Jackson organizers/presiders, Chris Maragos, presider

## AGFD TECHNICAL PROGRAM

Abstracts for these papers appear in the 'with abstracts' version of Cornucopia posted on the AGFD website

### SUNDAY MORNING March 17

Morial Conv. Ctr. rm 357

#### Food Allergen Characterization, Modification, and

**Detection** Financially supported by CCC Food Security:

Tackling Hunger C. P. Mattison, Q. Rao, *Organizers*,  
*Presiding*

**8:00** Introductory remarks.

**8:05** Natural/artificial mutations and nitrogen/sulfur metabolism control for hypoallergenic buckwheat production. **T. Katsube-Tanaka**, Y. Yasui

**8:30** Gluten in fermented or hydrolyzed foods: Challenges and opportunities for quantitative analysis. **R. Panda**, C. Galanis

**8:55** Chemical and molecular analysis of heated pecan nuts. **C. Brown**, **R.A. Adams Dupre**, **P. Anne Zito**, **B. Smith**, C.P. Mattison

**9:20** Transfer of shrimp proteins in shared batch fryers. **X. Jiang**, R. Beverly, J. Kidd, J. Cluster, K. Swajian, L. Jackson

**9:45** Intermission.

**10:00** Effectiveness of cleaning treatments for removing nut butter residue from shared processing equipment. **H. Green**, J. Kidd, J. Warren, L. Jackson

**10:25** Investigation of in silico allergen identification methods based on nano-UHPLC-ESI MS/MS characterization data. **N. Diaz-Fortier**, **D. Mucs**, T. Hirata, A. Daikoku, I. Baskerville-Abraham

**10:50** Biosimilar protein immunotherapy: Tolerance inducing immune response in patients with cow milk anaphylaxis. **N. Marsteller**, I. Randhawa

**11:15** FDA regulatory update on food allergens. **L. Jackson**

**11:40** Concluding Remarks.

Morial Conv. Ctr. rm 336

#### Food Security: Tackling World Hunger CCC: Highlighting

**Chemistry from Multiple Divisions** Cospons. AGRO, ANYL, ENVR Financially supported by CCC Food Security: Tackling Hunger M. J. Morello, Z. Xie, *Organizers*, *Presiding* C. L. Haynes, S. M. Lomnicki, S. Obare, *Presiding*

**8:00** Withdrawn

**8:30** Introductory Remarks.

**8:40** Graphene synthesized from a microbial culture as a nanocarrier for plants. **N. Bhattacharya**, M. Kochar, H.B. Bohidar, W. Yang, D. Cahill

**9:10** Silica nanomaterials to improve crop production. **C.L. Haynes**

**9:40** Intermission.

**10:00** Assessment of the antioxidant potential of Indian spice extracts for enhancing the oxidative stability of salmon fish oil. **N. Kaushik**, A. Kumari, R. Slizyte, R. Mozuraityte, H. Johnsen

**10:30** Incorporation of dairy by-products into hydrogel structures for cultivated meat production. P. Charron, C. Foley, I. Tahir, **R. Floreani**

**11:00** Pioneering sustainable food packaging: Biodegradable anti-bacterial silk coating for enhanced food safety and waste reduction. **Y. Yegin**, B. Marelli

**11:30** Discussion.

**Aquatic Photochemistry** Spons. ENVR, Cospons. AGFD, GEOC

### SUNDAY AFTERNOON

Morial Conv. Ctr. rm 335

### Withycombe-Charalambous Graduate Student Symposium

E. Kreger, J. W. Soares, *Organizers* K. Deibler, *Organizer*, *Presiding*

**2:00** Introductory Remarks.

**2:05** 3D-printed hydrogel-based nanocomposites for sustainable food packaging. **O. Popoola**, A. Finny, I. Dong, S. Andreescu

**2:35** Untargeted flavoromics provides new insight into the impact of high-tunnel and open-field production on the variations of aroma profiles of industrial floral hemp. **Z. Gu**, **B. Chen**

**3:05** Development of a microfluidic device to enrich and detect zearalenone in food using quantum dot-embedded molecularly imprinted polymer. **M.Z. Hua**, X. Lu

**3:35** Intermission.

**3:45** Solubilization of limonene by phospholipid vesicle dispersions. **A. Webley**, S.R. Dungan, S.E. Ebeler

**4:15** Developing polymer-based delivery systems to improve bioaccessibility and bioefficacy of procyanidin dimers. **Z. Yin**, Q. Huang

Morial Conv. Ctr. rm 336

#### Food Security: Tackling World Hunger CCC: Highlighting

**Chemistry from Multiple Divisions** Cospons. AGRO, ANYL, ENVR Financially supported by CCC Food Security: Tackling Hunger M. J. Morello, Z. Xie, *Organizers*, *Presiding* C. L. Haynes, S. M. Lomnicki, S. Obare, *Presiding*

**2:00** Introductory Remarks.

**2:10** Iron-based amendments decrease bioaccumulation of arsenic in lettuce grown in a contaminated soil. **A.S. Adeleye**, Z. Han

**2:40** *Blighia sapida*, a versatile fruit, alleviating hunger and promoting good health. **A. Goldson-Barnaby**, D.L. Phillips

**3:10** Flavors of specialty crops from controlled environment agriculture. **Y. Yin**, J. Liu, I. Gutierrez, M. Evans

**3:40** Novel nanoparticle platforms for improved plant genetic engineering. **G.S. Demirer**

**4:10** Intermission.

**4:30** Development of phage-CRISPR nexus for microbial food safety. **J. Chen**

**5:00** Sustainable technologies for protein ingredient production from alternate crops: A path forward for zero hunger. **N. Bandara**, T.N. Dissanayake, A. Hetti Hewage

**5:30** Functional foods in the daily diet: The potential of plants and fruits traditionally consumed in the Yucatan peninsula. **L.M. Pena-Rodriguez**

**L.M. Pena-Rodriguez**

**Aquatic Photochemistry** Spons. ENVR, Cospons. AGFD, GEOC

### SUNDAY EVENING

Morial Conv. Ctr. Hall C

#### AGFD General Poster Session and Undergraduate Poster

**Competition** K. Deibler, E. Kreger, J. W. Soares, *Organizers* *Note – first 23 posters listed below also presented at Monday Evening Sci-Mix*

**Poster01** Effects of ethylene exposure on Hass avocados (*Persea americana*) during ripening in the presence of Cavendish bananas (*Musa acuminata*) over a five-day period. **A. Gao**, A. Lee, S. Hsia, L. Qu, R. Choksey, A. Burgos, I. Choksey, L. Jannotti, E. Lopez-Couto, C. Yiyuan, R. Jannotti

- Poster02** Genetically-encoded nanoparticles for siRNA-mediated crop genetic engineering. **V.H. Pistilli**, M. Legendre, G. Demirer
- Poster03** All-natural healthy power aid drinks from specialty crops rich by antioxidants, essential oils, and terpenes. **L. Osman**, B. Sylla, A.G. Ristvey, V. Volkis
- Poster04** Exploring flavors of edible ants: A path to sustainable gastronomy and consumer acceptance. **S. Alvarado Martinez**, A. Raza, D. Lopez, V. Esparza, J. Zhao, **C. Liu**
- Poster05** Developing an Ochratoxin A nanoaptasensing screening system with a plasmonic platform. **A. Fabian**, A. Saldana, S. Córdoba, Y. Hernandez, B.C. Galarreta
- Poster06** Comprehensive comparison of the dynamics of kombucha fermentation in a silicone bag and a glass jar. **K. Chamberlain**, E. Swartz, J.N. Richardson, J. Kegerreis
- Poster07** Investigating the impact of sugar source variation on kombucha fermentation. **I. Loscher**, A. Czarnecki, J.N. Richardson, J. Kegerreis
- Poster08** Semi critical CO<sub>2</sub>-ethanol assisted extraction of photoinduced bioactive pigments from seaweed algae: Advances in renewable dyes production for food supplements and pharmacy applications. **A. Chatmon**, V. Wamiru, T. Chavez-Gil
- Poster09** Development of a high-performance thin layer chromatography (HPTLC) method for the qualification and quantification of soya saponin compounds. **G. Chavarria**, A. Sibaja-Salazar, S. Nates, V. Alvarez-Valverde, P. Jimenez-Bonilla
- Poster10** Categorization of organic compounds in agricultural soils. **N. Reilly**
- Poster11** Unraveling the health implications of modified sucralose. **I. Beasley**, D. Crain, M. Jorgensen, T. Mason, I.N. Nawarathne
- Poster12** Comprehensive metabolomic profiling for elderberries (*Sambucus spp.*) in uncovering bioactive compounds. **N. Bostick**, P. Martano, M. Uy, S. Mahdi, X. Jones, Q. Yang, R. Mu
- Poster13** Creating a glucometer-based device to observe the ripening of *Aronia mitschurinii*. **R. Buzzetto**, E. Cable, A.G. Ristvey, V. Volkis
- Poster14** Effects of betulin derivatives from birch and sycamore bark on *Drosophila melanogaster*. **F. Davies**, M. Gross, L. Speranza, M. Wilklow-Marnell
- Poster15** Molecular cloning of bacterial exopolysaccharide forming enzymes in sugarcane processing and biological and agricultural impacts. **J. Fein**, Y. Qi, G.O. Bruni, **E. Terrell**
- Poster16** Understanding the flavors and aromas in wine and beer. **B. Bartholomew**, B. Caggiano, M.B. Jacobs
- Poster17** Determination of xanthophyll carotenoid content in vegetables recommended for macular degeneration prevention through high performance liquid chromatography and heat exposure. **M. Tarrance**, K.W. Barnes
- Poster18** Dr. Pepper Vanillin Flavor Compound determination and analysis using SPME and Headspace Analysis. **M. Tarrance**, K.W. Barnes
- Poster19** Analysis of heavy metals in dark chocolate. **V. Pipinich**, **R.C. Dudek**
- Poster20** Characterization of purple star apple (*Chrysophyllum cainito L.*) as a promising functional food. **G.R. Tapia-Alvarez**
- Poster21** Evaluating chemical catalysts' thermal and kinetic effects on starch gelatinization. **S. Dupree**, T. Nguyen
- Poster22** Increasing desirable aroma compounds in Pennsylvania wines by treating post-harvest grapes with elemental sulfur. **J.J. Messner**, M. Vincent, R. Elias, M. Kwasniewski
- Poster23** Sustainable formulation solutions for dsRNA-based biopesticides for next-gen agricultural pest control. **S. Malik**, **A. Kumar**, M. Mondal, A. Pereira, F. Moshiri, K. Nawaz, T. Zanker, I. House, D. Gladson, S. Tomaschke, **J. Shoemake**, L. Nitcher
- 7:00** Publishing trends in journals of the ACS Agricultural and Food Chemistry portfolio. **C. Osorio Roa**, L.L. McConnell, T. Hofmann
- 7:00** Application of untargeted headspace solid-phase microextraction-gas chromatography-mass spectrometry for volatile metabolomics-based authentication of plant-based milk alternatives. **R. Handoyo**, E. Pagliano, Y. Hu
- 7:00** Variation in the  $\beta$ -carotene content of *Blighia sapida* under various processing methods. **D.L. Phillips**, A. Goldson-Barnaby
- 7:00** Mechanisms of arsenic immobilization by iron nanoparticles in a cultivated soil: Arsenic speciation and the role of iron sulfidation. **Z. Han**, A.S. Adeleye
- 7:00** On-site fluorescent detection of microbial contamination using a graphene oxide CRISPR-Cas12a (GO-CRISPR) sensor. **T. Kasputis**, Q. Ci, J. Chen
- 7:00** Mung bean protein isolate: A novel food ingredient with enhanced functional properties extracted by a deep eutectic solvent. **T.N. Dissanayake**
- 7:00** Sustainable plant protein ingredient production from fava bean using choline chloride and glycerol deep eutectic solvent system. **A. Hetti Hewage**
- 7:00** Narrow-wavelength red LED lighting on quality and aroma expression of hydroponic fennel (*Foeniculum vulgare* Mill.). **J. Liu**, A. Sumner, A. Harris, S. Li, B. Bargmann, D. Haak, Y. Yin
- 7:00** Identification of phytochemicals from *Byrsonima bucidifolia* fruits and their correlation with antioxidant activity: Chemometric approach. **M.G. Poot**
- 7:00** Carbon nanodots for the delivery of biomolecules in *N. benthamiana*. **J.M. Galeana**, É. Gastelum-Martínez, K. García-Sosa, L.S. Valencia-Chan, R. Moo-Puc, I. Higuera-Ciapara, L.M. Pena-Rodriguez
- 7:00** Carcass and meat quality characteristics of pasture-raised lambs as influenced by highly digestible fiber containing agro-byproducts. **J. Lee**, S. Wildeus
- 7:00** Design of new and environmentally safe fungicides using AI and molecular modeling. **M. Shaver**, J.A. Darsey
- 7:00** Incorporation of bioactive compounds from *Melaleuca Alternifolia* essential oil in pea, potato and rice starch films. **F. Matta Fakhouri**, J.O. Zoppe, V. Augusto Garcia, J. Velasco
- 7:00** Mechanical properties of flexible films based on pea starch and cellulose nanocrystals produced by blown film extrusion. A. Dambros, F. Yamashita, **J.O. Zoppe**, J. Velasco, F. Matta Fakhouri
- 7:00** Research on changes in aroma components derived from citrus essential oils in beverages by time passing. **T. Sugawara**, T. Yoshimoto, K. Fukushima, N. Tanaka, N. Miyazawa, S. Ishizaki
- 7:00** Characterization of metabolome alterations in barley (*Hordeum vulgare L.*) induced by *Bipolaris sorokiniana*. **L. Kurzweil**
- 7:00** Biochar-Metal Organic Framework (BC-MOF) composites for the removal of rice fungicide(s) from water: An experimental and molecular simulation-based evaluation. **C. Reddy**, N. Singh, T. Banerjee, A. Mandal
- 7:00** Aflatoxin mitigation effect of 2,5-Diketopiperazines on *Aspergillus flavus* from Louisiana. M. Kumarihamy, G. Moore, Y. Guo, R. Sweany, C. Carter-Wientjes, **M. Lebar**
- 7:00** Identifying sensory descriptors and aroma-active compounds in domestic edamame. **R. Miller**, L. Hamilton, S. Duncan, T. Kuhar, R. Boyer, B. Zhang, J. Lahne, Y. Yin

- 7:00** Does condensed tannin protect zein nanoparticles from digestion?. **J. Jefferson**, S. Mallikarachchi, A.E. Hagerman
- 7:00** Condensed tannin characterization by modified saw tooth HPLC system. **K. Williams**, A.E. Hagerman
- 7:00** Evaluation of MIB and GSM reactivity using solid phase microextraction-GCMS. **W. Roussel**, R.A. Adams Dupre, B. Smith
- 7:00** GC-MS determination of sterols in dried morel mushrooms. **T.W. Nalli**, A. Overgard, S. Quint, N.Y. Walker, C.W. Chu
- 7:00** Almond shells: A natural bio-absorbent for reducing and recovering the phenolic content of winery wastewaters. **E. Doria**, L.A. Lerno, A.E. Mitchell
- 7:00** Chemical composition of different extracts of *Conyza bonariensis*. **M. Estrada**, I. Fabing
- 7:00** Formation mechanisms and potential toxicity of oxidized triacylglycerols in food during thermal processing. H. Zhu, C. Wang, **B. Gao**, L. Yu
- 7:00** Nano-based modification of phosphorous fertilizers: A path towards sustainable phosphate supply. **S. Mazumdar**, M.A. Quadir, A.N. Bezbaruah
- 7:00** Cultural management and applications of *Ocimum tenuiflorum* (Holy Basil) grown in Maryland. **E. Cable**, H. Den Ouden, V. Volkis
- 7:00** Protective effects of Citrus depressa peel extract on non-alcoholic fatty liver disease in mice fed a high-fat diet. **Z. Su**, X. Chen, G. Wei
- 7:00** Plant maturity affects the phenolic composition and antioxidant properties of green basil (*Ocimum basilicum* L.) cultivars. **H.P. Lawson**, E.D. Niemeyer
- 7:00** Influence of cultivar and seed source on the phenolic composition and antioxidant properties of *Monarda* herbs. H.P. Lawson, **E.D. Niemeyer**
- 7:00** Comparison of Headspace GC-MS techniques to characterize volatile phenols contributing to smoke taint in Pinot Noir wines. **S.J. Toth**, A. Noble
- 7:00** Effects of thermal and non-thermal processing on allergen removal from pistachio shell waste. **L. Fereidooni**, A. Morais, M.B. Shiflett
- 7:00** Assessing the biosynthetic inventory of the biocontrol fungus *Trichoderma afroharzianum* T22. **W. Han**, Z. Wu, Z. Zhong, J. Williams, S. Jacobsen, Z. Sun, Y. Tang
- 7:00** Investigation of natural polyphenols as potential colorectal cancer (CRC) therapeutics. J. Kardos, **T. Rennie**, J. Porter
- 7:00** Comparison of Logk', LogP<sub>oct</sub> and LogD<sub>oct</sub> values for the catechol flavones. **W.L. Whaley**, M. Gregory, T. Gibbs, S. Tuck
- 7:00** Beer we go! Analysis of carbonated and nitrogenated beers. **A.S. Frantzen**, S. Atkins, H.S. Gibson
- 7:00** Analyzing the effects of pulsed electric field in the winemaking process. **M.H. Lorentz**, O.M. McDougal, P. Santiago-Mora
- 7:00** Analysis of flavor and aromatic compounds in whisky using both gas and liquid chromatography and mass spectrometry. **E. Hendrix**, C.J. Monceaux
- 7:00** Lipoxygenases in Costa Rican soybean seeds: Influence on oil nutritional profile. **L. Vega Fernandez**, A. Holst, H. Mock, A. Irias-Mata
- 7:00** Discrimination of the geographical origin of various agricultural products by applying machine learning algorithms on data produced from different spectroscopic techniques. **J. Kapolos**, K. Papadimitriou, K. Dalaklidi, A. Koliadima, M. Papadelli
- 7:00** Algae as a precursor of seafood flavor in alternative seafood. **A. Raza**, E. Cramton, J. Baker, C. Liu, J. Zhao
- 7:00** Isomerization of hop alpha acids during wort boiling. **I. Hofland**, M.D. Schuder
- 7:00** Metabolomic analysis in organic and conventionally grown elderberries. **X. Jones**, S. Mahdi, N. Bostick, S.J. Eber, N. Navarrete-Tindall, R. Mu, Q. Yang
- 7:00** Essential oils: A natural solution for preserving potato quality in storage. **A. Alzarqaa**, V. Jeliaskov
- 7:00** Development of zein nanoparticles for encapsulating avocado seed extract as a functional ingredient. **T. Chuacharoen**
- 7:00** Non-targeted volatile and non-volatile analyses of pectin samples to correlate molecular composition with sensory evaluation. **C. Nauman**, **D. Chambers**, A. Zarth, L. Chan
- 7:00** Insecticidal potential of leaf extracts of *Heliotropium indicum* Linn (Boraginaceae) for control of insect pests of stored grains. **B.M. Adeniyi**
- 7:00** HS-SPME-GC-MS/Olfactometry-based sensory-directed flavoromics to uncover aroma boundary compositions of commercial barley malts with a wide Lovibond variation. **Z. Gu**, **B. Chen**
- 7:00** Toward a comprehensive understanding of ultracentrifugal milling on the processing properties and aroma profiles of yellow pea flour. **Z. Gu**, **B. Chen**
- 7:00** Acidic degradation and byproduct formation of MIB and GSM in aqueous environments. **R.A. Adams Dupre**, W. Roussel, B. Smith
- 7:00** Phosphorus reduction opportunities from animal agriculture utilizing a corn ethanol distillers grain feed substitute. **K. Ruffatto**, G. Shurson, R. Muenich, R. Cusick
- 7:00** The era of chemical spaces: Mining relevant chemistry. C. Lemmen, D. Comer, **J. Holowachuk**, A. Neumann
- 7:00** Characterizing food profiles and detecting contaminants with hyperspectral imaging. **G.A. Killian**
- 7:00** Characterization and quantification of the polyphenols found in differing teas. **M.S. Sykes**, M.J. Crawford
- 7:00** Non-targeted analysis and standard free screening of PFAS using high-resolution mass spectrometry and ion mobility. **S. Putnam**, A. Kiehne, S. Bodendiek, E. Niehaus, B.K. Teeter
- 7:00** Food Analysis with Raman Microscopy. **S. Redes**
- MONDAY MORNING March 18**  
Morial Conv. Ctr. rm 357  
**Agnes Rimando Memorial International Student Symposium** M. H. Tunick, *Organizer* R. Tardugno, *Organizer, Presiding*
- 8:00** Introductory Remarks.
- 8:05** Influence of complex coacervation on the structure and texture of plant-based protein-polysaccharide composites. **X. Hu**, D.J. McClements
- 8:25** Phytotoxic activity of grammicin produced by *Xylaria* sp. infecting *Handroanthus serratifolius* (Bignoniaceae). **D. Barreto**, C. Rodrigues de Carvalho, J. Bajsa-Hirschel, S. Queiroz, S.O. Duke, C.L. Cantrell, L. Rosa
- 8:45** RuBisCo: An edible and functional protein applied in emulsions. **M. Müller**, H. Frielinghaus, O. Holderer, T. Heiden-Hecht
- 9:05** Metabolomic analysis with machine learning algorithms enables the evaluation of postharvest color stability in different pecan varieties. **M. Kang**, R.B. Pegg, L. Wells, P.J. Conner, J. Suh
- 9:25** Production and bioactivity of isoflavones from elicited hairy root cultures of pigeon pea. **G. Gajurel**, A.R. Sharma, S. Abdel-Karim, M.A. Alam, F. Medina-Bolivar
- 9:40** UHPLC-HRMS and GC-MS analyses of bioactive compounds in prairie berries in Canada and their antioxidant

potential. **C. Kodikara**, S. Sura, N. Bandara, T. Netticadan, C. Wijekoon

**9:55** Intermission.

**10:10** Optimization of ultrasound-assisted extraction of xanthophylls from *Tagetes erecta* L. using hydrophobic deep eutectic solvents (HDES). **S. Ghoshal**, A. Dutta, S. Saha, A. Kundu, A. Mandal

**10:25** Optimization of gluten-free bread's health benefits with Artichoke Leaf Extract and Sourdough Biotechnology. **A. Annunziato, F.M. Calabrese, R. Francavilla, M. De Angelis**

**10:40** Exploring novel magnetite nanoclay: A breakthrough composite for pesticide removal from water. **A. Sil**, N. Narayanan, T. Banerjee, N. Singh, N. Jain, S. Gupta

**10:55** Ultrasound-assisted extraction of betalains from dragon fruit (*Hylocereus* sp.) peels: Optimization using response surface methodology-genetic algorithm (RSM-GA) hybrid model and chemo-profiling. **D. Mondal**, A. Dutta, A. KUNDU, S. Saha

**11:10** Synthesis and fungicidal activity of novel indazolychromones. **R. Kundu**, P. Kaushik, N. Shakil, V. Rana

**11:25** Bioactive phytochemicals from *Litsea glutinosa* bark for potential antifungal activity against *Penicillium expansum*. **S. suman, A. Kindu**, A. Dutta, S. Saha, A. DAS

Morial Conv. Ctr. rm 337

**Extraction & Biotechnology: A Natural and Sustainable**

**Future for Flavors** Financially supported by CCC Food Security: Tackling Hunger X. Du, *Organizer* L. Jones, E. Kreger, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05** Palm kernel oil: Physicochemical properties and volatile compounds. **V.T. Wyatt**, A. Aryee, P. Asuzu, P.N. Asare-Okai, N.A. Tawiah

**8:30** Ionic liquids as green solvents of choice for the extraction of natural bioactive compounds. **M. Uroos**

**8:55** From plant to palate: Refining cannabis extraction for flavor and fragrance. **M.E. Sosa**, I.W. Oswald, T. Paryani, T. Martin, K. Koby

**9:20** The Aroma of Vanilla Extracts. K. Pechinger, C. Helcke, **L. Jones**

**9:45** Intermission.

**10:05** Characterization of hybrid Vanilla beans using DTD-GC-MS analysis. **S.J. Toth**, A. Noble

**10:30** Unified quantitation method enables the elucidation of cheese flavor. **C.J. Feyerabend**, V.K. Mittermeier, M. Gigl, C. Dawid

**10:55** Evaluation of different cell disruption methods to extract nutritional and flavor constituents of yeast biomass. **K.R. Cadwallader**, N. Hwisa, A. Chatha

**11:20** Discussion.

Morial Conv. Ctr. rm 335

**Chemistry of Alcoholic Beverages** Cospons. YCC N. O. Flynn, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05** Introduction: Chemistry of alcoholic beverages. **N.O. Flynn**

**8:15** Beer foam: A chemistry wonderland. **C. Bamforth**

**8:45** Chemistry underlying hangovers. **A.E. Mitchell**

**9:05** Evaluation of rapid wort color method using caramel malt series and inclusion methods. **N.O. Flynn**

**9:25** Chemical and sensory evaluation of 40 hop varieties: Insights into the relationship between aroma properties and growing regions using two-dimensional gas chromatography. **M.A. Ojeda**

**9:45** Markers on the ageing of hoppy ales and non-alcoholic beers. **C. Schubert**, S. Lafontaine, N. Rettberg

**10:05** Intermission.

**10:20** Quantifying flavor: Characterization of a craft brewery experience using HS-GC-MS and LC-QTOF. **R.A. Quinlan**, D. Mitchell, B. McBride, D. Liskin, A. Higgs, A. Brehm, K. Kingsbury

**10:40** Effect of copper complexation on polyfunctional thiol stability in beer. **M. Vincent**, M. Naziemiec, A. Silakov, R. Elias

**11:00** Crafting the future of beer: Rapid and *in-situ* quality monitoring using portable IR spectroscopy. **h. bao**, L. Rodriguez-Saona

**11:20** Advancing non-alcoholic beer quality: Examining the impact of NAB chemical profiles on industrial professionals' perceptions and preferences. **S. Lafontaine**, E. Leitner

**11:40** Next-generation strategies for non-alcoholic lager beer production: A focus on both ethanol removal and flavor preservation. **Z. Zhou**, Y. Jin, K.R. Cadwallader

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**MONDAY AFTERNOON**

Morial Conv. Ctr. rm 335

**Chemistry of Alcoholic Beverages** Cospons. YCC N. O. Flynn, *Organizer, Presiding*

**2:00** Introductory Remarks.

**2:05** Withdrawn

**2:25** <sup>1</sup>H-NMR-based metabolomics for profiling the chemistry of alcoholic beverages. **N. Kruse**, C. Anklin, T. Spengler

**2:45** From the chemistry of raw materials and fermentation on to the shelf-life stability of beer and distilled spirits. **G.**

**Spedding**

**3:05** Effect of proof on the headspace concentrations of methoxyphenols found in whiskey. **L. Demoranville**, S.Y. Cabrera, M. Curran, M. Mittal, K. Williams, S. Yusufji

**3:25** Application of spectroscopy technology in identification and quality screening of Pisco distillates. **Y. Wu**, L. Rodriguez-Saona

**3:45** Evolution of chemical profiles in rice: From milling to malting and its influence on beverage/ beer quality. **B.P. Guimaraes**, R. Sen, S. Lafontaine

**4:05** Quality and acceptability of wines processed using underutilized African edible indigenous fruits. **O. Francis**, S. Natukunda, W. Olupot

**4:25** Concluding Remarks.

Morial Conv. Ctr. rm 357

**Sensory Beyond Earth: The Relevance of Flavor**

**Chemistry in Space Exploration** N. C. Da Costa, *Organizer* J. Beauchamp, L. Julia, S. McGrane, *Organizers, Presiding*

**2:00** Introductory remarks.

**2:05** Consequences of olfactory loss. **T. Hummel**

**2:30** The effects of a One-Year Antarctic Sojourn at the Concordia Research Station on olfactory and gustatory functions. **I. Mack**, B. Klos, S. Wolf, S. Thoolen, H. Hagson, A. Meyer, P. Enck

**2:55** HABSIM – Unique R&D Infrastructure for closed-loop food production in space and on Earth. **T. Blomqvist**, D. Schubert

**3:20** Microwave processed ready-to-eat meals as a palatable and nutritional option for space missions. **M.L. Montero**, C.F. Ross



**3:45** Intermission.

**4:05** Development of a virtual reality tool ('food in space') for collecting sensory data during immersion for space ground-based strategy. G. Loke, I. Peake, A. Besnard, K. Kantono, G. Iles, L. Newman, **J. Low**

**4:30** Correlations between food odour perception during space simulated analogs and their volatile profiles. **J. Chandrapala, G. Loke**, I. Peake, G. Iles, J. Low

**4:55** Exploring effective tasting delivery modalities for tasting sensory studies in simulated space analogs. **T. Prabodha**, L. Ong, C. Gilden, I. Peake, C. Brennan, L. Danner, G. Iles, J. Low

**5:20** Influence of immersion in a space-like environment on taste and odour perception. A. Tran, J. Low, **L. Duizer**

**5:45** Concluding remarks.

#### **VIRTUAL SESSION**

**AGFD General Poster Session and Undergraduate Poster Competition** K. Deibler, E. Kreger, J. W. Soares, *Organizers*

**12:00** Exploring Taiwan citrus extract's potential in inhibiting colorectal cancer growth. **Z. Su**, C. Chiang, G. Wei

**12:00** General overview of intoxications by wild toxic mushrooms, case study: Algeria. **M. Souna**

**12:00** Phytochemical properties, processing, and applications of juvenile Ginger (*Zingiber officinale*). **B. Sylla**, V. Volkis

**12:00** Photocatalytic visible light active Co doped ZnO/cellulose acetate nanofiber membranes for functional food packaging. **S. Deshapriya**, I. Munaweera

**12:00** Comparison of phytochemical and antimicrobial activity of leaf, stem and root of *Terminalia avicennoides*. **O.O. Onawumi**, **A. Sodamade**, D.L. Abiona, O.A. Onawumi

**12:00** Novel approaches of microscopes application on the development of comparison of fruit flies. E.J. Parish, **H. Honda**, Y. Lo, G. Ren, H. Shyu, T. Wei

**12:00** Untargeted and targeted metabolomics reveal the chemical characteristic of pu-erh tea (*Camellia assamica*) during pile-fermentation. **P. Long**

**12:00** Enhancing potato storage efficiency: A blend of essential oils. **H. Almutairi**, V. Jeliakov, C.L. Cantrell

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#### **MONDAY EVENING**

Morial Conv. Ctr. Hall C

##### **AGFD Sci-Mix**

See first 23 posters listed under the Sunday Evening AGFD Poster Session

#### **TUESDAY MORNING March 19**

Morial Conv. Ctr. rm 343

**Toward Precision Nutrition - Holistic View of Relationship Between Food, Food Components Contribute to Taste, Aroma, Color, and The Gut Microbiome in Health Promotion** T. Wang, *Organizer* L. Liu, K. Mahalak, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05** Chronic dietary zinc deficiency alters gut microbiota composition and function. **E. Tako**

**8:35** Dietary carbohydrates, gut microbes, satiety, and health. **M. Kable**, D. Lemay, N. Keim

**9:05** Comparative analysis of western diet and chronic alcohol consumption shows dramatic alterations in the gut and plasma metabolome using non-human primate model. **C. Christopher**, H.F. Castro, S.R. Campagna, L. Simon, R. Siggins, P. Molina, D. Welsh

**9:35** Advances in neuroimaging to explore the microbiota-gut-brain axis. **S. Eldeghaidy**

**10:05** Intermission.

**10:20** Effect of Allyl Isothiocyanate on the gut microbiota of different age groups. **K. Mahalak**, A. Narrowe, L. Liu, P. Van den Abbeele, A. Baudot, J. Firman, J.M. Lemons

**10:50** Analysis of fenugreek supplementation reveals significant alterations in large intestinal metabolome and microbiome of Western Diet fed mice. **K. Jones**, A.J. Richard, J.M. Salbaum, S. Newman, R. Carmouche, S. Webb, A.J. Bruce-Keller, J.M. Stephens, S.R. Campagna

**11:20** Hydrogen sulfide modulates gastrointestinal metabolome, an *ex vivo* study. **L. Liu**, K. Mahalak, J. Firman, A. Narrowe, J.M. Lemons, A. Baudot, S. Deyaert, P. Van den Abbeele

**11:50** Concluding Remarks.

Morial Conv. Ctr. rm 357

#### **Mycotoxins: Challenges and Future Perspectives**

Financially supported by CCC Food Security: Tackling Hunger H. Humpf, L. Jackson, *Organizers, Presiding* B. Cramer, *Presiding*

**8:00** Introductory Remarks.

**8:10** Quantitative biomarkers for exposure and risk from aflatoxins in high-risk regions of the world. **J.D. Groopman**

**8:40** Aflatoxin and growth: A complex relationship between exposure intervention and measures of infant growth. **P.C. Turner**, E. Phillips, N. Kassim, E. Makule, L. Smith, F. Ngunjiri, N. Makori, R. Nelson, R. Stoltzfus

**9:05** Aflatoxin exposure is a potential risk factor for mortality in acutely ill children in the CHAIN network cohort. **Y. Gong**, L. Xia, H. Wu, A. Saleem, S. Ali, E. Mupere, C. Lancioni, A. Diallo, I. Potani, W. Voskuil, M. Chisti, A. Sayeem, M. Timbwa, S. Mwaringa, C. Tigoi, M. Ngari, B. Singa, R. Bandsma, T. Ahmed, J. Njunge, K. Tickell, J. Walson, J.A. Berkley, M.N. Routledge

**9:30** Metabolomic changes associated with aflatoxin exposure in children from the CHAIN cohort. H. Wu, C. Bourdon, L. Xia, R. Mandal, A. Saleem, E. Mupere, C. Lancioni, A. Diallo, I. Potani, W. Voskuil, M. Chisti, A. Sayeem, M. Timbwa, S. Mwaringa, C. Tigoi, M. Ngari, B. Singa, K. Tickell, J. Walson, D. Wishart, R. Bandsma, J. Njunge, J.A. Berkley, Y. Gong, **M.N. Routledge**

**9:55** Intermission.

**10:15** Human mycotoxin exposure: From biomonitoring towards exposomics. **S. De Saeger**, R. Pero-Gascon, M. De Boevre

**10:40** Estimating aflatoxin exposure by use of LC-MS/MS: Twenty years of CDC laboratory innovations and investigations. **N. Zitomer**, M.E. Rybak

**11:05** Optimization of aflatoxin B<sub>1</sub>-lysine analysis for public health exposure studies. **J. Renaud**

**11:30** Discussion.

**Achieving Environmental Justice in the Chemistry Enterprise: Connecting Innovation, Global Impacts and Burden Integrating Science with Community Partnerships to Address Environmental Justice**

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#### **TUESDAY AFTERNOON**

Morial Conv. Ctr. rm 343

**General Papers** E. Kreger, J. W. Soares, *Organizers, Presiding*

**2:00** Introductory Remarks.

**2:05** Biochemical changes during spoilage of milk with different fat content. **P. Iyer**, C.J. Blowers, F. Medina, A. Khan

**2:25** Chemical characterization of bioactive compounds of Uva caimaronna (Pourouma cecropiifolia) fruit by LC-MS non-targeted analysis. **C.A. Correa Lozano**, C. Osorio Roa, T.D. Stark, C. Dawid, G.M. Méndez Callejas

**2:45** Foliar Nanoparticles Application Alleviate Cadmium Toxicity in Wheat (*Triticum aestivum* L.) via Long Distance of "Leaf-Root-Microorganism" Regulation. **M. Wang**, D. Zhou

**3:05** Preparation and characterization of sodium alginate-carboxymethyl cellulose based essential nutrient slow release nanohybrids. **K.R. Maduwanthi**, I. Munaweera, P.T. Perera

**3:25** Electrospun nanofiber membranes infused with essential oils for extending the shelf life of perishable produce like grapes and tomatoes. **M.C. Sethunga**, I. Munaweera, R. K.K.D.S., P. Gunathilake

**3:45** Electrochemical quantification of capsaicin levels: A novel approach to assessing chili heat consistency in culinary applications. **A. Rudokaite**, A. Baradoke, N. Zilinskaite

**4:05** Pesticide-induced biochemical changes in tomatoes by FTIR spectroscopy: Implications for Food Safety and Agriculture. **P. Yerra**, J. P, K. S, J. R, S. A, M.A. P, R. A

**4:25** Concluding Remarks.

Morial Conv. Ctr. rm 336

**Paring Flavors with Health and Wellness Food Products**

Financially supported by CCC Food Security: Tackling Hunger X. Du, D. Wang, *Organizers, Presiding*

**2:00** Introductory remarks.

**2:05** Role of flavor in health and wellness food products: An overview. **X. Du**, D. Salta

**2:35** Physicochemical factors that affect baked sweetpotato textures and sweetness. **M. Allan**, S. Johanningsmeier, M. Nakitto, O. Guambe, M. Abugu, K. Pecota, C. Yencho

**3:05** Multi-omics discovery of aroma-active compounds formation in three different mango cultivars. **X. Liu**, Y. Wang

**3:35** Intermission

**4:00** Detection of smoke-derived volatile phenols in grapes using a portable easy to use biomimetic sensor. **A. Khan**, A. Rumbaugh, S. Andreescu

**4:30** Chemical composition and bioactive compounds of  $\gamma$ -irradiated stable chamomile accessions (*chamomilla recutita* (L.) Rauschert.). **Y. Pant**, K. Yadav, R.K. Lal, C.S. Chanotiya

**5:00** Advancing stem in agriculture with active experiential learning engagement for high school and college students focused on creation of health product from super-fruits and medical herbs. W. Weaver, S. Grebenyuk, A.G. Ristvey, **V. Volkis**

Morial Conv. Ctr. rm 357

**Mycotoxins: Challenges and Future Perspectives**

Financially supported by CCC Food Security: Tackling Hunger H. Humpf, L. Jackson, *Organizers, Presiding* H. Abbas, *Presiding*

**2:00** Introductory Remarks.

**2:05** From AflaZ to SoLFOOD and beyond: German-Kenyan World Nutrition Projects aimed at reducing food losses due to mycotoxin contamination in sub-Saharan Africa. C. Roder, **M. Schmidt-Heydt**

**2:30** Dynamic geospatial modeling of mycotoxin contamination of corn in Illinois: Unveiling critical factors and predictive insights with machine learning. **L. Castano-Duque**, E. Winzeler, J. Blackstock, C. Liu, N. Vergopolan, M. Focker, K.

Barnett, P. Owens, H. van der Fels-Klerx, M. Vaughan, K. Rajasekaran

**2:55** Peptide natural products from the fungus *Aspergillus flavus*: Potential virulence factors?. **M. Lebar**, J. Cary, B. Mack, C. Carter-Wientjes, M. Kumarihamy, Q. Wei, R.

**3:20** Innovative research on mycotoxins in grains from Costa Rica to guarantee quality for human consumption: Research Center for Seeds and Grains of University of Costa Rica. **A. Irias-Mata**, M. Viñas-Meneses

**3:45** Intermission.

**4:00** Management of aflatoxins and fumonisins in corn using biocontrol with non-toxigenic strains of *Aspergillus flavus*, bioplastic, and biochar. **H.K. Abbas**, **R. Paulk**, C. Accinelli, N. Little, N. Bellaloui, W. Shier

**4:25** Evaluating *Acheta domesticus* for the reduction of fumonisin B1 in livestock feed. H.K. Abbas, **R. Paulk**, G. Rojas, J. Morales-Ramos, M. Busman, N. Little, W. Shier

**4:50** Bioinformatically informed evaluation of *Sarocladium zeae* biocontrol agent viability. **S.M. Schoellhorn**, T.H. Lim, T. Nguyen, I.G. Sartor, E. Skellam

**5:15** X-ray irradiation of *Aspergillus flavus* and Aflatoxin B1 contaminated maize. **H. Glesener**

**5:40** Stable, sustainable, and edible Chitinase formulation for biocontrol of fungal rot. **F. Deeba**, D.W. Wood, D.L. Watkins, C. Rapplepe

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**WEDNESDAY MORNING March 20**

Morial Conv. Ctr. rm 343

**Michael Granvogl Memorial Symposium** J. Beauchamp, R. Tardugno, Y. Wang, X. Zhai, *Organizers, Presiding*

**8:00** Introductory remarks.

**8:05** Spotlight on Michael Granvogl: Science and socializing. **T.D. Stark**

**8:30** Formation of furan and furan derivatives in model systems and food products. **A. Schoepf**, C. Oellig, M. Granvogl

**8:45** Enhancing sensory quality of Golden Delicious apple brandies: Identification of key aroma compounds for distillation parameter optimization. **S. Kramp**, C. Oellig, M. Granvogl

**9:00** Exploring edible halophytes: Polyphenols extraction, characterization, and antioxidant activity of endemic sea asparagus (*Salicornia europaea* L.) from the Apulian region of Italy. **R. Tardugno**, F. Limongelli, M. Muraglia, P. Crupi, M. Clodoveo, F. Corbo

**9:15** Different wood – different smell? Elucidation of wood odors of different species. A. Baum, H.M. Loos, **A. Buettner**

**9:30** Linking the dynamics of aroma release and flavor perception via *in vivo* analytics and time-resolved sensory assessments. **J. Beauchamp**, N. Cleve, M. Izaber

**9:45** Intermission.

**10:05** Odorants identified in Chinese dry-cured ham contribute to salty taste enhancement. **Y. Chen**

**10:20** Mining and rapid screening model and database construction of umami peptide taste patterns based on amino acid sequences. C. Zhiyong, W. Wang, **Y. Liu**

**10:35** Formation of volatile heterocyclic compounds and open-chain amides of theanine in model systems with glucose, tea leaves, and tea extract under tea roasting conditions. M. Li, X. Wan, X. Zhai

**10:50** Consumer mushroom quality expectation and the impact of thermal process on mushroom desired flavor creation and nutrient retention. X. Du, Y. Xu

**11:05** Influence of thermal treatment on the formation of dry jujube flavor: A new insight into pyrazines production with important bakery-type aroma compounds. Q. Xiao, C. Ho

**11:20** Characterization of ethyl vanillin in nature and its potential impact on flavor industry. X. Song, M. Porter, V. Whitaker, S. Lee, Y. Wang

**11:35** Concluding Remarks.

Morial Conv. Ctr. rm 335

**General Papers** E. Kreger, J. W. Soares, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05** Withdrawn

**8:25** Absorption, distribution, metabolism, and excretion (ADME) studies of [<sup>14</sup>C]-nitrofurazone residues in broiler chickens. A. Singh, D.J. Smith

**8:45** Determination of acrylamide content in common pelletized small animal food. S. McComis, T. Tatum

**9:05** Exploring and understanding food emulsion systems with neutron scattering and spectroscopy. T. Heiden-Hecht, H. Frielinghaus, M. Müller, O. Holderer

**9:25** Rekindling a cherished memory: The flavor of the American chestnut. W. Yang, S. Fitzsimmons, K.R. Cadwallader

**9:45** Intermission.

**10:00** Chitosan films made from food and agricultural waste as replacements for petroleum-based plastics. K. Orcutt, Z. McCaffrey, J.H. Kim, W. Hart-Cooper

**10:20** Micro-thermography reveals new insights into ice nucleation and growth inside frozen food products. M. Zalazar, R. Drori

**10:40** Developing humidity-sensitive pectin-based triboelectric devices for monitoring relative humidity as a food-quality indicator. Z. Jin, Y. Fu, L. Li, Y. Wang

**11:00** Withdrawn

**11:20** Thermogravimetric kinetics analysis of synthesized bio-lubricants from naturally derived oleic acid. K. Mainali, M.I. Sarker, B. Sharma, M.P. Yadav, H. Ngo, R. Ashby

**11:40** Fungicidal constituents from phytopathogens against some agriculturally important fungi. K.M. Meepagala

Morial Conv. Ctr. rm 340

**Mycotoxins: Challenges and Future Perspectives**

Financially supported by CCC Food Security: Tackling Hunger H. Humpf, L. Jackson, *Organizers, Presiding* C. M. Maragos, *Presiding*

**8:00** Introductory Remarks.

**8:05** Portable mass spectrometry as a tool for monitoring mycotoxin contamination. C.M. Maragos

**8:30** Thermal degradation of the mycotoxin citrinin. L. Brückner, B. Cramer, H. Humpf

**8:55** Fluorescent DNA aptamer sensor platforms for ochratoxin A detection. R.A. Manderville

**9:20** Novel aptasensor for the ultrasensitive mycotoxin detection. M. Shoib, H. Li, Q. Chen

**9:45** Intermission.

**10:05** Emerging mycotoxins in the food chain: Challenges and perspectives. D. Marko

**10:30** Realistic follicular fluid concentrations of *Fusarium* toxins trigger apoptosis and activate NLRP3 inflammasome in bovine primary theca cells. I. Alassane-Kpembé, G. Cai, I.P. Oswald, C. Price

**10:55** Aflatoxin B<sub>1</sub> metabolism *in vitro* and *in vivo*: New insights by HPLC-MS/MS analysis in combination with intravital imaging. A. Gerdemann, B. Cramer, M. Behrens, A. Ghallab, R. Hassan, G. Degen, J. Hengstler, M. Esselen, H. Humpf

**11:20** Data delivery from the US-EPA Center for Computational Toxicology and Exposure to support mycotoxin researchers. A.J. Williams, G. Janesch, E.T. Carr, V. Tkachenko

**11:45** Concluding Remarks.

**State of the Art in Protein-Based Engineered Materials Protein Waste Revalorisation for Sustainable Materials**

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**WEDNESDAY AFTERNOON**

Morial Conv. Ctr. 335

**General Papers** E. Kreger, J. W. Soares, *Orgs, Presiding*

**2:00** Introductory Remarks.

**2:05** Fluorine-19 NMR analysis of polymers used in food packaging. C. Ridge, F. Chen, K. Carlos, P.F. Scholl

**2:25** Microfibrillated cellulose (MFC) barrier coating for extending banana shelf life. J. Zhu, J. Geng, N. Stark, P. Kitin, X. Zhang

**2:45** Dissipation of Pendimethalin and Clomazone in sugarcane soil in Louisiana. D. Wayment, D. Bergeron, A.A. Wright, G.A. mcollam, P. White

**3:05** Comparative study of cannabis moisture techniques. K. Blake, E. Simoes

**3:25** Intermission.

**3:40** Waterpipe (shisha) tobacco packing density and product performance. J.H. Lauterbach

**4:00** Spoilage kinetics of vegetable products: Making sense of fluorescence fingerprints to gain insights into stability and nutritional losses. M. Singh, X. Liu, M. Zhang, H. Zou, X. Jun, J. Shi, M. Corradini

**4:20** Withdrawn

**4:40** Comparison of volatile aroma compounds between cricket (*Acheta domesticus*) powder and cricket protein isolate. E. -, T. Wongprasert, I. Suppavorasatit

**5:00** Rapid analysis of sugarcane quality parameters by Near-Infrared Spectroscopy. S. Imbachi-Ordonez, K. McPeak, G. Eggleston

**5:20** Constituents isolated from Brazilian propolis as natural pesticides. V.P. Ribeiro, J.K. Bastos, A.S. Estep, K. Meepagala

**State of the Art in Protein-Based Engineered Materials Silk/Protein Sequence Engineering for Tuning Materials Properties**

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**Schedule of Technical, Business and Social Meetings (all Central Daylight Time)**

Sun. March 17	noon-1:00pm	Special Topics Meeting	Hilton - Riverside – Compass rm
Sun. March 17	7:00pm-9:00pm	Poster Session & Reception	Morial Conv. Ctr. Hall C
Mon. March 18	noon-1:00pm	AGFD Leader Luncheon	Morial Conv. Ctr. rm 245
Mon. March 18	1:00-2:00pm	Future Programs	Morial Conv. Ctr. rm 245
Mon. March 18	5:00pm-8:00pm	Executive Committee	Marriott - Warehouse Arts – Cypress rm
Mon. March 18	6:30-8:30pm	Urban South Brewery Tour	registration required (see page 4)
Tues. March 19	6:00-8:00pm	AGFD Chair’s reception	Palace Café 605 Canal St.
Tues. March 19	10:30-12:15pm	C4-Communicating Culinary Chemistry Competition	Dickie Brennan’s Steakhouse 716 Iberville Street