



Agricultural & Food
Chemistry Division

Fall 2026



CORNUCOPIA

including the AGFD program and abstracts for the
272nd American Chemical Society (digital & live) National Meeting on

August 23 - 27, 2026

in

CHICAGO

Karley Mahalak

Program Chair

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Going to Chicago?
Join the AGFD Awards Dinner at
Berghoff Restaurant
17 W. Adams Street (Historic Route 66!)
Tuesday, August 25 from 6:00-8:00 pm

Get your dinner ticket at the AGFD Information Table.

The Berghoff is 1½ blocks from the Jackson Boulevard
stop of either the Red or Blue subway lines.

Visit our website -
www.agfoodchem.org - for a
pdf of Cornucopia, job
postings, awards and more.
Check out our Facebook page
www.facebook.com/agandfood
We're a LinkedIn group & on
Instagram, too →



@AGFD_ACS

MESSAGE FROM THE CHAIR

I am completing my service as Chair of the **Agricultural and Food Chemistry Division (AGFD)** for 2025–2026 and will be handing over the leadership to Karley Mahalak of the USDA, who has done an excellent job organizing the program for ACS Fall 2026. I believe we have worked very effectively as a team throughout the year, with the valuable support of Kenny Xie (USP), our Vice Chair. As we were both new to these responsibilities, I thank all EXCOM members once again for their guidance and support, especially Mike Morello, Alyson Mitchell, Carl Frey and Michael Tunick, who were always available to offer advice and suggestions.

During ACS Spring 2026, we hosted 10 symposia covering a broad range of topics, including *Advances in Food Ingredients: Bridging Innovation to Traditional Technologies*; *Advances in Agricultural and Food Chemistry*; *Food Analysis & Technology*; *Food Analysis & Sensory Evaluation*; *Agri-Derived Bioactives and Their Therapeutic Potential*; *Artificial Intelligence in Food and Agricultural Chemistry: From Molecular Insights to Field Applications*; *Food Ingredients: Sustainability and Natural Alternatives*; *Artificial Intelligence and Advanced Sensing for Enhancing Food Safety*; and *The Chemistry of Nonalcoholic and Alcoholic Beverages*.

Organizing ACS Fall 2026 was challenging because of several external factors, but we ultimately developed a strong program featuring symposia on *Nutraceuticals, Food Bioactives, and Functional Foods: From AI and Emerging Analytical Techniques to Personalized Nutrition*; *Whole Grain Bioactives and Their Health Effects*; *The Gut Microbiome and Its Relationship to Diet and Human Health*; *Bioproducts from Biomass*; and *Sustainable Agraceuticals*, among others organized with other ACS divisions.

As is customary at AGFD, during ACS Fall 2026, I will have the honor of presenting AGFD Awards. The Award for the Advancement of the Application of Agricultural and Food Chemistry will be presented to **Michael Appell**, PhD, a pioneer in addressing agricultural and food safety challenges by integrating computational chemistry and materials science. The AGFD Young Scientist Award will be presented to **Jeehye Sung**, PhD, in recognition of her research centered on omics-based and AI-driven characterization of food quality. We will also recognize our AGFD Fellows: **Atanu Biswas, Lingyun Chen, Kathryn Deibler, Mary Anne Drake** and **Surendranath Suman**. **Jonathan Beauchamp** will receive the AGFD Distinguished Service Award. More information is available on the following pages of *Cornucopia*.

As part of the Committee on Science (COMSCI) activities AGFD and the AGRO Division are organizing a special event entitled “**Chemistry Is Everything We Eat: Building the Next 150 Years of Food.**” This innovative programming session is being organized for the 2026 ACS Fall National Meeting in celebration of the Society’s 150th anniversary. This half-day session will bring together leaders from academia, industry and government to explore how chemistry underpins the future of food—from production and sustainability to processing, nutrition and regulatory innovation.

The breadth of the topics featured in this session provides a compelling view of where Food Science and Technology is heading. Titles such as *From Molecules to Materials: Designing Cells and Tissues for Sustainable Food Systems*; *Sustainable Nanotechnology at the Nexus of Food Security: Transformational Chemistry for Resilient Agricultural Systems*; *Omics-Guided Discovery and Biosynthesis of Plant Peptides*; *Invisible Chemistry: Nitrogen Transformations at the Critical Zone and the Future of Sustainable Food Systems*; *Farming the Future: What the Next 150 Years of Agriculture Teaches About Today’s Scientific Demands*; and *Future-Ready Regulatory Ecosystems: The System Innovation Agriculture Needs to Secure the Next 150 Years of Food* illustrate how profoundly the field is evolving. The titles collectively tell a strong story: the future of Food Science & Technology is not simply “better food,” but the integration of molecular science, AI, biotechnology, materials, sustainability, nutrition, agriculture and regulatory systems to redesign the entire food system. This convergence will be essential for designing food systems that are not only safe and nutritious, but also resilient, sustainable, resource-efficient and responsive to future societal needs. Through a combination of invited talks, a moderated panel discussion and interactive elements, the session aims to foster cross-disciplinary dialogue and inspire new generations to consider how chemistry will shape the future of food.

We also plan to organize a fun and interactive sensory activity related to flavor, in which attendees will smell different odor-active volatile compounds associated with apple flavor and relate them to the volatile profiles found in apples. The activity will also highlight how biotechnology and targeted genetic modification can be used to address practical challenges in the food system, using Arctic® apples as an example of how reducing enzymatic browning can extend the freshness of sliced fruit, contributing to reducing food waste. Many thanks to Liz Kreger for providing the chemicals from Sensient. Finally, welcome to Chicago! The city offers an excellent setting for ACS Fall 2026, not only because of its vibrant

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scientific and academic community, but also because of the strong presence of the food industry and the many food companies located in the Chicago area. This creates valuable opportunities to connect scientific research with real-world applications, engage with industry leaders, expand professional networks and explore new collaborations across academia, industry and government. I encourage everyone to take advantage of the many scientific, professional and social activities offered during ACS Fall 2026 and to explore the activities organized by ACS Publications in celebration of the Society's 150th anniversary. We look forward to seeing you in Chicago and to hearing your ideas and suggestions for future AGFD meetings and programs.

Coralia Osorio AGFD Chair 2026

CORNUCOPIA EDITORIAL STAFF & CONTACT INFORMATION

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General Manager	P. White	
Staff	C. Kent, L. Lane, J. Olsen	

FUTURE PROGRAMS

NEW ORLEANS March 21–25, 2027

Advances in Agricultural and Food Chemistry (General Papers) Karley Mahalak Karley.mahalak@usda.gov
Kenny Xie kyx@usp.org

Biopolymers From Sustainable Resources and Their Emerging Applications in Agriculture, Food, Nutraceuticals and Other Industrial Sectors Lingyun Chen lingyun1@ualberta.ca Lucy Yu lyu5@umd.edu
Michael Appell Michael.appell@gmail.com

Chemistry of the Bar Nick Flynn nflynn@wtamu.edu Neil DaCosta neil.dacosta@iff.com

Dynamic Flavor Analysis Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de Franco Biasioli franco.biasioli@fmach.it Pat Silcock pat.silcock@otago.ac.nz

Fast Analysis and Machine Learning Technologies in Food Science Research Xiaofen Du xdu@twu.edu
Minwei Xu minwei.xu@ndsu.edu

General Posters and Undergraduate Poster Competition Roberta Tardugno roberta.tardugno@gmail.com

Green Chemistry Compliance: Bridging Agricultural and Food Research and Regulatory Standards Jane Tseng yjtseng@csie.ntu.edu.tw Michael Appell michael.appell@gmail.com

Microbiome Consortium Courtney Christopher courtneychristopher@uabmc.edu

Pet Food Palatability & Preferences Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de Scott McGrane scott.mcgrane@effem.com

Withycombe-Charalambous Graduate Student Symposium Yun Yin yunyin2@vt.edu Kenny Xie kyx@usp.org Karley Mahalak Karley.mahalak@usda.gov

Advances in Food Ingredients: Bridging Innovation to Traditional Technologies Kenny Xie kyx@usp.org
Yun Yin yunyin2@vt.edu Liyun Ye liyun9@vt.edu

Advances in Spectroscopic Analyses of Sustainable Agri-food and Biobased Materials Zhongqi He Zhongqi.he@usda.gov H. N. Cheng hncheng100@gmail.com

150 Years of Biopolymer Chemistry Toward a Sustainable Future Lingyun Chen lingyun1@ualberta.ca Feng Jiang feng.jiang@ubc.ca Charlie Fehl charlie.fehl@wayne.edu

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Advances in Food Allergen Characterization, Detection and Mitigation Christopher P Mattison
Chris.mattison@usda.gov Qinchun Rao qrao@fsu.edu

SAN DIEGO August 22-26, 2027

Agnes Rimando International Student Symposium Roberta Tardugno roberta.tardugno@gmail.com Michael Tunick mht39@drexel.edu

Award for Advancement of Application of Agricultural and Food Chemistry Mike Morello
mjmorello226@gmail.com

AGFD Awards: Young Scientist, Young Industrial Scientist, JAF Best Paper Karley Mahalak
Karley.mahalak@usda.gov Kenny Xie kyx@usp.org William King WKing@acs-i.org Youngmok Kim
Youngmok.Kim@finlays.net

Advances in Agricultural and Food Chemistry (General Papers) Kenny Xie kyx@usp.org

Chemistry of Alcoholic Beverages Nick Flynn nflynn@wtamu.edu Neil DaCosta neil.dacosta@iff.com

Climate-smart Foods: Boosting Nutrition, Flavor, Resilience and Consumer Acceptance Bhimu Patil b-patil@tamu.edu Deepak Kumar Jha deepakkumar.jha@ag.tamu.edu Vikas Dadwal Vikas.dadwal@tamu.edu

Emerging Challenges of Contaminants in Cannabis and Phytocannabinoid Products Navindra Seeram
nseeram@uri.edu Hang Ma Hang_ma@uri.edu

Food Polymers Lingyun Chen lingyun1@ualberta.ca

Heat-Induced Compounds in Foods: Balancing Risks and Benefits of Thermal Processing Coralia Osorio
cosorior@unal.edu.co Edisson Tello tellocamacho.1@osu.edu Devin Peterson peterson.892@osu.edu

Spencer Award Symposium Mike Morello mjmorello226@gmail.com

Sulphur Containing Compounds: Bioactivity and Flavor Lucy Yu lyu5@umd.edu Dejian Huang
dejian@nus.edu.sg Michael Qian Michael.qian@oregonstate.edu

Sustainable Food Systems, Tackling World Hunger & Food Security Reducing Food Waste Kenny Xie
kyx@usp.org Mike Morello mjmorello226@gmail.com Alyson Mitchell aemitchell@ucdavis.edu

Advances in Functional Foods, Bioactives, and Nutraceuticals: Integrating Artificial Intelligence, Engineering and Personalized Nutrition Jianping Wu Univ. of Alberta Xiaohong Sun Dalhousie Univ.
Nandika Bandara Univ. of Manitoba Jiaoyan Ren South China Univ. of Tech. Quan “Sophia” He Dalhousie Univ.

SPRING / FALL 2028

Advances in Agricultural and Food Chemistry (General Papers) Karley Mahalak Karley.mahalak@usda.gov
Kenny Xie kyx@usp.org

General Posters and Undergraduate Poster Competition Roberta Tardugno roberta.tardugno@gmail.com

Withycombe-Charalambous Graduate Student Symposium Kenny Xie kyx@usp.org Karley Mahalak
Karley.mahalak@usda.gov

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OTHER SYMPOSIA OF INTEREST

ABCChem Atlantic Basin Conference on Chemistry, Chemistry for Global Impact: Strategic Partnerships for Sustainable Innovation Barra da Tijuca, Rio de Janeiro, Brazil 6–9 December 2026 <https://abcchem.org/>
Sustainable Food and Agricultural Chemistry Transformation for a Circular Future Coralia Osorio
cosorior@unal.edu.co Laura McConnell laura.mcconnell@bayer.com Leonardo Fraceto
leonardo.fraceto@unesp.br Roselena Faez faez@ufscar.br

International Flavor Conference Lima, Peru Fall 2027

Executive Committee Meeting Minutes

Monday March 23, 2026 Atlanta

Attendance: Coralia Osorio Roa, Karley Mahalak, Kenny Xie, Alyson Mitchell, Steve Toth, Robert McGorin, Michael Appell, Michael Morello, Michael Qian, Yan-Ping Qian, Michael Tunick, Poll Zhang, Jiayi Hang, Ethan Lee, Kathryn Deibler, Michael Morello, Stephen Toth, Roberta Tardugno, Yun Yin, Xiuofen Du, Yu Fong

Coralia Osorio Roa called the meeting to order at 5:11 PM (EDT).

The **minutes** of the previous Executive Committee meeting were approved with no changes and are published in the Spring 2026 Cornucopia.

Stephen Toth gave the **Treasurer's Report**. Revenue for the year was \$5002 with expenditures of \$3,225, leaving a net of \$1,777. The Division has \$1,985,558 in total assets and is financially healthy. A \$40,000 budget was set and approved for the 2026 fall meeting in Chicago. Mike Morello made a motion to increase the amount of each symposium from \$1,000 to \$1,250. The motion was approved.

Coralia Osorio Roa provided the **Program Report** on the Fall 2025 National Meeting, noting that the ACS Fall 2025 organization was challenging due to external factors that affected the attendance of several presenters and led to a higher number of speaker withdrawals compared with previous years. AGFD successfully managed these challenges, delivering 18 well-executed symposia with 38 sessions, including six jointly programmed with other divisions and three offered in a digital-only format. For ACS Spring 2026, we are hosting 10 symposia (1 digital, 1 joint) with more than 140 abstracts. The number of speaker withdrawals was fewer (13) than at ACS Fall 2025. Karley Mahalak presented the **Fall 2026 National Meeting** report. Fall 2026 abstracts are open and will close on the 30th. There are 17 symposia being programmed for the Fall meeting. Karley indicated that we are being limited to 16 half-day sessions and 4-joint sessions for the Fall 2026 program.

In the **Flavor Subdivision Report**, Yun Yin stated the subdivision has five symposia programed for the Spring 2026 meeting, one for Chicago Fall 2026 and 3 for Spring 2027, with potential of adding 1-2 programs after meeting. Roberta Tardugno gave the **Food Safety Subdivision** report on behalf of Vivian Wu, who was unable to travel due to USDA travel restrictions. The Food Safety Subdivision has experienced a prolonged period of inactivity, with no representation at executive meetings, reports, or dedicated symposia throughout 2024–2026. The incoming Secretary, Roberta Tardugno, aims to revitalize the subdivision despite current challenges, including travel restrictions affecting some officers. While it is too late to organize a standalone Food Safety symposium for the upcoming Chicago meeting, food safety topics will be incorporated into related sessions. To ensure long-term visibility and continuity, the report proposes establishing a permanent recurring “Advances in Food Safety” symposium beginning with future ACS meetings in New Orleans and San Diego. Roberta also advocates for stronger collaboration with related divisions such as AGRO and ANYL, in line with ACS priorities for interdivisional programming and requests support in creating a mailing list of AGFD members working in food safety to improve communication and engagement. Overall, the report outlines a strategic plan to restructure and relaunch the subdivision, building a sustainable and collaborative programming pipeline for 2027–2028.

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Lingyun Chen provided the **Sustainable & Green Technology Subdivision** report via email. The subdivision has two symposia planned for the ACS Fall 2026 meeting **150 Years of Biopolymer Chemistry Toward a Sustainable Future** joint with the CARB Division, and **Transformative Natural Polymers of 21st Century ACS Series Symposia IV** joint with ENVR and ENFL Divisions. In addition, the subdivision participated in the Convergent Chemistry Community Grant **Transformative Natural Polymers for the 21st Century Materials** by POLY, CARB, AGFD, ENVR and PMSE.

No reports were received from **Agriceutical, Functional Foods & Natural Products** and **Nutrition & Gut Microbiome, Food Bioengineering** subdivisions.

Alyson Mitchell asked if the **Senior Program Guidance Committee** or the **Past Chairs Committee** would review the current Subdivisions and assess whether consolidating into four or five broader Subdivisions would provide more effective mentoring and focus. Mike Morello indicated that they had met with subdivision chairs. These officers indicated a lack of guidance and understanding of the responsibilities of the subdivisions' leadership and they do not know how to get rosters for their subdivisions. A discussion of how to obtain membership rosters followed. Coralia pointed out that she had asked the chairs of each subdivision for a short paragraph on what they felt was the most impactful discovery in their field over the last 150 years, but no one responded. Alyson indicated that even when asking Subdivision Chairs for a subdivision report, only a few respond. It is the duty of subdivision leaders to represent their members. Michael Appell suggested that we may just have the wrong people in Subdivision leadership positions or they are in these roles for the wrong reasons. Mike Morello proposed having a Special Topics meeting at the Fall meeting to discuss potential consolidation of Subdivisions.

In the **Committee Reports**, Mike Morello reported that the **Advancement of Application of Agricultural and Food Chemistry Award** will be presented to Michael Appell, Ph.D., consultant and USDA-retired collaborator, USDA ARS National Center for Agricultural Utilization Research. The **AGFD Young Scientist Award** will be presented to Jeehye Sung, Ph.D., Associate Professor in the Department of Food Science and Biotechnology, College of Life Sciences and Engineering, Gyeongbuk National University. No nominations were received for the **Young Industrial Scientist Award**, the **AGFD Distinguished Service Award**, or the **AGFD Exemplary Leadership Award**. Three nominations were received for the **AGFD Fellow Awards**, and the selection process is ongoing.

We have never had a nomination for the Young Industrial Scientist Award. Mike Morello proposes a motion to discontinue this award. The motion was approved with one abstaining.

Alyson Mitchell made a motion to extend the deadline for the **AGFD Distinguished Service Award and the AGFD Exemplary Leadership Award** to May 1, 2026. The motion was approved.

The **Teranishi Fellowship** was awarded to Ying Yang, Department of Food Science and Human Nutrition, University of Illinois Urbana-Champaign. The **Kenneth A. Spencer Award for Food and Agricultural Chemistry** will be presented to Michael Appell, Ph.D., consultant and USDA-retired collaborator, USDA ARS National Center for Agricultural Utilization Research. The inaugural **Thomas H. Parliment Award for Flavor Chemistry** will be presented to Terry E. Acree, Food Science, Cornell University, at the ACS National Awards Ceremony.

The 2025 awards not reported in the Fall 2025 Cornucopia include several notable recognitions. John W. Finley received the 2025 **AGFD Exemplary Leadership Award**. In addition, three individuals were named 2025 **ACS Fellows**: LinShu Liu of the USDA ARS Eastern Regional Research Center, Jerry Wayne King (retired) from the University of Arkansas, and Katherine N. Maloney of Point Loma Nazarene University.

On Sunday afternoon, AGFD hosted the **Undergraduate Poster Competition**. The division extends its appreciation to the judges (Kenny Xie, Bob McGorrin and Roberta Tardugno) for their time and expertise in evaluating the student presentations. Awards were presented to the top participants, recognizing first place and a tie for second place. Cole Pearson of Shippensburg University was awarded first place and received \$500. Tied for second place were Kylie Rosenau of South Dakota State University and Elijah Brunnengraeber of California State University Monterey Bay, each receiving

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\$250 in recognition of their outstanding work.

On Sunday afternoon, AGFD organized the **Withycombe-Charalambous Graduate Student Competition**, where finalists presented their research and demonstrated the quality of their graduate work. The division extends its sincere thanks to Michael Morello, Michael Tunick and Yun Yin for their thoughtful evaluation of the presentations. Awards were given for first, second and third place, each including a monetary prize of \$500, \$250, and \$100, respectively. Sonia Su of Cornell University was awarded first place, Dongjoo Kim of the University of Florida received second place and Li Xiao of McGill University earned third place.

The **JAFCA Article of the Year Award** was presented to the article titled *Metabolic Profiling of a Mediterranean-Inspired (Poly)phenol-Rich Mixture in the Brain: Perfusion Effect and In Vitro Blood-Brain Barrier Transport Validation* published by María Ángeles Ávila-Gálvez et. al.

Mike Morello put forward a motion to increase the Teranishi Fellowship from \$2,500 to \$3,000 and to increase the financial award for Young Scientists from \$1,000 to \$2,000 starting in 2027. The motion passed unanimously.

Mike Morello indicated that someone asked if the awards committee could report on how many nominations, they received for each award for better transparency on the distribution of these awards. The committee did not want to share this information as they felt it could be embarrassing to those who did not win. The committee discussed the continuing inequality of women representation in the Divisions major awards. This is a Complicated topic. Mike Morello will encourage the committee to retain matrices on the number of female versus male nominations and award winners.

The **Student Representative Report** was given by Ethan Young-Hyun Lee and Jiayi Hang. A tour of the Coca-Cola Museum is scheduled for March 24, 2026. He expects about 25 people to attend, mostly undergraduate students.

Coralie requested that the Division support a symposium at the Atlantic Basin conference in December in Rio de Janeiro. The committee agreed that if an AGFD member, the symposium organizer may receive \$330/session. A motion was made to support this congress at the same level as Pacific Chem. The motion was approved unanimously.

The **International Meetings Report** was given by Michael Qian. The next (5th) International Flavor and Fragrance Conference will be held in Peru (2027).

Mike Morello provided the **Senior Program Guidance Committee (SPGC) Report**.

Michael Tunick gave the **Council Report**. This meeting exceeded attendance goals - 13,000 versus the 11,000 anticipated. ACS has a new logo. Chemluminary awards - only 2 are currently related to Divisions.

The **Nominations Report** was given by Alyson Mitchell. There are 2 councilors and 1 alternative counselor positions to fill as the terms for Lauren Jackson, Alyson Mitchell (councilors) and Brian Guthrie (alternate councilor) will end 12/31/26.

The **Cornucopia Report** was given by Carl Frey via email. The Webmaster posted Cornucopia to the website about 2 weeks before the meeting. One hundred copies of the short (no abstracts) version were provided to Mike Morello to make available at the AGFD Information Table. The 'with abstracts' version posted on the website also includes information and applications for all AGFD awards.

Kathryn Deibler gave the **Hospitality Report**. The Chair's Reception was organized for 75 AGFD members and will be held at STATS Brew Pub on March 24, 2026. Student awards will be presented during the reception. The executive committee meeting dinner will be held at Thrive.

The **Membership Report** was given by Michael Qian. As of March 2026, AGFD has 2377 members, an increase of 115 from August 2025, although impressive it is still lower than before the pandemic (3110 members).

The **Journal Report** was given by Coralia Osorio Roa. The ACS Agricultural and Food journals continued strong performance in 2026, with steady growth in submissions, publications and downloads across *Journal of Agricultural and Food Chemistry*, *ACS Food Science & Technology*, and *ACS Agricultural Science & Technology*. The portfolio has expanded with the successful January 2026 launch of *ACS Nutrition Science*, broadening coverage of nutrition research. The journal is led by Editor-in-Chief Thomas Hofmann, with day-to-day management by Deputy Editor Jaume Amengual (Ohio State University) and is now accepting submissions from AGFD members. The 2025 Open Access discount token program had low uptake (5 users) and will not continue in 2026. Continued appreciation for AGFD partnership and encouragement for future collaboration and submissions.

Michael Appell gave the **Communications Report**. The communications committee has really stepped up its game. Cornucopia was e-mailed to all members 1353 recipients clicked on the email and 255 people downloaded the Cornucopia. Members from 6 continents use the website with 2942 site sessions in the past year and 2140 unique visitors in the past year.

In **New Business**, Alyson Mitchell reported that the Division Bylaws were updated to comply with ACS guidelines. A draft of these guidelines was sent to the executive committee for input and approval. Alyson asked for a motion to amend the bylaws current 1-year term limit for Treasurer and Secretary to be extended to a 3-year term. The motion passed unanimously.

The meeting **Adjourned** at 7:44 PM.

Submitted by Elizabeth Kreger

Joint AGFD, AGRO and ACS Committee on Science (COMSCI) Symposia

Chemistry is Everything We Eat: Building the Next 150 Years of Food

The ACS Committee on Science (COMSCI) with co-sponsorship by AGFD and AGRO, is holding an interactive poster and networking session bringing together leaders from academia, industry and government to explore how chemistry underpins the future of food—from production and sustainability to processing, nutrition, and regulatory innovation. The session highlights advances across food chemistry, food engineering, nutrition, agricultural systems, plant biotechnology and advanced breeding technologies, including gene editing, as well as emerging approaches in regulatory science. The session's invited talks, moderated panel discussion and interactive elements, aim to foster cross-disciplinary dialogue and inspire new thinking about how chemistry will shape resilient, nutritious, and sustainable food systems over the next century and beyond. Poster sessions delivered through digital screens will allow live posters with gif or video files. The session will be held in McCormick Center room W192b on Wednesday August 26th 8:00 AM – noon, with the poster session held from 11:00 AM – noon. For details: <https://acs.digitellinc.com/live/37/session/597146>

Flavor Sensory Activity

Come to the McCormick Center Expo Theater on Monday August 24, 2:30-3:30 p.m. to experience a **Flavor Sensory Activity** - sponsored by AGFD, AGRO, COMSCI, Sensient Co. and Artic Apples and organized by L. McConnell, C. Osorio, M. Ventura and E. Kreger. Participants will learn the importance of the chemical senses, particularly olfaction, in flavor perception. Attendees will become familiar with odor-note descriptors commonly found in foods such as apples.

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 -

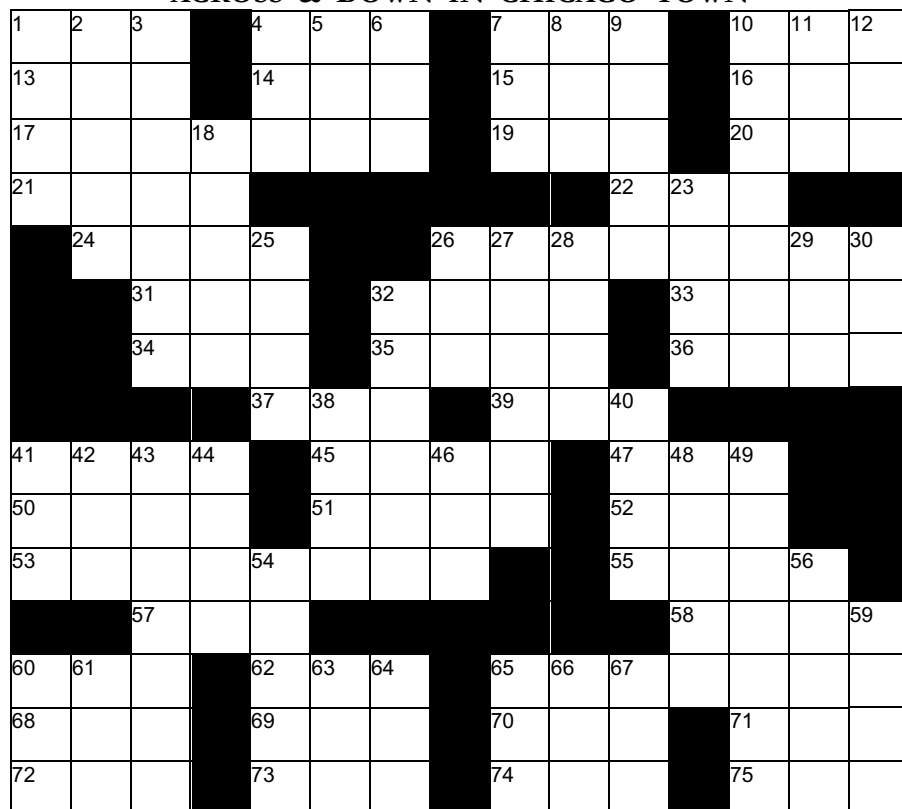
- organizing symposia/workshops on agricultural/food chemistry at ACS national meetings and other venues
- publishing proceedings of AGFD symposia
- publishing the *Cornucopia* newsletter
- updating members several times a year via e-mail blasts
- hosting social and networking gatherings at ACS national 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 ~2300 AGFD members via the application form (below) or on-line at www.agfoodchem.org or 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>

APPLICATION FOR AGFD DIVISION MEMBERSHIP (7623P)	
Title	
Name	
1 st address line	
2 nd address line	
City	
State	
Zip code	
Country	
e-mail address	
Phone	
check one	MEMBERSHIP FEE
☐	I am an ACS member and wish to join AGFD (\$10.00)
☐	I am not an ACS member and wish to join AGFD (\$15.00)
☐	I am a full-time student and wish to join AGFD (\$10.00)
Be cool JOIN AGFD	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

ACROSS & DOWN IN CHICAGO TOWN



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

Congratulations to Spring '26 winner -
Sonia Su of
Cornell University

Kudos also to -
Priyanshu Luhar of
CSU Bakersfield
for submitting a correct solution

ACROSS

- 1 Owns, possesses
4 Go on and on verbally
7 Hog
10 Pig
13 3 strikes result
14 Auto emission monitor
15 Mustang, Pinto
16 Sports drink: Gator __
17 Chicago Cubs field
19 Genetic messenger
20 Ball point or fountain __
21 Pre-euro Roman currency
22 Big deal individual
24 Residue at bottom of a
organic reaction flask
26 Chicago Ferris wheel site
31 Early name for Tokyo
32 I've a __ to pick with you
33 Organized quest for
civilizations beyond earth
34 *The Catcher in the* __
35 WWII diarist Frank
36 Boat used in *Jaws* pursuit

37 Sped, bled.

- 39 A notable time-period
41 Author/activist Lazarus
45 Molten volcanic rock
47 M.Ali: 'The Louisville __'
50 Jimmy & Clark co-worker
51 Tautomeric functional grp.
52 Speedometer abbrev.
53 Chicago lake of some size
55 Recess game: Simon __
57 Haw partner
58 Madonna hit: *La __ Bonita*
60 Pastoral comment
62 Twenty \$ bill dispenser
65 Chicago Bears field
68 Mellow, as wine.
69 Plant/animal resulting
from DNA engineering
70 *Imagine* co-lyricist
71 Rapper __ Lo Green
72 One day on any planet
73 Real cold Berlin wasser
74 Spider's lacy construction
75 Pampering place

DOWN

- 1 Eerie wolf cry
2 Bond nemesis: __ Goldfinger
3 Common laboratory hotplate
feature: magnetic __
4 __ electrophoresis
5 Chimp, orangutan or gorilla
6 Herb/spice blend: Old __
7 DNA replication method
8 *Dr. No* creator Fleming
9 Savory meat sauce
10 I'm fine. Couldn't be __.
11 Poem or song of praise
12 __-X or __-Y or __-Z
18 Tastelessly showy
23 By the very fact: __ facto
25 One who gets the job done
26 GC column option: __-polar
27 Reduce stress as in metals
28 Change/shift direction
29 And similar stuff I won't list
30 Coastal inlet
32 Like 22 ACROSS: Top __

- 38 That will never work. You
don't have __ to stand on.
40 Donations to the needy/poor.
41 A *Nightmare on* __ Street
42 What? You're accusing me?
43 __ J. Fox or __ B. Jordan
44 Tennis great Arthur __
46 Rocketeer Werhner __ Braun
48 Put your wallet away, it's
on me. __ already.
49 Particle __ or astro __
54 Picture, vision.
56 Late night activity for most.
59 __ code or __ 51
60 Many undergraduate degs.
61 Some time in the past
63 Stop, stop! I've heard enough
of your personal situation.
64 Rapper Yasiin Bey aka __ Def
65 Shoa't's mom
66 A binary code digit
67 High arcing tennis ball
trajectory

AGFD OFFICER & COMMITTEE LEADERSHIP ROSTER

Chair - Serves 1 year. Presides over Division meetings/appoints committees
Coralia Osorio UNAL
cosorior@unal.edu.co

Chair-Elect - Serves 1 year. Substitutes for Chair as needed. Organizes technical programs at national meetings.
Karley Mahalak USDA-ARS
karley.mahalak@usda.gov

Vice-Chair - Serves 1 year. Assists Chair-elect. Develops future technical programs. Kenny Xie
U.S. Pharmacopeia KYX@usp.org

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, Inc.
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 '27)
mhtunick@gmail.com

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

Student Activities – Attract/retain graduate/undergraduate student membs.
Ethan Lee (thru '27) elee1212@umd.edu
Jiayi Hang (thru '26) jhang1@ualberta.ca

Nominations - Develops officer slate. Served by immediate past chair. Liz Kreger
Elizabeth.Kreger@sensient.com

Finance - Monitors Div. finances. Served by immediate past chair. Liz Kreger
Elizabeth.Kreger@sensient.com

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

Alternate Councilors - Substitute for Councilors. Serve 3 years.
Kathryn Deibler (thru '27)
kdd3@cornell.edu
Michael Qian (thru '27)
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
Keith Cadwallader
cadwldr@illinois.edu (thru '27)
Jonathan Beauchamp (thru '27)
jonathan.beauchamp@ivv.fraunhofer.de

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
Grad/Undergrad Student Awards
Kathryn Deibler kdd3@cornell.edu

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

Membership – Recruits/retains members. Michael Qian
michael.qian@oregonstate.edu

Agricetual Sub.Div.
Chair Yuzhu Zhang
yuzhu.zhang@usda.gov
Chair-elect Ying Wu ywu@Tnstate.edu
Vice-chair Bailiang Li
15846092362@163.com
Secretary
Songtao Li lisongtao@vip.126.com

Food Bioengineering Sub.Div.

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Chair-elect Changqing Wu,
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Secretary Hye-Seon Kim
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Flavor Sub.Div.

Chair Joonhyuk Suh J.Suh@uga.edu
Chair-elect Yun Yin yunyin2@vt.edu
Vice-chair Yu Fang
yufang@coca-cola.com
Secretary Clare Jiang
clare.y.jianf@gmail.com

Food Safety Sub.Div.

Chair Boyan Gao gaoboyan@sjtu.edu.cn
Chair-elect Vivian Wu
vivian.wu@usda.gov
Vice-chair Yanhong Liu
Yanhong.liu@usda.gov
Secretary Roberta Tardugno
Roberta.tardugno@gmail.com

Functional Food/Nat Product SubDiv

Chair Yingdong Zhu yzhu1@ncat.edu
Chair-elect Khizar Hayat
khizaraura@gmail.com
Vice-chair Xiaohong Sun
Xiaohong.sun@dal.ca
Secretary Yanfang Li yanfang.li@usda.gov

Nutrition & Gut Microbiome Sub.Div.

Chair Ida Pantoja-Feliciano
ida.g.pantojafeliciano.civ@mail.mil
Chair-elect Tom Wang
Tom.wang@usda.gov
Vice-chair Jenni Firman
Jenni.firman@usda.gov
Secretary Jianghao Sun
jianghao.sun@usda.gov

Sustainability/Green Tech. Sub.Div.

Chair Lingyun Chen
lingyun.chen@ualberta.ca
Chair-elect Omowunmi "Wunmi" Sadik
sadik@njit.edu
Vice-chair Yi-Shu Tu
georgetu@gmail.com
Secretary Yixiang Wang
yixiang.wang.mcgill.ca

Public Relations – Publicizes Division.
Alyson Mitchell aemitchell@ucdavis.edu

In Memorium**John Paul Cherry**

1/31/41 – 4/4/26

With a Ph.D. in Agricultural Biochemistry and Genetics from the University of Arizona John P. Cherry began a long career in food chemistry producing >130 publications including 25 book chapters. He joined AGFD in 1974 and served as AGFD Division chair in 1986, two years after becoming Director of the Eastern Regional Research Center of the USDA's Agricultural Research Service outside of Philadelphia. He had previously investigated cottonseed products at the USDA Southern Regional Research Center in New Orleans. Before retiring in 2007 he received honors - an AGFD Distinguished Service Award (1990), AGFD Fellow (1995) and a Presidential Rank Award for outstanding management and research contributions in the government. He also edited several ACS Symposium Series Books based on AGFD symposia. John's many co-workers, collaborators and friends at AGFD miss him and extend condolences to his family.

*(thx to M. Tunick for this content)***In Memorium****Gary R. List**

9/14/42 – 6/26/26

Gary Ray List, Ph.D., worked from 1963 to his retirement in 2007 at the USDA Agricultural Research Service Northern Regional Research Center in Peoria, Illinois and in the process established himself as an internationally recognized authority in edible fats, oils and soybean processing technology. After retirement he remained active as an adjunct professor and researcher. Along the way he earned many awards including the American Soybean Association's Pinnacle Award, AGFD Fellow (2011), Award for the Advancement of Application of Agricultural and Food Chemistry (2020) and the Sterling B. Hendricks Memorial Lectureship Award (2023). He and his wife Marlene provided foster care to more than 15 children and worked extensively with scouting and rescue groups in Peoria. Gary's many co-workers, collaborators and friends at AGFD miss him and extend condolences to his family.

In Memorium**Charles F. Shoemaker**

6/3/46 – 4/13/26

Professor Emeritus Charles F. (Charlie) Shoemaker served as a distinguished food scientist and respected member of the UC Davis community for 35 years, including 10 as department chair. After retiring in 2014, Charlie remained deeply connected to the department. His research career explored the physical chemistry of foods, particularly the role of polymers in texture and processing. Charlie was a knowledgeable, supportive colleague and a clear, approachable instructor. He received the college's Affirmative Action and Diversity Award in 1998 for his work as an early leader in advancing diversity at UC Davis and his longstanding collaborations with institutions in China—including his pivotal role in establishing the Confucius Institute in Davis, reflecting his commitment to global engagement. He received China's Friendship Award for his contributions to research and cultural exchange with Jiangnan University. His legacy endures through the many students, colleagues and international partners whose lives and work he influenced. Charlie's many co-workers, collaborators and friends at AGFD miss him and extend condolences to his family.

(thx to W. Yokoyama for this content)

AWARD NEWS



Michael Appell, Ph.D., consultant and USDA-retired collaborator., USDA, ARS, National Center for Agricultural Utilization Research (Peoria, IL) won the 2026 **Award for the Advancement of Application of Agricultural and Food Chemistry**. This award (sponsored by International Flavors and Fragrances, Inc.) recognizes his pioneering work addressing agricultural and food safety challenges through the integration of computational chemistry and materials science. He integrated quantum chemistry, cheminformatics and green synthetic strategies to address persistent challenges in the global food supply chain. His work revolutionized the detection and remediation of foodborne toxins, enhanced the utilization of agro-based products and established new paradigms for the application of nanotechnology in agriculture. His numerous accomplishments include 1)- creating green nanomaterials, biomimetics and chemosensors to detect and reduce agricultural foodborne toxins, 2)- mitigating foodborne pathogens by discovering safer antimicrobials and toxin remediation strategies using AI and cheminformatics and 3)- promoting agro-material utilization by detailing the chemical mechanisms behind oil and carbohydrate quality. Dr. Appell recently retired following a distinguished 23-year USDA career. He authored more than 140 publications and presentations. He is an AGFD Fellow, an ACS Fellow and a past AGFD Chair and AGFD Councilor.



Jeehye Sung, Ph.D., Associate Professor, Dept. Food Science and Biotechnology, College of Life Sciences & Engineering Gyeongbuk National University (South Korea) received the 2026 **AGFD Young Scientist Award**. This award recognizes and highlights important contributions made by early career Ag & Food chemists. Dr. Sung's research includes 1)- omics-based and AI-driven characterization of food quality, 2)- molecular-level elucidation and optimization of functional bioactivity and 3)- nutrient analysis for national food composition databases. These approaches integrate multi-omics and AI to link food composition with flavor and health functionality, spanning flavor biosynthesis in fruits such as mango and apple and quality differentiation of fermented foods including noni juice, salt-fermented shrimp, anchovy and Panax species. Her mechanistic work addresses food-derived phytochemicals, including their bioactivity and phytochemical enrichment of sprouts through elicitation. She has applied AI-based machine learning

to model apple flavor and discover neuroprotective compounds from citrus flavonoids. Her lab contributes to nutritional composition analysis for the National Laboratory System supporting government-standard food composition databases for the Rural Development Administration and the Ministry of Food and Drug Safety. Dr. Sung published 102 peer-reviewed journal articles, including 69 SCIE/eSCIE-indexed and 30 SCOPUS-indexed papers. She is the first or corresponding author on 46 papers. She holds 5 patents and serves as Editor/Advisor for 3 peer reviewed journals and served as a Guest Editor for Special Issues of Food Chemistry and Foods.

Atanu Biswas (USDA-ARS National Center for Agricultural Utilization Research), **Lingyun Chen** (Dept. Agricultural, Food and Nutritional Sciences, University of Alberta), **Kathryn Deibler** (Flavor Innovations LLC), **Mary Anne Drake** (Dept. Food Science, North Carolina State University), **Surendranath Suman** (Dept. Animal and Food Science, University of Kentucky) each received an **AGFD Fellow Award** recognizing their outstanding scientific contributions to the field of agricultural and food chemistry.

Jonathan Beauchamp (Fraunhofer Institute for Process Engineering and Packaging IVV, Freising, Germany) received a 2026 **AGFD Distinguished Service Award** recognizing his substantial and sustained service to AGFD.

Ying Yang (Dept. Food Science and Human Nutrition, Univ. Illinois Urbana-Champaign - advisor: Keith Cadwallader) received the 2026 **AGFD Roy Teranishi Graduate Fellowship in Food Chemistry**. This honor goes to a beginning graduate student with an outstanding graduate GPA who shows promise of an excellent research career.

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The 2026 **Withycombe-Charalambous Awards for Excellence in Ag/Food Graduate Research** were won by: (first prize \$500) **Sonia Su**, Cornell University: advisor Julie M. Goddard (paper: Peptide directed immobilization of PETase for microplastic bioremediation), (2nd prize \$250) **Dongjoo Kim**, University of Florida, advisor Yu Wang (paper: Key flavor compounds in various *Vanilla* species and their biosynthetic pathways before harvest), and (3rd prize \$100) **Li Xiao**, McGill University: advisor Xiaonan Lu (paper: On-site detection of thiram on apple surfaces using a flexible bacterial cellulose-based SERS substrate). These awards are won for oral presentations given at the ACS Spring National Meeting.

John W. Finley



recipient of a 2025 AGFD Exemplary Leadership Award

recognizing his substantial and extended service to AGFD, including -

- Member since 1976 and Division Chair 1988
- Chair: Food Bioengineering Subdivision: 2019-2020
- Chair: Food & Nutritional Biochemistry Subdivision 1997
- Alternate Councilor: 2003-2010
- National Meeting Symposia (since 1996): 22
- AGFD Councilor: 1997 - 2020
- Symposium Series Books: 8
- JAFC Editorial Advisory Board: 1989-1998
- JAFC Associate Editor: 1999 – 2017
- AGFD Fellow: 1990
- AGFD Distinguished Service Award: 1990
- Sterling B. Hendricks Memorial Lectureship: 2019
- ACS Fellow: 2011

The 2026 **AGFD Undergraduate Poster Competition Awards** were won by (first prize \$500) **Cole Pearson**, Shippensburg University (paper: Development of a computational tool for kombucha titration analysis) and (tie for second prize \$250) **Kylie Rosenau**, South Dakota State University (paper: Resveratrol-enhanced oat straw cellulose films for food packaging applications) and **Elijah Brunnengraeber**, California State University Monterey Bay (paper: Visualizing plant stress: Hyperspectral imaging of invasive weeds in Monterey County). These awards are won for posters presented at the ACS Spring National Meeting.

The following loyal members of AGFD marked **25 Years of AGFD Membership** in 2026: **Josh Duberman, Catherine C. Neto, Kristina Wahala, Michael R. Blumhorst, Jocelyn Grenville Millar, Alan C. Roberts, Andrew T. Daniher, Charles L. Cantrell, Shengmin Sang, Markus A. Eckert, Heidrun B. Gross, Huazhang Huang, Alyson E. Mitchell, Osamu Negishi, Michael Werthschitzky, Liangli (Lucy) Yu, Cheryl B. Inslee.**

The following extremely loyal members of AGFD marked **50 Years of AGFD Membership** in 2026: **Hsien Hsin Chang, James R. Coughlin, Robert G. Eilerman, John W. Finley, Michael J. Greenberg, Tsutomu Nakatsugawa, Colin J. Ringleib, Tetsuya Suzuki, Stephen L. Taylor.**

Kudos to **Andrew L. Waterhouse** as a **50 year ACS member.**

The team **María Ángeles Ávila-Gálvez, Beatriz Garay-Mayol, Alicia Marín, María Alexandra Brito, Juan Antonio Giménez-Bastida, Juan Carlos Espín, Antonio González-Sarrias** won the 2025 **JAFC Research Article of the Year-AGFD** for their paper: Metabolic Profiling of a Mediterranean-Inspired (Poly)phenol-Rich Mixture in the Brain: Perfusion Effect and *In Vitro* Blood–Brain Barrier Transport Validation.

The team **Evandro Silva, Aline Midori Kanashiro, José Rodrigo Ferreira Maciel, Rodolfo Dantas Lima Junior, Maria Antonia Fraga Botelho, Alana Kelyene Pereira, Stephanie Nemesio da Silva, Jonas Henrique Costa and João Guilherme de Moraes Pontes** won the 2025 **JAFC Research Article of the Year-AGRO** for their paper: Decoding the *Penicillium italicum*–*Citrus* Interaction: Untargeted Metabolomics Sheds Light on a Neglected Postharvest Pathogen.

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In addition to receiving the 2026 **Award for the Advancement of Application of Agricultural and Food Chemistry** (details above) **Michael Appell, Ph.D.** received the 2026 **Kenneth A. Spencer Award** (administered by the ACS Kansas City section) for his large body of work addressing agricultural and food safety challenges.



Terry E. Acree, Ph.D., Professor Emeritus, Food Science, Cornell University, won the first ever **Thomas H. Parliament Award for Advances in Flavor Chemistry**. This biennial cash ACS award, endowed by long-time notable flavor scientist Thomas H. Parliament, recognizes Terry's significant contributions to the advancement of flavor chemistry, especially as it pertains to aroma detection and assessment and for training of legions of young researchers to further the science.



Speakers at the inaugural **Thomas H. Parliament ACS Award Symposium** for Advances in Flavor Chemistry: honoring Terry E. Acree Spring 2026 ACS National Meeting in Atlanta

from left: Leslie M. Kay, Stuart Firestein, Andre Kalenak Terry Acree, Nancy Rawson, Dmitry Rinberg, Paul Breslin, Linda Bartoshuk
(Photo credit: M. Morello)

AGFD congratulates all awardees and looks forward to their continued successes and contributions.

2026 Awards Committee: Michael Morello- Chair and AAAFC: IFF/AGFD Award, Youngmok Kim- Young Scientist Award, Bhimanagouda (Bhimu) Patil- Young Industrial Scientist Award, Fereidoon Shahidi- AGFD Fellow Award, Michael Tunick- AGFD Distinguished Service Award, Liangli (Lucy) Yu- Roy Teranishi Graduate Fellowship Award, Kathryn Deibler- Undergraduate Student Symposium and Withycombe-Charalambous Award for Excellence in Ag/Food Graduate Research, Sarah Leibowitz- Spencer Award, Michael Morello, Michael Appell and Carl Frey- ACS Fellow Award.

(Award News provided by M. Morello)

Recognize an AGFD Colleague with an Award

AGFD and ACS awards programs, summarized below, provide many opportunities to recognize a colleague for technical and organizational excellence.

Find more details regarding each award – purpose, eligibility, prize, nomination deadline, application form - on the Division's awards webpage - <https://www.agfoodchem.org/programs-1> and on the final pages of the 'with abstracts' version of the Fall '26 *Cornucopia*.

Advancement of Application of Agricultural and Food Chemistry (sponsored by International Flavors & Fragrances, Inc.) - recognizes and encourages outstanding contributions to pure and/or applied agricultural and food chemistry.

Young Scientist - recognizes outstanding scientific contributions of scientists early in their careers to the field of agricultural and food chemistry.

AGFD Fellow - recognizes outstanding scientific contributions of AGFD members (w/>10 years of service) to the field of agricultural and food chemistry.

Roy Teranishi Graduate Fellowship in Food Chemistry – provides funds for research expenses to a student with an outstanding grade point average and showing promise of an excellent graduate research career.

Withycombe–Charalambous Excellence in Graduate Research in Agricultural or Food Chemistry – a competition designed to showcase the research talents of up to 6 graduate degree candidates to prospective employers. Participants receive up to funds for travel expenses and a chance to win a cash award.

Undergraduate Poster Competition - showcases the research talents of undergraduate students in a professional forum and promotes their continuance of education in food and agricultural chemistry. Participants receive funds for travel expenses and a chance to win a cash award.

Distinguished Service to AGFD - recognizes substantial and sustained service to the Division.

AGFD Exemplary Leadership - recognizes substantial and extended (>25 years) service to AGFD.

Book Awards – recognizes editors whose books (published under Division auspices) achieve high sales volume, providing a royalty income to subsidize future Division Symposia.

Sterling B. Hendricks Memorial Lectureship - recognizes scientists who have made outstanding contributions to the chemical science of agriculture. The winner presents a lecture at the ACS Fall Meeting and receives an honorarium of \$2000, a bronze medallion and travel expenses.

Kenneth A. Spencer - recognizes work in education, industry or research that meritoriously contributed to the advancement of agricultural and food chemistry. The award consists of a medal and a cash honorarium.

ACS Fellow - recognizes ACS members for their outstanding achievements in and contributions to science, the profession and the Society.

JAFC Research Article of the Year Lectureship – recognizes authors of a particularly impactful JAFC article published within the last year.

Thomas H. Parliament Advances in Flavor Chemistry – recognizes significant contributions to the advancement of flavor chemistry with an emphasis on the aroma aspects. The winner receives a substantial cash award.

AGFD TECHNICAL PROGRAM

Find abstracts of these presentations in the 'with abstracts' version of Cornucopia posted on the AGFD website.

MONDAY MORNING August 24

McCormick Place Conv. Ctr. S501bc

**Nutraceuticals, Food Bioactives, and Functional Foods:
From AI and Emerging Analytical Techniques to
Personalized Nutrition** N. Bandara, X. Sun, J. Wu, *Organizers,
Presiding*

8:00 Opening Remarks

8:05 . Nutritional erosion across a maize domestication gradient: evidence from bioactive compounds, peptides, and gut fermentation.

K. Majumder, P. Bose, T. Obata

8:30 . Egg white ovomucin-derived glycopeptides inhibit *Helicobacter pylori* adhesion by acting as receptor analogs. R. Pruski, S. Zhang, Q.S. He, X. Sun

8:50 . Impact of free, esterified, and insoluble-bound phenolics on the functional and nutritional properties of camelina protein concentrates.

Y. Hou, C. MacDonald, X. Sun

9:10 . Effects of canola protein-derived peptides on osteoporosis prevention. D. Shi, J. Wu

9:30 . Debittering of ovalbumin hydrolysates via gamma-glutamylolation. N. Elhadad, J. Wu

9:55 Intermission

10:10 . AI-guided design of food-use miniproteins. Y. Zhang, S. Ding

10:35 . Lipid-protein conjugate-based nanoemulsions for the delivery of poorly water-soluble resveratrol. N. Bandara, A. Ghosal

10:55 . Volatile contributors to sweetness modulation in honey

revealed by flavoromics. I. Gugger, E. Tello Camacho, D.G. Peterson

11:15 . Multiscale analysis of ethanol-dependent lutein encapsulation in zein systems: Decoupling molecular binding from functional performance. H. Kwon, Y. Li

McCormick Place Conv. Ctr. S501d

**Whole Grain Bioactives and Their Health Effects
Chemistry, Diversity, and Mechanisms**
S. Sang, D. Smolensky, *Organizers, Presiding*

8:00 Opening remarks

8:05 . Inferences from five years of Missouri pigmented corn breeding program: Midwest-adapted varieties and phytochemical extraction optimization. P. Somavat

8:30 . Insights into corn phenolamides: Chemical profiling, quantification in whole-grain corn-based products, and thermal effects.

S. Hafez Ghoran, S. Sang

8:55 . Phenolic diversity and bioactivities of pigmented and non-pigmented rice, maize, and sorghum whole grains. J. Peterson

9:20 . Effects of cultivar, growth stage, irrigation, and tissue type on the phenolic composition of sorghum (*Sorghum bicolor* L. Moench). A.L. Santana9:45 . Impact of storage time and flour particle size on bioactive components and end-use properties of whole grain sumac sorghum (*Sorghum bicolor* L.) flour. C. Kabus, A. Santana, D. Smolensky, M. Purifoy, S. Chakraborty, J. Peterson, K. Siliveru

10:10 Break

10:20 . Whole grain wheat and oat exhibit distinct flavonoid composition and metabolic responses in humans. S. Hwang, W. Wang, S. Hafez Ghoran, J. Novotny, D. Baer, S. Sang

10:45 . From leaf to bran: polyphenol-rich *Sorghum bicolor*-driven epigenetic modulation in colorectal cancer. Z. Kamagate, P. Tsuji

11:10 . Large-molecular-weight polyphenol fraction from sorghum inhibits proliferation of human colorectal cancer cells. S. Lee, Y. Joo, D. Smolensky

11:35 . Targeted gut microbiota modulation in obesity using discrete fiber structures. I. Iwuamadi, C. E. Pérez-Donado, L. Whisenhunt, A.K. Benson, Z. Zhang, D. Rose, E.C. Deehan

McCormick Place Conv. Ctr. W192c

**Feeding the World Through Chemistry Advances in
Agricultural and Food Chemistry in the Past 150 years**
D. Barrett, B. Lorschbach, S. Whiting, *Organizers* R. A. Egolf, M. H. Tunick, *Organizers, Presiding*****No abstracts available****

8:00 Introduction

8:05 . Improvements in food and agriculture since 1876: Farming and packaging. M.H. Tunick

8:30 . Postharvest UVB treatment enables the development of a nutraceutical-rich amaranth leaf powder and its application in nixtamalized maize tortillas. M.E. Segura Jimenez, E. Perez Carrillo, J. de la Rosa Millan, M. Antunes Ricardo, A. Sanchez Resendiz, A. Gastelum Estrada, D.A. Jacobo Velazquez

8:55 . 150 years of progress: The science and policy behind safer food. L. Jackson

9:20 . Improvements in food and agriculture since 1876: Distributing and preparing food. M.H. Tunick

9:45 Intermission.

10:15 . Harvey Washington Wiley: Father of the Pure Food and Drug Act of 1906. R.A. Egolf

10:40 . Chemistry of ultra-processed foods: Evolution, composition, and knowledge gaps. A.E. Mitchell

11:05 . Flavor analysis across time: 150 years of learning and what comes next. S.J. Toth

11:30 Panel Discussion

MONDAY AFTERNOON

McCormick Place Conv. Ctr. S501d

**Whole Grain Bioactives and Their Health Effects
Microbiome, Functional Mechanisms, and Applications**
S. Sang, D. Smolensky, *Organizers, Presiding*

2:00 Opening remarks

2:05 . Bifidobacterium monoculture growth assays reveal biologically relevant structural variation in maize arabinoxylan. B. Peng, V. Torres-Rodriguez, J.C. Schnable, A.K. Benson

2:30 . Oat Avenanthramide-C alleviates DSS-induced colitis through regulating intestinal immune activity and gut microbiota in mice. G. Ye, G. Li, Z. Wang, Z. Wang, J. Wang, J. Liu

2:55 . Dietary hordatines from germinated barley attenuate high-fat diet-induced metabolic syndrome and remodel the metabolome and gut microbiome in mice. F. Omoniyi, S. Hafez Ghoran, S. Zhang, T. Liu, S. Sang

3:20 . Impact of extrusion processing on polyphenol losses and gut health. J. Guazzelli Pezzali

3:45 Break

3:55 . Bioactive wheat bran extracts: Antioxidant, anti-aging, and cell-specific anticancer functions. Y. Li

4:20 . Development of functional pigmented rice beverages. R. Ardoin

4:45 . Optimizing extrusion parameters to enhance antioxidant delivery from tannin containing sorghum bran. B. Smith, R. Scott, D. Olson, S. Boue

5:10 . Value-added applications for sorghum polyphenols: Improving tilapia shelf life and quality through gelatin-based coatings. D. Smolensky, C. Kabus

5:35 . Whole grain-derived nutrient delivery platform for stable and bioavailable micronutrient fortification. X. Yang

McCormick Place Conv. Ctr. S501bc

**Nutraceuticals, Food Bioactives, and Functional Foods:
From AI and Emerging Analytical Techniques to
Personalized Nutrition**
N. Bandara, X. Sun, J. Wu, *Organizers, Presiding*

2:00 Opening Remarks

2:05 . Identifying molecular drivers of aroma disliking in pea protein isolates using a flavoromics approach. R. Bao, E. Tello Camacho, D.G. Peterson

2:30 . Combining in silico and in vitro toxicological data for profiling chemicals in foods and dietary supplements: A case study. **M.F. Santillo**, R. Sprando, J. Yourick
2:55 . Cellular and molecular effects of cottonseed, cinnamon, and green tea extracts in mammalian cells and tissues. **H. Cao**
3:15 . Sulforaphane enantiomers attenuate lipid dysregulation via modulation of pregnane X receptor signaling. **Y. Liang**, T. Zhang
3:35 . Beetroot powder fortified with ferrous sulphate, ascorbic acid, and folic acid improves anaemia biomarkers. **O. Francis**, P. Ssonko, M. Agwaya, H. Tumusiime
3:55 Intermission
4:10 . Comprehensive analysis of physicochemical and sensory properties in robusta and decaffeinated coffee: Impact of ultrasound-assisted soaking and vacuum impregnation with bioactive-rich lemon extracts. **K.G. Lee**
4:35 . Development and validation of a fit-for-purpose UHPLC-ESI-MS/MS method for the quantitation of cannabinoids in multiple experimental matrices. **Y. Zhao**, E. Sepehr, C. Vaught, J. Yourick, R. Sprando
5:00 . Integrative computational framework for precision nutraceutical and functional food discovery: toward AI-enabled applications. **R. Hajjo**, N.H. Aboalhaja
5:20 . Feature-based molecular networking reveals solvent-dependent chemical space in NaDES-mediated polyphenol extraction from *Myrothamnus flabellifolius*. **J.Q. Williams**
5:40 . Machine learning-based inference of oxidative stability of vegetable oils. **E. Dike**, L. Ayres, J. Barroso, J. Furgala, D.C. Whitehead, C.D. Garcia

McCormick Place Conv. Ctr. W192c

Feeding the World Through Chemistry Agrochemicals Research Accomplishments and Lessons Learned

R. A. Egolf, M. H. Tunick, *Organizers* D. Barrett, B. Lorschbach, S. Whiting, *Organizers, Presiding*

****No abstracts Available****

2:00 Introductory Remarks

2:05 . Agriculture, ACS, and its role in feeding the planet with healthy food. **1. K. Solomon**, G.D. Patterson

2:30 . From binary to multi-parameter optimization: Evolution and future imperatives in crop protection science. **C. Corsi**

2:55 . Understanding Integrated Pest Management history for a future of responsible crop protection. **R. Krell**

3:20 . Sustaining a growing world: The essential role of chemistry in agriculture. **N. Garizi**

3:45 Intermission

4:15 . Insect control agents: Past, present and future. **T.C. Sparks**, B. Lorschbach

4:40 . Innovative environmentally friendly uses of agro-based materials: Past, present, and future. **H. Cheng**

5:05 . The history of glyphosate and glyphosate-resistant crops. **S.O. Duke**

5:30 Panel Discussion

McCormick Place Conv. Ctr. W187a

Transformative Natural Polymers of 21st Century ACS Series Symposia IV ACS-NP-CCC

Cospons: ENVR, PMSE Financial support: Chinese American Chemical Society (CACS) F. Jiang, *Organizer* L. Chen, C. Fehl, W. Gao, J. Wang, *Organizers, Presiding* M. Appell, *Presiding*

2:00 Opening Remarks

2:05 . Advancing nitro-oxidation process to upcycle natural organic waste and create circular solutions by nanocellulose technologies. **B.S. Hsiao** ****No abstract available****

2:35 . Fungal biotransformation: a strategy for creating integrated mycoprotein and pulse protein matrices. **J. Rao**

3:05 . Physically crosslinked biopolymer-based stretchable Organohydrogel with self-healing for environmentally tolerant strain sensors. **L. Chen**, W. Cai ****No abstract available****

3:35 . SPROUT: Sustainable polymer-based third-generation organic nanozymes for future food and agricultural implementation. **D. Lee**

4:05 Intermission

4:15 . From cellulosic waste to functional food packaging. **Y. Wang**

****No abstract available****

4:45 . Protein corona formation on zein nanoparticles in dairy protein systems: Implications for stability and food matrix interactions. **Y. Wang**, L. Zhang, Q. Wang ****No abstract available****

5:10 . Multimodal AgNC-based active and intelligent packaging film for real-time spoilage monitoring and microbial inhibition. **L. Zhang**, Q. Wang, Y. Wang ****No abstract available****

5:35 . Harnessing fermentation technology to overcome functionality challenges in pulse protein ingredients for food applications. **R.S. Cheriaparambil**, L. Grossmann

MONDAY EVENING 8:00 PM

McCormick Place Conv. Ctr. Hall F2

AGFD Sci-Mix POSTERS

01--Beyond the burn: Unlocking the drivers of heat modification. **N. Burke**, J. Redwine, S. Yelgaonkar, M. Tzoumaki, R. Nahas

02--Analyzing beer is fun: Determining flavor, attributes and defects by headspace trap/gas chromatography/mass spectrometry (HStrap/GCMS). **A. Maitan**

03--Diversity of enantiomeric fraction of chiral compounds in wines from different regions and styles. T. Ye, Y.L. Qian, **M.C. Qian**

04--Making proteins whey sweeter: Engineering novel sweet proteins. **M.C. Smardz**, P. Gibney

05--Formulation of heat-stable dark chocolate using fat mixtures of cocoa butter, mango kernel fat stearin, and soybean oil-based structured fats. **I.P. Aondoakaa**, S. Martini, C.C. Akoh

06--Multimodal imaging for agricultural weed identification. **E.W. Brunnengraeber**, A.K. Sharma

07--Good as Au - an analytical study of heavy metals and quality of Girl Scout Cookies. **G.R. Marsh**, G.T. Shannon, K.W. Barnes

08--Species-dependent seasonal variation of tetrodotoxin and its analogues in Korean pufferfish (*Takifugu* spp.) and dietary risk assessment. **B. Park**, H. Lee, C. Choi, N. Kajino, K. Choi, W. Lee, J. Lee

09--Edge-deployable lightweight deep learning models for smartphone-based avocado firmness prediction. **I. Lee**, R.U. More, S. Park, L. Ma

10--Comparative analysis of substances regulated for direct addition to food in the United States and the European Union. **M. Barr**, A. Kumah, D. Hlavaty, A. Nickkar, D.M. Schmit, J. Steele, E. Kwegyir-Afful, K. Arvidson

11--Machine learning-assisted classification of food categories using volatile sulfur compound profiles. S. Park, K. Kim, H. Kim, **J. Sung**

12--Profiling anti-inflammatory molecules in non-alcoholic beer using liquid chromatography mass spectrometry. **R. Runyon**, D. Cochenour, D. Tano

13--Biochar a new frontier in agriculture. P.Q. Tran, **G. Adeosun**

14--PFAS drive gut dysbiosis and antibiotic resistance. **Y. Tian**

15--Buttermilk promotes gut health through anti-inflammatory effects in a colitis mouse model. **J.C. Karunathilaka**, J. Woo, D. Cheng, G. Shen, C.R. Ferreira, W. Wang

16--AI-assisted design and validation of herbicide resistance genes. **H. Lin**, G. Yang, J. Dong, X. Yu, J. Dong

17--Nano-fertilizers and PFAS in crops: Implications for contaminant mobility and plant uptake in agricultural systems. **S. Davoodi**, H. Sharifan

18--Overcoming challenges in estimation of dietary exposure for food and color additives, and GRAS ingredients. **T.I. Todorov**, D.L. Doell

19--FPOs(Farmer Producers Organization) as carbon foot soldiers. **N. Agrawal**, G.S. Gill

20--Innovative engineered biochar applications for brackish water irrigation. **B. Odum**, G. Chen, O.E. Omotayo, M.E. Omotayo

21--Dietary fish oil intervention mitigates metabolic dysregulation triggered by a potato chip diet through the Gut-Liver axis. **X. Wan**, D. Meng, X. Liu, Y. Zhang

22--Valorization of pumpkin seed meal to produce functional ingredients. **J. Chen**, K. Hsiao, N. Aldrin, O.K. Ozturk

23--Nutritional erosion across a maize domestication gradient: evidence from bioactive compounds, peptides, and gut fermentation. **K. Majumder**, P. Bose, T. Obata

24--Integrative computational framework for precision nutraceutical and functional food discovery: toward AI-enabled applications. **R. Hajjo**, N.H. Aboalhaja

25--*In situ* high-throughput fabrication of micro/nanofibrous coatings for deep learning-enabled intelligent food packaging. **L. Li**, C. Moses, C. Hsu, F. Calderon Gutierrez, C. Ruiz, W. Liu, H. Chang

26--Whole grain wheat and oat exhibit distinct flavonoid composition and metabolic responses in humans. **S. Hwang**, W. Wang, S. Hafez Ghoran, J. Novotny, D. Baer, S. Sang

27--Impact of storage time and flour particle size on bioactive components and end-use properties of whole grain sumac sorghum (*Sorghum bicolor* L.) flour. **C. Kabus**, A. Santana, D. Smolensky, M. Purifoy, S. Chakraborty, J. Peterson, K. Siliveru

28--Dietary hordatines from germinated barley attenuate high-fat diet-induced metabolic syndrome and remodel the metabolome and gut microbiome in mice. **F. Omoniyi**, S. Hafez Ghoran, S. Zhang, T. Liu, S. Sang

29--Analysis and reconstitution of the fishy off-note of omega 3 oil for the modulation of its perception. **J. Lin**, R. Boshra, S. Ramnarian, V. Ciraulo

30--Harnessing fermentation technology to overcome functionality challenges in pulse protein ingredients for food applications. **R.S. Cheriaparambil**, L. Grossmann

31--Fungal biotransformation: a strategy for creating integrated mycoprotein and pulse protein matrices. **J. Rao**

32--SPROUT: Sustainable polymer-based third-generation organic nanozymes for future food and agricultural implementation. **D. Lee**

33--Building climate-resilient oats: Agronomic impacts on nutritional chemistry and ergothioneine accumulation. **R. Brooke**, N. Voloshchuk, A. Hamilton, D. Carrijo, J. Wallace, B. Dervan, J. Lambert, J. Wee

34--Detect, identify, destroy: A sustainable nanotechnology framework for neutralizing the MNP-PFAS food-water nexus. **O.A. Sadik**, S. Alotaibi, G. Eshun

35--Can plants grow on the moon and Mars: Seed germination enhancement using magnesium oxide-coated halloysite nanotubes. **D.K. Mills**

TUESDAY MORNING August 25

McCormick Place Conv. Ctr. S501bc

Advancement of Application of Agricultural and Food Chemistry Award Symposium in Honor of Michael Appell

G. R. List, M. J. Morello, C. Osorio Roa, *Organizers, Presiding*

8:00 Introduction

8:05 . Advancing sustainable lubrication and biofuels through global biobased innovation. **H. Abi-Akar**

8:35 . Formation of 3-monochloropropane-1,2-diol (3-MCPD) fatty acid esters from triglycerides and their toxicity. **L. Yu**

9:05 . Characterization of volatile phenols contributing to smoke taint in Pinot noir wines. **S.J. Toth** **No abstract available**

9:35 . Dairy waste as a growth medium for beneficial microorganisms. **M.H. Tunick**

10:05 . Dry fractionation of plant protein: A greener processing strategy for functional and nutritional protein ingredient. **L. Chen**, S. Kottage

10:35 Intermission

10:45 . Spray drying microencapsulation: A strategy to preserve biofunctional properties in fruits. **C. Osorio Roa**

11:15 . Advancing agricultural sustainability and a safer food supply.

M. Appell

McCormick Place Conv. Ctr. S501d

Strategies for Advancing Food Packaging Technology and Safety

Cospon: ENVR, PMSE T. V. Duncan, J. L. Koontz, *Organizers, Presiding*

8:00 Introduction & Welcome

8:05 . Navigating FDA's Food Contact Substance Notification program: A regulatory framework supporting innovation in food packaging. **K. Wilkening**

8:25 . Advancements in sustainable food packaging materials and processes, using bioplastics produced from food and agricultural wastes. **Y. Kim**, H. Huang, Z. Wang

8:45 . Migration of PLA oligomers in ethanol-water mixtures as affected by the *in-situ* glass transition temperature. D. Xu, **R.A. Auras**

9:05 . From insoluble to processable: Water-based engineering of hydrophobic bioplastics into multilayer structures for food packaging applications. **K. Ahn**, H. Huang, Z. Wang, Y. Kim

9:25 . Numerical study of ink set-off in multilayer packaging structures. **B. Roduit**, V. Dudler

9:45 . Synthesis of non-migratory antibacterial and antibiofilm materials for food safety applications. **K. Pillai**, J.M. Goddard

10:05 Intermission

10:20 . Controlled synthesis of phenolic biopolyesters as sustainable, anticorrosive aluminum can liners. **J.M. Goddard**, H. Ramirez-Suarez, G.L. Sacks

10:40 . Analysis of factors influencing silver ion migration from authorized silver glasses and zeolites in food contact polymers. **A.E. Miller**, S. Elyashiv-Barad

11:00 . Synergistic antimicrobial mechanisms of Cu-MOF-incorporated biodegradable films via ROS generation and metal ion release. **S. Hong**, J. Kim, Y. Kim

11:20 . Dietary exposure assessment to lead from metal and ceramic food contact articles. **R. Paseiro Cerrato**, S. Elyashiv-Barad

11:40 . Protein-based rechargeable and replaceable coatings: antimicrobial and anti-fouling solutions for hydrophobic food-contact surfaces. **J. Zou**, J. Wong, C. Lee, N. Nitin, G. Sun

McCormick Place Conv. Ctr. W187a

Transformative Natural Polymers of 21st Century ACS Series Symposia IV ACS-NP-CCC

Cospons: ENVR, PMSE Financial support: Chinese American Chemical Society (CACS) F. Jiang, *Organizer* L. Chen, C. Fehl, W. Gao, J. Wang, *Organizers, Presiding* S. Chambers, *Presiding*

****No abstracts available****

8:00 Opening Remarks

8:05 . Bio-inspired synthetic carbohydrate derivatives to target biofilm-associated pathogens. **S. Chambers**

8:30 . Assisted high-speed electrospinning and green post-processing for scalable fabrication of ultrathin silk fibroin nanofibers and microfilms. Q. Hao, C. Zhang, **P. Lu**

8:55 . Design of polysaccharide derivatives for amorphous solid dispersion. **K.J. Edgar**, S. Yazdi, S. Petrova, D. Lobree, E. Benson, L. Taylor

9:20 . Molecular structure elucidation of sodium alginate and the function regulation through thiol modification. **Y. Shao**, G. Burks

9:45 Intermission

10:00 . Clustering of histidine-labeled galectin-3 by dendrimers. **M. Cloninger**

10:25 . Distinguishing binding to hyaluronan receptors via combinatorial synthesis of a hyaluronan based polysaccharide Library from Ugi reactions. **F. Fan**, X. Huang

10:50 . Structurally defined glycopolymer heparan sulfate mimetic drives selective heparanase targeting and broad therapeutic activity. **A. Tapayan**, H.M. Nguyen

11:15 . Characterization of Human Milk Polysaccharides. **Z.L. Wu**, S. Lu, T.A. Naumann, E. Wegener, K. Evans, P.L. DeAngelis, C. Skory

TUESDAY AFTERNOON

McCormick Place Conv. Ctr. S501bc

ACS Microbiome Consortium The Gut Microbiome and its Relationship to Diet and Human Health

C. Christophe, T. Wang, *Organizers* J. Amengual, J. Firman, C. Osorio Roa, *Organizers, Presiding*

2:00 introduction

2:05 . Decoding diet-dependent microbial metabolites in the human gut. C. Tanes, W. Hu, N. Wilson, E. Friedman, J. Lewis, G. Wu, **K. Bittinger**

2:45 . Buttermilk promotes gut health through anti-inflammatory effects in a colitis mouse model. **J.C. Karunathilaka**, J. Woo, D. Cheng, G. Shen, C.R. Ferreira, W. Wang

3:05 . Lactose: linking the health benefits of milk consumption by adults to human health via the gut microbiome. **J. Firman**, K. Mahalak, A. Narrowe, L. Liu, J. Lemons

3:25 . Dietary hemp seed attenuates colitis in IL-10 knockout mice via modulation of the microbiome-immune-barrier axis. **D. Li**, D. Cheng, J. Woo, J.C. Karunathilaka, G. Shen, S.E. Quino, L. Reddivari, W. Wang

3:45 . Gut microbiome and metabolite associations with fecal nitrogen. **L.O. Byerley**, D.M. Danos, K.M. Gallivan, A.M. Byerley, A.W. Nguyen, C.M. Taylor, S. Chatterjee, K.S. Ondrak

4:05 Break

4:20 . Graph neural network enabled discovery of hidden enzymes driving microbial bile acid metabolism. **J. Bisanz**

4:40 . PFAS drive gut dysbiosis and antibiotic resistance. **Y. Tian**

5:00 . Proteomic evidence of synbiotic-induced AMPK–PPAR α activation in metabolic liver dysfunction. **A. Bhattacharya**, K. Tripura, M. Bishnoi, K.K. Kondepudi
5:20 . Resilient and sensitive gut microbiota could be sorted into three subsets amid culturing fecal samples in a chemostat-based gut model. **L. Liu**, J. Firman, K.K. Mahalak, A.B. Narrowe
5:40 . Characterizing the microbial taxa responsible for progressive development of p-cresol production in human infants. **R. Su**, S. Hoops, I. Mabrouk, J.S. Gerber, S. Mukhopadhyay, K. Puopolo, D. Knights, C. Chen

McCormick Place Conv. Ctr. S501d

Strategies for Advancing Food Packaging Technology and Safety

Cospon: ENVR, PMSE T. V. Duncan, J. L. Koontz, *Organizers, Presiding*

2:00 Introduction & Welcome

2:05 . FDA's regulatory framework for recycled plastics in food packaging. **S. Steele**

2:25 . On improving the estimates of chemical migrations from recycled polyethylene terephthalate. **J. Huang**

2:45 . Degassing and deodorization of recycled HDPE for food-contact applications: Balancing contaminant removal and polymer stability. **V. Sanfins Cecon**, P. Mella, B. Rodriguez-Hernandez, K.E. Elsas, S. Willems

3:05 . Upcycling insect biomass: Sustainable extraction of chitosan for food packaging films. **A. Fachin**, D. Carullo, T. Bellesia, M. Gennaro, S. Farris

3:25 . Waterborne emulsion technology for recyclable, biodegradable paper-based food packaging. **A. Khan**, M. Rabnawaz

3:45 . Plant-derived compostable fresh produce price-look-up labels. M. Usiichuk, L. Wei, A. Dadras, B. Zdyrko, I.A. Luzinov, **A.S. Voronov**

4:05 Intermission

4:20 . From enzyme protection to spoilage sensing: Vapor-deposited functional polymers at food interfaces. H. Duan, J. Chen, Z. Zong, F. Fianu, W. Zhou, W. Sun, **Y. Cheng**

4:40 . Environmentally friendly ethanol emitter to reduce decay in packaged strawberries. P. Khule, C. Nicosia, G. Lu, A. Cezar da Rocha Neto, R. Beaudry, Q. Wang, **E. Almenar**

5:00 . Investigation into the presence of alkaloids in Areca catechu based single use food-contact articles (FCA). **J. Mangrum**

5:20 . Functionalization of cellulose nanofibril films using unmodified and esterified lignin nanoparticle coatings for food packaging. **M. Rohi**, D. Bousfield, **M. Tajvidi**

5:40 . *In situ* high-throughput fabrication of micro/nanofibrous coatings for deep learning-enabled intelligent food packaging. **L. Li**, C. Moses, C. Hsu, F. Calderon Gutierrez, C. Ruiz, W. Liu, H. Chang

McCormick Place Conv. Ctr. W187a

Transformative Natural Polymers of 21st Century ACS Series Symposia IV ACS-NP-CCC

Cospons: ENVR, PMSE Financial support: Chinese American Chemical Society (CACS) F. Jiang, *Organizer* L. Chen, C. Fehl, W. Gao, J. Wang, *Organizers, Presiding* Q. Yuan, *Presiding*

****No abstracts available****

2:00 Opening Remarks

2:05 . Define natural polymer strategic focus area in advanced materials innovation. **Q. Yuan**, J. Wang

2:35 . 4537246 ACS Green Chemistry Institute Natural Polymer Consortium: Advancing the industrialization and commercialization of natural polymers. **M. Wagner**, J. Wang, E. Lam, I. Martinez

3:05 . Biodegradable: What does it mean and how standards test and define. **K.T. Okamoto**

3:35 . Advancing circularity through polymer innovation for sustainable packaging applications. **M. Nasiri**

4:05 Intermission

4:15 Panel Discussion

McCormick Place Conv. Ctr. W186a

2026 Spencer Award Symposium: Honoring Michael Appell

S. J. Leibowitz, M. J. Morello, *Organizers, Presiding*

2:00 Introduction

2:05 . Kenneth A. Spencer Award: A legacy of innovation in agricultural and food chemistry. **S.J. Leibowitz**, M.J. Morello ****No abstract available****

2:25 . Quality triangle of edible fats: Functionality, stability, and nutrition. **G.R. List**, M. Appell, M.J. Morello ****No abstract available****

2:55 . Use of advanced NMR methodologies for agri–food materials. **H. Cheng**, A. Biswas ****No abstract available****

3:25 . Advancing technologies for agro-based material development. **A. Biswas**, H. Cheng, M. Appell ****No abstract available****

3:55 Intermission

4:10 . Detect, identify, destroy: A sustainable nanotechnology framework for neutralizing the MNP-PFAS food-water nexus. **O.A. Sadik**, S. Alotaibi, G. Eshun

4:40 . Predicting human liver microsomal stability with a regressive graph neural network. **Y. Tseng**, Y. Jhong, B. Su, J. Hong, P. Wang ****No abstract available****

5:10 . Greener solutions for crop security: Engineering agro-based materials to mitigate pathogen threats and support commodity quality. **M. Appell** ****No abstract available****

DIGITAL SESSION

Virtual Graduate Students Symposium in Asia-Pacific Region on Agricultural and Food Chemistry

N. Lu, *Organizer* D. Ren, C. Zheng, *Organizers, Presiding* J. Hou, *Presiding*

8:20 . Opioid and cannabinoid pathways mediate competing sensory inputs in feeding behavior of *Caenorhabditis elegans*. **A.T. Kim**, Z. Teng, A.A. Nolden, Y. Park

8:27 . Effect of potassium supplementation on the yield and aroma quality of culinary ginger (*Zingiber officinale* Roscoe). **K. Jha**, N. Nguyen, T. Nguyen, S. Graham, M. Richmond, J.P. Munafa

8:34 . Identification of odor-active compounds in silver lance dwarf ginger (*Alpinia pumila*) rhizomes. **N. Nguyen**, T. Nguyen, K. Jha, J.P. Munafa

8:41 . Supramolecular coacervates promote diabetic wound healing by restoring macrophage efferocytosis via AMPK-mediated metabolic reprogramming. **W. Yi**, D. Ren

8:48 . Interactions between proteins and partial acylglycerols at oil-water and air-water interfaces of partially crystalline emulsions: Interfacial structure, adsorption, and foaming behavior. **P. Xie**

8:55 . Wax chemistry and concentration govern oleogel structuring: A comparative study of novel *Idesia polycarpa* Maxim. wax with rice bran wax and beeswax. **Y. Ye**

9:02 . Valorization of mango kernel fat through refining and gelation: A structured oil system for bioactive delivery and fat replacement. **Y. Song**, Z. Huang

9:09 . Antitussive effects of pear (*Pyrus* spp.) soups: Network pharmacology and experimental validation of anti-inflammatory mechanisms via PI3K/AKT and Ras/MAPK pathways. **N. Mao**

9:16 . Pectin from steam explosion-treated citrus peel exhibits good emulsion properties and bioavailability-promoting effect in vitro of nobletin. **X. Yang**

9:23 . Inclusion of α -Linolenic acid ethyl ester in flaxseed oil with β -Cyclodextrin by hydrogen bonding. **C. Huang**

9:30 . Study on the cellular transport mechanism of small molecule assemblies in vitro and their absorption and metabolism in vivo. **X. Chen**

9:37 . Gelling properties of grass carp (*Ctenopharyngodon idella*) surimi modified by different calcium salts as substitutes for sodium chloride. **Z. Zhang**, J. Yan, H. Wu

9:44 . Multifunctional metal-organic frameworks-mediated colorimetric/photothermal immunosensor for highly sensitive detection of dibutyl phthalate. **C. Wang**, X. Tang

9:51 . Development of nutrition-flavor dual process of rapeseed oil based on resource utilization of rapeseed cake. **S. Xu**, X. Yu

9:58 . Rapid emergency decontamination of microcystin-LR in aquatic products using slightly acidic electrolyzed water. **J. Shao**

10:05 . Rapid self-assembly of monoammonium glycyrrhizic acid/berberine supramolecular hydrogels triggered by slightly acidic electrolyzed water: Structural characterization, rheological properties, and functional evaluation. **Z. Chen**

10:12 . Study on the formation, structural characterization and emulsifying characteristics of mung bean globulin amyloid like fibers. **L. Zhang**

10:19 . Ultrasound enhances the probiotic properties and anti-inflammatory function of *Lactocaseibacillus rhamnosus* 1.0320 by releasing functional metabolites. **Y. Liu**
10:26 . Methionine-driven covalent chelation of Zn²⁺ by linsorb: A paradigm in hydrophobic cyclic peptide metal binding. **Y. Zhang**
10:33 . Microbial-enzymatic co-biotransformation and extraction intensification for rare ginsenosides enrichment from black ginseng with anti-hepatoma activity. **Z. Wang**
10:40 . *Polygonatum sibiricum saponin* exerts beneficial hypoglycemic effects in type 2 diabetes mice by improving hepatic insulin resistance and glycogen synthesis-related proteins. **Z. Chen**
10:47 . Comprehensive volatile profiling and metabolomics analysis of cowpea. **X. He, W. Zhang**
10:54 . Preparation and characterization of matcha using a high-energy stirred media mill. **D. Jiang**
11:01 . Exploring the role of phytochemical saponins in preventing the thermal aggregation of α -lactalbumin: A multi-dimensional spectrometric analysis. **Y. Jiang**
11:08 . Synergistic modification of sunflower seed protein by pH-cycling and ultrasound to improve its structural and functional properties. **Z. Li, Q. Guo, L. Ai**
11:15 . Nanofertilizers: Revolutionary approach to sustainable agriculture. **K. Das**
11:22 . Valorization of blue crops for bioactive potential, food safety and climate-resilience in Indian and Southeast Asian coastal habitats. **T. J**
11:29 . Preparation of functional chitosan–water caltrop pericarp extract edible films and their application in extending the storage life of strawberries at room temperature. **S. Kumar, V. Katiyar**
11:36 . Studies on changes in postharvest quality of Apple via metabolites profiling and physiological analysis. **S. Sharma, K. Nakano, V. Katiyar**

WEDNESDAY MORNING August 26

McCormick Place Conv. Ctr. S501bc

Advances on Agriculture and Food Chemistry (General Papers) Packaging Materials, PFAS, and AI use in Ag Research

K. Mahalak, *Organizer* C. Osorio Roa, Z. Xie, *Organizers, Presiding*
8:00 Introduction
8:03 . Green synthesized ZnO/CQD nanocomposite from food byproduct and its application in biodegradable active food packaging. **G. Na, J. Kang**
8:18 . Engineered anionic and cationic lignin-g-PLGA nanoparticles for controlled delivery of nanosize CuS in Lettuce (*Lactuca sativa*). **C. Sabliov, F. Kewir, J. Gambill, C.E. Astete, Y. Wang, J. Dowell, J.C. White**
8:33 . Dual-function Fe-based metal–phenolic nanopatform for acid-responsive fungicide delivery and seedling growth enhancement. **S. Yan, Y. Tian, T. Yang**
8:48 . Characterization of thin films made from alpha-glucan nanoparticles. **K. Evans, C. Skory**
9:03 . Overcoming challenges in estimation of dietary exposure for food and color additives, and GRAS ingredients. **T.I. Todorov, D.L. Doell**
9:18 . Development and validation of a QuEChERS-LC-MS/MS method for detection of PFAS precursors in meat, eggs, and silage. **W. Young, S. Genualdi**
9:33 Break
9:53 . Green and rapid quantification of toxic substances in food by novel synchronous fluorescence spectroscopic approaches. **Y. Li, J. He, J. Li**
10:08 . Nano-fertilizers and PFAS in crops: Implications for contaminant mobility and plant uptake in agricultural systems. **S. Davoodi, H. Sharifan**
10:23 . Effects of training data quantity and quality on deep learning-based avocado ripeness prediction using smartphone imaging. **I. Lee, D. Morakhia, L. Ma**
10:38 . Big data for a deep problem: understanding and predicting antioxidant interactions. **C.D. Garcia**
10:53 . AI-driven molecular engineering for global cereal resilience: A multi-target approach to fungal effector neutralization and toxin inhibition. **H. Kim, S. Harding, O.C. Haley, L. Tibbs-Cortes, T.A. Naumann, S.P. McCormick, H. Hwang, R.H. Proctor, C.M. Andorf**

11:08 . Rapid and non-invasive diagnosis of nutrient deficiencies in *Arabidopsis thaliana* via deep ensemble learning. **C. Sylukan, H.D. Turk, Z. Ceyhan, Z. Imtiaz, R. Yazicioglu Basaran, G. Sener, N. Öztolan Erol, M. Yüce, Y. Sarikaya, H. Kurt**
11:23 . AI-assisted design and validation of herbicide resistance genes. **H. Lin, G. Yang, J. Dong, X. Yu, J. Dong**
11:38 Concluding Remarks

McCormick Place Conv. Ctr. S501d

AGFD Awards Young Scientist, Young Industrial Scientist, JAFC Best Paper Award

K. Mahalak, *Organizer* Z. Xie, *Organizer, Presiding* C. Osorio Roa, *Presiding*

8:00 Introductory Remarks

8:05 . Metabolic profiling of circulating phenolic metabolites crossing the blood–brain barrier in vivo and in vitro and their anti-inflammatory activity in brain cells. M. Ávila-Gálvez, B. Garay-Mayol, D. López-Cánovas, S. Poveda-Lora, S. Navarro-Orcajada, A. Marín, J. Espín, M. Brito, C. Nunes dos Santos, J. Giménez-Bastida, **A. Gonz´lez Sarrías**

8:45 . Dietary fish oil intervention mitigates metabolic dysregulation triggered by a potato chip diet through the Gut-Liver axis. **X. Wan, D. Meng, X. Liu, Y. Zhang**

9:25 Break

9:45 . Prevalence of tetracyclines residues in poultry eggs using LC-MS/MS with methanol extraction: Implications for consumer health. **M. Kabir, S. Yasmin, T. Jahan**

10:25 . Integrated omics, sensory evaluation, and machine learning: A multimodal data-driven approach to deciphering and predicting fruit flavor quality. **J. Sung**

11:05 Concluding Remarks

McCormick Place Conv. Ctr. S103a

Bioproduct from Biomass

H. Ngo, M. Sarker, B. Sharma, M. P. Yadav, *Organizers* L. Jayakody, *Presiding*

8:00 . Functionalized lipids and carbohydrate polymers for industrial applications. **H. Ngo, M. Sarker, M.P. Yadav, B. Sharma, T. Jin**

8:20 . Extrusion-induced restructuring of arabinoxylan from brewer's spent grain: Effects on composition, molecular characteristics, and aggregation behavior. **S. Jiang, Z. He, Y. Kim, H. Huang**

8:40 . Cotton flock as a filler of poly(lactic acid)-cottonseed oil biocomposite films for potential food packaging applications. **Z. He, S. Nam, R. Dhandapani**

9:00 . Valorization of pumpkin seed meal to produce functional ingredients. **J. Chen, K. Hsiao, N. Aldrin, O.K. Ozturk**

9:20 . Tannin–whey protein crosslinked films for sustainable packaging. **S. Ahmed, A.G. McDonald**

9:40 . Microbial biofunneling waste organic carbon to develop advanced polymers. **L. Jayakody, D. Madushanka, B. Jayantha**

10:00 . Selective fermentation of hydrolyzed whey permeate for production of upcycled galactose-rich food ingredients. **D.G. Hauser, A.D. Brock, P. Gibney, S.D. Alcaine**

10:20 . Upcycling fish processing by-products into functional protein hydrolysates: optimization of enzymatic hydrolysis and its impact on structure and emulsifying performance. **S. Chen, F. Zhao, L. Yang, H. Huang**

10:40 . Resin extraction as a tool for the utilization of waste from superfruits rich in antioxidants. R. Buzzetto More, E.E. Cable, **V. Volkis**

11:00 . Ultrasound-assisted extraction of secondary plant metabolites from *Solanum sisymbriifolium*. H. Ibrahim, L. Schulz, L. Dandurand, **I.E. Popova**

11:20 . Sustainable pressurized liquid extraction of polyphenols from rice husk. **M.S. Bustamante Bernedo, N. Huamán Castilla, F. Paraguay Delgado, E. Gomez**

11:40 . Exploring cosolvent-enhanced biomass fractionation at the atomic scale using a complete model of the secondary plant cell-wall.

M.D. Smith, Y. Yu, A. Hicks, D. Vural, S. Jayaraman Rukmani, J. Smith

McCormick Place Conv. Ctr. W196c

150 Years of Biopolymer Chemistry Toward a Sustainable Future Properties of Natural Polymers

Cospons: CARB, ENVR, PMSE, POLY Financial support: ACS Transformative Natural Polymer Convergent Chemistry Community (ACS-NP-CCC) F. Jiang, *Organizer* L. Chen, C. Fehrl, W. Gao, J. Wang, *Organizers, Presiding* J. L. Liu, *Presiding*

****No abstracts available****

8:00 Opening Remarks

8:05 . Self-healable chitosan-based polymers containing dynamic covalent bonds. **N. Yan**

8:35 . Structural and functional insights into high-amylose starches for food and biomaterial applications. C. Zhu, Y. Ren, **Y. Ai**

9:05 . Enzymatic engineering of natural functional polymers using transglutaminase. **Y. Zhang**, H. Liu, J. Li, C. Nardin

9:30 . Leveraging protein-polysaccharide combinations to modulate structures and functionalities. S. Sawant, A. Akanno, R.W. Hartel, **A. Girard**

9:55 Intermission

10:10 . Starch spherulites: Preparation and structure-digestibility relationship. **Y. Shi**

10:40 . Sequential assembly of pea 7S protein–phenolic complexes for sustainable delivery systems. **L. Chen**, D. Li

11:05 . Withdrawn

McCormick Place Conv. Ctr. W193a

Sustainable Chemistry for Circular Bioeconomy Systems Advances in Bioenergy Conversion and Bioproduct

Valorization Cospons: ENFL, ENVR D. Kyung, S. Pan, C. Wan, Q. Yan, *Organizers, Presiding*

****No abstracts available****

8:00 Introduction

8:10 . Advancing anaerobic digestion with technological innovations and ADM1-based process insights. **H. Kim**

8:35 . Integrated bioenergy conversion, thermal storage, and carbon dioxide removal: perspectives and prospects. **S. Pan**, J. Chiu

8:55 . Electro-assisted anaerobic digestion for circular bioeconomy: Integrating process enhancement, microbial mechanisms, and modeling. **H. Wang**, J. Chai, H. Kim, S. Pan

9:15 . Modeling of electrochemical pH swing for continuous biogas upgrading processes. **Y. Chen**, J. Baltrusaitis, S. Pan

9:35 Inter-Session Break.

9:50 . Electrochemical upgrading of sWASTE anaerobic digestion effluents into high-value lactic acid using RW-EDI and BPED. P. Tseng, **Y.J. Lin**

10:15 . Mechanochemical cocrystallization as a tool for nutrient delivery platform formulation. **J. Baltrusaitis**

10:40 . Closing the loop: Mitigating hydroponic environmental impacts through nutrient-rich wastewater recirculation. Q. Zaib, U. Han, S. Cho, **D. Kyung**

11:00 . Electrically-driven selective recovery of organic acids and nutrients from anaerobic digestate using ionically conductive materials. **Y. Cheng**, Y. Peng, Y. Lin, Y.J. Lin, S. Pan

11:20 . *In situ* dielectric constant measurements of biomass undergoing hydrothermal processes. **S. Lin Htun**, **J.L. Goldfarb**

11:30 Overall Discussion (Q&A)

11:50 Concluding Remarks

DIGITAL SESSION

Virtual Graduate Students Symposium in Asia-Pacific Region on Agricultural and Food Chemistry

N. Lu, *Organizer* D. Ren, C. Zheng, *Organizers, Presiding* X. Yu, *Presiding*

8:20 . Zn–TA reinforced Agar films for sustainable food packaging. **I. Chiu**, M. Kamali, D.D. Kitts, Q. Tu, T. Yang

8:27 . Modification of coconut 11S globulin by coffee phenolic acids: Molecular mechanisms governing enhanced digestibility and antioxidant activity. **T. Li**, W. Zhang, Y. Chen

8:34 . Advanced and safe packaging technologies for preserving edible vegetable oils after opening. **X. Tian**, L. Zhang, P. Li

8:41 . High-value utilization of mealworm protein: efficient nano-delivery systems. **D. Huang**

8:48 . Food-derived small-molecule peptides for obesity management: Mechanisms, research strategies, and future perspectives. **S. Li**

8:55 . Preparation, application and lipid-lowering effect of food-grade composite fat mimetics. **X. Gao**

9:02 . Enzymatic processing of rice protein--High-value utilization of resources. **Z. Chen**

9:09 . Construction of a CRISPR/Cas12a colorimetric sensor for monitoring meat freshness. **J. Sheng**, H. Wang, X. Xu, X. Xu, S. Sun

9:16 . Insight into the mechanism of synergy of ultrasound and high pressure homogenization on the emulsion stability and interfacial behaviors of α -lactalbumin with mogroside V. **J. Li**

9:23 . Targeting EmrB efflux pump to overcome sodium hypochlorite tolerance in *Serratia*. **X. Xu**, B. Wang, J. Sheng, X. Xu, H. Wang

9:30 . Virtual screening of Hops-derived Xanthine oxidase inhibitors. **H. Zhao**, Z. Wu

9:37 . Composition, structure and functional properties of plant protein extracted with food-compatible anions. **M. Zhao**, Z. Jiang

9:44 . Study on the anti-aging effects of heat-inactivated *Bifidobacterium longum* ZFML006 on *Caenorhabditis elegans* and its mechanisms. **S. Yang**, R. Wang, P. Li

9:51 . Inulin with varying degrees of polymerization differentially alleviates food allergy via modulation of the gut microenvironment. **X. Chen**, S. Jia, S. Wang, K. Liu, S. Lin, N. Sun

9:58 . Nano-immunosensor for ultrasensitive detection of mycotoxins and novel pollutants in grain and oil. **X. Huang**, Q. Zhang, B. Lu, X. Tang, P. Li

10:05 . Citrus peel-derived exosome-like nanoparticles and their regulatory effects on intestinal inflammation. **L. Song**, R. Tuo, P. Li

10:12 . Glycosylation of egg chalaza promotes calcium absorption and bone metabolism in growing rats: Potential mechanisms of sialic acid. **S. Wang**

10:19 . Weak-base synchronous membrane separation enhancing the flavor and antioxidant activity of soy protein: Insights from proteomic analysis. **J. Shao**, D. Peng, Q. Deng

10:26 . Effects of pea protein, chickpea protein and zein on the processing characteristics of gluten-free rice dough and the quality characteristics of its bread. **T. Fan**

10:33 . Enhancement of the rice protein solubility using high-energy fluidic microfluidizer and pH cycling: A mechanistic study. **Z. Li**

10:40 . Flavor quality and cholesterol-lowering mechanism of whole oat milk prepared by high-energy fluidic microfluidization. P. Peng, **Y. Xu**

10:47 . Ratiometric fluorescence/colorimetric dual-mode aptasensor for kanamycin detection based on inner filter effect between AuNPs and NH₂-MIL-53(Al)/CDs@apt. **L. Xu**

10:54 . pH-driven fabrication of curcumin-loaded millet protein-shellac nanoparticles and its anti-inflammatory effect against ulcerative colitis in mice. **y. Tang**, Z. Wu

11:01 . Polysaccharide-based thickened fluids for dysphagia dietary management: Design, application and regulation. **H. Xu**, B. Li

11:08 . High-performance Fenton-like catalysis through metal-organic framework derived nanoporous carbons for continuous cleavage of polysaccharides. **Z. Yin**, K. Zhu, S. Chen

11:15 . Effect of assembly sequence on the digestibility of potato starch-based binary and ternary complexes under heat moisture treatment: a dual steric hindrance-enzymatic inhibition perspective. **S. Zheng**, A. Sun, M. Chen, X. Chen, J. Zhu

11:22 . Biochemical valorisation of tuna off-cuts through lactic acid fermentation. **Y. Yeo**, W. Chen

11:29 . Average daily nitrate and nitrite intake in the adult population of Fiji. **A.A. Chetty**

11:36 . Comparison of Carob's pod versus seed polysaccharides by NMR spectroscopy. **Z.K. Muhidinov**, S.K. Khurshedzoda, J. Bobokalonov, J. Zhang, J. Han, C. Ma

11:43 . Studies on the influence of edible coating based on xanthan gum incorporated with grape stalk extract on the storage kinetics of *Thompson Seedless* grapes. **V. Bodana**, P.K. Kancharla, V. Katiyar

Chemistry is Everything We Eat: Building the Next 150 Years of Food

Spons: COMSCI Cospons: AGFD, CHED, PROF, TOXI

WEDNESDAY AFTERNOON

McCormick Place Conv. Ctr. S501bc

Advances on Agriculture and Food Chemistry (General Papers) Alternative Proteins and More

K. Mahalak, *Organizer* C. Osorio Roa, Z. Xie, *Organizers, Presiding*

2:00 Introductory Remarks

2:03 . Effect of flour pH on Chaenorpine release and bitterness in extruded corn puffs. S. Ponneganti, K. Smith, **E. Tello Camacho**, D.G. Peterson

2:18 . Whole soybean tofu scaffolds from micronized full-fat soy flour with transglutaminase for cultured meat applications. **H. Kim**, K.G. Lee

2:33 . Dual exploitation of silflower (*Silphium integrifolium* Michx) seeds to produce a protein isolate and a phenolic-rich extract. **Z. Teng**, C. Stonoha-Arther, K. Brownstein, M. Singh, S.X. Liu

2:48 . Analysis and reconstitution of the fishy off-note of omega 3 oil for the modulation of its perception. **J. Lin**, R. Boshra, s. Ramnarian, V. Ciraulo

3:03 . Acrylamide formation kinetics in commercially available plant-based burger analogues. **C.S. Arinzechukwu**, S. Reggeti-Marquez, A. Francavilla, I.J. Joye, M.G. Corradini

3:18 . Binary beeswax-candelilla wax oleogels as fat replacements: The relationship between gel strength and oil unsaturation. **H. Hwang**, J.K. Winkler-Moser

3:33 . Structural insights into the transmembrane transport of plant secondary metabolites. **J. Dong**

3:48 . FPOs(Farmer Producers Organization) as carbon foot soldiers. **N. Agrawal**, G.S. Gill

4:03 Break

4:23 . Molecular mechanism of protonation dependent transport cycle of plant sugar transporter. **A. Paul**, D. Shukla

4:38 . Innovative engineered biochar applications for brackish water irrigation. **B. Odum**, G. Chen, O.E. Omotayo, M.E. Omotayo

4:53 . Accelerated formulation development for stabilization of microbial actives using a high throughput experimentation platform. **G. Chen**, **T. Burghardt**, H. Wang, T. Macon, J. Xu, B. Doughan, M. Hyatt, A. Oller, A. Gomez, R. Torres, R. Hernandez, A. Vila, M. Praveen, K. Gossman

5:08 . Impacts of refining on the redox profiles of edible oils and growing pigs revealed by chemometric and metabolomic analyses. **J. Zhang**, B.J. Kerr, C. Chen

5:23 . Antimicrobial activity of avocado-derived lipid extract against *Listeria monocytogenes*: Insights into the molecular mechanism. **R. Carmona-Manzo**, S. Mora-Godinez, C. Hernandez-Brenes, A. Pacheco

5:38 . Evaluation of multistep analytical approaches for polyphenol-rich extracts obtained with deep eutectic solvents. **V.D. Ybazeta**, B.C. Galarreta

5:53 Concluding Remarks

McCormick Place Conv. Ctr. S501d

Sustainable Agriceuticals

L. Liu, W. H. Yokoyama, *Organizers* H. Kim, Y. Wu, *Organizers, Presiding*

2:00 Opening Remarks

2:03 . Effect of polyphenol-enhanced prebiotics on obesity. **H. Kim**, H. Subin, K. Seo

2:23 . Hepatic *Hamp* restoration contributes to nicotinamide mononucleotide (NMN)-alleviated hepatic steatosis in chronic alcohol-fed mice. **F. Cao**

2:43 . Investigating encapsulated synbiotic powders using water-soluble yellow mustard mucilage. **C. Fletcher**, S. Das, H. Bao, Y. Myles, Y. Wu

3:03 . Influence of citrus pectin molecular weight on probiotic growth and gut microbiota fermentation in vitro. **S. Das**, C. Fletcher, H. Bao, S. Zhang, Y. Myles, Y. Wu

3:23 . Hordein claimed from spent barley grains for porous scaffolds for cultured pork fat cells. **W. Yang**, D. Huang, L. Su

3:43 . Subcritical extraction optimizes the milk thistle value chain: Balancing disproportionate economic-health gains with marginal environmental trade-offs. W. Wei, Y. Wang, S. Hu, W. Tong, Q. Su, H. Yang, **X. Guo**, B. Li

4:03 Break

4:18 . Isocaloric low-fat high-carbohydrate diet exacerbates alcohol-associated liver disease progression via hexosamine biosynthesis pathway-mediated augmentation of *de novo* lipogenesis. **Q. Song**

4:38 . Bioactive capsinoid enriched preparations from *Capsicum* sp. Fruit. **C.L. Cantrell**, H. Chae, S. Khan

4:58 . Taxa- and geography-associated phytochemicals in marine macroalgae revealed by chemometric profiling. **J. Guo**, X. Liu, E. Dierenfeld, G. Shurson, **C. Chen**

5:18 . DRP1^{S616} activation mediates ursolic acid-induced improvement of alcohol-induced hepatic steatosis. **S. Li**

5:38 . Impact of three natural bioactive compounds on the human gut microbiota. **L. Liu**, A.B. Narrowe, J. Firman, K. Mahalak, X. Fan, T. Jin

5:58 Closing Remarks.

WEDNESDAY AFTERNOON

McCormick Place Conv. Ctr. Hall F2

Climate-Resilient Agriculture: Chemistry at the Food - Environment Interface - POSTERS

Cospons: AGRO, ANYL, ENVR H. Sharifan, J. C. White, W. Zhang, *Organizers*

12:00 . Impact of relative humidity on the response of hollow tin dioxide microsphere-based impedimetric sensors. **B. Mutuma**, R. Barbieri Estefani, E. Aradi, G. de Abreu, J. Morais, J. Serbena ****No abstract available****

12:00 . Valorization of spent Li-ion batteries for ambient nitrogen fixation using electrostatic microdroplets. **L.S. Elayan** ****No abstract available****

12:00 . Cost-effective hierarchical bimodal nanoporous gold sensor for the electrochemical detection of Bisphenol F. **A. Vasireddy**, K.J. Stine ****No abstract available****

12:00 . Withdrawn

12:00 . Analysis of congeners extracted from small barrels during fast aging by ¹HNMR and GC-MS. **H. Ali**, M. Crowder, N.D. Danielson, M. Ali ****No abstract available****

12:00 . Inhibition-mediated colorimetric detection of metanil yellow using carboxymethylcellulose-stabilized copper nanoparticles. **S. Surabhi**, V. Singh ****No abstract available****

12:00 . Mercury contamination in seafood and consumer products and strategies to reduce the impact to human and environmental health. **S. Basdeo** ****No abstract available****

12:00 . Seed nano-priming with silicon-rich silica nanoparticles: A novel approach enhancing maize germination and early growth. **A. Ismail**, M. Ahmed, M. Kuddus ****No abstract available****

12:00 . Biostimulatory effects of *Limnospira platensis* on growth, productivity, and tolerance to microcystin stress in hydroponically grown radish (*Raphanus sativus*). **B. Ezzyky** ****No abstract available****

12:00 . Can plants grow on the moon and Mars: Seed germination enhancement using magnesium oxide-coated halloysite nanotubes. **D.K. Mills**

McCormick Place Conv. Ctr. W186a

Climate-Resilient Agriculture Chemistry at the Food - Environment Interface

Cospons:AGRO, ANYL, ENVR H. Sharifan, J. C. White, W. Zhang, *Organizers, Presiding*

2:00 Introductory Remarks

2:05 . Controlling the oxidative stress reactome for climate-resilient crops using nanoscale stimulants. **J.C. White**, C.L. Haynes, B. Xing, R. Klaper, L. Zhao ****No abstract available****

2:30 . Zinc speciation and redox conditions govern PFAS fate, phytotoxicity, and soil microbial responses in agricultural systems. N. Easmin, **H. Sharifan** ****No abstract available****

2:55 . Tracking PFAS-induced alterations in nutrient homeostasis in soybean: Implications from environment to food quality. **N. Kandhol**, M. Kharel, A. Lama, W. Zhang ****No abstract available****

3:20 . Evaluating seed nano-priming and foliar application of Zn and Cu-based nanoparticles for micronutrient biofortification. **I. Josko**, E. Baranowska-Wójcik, D. Szwajgier, K. Rozylo ****No abstract available****

3:45 Intermission

4:15 . Sustainable management of PFAS in biosolids-applied agricultural systems: The role of modified biochar in limiting plant uptake and food-chain transfer. **M. Kharel**, A. Lama, N. Kandhol, W. Zhang ****No abstract available****

4:40 . Screening for persistent organic pollutants in smoke-impacted California wines by GC-MS/MS. **B. Garman**, A. Rumbaugh, A.Y. Taha, A. Oberholster ****No abstract available****

5:05 . Building climate-resilient oats: Agronomic impacts on nutritional chemistry and ergothioneine accumulation. **R. Brooke**, N. Voloshchuk, A. Hamilton, D. Carrijo, J. Wallace, B. Dervan, J. Lambert, J. Wee

5:55 Concluding Remarks.

McCormick Place Conv. Ctr. W193a

Sustainable Chemistry for Circular Bioeconomy Systems Next-Generation Materials for Sustainable Environmental and Energy Applications

Cospons: ENFL, ENVR D. Kyung, S. Pan, C. Wan, Q. Yan,
Organizers, Presiding

****No abstracts available****

2:00 Introduction

2:05 . Eco-fabrication of monolithic biochar composite panels for environmental remediation. **Q. Yan**, N.A. Nosratabad, C. Wan, Z. Cai
2:25 . Density-of-states modulation drives catalytic activation of upcycled LiFePO₄ for hydrogen evolution. **M. Gao**, D. Tafere
2:45 . Turning winery wastewater into a resource: Valorizing a sustainable source of phenolic compounds. **E. Doria**, L.A. Lerno, A.E. Mitchell

3:05 . Spent coffee residue valorization into a Cu–WO_x–CeO_x electrocatalyst for carbon nitrogen coupling. **A. Rani**, S. Pan

3:25 . From fire hazard biomass to innovative fire-resistant materials: Eco-fabrication biochar-based composites with enhanced mechanical, and flame-retardant properties. **Q. Yan**, C. Wan, Z. Cai

3:45 Inter-Session Break

3:55 . Biochar from agricultural residues for improving soil health in Missouri and Midwestern soils. **C. Wan**

4:15 . Development of earth-abundant Mn-rich positive electrode materials for sodium ion batteries. **H. Xiong**

4:35 . NaBH₄-driven structural engineering in cobalt ferrite for high-performance supercapacitors. **M.**

4:55 . Novel applications of thiourea-modified bead activated carbon for palladium recovery from waste streams: Mechanistic insights and lab-scale implementation. **H. Huang**, C. Lin, C. Jia, H. Hsi

5:15 . Electrochemical carbon dioxide to ethylene via copper integrated with life cycle assessment for circular carbon valorization. **S. Negi**, S. Pan

5:35 . SOP: Sustainable organic nanozyme for food preservation. **D. Lee**

5:55 Concluding Remarks

McCormick Place Conv. Ctr. W186c

Transformative Natural Polymers of 21st Century ACS Series Symposia IV ACS-NP-CCC

Cospons: ENVR, PMSE Financial support: Chinese American Chemical Society (CACS) F. Jiang, *Organizer* L. Chen, C. Fehl, W. Gao, J. Wang, *Organizers, Presiding* K. Wang, *Presiding*

****No abstracts available****

2:00 Opening Remarks

2:05 . Lignin resources as a platform for developing high performance polymers. **M.L. Robertson**

2:40 . Diol-functionalization of lignin during biomass pretreatment by deep eutectic solvents. **C. Wan**

3:10 . Sustainable non-isocyanate polyhydroxyurethanes from biomass lignin and CO₂. **A. Ghorai**, H. Chung

3:35 Intermission

3:50 . Synthesis and characterization of high temperature materials from biosynthetic naringenin. **N.A. Vest**, A. Bui, C.A. Sarantes, B.G. Harvey

4:20 . Integrating Biopolymeric Equivalent-blood Simulants with AI workflows to advance forensic spatter Technology (BEST). **S. Bashir**, D. Houf, J. Lawrence, **J.L. Liu**

4:50 . Ionic liquid tuning for lignin polyol extraction to be used in polyol-based plastic synthesis. **T. Lawal**

5:15 . Multifunctional magnetic Cellulose Nanocrystals: A sustainable platform for magnetic hyperthermia and pathogen control. **E.S. Vasquez**, **K. Chand**, E. Urena-Benavides, M. Hasan, J.K. Roy, Y. Sun, S. Herzog, M. Deb, S. Watzman, K. Schlaak, E. McNeil, T. Bentley

Environmental Processes, Toxicity and Model Prediction of Micro- and Nano-Plastics in the Ecosystem

Spons: ENVR Cospons: AGFD, ANYL, COLL

WEDNESDAY EVENING 6:00PM

McCormick Place Conv. Ctr. Hall F2

Agnes Rimando International Student Symposium - POSTERS

R. Tardugno, M. H. Tunick, *Organizers*

--Diversity of enantiomeric fraction of chiral compounds in wines from different regions and styles. T. Ye, Y.L. Qian, **M.C. Qian**

--Analyzing beer is fun: Determining flavor, attributes and defects by headspace trap/gas chromatography/mass spectrometry (HStrap/GCMS). **A. Maitan**

--Rapid surface-enhanced Raman spectroscopy-based detection of perfluorooctanoic acid. **F. Pandiangan**, A. Forbes, L. He

--Protective effects of cranberry polyphenols against oxidative stress: Modulation of the antioxidant defense system in colon cells. **M. Otieno**, M. Pokharel, E. De Pra, T. Ferreira, C.C. Neto

--Determining the impact of the age of seed on protein functionality in soybean (*Glycine max*). **Z. Shea**, Z. Teng, H. Zheng, E. Talierno

--Impacts of *Aspergillus oryzae* fermentation on the nutrients, phytochemicals and antinutrients of oilseed meals revealed by chemometric profiling. **I. Mabrouk**, X. Sun, B. Hu, C. Chen

--Quantification analysis of pesticide residues in potatoes and potato-based products. **E. Gutierrez**, E.N. Thomas, B. Watson

McCormick Place Conv. Ctr. Hall F2

General POSTERS 6:00PM

K. Mahalak, Z. Xie, *Organizers*

--Beyond the burn: Unlocking the drivers of heat modification. **N.**

Burke, J. Redwine, S. Yelgaonkar, M. Tzoumaki, R. Nahas

--Comparative analysis of substances regulated for direct addition to food in the United States and the European Union. **M. Barr**, A. Kumah, D. Hlavaty, A. Nickkar, D.M. Schmit, J. Steele, E. Kwegyir-Afful, K. Arvidson

--Machine learning-assisted classification of food categories using volatile sulfur compound profiles. S. Park, K. Kim, H. Kim, **J. Sung**

--Making proteins whey sweeter: Engineering novel sweet proteins.

M.C. Smardz, P. Gibney

--Formulation of heat-stable dark chocolate using fat mixtures of cocoa butter, mango kernel fat stearin, and soybean oil-based structured fats. **I.P. Aondoakaa**, S. Martini, C.C. Akoh

--Multimodal imaging for agricultural weed identification. **E.W.**

Brunnengraeber, A.K. Sharma

--Good as Au - an analytical study of heavy metals and quality of Girl Scout Cookies. **G.R. Marsh**, G.T. Shannon, K.W. Barnes

--Species-dependent seasonal variation of tetrodotoxin and its analogues in Korean pufferfish (*Takifugu* spp.) and dietary risk assessment. **B. Park**, H. Lee, C. Choi, N. Kajino, K. Choi, W. Lee, J. Lee

--Edge-deployable lightweight deep learning models for smartphone-based avocado firmness prediction. **I. Lee**, R.U. More, S. Park, L. Ma

--Volatile and peptide fingerprinting of commercial cheddar cheese: A non-targeted approach to identifying chemical markers of aging and sensory quality. **J. Zhou**, V.A. Yaylayan, S. Bayen

--Lysimeter assessment of per- and polyfluoroalkyl substances (PFAS) leaching in a first-time biosolids-applied field plot. **A.Z. Guarin**, L.S. Lee, J. Duan, C.E. Schaefer, M. Hire

--Heterologous pyruvate formate-lyase expression in *Saccharomyces cerevisiae* reduces ethanol yield for low-alcohol beer and wine production. **S. Stadulis**, D.G. Hauser, P. Gibney

--Sensomics-driven identification and polyphenol-mediated inhibition of key off-odors in thermally processed muskmelon juice. **X. Pang**

--Carob-based flavor solutions for cocoa replacement in bakery applications: cookie platform development, flavor characterization, and insights for optimizing flavor through aroma modification. **Y. Yang**, K.R. Cadwallader

--Aroma-induced sweetness enhancement by natural heterocyclic compounds: From receptor activation to cross-modal perception. **X. Pang**, B. Liu, X. Feng

--Engineering a conductive BN-COOH@ZrO₂/GO nanocomposite for sensitive diclofenac detection. **V. Kumar**, L. Mishra

--From contact herbicide to plant redistribution: Nanocarriers improving pelargonic acid performance. A. Preisler, M.B. Pereira, B.C. Cardoso, **L. Fraceto**

--Biogenic synthesis of silica nanoparticles and their potential for sustainable pest control in agriculture. L.K. Harada, M. Guilger-Casagrande, T. Germano-Costa, N. Bilesky-José, R. Polanczyk, K.C.

Gonçalves, P. Gonçalves da Silva, J.V. Silva, R.D. Mello Prado, L. Fraceto, **R. Lima**

--Anthocyanin loaded cellulose acetate beads as novel form of freshness indicators for reusable intelligent packaging system. **A. Konala**, K. Gaikwad

--Development of ZnO-Ag doped nanoparticles with broad-spectrum antimicrobial properties for food safety applications. **I. Passalacqua Montes**, M. Reyes Blas

--Amphiphilic surface modified native bacterial cellulose for sustainable high-barrier food packaging: A safe and sustainable by design composite. **A. Konala**, M. Khandelwal

--Combat food spoilage by tackling drug resistance: Sulfur-doped carbon nanozymes as effective tomato coatings. **E. Asare**, H. Fan

--Extraction of cinnamon essential oil and its application in antimicrobial biopolymer films. **J. Galarza Sepulveda**, D. Sánchez Rivera

--Low-molecular-weight chitosan to prevent off-Aromas and corrosion in hard-to-hold beverages. A. Montgomery, **A. Roberson**, M. Quinn, G.L. Sacks

--Bio-based antimicrobial cellulose foams for active packaging: Material design and application in low-salt table olives. H. Soyukan, Z. Delen Nircan, S. Irmak, M. Bouaziz, E. Ramalhosa, J. Bautista Gallego, **H. Unal**

--Environmental tradeoffs of substituting polyethylene in food packaging and distribution applications. M. Tacker, E. Avery, E. Lawrence, T. Hafner-Kuhn, A. Gstöhl, E. Nduagu, K. Richa T. Roux, **R.A. Auras**

--Non-destructive assessment of table grape quality using vis-NIR hyperspectral imaging and explainable AI. **I. Lee**, W. Song, D. Morakhia, K. Chou, L. Ma

--Water transport mechanisms in commercially available biobased polymer films. **A. Dadras**, S. Mirmohammadsadeghi, Y. Polunin, S. Minko, A.S. Voronov

--Cellulosic biobarriers for sustainable consumer products. **J.P. Youngblood**, Y. Wang, D. Dewar, R. Moon, G. Schueneman

Abstract not available

--Identification and characterization of novel signal sequences for protein expression and secretion in *Issatchenkia orientalis*. **Y. Lee**, Y. Lee, Y. Park

--Development of genetic toolkits for protein expression and secretion in a GRAS yeast of *Candida* sp.. **M. Kim**, Y. Lee, Y. Lee, Y. Park

--Antimicrobial waterborne polyurethane-based foams as active packaging materials for extending the shelf life of low-salt table olives. **N. Özçelik**, H. Unal

--Development of analytical methods for iminotadine fungicide from ginseng products using LC-MSMS. **H. Jo**, J. Sun, W. Choi, C. Kwon, J. Moon

--Rooted in Regolith: How compost impacts nutrient concentrations of plants grown in Lunar, Martian, and Earth soils. **K. Finley**

--Impacts of curcumin nanoparticles on developmental toxicity and oxidative stress using a chicken embryo model. **F. Yasmin**, L. Zhang, Q. Wang, C. Wu

--Phytochemical profiling and biological evaluation of peppermint (*Mentha x piperita*) leaf extracts for cosmeceutical applications. **C.D. Iranisha**, H. Li, H. Ma

--Extraction and compositional characterization of polysaccharide-enriched extracts from Rhode Island brown seaweed for cosmeceutical applications. **C.D. Iranisha**, H. Li, H. Ma

--Cannabidiol as a multi-target modulator of polyunsaturated fatty acid metabolism: Inhibition of soluble epoxide hydrolase, lipooxygenase, and cyclooxygenase. H. Li, **R. Kim**, H. Ma

--Biotransformation of biomass derived aromatic amide to 2-Pyrone-4,6-dicarboxylic Acid (PDC) by *Novosphingobium aromaticivorans*. **S.D. Karlen**, S. Zhou, M. Garcia Mancilla, J. Francis Clar, T. Runge, T.J. Donohue, D. Noguera

--Solvent selection for a biomass-to-bioprocess pipeline through integrated catalytic lignin depolymerization and microbial funneling. **C. Sener**, S. Sripada, J. Rajbangshi, E. Aboagye, M. Garcia Mancilla, T.J. Donohue, D. Noguera, R. Van Lehn, C. Maravelias, S.D. Karlen

--Effects of solubility enhancement on the biological activity of a standardized turmeric extract. **K. Phillips**, **M. Moyegun**, D. Cruthirds, H. Hendrickson

--Carotenoid and sugar composition differences in sweet and astringent fruits of PVNA persimmon 'Fudegaki'. **M.T. Yasuda-Torii**

--Challenges with ingredient analysis in gummy dietary supplements.

M. Celiz, A. Fardin Kia

--Structure-based design of 4-hydroxyphenylpyruvate dioxygenase inhibitor as a potential herbicide for cotton fields. **Q. Chen**

--Comprehensive screening of veterinary drug residues in livestock and fishery products using LC-QTOF. **J. Lee**, Y. Kwak, S. Kim, H. Lim, G. Jang, J. Mun

--Are commercially available dietary supplements in Costa Rica safe for consumption?: Trace toxic metal determination and health risk assessment. **P. Baldi**, J. Ramirez Alfaro, K. Hernández Ugalde, R. Sánchez Gutiérrez

--Comprehensive determination of 17 furanocoumarins in umbelliferous vegetables, citrus fruits, and their processed products using QuEChERS-UHPLC-QqQ-MS/MS. **H. Lee**, J. Jang, D. Kang, J. Lee, S. Moon, B. Moon, J. Lee

--FTIR spectroscopy and molecular docking analysis of protein alterations under pesticide stress in maize seedlings. **G. Singh**

--Kinetic model for predicting fish freshness based on the degradation of adenosine triphosphate-related compounds and its application to Atlantic mackerel (*Pleurogrammus azonus*). Y. Shinohara, T. Yoshioka, **N. Tsubouchi**

--Physicochemical changes of milk protein concentrate 85 at pH 6.5 to 7.4 during hygrothermal storage. **S. Fu**

--Bridging chemical antioxidant capacity and cellular antioxidant response in matcha (*Camellia sinensis*). **J. Kika**, K. Jakubczyk, K. Janda-Milczarek

--Polymeric amine-PPO-epoxide colloids as carriers for enhanced foliar delivery of the biostimulant sodium copper chlorophyllin. **E.F. Molina**, J.B. Pucci, V.S. Silva, B.A. Fico, F.B. Alves

--Comparative metabolomic profiling of leaf and stem tissues in red and green lettuce (*Lactuca sativa* L.) cultivars. **H. Kang**

--Robotics-integrated high-throughput platform for rapid isolation and functional screening of microbial strains. **S. Im**, W. An, J. Kim, J. Ji, **G. Han**

--Anti-inflammatory effects of *Clostridium butyricum*-derived short-chain fatty acids in a porcine intestinal epithelial cell model. **G. Han**, S. Choi, J. Park, J. Park, J. Ji, **S. Im**

--Bioactive phytochemicals from *Citrus maxima* seeds target apoptotic and proliferative pathways in gastric cancer: Evidence from LC-QTOF analysis, network pharmacology, and mechanistic studies. **A. Sarkar**, S. Ghosh, T. Banerjee, A. De, N. Ghosh, S. Karmakar

--Effects of pasteurization temperatures and protein concentration on milk protein binding of two flavorants. **V. Chaudhary**, D.C. Cadwallader, D. Barbano, M. Drake

--Metabolic engineering of a *Saccharomyces*-derived yeast platform for enhanced (-)- α -bisabolol production. **D. Jung**, **M. Lee**, J. Yang, Y. Lee, **Y. Park**

--Adaptive laboratory evolution of GRAS yeast for high production of glutathione. **C. Park**, Y. Lee, D. Kim, Y. Lee, Y. Park

--Charge-reversible 2,3-dimethylmaleic anhydride-modified poly-L-lysine enables pH-responsive antimicrobial activity. **H. Zhu**

--Prediction of Fresh Mushroom Aroma (FMA) taint in must via volatile organic compound analysis. **M. Hervé**, **A. Humbert-Goffard**, M. Shulaker, A. Kocanaogullari, G. McGrath, D.J. Dyer, F. Maioli, A. Rumbaugh, B. Montpetit, **T. Svnartchuk**

--U.S. FDA's enhanced systematic process for the post-market assessment of chemicals in food. **J. Downey**, M. Barr, D. DeGroot, D. Folmer, J. Heilman, D. Hlavaty, S. Murphy, J. Steele, K. Middleton, J. Van Doren, K. Arvidson

--Five-year analytical study of proximate composition and regulatory compliance of Costa Rican processed meats. **K. Hernández Ugalde**, J. Ramirez Alfaro, J.A. Rodriguez Corrales

No abstract available

--Influence of processing of pulses on phytochemicals using infrared spectral fingerprinting and untargeted metabolomic approaches. T. Fakir, J. Singh, **M. Singh**, S.X. Liu, D. Luthria

--Undisclosed chemical use in illegal minning and its impact on crop and health. **S. Osei**

--Unmatched robustness for analysis of per- and poly-fluoroalkyl substances in difficult food matrices. **A. Payne**

--Self-healing cellulose hydrogel with anthocyanin-functionalized MOF for smart food packaging. **X. Yan**, F. Meng, F. Tanaka, F. Tanaka

--Effects of cocoa on metabolic syndrome in a genetic mouse model of obesity. **Y. Meng**, J. Lambert

--Chemical intervention strategy to decrease phytic acid content in crop grains. **T. Akabane**, S. Kamino, T. Okamura, T. Yonazawa, S. Nagasaka, E. Katoh, N. Hirotsu, K. Ikeda

--Determination of arsenic, cadmium, mercury, and lead in alternative proteins using ICP-MS. **J. Fong Sam**, P.J. Gray, E. Abt

--Comparison of aroma-active compounds extracted by solvent-assisted flavor evaporation and headspace solid-phase microextraction in cocoa liquor. A. Monroe, **V. Chaudhary**, Y. Liu, M. Drake

--U.S. FDA's tool for the prioritization of food chemicals for post-market assessment. **J. Heilman**, S. Murphy, D. DeGroot, M. Barr, J. Downey, D. Folmer, D. Hlavaty, J. Steele, K. Middleton, K. Arvidson, J. Van Doren

--Microrheological study of navy bean flour suspensions by diffusion wave spectroscopy (DWS). **S.X. Liu**, J. Xu, G. Selling, Z. Teng

--Protein formulation method to increase thermal resistance of lateral flow devices for the grain industry. **W. Miller**, F. Parks, K. Tanguay

--Screening of Jamaican honey for pesticide residue utilizing QuEChERS method and GC-MS/LC-MS. T. Patterson, R. Reid, **A. Goldson**-Barnaby

--Determination of organic and inorganic components of *curcuma longa*. **B. Khatiwada**, P. Futch, A. Farquhar, I. Hughes

--Characterization of betalains in *Rivina humilis* berries: The effect of freeze-drying and non-freeze-drying on the thermal and pH stability of betalains. **D.T. Barrett**, A. Barnaby, P.C. Facey, G. Bent

--Characterization of thermophilic microorganisms and their enzymes for effective biodegradation of polylactic acid (PLA). **S. Jeon**, J. Cha, Y. Lee, Y. Park

--Mechanistic and comparative insights into green extraction of bioactive phytoconstituents from *Thuja orientalis* using microwave- and ultrasound-assisted techniques. **R. Abdullah**

--Comprehensive profiling of photosynthetic pigments in fresh Korean laver (*Porphyra* spp.) across regions and seasons. **H. Yu**, J. Lim, S. Park, K. Park, J. Lee

--Identification and functional validation of cytochrome P450 genes associated with metabolic resistance to major acaricides in *Varroa destructor*. **J. Lee**, S. Lee, J. Lee

--Addressing data imbalance in machine learning-enabled handheld Raman spectroscopy for non-destructive avocado ripeness classification. **I. Lee**, Z. Li, L. Ma

--Ethoxylated alcohols in food packaging materials. **M.A. Hubbard**, S. Elyashiv-Barad

McCormick Place Conv. Ctr. Hall F2

Sustainable Agriceuticals – POSTERS

H. Kim, L. Liu, Y. Wu, W. H. Yokoyama, *Organizers*

--Profiling anti-inflammatory molecules in non-alcoholic beer using liquid chromatography mass spectrometry. **R. Runyon**, D. Cochenour, D. Tano

--Optimization of conditions for the gut microbiota-mediated biotransformation of sennosides into rhein and emodin. **Y. Chen**, S. Tsai, S. Yang, C. Chen

--Cryo-EM Structure of the Yeast *Saccharomyces cerevisiae* SDH provides a template for Eco-Friendly Fungicide Discovery. **Y. Ye**, X. Zhu, G. Yang

--Isolation, physicochemical characterization of seed-derived protein from *Mucuna pruriens* for encapsulation of bioactive compounds from *Hibiscus sabdariffa* L.. **P.K. Sonu**, A. Bhalothia, S. Jangir, U. Kumar

--Mechanistic insights into antidiabetic activity of *Artocarpus lacucha* via GLUT2 and PI3K/AKT-mediated glucose uptake. **T. Banerjee**, A. Sarkar, A. De, A.K. Halder, S. Karmakar, N. Ghosh

McCormick Place Conv. Ctr. Hall F2

150 Years of Biopolymer Chemistry Toward a Sustainable Future - POSTERS

Cospons: CELL, ENFL, HIST, POLY, PRES Financial support: ACS Transformative Natural Polymer Convergent Chemistry Community (ACS-NP-CCC) L. Chen, C. Fehl, W. Gao, F. Jiang, J. Wang, *Organizers*

--Biochar a new frontier in agriculture. P.Q. Tran, **G. Adeosun**

--Design and stabilization of an edible nanometric coating with antifungal properties to increase the shelf life of strawberries (*Fragaria ananassa*) applying circular economy principles. A. Carrasco, **J. Jimenez**, **L. Jaramillo-Quintero**, A. Rodriguez-Pérez, V. Gutierrez-García, L. Pérez-Sánchez **No abstract available**

--Regolith-mediated fibrillation of recycled cellulose fibers into composite aerogels for thermal insulation of lunar habitats. J. Staker, E. Braun, H. Guo, J. Stokes, **A. Wei** **No abstract available**

--Highly transparent crosslinked cellulose nanocrystal coatings with high gas barrier and enhanced water resistance for sustainable food packaging. **Y. Wang**, J.P. Youngblood, R. Moon, G. Schueneman **No abstract available**

--Electrospun lignin/PAA nanofibers using different biomass-derived lignins. **S. Choi**, J. Kim, J. Lee **No abstract available**

--Incorporation of bio-based polyester into Polyvinyl chloride foam. **J. Kim**, S. Choi, J. Lee **No abstract available**

--Carboxylated cellulose nanofibrils as multifunctional adjuvants for drift-reducing and controlled-release glyphosate formulations. **R. Lolimbavansha**, Y.S. Abdel Aziz, R. Das, R. Potoff, B.S. Hsiao, D.W. Clausen **No abstract available**

--Interface-directed synthesis of polyaniline coatings on cellulose nanocrystals using polyoxometalate-assisted polymerization. **A. Shabbir**

--Boron-based lewis acid strategy for producing water-soluble cellulose from biomass. **I. Ghaderi Jouybari**, T. Leventis, P. Aryal, A.J. Haes, F.J. Williams **No abstract available**

--Boron trihalide reagents for plant lignocellulose separation. **P. Aryal**, I. Ghaderi Jouybari, T. Leventis, A.J. Haes, F.J. Williams **No abstract available**

--Bioethanol from rice husks as a second-generation biofuel: Glucose quantification using Dinitrosalicylic acid analysis. **O. Mohamed** **No abstract available**

--Valorization of fish processing waste for bioplastic polyhydroxyalkanoates production by *Haloferax mediterranei*. **F. Zhao**, S. Chen, H. Huang **No abstract available**

McCormick Place Conv. Ctr. Hall F2

Transformative Natural Polymers of 21st Century ACS Series Symposia IV ACS-NP-CCC POSTERS

Cospons: ENVR, PMSE Financial support: Chinese American Chemical Society (CACS) L. Chen, C. Fehl, W. Gao, F. Jiang, J. Wang, *Organizers*

****No abstracts available****

--Step growth polymerization of telechelic macromonomers to access reusable polyolefin-like polyesters. **Y. Avila-Martinez**, C.R. Taylor, S. Tan, B.P. Carrow

--Synthesis of tyramine-modified hyaluronic acid hydrogels for biomedical applications. **Y. Peng**, N. Ala-Kokko, Y. Song, J. Chen

--Microwave-assisted synthesis of chitosan-phosphonate for metal chelation and application in water purification. **D. Dassanayake Mudiyansele**, V. Knight, P.R. Calvo

--Sustainable biobased wax alternatives from PBAT and ODSA for high-barrier recyclable paper packaging. **M. Kunnath**

THURSDAY MORNING August 27

McCormick Place Conv. Ctr. S501bc

Advances on Agriculture and Food Chemistry (General Papers) Chemistry of Beverages and Environmental Stress on Agriculture

K. Mahalak, *Organizer* C. Osorio Roa, Z. Xie, *Organizers, Presiding*

8:00 Introductory Remarks

8:03 . Leveraging volatile sensing for rapid detection of smoke-derived signatures in grapes and wines. **D.J. Dyer**, F. Maioli, M. Shulaker, A. Kocanaogullari, G. McGrath, M. Hervé, A. Humbert-Goffard, T. Svnartchuk, A. Rumbaugh, B. Montpetit

8:18 . Direct electrochemical appraisal of black coffee quality using cyclic voltammetry. **C.H. Hendon**

8:33 . Synthesis and application of genipin-crosslinked arginine-chitosan beads for selective scavenging of α -dicarbonyls and flavor preservation in brewed coffee. **B. Lee**, K.G. Lee

8:48 . Effects of fermentation and roasting degree on quality characteristics and hazardous compounds derived from Maillard reaction in coffee beans. **L. Du**, K.G. Lee

9:03 . Multifunctional biomass-derived carbon quantum dots in tea systems: Enhancing photosynthesis and enabling aptasensing for food safety. **M. Shoaib**, L. Xiaoli

9:18 . Impacts of irrigation and fertilization practices on manganese mobilization and nitrogen dynamics in the deep vadose zone. **P. Borah**, C. Kumar, A. Malakar

9:33 Break

9:53 . Impact of UV-A light dehydration on antioxidant capacity, degradative enzyme kinetics, and quality attributes of fruits and mushrooms. **S. Karami**, L.J. Bastarrachea

10:08 . Cultivar-specific variation among yellow pea influences overall nutritional quality. **S. Paul**, K. Majumder, D. Santra

10:23 . Aroma characterization of cherry tomatoes (*Solanum lycopersicum* var. *cerasiforme*) from traditional and modern production systems. **I.M. Gutierrez Forbes**, Y. Yin

10:38 . Effect of harvesting seasons on volatile markers and liking of California cold-pressed avocado oils. **F. Kulapichitr**, C. Asensio, D. Wannasin, D. Obenland, S. Wang, M. Arpaia

10:53 . Impact of air-classifier speed on protein distribution, gluten function, and microstructure of wheat flour fractions. **I. Gimhani**, J. Paliwal, C.M. Rosell

11:08 . Mitigating salinity stress in quinoa: Role of additive impact of soil amendments and biostimulants. **M. Bourhim**, **H. Barghout**, **A. Hirich**, **A. Qaddory**, **C. Ghoulam**

11:23 Concluding Remarks

McCormick Place Conv. Ctr. W194b

150 Years of Biopolymer Chemistry Toward a Sustainable Future Applications of Natural Polymers

Cospons: CARB, CELL, ENFL, HIST Financial support: ACS Transformative Natural Polymer Convergent Chemistry Community (ACS-NP-CCC) L. Chen, C. Fehl, W. Gao, F. Jiang, J. Wang, *Organizers, Presiding* Y. Shao, *Presiding*

****No abstracts available****

8:00 Opening Remarks

8:05 . Sustainable production of cellulose acetate nanofibers from industrial hemp for packaging and agricultural mulch applications. M. Basak, S. Bera, **L. Pal**

8:35 . Reversible, chemically triggered water retention in disulfide cross-linked synthetic conserved anterior mucus proteins (CAMPs).

A.B. Braunschweig

9:05 . Sheath-assisted triaxial electrospinning of tunable ethyl cellulose hollow microtubes for superior thermal insulation. Q. Hao, C. Zhang, **P. Lu**

9:35 . Protein-based soft materials from agricultural byproducts for resilient food and agricultural systems. **J. Zou**, G. Sun, N. Nitin

10:05 Intermission

10:20 . Functionalized nano cellulose-reinforced GelMA composite hydrogels with enhanced physicochemical performance. **Y. Zhang**, J. Catchmark

10:45 . Evaluation of DNA immobilization on cellulosic paper surface for CRISPR/Cas-assisted nucleic acid sensing. **Y. Tanifuji**, Y. Hiruta, D. Citterio

11:10 . Fabrication cellulose phosphate/metal oxide nanocomposite as bio-active advanced wound healing agent. **F. Sanjida**, H. Rahman, N. Ahamad

11:35 . Composition–property relationships in partially bio-based Def-TEGDMA resin systems for stereolithographic additive manufacturing. **K. Shams**, S.C. Chmely

McCormick Place Conv. Ctr. W193b

Climate-Resilient Agriculture Chemistry at the Food - Environment Interface

Cospons: AGRO, ANYL, ENVR H. Sharifan, J. C. White, W. Zhang, *Organizers, Presiding*

****No abstracts available****

8:00 Introductory Remarks

8:05 . Withdrawn

8:35 . Differential zinc speciation modulates PFOA bioavailability and ecotoxicological responses in alfalfa-soil systems. **N. Easmin**, J.C. White, H. Sharifan

9:00 . Insights into PFAS uptake mechanisms in plants through pathway inhibition experiments. **A. Lama**, M. Kharel, N. Kandhol, W. Zhang

9:25 . Enhanced nutrient retention following biochar application linked to biochar surface functionalization: Identification of common mechanisms across variable management conditions. **B. Fossum**, M. Kaiser, A. Malakar

9:50 . Steel slag–based compost liquid extract improves drought stressed lettuce yield, biochemical quality, and drought tolerance under open-field conditions. **A. Aouabe**, F. Errouh, A. Meddich

10:15 Intermission

10:45 . Green extraction of carotenoids using menthol-based hydrophobic deep eutectic solvents. **D.G. Jackson**, G. Sreenilayam, A. Focsan

11:10 . Beneficial microorganisms mitigate the impact of drought and recovery on growth, physiology, and nutritional parameters of two contrasting olive's (*Olea europaea* L.) cultivars. **N. Sbbar**, S. Lahbouki, **A. Aouabe**, S. Er-Raki, A. El Bakkali, A. Boutasknit, A. Douira, C. El Modafar, M. Abdelilah

11:35 . Eco-friendly polysaccharide hydrogels improve soil properties, microbial activity, and drought resilience in tomatoes. **S. Errahali**, L. Belachemi, H. Benyoucef, A. Oukarroum, H. Kaddami

12:00 . Field-scale evaluation of measurement approaches for enhanced rock weathering carbon sequestration in Midwest agriculture with geochemical modeling. **K. Collins**, T.E. Franz, A. Malakar

12:25 Concluding Remarks



Mark your calendar
for the next
ACS National Meeting
March 21-25
in
New Orleans



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

Sun. Aug. 9	4:00-5:00pm	Sub-division Meeting	virtual/on-line
Sun. Aug. 16	4:00-7:00pm	Executive Committee Meeting	virtual/on-line
Sun. Aug. 23	noon-1:00pm	Special Topics	Conv. Ctr. S403A
Mon. Aug. 24	noon-1:00pm	AGFD Leader Luncheon	Conv. Ctr. S403A
Mon. Aug. 24	1:00-2:00pm	Future Program Meeting	Conv. Ctr. S403A
Mon. Aug. 24	8:00-10:00pm	Sci-Mix	Conv. Ctr. Hall F2
Tues. Aug. 25	6:00-8:00pm	AGFD Awards Dinner	Berghoff Restaurant (see front cover)
Weds. Aug. 26	noon-1:00pm	Business Meeting	Conv. Ctr. S403A