



CORNUCOPIA

including the AGFD program for the
268th American Chemical Society (virtual & live) National Meeting on

August 18 - 22, 2024

in

DENVER

Jason Soares & Elizabeth Kreger
Program Chairs

Going to Denver?

Join the AGFD Awards Dinner at Buckhorn Exchange, 1000 Osage Street

Tuesday, August 20, 6:00 - 8:30 pm

(get your ticket at the AGFD information table)

27 minute walking directions from the Convention Center – exit the Center on to 14th St. Make a right and continue to Welton St. Turn right on Welton. Continue on Welton to Colfax Ave. Turn right on Colfax. Continue on Colfax to Mariposa Ave. Turn left on Mariposa. Continue to 10th Ave. Turn right on 10th. Buckhorn Exchange is 2 blocks ahead - corner of 10th and Osage St.

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Visit our website - www.agfoodchem.org - for a pdf of Cornucopia, job postings, awards and much more.

Check out our Facebook page - www.facebook.com/agandfood

We're on LinkedIn, too!

MESSAGE FROM THE CHAIR

It seems only recently that I transitioned into the Division Chair role from my predecessor, Jonathan Beauchamp, but time has passed quickly marking over 8 months into my tenure. We are now at the ACS National Fall 2024 meeting in Denver, Colorado with an exciting program and ever-expanding participation within AGFD technical sessions. Before I discuss the Fall 2024 meeting, I would be remiss to not again thank all the support I have received as Division Chair and will continue to receive through the rest of 2024. Jonathan Beauchamp and other key AGFD leaders, including the Executive Committee, have been integral to navigating Chair responsibilities and several ventures during my term and I express my sincere gratitude and appreciation for all their support. Special thanks to Mike Appell, Elyse Doria, Carl Frey, Alyson Mitchell, Mike Morello, Steve Toth, LinShu Lui and Mike Tunick for guiding and continuing to point me in the right direction. I continue to be humbled by this great opportunity and hope my efforts to keep pushing AGFD forward both technically and programmatically are coming to fruition.

Before I highlight the remarkable AGFD Fall 2024 program, I want to reach back to the Spring 2024 National meeting in New Orleans, which was especially exciting with the alignment to the ACS theme “Many Flavors in Chemistry”. The AGFD Spring 2024 program had 13 technical symposia with over 250 presentations. Technical topics encompassed flavor chemistry, food allergens, precision nutrition, mycotoxins, food security and chemistry of alcoholic beverages, which included a brewery tour. Also, memorial symposia for two key members of the AGFD community - Michael Granvogl Memorial Symposium and Agnes Rimando Memorial International Student Symposium were well supported by our AGFD community. I congratulate the winners of an exciting special event, Communicating Chemistry Culinary Competition, held at a local New Orleans restaurant – look for this competition at the Spring 2025 National Meeting in San Diego too and please consider joining! I congratulate Virginia “Gigi” Pistilli from the California Institute of Technology for winning our annual AGFD Undergraduate Student Poster Award competition with her poster “Genetically-encoded nanoparticles for siRNA-mediated crop genetic engineering”. Lastly, we held our annual Withycombe-Charalambous Graduate Student Award Competition, which included a multitude of impressive award candidates. I congratulate our second place winner Ann-Dorie Webley, University of California, Davis, with her paper entitled “Solubilization of limonene by phospholipid vesicle dispersions” and our co-first place finishers Zhong (Marti) Hua, McGill University, with the paper “Development of a microfluidic device to enrich and detect zearalenone in food using quantum dot-embedded molecularly imprinted polymer” and Zhiya Yin, Rutgers University, with the paper “Developing polymer-based delivery systems to improve bioaccessibility and bioefficacy of procyanidin dimers”. Thanks to all the competitors and those who collectively brought together a fantastic AGFD program.

The AGFD Fall 2024 program is equally as exciting with 15 technical symposia comprised of 33 total sessions with over 400 oral presentations and posters. A special thanks to the Fall 2024 Program Chair, Elizabeth Kreger, who has assembled a fantastic program for the AGFD community. Her exceptional efforts coupled with our dedicated symposium organizers is going to deliver an exciting program that includes technical topics: Waste Upcycling, Indoor Farming & Sustainable Agriculture, Processing & Storage Induced Toxins, Bioproducts From Biomass: Renewable Chemicals & Polymers, Whole Grains Bioactives & Human Health, Sustainable Agriceuticals, Elevating Sustainability & Greentech in Agriculture & Plant-Based Foods, and Microbiome Research Consortium. Special sessions include Virtual Graduate Students Symposium in Asia-Pacific Region and Honoring Professor Chi-Tang Ho on the Occasion of His 80th Birth Year. Lastly, the Fall National Meeting is where we honor dedicated AGFD members that have provided incredible contributions to agriculture and food chemistry. I congratulate Tara H. McHugh, ARS-USDA, for winning the Award for the Advancement of Application of Agricultural and Food Chemistry, Joonhyuk Suh, University of Georgia, for the Young Scientist Award, and Elizabeth R. Kreger, for the Young Industrial Scientist Award. Please join us during the dedicated symposia for the award winners and at the Chairs’ Award banquet on Tuesday to celebrate the achievements of all the 2024 AGFD award winners and our new AGFD Fellows. Thanks to all of you, the members of AGFD, that attend and participate in our National Meeting programming and thanks to all the symposium organizers and presiders. Additionally, special thanks to all the presenters. We cannot continue to succeed without your valued contributions and your willingness to share your astounding research. For those of you interested in learning more about AGFD and our sub-divisions, visit us on Division Row during ACS SciMix!

This is a longer message than I intended so I will finally close with gratitude for being involved in AGFD, not only as

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2024 Chair, but also as an AGFD member, and the opportunity to connect and network with all of you. It has been a great pleasure and honor to serve as AGFD Division Chair and as an Executive Committee member. Looking forward to 2025, I am excited to transition the Division to an exceptional, capable leader, Elizabeth Kreger, who, as 2025 Division Chair, will continue to advance AGFD's programming and stature in the agriculture and food chemistry community. I hope to see all of you in Denver!

Jason Soares
AGFD Chair 2024

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

FUTURE PROGRAMS

SAN DIEGO March 23 – 27, 2025

James Seiber Memorial Symposium Alyson Mitchell aemitchell@ucdavis.edu Matt Hengel, mjhengel@ucdavis.edu John Finley Jfinley101@gmail.com Spencer Walse spencer.walse@usda.gov Mariela Paz Carpio-Obeso MarielaPaz.Carpio-Obeso@waterboards.ca.gov

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

Chemistry of Alcoholic Beverages Nick Flynn nflynn@wtamu.edu

Ultra-Processed Foods and the Gut Microbiome Laurel Doherty laurel.a.doherty.civ@army.mil

Applying Mass Spectrometry and NMR Techniques in the Study of Plant and Food Metabolomics Timo Stark Timo.Stark@TUM.de

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

Breeding for Flavor Sensory Quality and Sustainability of Fresh and Fresh-Cut Fruits and Vegetables Xiaofen Du xdu@twu.edu Xiuxiu Sun xiuxiu.sun@usda.gov Yiqun Weng yiqun.weng@usda.gov Genhua Niu Genhua.Niu@ag.tamu.edu

Microbial Food Safety: Emerging Technologies for Detection, Intervention, and Antimicrobial Packaging of Foodborne Pathogens Tony Jin tony.jin@usda.gov Yanhong Liu yanhong.liu@usda.gov Xuotong Fan Xuotong.fan@usda.gov

Withycombe-Charalambous Graduate Student Symposium Kathryn Diebler kdd3@cornell.edu Elizabeth Kreger Elizabeth.Kreger@sensient.com Coralia Osorio Roa cosorior@unal.edu.co

General Papers Elizabeth Kreger Elizabeth.Kreger@sensient.com Coralia Osorio Roa cosorior@unal.edu.co

General Posters and Undergraduate Poster Competition Kathryn Diebler kdd3@cornell.edu Elizabeth Kreger Elizabeth.Kreger@sensient.com Coralia Osorio Roa cosorior@unal.edu.co

WASHINGTON DC August 17 – 21, 2025

Chemistry of Aroma and Taste Modification Robert McGorin robert.mcgorin@oregonstate.edu

Agnes Rimando Memorial International Student Symposium Michael Tunick mht39@drexel.edu Roberta Tardugno roberta.tardugno@uniba.it

MORE FUTURE PROGRAMS

FALL 2026

3rd Global Symposium on Chemistry and Biological Effects of Maple Food Products Hang Ma
hang_ma@uri.edu Navindra Seeram nseeram@uri.edu

OTHER SYMPOSIA OF INTEREST

4th International Flavor and Fragrance Conference - November 4-7, 2024, Auckland, New Zealand

Pacifichem - Honolulu, Hawaii, December 15-20, 2025 pacifichem.org

AGFD Executive Committee Meeting Minutes

Monday, March 18, 5:00- 8:00 PM, New Orleans

Attendance: Alyson Mitchell, Jason Soares, Jonathan Beauchamp, Elyse Doria, Neil Da Costa, Kathryn Deibler, Jun Hu, Michael Morello, Mike Tunick, Liz Kreger, Roberta Tardugno, Jianping Wu, Stephen Toth, Keith Cadwallader, Xiaofen Du, Karly Mahalak, Coralia Osorio Roa

Jason Soares called the meeting to order at 5:09 PM.

The **minutes** of the previous Executive Committee (Fall 2023) meeting were approved with no changes and are published in the Spring 2024 Cornucopia.

Treasurer's Report was given by Steven Toth. An ACS block grant was received by the Division. Division investments are doing well and the Division has \$944,000 in the bank. There was \$50,000 allocated for the Spring 2024 meeting and the Division will likely meet this budget. AGFD was over budget for the Fall 2024 meeting in San Francisco. A budget of \$45,000 was allocated however \$54,000 was spent; of this \$8,760 was spent on reimbursements. Financially, the division is in a good place.

The **Program Report** was given by Jason Soares. The Spring 2024 National Meeting offered 145 talks, 18 sessions and over 90 posters. The Division held 13 in-person and 6 hybrid sessions. There were no virtual sessions. Two events were organized in conjunction with the meeting including the AGFD Communicating Culinary Chemistry Competition (C4), held at Dickie Brennan's Steakhouse and a tour of the Urban South Brewery. Kathryn Deibler had stickers and reusable bento boxes made with the AGFD logo which were handed out during the meeting. Alyson Mitchell asked to increase the "swag" budget by \$500. The budget for "swag" was set and passed at \$3,000 per meeting. The first AGFD Leadership Luncheon went well with over 30 people attending. This luncheon will be organized again for the Fall 2024 meeting. Elyse Doria's tenure as the Student Representative to the Division will conclude after the Fall 2024 meeting. Application for a new representative will be open until April 15, 2024 and can be sent to Alyson Mitchell and Kathryn Deibler. Elizabeth Kreger gave an update on the Fall 2024 meeting. There are currently 17 symposia planned, including the awards symposia. A special symposium will be organized in honor of Chi Tang Ho's 80th birthday. The Microbiome subdivision will hold a student workshop in conjunction with their planned symposia. A budget of \$45,000 was set and passed for the Fall 2024 meeting.

Few **Subdivision Reports** were given as attendance by Subdivision chairs at the Executive Committee meeting was low and few sent Subdivision reports to the AGFD Chair via email prior to the meeting. Subdivision chairs were updated twice during the year by Chair Jason Soares on their duties, which are in the AGFD Bylaws. As this is an on-going issue, a work group consisting of Keith Cadwallader, Kathryn Deibler, and Steve Toth will be organized to identify ways to encourage better participation by the Subdivision leaders. The *Agricultural Subdivision* report was given by Lin Shu Liu who indicated that the Subdivision programmed two symposia at the Spring 2024 meeting and one is planned for the Fall 2024 meeting. The *Flavor Subdivision* report was given by Xiaofen Du. This Subdivision programmed two symposia at the Spring 2024 meeting, and is planning an *Advances in Analysis of Flavors* for the Fall 2024 meeting with a possible workshop. Karly Mahalak gave the *Nutrition & Gut Microbiome Subdivision* report. This Subdivision held two symposia during the Spring 2024 meeting and is planning a symposia and workshop for the Fall 2024 meeting. The *Food Bioengineering, Food Safety,*

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Functional Foods & Natural Products, and Sustainable & Green Technology Subdivision chairs were absent during the Executive Committee meeting and no reports were submitted prior to the meeting for these Subdivisions.

The **Award Committee Report** was given by Mike Morello. The award for the Advancement of Application of Agricultural and Food Chemistry, sponsored by International Flavors and Fragrances was awarded to Tara H. McHugh, Ph.D., Pacific West Area Director, Agricultural Research Services, US Department of Agriculture. The AGFD Fellow Awards have not yet been finalized. The JAFC Best Article of Year Award was the *Proof of concept for cell culture-based coffee* by authors Heikki Aisala, Elviira Karkkainen, Iina Jokinen, Tuulikki Seppanen-Laakso and Heiko Rischer. The Graduate and Undergraduate Student awards report were given by Kathryn Deibler. Zhong (Marti) Hua from McGill University and Zhiya Yin from Rutgers University shared 1st place. Ann-Dorie Webley from the University of California at Davis received second place. The undergraduate competition had only two entries. Michael Morello indicated that there were three nominations and 5 judges for the Young Scientist Award. The awardee is Joonhyuk Suh, PhD, Assistant Professor, Department of Food Science and Technology, University of Georgia. The awardee of the Young Industrial Scientist Award is Elizabeth Kreger, Manager Innovation & Analytical Flavors & Extracts, Sensient Flavors, LLC. The ACS Fellows Award nominations are currently being worked on. The Roy Teranishi Fellowship was awarded to Sarah L. Caballero, Department of Food Science and Technology, Oregon State University, and the Kenneth A. Spencer Award for Food and Agricultural Chemistry was awarded to Atanu Biswa, PhD, United States Department of Agriculture, National Center for Agricultural Utilization Research, Peoria, IL.

The **Student Committee Report** was given by Elyse Doria. Students were actively recruited at the hospitality table for the Leadership luncheon and during the poster session. Elyse organized a student trip to Mardi Gras World during the Spring 2024 meeting and will plan a student hike for the Fall 2025 meeting.

LinShu Liu indicated he will be organizing a symposium at **Pacific Chem**, in Hawaii, December 15-20, 2025. In addition, Michael Qian is organizing the 4th **International Flavor and Fragrance Conference**, November 4-7, 2024, in Auckland, New Zealand. Coralía Osorio Roa proposed having the next IFF² conference in Panama as it was previously planned.

Elizabeth Kreger gave an update on **future ACS programs**. ACS would like to emphasize joint and collaborative programming in the future. Starting Fall 2025, meeting programs will be condensed to 3.5 days (Monday-Thursday). All divisions will receive a set number of sessions for each meeting. Beginning Spring 2025, our division will be allocated 19 half-day sessions for the Spring meetings. Eight % of these will need to be co-organized and only one hybrid session will be permitted. The division will be allocated 23 half-day sessions for the Fall meetings, of which 10% will need to be co-organized. The Fall meetings can have up to 6 hybrid sessions. ACS would like divisions to have symposia programming planned for 2 years out. A Slack channel was proposed as a mechanism to maintain communication and to have a working spreadsheet. Elizabeth Kreger will champion this effort until a person can be identified to manage this change. A new virtual platform will be separate from the in-person meetings and will be programmed by ComSci. Mike Morello indicated that we would benefit by identifying a representative to ComSci from our Division. Jason Soares indicated that the Division would also benefit from a Future Meetings Champion as the Chair changes annually.

Michael Tunick gave the **Councilors Report**. The Division of Biological Chemistry has proposed changing its name to the Division of Biochemistry and Biological Chemistry. This will go up for vote on Wednesday. There are also petitions to charter new International Chemical Sciences Chapters in Guangdong, China and in Egypt. Michael also indicated that the deadline for Innovative Project (IPG) Grant is soon. A grant focusing on improving communication and the Division social media footprint will be organized by Alyson Mitchell, Kathryn Deibler, Jonathan Beauchamp and Neil DaCosta.

Jason Soares gave the **Nominations Report**. The Division will need to identify one councilor, 2 alternative councilors, and one at-large councilor at the Fall 2024 meeting. Voting will follow the meeting and conclude by October 2024.

The **Cornucopia Report** was given by Carl Frey (email). The *Cornucopia* was posted to the website one week before the meeting. One hundred copies of the short (no abstracts) version were printed for distribution in New Orleans. Thanks to all that contributed content.

Hospitality/Public Relations Report was given by Alyson Mitchell. Alyson indicated that controlling food is difficult during the poster session. The Sunday poster session is supposed to be a welcoming and networking event for our

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members; which is why we offer food and drink. Having all ACS division posters together in a large convention hall takes this element away. It was decided that only a cash bar will be organized for future meetings, and the poster organizer and Student Representative to the Division will hand out tickets for two free drinks to poster presenters.

The **Website Report** was given by Michael Appell (email). The website is used throughout the year – especially around meetings, deadlines and communications. In the past 30 days there were 162 one-time visitors. Most people access the website via a laptop/desktop computer. There were 1999 emails sent, 59% opened and 38% clicked the link within 2 days. Members from 6 continents use the website.

The **Membership Report** was given by Michael Qian (email). Membership dropped from 3000+ before COVID-19 to the current 2100. New members were recruited at the Fall 2023 meeting and at this meeting. Michael indicated that new members will be recruited during the 4th International Flavor Conference.

The **Journal Report** was given by Coralia Osorio Roa. The ACS agricultural and food portfolio of journals is performing very well. Submissions to *Journal of Agricultural and Food Chemistry* have continued to increase and are expected to surpass 10,000 submissions to the journal this year. In 2023 the number of published articles in JAFAC increased by 20% to 1,852 articles. The *Impact Factor* of JAFAC is now 6.1. The *ACS Food Science & Technology* and *ACS Agricultural Science & Technology* journals are also performing well following their launch in 2020. The *Impact Factor* for *ACS Food Science & Technology* is 2.3 and for *ACS Agricultural Science & Technology* it is 2.5. These are great inaugural impact factors.

The **Communications** report was provided by Alyson Mitchell. Alyson asked to have a QR code that links to the ACS membership application at future meetings to make recruiting new members easier. Steven Toth will explore opening an additional bank account to make payment of events easier for our members using card and electronic payment tools. He will report findings at the Fall 2024 meeting.

In **Old Business**, Jonathan Beauchamp gave an update on the October 7-8, 2023 Strategic Planning Retreat held in Washington, DC. The retreat, organized by Lauren Jackson, was attended by her, as well as Mike Appell, Jonathan Beauchamp, Neil Da Costa, LinShu Liu, Kanjana Mahattanatawee, Alyson Mitchell, Mike Morello, Coralia Osorio Roa, Omowunmi (Wunmi) Sadik and Mike Tunick. The two-day workshop was intense but highly productive. The team developed a new mission and vision for the division. The new mission is “Driving the Future of Agriculture and Food”. The new vision is “Lead and foster a global community to advance, communicate and promote agricultural and food chemistry research & development, education, and outreach”. Furthermore, three goals for the division were developed, with each goal being assigned three individual strategies. These were:

- Goal 1: Content Focus. Strategies: Webinars; Symposia; Workshops
- Goal 2: Membership Focus. Strategies: Mentoring; Networking; Demonstrating value
- Goal 3: Communication Focus. Strategies: Social Media; Direct Communications; Journals

Each participant of the Strategic Planning Retreat volunteered to champion the strategy of one goal to facilitate its development and execution. Some goals have progressed (e.g., AGFD Leaders Luncheon at the Spring 2024 meeting; see report above). All goals are ongoing. An update will be given at the next Executive Committee meeting.

There was no **New Business**. The meeting adjourned at 8:02 PM.

AGFD Student Event



**Hammond's Candies
Factory Tour**

Monday, August 19

10:45 AM - 12 PM

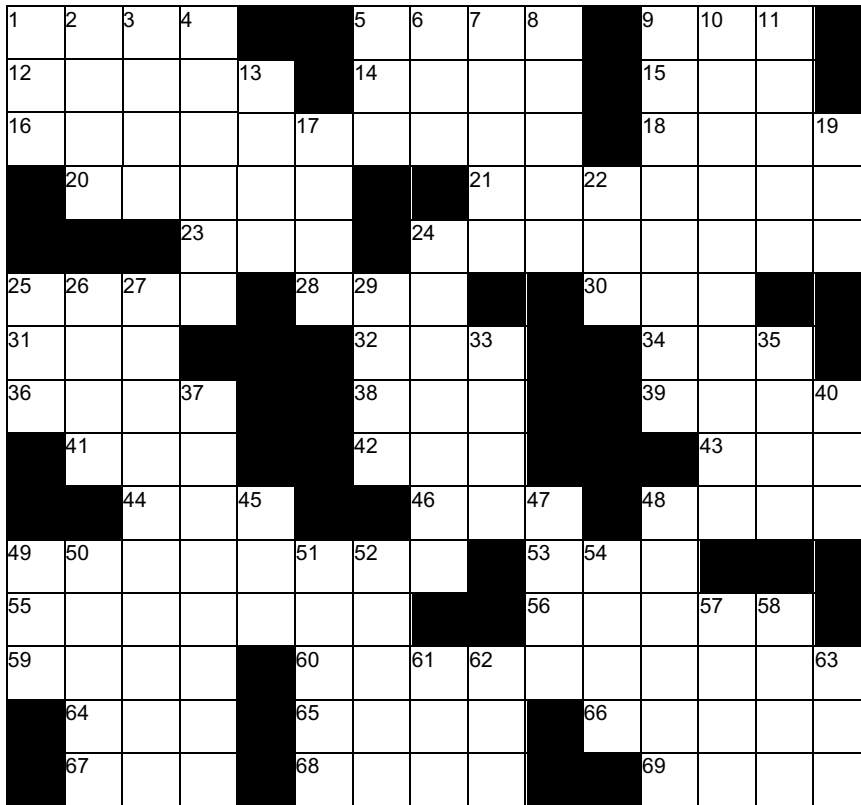


Meet in front of the **Big Blue Bear**
outside the Colorado Convention Center
at **10:45 AM**.

We will ride-share to the factory
together.

Scan QR Code to Sign-up!

DENVER DIVERSION



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

ACROSS

- 1 Go from solid to liquid
- 5 \$ dispensers
- 9 FedEx competitor
- 12 'Famous Potatoes' state
- 14 Tight, like a rope
- 15 Analysis using a high energy electron beam
- 16 *Titanic* survivor from Denver (w/60 ACROSS)
- 18 Ham in a can
- 20 Ring-shaped reef
- 21 Starts to cry
- 23 NaOH
- 24 Denver elevation, about
- 25 Trees for wine barrels
- 28 Clean air/water org.
- 30 Mythical big bird of prey
- 31 Notre Dame home: ___ de la Cite
- 32 Baseball bat wood
- 34 Calendar abbrev.
- 36 Boone/Webster nickname
- 38 Piggy home

- 39 ___ Musk of SpaceX
- 41 Amino acid suffix
- 42 On-line ___ Talks
- 43 Mont Blanc is the highest
- 44 Consume, dine
- 46 Get angry: see ___
- 48 Peter the Great, for one
- 49 Amphitheater near Denver
- 53 A female deer (or rabbit)
- 55 Rare gas with At. No. 36
- 56 → or ←
- 59 Chocolate sandwich treat
- 60 See 16 ACROSS
- 64 Miner's quest
- 65 1056 in old Rome
- 66 Justice ___ Sotomayor
- 67 'Aries' is Latin for ___
- 68 Landed on, as a fly
- 69 Liquid precipitation

DOWN

- 1 1/2 Italian fashion house
- 2 Poet ___ St. Vincent Millay
- 3 End of the line, final
- 4 Mercaptans

- 5 No pushing! One ___ time!
- 6 Paper file folder name place
- 7 ___tasking or ___functional
- 8 Iron/carbon alloy
- 9 Europe and Asia, once
- 10 Refreshing beverages w/CO₂
- 11 Dragon of *The Hobbit*
- 13 Fleming's *For Your Eyes* ___
- 17 Swiss/German Avant Garde artist Paul ___
- 19 Roadside sign abbrev.
- 22 Irish carrier: ___ Lingus
- 24 Degrees following baccalaureates
- 25 Spher___ or cellul___
- 26 Fastest ball sport: jai-___
- 27 1960-1963, in the USA
- 29 Days gone by
- 33 Jekyll's alter-ego
- 35 Location a.k.a. 'The Big Easy'
- 37 e.g. *The Owl & The Pussycat*
- 40 Home of *Morning Edition* and *All Things Considered*

- 45 Small child or small deep fried potato
- 47 June 6, 1944
- 48 Small child that's a handful
- 49 Film company that produced *King Kong* and *Citizen Kane*
- 50 Mistake, misstep
- 51 Lower half of a semicolon
- 52 Small, rounded hill
- 54 Spheres or globes
- 57 Spanish *Game of Thrones* actress ___ Chaplin
- 58 Conflict that included 47 DOWN
- 61 65 ACROSS minus 1000
- 62 Illuminated
- 63 American photographic artist and social activist ___ Goldin

AWARD NEWS



Tara H. McHugh, Ph.D., Pacific West Area Director, ARS, USDA won the 2024 **Award for the Advancement of Application of Agricultural and Food Chemistry**. This award (sponsored by International Flavors and Fragrances, Inc.) recognizes outstanding contributions to pure and applied agricultural and food chemistry. The award celebrates Dr. McHugh's research integrating food chemistry, nutrition, processing, microbiology, and engineering to solve agriculture problems. Her insights led to new approaches to utilize and add value to specialty crops and waste products, developing a novel forming process to manufacture nutritious, value-added shelf stable 100% fruit bars, developing a patented casting technology to form edible films from fruit and vegetable purees, increasing vitamin D content in mushrooms through ultraviolet B processing, using multiple infrared processing technologies to enhance food

safety, quality, and healthfulness and collaborating on a transformative process to freeze foods. She is the recipient of a multitude of awards, including the ARS Senior Scientist Award, 2 USDA Secretary Honors Awards, the Arthur S. Fleming Award (given to U.S. Government employees), and 3 Federal Laboratory Consortium Awards. She is an IFT Fellow. She has >230 publications and patents (>180 peer-reviewed). She has led 32 Cooperative R&D Agreements and 20 large grants. Over 200 internationally publicized television and print stories have covered her research.



Joonhyuk Suh, Ph.D., Assistant Professor, Department of Food Science and Technology, College of Agricultural and Environmental Sciences, University of Georgia received the 2024 **AGFD Young Scientist Award**. This award recognizes and highlights important contributions made by early career Ag & Food chemists. Dr. Suh's research centers on applying analytical chemistry in food science, utilizing metabolomics and flavoromics technologies. His work involves establishing analytical platforms for both volatile and non-volatile metabolites (biomarkers) to facilitate the development and processing of food products with enhanced flavor and quality. He explores the synthesis of flavor in fruits, evaluates nut quality, develops consumer-preferred food items and investigates dairy product quality and flavor. Dr. Suh has authored >60 peer-reviewed papers and has been actively involved with AGFD since 2018, holding multiple positions within its flavor subdivision.



Elizabeth R. Kreger, Manager Innovation & Analytical - Flavors & Extracts at Sensient Flavors, Hoffman Estates, IL is the recipient of the 2024 **AGFD Young Industrial Scientist Award**. This award (given for the first time in 2023) recognizes and highlights important contributions of early career Ag & Food industrial chemists. Dr. Kreger's work focuses on the analysis, application and creation of flavors and flavor modulators. She helped Wild/ADM build internal GC-Olfactometry and PTR-MS capabilities enabling application of novel ingredients for flavor creation. At PepsiCo, she developed a screening protocol that resulted in a global toolbox flavors with modifying properties for use in sugar reduction efforts. At Sensient Technologies she manages Innovation and Analytical teams focused on flavors and extracts, creating strategies for development of new flavor and taste technologies. At AGFD she has co-organized multiple symposia, served in the Flavor Subdivision officer rotation and currently serves in the AGFD officer rotation as Chair-Elect/Program Chair.

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MORE AWARD NEWS

Jerry King, PhD, University of Arkansas, Fayetteville, **Youngmok Kim**, PhD, Finlays, North Kingston, RI and **Chibuikwe Udenigwe**, PhD, University of Ottawa, Ontario, Canada each received a 2024 **AGFD Fellow Award**.

Xuetong Fan, USDA-ARS-ERRC, Wyndmoor, PA received a 2024 **AGFD Distinguished Service Award**. This award recognizes his substantial and sustained service to AGFD.

Sarah L. Caballero, Dept. of Food Science and Technology, Oregon State University (advisor Jooyeoun Jung) received the 2024 **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.

The 2024 **Withycombe-Charalambous Awards for Excellence in Ag/Food Graduate Research** were won by (tie for 1st) **Zhong (Marti) Hua** McGill Univ. (advisor Xiaonan Lu) [paper: Development of a microfluidic device to enrich and detect zearalenone in food using quantum dot-embedded molecularly imprinted polymer], and **Zhiya Yin**, Rutgers The State Univ. of New Jersey (advisor Qingrong Huang) [paper: Developing polymer-based delivery systems to improve bioaccessibility and bioefficacy of procyanidin dimers] and (2nd) **Ann-Dorie Webley** Univ. of California, Davis (advisor Stephanie R. Dungan) [paper: Solubilization of limonene by phospholipid vesicle dispersions.] This award is won for oral presentations given at the ACS Spring Nat. Meeting Withycombe-Charalambous Symposium.

Virginia H. Pistilli, California Institute of Technology (advisor Gozde Demirer) won the 2024 **AGFD Undergraduate Poster Competition Award**. This award was won based on her poster (Genetically-encoded nanoparticles for siRNA-mediated crop genetic engineering) presented at the AGFD Undergraduate Poster Competition Symposium (held at the ACS Spring National Meeting).

The following loyal members of AGFD marked **25 Years of Membership in AGFD** in 2024: **Elsayed M. Abdelaal, Bill Aslanides, Carolyn D. Crosby, Kathryn D. Deibler, Alyce D. Fly, Rudy J. Fritsch, Russell J. Molyneux, Martin Moore, Emi Okuyama, Jonna Pratt, Warwick D. Raymond, Joe A. Vinson and Hidehiko Wakabayashi**.

The following extremely loyal members of AGFD marked **50 Years of Membership in AGFD** in 2024 **Michael M. Blumenthal and John P. Cherry**.

The team of **Heikki Aisala, Elviira Kärkkäinen, Iina Jokinen, Tuulikki Seppänen-Laakso and Heiko Rischer** won the **JAFRC Research Article of the Year-AGFD** for their paper: *Proof of concept for cell culture-based coffee*.

The team of **Hongxia Lu, Zhongjie Shen, Yujun Xu, Linjing Wu, Deyu Hu, Runjiang Song and Baoan Song** won the **JAFRC Research Article of the Year-AGRO** for their paper: *Immune mechanism of ethylcinnamic acid-induced resistance to *Xanthomonas oryzae* pv. *oryzae* in rice*.

AGFD and AGRO members of the ARS/USDA, assisted in selecting **John M. Clark**, Ph.D, Professor, Dept. of Veterinary Animal Science, Director, Massachusetts Pesticide Analysis Laboratory, Univ. of Massachusetts-Amherst to present the 2024 **Sterling B. Hendricks Memorial Lecture**, recognizing his research on insecticide modes of action/resistance mechanisms and mitigation strategies for chemical trespass of pesticides, mitigation strategies for pesticide/pollutant residues using adjuvants, boundary zones, vegetative filter strips, dosimetry, and biomonitoring.

Atanu Biswas, Ph.D, Lead Scientist, USDA, Nat. Center for Agricultural Utilization Research, Peoria, IL received the 2024 **Kenneth A. Spencer Award** (administered by the ACS Kansas City section) recognizing his pioneering polymer synthesis and modifications and development of bio-based plastics, coatings, films, hydrogels, absorbents, and bio-lubricants derived from polysaccharides, vegetable oil, protein, edible beans, cotton and agricultural byproducts. His accomplishments include developing new products, processes and methodologies of commercial significance.

Kudos to **Joel Robert Coats**, Ames, IA, **Roy G. Engels**, North Babylon, NY and **Robert Joseph McGorin**, Covallis OR as **50 year ACS members**.

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

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 ~2100 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	
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State	
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e-mail address	
Phone	
check one	MEMBERSHIP FEE
<input type="checkbox"/>	I am an ACS member and wish to join AGFD (\$10.00)
<input type="checkbox"/>	I am not an ACS member and wish to join AGFD (\$15.00)
<input type="checkbox"/>	I am a full-time student and wish to join AGFD (\$10.00)
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

Food Security: Tackling World Hunger CCC – August 18–22 - Colorado Convention Center

CCC highlights the role of chemistry in addressing world hunger through food security. Activities include a flagship symposium on 8/20 focused on the impact of climate change on agriculture, student poster presentations on food security and co-sponsored symposia covering sustainable agriculture, regulatory harmonization and food processing.

Food Security: Impact of Climate Change on Agriculture & Tackling World Hunger

8/20 8:00am-12:00pm Rm 603
Heidi Irrig, Qing Li, Michael Morello, Frederick Salzman, Jeffrey Dawson, Pamela Rice, Amy Ritter, Zhuohong Xie, organizers. Z. Xie presider. Host division AGRO

4104892 - Eating out with confidence: Using generative AI and text analytics to improve the quality and effectiveness of food service inspections Tom Sabo, John Gottula, presenters

4107042 - Fabricating gelatin-based edible composite films via different methods and assessing their future applications Ezgi Pulatsu, presenter; Chibuike Udenigwe

4110342 - Multi-functional poly(urethane-urea) materials for smart-food packaging Jerald Dumas, presenter

4096749 - Enhancing pathogen detection using sensing technologies and machine learning Luyao Ma, presenter

4106607 - Enhancing plant protein texturization: Insights from protein interactions and functional changes Yonghui Li, presenter

4103766 - Update on EPA efforts related to climate adaptation and chemical regulation Jeffrey Dawson, pres.

4108030 - Evaluation of carbon sequestration and soil health indicators across a range of agricultural conditions to prioritize adoption of conservation practices Bettina Bettina Miguez, presenter; Jens Kiesel; Jody Stryker

4094326 - Nanobiotechnology-based strategies for climate resilient crops Jason White, Presenter; Lijuan Zhao; Jorge Gardea-Torresdey; Arturo Keller

CCC posters 8/20 Convention Center Hall A-C

4085565 - Role of microbiome in host plant colonization and foraging of an invasive fruit fly Zhangrong Song; Chun Nin Wong, presenter

4094840 - New approach methods to avoid acute oral toxicity testing in animals Mark Nelms; David Hines; Paul Mosquin, pres.; Bethany Cook; Virginia Hench; Elizabeth Baker

4097617 - Using untargeted metabolomics as a new approach for understanding honeybee toxicity Kundi Yang, presenter; Chengli Zu; Steve Hicks; Tamara Lunsman; Gyan Harwood

4099117 - Two-pronged approach to manage the virus complex present in Sweet potato virus disease (SPVD) Flinn Ohara, presenter; Sara Navarro; Jeff Davis; Daniel Swale

4103263 - Predicting the shelf life of avocados using deep learning and portable Raman spectrometer In-Hwan Lee, Presenter; Luyao Ma

4105926 - EnzyRxn-GPT: A generative platform for enzymatic reaction prediction by fusing protein and chemical language models Zhenjiao Du, pres. Yonghui Li

4107921 - Development of isoxazoline insecticides with reduced human brain exposure Sarah E McComic, presenter; Arnab Chatterjee; Katy Wilson; Daniel Swale

4108377 - Mosquito perception to amino acid inclusions for attract-and-kill baits Xixian Ng, presenter; Ellis Johnson; Leslie Rault; Troy Anderson

4110437 - Smart polymeric materials for the detection of pesticides Ira Moore, presenter; Jerald Dumas

Co-Sponsoring symposia (Convention Center)

Sustainable Agriceuticals: 8:00-11:15am 8/18 Rm 404
Hyunsook Kim & Bailiang Li, Org./Presiders; Lin Liu, Org.

Sustainable Agriceuticals: 2:00-5:10pm 8/18 Rm 404
Wallace Yokoyama & Lin Liu, Org., Presiders

Whole Grains Bioactives & Human Health:
8:00am-11:50am 8/19 Rm 405 Shengmin Sang & Chris Zhu, Orgs; Dmitriy Smolensky, Org./Presider

Sustainable Agriceuticals: 8:00-10:50am 8/19, 2024 Rm 404
Lin Liu & Wallace Yokoyama, Org./Presiders; Xuan Huang presider

Whole Grains Bioactives & Human Health: 2:00-5:05pm
8/19 Rm 405 Shengmin Sang & Chris Zhu, Orgs. Dmitriy Smolensky, Org./Presider

Elevating Regulatory Harmonization to Reduce World Hunger & Increase Food Security: 2:00-6:00pm 8/20 Rm 605
Heidi Irrig & Carmen Tiu, Org./Presiders

Processing & the Storage Induced Toxins: 8:00-11:50am
8/21, 2024 Rm 404 Lauren S. Jackson, Alyson Mitchell, & Liangli Yu, Org./Presiders

Bioproducts From Biomass: Renewable Chemicals & Polymers: 8:00-11:43am 8/21 Rm 405 Majher Sarker & Madhav Yadav, Org./Presiders; Helen Ngo, Brajendra Sharma; Jinwen Zhang, Orgs.

Elevating Sustainability & Greentech in Agriculture & Plant-Based Foods: 8:00-11:35am 8/21 Hall D - Rm 4
Michael Appell, Lingyun Chen; Omowunmi Sadik; Y. Jane Tseng; Liangli Yu, Org./Presiders

Waste Upcycling, Indoor Farming & Sustainable Agriculture: 8:00-11:30am 8/21 Hall D - Rm 3 Keith Cadwallader, Xiaofen Du, Yun Yin, Org./Presiders

Waste Upcycling, Indoor Farming & Sustainable Agriculture: 2:00-5:30pm MDT 8/21 Hall D - Rm 3 Keith Cadwallader, Xiaofen Du, Yun Yin, Org./Presiders

Processing & the Storage Induced Toxins: 2:00-5:50pm
8/21 Rm 404 Lauren S. Jackson, Alyson Mitchell, Liangli Yu, Org./Presiders

Elevating Sustainability & Greentech in Agriculture & Plant-Based Foods: 2:00-5:05pm 8/21 Hall D - Rm 4
Michael Appell, Lingyun Chen, Omowunmi Sadik, Y. Jane Tseng, Liangli Yu Org./Presiders

Elevating Sustainability & Greentech in Agriculture & Plant-Based Foods: 8:00-11:15am 8/22 Rm 404 Michael Appell, Lingyun Chen, Omowunmi Sadik, Y. Jane Tseng, Liangli Yu, Org./Presiders

ROSTER OF AGFD OFFICERS & COMMITTEE LEADERSHIP

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

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

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

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

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

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

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

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

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

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

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

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

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

At-Large Executive Committee

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

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

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

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

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

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

Food Bioengineering Sub.Div.

Chair Kwang-Guen Lee
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hongsik.hwang@usda.gov
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changwu@udel.edu
Secretary Jinwen Zhang
jwzhang@wsu.edu

Flavor Sub.Div.

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

Food Safety Sub.Div.

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Chair-elect Boyan Gao
gaoboyan@sjtu.edu.cn
V-chair Vivian Wu vivian.wu@usda.gov
Secretary Yanhong Liu
Yanhong.liu@usda.gov

Functional Food/Nat. Product SubDiv

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Chair-elect Yingdong Zhu
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Vice-chair Khizar Hayat
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Secretary Xiaohong Sun
Xiaohong.sun@dal.ca

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

Sustainability/Green Tech. Sub.Div.

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

In Memorium

Thomas H. Parliament 1/26/39 – 7/8/24



ANNOUNCING THE
**THOMAS H. PARLIMENT AWARD FOR
ADVANCES IN FLAVOR CHEMISTRY**

Thanks to the generosity of **Dr. Thomas H. Parliament**, we are proud to announce a new award recognizing significant contributions to the advancement of Flavor Chemistry with emphasis on the aroma aspects.

The **Thomas H. Parliament Award for Advances in Flavor Chemistry** will consist of \$20,000, a medallion and certificate that will be presented biennially in even-numbered years.

Submit your nominations beginning July 2024 at www.acs.org/nationalawards.

ACS Office of Philanthropy
Chemistry for Life®

Tom Parliament was born in Hackensack, N.J., got a B.A. from Lehigh University and a Ph.D. in Food Science and Technology from the University of Massachusetts. He served in the U.S. Army, rising to rank of Captain. He had a productive career of >30 years in food and flavor technology at the Tarrytown, N.Y. research center of General Foods, later Kraft Foods. Along the way he had a family, became an avid hiker and nature lover and shared his flavor and food technology knowledge by presenting at AGFD symposia and organizing symposia such as the 9th Charalambous International Flavor Conference. In 2000 he became an AGFD Fellow and won the AGFD Distinguished Service Award. Just this year he endowed the ACS Thomas. H. Parliament Award for Advances in Flavor Chemistry, securing his legacy as a pre-eminent flavor scientist. Tom's many co-workers, collaborators and friends at AGFD miss him and extend condolences to his family.

(Thx to Cathy Culver for assisting with this notice)

AGFD TECHNICAL PROGRAM

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

SUNDAY MORNING August 18

Colo. Conv. Ctr. rm 404

Sustainable Agriceuticals

Financially supported by Food Security: Tackling Hunger
Convergent Chemistry Community

L. Liu, *Organizer*

H. Kim, B. Li, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 *Lactobacillus helveticus* ZJUIDS12 rescues alcohol-related liver disease via a *Clostridium butyricum*-regulated Reg3γ pathway in mice. Q. Ding, F. Cao, S. Lai, S. Li, **D. Ren**

8:30 Regulation and mechanism of exopolysaccharide produced by *Bifidobacterium. infantis* E4 on immunomodulatory effect of intestinal mucosa in immunocompromised mice. **B. Li**

8:55 Characterization and quantification of antimicrobial metabolites produced by lactic acid bacteria against canine periodontal pathogens. **K. Seo**

9:20 10-Hydroxy-2-decenoic acid alleviates okadaic acid-induced tau hyperphosphorylation in SH-SY5Y neuroblastoma cell and mouse model of Alzheimer's disease. L. Tao, K. Wang, X. Yu, G. Zhang, **S. Li**, F. Hu
9:45 intermission.

10:00 Enhanced gut microbiota delivery of *Faecalibacterium prausnitzii* through layer-by-layer encapsulation with riboflavin-conjugated sodium alginate and glycol chitosan. **M. Yao**, B. Qiu, L. Li

10:25 Effect of polyphenol extract-derived postbiotics on hindlimb-immobilized mice. **H. Kim**, E. Kim, Y. Jung, S. Jung, H. Youn, H. Kim, K. Seo

10:50 Antibacterial mode of action of a bacteriocin derived from lactic acid bacteria and its modulation effect on intestinal inflammation. **P. Li**

SUNDAY AFTERNOON

Colo. Conv. Ctr. Rm 404

Sustainable Agriceuticals

Financially supported by Food Security: Tackling Hunger
Convergent Chemistry Community L. Liu, W. H.

Yokoyama, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 Withdrawn

2:30 Transcriptomic analysis of Taihe black-boned silky fowl leg muscles under different farming models. **X.**

Huang, Y. Tan, C. Xu, Y. Huang, **Z. Yin**

2:55 Abnormally elevated thyroid antibodies in Hashimoto's thyroiditis patients were positively associated with inflammation and multiple non-hypothyroid symptoms. **J. Li**, S. Li, Q. Huang

3:20 Transcriptomic and metabolomic analysis of Guyuan chicken breast muscles at different developmental stages. H. Zhang, **X. Huang**, Y. Tan, Y. Huang, Z. Yin

3:45 Intermission.

3:55 Valencia orange peel extract prevents body and adipose weight gain in mice on high-fat diets. **H. Lee**, H. Lee, P. Alves, Y. Wang, W.H. Yokoyama

4:20 10-hydroxy-2(*e*)-decenoic acid improves nonalcoholic fatty liver disease through activation of the peroxisome proliferator-activated receptor signaling pathway. **X. Yu**, S. Li, J. Bao, J. Li, L. Wei, M. Zhu, F. Hu

4:45 Effect of molecular weight, conformation and viscosity of water-soluble yellow mustard mucilage on the proliferation of probiotic strains. **C. Fletcher**, Y. Wu

Colo. Conv. Ctr. rm 405

ACS Microbiome Research Consortium - Microbiome in Foods, Crops & Agriculture: Building Partnership

Cospons, COMP F. Kearns, L. Liu, K. Mahalak, T. Wang, M. Yan, *Organizers* H. Kim, *Organizer*, *Presiding* S. Spicer, *Presiding*

2:00 Introduction.

2:03 2Blades & the unmet need: Leveraging plant immune receptors to improve crop resistance around the world. **B. Rutter**

2:23 Mycotoxin contamination to wheat grain predicted by microbiome colonization patterns early in the growing season. **B.K. Whitaker**, M.M. Vaughan, S.P. McCormick, T. Becker

2:43 Field inoculation with beneficial mycorrhizal fungi as a tool for sustainable agricultural practices. **S. Lutz**, N. Bodenhausen, A. Valzano-Held, K. Schlaeppli, M. Van der Heijden

3:03 Exploiting the potential of the plant microbiome: The role of biobanks and supporting infrastructure. **M. Ryan**

3:23 Intermission-5 min break.

3:28 Microbiomes and plant health. **M. Bakker**

3:48 Fusarium Identification, from morpho-based to genomic era. **I. Laraba**

4:08 Microbial community composition changes during active viral infection in reared crickets. **K.R. Duffield**, B. Tibbs-Cortes, E. Putz, B. Foquet, J. Ramirez

4:28 Intermission-10 min break.

4:38 Roundtable Panel Discussions with Speakers.

5:58 Concluding Remarks.

Early Career Symposium: Semiochemicals for Sustainable Agroecosystems

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Organic Process Research & Development Spons.

ORGN, Cospons. AGFD

SUNDAY EVENING 7PM

Colo. Conv. Ctr. Hall A-C

General Posters E. Kreger, J. W. Soares, *Organizers*,

Presiding

Note – first 25 posters listed below also presented at Monday Evening Sci-Mix

7:00 01 Effects of unsaturation and polar compounds of vegetable oils on the properties of sunflower wax oleogels. **H. Hwang**, S. Kim, J.K. Winkler-Moser

7:00 02 Performance comparison of the new type II version milk MloBS ELISA kits with their current version, using commercial and spiked foods. **C. Cho**, R. Panda, P. Rallabhandi

7:00 03 Progress of chiral flavor substances in alcoholic beverages. **Y. Dai**

7:00 04 Fate and transport of manganese oxide nanomaterials in *capsicum annum* L plants. **S. Ahmed**, Y. Ye, K. Flores, J.L. Gardea-Torresdey, J. Hernandez-Viezcas

7:00 05 Evaluating acidity levels in packaged coffee to enhance product label accuracy. **A. Sharaf Eddin**, S. Ibrahim, T. Zimmerman

7:00 06 Covalent immobilization of lactase via amine-epoxide reaction on vapor-deposited polymer thin films: A kinetic study. **F. Fianu**, J. Chen, W. Sun, Y. Cheng

7:00 07 Performance comparison of the new type II Egg MloBS ELISA kit with its current version for FDA's regulatory purposes. **P. Rallabhandi**

7:00 08 Recovery of Polyhydroxyalkanoates from *Haloferax mediterranei* utilizing glycerol waste. **F. Zhao**, M. Haque, H. Huang, Z. Wang

7:00 09 Effect of cooking conditions on chickpea flour functionality and its protein physicochemical properties. **S. Hong**, R. Xiao, G. Chen, Y. Zhu, A. Garay, J. Yang, Y. Xu, Y. Li

7:00 10 Measurement of urinary sulfate in domestic swine by conductometric titration and ion chromatography. **L.D. Schultz**, L.C. Jackson, R. Srinivasan

7:00 11 Enhancing the functionality and gut fermentability of insoluble dietary fibers from oat husks via subcritical water treatment. **J. Yang**, X. Liu, H. Shen, H. Huang

7:00 12 Differences in the metabolic content of two *cecropia* species from Tabasco, Mexico. E. Medrano Sanchez, **C. Lobato Garcia**, A. Gomez Rivera, A. Gallegos Garcia, M. Gonzalez Cortazar

7:00 13 Stability tests of the nitrogen radical containing 2,2-diphenyl-1-Pyrylhydrazyl (DPPH) in different conditions. **Y. Hu**, R. Rebelo, N. Rojas, E.J. Sorensen

7:00 14 Effect of sorghum grains in kombucha fermentation. **F. Zillinger**, **U. Uysal**, **U. Yucel**

7:00 15 Evaluating the effects of natural antioxidants on the quality and stability of refined canola oil during deep frying. **T.M. Alanezi**

7:00 16 Characterization and discrimination of yerba santa by NMR-based metabolomic approach. **J. Zhao**, M. Wang, G. Hervey, S. Saroja, J. Lee, R. Upton, I. Khan

7:00 17 Got lead? An analytical approach to the determination of trace metal concentrations in insulated cups. **V. Hennick**

7:00 18 Performances of non-meltable, reusable and biodegradable stationary cooling media "jelly ice cubes". **J. Zou**, Y. Xie, X. Li, G. Sun, L. Wang

7:00 19 *In vitro* fermentation shows polyphenol and fiber blends have an additive beneficial effect on gut microbiota states. **J.A. Whitman**, L.A. Doherty, I. Pantoja-Feliciano, K. Racicot, D. Anderson, K. Kensil, J.P. Karl, G.R. Gibson, J.W. Soares

7:00 20 Use of avocado oil oleogels as fat substitutes in chicken sausage. **C. Carter**, M. Ferdaus, R. Silva

7:00 21 Modification of purified Ana o 3 with phenylglyoxal disrupts antibody binding. C. Brown, R.A. Adams Dupre, T. Vuong, A. Payne, B. Smith, **C.P. Mattison**

7:00 22 Exploring the potential of nitrogen plasma as a non-thermal alternative in fruit juice processing. **S. Lai**, **Y. Chou**, Y. Ting

7:00 23 Evaluation of the nutritive value of protein concentrates from solanum macrocarpon from Nigeria.

O.O. Onawumi, A. Sodamade, O.A. Adewusi, F.A. Amoo

7:00 24 Medium-throughput phenotyping approach of quantification of 11s/7s protein ratio in soybean. **Y. Zheng**, C. Denbow, G. Pilot, B. Zhang

7:00 25 Natural products magnetic resonance database (NP-MRD): Comprehensive resource for NMR data enabling natural products discovery and understanding. **J.R. Cort**, R. Linington, D. Wishart, L. Sumner, J. Bade, B. Goel, M. Pin, E. Poynton

7:00 Molecular Simulation guided adsorption mechanism of anthocyanin on macro reticular ion exchange resin. **A. Paul, A. Mandal, A. Dutta**, A. Kundu, S. Saha

7:00 Utilizing a green pH-driven approach for developing curcumin-infused soymilk. **A. Suryamiharja**, X. Gong, C.C. Akoh, H. Zhou

7:00 Organocatalytic acetylation of maize starch through reactive extrusion. **C. Lagunes Delgado**, E. Agama Acevedo, T. J. Gutierrez

7:00 Development of phosphorus and nitrogen rich flame retardant by encapsulation technology. **S. Chang**, J. Smith

7:00 Exploring puffed rice as a novel ink for 3D food printing: Rheological characterization and printability analysis. **B. Park**, L.S. Chewaka, C.S. Park, J. No, K. You

7:00 Effects of proanthocyanidin degree of polymerization on pulse protein-proanthocyanidin interactions. **C. Chen**, J. Awika

7:00 L-Theanine production by whole cell conversion for high concentration of substrates using an ATP regeneration system. **K. Yu**, B. Lee, G. Kim, Y. Jung, J. Ahn, Y. Yang, H. Kim, H. Jang, M. Sohn, S. Park, K. Park

7:00 Application of carbon quantum dots (CQDs) solution as a novel solvent for hydrophobic surface coating on PVA films. **Y. OH**, K. Park, J.R. Ansari, J. Hwang, D. Kim, J. Seo

7:00 Effects of food preparation technology and storage on phenolics and antioxidant activity in sweet corn. **F. Dong**, H. Wu, L. Yu

7:00 Chemical constituents of parsley (*Petroselinum crispum*) extract and its potential in mitigating the SARS-CoV-2 infections. **E. Lee**, Y. Yao, H. Wu, M. Slavin, L. Yu

7:00 Assessing the impact of electrolyzed water treatment on the post-harvest quality of strawberries. **Y. Yagiz**, J. Cheng, H. Chang, A. Maharaj, A. Moussa, **L. Gu**

7:00 Bovine liver hydrolyzate pretreated with either pepsin or pepsin+ultrasound as a valuable source of free amino acids and bioactive peptides. M. Gallego, L. Mora, **F. Toldra**

7:00 Protein and amino-acid contents in mushroom varieties with different cooking methods. **S. Kim**

7:00 Separation of mycotoxins in floral tissue of hemp infected by *Fusarium graminearum*. **I.A. Kagan**, H.S. Smith, N. Gauthier

7:00 Comprehensive dietary glycan Encyclopedia of food: revealing complex carbohydrate molecular

structures via LC-MS/MS. **S. Jiang**, S. Ehlers Cheang, C. Suarez, C. Weng, A. Stacy, J. Larke, D. Lemay, C.B. Lebrilla

7:00 Brewing a solution: Practical synthesis of catechin-polymer particles. **S.S. Chang**, J. Pereira, S. Santra

7:00 Evaluating structural and digestive properties of polymerization degree-dependent dextran fraction via *Gluconobacter oxydans* biosynthesis. S. Baek, **B. Park**

7:00 Antimicrobial and antifungal screening of new nitrogen derivatives. Z. González, **C. Gonzalez**, C. Giménez Mariño, A. Ramírez Corbera, J. Poveda Guerrero

7:00 Encapsulation and controlled release of cyanocobalamin from ionotropic gel carriers made from pectins with different nanostructural characteristics. **Y. Kim**

7:00 Utilizing deep learning algorithms (experiential A.I.) for agricultural analysis to optimize urban farming yield in Southern California. S.E. Wettstein, **D. Rakijian, M.M. Allard**

7:00 Coriander (*Coriandrum sativum*) extract's chemical composition and potential antiviral effects. **E. Lee**, H. Wu, B. Gao, L. Yu

7:00 Streamlining sample preparation: The decision tree tool for the periodic table of food initiative. **M. Gruszczynski**, M. Read, S.B. Mitchell, J.M. Chaparro, M. Odenkirk, J. Prenni

7:00 Peptide-polyphenol interactions: Antagonistic effect of pea pentapeptide on antioxidant properties of quercetin and rutin in *Caenorhabditis elegans*. **L. Lam Hon Wah**, S. Reyes Flores, O. Mosibo, T. Fatoki, R. Aluko, C. Udenigwe

7:00 Value-added products from apricot fruits. **Z.K. Muhidinov**, M. Rahmonov, J. Bobokalonov, G. Strahan, A. Hochkiss

7:00 Analysis of soil fumigant emissions by solid phase microextraction with gas chromatography-mass spectrometry **D. Gramckow**, M.A. Nussbaum

7:00 Phony noni: evidence of widespread misbranding of commercial powdered *Morinda citrifolia* products. **B. West**, S. Deng

7:00 Synthesis of carnosine-based aqueous-soluble antioxidant dendrimers. **B. Agbemade**, C. Antwi-Boasiako, C.Y. Lee

7:00 Synthesis of carnosine-based aqueous-soluble antioxidant dendrimers. **B. Agbemade**, C. Antwi-Boasiako, C.Y. Lee

MONDAY MORNING August 19

Colo. Conv. Ctr. rm 404

Sustainable Agriceuticals Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

L. Liu, W. H. Yokoyama, *Organizers, Presiding*, X. Huang, *Presiding*

8:00 Introductory Remarks.

8:05 Improvement of health functional properties of edible insects via fractionation, protein extraction, and fermentation. **E. Oh**, Y. Kim

8:30 High-protein low carbohydrate dietary pattern alleviates chronic alcohol intake-induced hepatic steatosis and liver injury in mice. **S. Li**

8:55 Functional properties and flavor characteristics of milk from cows supplemented with jujube powder. C. Zhang, **H. Liu**

9:20 Intermission.

9:30 Animal bones by-products as a source of cardioprotective bioactive peptides. **F. Toldra**, G. Carrera-Alvarado, L. Mora

9:55 Ultrasound-augmented conjugation of whey protein isolate and propolis: Structural insights and functional enhancements. S. Peng, X. Yu, L. Tao, S. Li, X. Ma, **F. Hu**

10:20 Electrospun biomimetic periosteum capable of controlled release of multiple agents for programmed promoting bone regeneration. **X. Shi**, X. Zhao, J. Yang

10:45 Concluding Remarks.

Colo. Conv. Ctr. rm 405

Whole Grains Bioactives & Human Health

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community S. Sang, C. Zhu, *Organizers*, D. Smolensky, *Organizer, Presiding*

8:00 Opening remarks.

8:05 Harnessing the chemistry of phenolics to deliver the benefits of whole grain components to human health. **J. Awika**

Awika

8:25 Ancient grains: Presentation by Nu Life market president, Earl Roemer. **E. Roemer**

8:45 Health benefits of sorghum products: *In vitro* and *in vivo* studies for anti-cancer and anti-obesity activity. **S. Lee**

9:05 Developing new foods and beverages from health-promoting tannin-containing sumac sorghum bran. **R. Ardoin**, B. Smith, D. Smolensky, S. Boue, S. Bean, F. Aramouni, A. Santana, J. Peterson

9:30 Evaluation and anti-glycation potential of sorghum and quebracho tannins extracted using pressurized liquid extraction. **A. Santana**

9:50 Intermission.

10:10 High-polyphenol Sorghum modulates carcinogen-metabolizing enzymes in colon cancer cells. **P. Tsuji**, C. Lascarez, D. Smolensky

10:30 Golden grains: Exploring the genetic underlying of bioaccessible sorghum carotenoids. **R.C. McDowell**

10:50 Changes in sorghum starch digestibility phenolic profile, and cell bioactivity after cooking. **J. Peterson**, D. Smolensky

11:10 Phenolic ethanolic extracts of sorghum grains and leaves ameliorate intestinal colitis and inflammation induced by dextran sulfate sodium on mice model. **I. Sleem**, A. Rodriguez, B. Chen, D. Smolensky, V. Dia

11:30 Sorghum's nutrients and phytonutrients for human health. **J. Painter**

Colo. Conv. Ctr. rm 403

ACS Microbiome Research Consortium -

Carbohydrates & the Microbiome F. Kearns, H. Kim, L. Liu, S. Spicer, T. Wang, *Organizers*, K. Mahalak, M. Yan, *Organizers, Presiding*

8:00 Introduction.

8:03 Dietary carbohydrates regulate intestinal colonization and dissemination of *Klebsiella*

pneumoniae. **A. Hecht**, L. Harling, J. Lee, C. Tanes, K. Bittinger, M. Goulian, G.D. Wu

8:43 Long-chain dextran produced by *Weissella cibaria* boosts the diversity of health-related gut microbes *Ex Vivo*. **P. Van den Abbeele**, M. Tintoré, J. Cuñé, L. Dai Vu, J. Poppe, A. Baudot, C. de Lecea

9:13 Prebiotic citrus limonin glucosides promote *Lactobacillus* proliferation. **V. Dadwal**, B.S. Patil

9:38 Zein-Glucomannan active films for fruit preservation. **J.T. Bobokalonov**, I. Ismoilov, D. Uldasheva, Z.K. Muhidinov, L. Liu

10:03 Intermission.

10:18 Design and synthesis of heparan sulfate mimetics in targeting tau-heparan sulfate interaction and attenuating hyperphosphorylated tau-induced cell dysfunction associated with alzheimer's disease. **H.M. Nguyen**

10:58 Elucidating the structures and functions of gut microbiota-derived peptidoglycan fragments in hosts. J.M. Kwan, C. Li, C. Adamson, Y. Liang, A. Ng, E.W. Ng, S.H. Wong, **Y. Qiao**

11:28 Stem cell-based organoid-microbe coculture model to study environmental toxicants and microbial products. I.M. Ibrahim, A. Chakraborty, S. Tocci, L. Dugan, K. Inouye, T. Hazra, L. Alexander, **S. Das**

11:58 Concluding Remarks.

VIRTUAL SESSION

Honoring Professor Chi-Tang Ho on the Occasion of His 80th Birth Year R. B. Pegg, S. Sang, *Organizers* F. Shahidi, L. Yu, *Organizers, Presiding*

10:00 Introductory Remarks.

10:10 Forty-five years career in flavor chemistry research. **C. Ho**

10:40 Chronic benzo[a]pyrene exposure induces aging toxicity and the preventive potential of tangeretin supplementation in *Caenorhabditis elegans*. **C. Wei**, C. How, K. Cheng, Y. Li, M. Pan

11:10 Occurrence of dietary advanced glycation end products in meat products and the potential factors affecting their formation. **W. Hung**, Y. Lin, Y. Liu, C. Ho

11:40 Key roasty odorants in highly roasted tea and their formation mechanism related to the thermal reaction of theanine and sugar. X. Zhai, M. Li, **X. Wan**

MONDAY AFTERNOON

Colo. Conv. Ctr. rm 404

Honoring Professor Chi-Tang Ho on the Occasion of His 80th Birth Year R. B. Pegg, F. Shahidi, L. Yu, *Organizers*, S. Sang, *Organizer, Presiding*, K. R. Cadwallader, *Presiding*

2:00 Introductory Remarks.

2:05 Contributions to the understanding of thermal generation of flavors and aromas. **R.J. McGorrian**

2:30 Designing minimally processed plant proteins for human health. **V. Somoza**, K. Gradl, P. Richter

2:55 Insights into citrus flavor and health benefits: Recent progress. **Y. Wang**

3:20 Development of dairy flavors from the Maillard reaction. **M.H. Tunick**

3:45 Volatile compounds generated from the Maillard reaction of Asn-Pro, Pro-Asn, and a mixture of asparagine and proline with glucose. **Q. Xiao**, C. Ho
4:10 Identification of key odorants in roasted pecan oil. **K.R. Cadwallader**, K.L. Malloy
4:35 Chemical drivers of cold brew flavor liking. N. Cordoba, P. Forero, M. Booth, **E. Tello Camacho**, D.G. Peterson

Colo. Conv. Ctr. rm 405

Whole Grains Bioactives & Human Health

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community S. Sang, C. Zhu, *Organizers*, D. Smolensky, *Organizer, Presiding*

2:00 Opening remarks.

2:05 Characterizing the impact of a novel corn bran derived arabinoxylan in humans: Findings from an exploratory trial in adults with excess weight. **E.C. Deehan**

Deehan

2:25 Dietary oat β -glucan alleviates high-fat induced insulin resistance through regulating circadian clock and gut microbiome. **J. Liu**, X. Wang, Z. Wang, L. Gong, H. Zhang, J. Wang, Z. Wang

2:45 Impact of probiotics and prebiotics on the function and abundance of *Faecalibacterium prausnitzii*. **W. Dong**, S. Zhang, P. Lee, S. Sang

3:05 Can betainized metabolites be the biomarkers of whole grain intake?. **Y. Li**, S. Sang

3:25 Intermission.

3:45 5-Heptadecylresorcinol alleviated high-fat diet induced obesity and insulin resistance by activating brown adipose tissue. **Z. Yang**, S. Yang, Z. Wang, Y. Hao, Z. Wang, Y. Wei, G. Ye, J. Wang, J. Liu

4:05 Protective effects of wheat bran feruloyl oligosaccharides against intestinal barrier injury in Caco-2 cells. **L. Gong**, J. Wang, L. Hu

4:25 Investigating the gut microbiota mediated health outcomes of whole wheat - a clinical nutritional study with individuals with prediabetes. **C. Zhu**

4:45 Evaluating effects of whole wheat bread on gut microbiome composition using nontargeted LC/MS. **S. Ponneganti**, E. Tello Camacho, M. Teegarden, C. Zhu, D.G. Peterson

Colo. Conv. Ctr. rm 403

ACS Microbiome Research Consortium - Exploring the Microbiome Through Technology: Molecular Modeling to Omics Approaches Cospons. COMP H. Kim, L. Liu, K. Mahalak, S. Spicer, T. Wang, M. Yan, *Organizers*, F. Kearns, *Organizer, Presiding*

2:00 Introductory Remarks.

2:05 Multiscale computational microscopy of viruses. **L. Casalino**, R.E. Amaro

2:40 Minimal cell under a computational microscope. **J.A. Stevens**, M. Bozoflu, L. Grünwald, **M. König**, F. Grünwald, S. Marrink

3:05 How to solve a problem like mitochondria: Building a computational representation using integrative modelling. **C.M. Brown**, S. Marrink

3:30 Onsite multiple analysis system using photo-immobilized microarray chips. **Y. Ito**

3:55 Intermission/Break.

4:05 Structure and function of the gut microbiota of the *in vivo* piglet gastrointestinal tract. C. Rotsaert, Y. Minnebo, C. Duysburgh, **K. Mahalak**, J.A. Firrman, L. Liu, A. Moustafa, L. Mattei, K. Bittinger, M. Marzorati, J. Michiels, T. Van de Wiele

4:40 A comparative study between the porcine gut microbial community and metabolism developed *in vitro* and found *in vivo*. **L. Liu**, J.A. Firrman, A.B. Narrowe, K. Mahalak, J.M. Lemons, C. Rotsaert, Y. Minnebo, C. Duysburgh, M. Marzorati, J. Michiels, T. Van De Wiele

5:05 Metabolomic profiling of tyrosine fermentation in production animals and humans reveals specie-specific preference on metabolic pathways. **R. Su**, C. Chen

5:30 Comparative metabolomics studies examine the influence of unhealthy diets and potential natural remedies on gut metabolism. **K. Jones**, S.R. Campagna

5:55 Concluding Remarks.

MONDAY EVENING 8PM

Colo. Conv. Ctr. Hall A-C

AGFD Sci-Mix E. Kreger, J. W. Soares, *Organizers, Presiding*

Note – also presented are the first 25 posters listed under Sunday Evening General Posters

8:00 Re-thinking use of salicylic acid-based poly(anhydride-ester)s: From biomedical to agricultural applications. **V. Batiz**, M. Reis Nogueira de Lima, G. Regalado, L. Safi, T. Eulgem, K. Urich

8:00 Nanoemulsion with *Lactobacillus*-derived exopolysaccharide potentiates the antimicrobial activity of eugenol to protect fresh produce against foodborne pathogens and biofilms. **S. Balyan**, V. Dadwal, B.S. Patil

8:00 Improving astronaut diets in space: Enhanced preservation and nutrition through plasma-treated peas. **L. Chen**, Y. Chou, Y. Ting

TUESDAY MORNING August 20

Colo. Conv. Ctr. Hall D - rm 4

Advancement of Application of Agricultural & Food Chemistry: Symposium in honor of Tara McHugh M. J. Morello, J. W. Soares, M. H. Tunick, *Organizers, Presiding*

8:00 Introduction.

8:05 Contributions by the USDA's Agricultural Research Service. **M.H. Tunick**

8:25 Greener chemical approaches to reduce mycotoxins and spoilage in commodities. **M. Appell**

8:45 Award Introduction.

8:50 New sustainable processing technologies to produce healthy, value-added foods. **T. McHugh**

Colo. Conv. Ctr. rm 403

AGFD Young Scientists Award Y. Kim, B. S. Patil, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 Introduction: AGFD Young Scientist Award.

8:10 Metabolomics in food and agricultural science: Current and future. **J. Suh**

8:40 Introduction: AGFD Young Industrial Scientist Award.

8:45 Understanding the “kokumi” phenomenon and unlocking kokumi technologies. **E. Kreger**

9:15 Concluding Remarks.

Colo. Conv. Ctr. rm 405

ACS Microbiome Research Consortium - When Chemistry Meets the Microbiome: Student Workshop in Career Next Steps Cospons. YCC S. Spicer,

Organizer, Presiding, H. Kim, T. Wang, *Presiding*

8:00 Introduction

8:10 Building better application materials for jobs in microbiome research. **R. Moore**

8:30 Building Better Application Materials Activity.

8:50 Nailing the interview. **J. Crawford**

9:05 Nailing the Interview Interactive Activity.

9:30 When chemistry meets the microbiome. **K.C. Rees**

9:40 Growing Your Network Q&A Roundtable with Panelists.

Colo. Conv. Ctr. rm 404

Honoring Professor Chi-Tang Ho on the Occasion of His 80th Birth Year R. B. Pegg, S. Sang, L. Yu, *Organizers*, F. Shahidi, *Organizer, Presiding*, J. Wu, *Presiding*

8:00 Introductory Remarks.

8:05 Phenolics and polyphenolics in Food and their metabolites. **F. Shahidi**

8:30 Study of synergy of phenolic compounds to induce antioxidant activity *in vitro*. **L. Chen**, A. Abdurrahim, V. Mazuraka

8:55 Separation and characterization of free, esterified, and bound phenolics in Georgia pecans. **S.O.**

Ogundipe, J. Suh, R.B. Pegg

9:20 Identification of salt-enhancing compounds in cumin spice extracts. **I. Wang**, E. Tello Camacho, D.G. Peterson

9:45 Carbonyl stress as a new mechanistic target of dietary flavonoids for prevention of metabolic disorders.

S. Sang

10:10 Gut microbiota influence the metabolism and anti-inflammatory properties of ginger polyphenols. **S.**

Zhang, Y. Zhao, P. Lee, S. Sang

Food Security: Impact of Climate Change on Agriculture & Tackling World Hunger CCC Spons. AGRO, Cospons. AGFD, ANYL, CEI. ENVR

TUESDAY AFTERNOON

Colo. Conv. Ctr. rm 403

JAFC Best Paper Award T. Hofmann, W. King, *Organizers*, E. Kreger, J. W. Soares, *Presiding*

2:00 Introductory Remarks.

2:10 From bioreactor to cup: Exploring the aroma and flavor of cell culture-based coffee. **H. Rischer**

Colo. Conv. Ctr. rm 405

ACS Microbiome Research Consortium - Modulation of the Gut Microbiome F. Kearns, H. Kim, S. Spicer, T. Wang, M. Yan, *Organizers*, L. Liu, K. Mahalak, *Organizers, Presiding*

2:00 Introduction.

2:05 Metagenomic immunoglobulin sequencing (MiG-seq) exposes patterns of IgA antibody binding in the healthy human gut microbiome. **M. Olm**

2:40 Discovery of a novel link between microbial derived metabolite, 2,3-dihydroxypropane-1-sulfonate (DHPS), and cryptic sulfur metabolism in the human gut associated with metabolic dysregulation. **C.**

Christopher, A. Zaparte, L. Rice, K. Jones, Z. Vickery, L. Richey, C. Arnold, C. Taylor, A. Castille, H. Lin, J. Kirwan, J. Apolzan, C. Ellis, K. Morgan, D. Welsh, S.R. Campagna

3:05 Butylated hydroxyanisole does not significantly affect the human gut microbiome *ex vivo*. **J.M. Lemons**, A.B. Narrowe, L. Liu, J.A. Firman, K. Mahalak, A.

Baudot, S. Deyaert, P. Van den Abbeele

3:30 Intermission.

3:40 Establishment and evaluation of an *in vitro* model of the small intestinal gut microbiota. **J. Firman**, L. Liu, K. Mahalak, J.M. Lemons, A.B. Narrowe, G.D. Wu, E. Friedman

4:15 Effects of whey protein isolate on the growth and metabolism of the probiotic *Lactocaseibacillus rhamnosus* GG. **A. Narrowe**, V. Chetty, L. Liu, J.M. Lemons, K. Mahalak, J.A. Firman

4:40 Undigested glycosylated lentil proteins modulate the gut microbiota profile but not the metabolites *in vitro*. **R. Boachie**, E. Capuano, T. Oliviero, C. Udenigwe, V. Fogliano

5:05 Revealing the mechanism of food-grade-carrageenan-induced harmful effects: Gut bacteria are the keys. **R. Ji**, H. Xiao

5:30 Concluding Remarks.

Colo. Conv. Ctr. rm 404

Honoring Professor Chi-Tang Ho on the Occasion of His 80th Birth Year S. Sang, F. Shahidi, L. Yu, *Organizers*, R. B. Pegg, *Organizer, Presiding*, J. Suh, *Presiding*

2:00 Introductory Remarks.

2:05 Assessing the anti-inflammatory activity of Georgia pecans. **R.B. Pegg**, P. Greenspan

2:30 Revisiting the chemical diversity of organic crops.

J. Suh, J. Kaur, T. Coolong, K. Cassity-Duffey

2:55 Ovomucin hydrolysates reduce bacterial adhesion and inflammation in enterotoxigenic *Escherichia coli* (ETEC) K88-challenged intestinal epithelial cells. **J. Wu**, X. Bao, M. Gänzle

3:20 Withdrawn

3:45 New method for measuring cyanide and cyanogenic glycoside analysis in almonds (*Prunus dulcis*) and almond hulls. **A.E. Mitchell**, L.A. Lerno, E. Doria

4:10 3-MCPD fatty acid formation in edible oils. **L. Yu**

4:35 Bioactivities, bioavailability, and biosynthesis of citrus polymethoxyflavones. **Q. Huang**

5:00 Concluding Remarks.

Colo. Conv. Ctr. Hall D - rm 4

Kenneth A. Spencer Award M. J. Morello, *Organizer*, M. Appell, S. J. Leibowitz, *Organizers, Presiding*

2:00 Introductory remarks

2:15 Green process development for agro-based materials. **H. Cheng**, A. Biswas

2:45 CIS (liquid) to trans (solid) isomerization of jojoba oil in supercritical CO₂ catalyzed by Lewis acid. **Z. Liu**, S. Shah, K. Vermillion, H. Cheng, A. Biswas

3:15 Intermission.

3:35 Quantum computing for natural product structure elucidation. **Y. Tseng**

4:05 Applications of sustainable agro-based bioproducts to remove toxins and improve food safety. **M. Appell**, A. Biswas

4:35 Green processes and bio based polymers. **A. Biswas**, H. Cheng

5:15 Panel Discussion.

VIRTUAL SESSION

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

3:00 Introductory Remarks.

3:05 Quantitation of odorants in dried and rehydrated lobster mushrooms. **T. Nguyen**, J.P. Munafo

3:25 Predicting the permissible arsenic (As) concentration limit for irrigation water used in rice cultivation. **D. Mandal**, S. Sengupta, D. Golui, D. Mondal, M.D. Wood

3:45 Permeability prediction in well log using Gaussian random function simulation and machine learning. **S. Tangkin**

4:05 Discerning the content and quality of alcoholic beverages using femtosecond thermal lens spectroscopy. S. Goswami, **D. Goswami**, R. Goswami

4:25 Structure-activity relationship study of dendritic antioxidants. **C.Y. Lee**, B. Agbemade, A. Sharma

4:45 Intermission.

5:05 Sustainable development: Biodegradable packaging with *curcuma longa* L. as an active and patent monitoring. **E. Ribeiro**, F. Gonzaga, R. Almeida

5:25 Nitrates in our daily lives: A review. **A.A. Chetty**, J.J. Lal

5:45 Volatiles derived from Philippine plant species exhibited antimicrobial activity, antioxidative and cytotoxicity using a newly developed microplate-based assay. **G.C. Albarico**, M. Houdkova, I. Duskocil, J. Tauchen, K. Urbanova, E. Tulin, L. Kokoska

6:05 Characterization of the taste profile of Chardonnay marc through taste-guided fractionation. **N. Nguyen**, J.P. Munafo

6:25 Optimization of formulation and processing techniques for the development of meat-based hummus using response surface methodology. **M. Goswami**, R. Kumar, X. M Teng, R. Jadeja, G. Mafi, M. Pfeiffer, V. Pathak, R. Ramanathan

Elevating Regulatory Harmonization to Reduce World Hunger & Increase Food Security Spons. AGRO, Cospons. AGFD, ANYL, CEI, ENVR, ORGN
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Food Security: Impact of Climate Change on Agriculture & Tackling World Hunger CCC Spons. AGRO, Cospons. AGFD, ANYL, CEI, ENVR

WEDNESDAY MORNING August 21

Colo. Conv. Ctr. rm 405

Bioproducts From Biomass: Renewable Chemicals & Polymers Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community H. Ngo, B. Sharma, J. Zhang, *Organizers*, M. Sarker, M. P. Yadav, *Organizers, Presiding*

8:00 Introductory Remark.

8:02 High-strength composites from lignin oil and elemental sulfur. K.A. Tisdale, N.L. Kapuge Dona, **R.C. Smith**

8:19 Intermediate oilseeds as potential substitutes in soybean products. **X. Zhao**, D. De la Torre Ugarte, E. Webb, E. Parish

8:36 Utilization of brewer's spent grain for isolation of functional components. **M.P. Yadav**, K. Mainali, B. Sharma, M. Sarker, H. Ngo

8:53 100% biomass-based sustainable polymers from lignin and raw vegetable oils. **H. Chung**, S. Kim

9:10 Phosphonates from vegetable oils: Synthesis and tribological evaluation. **G.B. Bantchev**, M. Lorenzo-Martin, O.O. Ajayi

9:27 Chemometric survey of whole stillages and distillers dried grains with solubles from biofuel production reveals processing-related differences in fermentation metabolites. **J. Zhang**, G. Shurson, C. Chen

9:44 Intermission.

9:59 Identification of an antifreeze albumin protein from wheat flour and insights from molecular dynamics simulation. **Y. Yuan**, M. Smith, H. Krishnan, V. Dia, T. Wang

10:16 Succinylation of zein and gelatin hydrolysates improved their ice recrystallization inhibition activity. **Y. Yuan**, M. Fomich, V. Dia, T. Wang

10:33 Biobased lubricants from non-edible animal fats. **M. Sarker**, H. Yosief, G.B. Bantchev, R.O. Dunn

10:50 Continuous depolymerization of lignin through a high-pressure screw feeding reaction system. **Y. Cui**

11:07 Agricultural biomass based biodegradable films: A sustainable solution to address plastic perils. **S. Janaswamy**

11:24 Nutritional metal organic framework (NuMOF) as novel fortified supplements. **X. Yang**, L. Zhang, R. Langer, A. Jaklenec

11:41 Concluding remark.

Colo. Conv. Ctr. Hall D - rm 4

Elevating Sustainability & Greentech in Agriculture & Plant-Based Foods Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community M. Appell, L. Chen, O. Sadik, Y. Tseng, L. Yu, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 Whole plant holistic approach: Utilizing superfruits for healthy foods and using the waste for non-food related applications. K. Bratley, E.E. Cable, B. Sylla, K. Streeter, L. Osman, W.L. Weaver, A.G. Ristvey, **V. Volkis**

8:25 Triacylglycerol structure and composition of human milk fat substitute affect the absorption of fatty acids and calcium, lipid metabolism and bile acid metabolism in newly-weaned Sprague–Dawley rats. L. Zhu, **Y. Zhang**, B. Gao, L. Yu

8:45 Post pH-driven green technology for developing polyphenols-enriched plant-based foods. **H. Zhou**

9:05 Marine waste-derived chitosan nanocrystals-Zn composites for PFAS removal from water. **X. Jia, Q. Wang**

9:25 Enhancing emulsifying properties of lentil protein fibrils at pH 3.0 through EGCG mediation and its related mechanism. **X. Yan**, Z. Zeng, L. Chen

9:45 Intermission.

10:15 Evaluation of soybean [*glycine Max* (L.) Merrill] genotypes for salt tolerance in eastern Ethiopia. **A. Ngusse**, A.G. Hailu

10:35 Tuning particle size and morphology in polyelectrolyte complex coacervate microparticles. **N. Devi**

10:55 Withdrawn

11:15 Evaluation of roasting temperature influence on the characteristics of cottonseed butter. **Z. He**, S. Rogers, S. Nam, K. Klasson, O.M. Olanya

Colo. Conv. Ctr. rm 403

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

8:00 Welcome and Introduction.

8:05 Elemental palette: Ionic profiling across 500 diverse food samples. **J.M. Chaparro**, R.R. Jones, J.C. Evans, M. Gruszczynski, M. Read, S.B. Mitchell, M. Odenkirk, C.D. Broeckling, T. Shafizadeh, S. Watkins, J. Prenni

8:23 Characterization of flavor-protein interactions in model aqueous pea protein solutions. **S. Almquist**, E. Tello Camacho, D.G. Peterson

8:41 Quality assessment of soybean oil available in Bangladesh. **Z. Nasreen**, M. Hossain, M. Alom, M. Jahan

8:59 Withdrawn

9:17 Agri-waste-based sustainable biofertilizers and biopesticides from lignin. **J. Bhaumik**, R. Kaur, A. Pujari, K. Gogde

9:35 Alternaria toxins quantification in America's food industry. E. Capraro, **X. Fu**, K. Du, L. Hunter, A. Savage, C. Mujahid, T. Bessaire

9:53 Intermission.

10:08 Illuminating food science: unveiling stability with light scattering techniques. **F. Shen**

10:26 Withdrawn

10:44 Sustainable antimicrobial packaging films from agro-residue. **J. Bhaumik**, S. Kirar, D. Mohne, S. Goswami

11:02 Polymeric nanodelivery platform with phytohormones to improve crop growth toward sustainable agriculture. **E.A. Davidson**

11:20 Investigating the impact of western flower thrips attack on pepper plants: Insights into physiochemical changes and potential applications. **T. Belwal**, D.L. Kerns, B.S. Patil

11:38 Withdrawn

Colo. Conv. Ctr. rm 404

Processing & the Storage Induced Toxins

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community L. Jackson, A. E. Mitchell, L. Yu, *Organizers, Presiding*

8:00 Opening Remarks.

8:05 Impact of processing on formation of acrylamide in food. **V. Gökmen**

8:35 Agronomic and genetic approaches, including CRISPR, to reducing acrylamide formation in wheat products. **N. Halford**, N. Kaur, N. Brock, S. Musa

9:05 Analysis and kinetic study of furan contents in various roasted nuts. **K.G. Lee**

9:35 Recent occurrence data on process contaminants in the US food supply and strategies for their mitigation.

V. Incorvati, E. Abt, L. Robin

10:05 Intermission.

10:20 Analysis of MCPD and glycidyl esters in infant formula and other compound foods: Recent updates from the U.S. Food and Drug Administration. **J. Beekman**, S. Popol, I. Yourick

10:50 Sub-chronic toxicity study of individual and combined oxidized triacylglycerol, 3-chloro-1,2-propanediol esters and aldehydes in 90-day mouse model. **B. Gao**, C. Wang, M. Zhang, H. Zhu, W. Zheng, Y. Luo, L. Yu

11:20 Data delivery from the US-EPA Center for Computational Toxicology and exposure to support food toxin researchers. **A.J. Williams**, J. Gregory, C. Erik, V. Tkachenko

Colo. Conv. Ctr. Hall D - rm 3

Waste Upcycling, Indoor Farming & Sustainable

Agriculture Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community K. R. Cadwallader, X. Du, Y. Yin, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 Upcycling grape pomace waste into food ingredients with solid-state fermentation. **D. Salta**, D. Wang, X. Du

8:35 Upcycling soybean hulls: A novel material for biodegradable packaging films and raspberries preservation. **S. Regmi**, S. Janaswamy

9:05 Withdrawn

9:35 Intermission.

10:00 Valorization of whey proteins via redox-mediated electro dialysis. **A. Aguda**, N. Kim, J. Elbert, X. Su

10:30 Water soluble sodium-carboxymethyl cellulosic residue from corn biomass. **S. Rijal**, S. Subramanian, S. Janaswamy

11:00 Coffee and cacao byproducts as sustainable carbon sources for baker's yeast growth. D. Urbina, L.

Vesga, O. Saavedra, C. Blanco-Tirado, M.Y. Combariza, **S.C. Mendez**

Environmental Fate, Transport & Modeling of Agriculturally-Related Chemicals Spons. AGRO, Cospons. AGFD, ANYL, ENVR

WEDNESDAY AFTERNOON

Colo. Conv. Ctr. Hall D - rm 4

Elevating Sustainability & Greentech in Agriculture & Plant-Based Foods Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community M. Appell, L. Chen, O. Sadik, Y. Tseng, L. Yu, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 *Bactris gasipaes* epicarp carotenoid-rich emulsion: A circular economy approach. J. Martínez-Girón, Y. Baena, L. Ordóñez-Santos, **C. Osorio Roa**

2:25 Leveraging plant proteins and polyphenols for enhanced functionality of emulsion-based foods. **K. Ho**

2:45 Standard-based tools toward the goals of food security. **Z. Xie**

3:05 Influence of polysaccharide addition on the cohesiveness of plant-based meat analogue. **M. Li, T. Wu**

3:25 Intermission.

3:45 Protein complexation as a strategy for enhancing the nutritional and functional effects of blueberry polyphenols. M. Symcox, A. Rodriguez-Mateos, S. Johnson, **C. Van Buiten**

4:05 Afoot: Amino-acid-based, food and agricultural-targeted, organic nanozyme for allergic biomolecule detection in food. **D. Lee**, M. Kamruzzaman

4:25 Chemical compositions of edible spice extracts & their potentials in suppressing the SARS-CoV-2 spike protein-ACE2 binding, inhibiting ACE2, and scavenging free radicals. **H. Wu**, L. Yu

4:45 Seed priming with nitrogen-doped carbon dots enhances production, reduces pungency, and improves the postharvest quality and storability of onion bulbs. **D. Jha**, J. Singh, B.S. Patil

Colo. Conv. Ctr. rm 403

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

2:00 Welcome and Introduction

2:05 Withdrawn

2:23 Green pH-based approach for solubilizing curcumin molecules into delivery systems. **X. Gong**, H. Zhou, A. Suryamiharja, K. Adhikari

2:41 Solution is in sourdough: harnessing microbial diversity for unique chemical composition of bread. **E. Keohane**, J.M. Chaparro, M. Odenkirk, A. Vaniya, J. Wee, C. Van Buiten, J. Prenni

2:59 Effect of lactic acid bacteria fermentation on volatile compounds, α -dicarbonyl compounds, and antioxidant activity of Robusta coffee beans. **S. Park**, K.G. Lee

3:17 Functional Plant protein fibers obtained by microfluidic spinning technology: an insight into the fabrication, characterization, and mechanism. R. Li, Y. Feng, J. Wang, L. Gong, J. Liu, **H. Zhang**

3:35 AI-driven enzyme discovery: transforming the fight against food contaminants. **D. Zhang**, Y. Tian, A. Wu, Q. Hu

3:53 Intermission.

4:08 Withdrawn

4:26 Advancing Disinfection: Acetylperoxyborate powders as a novel alternative to liquid peracetic acid formulations. **V. Pandit**, S. Agarwal, Y. Sahoo

4:44 Improving astronaut diets in space: Enhanced preservation and nutrition through plasma-treated peas. **L. Chen**, Y. Chou, Y. Ting

5:02 New type of pH adjusted casein extrudate. **M.J. McAnulty**, B. Plumier, A.L. Miller, P. Tomasula

5:20 Use of hydrogen sulfide to increase plant growth and harvest yields. **N.B. Bowden**

Colo. Conv. Ctr. rm 404

Processing & the Storage Induced Toxins

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community L. Jackson, A. E. Mitchell, L. Yu, *Organizers, Presiding*

2:00 Ethyl carbamate: A feed toxin dilemma in distillers grains co-products. **S.L. Crain**, R.T. Coffey

2:30 Formation of chemical byproducts in foods due to nonthermal processing technologies and chemical treatments. **X. Fan**

3:00 Differential disposition of deoxynivalenol in nursery and grow-finish pigs under sulfonation-based mitigation treatments revealed by metabolomic profiling. **W. Mosher**, D. Yao, M. McGhee, D. Giesting, C. Chen

3:30 Determination of patulin in apple juice and apple-derived products using a robotic sample preparation system and LC-APCI-MS/MS. **K. Zhang**, L. Zhang

4:00 Intermission.

4:15 Bacterial endotoxin lipopolysaccharide increases antiinflammatory tristetraprolin and proinflammatory tumor necrosis factor and cyclooxygenase 2 gene expression in mouse macrophages. **H. Cao**

4:45 Evaluating the release of nanomaterial hazards from food packaging using advanced analytical techniques. **T. Yang**

5:15 Transfer of toxic elements to beverages from processing aids used during filtration treatments. **L. Jackson**

5:45 Concluding Remarks.

Colo. Conv. Ctr. Hall D - rm 3

Waste Upcycling, Indoor Farming & Sustainable Agriculture Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community K. R. Cadwallader, X. Du, Y. Yin, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 Enhanced wound healing efficacy of electrospun porous bilayer nanofibrous fish collagen/PCL biocomposite scaffolds with covalently linked chitooligosaccharides. **S. Moon**, W. Jung, P. Chandika

2:35 Molecular Networking LC-HRMS as a tool for discovering novel potential bioactives in Bell pepper. **J. Redwine**, C. Matias Sainz, W. de Bruijn

3:05 Impact of salinity stress on growth, aroma, and gene expression of hydroponic fennel (*Foeniculum*

vulgare Mill.). **J. Liu**, A. Sumner, A. Harris, W. Wei, B. Bargmann, D. Haak, Y. Yin

3:35 Intermission.

4:00 Comparison of physiochemical properties of lettuces from open field and various hydroponic conditions. E. Kwock, G. Niu, **X. Du**

4:30 Controlled environment agriculture: Supplemental blue and UV-B light modulates tomato phenolic compounds and antioxidant activity in a variety-dependent manner. **S. Bhattarai**, D. Jha, S. Zhen, B.S. Patil

5:00 Flavor composition and shelf-life of cherry tomatoes (*Solanum lycopersicum* var. cerasiforme) grown in field and controlled environment. **I. Gutierrez**, J. Eifert, S.F. Okeefe, K. South, M. Evans, Y. Xu, T. Kuhar, Y. Yin

VIRTUAL SESSION

Virtual Graduate Students Symposium in Asia-Pacific Region on Agricultural & Food Chemistry **D.**

Ren, C. Zheng, *Organizers, Presiding*, J. Hou, *Presiding*

6:30 Opening.

6:33 Energy status regulated umami compound metabolism in harvested shiitake mushrooms (*Lentinus edodes*) with spores triggered to release. **R. Xia**, H. Xu, G. Xin, Z. Hou, M. Yan, Y. Wang, G. Qian, Y. Qiao

6:46 Analytical strategies for detecting low molecular weight toxicants in food matrices by MALDI-TOF MS. **X. Zeng**, Y. Wang, Z. Xu

6:59 Study on the hypolipidemic effect of lotus seed resistant starch and sodium lactate regulating intestinal flora and metabolism in hyperlipidemia rats. **L. Liu**, Z. Guo, B. Zheng, H. Zeng, Y. Zhang

7:12 *Bifidobacterium lactis* Probio-M8 relieved acute Respiratory tract infections in children possibly by modulating the gut microbes and metabolites. Y. Li, **X. Shi**, T. Ma, W. Hu, H. Jin, H. Zhang, M. Liong, Z. Sun

7:25 Predicting *Lactobacillus delbrueckii* subsp. *bulgaricus*-*Streptococcus thermophilus* interactions based on a highly accurate semi-supervised learning method. **S. Yang**, M. Bai, W. Liu, Z. Sun

7:38 Super antibacterial capacity and cell envelope-disruptive mechanism of ultrasonically grafted n-Halamine PBAT/PBF films against *escherichia coli*. **X. Zhang**, M. Guo

7:51 Spoilage mechanism of effector protein Hap secreted by *Aeromonas salmonicida* on chilled meat. **L. Shao**, H. Wang

8:04 Screening of probiotics producing biofilm and evaluation of their probiotic properties. **Y. Liu**, Y. Liu, J. Cao, H. Yi

8:17 Simple and effective probiotic single-cell encapsulation system based on milk exosomes. **H. Linlin**, Y. Liu, J. Cao, Y. Liu, H. Yi

8:30 Effects of psyllium husk and *Ligilactobacillus salivarius* Li01 in relieving loperamide induced constipation and regulating metabolism. **L. Xu**

8:43 Identification, characterization, and receptor binding mechanism of new Umami peptides from traditional fermented soybean paste (Dajiang). **K. Cao**, F. An, J.

Wu, S. Ji, Y. Rong, Y. Hou, X. Ma, W. Yang, L. Hu, R. Wu

8:56 Construction of interface-enhanced curcumin-loaded nanostructured lipid carriers and their multi-responsive microspheres. **D. Liu**, L. Zou, C. Li, J. Feng, J. Zhang

9:09 Structure and antioxidant activity analysis of the different black beans protein hydrolysates. **L. Li**, N. Zhang, Y. Yang, C. Ma, B. Wang, X. Bian, G. Zhang

9:22 Effect of subzero temperatures on the properties and structure of soy protein isolate emulsions. **H. Hu**

9:35 Role and mechanism of three bile salt hydrolases in bile tolerance of *Lactobacillus acidophilus* ATCC 43121.

H. Wu

9:48 Emulsifying properties of Maillard reaction products from brewer's spent grain protein and gum arabic. **M. Kim**, K.G. Lee

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THURSDAY MORNING August 22

Colo. Conv. Ctr. rm 404

Elevating Sustainability & Greentech in Agriculture & Plant-Based Foods Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community, M. Appell, L. Chen, O. Sadik, Y. Tseng, L. Yu, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 Characterization of glandless cottonseed protein in fortified beverages. **H. Cao**, K. Sethumadhavan, H. Cheng

8:25 Re-thinking use of salicylic acid-based poly(anhydride-ester)s: From biomedical to agricultural applications. **V. Batiz**, M. Reis Nogueira de Lima, G. Regalado, L. Safi, T. Eulgem, K. Urich

8:45 Withdrawn

9:05 Protein-phenolic interactions in plant-based foods. **E. Capanoglu**, D. Gunal-Koroglu

9:25 Intermission.

9:55 Upcycling protein-rich agri-food resources to produce novel materials for health enhancement. **C. Udenigwe**

10:15 Study the molecular structure and gelling properties of dry fractionated pea protein by air classification. **S.M. Kottage**, A.G. Samaranyaka, P. Bhowmik, L. Chen

10:35 Interactions between oat protein isolate and high methoxyl pectin and their potential applications as nutraceutical delivery systems. **C. Yang**, Y. Qiao, H. Hu, A. Li, J. Wang

10:55 Use of zein-based assemblies for encapsulating, protecting and delivering bioactive components. **L. Liang**

Colo. Conv. Ctr. rm 405

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

8:00 Welcome and Introduction.

8:05 Pulse protein hydrolysates exhibited ice recrystallization inhibition activity after immobilized metal affinity separation. **T. Wang**, J. Saad, V. Dia, M. Longo Martins

8:23 A water soluble protein fraction from black soldier fly larvae has strong antifreezing activity. **T. Wang**, M. Fomich, V. Dia, H. Krishnan

8:41 Suggested pathways to waterpipe tobacco reference products. **J.H. Lauterbach**

8:59 Curcuminoids analysis of turmeric roots and dietary supplements. **D. Luthria**

9:17 Investigating interaction of purple wheat anthocyanin extract with ferulic acid or resveratrol for improving product stability. **E.M. Abdelaal**, T.H. Gamel

9:35 Continuous flow high-pressure homogenization's impact on grapefruit juice quality: preserving nutrition and reducing furanocoumarins. **J. Adhikari**, K. Adhikari, R.K. Singh, B.S. Patil

9:53 Intermission.

10:08 High fried food consumption and acrylamide raises nonalcoholic fatty liver disease through energy disorders and PGE2-PPAR α pathway. **X. Wan**, X. Liu, J. Jiao, Y. Zhang

10:26 Habitual daily intake of fried foods raises transgenerational inheritance risk of heart failure through Notch1-triggered apoptosis. **a. wang**, **Y. Zhang**

10:44 Applying the idea of directed evolution in industrial biosynthesis: Flexible production of fermentation products. **N. Liu**

11:02 μ Bites: The chemo-bio hybrid process to generate next generation food ingredients from waste polymers.

L.N. Jayakody

11:20 Nanoemulsion with *Lactobacillus*-derived exopolysaccharide potentiates the antimicrobial activity of eugenol to protect fresh produce against foodborne pathogens and biofilms. **S. Balyan**, V. Dadwal, B.S. Patil

THURSDAY AFTERNOON

VIRTUAL SESSION

Virtual Graduate Students Symposium in Asia-Pacific Region on Agricultural & Food Chemistry D. Ren, C. Zheng, *Organizers, Presiding*, X. Yu, *Presiding*

6:30 Opening.

6:33 Characterizing different probiotic-derived extracellular vesicles as a novel adjuvant for immunotherapy. **Y. Huang**, P. Li

6:46 Effect of chlorogenic acid on lotus seed starch gelatinization behavior and complexation mode during microwave treatment. **X. Jiang**, B. Zheng, X. Lu

6:59 Metabolite fingerprints identification of *Citri Reticulatae Pericarpium* with different aging years using feature-based molecular networks and metabolomics. **k. Xu**, Z. Yang, Y. Wang, H. Han, F. Meng, B. Wang

7:12 Investigating the interaction and antimicrobial mechanism of α -lactalbumin-carvacrol/thymol complexes. **M. Diao**, R. Zhou, Z. Li, T. Zhang

7:25 Combined analysis of horse milk fat differences based on transcriptomics and metabolomics techniques. **X. Li**

7:38 Ursolic acid protects against chronic alcohol consumption-induced fatty liver disease in mice. **J. Qiu**, S. Li

7:51 Structure and digestive characteristics of Butyrylated rice starch with different degree of substitution. **Q. Wu**, N. Zhang, **Z. Xu**, **Y. Yang**, C. Ma, X. Bian, **B. Wang**, G. Zhang

8:04 Preparation and stability analysis of cannabidiol microcapsules. **R. Yu**, Z. Jiang

8:17 Effect of wheat aleurone on lard emulsions during in vitro digestion. **X. Diao**, C. Li

8:30 Dynamic changes of gut microbiota following short-term, high-dose probiotic consumption. **X. Shen**, H. Jin, F. Zhao, Z. Sun

8:43 Identification of umami peptides based on peptidomics and virtual screening from strengthened fermented soybean paste. **G. Pan**, **J. Jiang**, **F. An**, **J. Wu**, **R. Wu**

8:56 Optimization of ultrasound-assisted extraction of fatty acids from royal jelly and its effect on the structural and antioxidant property. **X. Yu**, S. Li, S. Peng, L. Tao, F. Hu

9:09 Red, firm, non-exudative and pale, soft, exudative pork have different in vitro digestive properties of protein. **S. Li**, C. Li

9:22 *Lactobacillus rhamnosus* ZJUIDS07 ameliorates type 2 diabetes in mice in association with modulation of gut microbiota. **Z. Wu**, J. Gao, D. Ren

9:35 NMN relieves progression of alcoholic liver disease via a hamp-involved mechanism in mice. **F. Cao**, X. Ge, S. Li

9:48 Recent development on anti-obesity effects of postbiotics. **J. Zhang**, J. Hou

10:01 KCl enhances the germination of superdormant *Clostridium perfringens* spores. **Q. Xiao**



Mark March 23 - 27, 2025 on your calendar for the
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Lined area for notes or additional information.

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

Sun. August 18	noon-1:00pm	Special Topics Meeting	Conv. Ctr. rm 109
Sun. August 18	7:00pm-9:00pm	Poster Session	Conv. Ctr. Hall A-C
Mon. August 19	noon-1:00pm	AGFD Leadership Luncheon	Conv. Ctr. rm 109
Mon. August 19	10:45am-noon	Hammond Candy Factory Tour	see page 6
Mon. August 19	1:00-2:00pm	Future Programs	Conv. Ctr. rm 109
Mon. August 19	5:00pm-8:00pm	Executive Committee Meeting	Conv. Ctr. rm 608
Tues. August 20	6:00pm-8:30pm	Awards Dinner (see cover)	Buckhorn Exchange
Weds. August 21	noon-1:00pm	Business Meeting	Conv. Ctr. rm 111