



CORNUCOPIA

including the AGFD program for the
266th American Chemical Society (virtual & live) National Meeting on
August 13 - 17, 2023
in

SAN FRANCISCO

Jonathan Beauchamp, Jason Soares
Program Chairs

Going to San Francisco?

Join the AGFD Awards Banquet at FOGO DE CHAO
Tuesday, August 15, 6:00 - 8:00pm
(tickets available at the AGFD information table)

Two minute walking directions to Fogo de Chao from Moscone Center –
exit the Center onto Howard Street. Turn right. Cross 3rd Street at the corner. Turn right.
Fogo de Chao (201 3rd St., Suite 100) is on your left.

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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 that barely any time has passed since we enjoyed the engrossing AGFD symposia and wider program of ACS Spring 2023 in Indianapolis, yet here we are again, with the next ACS National Meeting – ACS Fall 2023 in San Francisco – just around the corner (or already on our doorstep, if you have just picked up this copy of the AGFD Cornucopia on site at the meeting). As with previous national meetings, the work of putting together the divisional program commences long before the actual meeting takes place. Indeed, a provisional list of AGFD symposia for this conference was submitted to ACS early December 2022, with the call for abstracts launched early January and closing early April; thus, even as we attended ACS Spring 2023 at the end of March, efforts were underway towards creating the program for this meeting. Following the submission deadline, the symposium orgs. were tasked with evaluating abstracts and scheduling accepted contributions, with subsequent format assignment and formal programming by the Program Chairs, coordinated by Jason Soares. As in past years, but more so for this meeting, AGFD session requirements greatly exceeded the slots allocated by ACS, forcing the organizing team – program chairs and symposium orgs. – to streamline and merge sessions. This resulted in some unavoidable session cuts and consolidations, including virtual-only talks for speakers attending the meeting in person; I apologize to anybody affected by this most unfortunate situation, but hope that the comprehensive on-site technical program and non-technical events compensate for this inconvenience. I take my hat off to Jason for managing the unthankful and challenging task as interlocutor to resolve these issues as best possible. Jason, you have done a formidable job in putting together a fantastic AGFD program for this meeting, as all attendees will no doubt agree with once the conference kicks-off.

Looking back at the ACS Spring 2023, the AGFD technical program featured a wide range of topics with 119 paper contributions across 19 sessions in 12 symposia, including two panel discussions and the general papers oral and poster sessions, the latter featuring the undergraduate poster competition. The outstanding quality of all poster entries presented a challenge for the judges, but ultimately the panel shortlisted the most exceptional contributions and conferred three awards, with first prize jointly awarded to Celina Paoletta (Christopher Newport University) and Christopher Prajogo (UC Davis), second prize being received by Jordon Scalia and Bret Watson (Shippensburg University of Pennsylvania) for their co-authored paper, and third place secured by Kourtney Collier (Purdue University). See page 12 of this Cornucopia for details. Congratulations to these winners; we look forward to future contributions from these young researchers and their fellow competitors as they embark on their scientific careers.

Looking ahead, ACS Fall 2023 promises an even richer and comprehensive AGFD program, with 21 symposia encompassing 39 half-days sessions (13 in-person, 18 hybrid, and 8 virtual) covering topics that range from the chemistry of wine to artificial intelligence, amongst many more. Notable mentions should be made to the inaugural symposia of two ACS Convergent Chemistry Community initiatives spearheaded by AGFD – Food Security: Tackling Hunger and the ACS Microbiome Research Consortium; these represent important cross-divisional endeavors addressing pressing societal issues. This fall meeting sees another first: the Virtual Graduate Students Symposium in Asia-Pacific Region. This symposium is organized by the ACS Shanghai Chapter and showcases the latest activities in the field from emerging research leaders from our international colleagues. Traditionally, AGFD uses the ACS Fall meetings as an opportunity to recognize exceptionally talented and dedicated members of the division for their contributions to the field, with this meeting being no exception. Accordingly, I congratulate Liangli (Lucy) Yu for receiving the Award for the Advancement of Application of Agriculture and Food Chemistry and invite you all to attend the symposium in her honor, taking place on Tuesday. Likewise, I congratulate Xiaonan Sui and Zhuohong (Kenny) Xie as deserving recipients of the AGFD Young Scientist and Young Industrial Scientist Awards, respectively, who will similarly be honored in a dedicated symposium, also on Tuesday, together with the Journal of Agricultural and Food Chemistry Best Paper Award. It is my great pleasure to formally confer these awards during the Chair's Awards Banquet on Tuesday evening, which I invite you to attend (spaces are limited; see the cover page of this Cornucopia for details on securing tickets).

I conclude this message with my express gratitude to everybody who has worked tirelessly behind the scenes, not just in creating an exciting technical program, but also organizing non-technical events, with dedicated support and promotion of our division. In addition to the many symposium orgs. and presiders (too many to name here), special thanks go to Mike Appell, Elyse Doria, Carl Frey, Alyson Mitchell, Mike Morello, Steve Toth and Mike Tunick. Finally, Jason Soares deserves a second and especial mention here for his tireless efforts in putting together an amazing program for us to enjoy this week. It has been a great pleasure and honor to have served the

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division as AGFD Chair this year and I am exceptionally grateful to the AGFD Executive Committee for their unrelenting support. The division can look forward to a progressive year ahead when I hand over the baton to Jason.

I am looking forward to seeing old friends, making new acquaintances and broadening my horizons in San Francisco and wish you all a socially enjoyable and scientifically enriching ACS Fall 2023. See you there!

Jonathan Beauchamp

AGFD Chair 2023

July 2023, Freising, Germany

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Staff	C. Kent, L. Lane, J. Olsen	

FUTURE PROGRAMS

NEW ORLEANS March 17-21, 2024

ACS Meeting Theme - The Many Flavors of Chemistry note – call for abstracts opens August 7

Chemistry of Alcoholic Beverages Nick Flynn nflynn@wtamu.edu (YCC)

Sensory Beyond Earth: The Relevance of Flavor Chemistry in Space Exploration Julia Low
julia.low2@rmit.edu.au Scott McGrane scott.mcgrane@effem.com Jonathan Beauchamp
jonathan.beauchamp@ivv.fraunhofer.de Neil Da Costa neil.dacosta@iff.com

Extraction & Biotechnology: A Natural and Sustainable Future for Flavors Elizabeth Kreger
elizabeth.kreger@sensient.com Lewis Jones lewis.jones@sensient.com Xiaofen Du xdu@twu.edu

Mycotoxins: Challenges and Future Perspectives Hans-Ulrich Humpf humpf@uni-muenster.de Lauren
Jackson Lauren.Jackson@fda.hhs.gov

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

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

Michael Granvogl Memorial Symposium Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de Yu
Wang yu.wang@ufl.edu Xiaoting Zhai xiaotingzhai@ahau.edu.cn Roberta Tardugno roberta.tardugno@uniba.it

Food Security: Tackling World Hunger - CCC highlighting chemistry across AGRO, ANYL, ENVR divisions
Kenny Xie kyx@usp.org Mike Morello mjmorello226@gmail.com

**Toward Precision Nutrition – A Holistic View of Relationships Between Food, Food Components
Contributing to Taste, Aroma, Color and the Gut Microbiome in Health Promotion** Tom Wang
tom.wang@usda.gov LinShu Liu linshu.liu@usda.gov Karley Mahalak karley.mahalak@usda.gov

General Papers (oral) Jason Soares Jason.w.soares.civ@army.mil Elizabeth Kreger
elizabeth.kreger@sensient.com

General Posters/Undergraduate Poster Competition Jason Soares Jason.w.soares.civ@army.mil Elizabeth
Kreger elizabeth.kreger@sensient.com Kathryn Deibler kdd3@cornell.edu

Pairing Flavors with Health and Wellness Food Products Xiaofen Du xdu@twu.edu Danhui Wang
dwang4@twu.edu

Food Allergen Characterization, Modification and Detection Qinchun Rao qrhao@fsu.edu Chris Mattison
chris.mattison@usda.gov

Withycombe-Charalambous Graduate Student Symposium Kathryn Deibler kdd3@cornell.edu Jason Soares
Jason.w.soares.civ@army.mil Elizabeth Kreger elizabeth.kreger@sensient.com

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DENVER August 18-22, 2024

ACS Meeting Theme – Elevating Chemistry

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

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

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

Cellular Agriculture Jianping Wu jwu3@ualberta.ca

Alternative Foods or Plant-based & Alternative Food Protein Lingyun Chen lingyun.chen@ualberta.ca

Chemistry of Aroma and Taste Modification Robert McGorrrin robert.mcgorrrin@oregonstate.edu

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

CCC – ACS Microbiome Research Consortium Tom Wang tom.wang@usda.gov LinShu Liu linshu.liu@usda.gov Karley Mahalak karley.mahalak@usda.gov

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

Young Scientist Award Youngmok Kim youngmok.kim@finlays.net

Spencer Award Michael Appell michael.appell@gmail.com Michael Morello mjmorello226@gmail.com

SAN DIEGO March 23 – 27, 2024

ACS Meeting Theme – TBD

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

James Seiber Memorial Symposium Alyson Mitchell aemitchell@ucdavis.edu

Executive Committee Meeting Minutes

Sunday, 3/26, 3:00-5:00 PM Indianapolis, Indiana and Zoom

Attendees: Alyson Mitchell, Jonathan Beauchamp, Elyse Doria, Michael Appell, Nick Flynn, Lucy Yu, Neil Da Costa, Jun Hu, Fereidoon Shahidi, Robert McGorrrin, Michael Morello, Mike Tunick, Jane Lealand, Liz Kreger, Jason Soares, Michael Qian, Natasa Poklar, Lingyun Chen, LinShu Liu, Lauren Jackson, Jianping Wu, Joulain ??, Stephen Toth, Jianping Wu, Kenny Xie, Keith Cadwallader

Jonathan Beauchamp called the meeting to order at 3:11 PM (EST)

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

Michael Tunick summarized the **Special Topics** meeting. A proposal by Michael Tunick and LinShu Liu for organizing a Board of Advisors (senate) of long-term AGFD members (ex-officers) was discussed. The Board should provide advice to the AGFD Executive Committee and the Subdivisions, but will have no formal governance over the Division. Michael Tunick and LinShu will work on clarifying and further establishing the membership, terms and objectives of the Board. MPGG announced that beginning 2025, the Spring meetings will emphasize in-person attendance, whereas the Fall meetings will emphasize international and virtual attendance, with inter-divisional co-organized symposia being encouraged by ACS.

Stephen Toth gave the **Treasurer's Report**. The division has had little activity over the past year. The Division has four major investment accounts totaling \$744,753. In addition, there is a little over \$200,000 in cash assets, which include allocations for the Indianapolis's meeting (\$25,000), the CCC grants, and the Strategic Planning meeting (\$67,000). The

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Division usually spends \$110,000 annually and strives to keep \$500,000 in reserve to be fully operational for three consecutive years (based on approximately \$150,000 expenditure per year). The Division has \$986,640 in total assets and is financially healthy. A budget of \$40,000 was set and approved for the 2023 fall meeting in San Francisco.

The **Awards Committee Report** was given by Mike Morello. Awards are published in Cornucopia. Mike indicated that the Division needs to identify an individual to be responsible for award solicitations as the Division is not getting enough nominations for awards. For example, there were no nominations for the **Young Industrial Scientist Award**, which was initiated prior to the COVID-19 pandemic. The committee agreed to keep giving this award, but recognizes the need to engage more members with publicizing the award. Anybody interested in helping with award solicitation should let Michael Morello know. The committee agreed that in order for an individual to qualify for the **Young Industrial Scientist Award** they will need to have been a full member of ACS and AGFD Division member for a minimum of 3 years. The committee also agreed that nominations for the award would be carried over for 1 year after submission (similar to other Division awards). Michael Morello also suggested that we add an agenda item for the Fall meeting to focus on ways to re-engage the industry member base. The 25-year service awards were last given in 2017 due to the COVID-19 pandemic. The Division currently has over 100 members that have reached the 25-year service milestone, and many that have reached their 50-year service anniversary. Michael Morello will reach out to ACS membership and will work with Michael Qian to get our honored 25-year members pins. Ball caps or scarfs will be given to our members with 50-year service anniversaries. Congratulations were extended to **Liangli (Lucy) Yu, Ph.D.**, Distinguished University Professor, Department of Nutrition and Food Science, University of Maryland in receipt of the **Award for the Advancement of Application of Agricultural and Food Chemistry**; to **Xiaonan Sui**, PhD Professor, Associate Head, Department of Cereals, Oils and Vegetable Protein Engineering, College of Food Science, Northeast Agricultural University, China in receipt of the **Young Scientist Award**; and to **Kaidi Wang**, Department of Food Science and Agricultural Chemistry, Macdonald Campus McGill University in receipt of the **Roy Teranishi Graduate Fellowship in Food Chemistry**. The committee also warmly congratulated **Fereidoon Shahidi, Ph.D.**, FACS, FAGFD-ACS, FAOCS, FCIC, FCIFST, FIAFoST, FIFT, FISNFF, FRSC (UK), University Research Professor and Distinguished Scholar, Department of Biochemistry, Memorial University of Newfoundland for receiving the **IFT: Lifetime Achievement Award in honor of Nicolas Appert**.

The **Journal Report** was given by Lucy Yu. The chosen JAFC-AGFD best article of the year was titled "Sweet Biotechnology: Enzymatic Production and Digestibility Screening of Novel Kojibiose and Nigerose Analogues" by authors Shari Dhaene, Amar Van Laar, Marc De Doncker, Emma De Beul, Koen Beerens, Charlotte Grootaert, Jurgen Caroen, Johan Van der Eycken, John Van Camp, and Tom Desmet. This paper will be presented at the Fall 2023 meeting in San Francisco. The first author has already submitted their abstract to the meeting.

The Division's 2023-2025 new student representative to the Executive Committee, Elyse Doria was introduced and gave the **Student Committee Report**. Elyse is planning a lunch with the student membership during the meeting in Indianapolis and will be engaging with all student presenters at the poster session. Elyse had AGFD stickers made to hand out to students during the poster session. She will reach out to Kathryn Diebler regarding reinitiating the Twitter account, and will post pictures taken during the meeting.

LinShu Liu gave the **Program Report**. The Division featured 20 AGFD hybrid symposia on a broad range of topics that included 207 oral presentations and 89 posters at the Fall 2022 national meeting in Chicago, IL. The Spring meeting was also a great success featuring 12 symposia comprising 19 sessions (6 in-person, 6 hybrid and 7 virtual), two of which were interactive virtual panel discussions. There were 119 oral presentations and 57 posters.

The **Future Programs Report** was given by Jonathan Beauchamp. The Division has 22 symposia planned for the Fall 2023 meeting in San Francisco, and 103 abstracts have already been submitted. There are currently 16 symposia scheduled for the 2024 Spring Meeting, in New Orleans, LA. The theme of the NOLA meeting is *The Many Flavors of Chemistry* (Neil Da Costa is the Thematic Program Chair). Division programming is well aligned with this theme. Alyson Mitchell will reach out to Gavin Sacks to see if he is planning on holding the C4 competition. There are 10 symposia currently planned for the Fall 2024 meeting in Denver, CO including the Agnes Rimando Memorial International Student Symposium. The Spring 2024 meeting will include the Michael Granvogl Memorial Symposium and AGFD will also be featuring two ASC Convergent Chemistry Community (CCC) symposia at this meeting in alignment with the U.N. Sustainable Development Goals (SDG-2) of Zero Hunger. Kenny Xie and Michael Morello are coordinating a symposium in collaboration with the AGRO, ANYL, and ENVR Technical Divisions titled: **CCC- Food Security**:

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Tackling Hunger, and Tom Wang, LinShu Liu, and Karley Mahalak will be hosting a workshop and symposium titled **CCC-ACS Microbiome Research Consortium**. Michael Qian indicated that the International Flavor Conference will be held in New Zealand sometime in 2024 (no date is yet set). Contact Michael Qian for more information.

No reports were given for the **Flavor, Functional Foods & Natural Products, Food Bioengineering** or **Food Safety** subdivisions at the meeting. Jonathan Beauchamp will reach out to subdivision leaders to get email reports and to remind them that they are required to present a Subdivision Report at both the Spring and Fall Executive Committee meetings.

Karley Mahalak gave the **Nutrition and Gut Microbiome Subdivision Report**. The subdivision had a very successful symposium last year, and will be hosting a kick-off symposium for this next year.

Wunmi Omowun gave the **Sustainability & Green Technology Subdivision Report**. The Subdivision held a symposium with over 60 participants as well as a webinar last year. They have three sessions on Food Sustainability at this meeting and have plans for symposia next year.

The **Councilors Report** was given by Michael Tunick and Lauren Jackson. Michael indicated that ACS is moving towards harmonizing between all Divisions. ACS leadership is proposing change beginning Spring 2025. Proposed changes include having half of the Divisions' allotment contingent upon joint programming; and having the Spring meeting emphasize in-person symposia and the Fall meeting emphasize virtual and international participation. Items that will be considered at this year's Council meeting will include: Converting one of the six *Director at Large* positions into an *International District Director*, and dropping the age requirement for Emeritus members and basing it on service only (35+ years).

The **Nominations Report** was given by LinShu Liu. The nomination committee recommends Professor Coralia Rosa Osario, University of Columbia as the 2024 Vice-Chair. Alyson Mitchell and Stephen Toth were both nominated to continue in their roles as Division Secretary and Division Treasurer for 2024. The Division will need to vote for two Councilors as Alyson Mitchell and Lauren Jackson's terms end December 31, 2023. Both have indicated a desire to serve an additional term. The Division will also need an Alternate Councilor as Keith Cadwalladers term is also ending in December 2023. Keith has indicated that he does not want to continue in this role. Brian Guthrie will be put forward as a candidate for the position. The Division bylaws allow for electronic balloting. The deadline for the voting is November. Alyson asked that another Executive Committee member run the balloting to avoid any potential conflict of interest. The deadline for identifying Subdivision chairs and new leadership is July 15, 2023. LinShu will reach out to current Subdivision Chairs and help them meet this deadline.

The **Cornucopia Report** was given by Alyson Mitchell. An electronic version of the Cornucopia was sent out to members via email and 100 hard copies were printed for the Spring meeting.

The **Hospitality/Public Relations Report** was given by Alyson Mitchell who indicated that a Chair's Reception was

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From the Spring 2023 AGFD Chair's Reception

(photo credit G. Tunick)

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being held at Buca Di Beppo on Tuesday, March 28, 2023 from 6:00-8:00 PM and all are encouraged to join.

Michael Qian gave the **Membership Report**. Although membership has declined from our pre-Covid peak of over 3,000, the membership decline seems to have stabilized. Current Division membership is 1923.

Mike Appell gave the **Communications Report** and indicated that our website is primarily accessed from individuals across North America (based upon website hits). Alyson will be working with Michael to migrate our email list to the new website as it has better email capabilities for mail-outs. There was discussion regarding the best way to achieve a seamless transition. A membership list will be obtained from ACS and used as the new email list as it is current. Once everything is migrated, Alyson will send out a notice via the old Listserv letting recipients know that the Listserv will be discontinued and reminding them to update membership so they will still get monthly Division emails. Alyson Mitchell asked that everyone send her updates for the newsletter at least one week in advance of the end of the month.

In **New Business**, Kenny Xie discussed how to enhance awareness of the Convergent Chemistry Community (CCC) initiative, and how to link it to Facebook, and other channels to broadcast the event. Michael Morello indicated that this program fits well with the goals of the Sustainability & Green Technology Subdivision, and that the Division should work more with our partner Divisions (AGRO, ENVR) and promote co-programming symposia. The ACS initiative is in support of the U.N. Sustainable Development Goals, and includes goal #2 of Zero Hunger. ACS has a new Center for Sustainability, and wants to highlight the work chemists are involved in to reduce hunger. Our Division is well positioned to support this effort. Michael Qian included his experience with the ACS campaign on a Sustainable Future, which addressed reducing waste through sustainable packaging. Wunmi Omowun indicated that the Sustainability & Green Technology Subdivision is very interested in supporting the wider ACS efforts on sustainability.

The meeting adjourned at 5:05 PM (EST).

Minutes submitted by Alyson Mitchell

In Memorium

Jim Seiber 1940 – 2023

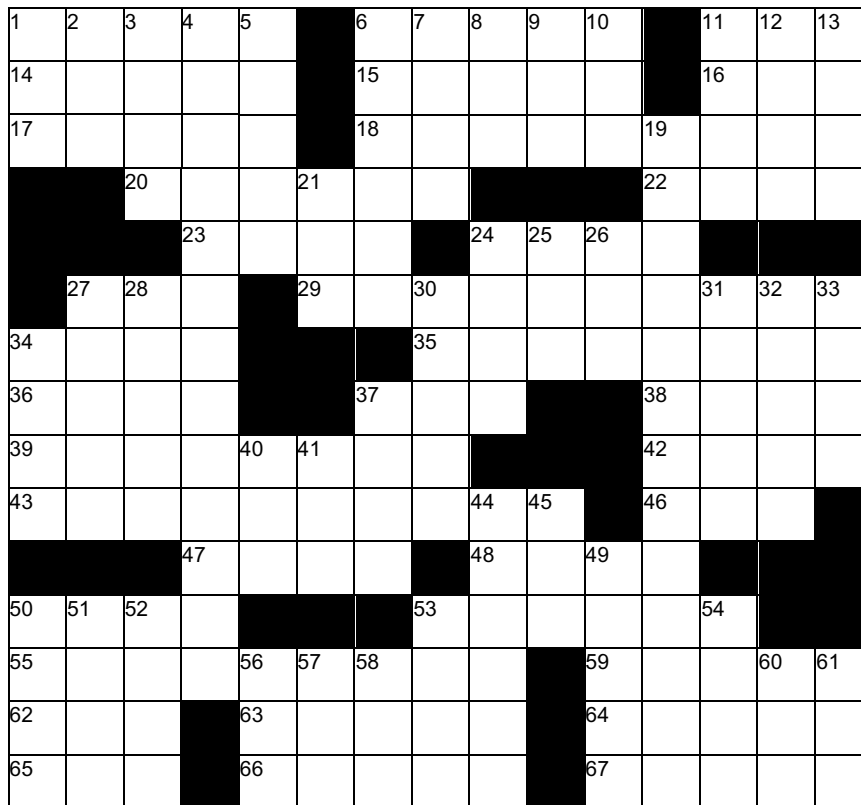


James N. Seiber, Jim, born in 1940, passed away peacefully at home surrounded by his loving family while leaving behind a long list of accomplishments, friends and colleagues. He began his studies, earning a B.S. in Physics at Bellarmine College in Louisville, Kentucky. He continued with an M.S. in Chemistry at Arizona State and obtained his Ph.D. in Analytical Chemistry at Utah State University. He worked at Dow Chemical in Michigan and California before joining the University of California at Davis faculty in 1969, eventually becoming Professor of Environmental Toxicology. He led the Departments of Environmental Toxicology and Food Science and served as Associate Dean for Research for the UC Davis College of Agricultural and Environmental Sciences (CA&ES). His significant and impressive research on pesticides, their use, analysis and environmental impact led to over 280 publications, 3 ACS Symposium Series books, numerous presentations as part of AGFD and other technical symposia and participation on expert committees around the world. Dr. Seiber served as a leading expert for the World Health Organization addressing the impact of pesticides on the health of both youths and adults. He served as Editor of the Journal of Agricultural and Food Chemistry (1999-2014) successfully stewarding it into one of the most respected scientific journals in

the field. Along with his academic efforts at UC Davis, Jim led the Center for Environmental Sciences and Engineering at the University of Nevada, Reno and served as Director of the USDA Western Regional Research Center from 1998-2010. Jim and his wife Rita have three sons, Chuck, Chris, and Kenny and seven grandchildren. Jim received a long list of awards reflecting the impact of his work, including – Fellow of ACS Agrochemicals Division (1988), AGFD Fellow (2006), ACS Fellow (2010), AAAS Fellow (2013), Kenneth A. Spencer Award (2012), USDA Sterling B. Hendricks Memorial Lecture (2018) and the CA&ES Award of Distinction (2018). He served on the UC Davis Foundation Board of Trustees and funded the James and Rita Seiber Fellowship for Innovation in International Agricultural Research and the James, Rita Seiber International Graduate Student Award and the James and Rita Seiber Agricultural and Environmental Chemistry Fellowship. He is remembered as an optimistic, kind and thoughtful friend, mentor and colleague. His many co-workers, collaborators and friends at AGFD miss him and extend condolences to his family.

(thanks to Wally Yokoyama for preparing this memorium)

FRISCO FUN



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

ACROSS

- 1 Hey, listen to this!
6 R2-D2 or C-3PO
11 Scanning pros
14 Target of Salk vaccine
15 ___ of *Two Cities*
16 *Nightmare on ___ Street*
17 Show jubilation
18 End of semester test
20 NL team of Oracle Park
22 Doubled
23 Board game with a rope
24 Dudley Do-Right org.
27 Theater candy: ___-Caps
29 Realistic
34 Chicken Chow ___
35 Chromosome protein support or greeting to Jagger and Richards
36 Aired via the tube
37 Word-based 'Dad' joke
38 Harvest wheat or rye
39 Definitely before.
42 Pretentious cultured air

- 43 Fluent in three languages
46 Sporty Audi 2 seaters
47 We should definitely do it
48 ___-tiller or ___-Rooter
50 Wile Coyote's supplier
53 Levi's Stadium NFL team
55 Classic peanut butter taffy or black strapped shoes
59 What the middle letter of
41 DOWN stands for
62 A holiday's night before
63 Just love to bits
64 More confident
65 '98 flim: *Waking ___ Devine*
66 Mount, as a horse
67 Portray emotion on stage

DOWN

- 1 EMT safety equipment
2 Red or White of MLB
3 Slimy shell-less mollusk
4 High tech home to Apple, Google & Meta
5 Complete. Sum up.
6 Huck Finn or Tom Sawyer
7 Elisha of ups and downs
8 Outlaw. Forbid.
9 Motor___ or Victr___
10 Business card abbrev.
11 Don't do this while you drive
12 BBQ side dish
13 BBs or snowballs
19 Science, technology and arts museum on Pier 15
21 Pecan or almond
24 Horse control leather strap
25 100th parts of dols
26 Parisian witticism: bon ___
27 Tijuana gentlemen address
28 Al Capone associate Frank___
30 Highest point of Mt. Kilimanjaro
31 Like xenon, neon or argon
32 Acts of strength and skill
33 Annual award from ESPN
34 High end pen: ___ Blanc
37 Cribbage board inserts

- 40 Old expression of disgust
41 Explosive C₇H₅N₃O₆
44 Out of bed
45 'Man of 1000 Faces' Chaney
49 Present or past for example
50 You said it, Brother
51 Spelunker's realm
52 Droll TV horse of the '60's
53 He fiddled while Rome burned
54 AL MLB player from 'oustan
56 TV show about USN court prosecutors
57 Gator ___
58 Do or do ___. There is no try!
60 Phrase on some beverage bottles: No DEP, No ___
61 Miner's quest

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 >1900 AGFD members via the application form (below) or on-line at www.agfoodchem.org or www.acs.org (click on [Communities](#), [Technical Divisions](#), [Technical Division List](#)) or call ACS (800)333-9511 (in US) or 616-447-3776 (outside US). Payment by Visa/MasterCard or AmEx.

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

APPLICATION FOR AGFD DIVISION MEMBERSHIP (7623P)	
Title	
Name	
1 st address line	
2 nd address line	
City	
State	
Zip code	
Country	
e-mail address	
Phone	
check one	MEMBERSHIP FEE
<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

ROSTER OF AGFD OFFICERS & COMMITTEE LEADERSHIP

Chair - Serves 1 year. Preside over Division meetings & appoint committees
Jonathan Beauchamp
Fraunhofer Institute
jonathan.beauchamp@ivv.fraunhofer.de

Chair-Elect - Serves 1 year. Substitute for the Chair as needed
Jason W. Soares US Army DEVCOM
Soldier Ctr Jason.w.soares.civ@army.mil

Vice-Chair - Serves 1 year. Assist Chair-elect. Develop future technical programs.
Liz Kreger Sensient Flavors & Extracts
Elizabeth.Kreger@sensient.com

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 - Edit newsletter.
Carl Frey cfreyenterprise@gmail.com

Councilors - Represent Division for 3 years on ACS council.
Alyson Mitchell (thru '23)
aemitchell@ucdavis.edu
Lauren Jackson (thru '23)
lauren.jackson@fda.hhs.gov
Michael Tunick (thru '24)
mht39@drexel.edu

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

Student Activities - Attract and retain graduate/undergraduate student membs.
Elyse Lauren Doria, eldoria@ucdavis.edu

Nominations - Develop officer slate.
Served by immediate past chair.
LinShu Liu USDA-ARS-ERRC
linshu.liu@ars.usda.gov

Finance - Monitor Division's finances.
Served by immediate past chair.
LinShu Liu USDA-ARS-ERRC
linshu.liu@ars.usda.gov

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

Alternate Councilors - Substitute for Councilors. Serves 3 years.
Keith Cadwallader (thru '23)
cadwldr@uiuc.edu
Kathryn Deibler (thru '24)
kdd3@cornell.edu
Michael Qian (thru '24)
Michael.qian@oregonstate.edu

At-Large Executive Committee Members - Assist in Div. management. Serves 3 years.
Jane Leland (thru '23)
JLelandEnterprises@gmail.com
Robert McGorin (thru '23)
robert.mcgorin@oregonstate.edu
Bosoon Park (thru '24)
bosoon.park@usda.gov
Brian Guthrie (thru '24)
Brian_Guthrie@cargill.com

Awards - Oversee awards process.
Chair Michael Morello
mjmorello226@gmail.com
Fellow Awards Fereidoon Shahidi
fshahidi@mun.ca
Young Scientist Award
Youngmok Kim
youngmok.kim@finlays.net
Teranishi Fellowship
Liangli (Lucy) Yu lyu5@umd.edu
Student Awards
Kathryn Deibler kdd3@cornell.edu
Canvassing
Stephen Toth, stephen.toth@iff.com
Young Industrial Scientist Award
Michael Morello
mjmorello226@gmail.com

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

Public Relations - Publicize Div.
Alyson Mitchell,
aemitchell@ucdavis.edu

Membership - Recruit and retain Division members. Michael Qian
michael.qian@oregonstate.edu

Agricultural Sub.Div.
Chair, Daxi Ren dxren@zju.edu.cn
Ch-elect, Hyunsook Kim
Hyunsk15@henyang.ac.kr
V-Chair, Yuzhu Zhang
yuzhu.zhang@usda.gov
Secretary, Ying Wu ywu@Tnstate.edu

Food Bioengineering Sub.Div.
Chair, Majher Sarker
Majher.Sarker@usda.gov
Chair-Elect, Kwang-Guen Lee
kwglee@dongguk.edu
Vice-Chair, Hongsik Hwang
hongsik.hwang@usda.gov
Secretary, Changqin Wu,
changwu@udel.edu

Flavor Sub.Div.
Chair, Gal Kreitman
Gal.Kreitman@ejgallo.com
Chair-Elect, Xiaofen Du xdu@twu.edu
Vice-Chair, Coralía Osorio Roa
cosorior@unal.edu.co
Secretary, Joonhyuk Suh J.Suh@uga.edu
Yun Yin, yunyin2@vt.edu (2024)

Food Safety Sub.Div.
Chair, Reuven Rasooly
rueven.rasooly@ars.usda.gov
Chair-Elect, Xiaonan Lu
xiaonan.lu@mcgill.ca
V.Chair, Boyan Gao
gaoboyan@sytu.edu.cn
Secr'y, Vivian Wu, vivian.wu@usda.gov

Functional Food/Nat. Product SubDiv
Chair, Jianping Wu Jwu3@ualberta.ca
Chair-Elect, Kenny Xie KYX@usp.org
Vice-Chair, Yingdong
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Secretary, Khizar Hayat
khizaraura@gmail.com

Nutrition & Gut Microbiome Sub.Div.
Chair, Karley Mahalak
Karley.mahalak@usda.gov
Chair-elect, Laurel Doherty
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Vice-Chair Ida Pantoja-Feliciano
Ida.g.pantojafeliciano.civ@mail.mil
Secretary Tom Wang,
Tom.wang@usda.gov

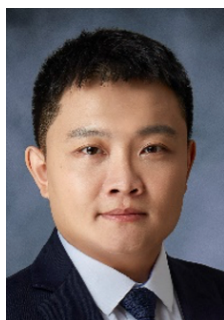
Sustainability/Green Tech. Sub.Div.
Chair, Vinka Oyanedel-Craver,
craver@uri.edu
Chair-Elect, Yufeng Jane Tseng
yjtseng@csie.ntu.edu.tw
Vice-Chair, Lingyun Chen
lingyun.chen@ualberta.ca
Secretary, Omowunmi "Wunmi" Sadik
sadik@njit.edu

AWARD NEWS

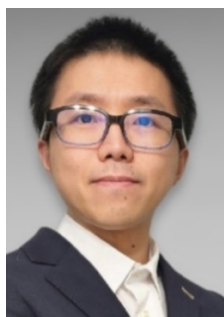


Liangli (Lucy) Yu, Ph.D., Distinguished University Professor, Dept. of Nutrition and Food Science, University of Maryland won the 2023 **Award for the Advancement of Application of Agricultural and Food Chemistry**. This award (sponsored by International Flavors and Fragrances, Inc.) recognizes outstanding contributions to pure and applied agricultural and food chemistry. The award celebrates Prof. Yu's research in three areas: nutraceuticals and functional foods, chemical aspects of food safety, and analytical technologies to ensure food integrity. Dr. Yu's leadership resulted in her group reporting for the first time: the free radical scavenging components in wheat grain, natural antioxidants and anti-inflammatory components from seed flours – previously a waste

stream, free radical properties of conjugated linoleic acids (CLA) - different reactions of CLA isomers with DPPH radicals, prevention of peroxidation of ω -3 fatty acids EPA and DHA during procession and storage by extracts of Chardonnay grape and black raspberry seeds, free radical generation and mediation 3-MCPD diesters from diacylglycerol under high temperature and low moisture conditions, and Fe^{2+}/Fe^{3+} catalysis of 3-MCPD ester formation reactions. Lucy and her team also devised new methodology for detecting milk adulteration by combining chromatographic fingerprints with statistical analysis, and devised a novel approach to detect unknown food toxicants by combining cultured kidney cells and hepatocytes with chemometric analyses. Professor Yu has mentored 17 Ph.D. and 12 MS students, 1 junior faculty, 24 visiting professors/scholars/Ph.D. students and 12 undergraduate students. She has authored 289 peer reviewed journal articles, 18 book chapters, 2 edited 5 books, translated 1 book, holds 3 patents, 9 patent applications, 6 Invention disclosures and delivered >100 invited or peer reviewed presentations. Dr. Yu is a Fellow of the ACS, AGFD and IFT. Among her many other awards are the 2008 AGFD Young Scientist Research Award and the 2020 Stephen S. Chang Award for Lipid or Flavor Science from IFT.



Xiaonan Sui, Ph.D. Professor, Associate Head, Dept. of Cereals, Oils and Vegetable Protein Engineering, College of Food Science, Northeast Agricultural University, Harbin, China received the 2023 **AGFD Young Scientist Award**. Prof. Sui's research focuses on how food processing parameters impact soy protein conformation and how soy proteins aggregate/self-assemble in multiple dimensions. He developed a cost-efficient and fiber-rich extrusion method to develop soy-protein based meat alternatives. Engineering soy protein-based connective layers (epimysium and perimysium) enabled him to overcome a key challenge in developing whole cut meat alternatives. He has published 144 peer-reviewed papers, has one patent pending, edited one book and authored two books in English. His research has been cited more than 3200 times.



Zhuohong (Kenny) Xie, Ph.D. Principal Scientist, US Pharmacopeia, Rockville, MD is the inaugural recipient of the **AGFD Young Industrial Scientist Award**. This award recognizes and highlights important contributions that early career industrial chemists make in our field. Dr. Xie's work focuses on creating and applying methods and standardized documents that ensure the safety, authenticity and efficacy of foods, ingredients and additives. He played a lead role in Expert Panels that developed non-targeted methods and standards for milk ingredients and dietary protein. He developed >12 standards and 3 sets of reference materials. Dr. Xie developed an in vitro model for carbohydrates; optimizing reagents, apparatus, and conditions to simulate digestion. He developed and validated analytical methods to detect adulterants in food proteins, oils and spices. Kenny is the AGFD Functional Foods & Natural Products subdivision Vice-Chair; he co-organized multiple symposia at national

meetings; and he led proposal development and coordinates the AGFD led Food Security/Tackling Hunger Convergent Chemistry Community which includes AGRO, ANYL and ENVR. Dr. Xie holds two patents and has 39 peer-reviewed publications.

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MORE AWARD NEWS

Shiming Li, Ph.D., Huanggang National University, Hubei Province, P.R. China and **Rickey Y. Yada**, Ph.D., University of British Columbia, Traditional Ancestral Unceded x^wməθk^wəyəm Musqueam Territory, Vancouver, Canada each received a 2023 **AGFD Fellow Award**.

Kaidi Wang, Dept. of Food Science and Agricultural Chemistry, McGill University (advisor Xiaonan Lu) received the 2023 **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 following loyal members of AGFD marked **25 Years of Membership in AGFD** in 2023: **Douglas Armstrong, Milda Embuscado, Clayton Ericson, David Gang, Joseph John Karchesy, Veronica M McBurnie, Jeff D McCord, Susan A S Parker, Ronald B Pegg, Alexander G Schauss, Kalidas Shetty, Ronald I Thompson, Deepthi Kumar Weerasinghe, Douglas Williams, Yan Zheng**

The following extremely loyal members of AGFD marked 50 Years of Membership in AGFD in 2023: **Rajindra Aneja, Denis Hruza**



Celina Paoletta with AGFD Chair Jonathan Beauchamp

The winners of the Spring 2023 **Undergraduate Poster Competition** included: 1st place (tie) **Celina Paoletta** of Christopher Newport University for a poster describing hop (*Humulus lupulus*) phytochemical profiles as a function of growth region and **Christopher Prajogo** of UC Davis for a poster describing the effect of trans vaccenic acid on glucose homeostasis in a mouse model of diet-induced obesity and insulin resistance. The 2nd place award went to **Bret Watson** and **Jordon Scalia** of Shippensburg University for a poster describing maintenance of a kombucha starter preparation. The 3rd place award went to **Kourtney Collier** of Purdue University for a poster describing plasticizing capabilities of 2 plasticizer/initiator combinations. (photo credits M. Tunick)



Christopher Prajogo with AGFD Chair Jonathan Beauchamp

The team of **Shari Dhaene, Amar Van Laar, Marc De Doncker, Emma De Beul, Koen Beerens, Charlotte Grootaert, Jurgen Caroën, Johan Van der Eycken, John Van Camp, and Tom Desmet** won the **Journal of Agricultural and Food Chemistry Research Article of the Year Award (AGFD)** for their publication Sweet Biotechnology: Enzymatic Production and Digestibility Screening of Novel Kojibiose and Nigerose Analogues. <https://doi.org/10.1021/acs.jafc.1c07709>

The team of **Chongxi Liu, Lu Bai, Peng Cao, Shanshan Li, Sheng-Xiong Huang, Jidong Wang, Lei Li, Ji Zhang, Junwei Zhao, Jia Song, Peng Sun, Yanyan Zhang, Hui Zhang, Xiaowei Guo, Xilang Yang, Xinqiu Tan, Wende Liu, Xiangjing Wang, and Wensheng Xiang** won the **Journal of Agricultural and Food Chemistry Research Article of the Year Award (AGRO)** for their publication Novel Plant Growth Regulator Guvermectin from Plant Growth-Promoting Rhizobacteria Boosts Biomass and Grain Yield in Rice.

AGFD and AGRO members employed by ARS/USDA, assisted in selecting **Gary List**, D.Sc., University of Illinois, Urbana-Champaign to present the prestigious 2023 **Sterling B. Hendricks Memorial Lecture** in recognition of his decades of research on soybean oil. See <https://www.ars.usda.gov/research/lectures/2023/sb-hendricks/>

Joel Coats, Ph.D., distinguished Professor of Entomology and Toxicology at Iowa State University is the recipient of the 2023 **Kenneth A. Spencer Award**, the most prestigious ACS award recognizing advancements in agricultural and food chemistry. A banquet organized by the Kansas City local ACS section honors him and his decades of work on natural products as insecticides and insect repellants.

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AND MORE AWARD NEWS



Fereidoon Shahidi, Ph.D., FACS, FAGFD-ACS, FAOCS, FCIC, FCIYST, FIAFoST, FIFT, FISNFF, FRSC (UK), University Research Professor and Distinguished Scholar, Dept. of Biochemistry, Memorial University of Newfoundland received the IFT Chicago Section Nicolas Appert Lifetime Achievement Award. Dr. Shahidi has authored >1,000 peer-reviewed research papers and book chapters, 78 books, and 10 patents. His research includes nutraceuticals and functional foods with emphasis on lipids, proteins, polyphenols, natural antioxidants and

oxidation control in health and disease. He has received awards from ACS, AOCS, IFT CIFST and more. He is past chair of AGFD and the Scientific Council of IUFOST and the President-elect of the International Academy of Food Science and Technology. He is the editor-in-chief of the Journal of Food Bioactives and the Journal of Food Production, Processing and Nutrition. He is the principal founder of the International Society for Nutraceuticals and Functional Foods and founding editor in chief of the Journal of Functional Foods, serving in that capacity for 10 years. He was the principal founder of the Nutraceutical and Functional Food Division of IFT. He has trained ~200 graduate students, visiting professors, scholars and colleagues in >12 countries. See Achievement Awards – IFT.org



Xuotong Fan, Ph.D., USDA Lead Scientist/Research Food Technologist, is now an IFT Fellow. Dr. Xuotong Fan works in the fields of postharvest biology and technology, ionizing irradiation and other nonthermal food technologies, food quality, and microbial and chemical safety of foods. His research on the use of 1-methylcyclopropene to extend storage life of fruits and vegetables has led to its commercial application around the world. His studies on food irradiation have helped regulatory agencies make science-based decisions on the approval of irradiation of lettuce, spinach, and other products. He currently leads scientists, technicians and postdoctoral associates in

developing and modifying intervention technologies, combining them with other pathogen-reduction treatments to improve microbial safety of fresh produce, while maintaining sensory and nutritional quality, chemical safety and shelf-life. He has >450 publications, including 200 peer-reviewed articles. He has served as chair of AGFD, the IFT Fruit and Vegetable Products Division and several other IFT committees. See Achievement Awards – IFT.org

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

Find information about all AGFD awards at www.agfoodchem.org Scroll down to and click on AGFD Award Details to load a PowerPoint file detailing award eligibility and nomination deadlines as well as lists of past awardees.

AGFD Awards Committee: AAAFC IFF/AGFD Award (Mike Morello), Young Scientist Award (Youngmok Kim), Young Industrial Scientist Awards (Michael Morello & Brian Guthrie), AGFD Fellow Award (Fereidoon Shahidi), AGFD Distinguished Service Award (Mike Tunick), Teranishi Fellowship (Liangli [Lucy] Yu), Graduate & Undergraduate Student Symposia (Kathryn Deibler), Spencer Award (Sarah Leibowitz), ACS Fellow Award (Michael Morello, Michael Appell, Carl Frey)

Special Topics Meeting Minutes

Sunday, 3/26, 2:00-3:00 PM (EDT) Indianapolis, Indiana and via Zoom

Attendees: Alyson Mitchell, Jonathan Beauchamp, Elyse Doria, Michael Appell, Rickey Yada, Nick Flynn, Lucy Yu, Nigel Da Costa, Jun Hu, Fereidoon Shahidi, Robert McGorin, Michael Morello, Mike Tunick, Jane Leland, Liz Kreger, Jun Hu, Jason Soares, Lucy Yu, Michael Qian, Natasa Poklar, Lingyun Chen, LinShu Liu, Lauren Jackson, Jianping Wu

The meeting started: at 2:04 PM

LinShu and Michael Tunick proposed organizing a Board of Advisors (senate) of mature AGFD members with the objectives of providing advice to the AGFD Ex. Committee and the subdivisions through their combined institutional knowledge and to act as a resource for the Ex. Committee, but not act as formal governance for the Division.

Action Item: Michael Tunick and LinShu will work on clarifying and further establishing the membership, terms and objectives of the Board.

Lucy Yu asked about having the *Exemplary Leadership* award annually as designed. Michael Morello indicated that it is a regular award, but that we need the individual present at the meetings and with COVID-19 this has been difficult.

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Action Item: The committee will have plaques made and restart giving the award on a regular basis.

Neil Da Costa indicated that at the MPGG meeting it was announced that the Spring and Fall meetings of 2025 will change slightly with differentiated formats between the two meetings. The Spring meetings will be more tailored to in-person attendance whereas the Fall meetings will emphasize international and virtual relationships. Furthermore, ACS intends to reduce the overall number of symposia in the Fall meetings and encourage a greater number of inter-divisional symposia (not nominal co-sponsorship, but joint organization and hosting). Mike Morello suggested we push back on these changes, as this will limit AGFD's ability to program independently.

Lauren Jackson gave an update on the Strategic Planning retreat to be held on Oct 7, 2023 in Washington D.C. A critical mass of at least 12 AGFD members needs to convene to make this successful.

Action Item: Lauren Jackson will reach out to Jonathan with recommendations for the attendees.

Jonathan Beauchamp asked about the ACS symposium book series honorarium. Currently the Division gets a \$1,000 honorarium per book, however in other Divisions the honorarium goes to the editor(s). Jonathan asserted that providing the honorarium to the editors might incentivize organizing more books for the division. Robert McGorin also indicated that in the past the revenues helped support travel for international presenters. AGFD has actively published books in the past, thus this income stream was a welcome addition for allocation to said travel support. Challenges with publishing a book were a limited willingness of authors to contribute. Authors need more incentives to write book chapters as they are not considered equivalent to manuscripts in merit/promotion considerations.

Action Item: Michael Morello asked to have Steve Toth involved in the conversation to understand how this will impact the Division finances.

Minutes submitted by Alyson Mitchell

AGFD TECHNICAL PROGRAM

Find abstracts for these papers in the Cornucopia version w/abstracts – posted on the AGFD website

SUNDAY MORNING August 13

Moscone Ctr West Rm 3010

Chemistry of Wine - Winemaking Practices and Altering Wine Chemistry E. A. Chang, G. Kreitman, G. L. Sacks, E. Tomasino, *Orgs, Pres.*

8:00 Introductory Remarks.

8:05 New insights on the inhibition of potassium bitartrate crystallisation in wine. **K. Bindon**, T. Reilly, A. Schulkin, E. Wilkes

8:30 Advanced monitoring and control of wine fermentations: Redox potential. **R. Runnebaum**

8:55 Winemaking practices to alter thiol and ester production in Chardonnay wines and impact to tropical fruit aroma perception. **E. Tomasino**, C. Lucas, A. Lobbi

9:20 Maillard reaction-associated flavour compounds in base and sparkling wines. **B. Kemp**, H. Charnock, J. Medeiros, G. Pickering

9:45 Intermission.

10:05 Alternative acidification methods of high pH juice and wine. **A. Botezatu**, C. Elizondo, A. Essary, A. Lyne

10:30 Wine matrix impact on smoke marker compound expression in wine. **A. Oberholster**, L.X. Lim, C. Medina Plaza, I. Arias-Perez, Y. Wen, B.P. Neupane

10:55 Sensory significance of aroma carry-over during bottling from aromatized wine-based beverages into regular wine. **U. Fischer**, J. Gottmann, J. Vestner

Moscone Ctr West Rm 3009

Food Security: The Role of Alternative Protein Sources in Addressing World Hunger Cospons. AGRO, ANYL, ENVR Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community **B. D. Guthrie**, *Org.* **J. W. Finley**, L. Jackson, M. J. Morello, R. Yada, *Orgs, Pres.*

8:00 Introductory Remarks.

8:05 Protein valorization from underutilized agriculture by-products. **T. Tanaka**

8:25 Structure, extraction, and function of alternative proteins derived from plants and insects. **X. Sui**

8:45 Algae use as alternative proteins to enhance food security. **M. Hayes**

9:05 Big things come in small packages: prospects of microalgae proteins in addressing global nutrition and health challenges. **C. Udenigwe**

9:25 Intermission.

9:45 Plant-based diets: Addressing human and planetary health and sustainability. **H. Lynch**

10:05 Protein digestion and absorption: Meat analog versus meat. **D. Chen**

10:25 Alternative proteins: A religious perspective. **J.M. Regenstein**

10:50 Inspiring food systems Innovations to improve the health of people and planet. **B. van Lengerich**

11:15 Perfect day's collaborative approach to a kinder, greener future food system. **S. Sukumaran**

Moscone Ctr West Rm 3011

Methods, Data, and their Usage Towards Solving the Food Allergy Problem **Y. Zhang**, *Org., Pres.*

8:00 Introductory Remarks.

8:05 Seed proteins of common buckwheat: A treasure trove of genetic resources contributing to hypoallergenicity. **T. Katsube-Tanaka**

8:30 Hydrolysed proteins prevent child food allergies in mice: A study on eggs and cow's milk. **B. Zeng**, H. Che

8:55 Effect of two different processing methods on the allergenicity of tropomyosin from *Procambarus clarkii* and its mechanism. **G. Liu**, H. Che

9:20 Atmospheric cold plasma treatment reduces Ara h 1 antigenicity and stability in roasted peanut. **K. Hsieh**, Y. Ting, J. Wu

9:45 Intermission.

10:00 Allergen cross-contact risk due to the use of shared frying oil. **L. Jackson**

10:25 Modulating the allergic immune response to cow's milk with probiotics. **J. Yang**, J. Song

10:50 Folic acid inhibits food allergic reactions in offspring rats by regulation of allergy-related immune cells. **Q. Wang**, Y. Jiang, H. Che

11:15 New pepper allergen of 2S albumins and its potential impact on nuts allergy. **H. Li**, L. Zhu, R. Wang, L. Zhu, J. Hu, F. Chen, L. Ma, R. Tang, S. Liu, K. Ni, X. Ye, Y. Zhang, J. Sun, T. Jin

SUNDAY AFTERNOON

Moscone Ctr West Rm 3010

Chemistry of Wine - Wine Chemistry Measurements

E. A. Chang, G. Kreitman, G. L. Sacks, E. Tomasino, *Orgs., Pres.*

2:00 Introductory Remarks.

2:05 Oral processing of wine and temporal aroma release and perception. **M. Pozo Bayon**, C. Munoz, M. Perez-Jimenez, C. Criado

2:30 Advancements in rapid and accurate grape quality analysis using A-TEEM and machine learning. **R. Sui**, A. Gilmore, B. Blair, H. Feng, B.S. Pan, L. Chen

2:55 Role of magnetic resonance spectroscopy in the OIV digital transformation plan. **J. H. Pucheta**

3:20 Sorbent sheets coupled to direct analysis in real time mass spectrometry (DART-MS) for rapid volatile phenol analyses in grapes and wine. **G.L. Sacks**, T. Bates, A. Kalenak, B. Bergman

3:45 Intermission.

4:05 Volatile sulfur compounds in wine – from precursor investigation to novel oxathianes. X. Wang, D.L. Capone, A. Roland, **D.W. Jeffery**

4:30 Improved method for analysis of smoke glycoconjugates: a baseline study through phenological development. S.E. Mayfield, J.E. Foster, H. Feng, B.S. Pan, **B. McClure**

4:55 Curse of dimensionality in chromatography: Custom software for four-dimensional LC × LC × IM – MS data analysis. **J. Vestner**, P. Venter, A. de Villiers, U. Fischer

Moscone Ctr West Rm 3011

Methods, Data, and their Usage Towards Solving the Food Allergy Problem

Y. Zhang, *Org.* L. Jackson, *Pres.*

2:00 Introductory Remarks.

2:05 Epitope mapping and cross-reactivity analysis of arginine kinases from *Crassostrea angulata*. F. Huan, S. Gao, L. Ni, M. Wu, M. Liu, **G. Liu**

2:30 Identification of two novel major allergens in white-fleshed and red-fleshed pitaya seeds. **M. Hao**, H. Che

2:55 Screening and characterization of shark-derived VNARs against arginine kinase from *Procambarus clarkii*. **Y. Yang**, X. He, T. Jin, G. Liu

3:20 Dupilumab for treatment of food-dependent, exercise-induced anaphylaxis. **L. Zhu**, R. Tang, Q. Wang, H. Li

3:45 Intermission.

4:00 IgE epitope mapping: Data, techniques, and needs. **Y. Zhang**

4:25 Mechanism of sulfated oligosaccharide from *Gracilaria lemaneiformis* on regulating Treg cells differentiation in allergic response. **Q. Liu**, C. Liu, Y. Zhou, W. Liu, **G. Liu**

4:50 Immune consequences of food processing. **S. Maleki**

Moscone Ctr West Rm 3009

Food Security: The Role of Alternative Protein Sources in Addressing World Hunger

Cospons. AGRO, ANYL, ENVR Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community B. D. Guthrie, *Org.* J. W. Finley, L. Jackson, M. J. Morello, R. Yada, *Orgs., Pres.*

2:00 Introductory Remarks.

2:05 Genotypes and extraction methods impact pea protein composition, structure and techno- functional properties. **L. Chen**

2:25 Legume seed storage proteins are abundant with amyloid-forming sequences. **D. Dee**

2:45 Structural and functional properties of green lentil protein isolates obtained by pH-shift and membrane ultrafiltration. **R. Aluko**

3:05 Simple post extraction approaches to the improvement of interfacial properties of pulse proteins. **J. Rao**

3:25 Effects of microalgae and mung bean protein combination on 3D printing of seafood analogs. **P. Vijayan**, D. Huang

3:45 From traditional to alternative fish analog: Considerations toward texture development in cell-cased fish. **S. Chuah**, R. Omidvar, B. Zhang, A. Odabasi, C. Sims, R.M. Schneider, A. Porras, R. Farzad

4:15 Intermission.

4:35 Effects of oil content on the structural and textural properties of cottonseed butter products. **Z. He**, S. Rogers, S. Nam, K. Klasson

4:55 Improvement of the solubility of glandless cottonseed protein isolate for fortified beverage applications. **H. Cao**, K. Sethumadhavan, s. Pelitire, Z. He, **K. Klasson**

5:15 Improving legume protein flavor and functionality with exogenous polyphenols. **A. Girard**

5:35 Molecular interactions between pea protein isolate and saccharide with various molecular mass during the course of Maillard reaction. **B. Chen**, J. Rao

5:55 Concluding Remarks.

SUNDAY EVENING

Moscone Ctr South Hall F

General Posters J. Beauchamp, J. W. Soares, *Orgs.*

[*Note – Monday Evening Sci-Mix includes the first 36 posters listed below (SM01-SM36)*]

SM01 Post-storage aroma alteration of vacuum-packaged Virginia hops. **X. Su**, Y. Yin, Y. Xu, L. Rutto, K. Hurley

SM02 Developing chitosan particles as biocompatible carrier. H. Huang, C. Hsieh, M. Chen, H. Huang, **K. Cheng**

SM03 Chemical characterization and quantitative determination of flavonoids and phenolic acids in yerba santa (*Eriodictyon* spp.) using UHPLC/DAD/Q-ToF. **M. Wang**, J. Zhao, B. Avula, J. Lee, R. Upton, I. Khan

SM04 Encapsulation of anthraquinones extracted from the Aloe-vera plant into casein micelles by ultrasonication. **U. Sadiq**, H. Gill, J. Chandrapala

SM05 Polyphenols improve the biological activity and functional properties of soybean meal hydrolysates. **X. Zhang**, H. Xiao, S. Zhang, Y. Li, H. Du

SM06 Regulated competitive reactions and low carbon footprint in glycerol organosolv pretreatment integrated fast pyrolysis of lignocellulosic biomass. **Y. Zhang**, Z. Guo

- SM07** Effect of ultrasound on the level of volatile compounds, total polyphenols, total flavonoids, and isoflavones in soymilk processed with microwave-roasted black soybean (*Glycine max* (L.) Merr). **Y. Lee**, M. Lee, K.G. Lee
- SM08** Exploring the processing technology of a new healthy yogurt with Kombucha and taro. **R. Song**, H. Che
- SM09** Analysis of furan and physicochemical properties in various nuts roasted with air fryer and microwave. **J. Oh**, S. Ha, K.G. Lee
- SM10** Cellulose nanocrystals recycled from maple leaves as Pickering emulsion stabilizers for shrimp preservation. **C. Ji**, J. Wei, Y. Wang
- SM11** Anti-inflammatory activity of extracts and two royleanone-type isomers isolated from *Salvia sessei* Benth. **A. Gómez-Rivera**, C. Lobato-García, A. Gallegos-García, N. Romero-Ceronio, R. López-Rodríguez, C. Barredo, M. Herrera-Ruiz, M. González-Cortazar
- SM12** Citrus pesticides unmasked: A surprising discovery on their effect on heathland ladybird *Chilocorus bipustulatus*. **A. Kaspi-Kaneti**, S. Singh, A. Protasov, R. Kaspi
- SM13** Chemical marker's variation in *Cecropia* sp from Tabasco, Mexico. **C. Lobato Garcia**, J. Alberto-Hernandez, A. Gómez-Rivera, R. López-Rodríguez, E. Medrano-Sanchez, M. González-Cortazar, M.Á. Vilchis Reyes
- SM14** Alkaline solubilization and acid precipitation (ASAP) method for green extraction of polyphenolics from fruit peels. **N. Zhan**, D. Huang
- SM15** Production, purification and characterization of a local diatom fucoxanthin and polysaccharides by a spinner-flask-based photobioreactor system. **M. Wang**, C. Lin, S. Lai
- SM16** Protective effect of quercetin against oxidative stress induced by ochratoxin A in hepatocyte. **H. Kim**, H. Lee, D. Ryu
- SM17** Alleviative effect of resveratrol on ochratoxin A (OTA)-induced kidney damage and oxidative stress. **H. Kim**, D. Ryu, H. Lee
- SM18** Iron oxide nanocatalyst-based electrochemical sensor for Rapid Detection of *E. coli* O157:H7. **K. Sangmin**, Y. Kim, H. Adra, D. Kang, L. Dahee
- SM19** Hydrogel made from polysaccharide extracted from *Antrodia Cinnomomea*: characterization and application as carrier for anti-inflammatory agents. **C. Xu**
- SM20** Effect of storage conditions on key odorants and quality of southern highbush blueberries (*Vaccinium corymbosum*). **F. Kulapichitr**, S. Walse, D. Obenland
- SM21** Characterization of key aroma compounds in microgreens and mature plants of hydroponic leafy fennel (*Foeniculum vulgare* Mill.). **J. Liu**, S. Li, S.F. Okeefe, K. Hurley, Y. Yin
- SM22** Extraction and characterization of hemp seed (*Cannabis sativa*) proteins by ESI QTOF LC/MS/MS. **T. Harris**, B. Syed, A. Ahmed
- SM23** International bitterness units (IBU) study of bravo hop. **B. Bartholomew**, M.B. Jacobs
- SM24** Reactivity and mechanism of glucose oxidoreductase DgpA from human gut bacterium *Dorea* sp. MRG-IFC3. **H. Kim**, J. Han
- SM25** Marine phlorotannin from *Sargassum pallidum* extract attenuates particulate matter-induced skin damage by down-regulating oxidative stress and inflammatory response in HaCaT cells and zebrafish model. **W. Kim**, S. Im, H. Kang, Y. Lee, S. Lee
- SM26** Marine phlorotannin extracted from *Sargassum pallidum* Inhibits α -MSH induced Melanogenesis in B16F10 melanoma cells and zebrafish model via CREB and ERK-associated MITF downregulation. **W. Kim**, S. Im, H. Kang, S. Lee
- SM27** Biophysical properties of ampicillin-resistant *Escherichia coli*. **K. Dungey**, M. Schleining, F. McCoy, P. Kenney, A. Carranza-Parras, L. Sanchez Diaz
- SM28** Adverse effects of titanium dioxide nanoparticles on beneficial gut bacteria and host health based on untargeted metabolomics analysis. **Y. Wu**, X. Cao, H. Du, X. Guo, Y. Han, H. Xiao
- SM29** Analysis of metabolomic profiles and evaluation of biological activities of six blackberry cultivars. **Y. Wang**, H. Lee
- SM30** Organic vs. conventional: A quantitative nutrition/contaminants profiling case study on elderberries. **X. Jones**, N. Bostick, S. Mahdi, M. Uy, N. Navarrete-Tindal, S. Eber, R. Mu, Q. Yang
- SM31** Production of soybean protein concentrates with enhanced nutrient profile. **R. Anowar**, L. Gurralla, A. Morais
- SM32** Establishment of an analysis method for Trinexapac-ethyl in livestock products. **S. Ka**, K. Hwang, Y. Kim, H. Park, S. Choi, H. Jeong, J. Moon
- SM33** Residual characteristics of Sulfoxaflor in *Dendranthema zawadskii* and changes in the content of flavonoids. **Y. Kim**, K. Hwang, S. Ka, h. park, S. Choi, H. Jeong, J. Moon
- SM34** Development of an analytical method for ferimzone and tricyclazole in brown rice: Application in pesticide spraying using a multicopter, and comparison of initial concentration depending on spreader-stickers. **S. Kim**, M. Jeong, W. Ahn, Y. Lee, H. Eun, Y. Lee, S. Kim, Y. Shin
- SM35** Basic research on the construction of pesticide library database and suspect analysis using high-resolution mass spectrometry (LC-QTOF). **M. Jeong**, S. Kim, W. Ahn, Y. Lee, H. Eun, Y. Lee, S. Kim, Y. Shin
- SM36** Encapsulating peppermint essential oil in chitosan particles to reducing macrophage inflammation. **Y. Tu**, Y. Ting
- 7:00** Development of eugenol loaded active packaging patch by electrospinning technology. **Y. Chen**, Y. Ting, J. Wu
- 7:00** Evaluating the effects of Taiwan lemon essential oil on skin health. **Z. Su**, Y. Weng
- 7:00** Reducing advanced glycation end products in bread through fortification with quercetin nanoparticles. **W. Huang**, C. Ho
- 7:00** Simple proteolytic enzyme enrichment process for food and cosmetic peptide production. **H. Chung**, J. Lee, H. Bang, Y. Kang, S. Jang
- 7:00** In situ assessment of macro/micronutrients in soil from the PVA/starch/fertilizer system. **R. Faez**, C. Souza, C. Chiaregato
- 7:00** Plasma activated water influenced growth and gene expression in mung bean. **Y. Chou**, Y. Ting
- 7:00** Site-specific carriers of nutraceuticals using pectins with different nanostructural charge distribution and structural characteristics. **Y. Kim**
- 7:00** New strategy for Omega-3 PUFAs protection and curcumin vectorization via water-in-oil gelled-in-water multiple emulsion. J. Vellido-Perez, E. Brito-de la Fuente, **A. Martinez-Ferez**
- 7:00** Effect of iota-carrageenan and environmental conditions on the stability of oil-in-water emulsions. **H. Houryieh**
- 7:00** Engineering of isoprenoid pathway for production of (-)- α -Bisabolol in metabolically-engineered *Saccharomyces cerevisiae*. H. Hwangbo, H. Yang, T. Kim, Y. Lee, **Y. Park**
- 7:00** Production of azelaic acid from nonanoic acid and its esters by whole cell biocatalyst of *Candida tropicalis*. E. Jeong, J. Hong, J. Kim, M. Jeon, Y. Lee, **Y. Park**
- 7:00** Microcapsule produced with polymer blend improve the viability of probiotics and oxidation stability. **H. Shan-Ni**, Y. Ting, J. Wu

- 7:00 Developing water-in-cocoa butter emulsions using cellulose nanofibers hydrogel. **W. Chou**, Y. Ting, J. Wu
- 7:00 Effect of argon plasma pretreatment on drying rate and qualities of green tea. **Y. Lin**, Y. Ting, J. Wu
- 7:00 Protective effects of annatto-extracted tocotrienols on brain nerve injury in mice. H. Tsai, Y. Lin, H. Liao, C. Yang, **Y. Chen**
- 7:00 Using calcium-chelated soy protein isolate as emulsifier to improve the quality of almond milk. **C. Wei**, Y. Ting, J. Wu
- 7:00 Accurate and Reliable Analysis of Food Samples using ICP-MS. S. Sengupta, B. Surekar, R. Fussell, D. Kutscher, **A. Fornadel**
- 7:00 Extraction of diatom fucoxanthin with supercritical carbon dioxide optimized by response surface method. S. Lai, Y. Li, C. Lin, Y. Cheng, **M. Wang**, H. Chang
- 7:00 Acceleration of phytoestrogen accumulation in soy plants (*Glycine max* L.) by 1- aminocyclopropane-1-carboxylic acid (ACC). **S. Lee**, J. Kim, C. Kim, K. Park
- 7:00 Strategy for the development of plant-based high-protein foods. **H. Yano**
- 7:00 Naringin-rich Celluclast extract from mandarin (*Citrus unshiu*) peel with anti-obesity potential. **S. Im**, H. Kang, W. Kim, S. Lee
- 7:00 Fucoïdan extracted from *Ishige okamurae* ameliorates non-alcoholic fatty liver in high- fructose diet-fed mice by modulation of lipid metabolism and gut microbiota. **S. Im**, H. Kang, W. Kim, Y. Lee, S. Lee
- 7:00 Obtention of antioxidant peptides from pork liver through enzymatic hydrolysis with ultrasounds pretreatment. B. Rubio, L. Mora, F. Toldra, **M. Reig**
- 7:00 Metabolomic approach of azole fungicides in radish (*Raphanus sativus*): Perspective of functional metabolites. **J. Yu**, M. Song, Y. Keum, J. Lee
- 7:00 Using the electronic nose to help guide flavor development in chocolate protein beverages. **G. Milkova**, S. Kokkinidou
- 7:00 Ameliorative effect of probiotics containing product on gastrointestinal functions in loperamide-induced constipated rats. **T. Lai**, C. YI-PING, C. Wu, J. Wu, S. Shen
- 7:00 Optimizing the lignan extraction from oat using response surface methodology. **Y. Kim**, J. Kim
- 7:00 Rapid Screening of 510 Pesticide Residues in Agricultural Product by QuEChERS Method Combined with LC-QTOF and GC-QTOF. **H. Jo**, H. Heo, K. Hwang, J. Sun, J. Moon
- 7:00 Synthesis of avenanthramides and applications on quantitation as an analytical standard. **M. Song**, J. Yu, L. Junghoon, H. Ahn, J. Lee, Y. Keum
- 7:00 Preparation of nanopesticides by flash nanoprecipitation using Arabic gum as green carrier. J. Yi, E. Ma, L. Li, **X. Guo**
- 7:00 Residual characteristics and risk assessment of chromafenozide in perilla leaves. **K. Dong Ju**, H. Young Jin, J. Kim, O. Eun Been, L. Chae Yeon, J. Kim, K. Tae Hwa, Y. Keum, K.S. Kyung
- 7:00 Residual characteristics of boscalid in different parts of welsh onion. **J. Kim**, K. Dong Ju, H. Young Jin, O. Eun Been, L. Chae Yeon, I. Moo-Hyeog, K. Seo Hong, K.S. Kyung
- 7:00 Residual characteristics of kresoxim-methyl and pyrifluquinazon in Korean goatsbeards. **O. Eun Been**, K. Dong Ju, H. Young Jin, J. Kim, L. Chae Yeon, K.S. Kyung
- 7:00 Validation of QuEChERS multi-residue methods for 108 pesticides in *Litopenaeus vannamei* using LC-MS/MS. **H. Young Jin**, K. Dong Ju, J. Kim, O. Eun Been, L. Chae Yeon, P. So Ra, M. Gwi Im, K.S. Kyung
- 7:00 Enhancement of anti-adipogenic activity of mandarin peel by acid hydrolysis in 3T3-L1 adipocytes. **J. Pyeon**, Y. Kim
- 7:00 Simultaneous LC-MS/MS quantification of 6 lignans in cereal grain, potatoes and their products. **J. Kim**, J. Pyeon, Y. Kim
- 7:00 Essential oil composition of *Tetrapleura tetraptera* (Schum and Thonn) fruit extracted by dichloromethane and hydro-distillation fraction of n-Hexane. **O. Francis**, J. Okello, R. Komakech, E. Kemigisha, S. Kirabo, E. Ssekuubwa, M. Tweheyo
- 7:00 Pre-processing of near-infrared spectra for multivariate calibrations. **M. Singh**, M. Berhow, S.X. Liu
- 7:00 Psidial C: Identification of absolute configuration through DFT calculation and its inhibition mechanism on PTP1B via kinetic analysis and molecular docking. **D. Hahn**, T. Cao
- 7:00 Testing of Per- and Polyfluoroalkyl Substances in the U.S. Domestic Meat and Poultry Supply. **C. Ochoa**, R. Duverna, A. Domesle
- 7:00 Optimization of a methodology for the extraction and quantification of policosanols by HPLC in Costa Rican sugar cane. **O. Saenz**, J. Castañeda
- 7:00 Capturing the quality and functional characteristics of the Greek PDO Cheese Anevato through its microbiome. **K. Papadimitriou**, M. Govari, D. Tsoiakou, M.A. Gkerekou, P. Skandamis, M. Papadelli, J. Kapolos
- 7:00 Implications of the quality of table olive brines in supermarkets assessed by metagenomic analysis. **K. Papadimitriou**, D. Pavlidis, K. Panousopoulos, M. Kafentzi, A. Koliadima, M. Papadelli, J. Kapolos
- 7:00 Evaluating the effect of mixing corn oil with oils high in antioxidants during deep frying. **T.M. Alanezi**, A. Abu-Ghazaleh, N. Dhahir
- 7:00 Physicochemical and sensory properties of novel high-intensity sweetener glycosylated neohesperidin dihydrochalcone. **Y. Kim**, S. Chung, J. Hong
- 7:00 Volatile organic compounds and amino acid composition in the rinds of cantaloupe cultivars during maturity. **G.K. Sah**, K. Crosby, V. Dadwal, B.S. Patil
- 7:00 Rosé wine quality impacted by storage conditions. **C. Medina Plaza**, A. DuBois, E. Tomasino, A. Oberholster
- 7:00 Production and analysis of metabolites from solid-state fermentation of *Chenopodium formosanum* sprouts in a bioreactor. C. Hsieh, S. Yu, Y. Liou, **K. Cheng**
- 7:00 Structure elucidation of an anthocyanin-based aluminum blue complex and monitoring the changes with pH using electrospray ionization FT-ICR mass spectrometry. **X. Fan**, M. Giusti
- 7:00 Walnut skin darkening associated with heat extreme is linked to changes in its metabolites and quality. **Z. Afrah**
- 7:00 Continuous flow high-pressure homogenization is an alternative preservative technique to increase the shelf life of watermelon juice during cold storage. **J. Adhikari**, L. Rahimi Araghi, K. Adhikari, R.K. Singh, B.S. Patil
- 7:00 Effect of black rice dietary fiber on the metabolism of cyanidin-3-glucoside during in vitro colonic fermentation. **Q. Ma**, S. Zhang
- 7:00 Chemometric analysis of Mānuka honey meads. **L. Pilkington**, C. Chhouk, R. Deed
- 7:00 Sensitive and specific electrochemical Nano-biosensor for monitoring of bacterial contamination in wash water of fresh produce. **A. El-Moghazy**, N. Wisuthiphaet, N. Nitin
- 7:00 Benzenethiols with smoke-derived phenols causing ashy aroma and flavor in red wine. **D.C. Cerrato**, J. Fryer, M. Aragon, P.L. Ashmore, L. Garcia, T.S. Collins, E. Tomasino
- 7:00 Determination of carbohydrates in peanuts by HPAE-PAD. **Y. Kawahara**, J. Rohrer
- 7:00 Engineered yeast displaying specific norovirus-binding nanobodies for the concentration

and detection of human norovirus in food matrix. X. Zhao, T. Kasputis, R.C. Wright, **J. Chen**
7:00 Gomphrenin derivatives: alternative anti-inflammatory pigments from fruits of *Basella alba* L. (Malabar spinach). **S. Wybraniec**, R. Górska, E. Dziejczak, M. Bieniasz, P. Mielczarek, L. Popena, M. Tyszka-Czochara, K. Sutor-Swiezy
7:00 Chemical profile and antioxidant activity of sweet cherry pulp (*Prunus avium* L.) from the Apulian region of Italy. P. Crupi, **R. Tardugno**, M. Muraglia, F. Limongelli, M. Clodoveo, F. Corbo
7:00 Physicochemical properties, structural features and biological activities of two fructans obtained from single-clove garlic and multiple-clove garlic: A comparison. **Z. Qiu**, H. Du, Z. Zheng, H. Xiao
7:00 Straightforward synthesis of P-alkylphosphonamidates and bioactivity screening as herbicides or quorum sensing modulators. **S. Backx**, A. Dejaegere, A. Simoens, J. Van de Poel, D. Krasowska, E. De Ridder, a. Willems, K. Audenaert, W. Desmedt, C.V. Stevens, S. Mangelinckx
7:00 Chitosan gel embedded with Nano S as a coating film for Phosphorus fertilizers to enhance use efficiency. **E.A. Davidson**, S. Santra, A. Peresteva, F. Rizzi
7:00 Analysis of volatile phenol interaction with film coatings developed to reduce grape absorption of wildfire smoke compounds. **L. Garcia**, T.T. Tran, J. Jung, D.C. Cerrato, L.R. Lim, M.H. Penner, Y. Zhao, E. Tomasino
7:00 Simultaneous prediction of beta-carotene, anthocyanins, and phenolics in sweet potatoes by near-infrared spectroscopy. **M. Allan**, R. Ibrahim, S.D. Johanningsmeier, K. Pecota, C. Yencho
7:00 Foodborne silica nanoparticles induced adverse effects differentially in obese and non-obese mice. **H. Du**, H. Xiao
7:00 Macroporous adsorbent resin debittering of HLB-affected orange juice and its impacts on consumer sensory acceptance. T. Washington, F. Briceno, C. Sims, R.M. Schneider, J. Brecht, K. Nau, Y. Yagiz, **L. Gu**
7:00 Determination of fatty acid composition, functional group, and compounds found in cocoplum (*Chrysobalanus icaco* L) seed oil using GC-FID, FTIR, and GC-MS instrument: Extractions, physicochemical and phytochemical parameters. **C.E. Oyeagu**, A.S. Ezeuko, F.B. Lewu
7:00 Sustainable food processing through low-pressure membrane technologies for food quality and safety. **M. Gulied**, F. Zavahir, T. Elmakki, D. Han
7:00 Ice recrystallization inhibition and acceleration by cellulose nanocrystals in the presence of anionic and neutral polymers. **M. Li**, T. Wu

MONDAY MORNING August 14

Moscone Ctr West Rm 3010

Chemistry of Wine - Wine Aging, Sensory, and Health

E. A. Chang, G. Kreitman, G. L. Sacks, E. Tomasino, *Orgs., Pres.*

8:00 Introductory Remarks.

8:05 What causes red wine headaches?. **A.L. Waterhouse**, A. Devi, M. Levin

8:30 Chemical properties of interspecific red wines bottled with different concentrations of free sulfur dioxide. **A.A. Watrelot**, D. Carter, A.D. Gapinski, Y. Cheng

8:55 Withdrawn

9:20 Evaluation of extraction rates of toasted-oak volatiles in model wines as a function of toast level in oak barrel alternatives. M. Aragon, **T.S. Collins**

9:45 Intermission.

10:05 Impact of micro-oxygenation in combination with barrel aging to shorten maturation time. **C. Medina Plaza**, L.X. Lim, A. Oberholster

10:30 Detection and identification of modified tannins evolved during red wine aging. **A. Devi**, J.F. Harbertson, A.L. Waterhouse

10:55 Modeling wine aroma perception from Key odorant composition and psychophysical measurements: using odor detection probability. **T.E. Acree**, Y. Jiang, T. Hsu

11:20 Concluding Remarks.

Moscone Ctr West Rm 3011

Advances in Food Chemical Informatics, Knowledge Bases and Databases

A. Dunkel, B. D. Guthrie, D. Wild, *Orgs., Pres.*

8:00 Introductory Remarks.

8:05 Navigating the nexus: AI, data science, and the future of food science and informatics. **D. Wild**, B.D. Guthrie

8:35 Using cheminformatics to speed up the full clarification of the chemobiological space of food compounds. **G. Colmenarejo**, I. Kaya, A. Sánchez-Ruiz

9:00 Exploring the backbone of Nature's chemical space as the primordial source of biological-driven structural diversity. **S. Furrer**, I.M. Ungureanu, C.G. Bologa, J.J. Yang, J. Timm

9:25 Structured Taxonomies for food and flavor databases. **A. Dunkel**, G. Luo

9:50 Intermission.

10:00 Valuable tool for flavor scientists: The Leibniz-LSB@TUM odorant database. **V. Mall**, J. Kreissl, P. Steinhaus, M. Steinhaus

10:20 Food chemicals in epigenetic targets: towards an epi food chemical database. **K. Ju´rez Mercado**, J. Avellaneda-Tamayo, J.L. Medina-Franco

10:40 Natural products magnetic resonance database (NP-MRD): An essential resource for food chemical informatics. **J.R. Cort**

11:00 Make flavor molecules FAIR (FAIRification). **G. Luo**, V. Somoza, A. Dunkel

11:20 Building food composition and discovery databases in the Periodic table of food initiative (PTFI). **S. Watkins**, C. Chien, T. Shafizadeh, J. Prenni, S. Ahmed

11:40 Discovery framework for natural food chemical activities. **D. Biber**, J. Duerkson, B. Foote, D. Wild, B.D. Guthrie

11:55 Concluding Remarks.

Moscone Ctr West Rm 3009

Biotechnology and Synthetic Biology for Sustainable Foods, Food Ingredients, and Flavor

Cospons. AGRO, ANYL, ENVR Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community K. R. Cadwallader, M. C. Qian, Y. L. Qian, *Orgs., Pres.*

8:00 Introductory remarks.

8:05 Flavor sustainability and biotechnology: A review. **X. Du**, M. Davila

8:35 Integrated chemical and biological platform for on-demand food production from minimal resources. **T. Lu**

9:05 Assessing the flavor generation of cultivated beef. **C.R. Lockett**, D. Zhao

9:35 Biotechnological production of dihydromenthofuroloactones by basidiomycota. **H. Zorn**

10:05 Intermission .

10:30 Genome-edited yeast strains to modulate the tastes and flavors of fermented foods. C. Kim, Y. Lee, K.R. Cadwallader, **Y. Jin**

11:00 Transforming toxic djenkolic acid in djenkol beans into bioactive and flavorful organopolysulfides by utilizing C-S lyase from stink beans. **M. Zhang**, D. Huang

11:30 Comparison of flavor potentials of yeast extracts produced from acetate versus glucose grown biomass. **K.R. Cadwallader**, N. Hwisa, Y. Jin, C. Kim

Virtual Session

Forever Chemicals in the Environment, Distribution and Risk Cospons. AGRO, ENVR J. W. Finley, *Org.*, *Pres.* Q. X. Li, C. Sayes, *Pres.*

10:00 Introductory Remarks.

10:05 Phthalates: Effect on and transformation promotion of rhizosphere bacterial community. **Q. Cai**, H. Zhao, H. Lü, Y. Li, C. Mo, L. Xiang, Q.X. Li

10:35 Functional endophytic organic fertilizer alleviates the burden of phthalates and promotes vegetable growth. B. Huang, P. Wang, Y. Wang, **J. Ge**, Y. Li, J. Cheng, X. Yu

11:05 Remediation of PFAS from a variety of environmental matrices. **J. Meegoda**

11:35 Phthalate exposure leads to detrimental effects on preimplantation embryo development and viability. **R. Nowak**, L. Parra-Forero

12:05 Introductory Remarks.

12:10 Return of trifluoroacetic acid as an environmental concern. **T.M. Cahill**

12:35 Biostimulating Acidimicrobium sp. Strain A6 in PFAS impacted soils and soil-column experiments to achieve PFAS defluorination. **P.R. Jaffe**, m. sima, J. Park, S. Huang, B.E. Koel, C.E. Shaefer

1:00 Determination of plasticizers in PVC and non-PVC food contact materials. **K. Carlos**, L. Dejager, T. Begley

1:25 Uptake and translocation of perfluorooctanoic acid and perfluorooctane sulfonate in lettuces (*Lactuca sativa* L.). **L. Xiang**, P. Yu, H. Zhao, Y. Li, Q. Cai, C. Mo, Q.X. Li

MONDAY AFTERNOON

Moscone Ctr West Rm 3011

Artificial Intelligence (AI) Applications for Food and Agriculture Cospons. AGRO, ANYL, ENVR Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community M. Appell, B. Park, *Orgs.*, *Pres.*

2:00 Introductory Remarks.

2:05 Computer vision and NIR spectroscopy: an intelligent solution to optimize the fresh fruit bunches quality assessment in the Colombian oil palm agroindustry. **C.A. Diaz, J.A. Garcia- Nunez**

2:30 Protein language model-based universal deep learning architecture for bioactive peptide discovery. **Z. Du**, X. Ding, Y. Li

2:55 Developing an automated pipeline for the discovery of flower-specific honey markers via non-targeted LC-MS analysis. **S. Chahal**, L. Tian, S. Bilamjian, F. Balogh, T. Anumol, D. Cuthbertson, S. Bayen

3:20 Direct recognition of zearalenone and related metabolites using Raman spectroscopy. **M. Appell**, B. Park

3:45 Intermission.

4:00 AlphaFold 2-based stacking deep learning model for protein solubility prediction and food application. **H. Kwon**, Z. Du, Y. Li

4:25 Rapid quantitative analysis of olive oil fraud using recurrent neural network and Raman spectroscopy. **W. Song, K. Chou**

4:50 Foodborne bacteria classification using imaging spectroscopy with Fusion-nets deep learning. **B. Park**, T. Shin
5:15 Panel Discussion.

Moscone Ctr West Rm 3009

Biotechnology and Synthetic Biology for Sustainable Foods, Food Ingredients, and Flavor Cospons. AGRO, ANYL, ENVR Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community X. Du, Y. Jin, M. C. Qian, *Orgs.* K. R. Cadwallader, Y. L. Qian, *Orgs.*, *Pres.*

2:00 Introductory remarks.

2:05 Withdrawn

2:30 Withdrawn

2:55 Chemistry of puerarin metabolism by human gut bacterium. **J. Han**

3:20 Genetic basis of fruit texture in cucumber. **Y. Weng**, X. Du, C.N. Duan, O. Akinpelu, P. Thapaliya, J. Tan, T. Nguyen

3:45 Intermission .

4:10 Identification of compounds contributing to the umami and bitter attributes of pea protein isolates. P. Ongkowitzo, E. Tello, **D. Peterson**

4:35 Development of a novel, rapid assessment method for pectin structure and functionality. **W. Zhao**, Y. Kim, R.G. Cameron

5:00 Combination of novel extraction methods and natural, deep eutectic solvents as a greener solution for the recovery of anthocyanins and antioxidant activity from blackberry (*Rubus* spp). **O. Zannou**, I. Koca, S. Ibrahim

5:25 Characterization of aroma-active compounds in raw grains and grain distillate by gas chromatography-olfactometry dilution analysis and odor activity value. **D. Chen**, K. Yang, Z. He, Z. Liu, J. Zheng, M.C. Qian

Moscone Ctr West Rm 3010

Bioproducts from Biomass H. Ngo, B. Sharma, *Orgs.* M. I. Sarker, M. P. Yadav, *Orgs.*, *Pres.*

2:00 Introductory Remarks.

2:05 Synthesis of mixed chitin esters with thermoplasticity. **J. Kadokawa**

2:25 Developing integrated chemical and biological processes to produce 2-Pyrone-4,6- Dicarboxylic Acid (PDC) from lignocellulosic biomass. **C. Sener**, S.D. Karlen, C. Maravelias, J. Ralph, T.J. Donohue, D. Noguera

2:45 Valorization of agricultural byproducts - ultrafiltration and dialysis separation of myrosinase. A. Wade, M. Blakeley, **I.E. Popova**

3:05 Novel cocoa-derived ingredient towards circular economy and sustainability in the chocolate industry. C.P. Guirlanda, I.D. Alvim, M.T. Pereira, **J. Takahashi**

3:25 Producing a portfolio of commodity chemicals from lignin bound p-hydroxybenzoate. **S.D. Karlen**, V. Tymokhin, C. Sener, J.K. Mobley, J. Ralph

3:45 Production, characterization, and applications of functional components of wheat grains processing by-product. **M.P. Yadav**, A. Kaur, B. Singh, B. Sharma, M.I. Sarker

4:05 Intermission.

4:15 Synthesis of Branched triester for Potential Biolubricant. **M.I. Sarker**, H. Ngo, B. Sharma

4:35 Upcycling of sorghum distillers grains towards quality sorghum protein materials. **B. Mu**, X. Yu, L. Xu, Y. Yang

4:55 Nitrate adsorption on biochar pyrolyzed using concentrated solar radiation. **S. Li**, T. Galoustian

5:15 Combinatorial enzyme technology for production of bioactive oligosaccharides from libraries of converted agricultural fibers. **S.B. Batt Throne**, D.W. Wong, W.J. Orts

5:35 Sequential pretreatment of bamboo to maximize the fermentable sugar yield for the production of biofuels and bioproducts. **A. Salifu**, N. Ekwe, M. Tyufekchiev, K. Schmidt-

Rohr, Z. Zheng, A. Maag, G. Tompsett, W. Soboyejo, M.T. Timko
5:55 Concluding Remarks.

Virtual Session

Food Security: The Role of Alternative Protein Sources in Addressing World Hunger

Cospons. Agro, ANYL, ENVR Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community B. D. Guthrie, *Org.* J. W. Finley, L. Jackson, M. J. Morello, R. Yada, *Orgs.*, *Pres.*

3:00 Introductory Remarks.

3:05 New approaches to enhancing protein functionality and digestibility in plant-based foods. **H. Singh**

3:30 Micronutrient variation of plant-based milk alternatives: Influence of formulation and processing. **B. Redan**

3:55 Alternative proteins: Food safety risks and their mitigation. **L. Manning**

4:20 Intermission.

4:40 Analysis of insect cross-reactivity with crustacean allergen detection methods. **A. Eischeid**, R. Panda, C. Cho, S. Stadig

5:05 Proteomics in alternative protein research – evaluating protein food safety and quality. **M.L. Colgrave**

5:30 Regulation of protein-based food ingredients in the United States. **J. Dietz**

5:55 Panel Discussion.

Virtual Session

Virtual Graduate Students Symposium in Asia-Pacific Region on Agricultural and Food Chemistry D. Ren, C. Zheng, *Orgs.*, *Pres.* J. Hou, *Pres.*

5:30 Introductory Remarks.

5:35 Impact of ultrasound treatment on structural, emulsifying, and rheological properties on ultrasound treatment of oxidative oat (*Avena sativa* L.) protein. **X. Yue**, Y. Yang, C. Ma, X. Bian, L. Ren, B. Liu, I. Ai, N. Zhang

5:45 Withdrawn

5:55 Effects of different commercial mixed lactic acid bacteria on physical and chemical properties of soy protein yogurt. **X. Xu**, H. Cui, J. Xu, Z. Yuan, H. Liu

6:05 Intermission.

6:10 Typical emulsions as probiotic food carrier: Effect of cells position on its viability. **M. Li**, F. Van Bockstaele, W. Lou

6:20 White-light crosslinkable milk protein hydrogels with ultrafast gelation for first-aid wound treatment. **Q. Zhu**

6:30 Formation and characterization of oleogels derived from emulsions: Evaluation of polysaccharide ratio and emulsification method. **L. Huang**, Y. Cai, M. Zhao, Q. Zhao, P. Van der Meeren

6:40 Intermission.

6:45 Physical treatment synergized with natural surfactant for improving gas-water interfacial behavior and foam characteristics of α -lactalbumin. **J. Li**

6:55 Food-grade seamless capsules loaded with probiotics: gastrointestinal protection and long- term storage. **K. Zhang**, C. Ma, J. Zhang, Y. Liu, L. Zou

7:05 Exploration of interaction between α -lactalbumin and β -lactoglobulin under dUHT treatment and storage: Experimental and molecular dynamics study. **T. Zhang**, Y. Liu, P. Wang, Y. Li, F. Ren, H. Yi

7:15 Intermission.

7:20 Metabolic diversity in fermented milk of *Lactococcus lactis* isolated from naturally fermented dairy products. **W. Li**, Z. Sun

7:30 Withdrawn

7:40 Intermission.

7:45 Prevention of loperamide-induced constipation in mice and alteration of 5- hydroxytryptamine signaling by *Ligilactobacillus salivarius* Li01. **B. Qiu**, M. Yao

7:55 *Lonicera caerulea* L. polyphenols alleviated oxidative stress induced intestinal environment imbalance and lipopolysaccharide translocation liver injury by regulating pathways of Nrf2/HO-1/NQO1 and MAPK in rats. **Z. Cheng**, B. Li, Y. Wang

8:05 Effects of acute and chronic heat stress on rumen microbiome in dairy goats. **M. Li**, L. Xu, C. Zhang, H. Liu

8:15 Intermission.

8:20 Sleep promoting effect and mechanism of goat milk Casein Hydrolysate on rat and *Caenorhabditis elegans*. **Z. Li**, Q. Zhu, X. Liu, Y. Zhang, Z. Zeng, G. Liu, Y. Cao, Y. Chen

8:30 Study on the preparation, bacteriostatic mechanism and intestinal microecological regulation function of antimicrobial peptide AMP1043. **Z. Zhang**, P. Li, X. Zheng, Y. Huang

8:40 Effect of the probiotic strain, *Lactiplantibacillus plantarum* P9, on chronic constipation: a randomized, double-blind, placebo-controlled study. **T. Ma**, Y. Li, H. Zhang

8:50 Ultra-Deep metagenomic sequencing-based high-quality metagenome-assembled genomes reveal novel insights into the microbial genomic dark matter in the human gut. **H. Jin**, Z. Sun

9:00 Concluding Remarks.

MONDAY EVENING

Moscone Ctr South Hall F

AGFD Sci-Mix Live Session (*see first 36 posters listed under Sunday Evening General Posters session*)

AGFD Sci-Mix Virtual Session

8:00 Determination of phytochemical content and antioxidant capacity of dried haskap berries (*Lonicera caerulea* L.) and its potential value-added products. **Y. He**, **K. Singh**, **X. Lu**

8:00 Protein Extraction from Spent Oil-Cakes. **D. Kumar**, H. Makwana

8:00 Quality evaluation of artificially cultivated *Atractylodes lancea* (Thunb.) DC. from genuine producing areas. **J. Chen**, L. Li, Y. Liu, M. Huang, C. Wang

8:00 Impact of foliar and shade application on blackberry flavor and phenolics. **T. Xu**, J. Samtani, H. Chen, Y. Yin

8:00 Developing food preference behavior-based method to identify effectors of substance use disorder. **A.T. Kim**, Y. Park

8:00 Molecular assessment of metabolome alterations in *Lotus japonicus* roots induced by arbuscular mycorrhiza. **J. Ranner**, M. Paries, G. Stabl, C. Gutjahr, T.D. Stark, C. Dawid

TUESDAY MORNING August 15

Moscone Ctr West Rm 3010

JAF Best Paper and AGFD Young Scientists Awards Symposium J. Beauchamp, T. D. Hoffman, Y. Kim, W. King, M. J. Morello, *Orgs.*, *Pres.*

8:00 Introductory Remarks.

8:05 Introduction: JAF Best Paper Award.

8:10 Sweet biotechnology: enzymatic production and digestibility screening of novel kojibiose and nigerose analogues. **S. Dhaene**, A. Van Laar, M. De Doncker, E. De Beul, K. Beerens, C. Grootaert, J. Caroen, J. Van Der Eycken, J. Van Camp, T. Desmet

8:40 Intermission.

9:00 Introduction: AGFD Young Industrial Scientist Award.

9:05 Cracking the code of food quality and health: combating fraud and unlocking nutraceutical potential. **Z. Xie**

9:35 Introduction: AGFD Young Scientist Award.

9:40 Importance influence of gums on promoting the fiber

formation for soy proteins-based meat analogues by high moisture extrusion. **X. Sui**
10:10 Concluding Remarks.

Moscone Ctr West Rm 3009

ACS Microbiome Consortium Kick off Symposium

L. A. Doherty, M. Kabori, L. Liu, *Orgs.* K. Mahalak, T. Wang, *Orgs.*, *Pres.*

8:00 Introductory Remarks.

8:05 Bidirectional interactions between the small intestinal microbiota and bile acids in health and disease. **G.D. Wu**

8:50 Comprehensive metabolomics analyses of gut microbiome. **C. Zhu**

9:10 Bridging preclinical and clinical gut microbiota research using the ex vivo SIFR® technology. **P. Van den Abbeele**, S. Deyaert, C. Thabuis, C. Perreau, D. Bajic, E. Wintergerst, M. Joossens, J. Firman, D. Walsh, A. Baudot

9:30 Bioenergy homeostasis: Major node in holobiont's stress response model. **N. Chakraborty**, A.B. Lawrence, A. Hoke, A. Gautam, R. Hammamieh

9:50 Intermission.

10:05 Reference-free and ecology-based discovery of microbiome biomarkers for disease monitoring and therapeutics development. **L. Zhao**

10:50 Quantitative analysis of bile acids in complex biological matrices by UHPLC-MS/MS for the assessment of microbiome alterations. **M. Gigl**, S. Reiter, A. Dunkel, D. Haller, C. Dawid, T. Hofmann

11:10 Bifidogenic effect of tomato seed extract on the gut microbiota demonstrates new potential for valorization of tomato waste. **J. Firman**, A. Narrowe, L. Liu, K. Mahalak, J.M. Lemons, P. Van den Abbeele, A. Baudot, S. Deyaert, M. Slavin, L. Yu, B. Fanelli

11:30 Analysis of human, soil, and wildlife microbiomes in forensic science. **K.M. Elkins**, **J. Malbrough**, C. Ihearahu

11:50 Concluding Remarks.

Moscone Ctr West Rm 3011

Nutraceutical Lipids, Proteins and Biopeptides

F. Shahidi, J. Wu, R. Yada, *Orgs.*, *Pres.*

8:00 Introductory Remarks.

8:05 Bioactive lipids and their conjugates. **F. Shahidi**

8:25 Functional lipids from food processing byproducts. **B. Gao**, H. Zhu, Y. Luo, **L. Yu**

8:45 Comparison of nutritional quality of fourteen wild Linum species based on fatty acid composition, lipid health indices, and chemometric approaches revealing their nutraceutical potential. **N. Plaha**, N. Kaushik, S. Awasthi, M. Singh, V. Kaur, S. Langyan, A. Kumar, S. Kalia

9:05 Lipids as a source of flavors. **K.R. Cadwallader**

9:25 Intermission.

9:45 Extraction and measurement of total lipids in fresh royal jelly samples: Comparison of several methods. **W. Zhang**, A. Ray, G. Tundo, P. Lau, Y. Zhu

10:05 Quantification of Chemical compounds of Linseed and their health benefits. **S. Awasthi**, N. Kaushik, N. Plaha

10:25 Sensoproteomics discovery of taste-active and DPP-IV inhibitory peptides in quinoa. **M. Holzer**, V.K. Mittermeier, T. Kröber, R. Kerpes, T. Becker, C. Dawid

10:45 Selection of qPCR reference gene for human colon cancer cells in cottonseed bioactive research. **H. Cao**, K. Sethumadhavan

11:05 Concluding Remarks.

Virtual Session

Bioproducts from Biomass H. Ngo, B. Sharma, *Orgs.*

M. I. Sarker, M. P. Yadav, *Orgs.*, *Pres.*

10:00 Introductory Remarks.

10:05 Hydrophobic modification of arabinoxylan for improving emulsifying properties. **B. Sharma**, M.P. Yadav, A. Biswas, H. Cheng

10:25 Evaluation of sugar yields from biomass pretreated with alkaline solution from absorption of recovered CO₂. **V. Garcia-Negron**, M.J. Toht

10:45 Assay-guided isolation, structural elucidation, and action mechanisms of anti-inflammatory compounds in papaya leaves. **Y. Cao**, X. Wang, D. Huang

11:05 Counteracting roles of lipidic aldehydes and isoflavone antioxidants on soy protein oxidation revealed bychemometric survey of solvent and mechanically extracted soybean meals. **J. Zhang**, P.E. Urriola, S.L. Naeve, G.C. Shurson, C. Chen

11:25 Intermission.

11:35 Biochemical analysis of polysaccharides from Indian ginseng, Withania somnifera. **S. Badshah**

11:55 Green synthesized trimetallic (Cu/Ni/Co) oxide nanoparticles used to enhance rice straw and pressmud based vermiculture quality: Growth performance of *Abelmoschus esculentus*. **S. Yadav**, P.K. Srivastava, A.K. Choubey

12:15 Concluding Remarks.

TUESDAY AFTERNOON

Moscone Ctr West Rm 3010

Award for the Advancement of Application of Agricultural and Food Chemistry in honor of Liangli (Lucy) Yu

J. Beauchamp, M. J. Morello, *Orgs.*, *Pres.*

2:00 Introductory Remarks.

2:05 Decoding chemosensory systems for flavor innovations.

T. Hofmann

2:35 Factors affecting the formation of process contaminants and transfer of toxic elements to food and beverages. **L. Jackson**

3:05 Nutraceutical properties of soybeans. **M. Slavin**

3:35 Intermission.

3:55 Food, food function and human health. **T. Wang**, Q. Pham

4:25 Bioactive food factors, and their health beneficial and toxic effects. **L. Yu**

5:10 Concluding Remarks.

Moscone Ctr West Rm 3011

Sustainable Agriceuticals Cospons. AGRO, ANYL, ENVR

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community H. Kim, W. H. Yokoyama, L. Yu, *Orgs.* L. Liu, D. Ren, *Orgs.*, *Pres.*

2:00 Introductory Remarks.

2:03 . Capsinoids enriched extract from Capsicum sp. fruit and its associated pharmacological activities. **C.L. Cantrell**, R.L. Jarret, H. Chae, A. Andersohn, S.P. Marrelli, S. Khan

2:33 . Effects of high hydrostatic pressure pretreatments of orange peel on pectin extraction, structural and functional properties of the extracted pectin. **W. Zhao**, Y. Xu, C. Dorado, H.K. Chau, A.T. Hotchkiss, R.G. Cameron

2:53 . Evaluation of grape marc from different varieties as potential sustainable agriceuticals. **X. Li**, S. Wang

3:13 . Wine grape seed waste improves brain health of mice on high-fat diets. H. Lee, C. Tam, P. Alves, B. Shukitt-Hale, **W.H. Yokoyama**

3:43 . Hesperetin modulates gut microbiota, and attenuates bleomycin-induced pulmonary fibrosis. **P. Li**, X. Meng, Z. Zhang, Y. Huang

3:53 Intermission.

4:13 . Dietary macronutrients determine the pathological process of alcoholic liver disease. **S. Li**,

J. Li, R. Guo, Q. Ding, J. Qiu

4:33 . Improved anti-colitis activity of *Faecalibacterium prausnitzii* by incorporated in a riboflavin conjugated alginate based delivery system. **M. Yao**, B. Qiu, L. Li

4:53 . Extracting bioactive phytochemicals and macronutrients from agriculture waste and food processing side streams:

Simple solutions to complex global problems on food security, aging population, and sustainability. **D. Huang**, J.y. Toy, X. Yang, B. Neo, Y. Lin

5:13 . Rapid photocrosslinking α -LAMA hydrogels biomaterial to facilitate wound healing. **Y. Huang**, Q. Zhu, D. Ren

5:53 Concluding Remarks.

Moscone Ctr West Rm 3009

ACS Microbiome Consortium Kick off Symposium

L. A. Doherty, M. Kobori, L. Liu, K. Mahalak, T. Wang, *Orgs.* J. Firrman, J. M. Lemons, *Pres.*

2:00 Introductory Remarks.

2:05 Stress and the gut-brain axis in military health. **R. Hammamieh**, A. Gautam, N. Chakraborty

2:50 SRS-FISH: A high-throughput platform linking microbiome metabolism to identity at the single cell level. **J. Cheng**

3:10 Differential modulatory effects of kale microgreen and mature kale on the gut microbiome. **T. Wang**, A. Narrowe, Q. Pham, J. Wan, L. Yu, Y. Luo, T. Yang, L. Liu

3:30 Microbiome assessment of diet and stress effects in rodent models of brain insults. **A. Gautam**, J. DeMar, N. Chakraborty, M. Rusling, A. Hoke, F. Rossetti, D. Wilder, J. Long, M. Jett, R. Hammamieh

3:50 Intermission.

4:00 Relationship between functional components of agricultural products and the gut microbiome in several human intervention studies. **M. Kobori**

4:20 Taking a closer look: What we can learn by incorporating food type into analyses of fiber- microbe relationships. **M. Kable**

4:40 Impact of three traditional Chinese herbal extracts on the human gut microbiome. **J.M. Lemons**, A. Narrowe, L. Liu, J. Firrman, K. Mahalak, P. Van den Abbeele, A. Baudot, S. Deyaert, M. Slavin, L. Yu

5:00 Broad-spectrum antimicrobial triclosan and the gut microbiome. **K. Mahalak**, L. Liu, J. Firrman, A. Narrowe, L. Chau, E.S. Friedman, L. Herman, G.D. Wu

5:20 Degradation of food-grade λ -carrageenan by human gut microbiota: Potential adverse effect. **X. Guo**, Y. Han, Z. Zhu, P. Thanuphol, H. Xiao

5:40 Identification of a human gut bacterial strain with anti-inflammatory potential in gastrointestinal tract. **Y. Sun**, M. Gu, H. Xiao

Virtual Session

Nutraceutical Lipids, Proteins and Biopeptides

F. Shahidi, J. Wu, R. Yada, *Orgs.*, *Pres.*

3:00 Introductory Remarks.

3:05 Structure-function of the Plant-specific insert: A natural antimicrobial domain. **R. Yada**, L.K. Cheung, B.C. Bryksa, J.H. Dupuis, J.J. Tian, P. Baumik, A. Wlodawer, X. Zhao, R. Qi, X. Ma, S. Wang

3:25 Quantitative structure-activity relationship modelling of penta- and hexapeptide inhibitors of islet amyloid polypeptide fibrillation. **R. Abioye**, J. Oballa, M. Delgado Martinez, R. Aluko, C. Udenigwe

3:45 Structure, assembly and applications of peanut oil body proteins. Y. Pan, **Q. Huang**

4:05 Structure-function properties of peptides with dual inhibitory activity against acetylcholinesterase and butyrylcholinesterase. **R. Aluko**, N. Asen, C. Udenigwe

4:25 Intermission.

4:45 Food proteins in the prevention of osteoporosis. **J. Wu**

5:05 Bioactive peptides with antioxidant and DPP-IV inhibitory activity extracted from bones by-products. G. Carrera-Alvarado, L. Mora, **F. Toldra**

5:25 Valorisation of surimi processing by-products and formulation of value-added product (Ready to cook protein enriched soup mix). **A. Kumari**, K.N. Kaushik, R. Slizyte

5:45 Optimizing gelatin from pink perch skin and bones and its application in development of ready-to-cook chicken meatballs. **K. N. Kaushik**, K. Widell, R. Slizyte, A. Kumari

6:05 Concluding Remarks.

Virtual Session

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

D. Ren, C. Zheng, *Orgs.*, *Pres.* C. Li, *Pres.*

5:30 Introductory Remarks.

5:35 Development of method for simultaneously determining 11 triterpene alcohols and analysis of their characteristics in camellia oil. **Y. Li**, Y. Dong, Y. Gao, Q. Li, X. Yu

5:45 Dynamics of composition, structure, and metabolism of three energy substances in flaxseed (*Linum usitatissimum* L.) during germination. **Y. Dong**, Q. Li, Y. Gao, X. Yu

5:55 SIRBP1 promotes translational efficiency via Sle1F4A2 to maintain chloroplast function in tomato. **L. Ma**, H. Zhu

6:05 Intermission.

6:10 Recent advances on the stability of anthocyanins regarding the interaction with food proteins and polysaccharides. **Z. Zang**, B. Li

6:20 Effects of soybean isoflavone aglycone on osteoporosis in ovariectomized rats. **L. Li**, N. Zhang, Y. Yang, C. Ma, X. Li, X. Bian, L. Ren

6:30 Effect and mechanism of thermostable β -glucosidase on aroma enhancement of instant Oolong tea at high temperature. **Q. Lin**

6:40 Intermission.

6:45 Structural characterization and hypoglycemic activity of glycoproteins extracted from *Porphyra haitanensis* by different extraction methods. **O. Yujia**, B. Zheng

6:55 Effects of non-covalent interactions between pectin and volatile compounds on the flavor release of tomato paste. **X. Li**, J. Li

7:05 Investigation of the anti-aging activity of the R-phycocyanin of *Porphyra haitanensis*. **Y. Feng**, Y. Zhang

7:15 Intermission.

7:20 Effects of genes required for exopolysaccharides biosynthesis in *Lactocaseibacillus paracasei* S-NB on cell surface characteristics and probiotic properties. **L. Xiao**, W. Li

7:30 Novel viscous hydrophilic colloidal polysaccharide produced by *Lactiplantibacillus plantarum* T1: structural characterization, rheological behavior and biological activity. **Z. Xueliang**

7:40 Small molecules interaction-mediated steady system for the construction and mechanism. **X. Chen**, H. Liang

7:50 Intermission.

7:55 Physicochemical stability and in vitro digestibility of goat milk affected by freeze-thaw cycles. **Y. Ma**, J. Hou

8:05 Digestive properties of meat and plant-based meat analogue and their effects on gastrointestinal digestion function

in mice. **Y. Xie**, C. Li

8:15 Surface modifications of *Pediococcus pentosaceus* Li05 for improved adhesion and function against *Citrobacter rodentium* infection. **S. Han**

8:25 Intermission.

8:30 Hypoxia impairs lactation in bovine mammary epithelial cells. **Y. Jin**, H. Liu

8:40 Construction of EGCG loaded in the edible complex delivery system: Masking bitterness and control release. **C. Ma**, K. Zhang, Y. Liu, Y. Zhou, X. Ye, L. Zou

8:50 Endogenous enzymes-based fermentation simulation reactions reveal metabolic pathways of key aroma compounds in fermented sea bass (*Lateolabrax japonicus*). **X. Liu**

9:00 Proteins from different sources in a high-fat food matrix influence lipid hydrolysis through bolus coalescence and interactions with bile salts. **M. Ding**

9:10 Concluding Remarks.

Virtual Session

General Posters J. Beauchamp, J. W. Soares, *Orgs.*

12:00 Insights into effects of simultaneous uptake, controlled release and antioxidant activity of β carotene and curcumin by Octenylsuccinated gastrodia elata starch micelles. **Z. Wu**

12:00 Determination of phytochemical content and antioxidant capacity of dried haskap berries (*Lonicera caerulea* L.) and its potential value-added products. **Y. He**, **K. Singh**, **X. Lu**

12:00 Protein Extraction from Spent Oil-Cakes. **D. Kumar**, H. Makwana

12:00 Towards the structure elucidation of an antibiotic adjuvant alkaloid Corozine A from corozo palm (*Attalea cohune*) applying experimental and computational tools. **L. Nitsch Velasquez**

12:00 Nutraceutical potential of industrial hemp (*Cannabis sativa* L.) extracts: physicochemical stability and bioaccessibility of cannabigerol (CBG) nanoemulsions. **H. Zheng**, B. Chen, J. Rao

12:00 Quality evaluation of artificially cultivated *Atractylodes lancea* (Thunb.) DC. from genuine producing areas. **J. Chen**, L. Li, Y. Liu, M. Huang, C. Wang

12:00 Exploration of conditions for high-concentration leaching of aromatic components by surface treatment of oak wood using pulsed arc discharge. **M. Iitomi**, M. Sasaki, I. Yamashina

12:00 Impact of foliar and shade application on blackberry flavor and phenolics. **T. Xu**, J. Samtani, H. Chen, Y. Yin

12:00 β -Cyclodextrin encapsulated garlic oil and diallyl disulfide for *Sclerotium cepivorum* sclerotia germination to control allium crop white rot disease. **Y.L. Qian**, G.K. Hua, J.K. Dung, M.C. Qian

12:00 Effect of simulated gastrointestinal digestion on composition of anthocyanins and catechins and antioxidant properties of purple tea. **E.M. Abdelaal**, I. Rabalski, I. Rai

12:00 Computer-aided design and synthesis of novel flavanone derivatives for use as potential inhibitors of the COVID-19 papain-like protease. **A. Sigmon**, N. Yennawar, E. Margulis, J. Fecko, H. Al-Quaid

12:00 Developing food preference behavior-based method to identify effectors of substance use disorder. **A.T. Kim**, Y. Park

12:00 Promoting food and nutritional security through value added products of under-utilized *Hibiscus sabdariffa* calyces.

S.A. Marak, N. Kaushik, A. Dikiy, E. Falch, E. Shumilina

12:00 Tuning the amphiphilicity of β -Cyclodextrin and L-Tryptophan nanoparticles in the development of ultrastable and eco-sustainable Pickering emulsions. **J. Wang**, Y. Dadmohammadi, A. Abbaspourrad

12:00 Development of a method to separate toxic compounds from fungal pathogens in hemp. **I.A. Kagan**, N. Gauthier

WEDNESDAY MORNING August 16

Moscone Ctr West Rm 3010

Chemical Intervention Technology to Improve Microbial Stability of Food

Cospons. AGRO, ANYL, ENVR Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community X. Fan, T. Jin, *Orgs.*, *Pres.*

8:00 Introductory Remarks.

8:05 Active polymers containing silver nanoparticles combined with active formulations based on essential oils: Quality effect on cereals and dairy products. **M. Lacroix**

8:30 Development of antimicrobial food packaging materials with electrospinning technology. **T. Jin**, L. Liu

8:55 Fabrication of antimicrobial packaging materials using natural polymers by coaxial- electrospray. **Z. Yi**, **Y. Wu**, R. Mu, T. Jin

9:20 Investigating chemical safety of a new N-halamine rechargeable antimicrobial coating for food processing equipment. **Y. Sapozhnikova**, R. Taylor, B. Demir, M. Qiao

9:45 Intermission.

10:00 Food safety applications of reversible guanylhydrazone antimicrobial agents. **W. Hart-Cooper**, J.H. Kim, J. Wilson-Welder, K. Orcutt, W.J. Orts

10:25 Antimicrobial efficacy of fatty acid amide derivatives for inhibition and reduction of *Listeria monocytogenes* and other bacterial strain. **O.M. Olanya**, Y. Hailemichael, R. Ashby, B. Niemira, D. Ukuku, S. Mukhopadhyay, J. Msanne, M.I. Sarker, X. Fan

10:50 Novelty of extraction of Rosmarinic acid from balm-mint

/lemon balm (*Melissa Officinalis*) using alkylation

hydrocarbons at retrogression temperature for the use as food preservative and treatment of chronic viral diseases. **S.N. Olatunji**

11:15 Concluding Remarks.

Moscone Ctr West Rm 3009

Renewable Polymer Materials: Preparation, Processing, Application, and Disposal L. Liu, *Org.* J. Zhan, *Org.*, *Pres.*

M. L. Robertson, *Pres.*

8:00 Introductory Remarks.

8:05 Lignin-based thermoset and composite polymers for the circular economy. **M.M. Abu-Omar**, M. Sanchez, P.C. Ford

8:35 Design of thermoset polymerization and materials for energy and environmentally efficient applications. **R.D. Allen**

9:00 Trojan horse repeat sequences for triggered chemical recycling of polyesters for films and bottles. **E.W. Cochran**, D. Dileep, T. Lee, M.J. Forrester, T. Wang, B.W. Kuehl, D. Finley, A. Ananin, G.A. Kraus

9:25 Degradable and thermally stable Spiro polycycloacetals from renewable resources. M. Shen, S. Vijjamarrri, H. Cao, F. Khakzad, Y. Tang, E. Enebeli, **M.L. Robertson**

9:50 Intermission.

10:05 Developing bio-based covalent adaptable network polymers with designed recyclability. **N. Yan**

10:30 Developing a roadmap for bio-derivable and recyclable composites: Re-design and scale- up considerations. **N. Rorrer**, E. Rognerud, M. Mcgraw, R. Clark, R.D. Allen

10:55 Natural epoxy oil (*Euphorbia* oil) polymerization in liquid carbon dioxide-green media. **Z. Liu**

11:20 Development of high-performance recyclable structural composites from vegetable oils. **B. Zhao**, Y. Cao, J. Zhang

11:45 Concluding Remarks.

Moscone Ctr West Rm 3011

Sustainable Agriceuticals Cospons. AGRO, ANYL, ENVR
Financially supported by Food Security: Tackling Hunger
Convergent Chemistry Community L. Liu, D. Ren, L. Yu, Orgs.
H. Kim, W. H. Yokoyama, Orgs., Pres.

8:00 Introductory Remarks.

8:03 . In vitro study of polymethoxyflavones (PMFs) from orange peel for their potential to inhibit trimethylamine (TMA) and trimethylamine-N-oxide (TMAO)-producing enzymes and reduce TMA/TMAO production. **Y. Wang**, H. Lee

8:23 . Elderberry fermentation promotes structural and metabolic changes to the gut microbiota. **L. Liu**, J. Firrman, A. Narrowe, K. Mahalak, J.M. Lemons, P. Van den Abbeele, A. Baudot, S. Deyaert, M. Slavin, L. Yu

8:43 . Interaction between extracts of black cumin, turmeric, and Ceylon cinnamon and the human gut microbiome. **K. Mahalak**, L. Liu, A. Narrowe, J. Firrman, J.M. Lemons, P. Van den Abbeele, A. Baudot, S. Deyaert, M. Slavin, L. Yu

9:03 . Human gut microbiome is rapidly and extensively altered by Senna sp. seed extracts. **A. Narrowe**, L. Liu, J. Firrman, K. Mahalak, J.M. Lemons, P. Van den Abbeele, A. Baudot, S. Deyaert, M. Slavin, L. Yu

9:23 . Monitoring the cellular response to whole food digests. **J.M. Lemons**, E.S. Friedman, D. Curry, F. Hao, A. Patterson, L. Liu, G.D. Wu

9:43 . 2'- Fucosyllactose modulates the function of intestinal microbiota to reduce intestinal permeability in mice colonized by feces from healthy infants. **B. Li**, Q. Chen, Z. Guo, R. Zhang

10:03 Intermission.

10:13 . Lactobacillus plantarum ZJUIDS04 alleviates DSS-induced colitis by regulating the immune response and modulating gut microbiota. C. Yu, Q. Ding, **D. Ren**

10:33 . Potential health benefits of upcycled romaine lettuce powder on metabolic syndrome. **E. Teran-Cabanillas**, K.F. Garcia Rocha, U. Osuna Martinez, W.H. Yokoyama, R. Avena Bustillos

10:53 . Potential of mealworm (*Tenebrio molitor* larva) protein: Improvement of its techno- and health functional properties via various extraction methods and purification. E. Oh, **Y. Kim**

11:13 . Prebiotic potential of water-soluble yellow mustard mucilage: Microbial evaluation on gut health promotion. **C. Fletcher**, Y. Wu

11:33 . Functionalized nanoclays as sustainable carriers for antimicrobials and pesticides. O. Prinz Setter, S. Sharma, H. Abu Hamad, N. Ivanir, **E. Segal**

11:53 Concluding Remarks.

Virtual Session

ACS Microbiome Consortium Kick off Symposium

L. A. Doherty, L. Liu, K. Mahalak, T. Wang, Orgs. M. Kobori, Org., Pres. W. Chen, Pres.

10:00 Introductory Remarks.

10:05 Investigating the molecular mechanism of anthocyanins in ameliorating type 2 diabetes and ulcerative colitis from the perspective of modulating gut microbiota composition and metabolites. **W. Chen**

10:50 Modulatory effects of tea consumption on gut microbiota and gut microbiota-related metabolites. **M. Zhu**, J. Huang, Z. Liu

11:10 Systematic evaluation of metabolites composition and antioxidant activity of anthocyanin-rich berry extracts subjected to gut microbiota fermentation. **L. Xie**, W. Chen

11:30 Development and utilization of lactic acid bacteria resources. **Z. Sun**, F. Zhao

11:50 Intermission.

12:05 Impact of gut microbiota on avenanthramide metabolite from whole grain oat intake. **S. Sang**

12:50 Gut microbiota, metabolites and pancreatic diseases. **J. Sun**

1:10 Akkermansia muciniphila-derived outer membrane vesicles alleviate ulcerative colitis by regulating the intestinal barrier. **T. Zheng**, **J. Li**, Y. Yao, Y. Liu, Q. Liu, **H. Yi**

1:30 Health effects of pectin: reshaping gut microbiota and circulating metabolites. **S. Nie**, H. Tan, L. Fan, Q. Wu, Q. Xiao, M. Chen

1:50 Concluding Remarks.

WEDNESDAY AFTERNOON

Moscone Ctr West Rm 3010

Chemical Intervention Technology to Improve Microbial Stability of Food Cospons. AGRO, ANYL, ENVR

Financially supported by Food Security: Tackling Hunger
Convergent Chemistry Community X. Fan, T. Jin, Orgs., Pres.
2:00 Introductory Remarks.

2:05 Photo-sensitive vitamin compounds as potential antimicrobial agents for food safety applications. **G. Sun**, Z. Zhang, L. Wang

2:30 Photodynamic inactivation of plant pathogenic fungus on fresh produce using food-grade plant-derived antimicrobials and sunlight. **Y. Kim**, C.H. Nguyen, A. El-Moghazy, H. Zhao, S. Wang, **N. Nitin**

2:55 Chlorine dioxide fumigation of fresh produce and nuts: microbial reduction and quality change. **X. Fan**

3:20 Intermission.
3:35 Combined effects of microencapsulated essential oils and γ -irradiation on microbiological and physicochemical properties of dry fermented sausages during ripening and storage. **M. Lacroix**

4:00 Withdrawn

4:25 NMR-based metabolomic investigation on antimicrobial mechanism of Salmonella on pea sprouts treated with Nanoemulsified basil essential oils and ultrasonic. **L. Zifei**

4:50 Development of bacteriophage added coating material to reduce Escherichia coli O157:H7 contamination in mushroom. **E. Evran**, E.K. Tayyarcin, I.H. Boyaci

5:15 Concluding Remarks.

Moscone Ctr West Rm 3011

Food Toxicants: Occurrence, Detection, Formation Mechanism and Mitigation Cospons. AGRO, ANYL, ENVR

Financially supported by Food Security: Tackling Hunger
Convergent Chemistry Community M. Appell, L. Yu, Orgs. X. He, L. Jackson, Orgs., Pres. B. Gao, Pres.

2:00 Introductory Remarks.

2:05 Detection and occurrence of PFAS in food and food packaging. **Y. Sapozhnikova**, R.B. Taylor, M. Bedi, C. Ng

2:25 Analysis of Alternaria and Fusarium toxins in cereals and cereal-based food products via LC-MS/MS. **F. Dick**, A. Dietz, M. Rychlik

2:45 Analysis of volatile compounds and α -dicarbonyl compounds in Robusta coffee by soaking with various amino acids, organic acids and monosaccharides. **K.G. Lee**

3:05 Differential induction of shiga toxin in environmental Escherichia coli strains. **M.Q. Carter**, X. He

3:25 Intermission.
3:40 Development of tools for mycotoxin analysis in foods. **K. Zhang**

4:00 Geographical discrimination of 94 geographically authentic wheat samples and non-targeted metabolomics of moldy wheat by ultra-performance liquid chromatography-

quadrupole time-of-flight mass spectrometry. **B. Gao**, M. Jin, **Y. Luo**, L. Yu
4:20 Using mass spectrometry and whole genome sequencing to relate shiga toxin production with stx phage induction in shiga toxin-producing *Escherichia coli* (STEC). **C.J. Silva**, B. Quiñones, B. Lee, B.A. Amézquita-López, M.L. Erickson-Beltran
4:40 Discussion.

Moscone Ctr West Rm 3009

Renewable Polymer Materials: Preparation, Processing, Application, and Disposal

L. Liu, J. Zhan, *Orgs.* M. Nejad, C. Tang, *Pres.*

2:00 Introductory Remarks.

2:05 Additive manufacturing advancing sustainability. **T.E. Long**, C. Barker, C.W. Weyhrich, R. Bean, J. Wen, G. Nayyar

2:35 Plant-based Biofoam to replace Styrofoam for temperature-controlled packaging applications. **X. Zhang**

3:00 Efficient production of aliphatic α,ω -dicarboxylic acids using mild aqueous catalytic oxidation of low-density polyethylene. **O. Davydovich**, D. Martinez, J. Salinas, R.D. Davis, E. Martinez, H. Choudhary, M. Kent

3:25 Biodegradability and antifungal property of nanosilver-imbibed cotton fabric. **S. Nam**, H. Tewolde, Z. He, K. Rajasekaran, J. Cary, G. Thyssen, C. Sickler

3:50 Intermission.

3:55 Lignin-based PU foams. **M. Nejad**, C. Henry, E. Acquah, K. Dunne

4:20 Graphene Quantum Dots Improve the Dispersion of Cellulose Nanocrystals and Thermo- mechanical Properties of High Density Poly(ethylene) based Composites. S. Chanda, **D.S. Bajwa**, S.G. Bajwa, C. Ryan

4:45 Strong and ultrafast healing lignin-based copolymer elastomers via a grafting strategy. **Y. Zhang**, Y. Ou, J. Huang

5:10 Uniform, size controllable, and pH-sensitive protein microgels as efficient aqueous bio- lubricants: a soft ball-bearing mechanism study. **Y. Chu**, L. Chen

5:35 Antimicrobial, catalytic and thermophysical applications of internally synthesized Cu₂O nanoflowers in cotton fibers. **M.B. Hillyer**, S. Nam, J.H. Jordan, M.W. Easson, C. Madison, D. Hinchliffe

THURSDAY MORNING August 17

Moscone Ctr West Rm 3011

Food Toxicants: Occurrence, Detection, Formation Mechanism and Mitigation

Cospons. AGRO, ANYL, ENVR
Financially supported by Food Security: Tackling Hunger
Convergent Chemistry Community X. He, L. Jackson, *Orgs.*

M. Appell, L. Yu, *Orgs.*, *Pres.*

W. Zhu, *Pres.*

8:00 Introductory Remarks.

8:05 Thermostability modification of zearelenone lactonase by two different methods. **W. Xu**, B. Ouyang, W. Mu

8:25 Baseline determination of azole-resistant aspergilli in California farms: Correlation between azole resistance and aflatoxin production. **J.H. Kim**, K.L. Chan, D. Ford, S.L. Sarreal, J.D. Palumbo

8:45 Dilute-and-shoot quantification of As, Cd, Pb, Be, Ni, Co, Cu, Mn, Se, Zn, Ba, Ag, and V in fruit juices by ICPMS based on matrix overcompensation calibration. **G. Chen**, B. Lai

9:05 Technologies for the detection of bacterial and plant toxins that impact food safety and security. **C. Tam**, P. Alves, L.H. Stanker, L. Cheng

9:25 Intermission.

9:40 Chlorothalonil induces metabolic syndrome in mice by regulating host gut microbiota and bile acids metabolism via

FXR pathways. **W. Zhu**

10:00 Chemopreventive effect of natural dietary compounds on food-borne toxicants induced colon carcinogenesis. **M. Pan**

10:20 Effects of sulfonation on metabolic fate of deoxynivalenol in nursery pigs. **W. Mosher**, D. Yao, R. Faris, M. McGhee, C. Chen

10:40 Discussion.

Moscone Ctr West Rm 3012

Oat Bioactives and their Health Benefits

C. Hu, *Org.* Y. Chu, S. Sang, *Orgs.*, *Pres.*

8:00 Introductory Remarks.

8:05 Pharmacokinetics of novel biomarkers of oat intake after single and repeated intakes of liquid and solid oat products. M. Armeni, R. Fristedt, N. Jansson, O. Savolainen, **R. Landberg**

8:40 Oats lower biological age in adults at risk for cardiovascular disease. **Y. Chu**

9:05 Oat protein modulates cholesterol levels and improves cardiac systolic function in high- fat, high-sucrose fed rats. **S. Joseph**

9:30 Phytochemical-rich sprouted oats as a novel functional food to attenuate gut inflammation. **P. Lee**, J. Hu, S. Sang

9:55 Intermission.

10:15 Germination and false germination increase the levels of bioactive steroidal saponins in oats. **J. Hu**, C. Hu, Y. Zhao, S. Sang

10:40 Assessing the impact of nitrogen supplementation in oats across multiple growth locations and years with targeted phenotyping and high-resolution metabolite profiling approaches. **W. Allwood**, P. Martinez-Martin, Y. Xu, A. Cowan, S. Pont, I. Griffiths, J. Sungurtas, S. Clarke, R. Goodacre, A. Marshall, D. Stewart, C. Howarth

11:05 Variations in avenanthramide concentration in oats. **L. Malunga**

Moscone Ctr West Rm 3018

Renewable Polymer Materials: Preparation, Processing, Application, and Disposal

J. Zhan, *Org.* L. Liu, *Org.*, *Pres.* L. Jiang, *Pres.*

8:00 Introductory Remarks.

8:05 Bioorthogonal protein engineering. **Y. Ito**

8:35 Development of soy protein-based hydrogels for a wide range of applications. **L. Jiang**, Q. Ma, R.S. Hazra

9:00 Zinc-coordinated chitosan nanocrystal for quercetin delivery. **P. Ma**, Q. Wang, C. Wei

9:25 Utilization of hemp biomass waste: Physicochemical properties of protein isolated from leaves, flowers, and stems of industrial hemp after cannabidiol extraction. **J. Crew**, **Y. Wu**

9:50 Intermission.

10:05 Fabrication of Bio-based multiple-functional materials for a beneficial food-energy-water nexus. **Z. Tong**

10:30 Oxidized chitin nanocrystals-enhanced colorimetric sensor array for accurate monitoring of beef freshness combined with deep learning models. **X. Jia**, P. Ma, Q. Wang

10:55 Modified cellulose nanocrystals as functional nanofillers for antibacterial food packaging. **Y. Wang**, S. Huang

11:20 Influence of pH, ethanol content, ionic environment, and casein concentration on electrosprinnability of casein dispersions. **D. Sharma**, G.R. Ziegler, F.M. Harte

11:45 Concluding Remarks.

Moscone Ctr West Rm 3016

Smart Food Safety

Cospons. AGRO, ANYL, ENVR
Financially supported by Food Security: Tackling Hunger
Convergent Chemistry Community X. Lu, R. Yada, *Orgs.*, *Pres.*

8:00 Introductory Remarks.

8:05 Non-targeted analysis using high-resolution mass spectrometry as a smart and innovative tool to assess the safety of food contact materials. **S. Bayen**, B. Hales, C. Goodyer, Z. Xu, L. Tian, L. Liu

8:45 EpCAM : Eco-friendly, Polymer-based nanozyme integrated with colorimetric sensing platform for agricultural biomolecule detection. **D. Lee**, M. Kamruzzaman

9:15 Phage-based nanobots to recognize, separate, and concentrate bacteria for food and water safety. C.M. Carmody, **S.R. Nugen**

9:55 Probiotic biopolymer-based encapsulation enhances limonene oil stability and antimicrobial efficacy. **S. Balyan, N. Dhowlaghar**, B.S. Patil

10:25 Point-of-need microfluidic device to safeguard food integrity. **Y. Hu**, X. Lu, Y. Chen

11:05 Panel Discussion.

11:25 Concluding Remarks.

Moscone Ctr West Rm 3009

Sustainable Agriceuticals

Cospons. AGRO, ANYL, ENVR Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community H. Kim, L. Liu, D. Ren, W. H. Yokoyama, *Orgs.* L. Yu, *Org.*, *Pres.* J. Firman, *Pres.*

8:00 Introductory Remarks.

8:03 . Effect of polyphenol extract-derived postbiotics on microbiota dysbiosis in HF-induced obese mice. **H. Kim**, K. Seo, H. Youn

8:33 . Macro and nanocapsules of essential oil in the protein/pectin system stabilized by ultrasound. S. Alieva, G. Kodirova, J. Bobokalonov, Z. Sherova, **Z. Muhidinov**

8:53 . Multi-crosslinked hydrogels with multi-functions for seawater-immersed wound healing. **X. Shi**, Y. Lv, J. Yang

9:13 . Chemical composition of honeysuckle (*Lonicerae Japonicae*) extracts and their potential in preventing COVID-19 and scavenging free radical capacities. **B. Gao, H. Chen**, L. Yu

9:33 . Associations of diet quality, mediating metabolomics, with frailty and sarcopenia: Findings from the UK biobank. **Z. Chen**

9:53 Intermission.

10:03 . Combination of cinnamon bark and astragalus extracts reduces metabolic dysfunction and improves microbiome composition in mice fed high-fat diets. H. Kim, P. Alves, **W.H. Yokoyama**

10:33 . Milk fat globule membrane regulates the physicochemical properties and surface composition of prepared infant formula powders by improving the stability of the emulsion. Q. Chen, F. Xiang, X. Ma, **B. Li**

10:53 . Identification of exposure biomarkers for apple consumption by targeted metabolomics approach. **J. Yu**, Y. Zhu, W. Wang, S. Sang

11:13 . Changes in functional properties of eggplant during pickling process using fermented rice bran. H. Kamo, **Y. Ogawa**

11:33 . Whey protein hydrolysate alleviated atherosclerosis and hepatic steatosis by regulating lipid metabolism in apoE-/- mice fed a Western diet. K. Wang, **Y. Tan**

11:53 Concluding Remarks.

Moscone Ctr West Rm 3010

ACS Microbiome Consortium Kick off Symposium

L. A. Doherty, M. Kobori, L. Liu, K. Mahalak, T. Wang, *Orgs.* A. Narrowe, I. Pantoja Feliciano, *Pres.*

8:00 Introductory Remarks.

8:05 Algorithms and analysis approaches in microbiome research. **W. Zeng**

8:50 Sudden change in diet acutely affects the gut microbiome response after an in vitro resistant starch supplementation. **I. Pantoja Feliciano**, J. Karl, M. Perisin, L.A. Doherty, H. McClung, N. Armstrong, R. Renberg, K. Racicot, T. Branck, S. Arcidiacono, J.W. Soares

9:10 Deciphering diet-microbiota interactions by integrating metabolomics and metagenomics with topological data analysis. **L. Guthrie**, J. Sonnenburg

9:30 Chemistry in the rhizosphere: Using fabricated ecosystems and exometabolomics to match plants with beneficial microbes. **T. Northen**

9:50 Intermission.

10:00 Microbiome data augmentation using deep learning models. **L. Zhang**

10:20 Applying metagenomic sequencing to decipher the human gut microbiome. **M.R. OIm**, D. Dahan, B. Merrill, M. Carter, J. Sonnenburg

10:40 Interplay between gut microbiota and curcumin. **M. Luo**, H. Xiao

11:00 Identification, distribution and structural diversity of Fusarium molecules with potential to modulate plant-microbiome interactions. **H. Kim**, G. Hao, C. Andorf, R. Proctor

11:20 Towards gut microbiome-based precision dieting: understanding interindividual variations in resveratrol hydrogenation through a gut bacterial pathway. **Y. Wu**, F. Li, H. Xiao

11:40 Impact of antibiotic ivermectin on the gut microbial community. **L. Liu**, K. Mahalak, A. Narrowe, J. Firman, J.M. Lemons, P. Van den Abbeele, A. Baudot, S. Deyaert

Moscone Ctr West Rm 3020

General Papers

J. Beauchamp, J. W. Soares, *Orgs.*, *Pres.*

8:00 Introductory Remarks.

8:05 Integrative approaches for identifying bitter-tasting compounds. **V. Somoza**

8:25 Structural elucidation, anti-inflammatory activity and intestinal barrier protection of longan pulp polysaccharide. **Y. Bai**

8:45 Predictive Breeding for Wine Quality: From Sensory Traits to Grapevine Genome. **U. Fischer**, J. Vestner, A. Siebert, F. Schwander, F. Röckel, T. Heinekamp, L. Frenzke, S. Wanke, T. Wenke, R. Töpfer

9:05 Replacing shortening with high oleic soybean oil oleogels in bakery products: Impact on dough properties and quality of baked goods. **M. Zhao**, B. Chen

9:25 Chemical composition of pyrolyzed vegetation foliage utilizing a pyro probe coupled to two-dimensional gas chromatography. **R.K. Moore**

9:45 Intermission.

10:00 Conformational Epitope of important peanut allergens Ara h 5 is the dominant epitope triggering allergies. **J. Wang**, M. Hao, Q. Wang, H. Che

10:20 New LC-HRMS method for the simultaneous determination of 67 phenolic compounds in Canadian prairie berries to introduce them as a potential source of bioactive compounds. **C. Kodikara**, S. Sura, N. Bandara, T. Netticadan, C. Wijekoon

10:40 Flavor elucidation and simultaneous quantitation of key tastants and odorants of sourdough bread crumb. **L.S. Eckrich**, O. Frank, C. Dawid, T. Hofmann

11:00 Mechanochemical extraction of protein from moor grass. **O. Olalere**, H. Leese, C. Chuck, B. Castro Dominguez

11:20 Preservation of food by isochoric (Constant volume) freezing. **C. Bilbao-Sainz**, B. Chiou, T. McHugh, B. Rubinsky, V. Wu

11:40 Electrochemical lab-on-kitchen approach towards combinatorial testing for food contaminants. **D. Poudyal**, V. Dhamu, M. Samson, S. Muthukumar, S. Prasad

Virtual Session

General Papers J. Beauchamp, J. W. Soares, *Orgs., Pres.*

10:00 Introductory Remarks.

10:05 Molecular assessment of metabolome alterations in *Lotus japonicus* roots induced by arbuscular mycorrhiza. **J. Ranner**, M. Paries, G. Stabl, C. Gutjahr, T.D. Stark, C. Dawid

10:25 Nutrients characteristics of the leaf, stem and root of *Eclipta prostrata* (L) . O.O. Onawumi, **A. Sodamade**, O.A. Onawumi, D.L. Abiona

10:45 Evaluation of the light stability of anthocyanins extracted from blackberry (*Rubus* spp) using a natural, deep eutectic solvent. **O. Zannou**, I. Koca, S. Ibrahim

11:05 Fatty acids and derivatives inhibit the spore germination of the barley pathogen *Drechslera teres* : An activity-guided search for natural pathogen resistance. **K.M. Hille**, T.D. Stark, A. Rexhaj, P. Gläser, F. Hohenender, H. Hausladen, A. Vlot, T. Hofmann, R. Hüchelhoven, C. Dawid

11:25 Investigation of allergy prevalence and cross-sensitization in China: a survey based on self-reported and clinical testing data. **W. Xiong**, **H. Che**, **M. Zhang**, **T. Meng**, **Y. Liu**

11:45 Intermission.

12:00 Formation of amino acid derivatives during wine fermentation. **C. Yilmaz**, V. Gökmen

12:20 Saltiness enhancement in commercial soups and sauces using pyroglutamyl peptides. **O. Sahni**, J.P. Munafa

12:40 Predicting the baking quality of wheat using protein analytical and functional parameters. C. Schuster, J. Huen, **K. Scherf**

1:00 Characterization of odorants in dried and rehydrated lobster mushrooms. **T. Nguyen**, J.P. Munafa

1:20 Substantial equivalence of tobacco products: are all tobacco products of the same type substantially equivalent? Examples of equivalence and nonequivalence among waterpipe tobaccos. **J.H. Lauterbach**

1:40 Development and validation of a food frequency questionnaire for adults in Fiji to estimate nitrate and nitrite intake. **A.A. Chetty**, J. Lal, S. Prasad

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

Sun. August 13	noon-1:00pm	Special Topic Meeting	Moscone Ctr. West Level 3 Overlook 4
Sun. August 13	7:00pm-9:00pm	Poster Session & Reception	Moscone Ctr. South Gen. Exhibit Hall F
Mon. August 14	noon-1:00pm	Future Programs	Moscone Ctr. West Level 3 Overlook 4
Mon. August 14	5:00pm-8:00pm	Executive Committee	Moscone Ctr. West Room 2024
Tues. August 15	6:00pm-8:30pm	Awards Banquet	Fogo de Chao (see cover for more info)
Wed. August 16	noon-1:00pm	Business Meeting	Moscone Ctr. West Room 2024