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.

PAGE   CONTENTS
2 Message from the Chair
3 Future AGFD programs
4 Executive committee meeting minutes
7 In Memorium – Jim Seiber
8 Puzzle page
8 AGFD Membership application - join the team!
10 Roster of AGFD officers and committee leadership
11 Award News
13 Special topics meeting minutes
14 AGFD technical program
next to last page Other symposia of interest cosponsored by AGFD
back page Schedule of technical, business and social meetings

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
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

CORNUCOPIA EDITORIAL STAFF & CONTACT INFORMATION

<table>
<thead>
<tr>
<th>Editor-in-Chief</th>
<th>C. Frey    <a href="mailto:cfreyenterprise@gmail.com">cfreyenterprise@gmail.com</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Manager</td>
<td>P. White</td>
</tr>
<tr>
<td>Staff</td>
<td>C. Kent, L. Lane, J. Olsen</td>
</tr>
</tbody>
</table>

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@mit.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 qrao@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

continues on next page
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 McGorrin  robert.mcgorrin@oregonstate.edu

Micro/Nanoplastics in Food and the Need for Developing Biodegradable Polymers  
Changejing Wu  changwu@udel.edu  Xuetong Fan  Xuetong.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.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


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 $7,447,53. 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

continues on next page
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 Xiaonian 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, FIPT, 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 Nicholas Appert.

The **Journal Report** was given by Lucy Yu. The chosen JAF-C-AGFD best article of the year was titled “Sweet Biotechnology: Enzymatic Production and Digestibility Screening of Novel Kojibiose and Nigerose Analogues” by authors Shari Dhae, 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.

LiShu 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, Ill. 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**.
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

From the Spring 2023 AGFD Chair’s Reception (photo credit G. Tunick)
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

ACROSS
1 Hey, listen to this! 43 Fluent in three languages
2 R2-D2 or C-3PO 46 Sporty Audi 2 seaters
3 Scanning pros 47 We should definitely do it
4 Target of Salk vaccine 48 __-tiller or __-Rooter
5 _ of Two Cities 50 Wile Coyote’s supper
6 Nightmare on __ Street 53 Levi’s Stadium NFL team
7 Show jubilation 55 Classic peanut butter taffy
8 End of semester test or black strapped shoes 59 What the middle letter of
9 Motor__ or Victr__ 60 We should definitely do it while you drive
10 Business card abbrev. 61 Don’t do this while you drive
11 Don’t do this while you drive 62 A holiday’s night before
12 BBs or snowballs 63 Just love to bits
13 BBQ side dish 64 More confident
14 Target of Salk vaccine 65 ‘98 film: Waking Devine
15 _ of Two Cities 66 Mount, as a horse
16 Show jubilation 67 Portray emotion on stage
17 Board game with a rope 17 EMT safety equipment
18 End of semester test 40 Old expression of disgust
19 NL team of Oracle Park 41 Explosive C?H3N?Os
20 Doubled 44 Out of bed
21 Pecan or almond 45 ‘Man of 1000 Faces’ Chaney
22 Dudley Do–Right org. 49 Present or past for example
23 Theater candy: __-Caps 50 You said it, Brother
24 Realistic 51 Spelunker’s realm
25 Chicken Chow __ 52 Droll TV horse of the ‘60’s
26 Chromosome protein support or greeting to Jagger and Richards
27 Annual award from ESPN 53 He fiddled while Rome burned
28 Highest point of Mt. Kilimanjaro
29 Highest point of Mt. Kilimanjaro
30 Like xenon, neon or argon
31 High tech home to Apple, Google & Meta
32 Acts of strength and skill
33 Annual award from ESPN
34 High end pen: __ Blanc
35 Cribbage board inserts

DOWN
1 EMT safety equipment 31 Like xenon, neon or argon
2 Red or White of MLB 32 Acts of strength and skill
3 Slimy shell-less mollusk 33 Annual award from ESPN
4 High tech home to Apple, Google & Meta 34 High end pen: __ Blanc
5 Complete. Sum up. 37 Cribbage board inserts
6 Huck Finn or Tom Sawyer 38 Harvest wheat or rye
7 Elisha of ups and downs 39 Definitely before.
8 Outlaw. Forbid. 40 Old expression of disgust
9 Motor__ or Victr__ 41 Explosive C?H3N?Os
10 Business card abbrev. 44 Out of bed
11 Don’t do this while you drive 45 ‘Man of 1000 Faces’ Chaney
12 BBQ side dish 49 Present or past for example
13 BBs or snowballs 50 You said it, Brother
14 Target of Salk vaccine 51 Spelunker’s realm
15 _ of Two Cities 52 Droll TV horse of the ‘60’s
16 Nightmare on __ Street 53 He fiddled while Rome burned
17 Show jubilation 54 AL MLB player from ‘oustan
18 End of semester test 55 Classic peanut butter taffy
19 NL team of Oracle Park 59 What the middle letter of
20 Doubled 60 We should definitely do it while you drive
21 Pecan or almond 61 Don’t do this while you drive
22 Dudley Do–Right org. 62 A holiday’s night before
23 Theater candy: __-Caps 63 Just love to bits
24 Realistic 64 More confident
25 Chicken Chow __ 65 ‘98 film: Waking Devine
26 Chromosome protein support or greeting to Jagger and Richards
27 Annual award from ESPN 66 Mount, as a horse
28 Highest point of Mt. Kilimanjaro
29 Highest point of Mt. Kilimanjaro
30 Like xenon, neon or argon
31 High tech home to Apple, Google & Meta
32 Acts of strength and skill
33 Annual award from ESPN
34 High end pen: __ Blanc
35 Cribbage board inserts

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

<table>
<thead>
<tr>
<th>APPLICATION FOR AGFD DIVISION MEMBERSHIP (7623P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
</tr>
<tr>
<td>Name</td>
</tr>
<tr>
<td>1st address line</td>
</tr>
<tr>
<td>2nd address line</td>
</tr>
<tr>
<td>City</td>
</tr>
<tr>
<td>State</td>
</tr>
<tr>
<td>Zip code</td>
</tr>
<tr>
<td>Country</td>
</tr>
<tr>
<td>e-mail address</td>
</tr>
<tr>
<td>Phone</td>
</tr>
</tbody>
</table>

check one

<table>
<thead>
<tr>
<th>MEMBERSHIP FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] I am an ACS member and wish to join AGFD ($10.00)</td>
</tr>
<tr>
<td>[ ] I am not an ACS member and wish to join AGFD ($15.00)</td>
</tr>
<tr>
<td>[ ] I am a full-time student and wish to join AGFD ($10.00)</td>
</tr>
</tbody>
</table>

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
Chair - Serves 1 year. Preside over Division meetings & appoint committees
Jonathan Beauchamp
Franhufer Institute
jonathan.beauchamp@jivv.franhufer.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 Sensent Flavors & Extracts
Elizbeth.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 Tunic (thru ’24) mht39@drexel.edu

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

Student Activities - Attract and retain graduate/undergraduate student memb. 
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) cadwllkr@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) J.LelandEnterprises@gmail.com
Robert McGorrin (thru ’23) Robert.mcgorrin@oregonstate.edu
Rosso Park (thru ’24) rossoo.park@ars.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

Tereanishi 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 n.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 daxren@zju.edu.cn
Ch-elect, Hyunsook Kim
Hyunsik15@hanyang.ac.kr
V-Chair, Yuzhu Zhang
yuzhu.zhang@usda.gov
Secretary, Ying Wu ywu@tnstate.edu

Food Bioengineering Sub.Div.
Chair, Majher Sarker
m.j.sarker@usda.gov
Chair-Elect, Kwang-Guen Lee
kkglee@dongguk.edu
Vice-Chair, Hong Sik Hwang
hongsik.hwang@usda.gov
Secretary, Changjin Wu
changwu@udel.edu

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

Food Safety Sub.Div.
Chair, Reuven Rasooly
reuven.rasooly@ars.usda.gov
Chair-Elect, Xionan Lu
xiaonan.lu@mcgill.ca
V.Chair, Boyan Gao
gaoboyan@sjtu.edu.cn

Functional Food/ Nat. Product SubDiv.
Chair, Jianping Wu jwu3@ualberta.ca
Chair-Elect, Kenny Xie KYX@usop.org
V-Chair, Yingdong
Zhu,yzhu1@ncat.edu
Secretary, Khizar Hayat
khizaraura@gmail.com

Chair, Karley Mahalak
Karley.mahalak@usda.gov
Chair-elect, Laurel Doherty
Laurel.a.doherty.civ@mail.mil
Vice-Chair Ida Pantoja-Feliciano
Iida.g.pantojafeliciano.civ@mail.mil
Secretary Tom Wang,
Tom.wang@usda.gov

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 “Wumi” 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 back raspberry seeds, free radical generation and mediation 3-MCPD diesters from diacylglycerol under high temperature and low moisture conditions, and Fe²⁺/Fe³⁺ 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.

continues on next page
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 xʷməθkʷəy̓əm 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

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)

The team of 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 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, Xiawei Guo, Xilang Yang, Xinqu 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. continues on next page
AND MORE AWARD NEWS

Fereidoon Shahidi, Ph.D., FACS, FAGFD-ACS, FAOCS, FCIC, FCIFST, 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

Xuetong Fan, Ph.D., USDA Lead Scientist/Research Food Technologist, is now an IFT Fellow. Dr. Xuetong 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


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.
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 McGorrin 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.

---

**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**

- **Introductory Remarks.**
- **Advanced monitoring and control of wine fermentations: Redox potential.** R. Runnebaum
- **Winemaking practices to alter thiol and ester production in Chardonnay wines and impact to tropical fruit aroma perception.** E. Tomasinino, 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**


**Moscone Ctr West Rm 3011**

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

- **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

SUNDAY AFTERNOON
Moscone Ctr West Rm 3010
Chemistry of Wine - Wine Chemistry Measurements
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
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
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
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. Peitire, 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/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 soy milk 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


SM12 Citrus pesticides unmasked: A surprising discovery on their effect on heathland ladybird chilicorus bipustulatus. A. Kaspi-Kaneti, S. Singh, A. Protasov, R. Kaspi


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


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 Internationl bitterness units (IBU) study of bravo hop. B. Bartholomew, M.B. Jacobs

SM24 Reactivity and mechanism of glucose oxidoreductase DpdA 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


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


SM31 Production of soybean protein concentrates with enhanced nutrient profile. R. Anowar, L. Gurrala, A. Morais


SM33 Residual characteristics of Sulfoxaflor in Dendranthera zawadskii and changes in the content of flavonoids. Y. Kim, K. Hwang, S. Ka, h. park, S. Choi, H. Jeong, J. Moon


SM36 Encapsulating peppermint essential oil in chitosan particles to reduce 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. Kouhyieh

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 fucóxanthis 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 Narirutin-rich Cellulostar extract from mandarin (Citrus unshiu) peel with anti-obesity potential. S. Im, H. Kang, W. Kim, S. Lee
7:00 Fucoidan 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. EunBeen, 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. EunBeen, L. Chae Yeon, I. Moo-Hyeog, K. Seo Hwang, 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. EunBeen, 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. Ssekubwa, M. Twweho
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 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. Tsolakiou, M.A. Gkereou, 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. Reed
7:00 Sensitive and specific electrochemical Nano-biosensor for monitoring of bacterial contamination in wash water of fresh produce. A. El-Moghazy, N. Wisuthphaet, N. Ntit
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. Kaspuitis, R.C. Wright, J. Chen
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 Straiightforward 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. Audeaenart, W. Desmedt, C.V. Stevens, S. Mangelincx
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. García, T.T. Tran, J. Jung, D.C. Cerrato, L.R. Lim, M.H. Penner, Y. Zhao, E. Tomasoni
7:00 Simultaneous prediction of beta-carotene, anthocyanins, and phenolics in sweet potatoes by near-infrared spectroscopy. M. Allan, R. Ibrahem, S.D. Johannsmeier, 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 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 cocopalm (Chrysobalanus icaco L) seed oil using GC-FID, FTIR, and GC-MS instrument: Extractions, physicochemical and phychochemical 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. Elmakk, 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
8:00 Introductory Remarks.
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
11:20 Concluding Remarks.

Moscone Ctr West Rm 3011
Advances in Food Chemical Informatics, Knowledge Bases and Databases
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. T imm
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&acute;rez Mecardo, 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
11:40 Discovery framework for natural food chemical activities. D. Biber, J. Duerksen, B. Foote, D. Wild, B.D. Guthrie
11:55 Concluding Remarks.

Moscone Ctr West Rm 3009
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. Luckett, D. Zhao
9:35 Biotechnological production of dihydromenthofurolactones 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
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 bunched 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
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
2:00 Introductory remarks.
2:05 Withdrawn
2:30 Intermission.
2:55 Chemistry of puerarin metabolism by human gut bacterium. J. Han
3:45 Intermission.
4:10 Identification of compounds contributing to the umami and bitter attributes of pea protein isolates. P. Ongkowijoyo, 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
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-Pyrene-4,6-Dicarboxylic Acid (PDC) from lignocellulosic biomass. C. Sener, S.D. Karlen, C. Maravelias, J. Ralph, T.J. Donohue, D. Nogueira
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
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-
Virtual Session

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

Cosponsored by ANFLY, ENVR. Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community


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. Eischied, 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


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 Bockstael, 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 Meeran

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 D-UHT 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/HE-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 arbucular myorrhiza. J. Ranner, M. Paries, G. Stabl, C. Gutjahr, T.D. Stark, C. Dawid

TUESDAY MORNING August 15

Moscone Ctr West Rm 3010

JAFc Best Paper and AGFD Young Scientists Awards Symposium


8:00 Introductory Remarks.

8:05 Introduction: JAFc Best Paper Award.


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
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
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
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
10:45 Selection of qPCR reference gene for human colon cancer cells in cottonseed bioactive research. H. Cao, K. Sethumadhavan
11:05 Concluding Remarks.

Bioproducts from Biomass
H. Ngo, B. Sharma, Orgs.
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. Toth
10:45 Assay-guided isolation, structural elucidation, and action mechanisms of anti-inflammatory compounds in papaya leaves. Y. Cao, X. Wang, D. Huang
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 vermimanure 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
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 agriculturalcs. X. Li, S. Wang
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-collitis activity of Faecalibacterium prausnitzii 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


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


3:50 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 and their interactions. J. Firman


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


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


3:00 Introductory Remarks.


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. Widrell, R. Slizyte, A. Kumari

6:05 Concluding Remarks.

Virtual Session

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


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 SIEF4A2 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 ovariecomitated 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 glycoendurins extracted from Porphyra haitanensis by different extraction methods. O. Yujia, B. Cheng

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. Xueilang

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
8:15 Surface modifications of Pediciococcus 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 Ocylensuccinatodastria 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 speciosa) applying experimental and computational tools. L. Nitsch Velasquez
12:00 Quality evaluation of artificially cultivated Atractyloides 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. Itomi, 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. Fecco, 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 amphotiplicity 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
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 electrospraying 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 guanylylhydrazone antimicrobial agents. W. Hart-Cooper, J.H. Kim, J. Wilson-Welder, K. Orcutt, W.J. Orts
10:50 Novelty of extraction of Rosmarinic acid from balm-mint /lemon balm (Mellissa 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
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
9:50 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. Rorner, 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
Lui, D. Ren, L. Yu, Orgs.
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. W. Yang, H. Lee
9:23. Monitoring the cellular response to whole food digestes. 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 ZJUISD04 alleviates DSS-induced colitis by regulating the immune response and modulating gut microbiota. C. Yu, Q. Ding, D. Ren
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
11:53 Concluding Remarks.

Virtual Session

ACS Microbiome Consortium Kick off Symposium
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 metabotype 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. N. Sie, 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
2:00 Introductory Remarks.
2:05 Photo-sensitive vitamin compounds as potential antimicrobial agents for food safety applications. G. Sun, Z. Zhang, L. Wang
2:55 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 metabolic 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. Tayyarcan, 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
2:00 Introductory Remarks.
2:05 Detection and occurrence of PFAS in food and food packaging. Y. Sapochnikova, 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-dicarboxyl 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
4:40 Discussion.

Moscone Ctr West Rm 3009
Renewable Polymer Materials: Preparation, Processing, Application, and Disposal
2:00 Introductory Remarks.
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
3:50 Intermission.
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

THURSDAY MORNING August 17
Moscone Ctr West Rm 3011
2:30 Introductory Remarks.
2:35 Intermittent fasting increases egg production and fertility in male Drosophila. Z. Tong
2:55 Effects of intermittent fasting on egg production and fertility in female Drosophila. Z. Tong
3:15 Methods for improving male and female fertility in Drosophila melanogaster. Z. Tong
3:35 Nutritional effects of intermittent fasting on egg production and fertility in Drosophila melanogaster. Z. Tong
3:55 Improving egg production and fertility in Drosophila melanogaster through intermittent fasting. Z. Tong
4:15 Concluding Remarks.

Moscone Ctr West Rm 3012
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
11:05 Variations in avermectin concentration in oats. L. Malunga

Moscone Ctr West Rm 3018
8:00 Introductory Remarks.
8:05 Biorthogonal 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 electrospinnability of casein dispersions. D. Sharma, G.R. Ziegler, F.M. Harte
11:45 Concluding Remarks.

Moscone Ctr West Rm 3016
Smart Food Safety Cosponsors. 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. Dhoulaghbar, 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 Agriculture

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
9:33 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
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

8:00 Introductory Remarks.
8:05 Algorithms and analysis approaches in microbiome research. W. Zeng
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. Olm, 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

Moscone Ctr West Rm 3020

General Papers

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
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. Wijkewoon
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 Mechanoschemical extraction of protein from moor grass. O. Olatere, 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

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. David
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, O.A. Koca, S. Ibrahim

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. Yılmaz, V. Gökmen
12:20 Saltiness enhancement in commercial soups and sauces using pyroglutamyl peptides. O. Sahni, J.P. Munafò
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. Munafò
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

OTHER SYMPOSIA OF INTERCOSPONSORED BY AGFD
Adapting Agricultural Chemistry and Practices to a Changing Climate Spons. AGRO. Cospons AGFD, ANYL, CELL, ENFL, ENVR, TOXI
Agrochemical Formulations and Application Technology: Challenges and Innovation Spons. AGRO. Cospons. AGFD, COLL
AGRO International Award: Symposium in Honor of Dr. Thomas M. Stevenson for His Contributions to the Discovery of New Fungicides, Herbicides and Insecticides Spons. AGRO. Cospons AGFD, ANYL, ENVR, ORGN
Biorational Technologies for Control of Invasive Pests in a Changing Climate Spons. AGRO. Cospons. AGFD, ANYL, ENVR, ORGN
Early Career Symposium: Harnessing Chemical Ecology to Achieve Food Security Spons. AGRO. Cospons. AGFD, ANYL, BIOT, ENVR
Electrified Water Treatment Processes Spons. ENVR. Cospons. AGFD, CATL
Electrocatalysts and Electrochemical Processes for Water Reuse Spons. ENVR. Cospons. AGFD, AGRO, ANYL
Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals Spons. AGRO. Cospons AGFD, ANYL, ENVR
Environmental Monitoring Data Collection, Utility, and Use in Pesticide Risk Assessment and Registration Spons. AGRO. Cospons AGFD, ANYL, ENVR
Epidemiology: A Growing Field in Agrochemistry and Agrochemical Regulation Spons. AGRO. Cospons. AGFD, CHAL, ENFL, TOXI
Extracting and Engineering a Lifetime of Accomplishments: Honoring the Career of Dr. Jerry King Spons. CHAS, Cospons. AGFD, ANYL, CCS, I&EC
Innovative Materials for Environmental Sustainability Spons. ENVR. Cospons. AGFD, AGRO, ANYL
Materials Development to Address Environmental and Sustainability Challenges Spons. ENVR. Cospons. AGFD, AGRO, ANYL
New Strategies in Process Research and Development in Crop Protection Spons. AGRO. Cospons. AGFD, ANYL, ENVR
Pesticide Runoff Mitigation: Characterization, Quantification, and Implementation Spons. AGRO. Cospons. AGFD, ENVR
Portable and Compact Separation Technologies Spons. ANYL. Cospons. AGFD, AGRO, ENVR
Residue Analysis of Plant Protection Products - Advancements in Analytical Methodologies Over the Decades Spons. AGRO. Cospons. AGFD
Role of Chemistry in Addressing Hunger and Food Security Spons. AGRO. Cospons. AGFD, ANYL, CEI, CONS, ORGN
Technological Solutions to Address Food Insecurity, Trade Challenges and Food Waste Spons. AGRO. Cospons. AGFD, ANYL, ENVR, ORGN
Trace Analysis of Substances of Concern (SoC) for Safer Materials Spons. ANYL. Cospons. AGFD, AGRO, ENVR
Transitioning from the Laboratory to the Landscape: Challenges and Opportunities Spons. AGRO. Cospons. AGFD, ANYL, ENVR, TOXI
Uses of HPLC-Mass Spectrometry in Support of Agricultural Research and Development - Trends and Best Practices Spons. AGRO. Cospons. AGFD, ANYL, ENVR
Wildfires: Chemistry and Environmental Impacts on Air, Water, and Soil Spons. ENVR. Cospons. AGFD, AGRO, ANYL, CEI, TOXI
Zero Waste Strategies: Valorizing Undervalued Agricultural Coproducts and Food Waste Spons. AGRO. Cospons. AGFD, ANYL, BMGT, ENFL, ENVR

Mark March 17 - 21, 2024 on your calendar for the 267th ACS National Meeting in NEW ORLEANS
### Schedule of Technical, Business and Social Meetings (all Pacific Daylight Time)

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