



CORNUCOPIA

including the AGFD program for the
262nd American Chemical Society (virtual & live) National Meeting on
August 22 - 26, 2021

in

ATLANTA

YOUNGMOK KIM & LINSHU LIU
Program Chairs

Questions about
VIRTUAL PROGRAMMING?

see page 7

Going to Atlanta?

Join the AGFD Social Reception (free refreshments!)
held concurrently with the AGFD Poster Session

Sunday August 22 7-9 pm

in the World Congress Center Hall B4

page	CONTENTS
2	Message from the Chair
3	Future AGFD and other programs
5	Executive committee meeting minutes
8	Puzzle page
9	Membership application - join the team!
10	Roster of AGFD officers and committee leadership
11	Award news
13	AGFD technical program
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

About 5 months ago, I wrote a chair's message for the 2021 spring *Cornucopia* and expressed a huge concern regarding the unforeseeable future under the pandemic. Fortunately, the unpredictable future at that time has now turned into a promising future by the progress made by us together. We as a whole have fought very hard against the huge outbreak and now are marching to the end of the pandemic. Several vaccines were developed by dedicated scientists and approved quickly with the right procedure. We did not hesitate to get vaccinated to end the pandemic together. Most importantly, the positive rate has decreased and the death rate has been reduced dramatically after full vaccination - proving science saves the world. I would not say COVID-19 is completely over but we are getting to the end. Even during the pandemic, we scientists/chemists, never stopped working hard to make this world a better place, as we always have. As one scientist on the earth, I am very proud of every one of you in the ACS community of hard working and brilliant individuals. I know you have worked hard. I truly appreciate it. Thank you.

We had to hold the 2021 spring meeting virtually again for the second time with the theme of Macromolecular Chemistry: the Second Century but unlike the first 2020 fall virtual meeting, this meeting was, with only a few exceptions, mostly programmed with live presentations and Q&A sessions. Due to the time difference, some speakers from the other side of the world needed to give their presentations either late at night or very early in the morning, but all the presentations were given professionally. The live Q&A session held after each presentation was an excellent opportunity for speakers and audiences to connect. AGFD hosted 24 sessions from 8 symposia that covered many different areas including food analysis, food chemistry, nutritional chemistry, fruit and vegetable research, food safety/security, packaging science, sustainability, flavor chemistry, sensory science, food quality, horticultural science, food waste, health benefits, and fermented foods. A total of 270 abstracts were submitted from around the world and attendees from academia, industry and government agencies joined the online meetings virtually. During the spring meeting, AGFD was honored to host the presidential symposium - Sustainability: Advances and Applications, which was supported by 2021 ACS president Dr. H.N. Cheng of USDA and organized by Drs. Michael Morello, Michael Appell and Liangli (Lucy) Yu. AGFD appreciates their time, hard work, and dedication. The presidential symposium was co-sponsored by the Division of Agrochemicals, the Committee on Environmental Improvement and the Division of Environmental Chemistry. The symposium included 60 presentations by leaders from a wide range of fields, including chemistry, engineering, predictive modeling, nanotechnology and food science.

As program chair, I appreciate the symposium organizers who made tremendous efforts to invite high-quality speakers to share outstanding work. Without the symposium organizers' unconditional efforts and devotion, the meeting couldn't have been successful. I thank Drs. Mike Tunick and Elvira de Meija (Chemistry of Fermented Hispanic Foods), Zhouhong Xie and James Harly (Food Authentication and Adulteration Detection), Mina Kim, Kwang-Geun Lee and Hyang-Sook Chun (Chemistry and Health Benefits of Fermented Foods and Beverages), Bhimu Patil, Nitin Dhowlaghar and Jashbir Singh (Beyond Chemistry: Consumer Acceptance of Flavor, Food Safety and Health Benefits of Fruits and Vegetables), Michael Morello, Tony Jin, Xuetong Fan, Timothy Duncan, John Finley and John Koontz (Food Packaging Materials: Safety, Active Packaging & Sustainability), Jonathan Beauchamp and Yu Wang (Food-Flavor Dynamics Assessments via Real-Time Mass Spectrometry).

The 262th ACS meeting, in Atlanta from August 22 – 26, will have a hybrid format with the theme "Resilience of Chemistry". After three consecutive either canceled or virtually held "non-contact" meetings, the Atlanta meeting will be an in-person meeting with the option of virtual attendance. We are looking forward to seeing our colleagues again. Unfortunately, all the non-technical events and award banquets are not happening this time, but we are still excited to have live interactions with others and ready to enjoy long-

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lost networking opportunities. With the award ceremony being held virtually this fall, I will not be able to present award plaques directly. I congratulate the award winners: Dr. Rickey Yada for winning the Advancement of Application and Agricultural and Food Chemistry Award, Dr. Xiaonan Lu for winning the Young Scientist Award which recognizes outstanding research in agricultural and food chemistry, Drs. Lauren Jackson, Jianping Wu, Linshu Liu, and Coralia Osorio Roa for becoming AGFD fellows this year and Raúl González-Domínguez, Mireia Urpi-Sarda, Olga Jáuregui, Paul W. Needs, Paul A. Kroon and Cristina Andrés-Lacueva winners of the AGFD Best Research Article Award for their article *Quantitative Dietary Fingerprinting (QDF)—A Novel Tool for Comprehensive Dietary Assessment Based on Urinary Nutrimetabolomics*. The authors presented a new analytical tool for quantitative dietary fingerprinting using urinary metabolomic analysis and they highlighted the simultaneous quantitation of 350 food-derived metabolites. AGFD is honored to award prestigious recognition to those who made outstanding scientific contributions to the field of agricultural and food chemistry.

I thank Dr. Linshu Liu for this contribution and time as a co-program chair this spring, Dr. Mike Morello for his leadership and dedication to the ACS and AGFD, Dr. Mike Appell for this valuable advice, Drs. Alyson Mitchell, Lauren Jackson, and Lucy Yu for their support, Dr. Stephen Toth for always keeping our budget safe and healthy and Carl Frey for publishing *Cornucopia*. Last but not least, I thank everyone in AGFD for their passion, dedication and love for science. I am very happy and honored to serve as AGFD 2021 division chair with such wonderful people.

Thank you.

Youngmok Kim
2021 AGFD chair

CORNUCOPIA EDITORIAL STAFF & CONTACT INFORMATION

Editor-in-Chief	C. Frey	cfreyenterprise@gmail.com
General Manager	P. White	
Staff	C. Kent, L. Lane, J. Olsen	

FUTURE PROGRAMS

SAN DIEGO March 20-24, 2022

ACS Meeting Theme: Evolving Biomolecular Sciences

Advances in the in Development of In-Silico Taste and Extra-Oral Nutrition Receptors Brian Guthrie
Brian_Guthrie@cargill.com Antonella Di Pizio a.dipizio.leibniz-lsb@tum.de Soo-Kyung Kim
skkim@wag.caltech.edu

Tree Nuts Alyson Mitchell aemitchell@ucdavis.edu

Improving Food for Changing World Alyson Mitchell aemitchell@ucdavis.edu Akira Murakami akira@shse.u-hyogo.ac.jp

Water Alyson Mitchell aemitchell@ucdavis.edu Mike Qian Michael.qian@oregonstate.edu

Food Macromolecules: Functionality, Health Benefits, Delivery Systems Wallace Yokoyama
wally.yokoyama@ars.usda.gov Fang Zhong fzhong@jiangnan.edu.cn Nitin Nitin nnnitin@ucdavis.edu

Characterization of Natural Antimicrobials and Antioxidants and Their Applications in Food Preservation
Tony Jin Tony.Jin@usda.gov Xuotong Fan Xuotong.fan@usda.gov

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

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Human Intervention on Biosynthesis Majher Sarker majher.sarker@usda.gov Linshu Liu linshu.liu@usda.gov Karley Mahalak Karley.mahalak@usda.gov

Breath Monitoring for Food Consumption, Drug Intake, Health and Wellbeing Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de

Agnes Rimando Memorial International Student Symposium Mike Tunick mht39@drexel.edu Michael Granvogl michael.granvogl@uni-hohenheim.de Boyan Gao gaoboyan@sjtu.edu.cn Roberta Tardugno roberta.tardugno@gmail.com

Nanoencapsulation and Delivery of Bioactive Food Ingredients Using Food Biopolymers Qingrong Huang qhuang@sebs.rutgers.edu Qin Wang wangqin@umd.edu

Chemistry of Alcoholic Beverages Nick Flynn nflynn@wtamu.edu

Green Polymers & Active Polymers LinShu Liu linshu.liu@ars.usda.gov Riasha Gorshkova gorshkova.raisa@gmail.com Jinwen Zhang jwzhang@wsu.edu

Advances in Nanomaterials for Food and Agricultural Applications Bosoon Park Bosoon.Park@USDA.gov Sechin Chang Sechin.Chang@USDA.gov

Gut Reactions Guodong Zhang guodongzhang@umass.edu Jason Soares Jason.w.soares.civ@mail.mil Karley Mahalak Karley.mahalak@usda.gov

General Papers LinShu Liu linshu.liu@usda.gov Michael Granvogl michael.granvogl@uni-hohenheim.de

General Posters LinShu Liu linshu.liu@usda.gov Michael Granvogl michael.granvogl@uni-hohenheim.de

CHICAGO August 21-25, 2022

ACS Meeting Theme: Sustainability in a Changing World

Impact of Global Disasters on Food Quality, Safety and Security Alyson Mitchell aemitchell@ucdavis.edu Michael Morello mjmorello226@gmail.com Liangli (Lucy) Yu lyu5@umd.edu

Extraction and Biotechnology: a Natural and Sustainable Future for Flavors Liz Kreger Elizabeth.Kreger@sensient.com Lewis Jones Lewis.Jones@sensient.com

New Insights in Gut Microbiota Health-Benefits Coralia Osorio Roa cosorior@unal.edu.co

Nutraceutical Lipids Fereidoon Shahidi fshahidi@gmail.com and fshahidi@mun.ca

Modification of Agricultural Biomass into Value-Added Products Majher Sarker majher.sarker@usda.gov Helen Ngo helen.ngo@usda.gov Madhav Yadav madhav.yadav@usda.gov

Artificial Intelligence (AI) Applications for Food and Agriculture Bosoon Park bosoon.park@usda.gov

Sustainability and Greentech in Agriculture and Food Omowunmi Salik sadik@njit.edu Michael Appell michael.appell@gmail.com

Water Alyson Mitchell aemitchell@ucdavis.edu Michael Qian Michael.qian@oregonstate.edu

Emerging In-Vitro Gut Models for Understanding Nutrient-Microbiome Interactions Laurel Doherty laurel.a.doherty.civ@mail.mil Ida Pantoja-Feliciano DEVCOM SC Karley Mahalak Karley.mahalak@usda.gov

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**The International Chemical Congress of
Pacific Basin Societies 2021 – A Creative Vision for the Future
Honolulu Dec 16-21, 2021**

<https://pacifichem.org>

Flavor and Bioactive Compounds in Fermented Foods and Beverages (#156)

Symposium co-organizers: Michael C. Qian (michael.qian@oregonstate.edu), Philip Marriott, Zhen-Yu Chen, Chi-kun Wang, Hirotohi Tamura, Yanping L. Qian, Young-Suk Kim, Mingwei Zhang

- 1) Flavor/off-flavor characterization and identification, flavor generation during fermentation and storage.
- 2) Chemistry/biochemistry of bio-active compounds, including identification of bioactive compounds in fermented foods, metabolism of bioactive compounds, and mechanism of fermented foods in preventing disease and improving human health.
- 3) Analytical methodologies including new developments in sample prep, chromatography, identification, structural elucidation.

also symposia on

New Developments in Food Processing (#118) and Food Bioactives, Inflammation and Gut Health (#176)

Executive Committee Meeting Minutes

Sunday, April 11, 2021 (Virtual)

Takes place at each ACS National Meeting

Attendance: Alyson Mitchell, Youngmok Kim, Keith Cadwallader, Kenny Xie, Lauren Jackson, Liangli (Lucy) Yu, Linshu Liu, Mike Morello, Michael Appell, Mike Tunick, Michael Qian, Michael Granvogl, Omowunmi Sadik, Brian Guthrie, Kathryn Deibler, Gal Kreitman, Jason Soares, John Finley, Juhong Chen, Karley Mahalak, Kathleen Luo, Stephen Toth, Terry Acree, Xian Wu, Xiaofen Du, Yingdong Zhu, Zhichao Zhang, Carl Frey

AGFD Chair Youngmok Kim called the meeting to order at 3:04 p.m. (EST).

Michael Tunick summarized the minutes of the Fall 2020 Executive Committee meeting. The **minutes** of the previous meeting were approved with no changes.

The Spring **Special Topics** meeting was summarized by Youngmok Kim. A proposal was presented by Mike Morello for a new AGFD committee to help with technical planning. The committee is concerned that student submissions to the undergraduate and graduate symposium will be low for the upcoming meetings due to Covid-19. The committee voted to open submissions for the upcoming undergraduate and graduate symposium. There are enough submissions to hold these events. The committee discussed how we could better attract students and faculty into the Division. All agreed that more student-oriented events would be helpful. Lauren Jackson introduced Treasurer Kantha Shelke from the Phi Tau Sigma Honor Society for Food Science. This organization is interested in working with AGFD to help recognize and honor professional achievements of Food Scientists and Technologists. The committee agreed to explore synergy with Phi Tau Sigma Honor Society, as it will benefit our members.

Stephen Toth gave the **Treasurer's Report**. The division spent only \$15,841 this year with virtual meetings and received \$10,000 from donations, \$15,811 from dues, \$30,520 from the ACS allotment and about \$5,000 from investment income, royalties, etc. The net (revenues minus expenses) for the year so far is \$42,164 giving AGFD \$934,810 in the bank and in investments. The division is financially healthy.

The **Awards Committee Report** was given by Mike Morello. All award information can be found on the Division website. Professor Rickey Yada from University of British Columbia won the IFF/AGFD Advancement of Application of Agricultural and Food Chemistry for 2021. The Young Scientist Award was given to Associate Professor Xiaonan

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Lu, McGill University. The Roy Teranishi Graduate Fellowship in Food Chemistry was awarded to Holly D. Childs, M.S. Department of Food Science and Nutrition, University of Maryland. The Withycombe–Charalambous Award for Excellence in Graduate Research in Agricultural or Food Chemistry and the Undergraduate Poster Presentation Award competitions were suspended due to COVID-19 related challenges. The Division recognized two 50-year members and twenty-three 25-year members.

An update on the Young Industrial Scientist Achievement Award was given by Bryan Guthrie. Criteria for the Young Industrial Scientist Achievement Award was developed by the working group and presented to the committee. A motion was passed to set the award at \$1,000 to offset travel and to give the awardee a plaque. The first award is targeted for 2022. The application deadline was changed to Feb 1 to coincide with the other award deadlines in our Division. It was clarified that the nominee must be a division member. Kathryn Deibler proposed increasing the student travel award to \$1,000. A vote was taken and undergraduate and graduate travel support awards were increased from \$750 to \$1,000.

Student Committee Report was given by Zhichao Zhang. Apratim Jash, a PhD student in Food Science at Cornell, was nominated to replace Kathleen Luo who has graduated. Zhichao held a virtual student event but had poor turn out, likely in response to Covid-19.

Youngmok Kim gave the **Program Report** for the virtual Fall 2020 National Meeting and indicated that overall it was a great meeting although there were challenges with the virtual format. There were 311 abstracts submitted to the AGFD program that hosted 34 technical sessions in 21 symposia. The Division hosted the *Journal of Agricultural and Food Chemistry* research article of the year award symposium, the AGFD young scientist award, AGFD award symposium to honor Dr. Gary List and the Spencer award symposium to honor Dr. Jerry King. Thomas Hofmann agreed on publishing a 2nd special issue to highlight the 2020 fall meeting. A total of 25 speakers agreed on submitting their work, which will be published soon. Highlights from every spring meeting will be published as a special issue moving forward. Linshu Liu indicated that the Fall 2021 meeting in Atlanta will be a hybrid meeting and indicated that our Division needs more abstracts submitted. The difficulty of passing an accurate budget for a hybrid meeting was discussed. The Division has no experience with hybrid meeting and it is unclear what percentage of people will be travelling for the meeting or attending virtually. A budget of \$30,000 was set and passed for Atlanta hybrid national meeting. Pacificchem will take place as a hybrid meeting in December 2021 in Hawaii. A location for the next International Flavor Conference has not been decided and will depend upon Covid-19.

In **Subdivision Reports**, Youngmok Kim indicated that Jonathan Beauchamp is organizing a symposium with Yu Wang for the Flavor Subdivision at the Fall 2021 meeting and has submitted a proposal to ACS to publish a book within the Symposium Series volumes on the forthcoming symposium on real-time flavor analytics. All Flavor Subdivision positions are filled. The Biotechnology/Bioengineering subdivision has had no activity. The Chair was not even clear that he was the Chair and it is unclear if the Chair-elect committed to this position. Youngmok Kim will take the lead on re-organizing this valued Subdivision, potentially incorporating panomics. Lucy Yu suggested forming a working group to help guide the re-organization and scope of the subdivision. The Nutrition Subdivision recruited a new secretary, Dr. Hye-Seon Kim from USDA. A symposium for this subdivision was held at the Spring 2021 meeting. The Food Safety Subdivision has two symposia planned for San Diego 2022 and all positions are filled. Jason Soares gave the update for the Diet & Gut Microbiome Subdivision. The division is new and will have its first symposium in Fall 2021. Two symposia are planned for the spring and fall of 2022. All positions are filled. Mike Appell indicated that the new Food and Agricultural Sustainability and Security Subdivision has been approved, and will be holding its first symposium on Sustainability and Green Technology at the 2022 Fall meeting in Chicago. The Functional Foods Subdivision has two new officers: Dr. Jianping Wu (Vice-Chair) and Dr. Xie (secretary). Dr. Yingdong Zhu will be the secretary for year 2022 and will hold a symposium at the 2022 fall meeting.

The Councilor Reports was given by Lauren Jackson. The Council meeting was held March 24th. Elections for president-elect were held and John C. Warner and Judith Giordan will be on the ballot for fall. Judith is a member of the AGFD subdivision. The Committee on Committees (ConC) submitted a petition to “harmonize committee structure, process and terms”. This eliminated different types of committees and set three-year terms limits and a two-term maximum for committee members with some exceptions. The petition was approved. The committee on Local

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Section Activities Petition approved a petition to amend their duties. The Council approved the 2022 schedule of membership dues to better reflect different types of membership. The base dues were reduced to \$160/year and different dues categories were established. The ACS board of directors approved changes to the ACS Strategic Plan to include Equity as a CORE value and the mission and vision statements were modified to include all people. Committee on Divisional Activities (DAC) updated the Distribution Formula for dues allocations to be more flexible and transparent. Lauren pointed out that our Division has not received an IPG in a while and that we are eligible for a Strategic Planning Grant.

The **Nominations report** was given by Immediate Past Chair Lucy Yu. All subdivisions have leadership lined up through 2022 with exception of the Biotechnology Subdivision. Liz Kreger was identified as someone who would like to serve as a potential Vice-Chair. The nomination of Liz Kreger for Vice-Chair was accepted. A slate of candidates will be approved at the next business meeting.

Cornucopia editor Carl Frey said that there were no printed copies this year since there were no in-person meetings. Electronic copies of the Cornucopia were sent to AGFD before the meeting. Abstracts were not numbered and affiliations for speakers were not indicated in the electronic version. Copies (100) will be printed for the fall meeting.

Alyson Mitchell reported no activity in **Hospitality/Public Relations** since we had no in person meetings.

Membership Chair Michael Qian said that AGFD membership is down a little bit from ~3,000 to ~2,748, but that these numbers reflect typical variation.

Lucy Yu gave the **Journal Report** for Thomas Hofmann. This year the Journal impact factor is 4.192. There were 118,586 citations and the production time is 81 days. The acceptance rate was 18%, a bit lower this year. Review articles from North America are being sought. The first issue of *ACS Food Science and Technology* was published.

In the **Communications report**, Alyson Mitchell requested that additions to the Email Newsletter be sent to her 1 week before the end of the month and that job announcements can be uploaded to the Division Website.

There was no **Old Business**. In **New Business**, Linshu Liu said that the Division of AGRO has a new program Chair and is interested in increasing collaboration with AGFD. Committee members felt there was many synergies however it may be difficult as AGRO programs in hotels once a year whereas AGFD programs twice a year and wants to be located in the convention center.

The meeting adjourned at 2:26 PM (PST)

Submitted by AGFD Secretary Alyson Mitchell

VIRTUAL PROGRAMMING – HOW DOES IT WORK ?

See the ACS **Frequently Asked Questions** page on the website (link below) for the Atlanta virtual & live meeting.

Go to **ACS.org**

Click on **ACS Fall 2021 Meeting**

Scroll down and click on **Frequently Asked Questions**

or go directly to the link:

<https://www.acs.org/content/acs/en/meetings/acs-meetings/registration/meeting-and-expo-questions-and-answers.html>

HEADING SOUTH

1	2	3	4	5		6	7	8		9	10	11	
12						13				14	15		
16						17				18			
19						20							
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52	53	54				55	56	57		58	59	60	61
62										63			
64						65				66			
67						68				69			

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

ACROSS

- 1 Some blue plastic covers
6 Scratch or scrape
9 Big hubbub
12 *Tosca* or *Aida*
13 Environmental prefix
14 Ho-hum, trite
16 Margaret Mitchell saga
19 Gorillas and chimps
20 Georgia-born jazz/blues singer/songwriter
21 Popular auto style
23 Goodness gracious!
24 Doo-wop group:---Na Na
27 Ali: The Louisville ---
29 Morse code distress call
30 One variety of quark
33 Newspaper feature writer
36 Seep, leak
37 Mexican rivers
38 Stares w/an open mouth
40 Halt!
41 Tennis great Arthur ----
42 Hearty soup ingredient
44 School booster group
45 Sulfur dioxide
47 Ariane rocket launcher
48 Oahu floral souvenir
49 It's like so mediocre
50 Goopy petroleum product
52 Georgia's English founder
58 Too, and, in addition to
62 Hoagy Carmichel song sung by 20 Across
64 Western-themed ballet by Aaron Copeland
65 It's sometimes called 'little piggy'
66 Creepy, scary
67 Chin--- or Vietnam---
68 Dallas college fielding the Mustangs
69 Crisp ginger cookies

DOWN

- 1 Ancient Rome fashion
2 Each
3 *Cogito, ergo sum* sayer - ---- Descartes
4 The Fourth Estate
5 Wood cutting tool
6 ----morphosis or ---physics
7 How a breaky heart feels
8 Campus military program
9 Dye base C₆H₇N: ----ine
10 Niels Bohr or Vitus Bering
11 Discontinued GM car model
14 Moon ----- or sun -----
15 Askew or amiss
17 Authors Washington or John
18 Hydrogen peroxide
22 Einstein's German birthplace
24 Unusable portion or waste
25 Lift or raise
26 Greeting accompanying the gift of 48 Across
28 Instrument played by 20 Across
29 *Bullitt* portrayer McQueen
30 Crash a car to worthlessness
31 Triatomic oxygen
32 A most refreshing soft drink
34 Employ
35 Rejuvenation venue
36 Sugar compound suffix
39 Solar ----- or sound -----
43 Sheep speak
45 On your mark. Ready, ---, -- !
46 Fancy meeting you here!
49 Small, slight, trifling
51 Noodles in a disposable cup
52 Shrek, for example
53 Discontinued GM car models
54 Rich vein of ore
55 Quaker ----
56 E. M. Forster's place w/a view
57 ----monia or ----matic
59 Pre-Euro Roman currency
60 Hair salon sound
61 Poems of praise
63 Affirmative

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 >3000 AGFD members via the application form (below) or on-line at www.agfoodchem.org or www.acs.org (click on [Communities](#), [Technical Divisions](#), [Technical Division List](#)) or call ACS (800)333-9511 (in US) or 616-447-3776 (outside US). Payment by Visa/MasterCard or AmEx.

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

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

ROSTER OF AGFD OFFICERS & COMMITTEE LEADERSHIP

Chair - Serves 1 year. Preside over Division meetings & appoint committees
Youngmok Kim
Finlays, North Kingstown RI
youngmok.kim@finlays.net

Chair-Elect - Serves 1 year. Substitute for the chair as needed
LinShu Liu USDA-ARS-ERRC
linshu.liu@ars.usda.gov

Vice-Chair - Serves 1 year. Assist Chair-elect. Develop future technical programs.
Michael Granvogl
michael.granvogl@uni-hohenheim.de

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

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

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

Councilors - Represent Division for 3 years on ACS council.
Alyson Mitchell (thru '23)
aemitchell@ucdavis.edu
Lauren Jackson (thru '23)
lauren.jackson@fda.hhs.gov
Michael Tunick (thru '21)
mht39@drexel.edu

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

Student Activities - Attract and retain graduate/undergraduate student members.
Apratim Jash aj623@cornell.edu
Zhichao Zhang yntzhang@ucdavis.edu

Nominations - Develop officer slate. Served by Immediate Past Chair.
Liangli (Lucy) Yu lyu5@umd.edu

Public Relations - Publicize Division.
Alyson Mitchell aemitchell@ucdavis.edu

Alternate Councilors - Substitute for Councilors. Serves 3 years.
Keith Cadwallader (thru '23)
cadwldr@uiuc.edu
Kathryn Deibler (thru '21)
kdd3@cornell.edu
Michael Qian (thru '21)
Michael.qian@oregonstate.edu

At-Large Executive Committee Members - Assist in Div. management. Serves 3 years.
Terry Acree (thru '21)
tea2@cornell.edu
Jane Leland (thru '23)
JLelandEnterprises@gmail.com
Robert McGorin (thru '23)
robert.mcgorin@oregonstate.edu
Mathias Sucan (thru '21)
Mathias.sucan@gmail.com

Awards - Solicit nominations, oversee awards process.
Chair Michael Morello
mjmorello226@gmail.com
Fellow Awards Fereidoon Shahidi
fshahidi@mun.ca
Young Scientist Awards
Michael Granvogl
Michael.Granvogl@uni.hohenheim.de
Teranishi Fellowship
Liangli (Lucy) Yu lyu5@umd.edu
Student Awards
Kathryn Deibler kdd3@cornell.edu
Canvassing
Stephen Toth
stephen.toth@iff.com

Finance - Monitor Division's finances. Led by Immediate Past Chair
Liangli (Lucy) Yu lyu5@umd.edu

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

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

Multidisciplinary Program Planning - Help coordinate nat'l mtg programming
John Finley jfinle5@lsu.edu

Sub-divisions Develop symposia.

Food Bioengineering

Chair, Tianxi Yang
tianxiyang90@gmail.com
Chair-Elect, Majher Sarker
Majher.Sarker@usda.gov
Vice-Chair, Kwang-Guen Lee
kwglee@dongguk.edu
Secretary, Hongsik Hwang
hongsik.hwang@usda.gov ('21)
Changqin Wu changwu@udel.edu ('22)

Flavor

Chair, Jonathan Beauchamp
jonathan.beauchamp@ivv.fraunhofer.de
Chair-Elect, Yu Wang yu.wang@ufl.edu
Vice-Chair, Gal Kreitman
Gal.Kreitman@ejgallo.com
Secretary, Xiaofen Du xdu@twu.edu ('21)
Coralia Osorio Roa cosorior@unal.edu.co ('22)

Food Safety

Chair, Juhong Chen
jhchen@vt.edu
Chair-Elect, Tony Jin Tony.Jin@usda.gov
Vice-Chair, Reuven Rasooly
reuven.rasooly@ars.usda.gov
Secretary, Xiaonan Lu
Xiaonan.lu@mcgill.ca ('21)
Boyan Gao gaoboyan@sju.edu.cn ('22)

Functional Foods & Nat. Products

Chair, Yu Wang yu.wang@ufl.edu
Chair-Elect, Xian Wu
Wux57@miamioh.edu
Vice-Chair, Jianping Wu Jwu3@ualberta.ca
Secretary, Kenny Xie KYX@usp.org ('21)
Yingdong Zhu yzhu1@ncat.edu ('22)

Diet & Gut Microbiome

Chair, Jason Soares
jason.w.soares.civ@mail.mil
Chair-elect, Guodong Zhang
guodongzhang@umass.edu
Vice-Chair Karley Mahalak
Karley.mahalak@usda.gov
Secretary Laurel Doherty
Laurel.a.doherty.civ@mail.mil ('21)
Ida Pantoja-Feliciano
Ida.g.pantojafeliciano.civ@mail.mil ('22)

Nutrition

Chair, Mina Kim minakim@jbnu.ac.kr
Chair-Elect, Mathias Sucan
Mathias.sucan@gmail.com
Vice-Chair, Hye-Seon Kim
hyeseon.kim@usda.gov
Secretary, Hae Won Jang
okay0730@gmail.com ('21)
Tom Wang tom.wang@usda.gov ('22)

AWARD NEWS



Rickey Y. Yada won the 2021 **Award for the Advancement of Application of Agricultural and Food Chemistry**. This award recognizes outstanding contributions to pure and applied agricultural and food chemistry. The award celebrates Dr. Yada's research on the structure-function relationships of food and non-food related enzymes using molecular biology, circular dichroism, microcalorimetry, small angle neutron scattering, ultracentrifugation and enzyme kinetics. His research explores factors affecting enzyme activity, such as thermodynamics, formation of an enzyme-substrate complex, enzymatic catalysis, enzymatic kinetics, and enzyme inhibition. Prof. Yada's research includes improving pulse protein functional properties and digestion through application of enzymatic modifications, providing opportunities to develop palatable plant

protein based food products with many health benefits and revealing anaerobic respiratory enzymes contribute to low-temperature sweetening of potato, enabling chip process quality enhancement by guiding postharvest storage. Dr. Yada has authored >230 peer reviewed journal papers, 10 books and 27 book chapters, including 2 ACS Symposium Series ebooks. Currently Professor Yada is Dean Faculty of Land and Food Systems, University of British Columbia. This award is sponsored by International Flavors and Fragrances. photo credit: <https://www.landfood.ubc.ca/rickey-yada/>



Xiaonan Lu, Associate Professor, Department of Food Science and Agricultural Chemistry, McGill University received the 2021 **AGFD Young Scientist Award**. This honor recognizes scientists early in their careers for their outstanding scientific contributions to agricultural and food chemistry. Dr. Lu's research focuses on food authentication, rapid detection of food chemical and microbiological hazards, food microbiology and molecular microbiology and microbial ecology. His research group developed a hybrid paper/polymer-based lab-on-a-chip platform to integrate DNA extraction, DNA isothermal amplification and visualization onto a single, simple device, which can identify pomegranate juice adulteration within 1 hour in an instrument-free setting. Four Ph.D. students and 12 M.S. students have matriculated through his program. He has authored >110 publications, including 1 book and 4 book chapters. photo credit: <https://www.mcgill.ca/foodscience/staff-and-research/xiaonan-lu>

Lauren S. Jackson of FDA/CFSAN, **Coralia Osorio Roa** of Universidad Nacional de Colombia Bogota, **LinShu Liu** of ARS, USDA and **Jianping Wu** of University of Alberta, Edmonton, Canada each received a 2021 **AGFD Fellow Award**. The AGFD Fellow Award recognizes outstanding scientific contributions to agricultural and food chemistry.

Neil C. Da Costa, International Flavors & Fragrances Inc., received the 2021 **Award for Distinguished Service to the Division of Agricultural and Food Chemistry**, recognizing his frequent presentations at AGFD symposia and his many other AGFD activities including serving as AGFD Chair.

Holly D. Childs at the Department of Food Science and Nutrition, University of Maryland won the 2021 **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. Holly is conducting research in the laboratory of Dr. Liangli (Lucy) Yu.

Luyao Ma, University of British Columbia won the 2020 **Withycombe–Charalambous Award** for Excellence in Graduate Research in Agricultural or Food Chemistry. Luyao presented a paper at the fall 2020 ACS National Meeting describing the development of a microfluidic “lab-on-a-chip” device. Coming in 2nd and 3rd place were **Liang Xue**, University of Massachusetts, Dartmouth and **Lei Mei**, University of Maryland.

The following loyal members of AGFD marked **50 Years of Membership in AGFD** in 2021: **Tung Ching Lee** and **Ronald E. Wrolstad**

more AWARD NEWS

The following loyal members of AGFD marked **25 Years of Membership in AGFD** in 2021: **Susan E. Carberry, Thomas S. Cina, Danny Culberson, Rex Thomas Gallagher, Peggy Hsieh, Rongmin Huang, Prashanthi Jella, John J. Johnston, James P. Kababick, John Frank Karlik, Edward Kennelly, Franco M. Lajolo, William Charles Lowenkamp, C McIntosh, Christine Marie Nowakowski, Brian Perkins, George Preti, Natarajan Ranganathan, Donald Roberts, Eric Schmelz, John Purdie Sloan, Trevor Kent Smith and Wilfred J. Wells.**



Carl Frey, Carl Frey Enterprise LLC/PepsiCo R&D, retired, became a 2020 **ACS Fellow** for his 40+ years of industrial leadership in the area of flavor and fragrance analysis and quality control, championing food and lab safety, regulatory standards and the use of modern methods and analytical techniques and for serving as AGFD chair, program chair, membership chair and *Cornucopia* editor and informing high school students about careers in food chemistry. photo credit: PepsiCo Inc.

The team of **Raúl González-Domínguez, Mireia Urpi-Sarda, Olga Jáuregui, Paul W. Needs, Paul A. Kroon and Cristina Andrés-Lacueva** won the 2020 **Journal of Agricultural and Food Chemistry Research Article of the Year Award** for their publication *Quantitative Dietary Fingerprinting (QDF)—A Novel Tool for Comprehensive Dietary Assessment Based on Urinary Nutrimetabolomics*, J. Agric. Food Chem. 2020, 68, 7, 1851–1861, DOI: 10.1021/acs.jafc.8b07023



Fereidoon Shahidi, Distinguished Professor, Department of Biochemistry, Memorial University of Newfoundland, St. John's, Canada received the 2021 **Sterling B. Hendricks Memorial Lectureship Award** for his research on nutraceuticals, functional foods and dietary supplements. Stanford University listed him as one of the top 2% scientists in all fields. He has authored or co-authored >600 peer-reviewed journal articles, >300 book chapters and conference proceedings, 78 books and holds 12 patents, resulting in >90,000 citations. He matriculated 35 Ph.D and 46 M.S. students and has hosted 31 Post-Doctoral or Visiting Scholars. He has or is serving as Editor in Chief for 5 journals, Editor or Associate Editor of 2 journals and on the advisory board of 12

journals. Dr. Shahidi served as Chair of AGFD and has been an active Executive Committee member. The award is co-sponsored by the AGFD and AGRO divisions. photo credit: <https://www.mun.ca/faculty/fshahidi/>



Takayuki Shibamoto, Distinguished Professor Emeritus, Department of Environmental Toxicology, University of California, Davis, received the 2021 **Kenneth A Spencer Award for Food and Agricultural Chemistry**. The award is given by the Kansas City Section of the ACS. The Spencer Award, the most prestigious ACS award recognizing advancements in agricultural and food chemistry, honors his work on environmental toxicology researching lipid peroxidation associated with diseases, natural antioxidants and their role in prevention of oxidative damages, and analysis and fate of pesticides in environment. Dr. Shibamoto has conducted GC and GCMS research on volatile compounds associated with flavors and antioxidants in green coffee beans, roasted coffee and brewed coffee. photo credit: <https://acs-kc.com/newsletter-and-news>

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 (Michael Granvogel), AGFD Fellow Award (Fereidoon Shahidi), AGFD Distinguished Service Award (Mike Tunick), Teranishi Fellowship (Liangli [Lucy] Yu), Graduate & Undergraduate Student Symposia (Kathryn Deibler), Service Award (Michael Qian), Sterling B. Hendricks Memorial Lectureship (Michael Appell/Bosoon Park), Spencer Award (Sarah Leibowitz), ACS Fellow Award (Michael Morello, Michael Appell, Carl Frey)

AGFD TECHNICAL PROGRAM

Abstracts for all these papers appear in the long version of this Cornucopia posted on the AGFD website www.agfoodchem.org

SUNDAY MORNING Aug. 22

Zoom Room 22

Japanese Food: Ingredients & Culture

M. Kobori, H. Nabetani, W. H. Yokoyama, Organizers L. Liu, Organizer, Presiding

10:30. Introductory Remarks.

10:40. Gamma-polyglutamic acid contained in the fermented soybean food natto suppresses the postprandial increase in blood glucose levels in mice and human subjects. M. Kobori

11:10. Characteristics of Japanese food and its culture. H. Nabetani

11:30. Oriental Soybean Foods Processing and Fermentation, What's new? K. Kimura

11:50. Soy processing technology. S. Hashimoto

Process Research & Development in Crop Protection

Spons. AGRO, CoSpons. AGFD

Sustainability in Agriculture: New Sources & Tools for the Development of Sustainable Crop Protection Solutions

Spons. AGRO, CoSpons. AGFD, ENVR, PRES

SUNDAY AFTERNOON Aug. 22

Zoom Room 24

Hemp, Medical & Aromatic Crops: Production, Phytochemistry & Utilization

C. L. Cantrell, V. Jeliakov, Organizers, Presiding

2:00. Introductory Remarks.

2:05. Production fields of chamomile and peppermint at University of Presov, Slovakia, detailing to the qualitative and quantitative analyses of their essential oils. I. Salamon

2:25. Green extraction of aromatic and medicinal plants: From tradition to innovations. F. Chemat

2:45. Analytical chemistry-centered solutions to natural products research challenges. M. Wang

3:05. Intermission.

3:20. Odorants from shell ginger leaves (*Alpinia zerumbet*). M. Orellana, A. Murray, J.P. Munafo

3:40. Savin Juniper, *Juniperus sabina* L., its Slovakian Ethobotany and recent essential oil composition. I. Salamon, V. Jeliakov

Zoom Room 23

Japanese Food: Ingredients & Culture

M. Kobori, L. Liu, W. H. Yokoyama, Organizers H. Nabetani, Organizer, Presiding

2:00. Peptides in Japanese traditional seasonings, salted fermented soybean paste, sauce, and rice wine: Structure and health promoting functions. K. Sato

2:30. Development of "smart Washoku" concept for the prevention of visceral fat accumulation leveraging healthy Japanese dietary habits. H. Takase, T. Morimoto

2:50. Association between soup consumption and obesity: Studies on Japanese adults and a systematic review with meta-analysis. M. Kuroda

3:10. Digestive property of Japanese foods: An in vitro approach. Y. Ogawa, S. Ketnawa, S. Thuengtung, Y. Cai, W. Qin, J. Suwannachot, Y. Ding, M. Tamura

3:30. Enhancement of functionality in soy foods comprising mealworm (*Tenebrio molitor*) larvae. E. Oh, H. Lee, Y. Kim

Zoom Room 25

Hemp, Medical & Aromatic Crops: Production, Phytochemistry, & Utilization

C. L. Cantrell, V. Jeliakov, Organizers, Presiding

4:30. Introductory Remarks.

4:35. Chemical characterization and biological activity of the mastic gum essential oils of *Pistacia lentiscus* var. *chia* from Turkey. N. Tabanca, A. Nalbantsoy, B. Demirci, F. Demirci, P.E. Kendra

4:55. Essential oils as sprout inhibitors in potato. V.

Zheljazkov, G. Micalizzi, S. Yilma, L. Mondello

5:15. *Carlina acaulis*, a traditional medicinal plant in the horizon of eco-friendly botanical insecticides. E. Spinozzi, F. Maggi, R. Petrelli, L. Cappellacci, A. Palmieri, G. Benelli, A. Canale, R. Pavela

5:35. Intermission.

5:50. Oral care compositions with antimicrobial and antibiofilm-forming properties based on medicinal herbs. M. Kryvtsova, I. Salamon, Y. Kostenko, M. Spivak

6:10. Glycoalkaloids diversity of solanum plants and their potential for cholinesterase inhibition. I.E. Popova, S. Sivasankara, B. Sell, H. Gross, L. Dandurand, J. Kuhl

Zoom Room 26

Japanese Food: Ingredients & Culture

M. Kobori, L. Liu, H. Nabetani, W. H. Yokoyama, Organizers K. Ohtsubo, Presiding

4:30. Characteristics of 'WASHOKU; Traditional dietary cultures of the Japanese' from the viewpoint of sustainable healthy diets. M. Yamaguchi, N. Nishi

5:00. Rice the symbolic food of Japan. K. Ohtsubo, S. Nakamura

5:30. Japanese diet and lifestyle-related diseases in Japan. N. Sawada, S. Tsugane

6:00. Lipid and protein comparison in beverages from white rice, non-sprouted brown and sprouted brown rice. J.C. Beaulieu, R. Moreau, M.P. Hojilla-Evangelista, J.M. Obando-Ulloa

SUNDAY EVENING Aug. 22

Zoom Room 23

Hemp, Medical & Aromatic Crops: Production, Phytochemistry, & Utilization

C. L. Cantrell, V. Jeliakov, Organizers, Presiding

7:00. Introductory Remarks.

7:05. Hemp and cannabis terpenes and cannabinoids; a review of current knowledge. V. Zheljazkov, F. Maggi

7:25. Hemp - phytochemistry, production, utilization including Romanian traditional usages. C. Buzna

7:45. Effects of inclusion level and clearing period of spent hemp biomass on lamb growth, feed intake and animal health. N. Parker, M. Bionaz, H. Ford, E. Trevisi, S. Ates

8:05. Enriching CBD in hemp extracts: Wax removal. M. Valizadehderakhshan, A. Shahbazi, A. Bhowmik, M. Azami

Zoom Room 24

Japanese Food: Ingredients & Culture

M. Kobori, L. Liu, H. Nabetani, Organizers

7:00. Home brewing rice wine using the putative *Aspergillus oryzae* in Berkeley, California. M.T. Cheng, J. Hudson
7:20. The culinary and medicinal uses of *Brasenia schreberi* or *Junsai*. W.H. Yokoyama, C.F. Shoemaker, H. Kim, J. Pan
7:40. You are what you eat. L. Liu
8:00. Concluding Remarks.

Process Research & Development in Crop Protection

Spons. AGRO, CoSpons. AGFD

Sustainability in Agriculture: New Sources & Tools for the Development of Sustainable Crop Protection Solutions

Spons. AGRO, CoSpons. AGFD, ENVR, PRES

SUNDAY EVENING Aug. 22 7 – 9 PM

World Congress Center Hall B4

General Posters (and AGFD social reception)

L. Liu, Organizer

Assessment of bioavailability of glyphosate in zea mays. C. Awuah, I. Emahi, S. Azibere (also in SciMix)

Hop (*Humulus lupulus*) acid and metabolite profiles in craft brewing cultivars by HPLC and GC-MS analysis. C. Paoletta, D.V. Liskin, A. Higgs, N. Wallace, F. Leitao, A. Brehm, B. Martin, R.A. Quinlan

Effect of metal ions on stability of vitamin C determined by HPLC. J. Huang, F. Chen

Mineral content of municipal water supplies used in craft brewing for the Hampton Roads area. C. Tawes, J.D. Cropley, A.Higgs, D.V.Liskin, A.Rathmann, R.A.Quinlan(also in SciMix)

Rapid detection of earthworm small molecular peptide F-1 in cells by NU-1000- surface assisted laser desorption/ionization mass spectrometry. W. Nan

Efficiency of seeds' germination in pre-sowing irradiation by UV-light of different spectral composition. M. Marenych, A. Semenov, T. Sakhno, N. Barashkov

TG-FTIR spectroscopic characterization of glanded and glandless cottonseed kernels. Z. He, S. Nam

Physicochemical characteristics of goat meat as influenced by phytochemical tannin containing peanut skin. J. Lee, B. Min
Evaluation of rapid wort color method for darker malts. N.O. Flynn (also in SciMix)

Fisetin reduces fat accumulation in *Caenorhabditis elegans*. S. Li, N. Rodriguez, Y. Park

Kahweol, a coffee diterpene, increases lifespan of *Caenorhabditis elegans*. J. Cho, Y. Park

Analysis of α -dicarbonyl compounds and 4-methylimidazole in coffee made with various roasting and brewing conditions.

K.G. Lee, S. Hyung, H. Park

Improvement of the Robusta coffee aroma by adding L-leucine powder on the green coffee beans. K.G. Lee, A. Cho, J. Park

Assessing the role of Molecular Synthons that alters 1,3:2,4 Dibenzylidene Sorbitol Self-Assembled Fibrillar Networks' Molecular Alignment. P. Nasr, M.G. Corradini, S.T. Reed, S.G. Rosendahl, F. Auzanneau, M.A. Rogers

MONDAY MORNING Aug. 23

Zoom Room 24

Chemistry, Health Benefits, & Future Prospect of Kimchi as Korean Health-promoting Fermented Vegetables

J. Cho, Y. Kim, Organizers H. Choi, Organizer, Presiding

10:30. Introductory Remarks.

10:35. Beyond the cabbage: The chemistry, history, culture, and status of the Korean superfood Kimchi in the global food market.. Y. Kim, J. Cho

10:50. Kimchi and its health functionality. K. Park, G. Hong, E. Park, T. Yu

11:05. Immunomodulatory properties of probiotics isolated from kimchi. M. Kwon, H. Park, H. Choi

11:20. Oral intake of kimchi alleviates obesity-induced neuroinflammation via modulation of gut microbiota. N. Kim, J. Lee, Y. Jang, M. Kwon, Y. Oh, H. Choi

11:35. Intermission.

11:45. Improvement effect of kimchi and kimchi active components on ER stress-induced non-alcoholic fatty liver disease via AMPK activation. Y. Yun

12:00. Therapeutic effect of lactic acid bacteria isolated from kimchi in a mouse tumor model. M. Yun, H. Jo, H. Park, H. Choi

12:15. Kimchi: A candidate for the partial control of COVID-19 symptoms. J.J. Bousquet

Natural Products & Food Informatics

Spons. CINF, CoSpons. AGFD, MEDI

Practical Residue Analytical Methods for the Analysis of Samples from Environmental & Consumer Safety Related Studies Spons. AGRO, CoSpons. AGFD

MONDAY AFTERNOON Aug. 23

Zoom Room 24

Analytical Methods for Health Beneficial Bioactive Components & Hazards in the Ethnic Foods H. Chun, H. Kim, K. G. Lee, Organizers, Y. Kim, Organizer, Presiding

2:00. Introductory Remarks.

2:20. In vitro models for the identification of plant constituents helping to control food intake. V. Somoza, B. Lieder

2:35. Reduction of furan in Korean instant noodle using various frying and drying conditions. K.G. Lee, H. Lee

2:50. Effect of food on orally-ingested titanium dioxide and zinc oxide nanoparticle behaviors in simulated digestive tract.

Pengfei Zhou

3:05. Intermission.

3:15. Quantitation of odorants in Chardonnay Marc. M. Dein, A. Moore, J.P. Munafo

3:30. Determination of organic acids in three ancestral beverages made from cassava (*Manihot esculenta*) fermented with kefir and yeast. E.G. Chimba Guamanarca, M. Patricia Soledad, G.J. Sandoval Cañas

3:45. Investigation into the sensorial and analytical differences of traditional hamburgers versus the plant-based analogues.

L. Zyzak, N.A. Britt, C.E. Boggs, P.K. Gilbert, L.E. Jones

Zoom Room 25

Modification of Agricultural Biomass into Value-Added Products M. Sarker, M. Yadav, Organizers H. Ngo, Organizer, Presiding M. Sarker, Presiding

4:30. Modifications of xylan with different alkyl derivatives. H. Cheng, A. Biswas, R. Furtado, C.R. Alves, S. Kim, M. Appell

4:50. Facile preparation of cellulose solutions and organogels and their use as media for grafting reaction on cellulose. J. Kadokawa

5:07. Promising non-fuel value added co-products from the biochemical conversion of sweet sorghum. R.J. Stoklosa, R.J. Latona

5:24. Characterization of hemicellulose-B from rice brans and study of their flour properties. M.P. Yadav, A. Kaur, B. Singh, M. Sarker

5:39. Nanocellulose as a co-additive for improved performance of cottonseed protein isolate as a paper strength additive. J.H. Jordan, M.W. Easson, H. Cheng, B.D. Condon
5:56. Bulk process for purification and enrichment of capsinoids from capsicum sp. fruit. C.L. Cantrell, B. Jarret
6:13. Oxidized soluble soybean polysaccharide crosslinked gelatin films for food packaging applications. J. Liu, Z. Rao, C. Liu, Y. Dong

MONDAY EVENING Aug. 23

Zoom Room 24

Modification of Agricultural Biomass into Value-Added

Products H. Ngo, M. Sarker, Organizers M. Yadav, Organizer, Presiding M. Sarker, Presiding
7:00. Understanding the interactions, at the molecular level, between whey protein isolate and sugar beet pectin in a hybrid system. P.X. Qi, Y. Xiao, E.D. Wickham
7:17. Effect of branched-chain fatty acid alkyl esters (BCAE) on the cold-flow properties of biodiesel. V.T. Wyatt, R.O. Dunn, H. Ngo
7:34. Creating a portfolio of products from the γ -valerolactone (GVL) biorefinery platform. S.D. Karlen, V. Tymokhin, C. Sener, J. Coplien, D. Haak, J. Ralph
7:51. Nanocellulose derived from agricultural byproducts and its utilization for sensing materials. N. Shahi, E. Lee, B. Min, D. Kim
8:08. Modified chicken fat with improved physical and tribological properties. M. Sarker, H. Yosief, G.B. Bantchev, R. Dunn, S. Cermak
8:25. Lignin valorization by integrating chemical depolymerization and microbial funneling: New strategies to produce 2-Pyrone-4,6-dicarboxylic acid. C. Sener, J.M. Perez, G.E. Umana, S. Misra, C. Maravelias, S.D. Karlen, T.J. Donohue, D.R. Noguera, J. Ralph
8:42. Synthesis of mechanically strong and biodegradable biomass-based polyesters. S. Kim, H. Chung

Natural Products & Food Informatics

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Practical Residue Analytical Methods for the Analysis of Samples from Environmental & Consumer Safety Related Studies

Spons. AGRO, CoSpons. AGFD

Good Laboratory Practices: How to Conduct Studies

Under the Regulatory Environment

Spons. AGRO, CoSpons. AGFD, ENVR

MONDAY EVENING Aug. 23 8 – 10 PM

World Congress Center Hall B4

Sci-Mix

Uric acid-degrading bacteria: A promising strategy to control hyperuricemia. W.W. Wolfe, H. Xiao
Evaluation of rapid wort color method for darker malts. N.O. Flynn
Rapid detection of earthworm small molecular peptide F-1 in cells by NU-1000- surface assisted laser desorption/ionization mass spectrometry. W. Nan
Quantification of polyphenolic compounds in pineapple rinds (Ananas comosus) obtained from industrial and household waste, and determination of their antioxidant capacity for potential use in the formulation of an added value food product. R. Abarca Aguilar
Analysis of α -dicarbonyl compounds and 4-methylimidazole in coffee made with various roasting and brewing conditions. K.G. Lee, S. Hyung, H. Park
Improvement of the Robusta coffee aroma by adding L-leucine powder on the green coffee beans. K.G. Lee, A. Cho, J. Park

Kahweol, a coffee diterpene, increases lifespan of *Caenorhabditis elegans*. J. Cho, Y. Park
Elemental analysis of food and dietary supplements by LA-ICP-MS. C. Martinez-Lopez, T. Todorov
Assessment of bioavailability of glyphosate in zea mays. C. Awuah, I. Emahi, S. Azibere
Green sweet pepper as a functional ingredient of wheat bread: Effect on dough rheology and bread quality. R. Kaur, K. Kaur
Hop (*Humulus lupulus*) acid and metabolite profiles in craft brewing cultivars by HPLC and GC-MS analysis. C. Paoletta, D.V. Liskin, A. Higgs, N. Wallace, F. Leitao, A. Brehm, B. Martin, R.A. Quinlan
Mineral content of municipal waters supplies used in craft brewing for the Hampton Roads area. C. Tawes, J.D. Cropley, A. Higgs, D.V. Liskin, A. Rathmann, R.A. Quinlan
Investigation of the antioxidant properties and phytochemical composition of *Rivina humilis* and *Cissus sicyoides* berries. A. Goldson-Barnaby, H. Virgo
Portable food-freshness recognition platform based on MOF-enhanced colorimetric combinatorics and deep convolutional neural networks. P. Ma, Q. Wang
NMR spectra of American bourbon whiskeys. H. Zhang
Improving soil health and quality with the help of amendments and various salt-tolerant rice genotypes in sodic soils. S. Mali
Sustainable, reusable and biodegradable hydrogel "jelly ice cubes" as food cooling media. J. Zou, L. Wang, G. Sun
Non-targeted metabolomics of cooked cowpeas and pigeon pea from Ghana. B. Sayre-Chavez, B. Baxter, C. Broeckling, M. Munoz-Amatriain, M. Manary, E. Ryan
Commercial flavored olive oil analysis by nuclear magnetic resonance spectroscopy and ultraviolet-visible spectroscopy. S. Ok
Investigation of multicomponent dairy gel system for 3D printing. S. Joshi, M. Bareen, J. Sahu, S. Naik, S. Prakash

TUESDAY MORNING Aug. 24

World Congress Center B213 - B214

General Papers

L. Liu, Organizer, J. Lemon, Presiding
8:00. Disposition of FD&C food dyes in over the counter medicines and vitamins. A.E. Mitchell, A. Lehmkuhler, A. Bradman, R. Castorina
8:30. Determination of low- and non-caloric sweeteners in food and beverages by HPAE-PAD. M. Aggrawal, J.S. Rohrer
9:00. Consumer preference, sensory quality, and nutritional values of pecan oils from native and improved varieties. X. Du, A. Muniz, X. Liu, Z. Yusufali
9:20. Understanding seasonal changes in volatile and phenolic compounds in California native elderflowers (*Sambucus nigra* ssp. *cerulea*). K. Uhl, A.E. Mitchell
9:40. Identification and characterization of chemical compounds contributing to coffee body. B.M. Linne, C.T. Simons, D.G. Peterson

Zoom Room 23

AGFD Awards Symposium & Sterling B. Hendricks

Memorial Lecture M. Appell, M. Granvogl, B. Park, Organizers, Presiding, W. Yokoyama, Presiding
10:30. Quantitative dietary fingerprinting (QDF)—A novel tool for comprehensive dietary assessment based on quantitative large-scale multianalyte metabolomics platform. R. Gonzalez-Dominguez, M.M. Urpi-Sarda, O.O. Jauregui, P.W. Needs, P.A. Kroon, C. Andres-Lacueva
10:50. Developing advanced analytical techniques to combat food fraud. X. Lu

11:10. Functional foods, nutraceuticals and natural health products: Achievements and challenges. F. Shahidi

World Congress Center B213 - B214

General Papers

L. Liu, Organizer, Presiding

10:30. Freshwater microalgae harvesting by self-driven 3D microfiltration with porous superabsorbent polymer (PSAP) beads. W. Chen, X. Xie

10:50. Biodegradable controlled release fertilizer based on chitosan-montmorillonite nanocomposites. Z. Dou, V. Bini, X. Xie

11:10. Characterization of novel soybean hull-based binders for aqua-feed pellets. N. Etebari Alamdari, B. Aksoy, M. Aksoy, B.H. Beck, Z. Jiang

11:30. Bioinspired seed coatings to boost germination and mitigate abiotic stressors. A. Zvinavashe, B. Marelli

12:00. Converting orange peel wastes to degradable bioplastics. M. Davaritouchaee, A. Abbaspourrad

TUESDAY AFTERNOON Aug. 24

World Congress Center B213 - B214

General Papers

L. Liu, Organizer H. Cao, Presiding

2:00. Determination of trans-galactooligosaccharides in foods using HPAE-PAD in dual eluent generation cartridge mode. J. Hu, J.S. Rohrer

2:20. Development and validation of a quantitative high-performance anion-exchange chromatography with pulsed amperometric detection (HPAEC-PAD) method permits structural profiling of arabinoxylans from cool-season pasture grasses. R.R. Schendel, G. Joyce, M. Flythe, I. Kagan

2:40. Aptamer based pesticide detection: Tri-element analysis. S. Shikha, S.K. Pattanayek

3:00. Identification of odorants from southern mountain mint, *Pycnanthemum pycnanthemoides*. M. Dein, J.P. Munafo

3:20. Anti-glycation and protein cross-link breaking effects of *Murraya koenigii* (curry leaf) crude leaf extracts. O.I. Adeniran, N. Mkolo

3:40. Synthesis and characterization of antimicrobial dihydroxy quaternary ammonium bromides. A. Rudlong, J.M. Goddard

Zoom Room 24

AGFD Award Symposium Honoring Prof. Rickey Y. Yada

Y. Kim, X. Lu, M. J. Morello, Organizers, Presiding

4:30. Introductory Remarks.

4:35. Mapping out the structure-function relationships of legume protein nanofibrils. D. Dee, S. Zamani, C. Shi

5:05. X-ray crystallographic study of unique properties of *Lactococcus lactis* proline-specific dipeptidase, prolidase. T. Tanaka

5:35. Characterization of new plant proteases and their potential applications in food processing. M. Mazonra Manzano, J. Teutle Paredes, W. Mora Cortes, D. González Velásquez, J. Moreno Hernández

World Congress Center B213 - B214

General Papers

L. Liu, Organizer J. Firrman, Presiding

4:30. Diabetes as an environmental risk factor: An extremely facile microwave-induced organic synthesis of creatine-MGO adducts and characterization by LC-MS/MS. B. Dayal, M.A. Lea, S. Nanda

4:50. Uric acid-degrading bacteria: A promising strategy to control hyperuricemia. W.W. Wolfe, H. Xiao (also in SciMix)

5:10. Enhancement of carotenoid bioavailability in humans using excipient systems: Influence of dosing strategy of black pepper. H. Luo, Z. Li, Y. Sun, J. Zhou, C. Lo, Q. Wang, L. Yi, Y. Gao, Y. Wu, J. Huang, H. Xiao

5:30. Evidence for glandless cottonseed kernel extract down-regulating gene expression in human colon cancer cells. H. Cao, K. Sethumadhavan, X. Wu, X. Zeng, L. Zhang

5:50. Investigating the structure-function relationship of natural polyphenols in inhibiting islet amyloid polypeptide fibril formation. R. Abioye, C. Udenigwe

6:10. Role of phytochemicals from food/medicinal plants as potential therapeutic anti-diabetic drugs. P. Rath, A. Ranjan, A. Chauhan, T. Jindal

Zoom Room 24

AGFD Award Symposium Honoring Prof. Rickey Y. Yada

Y. Kim, X. Lu, M. J. Morello, Organizers, Presiding

7:00. Modulation of the structure-function properties of plant proteins by pH, temperature and high pressure. R. Aluko

7:30. Introductory Remarks.

7:40. The quest to better refine the structure – function relationships of proteins/enzymes: A food scientist's journey. R. Yada

8:20. Panel Discussion.

8:35. Concluding Remarks.

Analytical Technologies in Agrochemistry and Strategies for Chiral Separation

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Enhanced Agrochemical Applications through Surfactant, Formulation, & Colloid Technology

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TUESDAY EVENING Aug. 24 7 - 9 PM

Virtual Room

General Posters

L. Liu, Organizer

Synthetic strategy of using amino acids to compounds for their biological activities. Y. Lo, G. Ren, E.J. Parish, H. Honda, H. Shyu, T. Wei

Chemical sensors in agricultural pest management. D. Bhagat, A. Shylesha, N. Bakthavatsalam

Exploring Molecular encapsulation of Nile blue and p-sulfonatothiocalix[4]arene in solution and solid state by physicochemical characterization, molecular docking and QSAR studies. N. Roy, M. Roy

Improving soil health and quality with the help of amendments and various salt-tolerant rice genotypes in sodic soils. S. Mali
Effects of kitchen waste compost on rice yield, quality and soil nutrient content. M.J. Yong, L.Y. Feng, F. Zhao, T.G. Ming, L. Ji

Analysis and determination of plant defense chemicals in sweet potato (*Ipomoea batatas*) plants through solid-phase microextraction. J. Collier, T. Douglas, F.R. Musser, A.E. Brown

Phytotoxicity of lithium cobalt oxide nanoparticle contaminated soil to soybean (*Glycine max*). C. Tamez, E. Ostovich, R. Klaper, R.J. Hamers, J.C. White

Nano-sized hydrophobic agricultural chemicals encapsulated by sorphorolipids prepared by flash nanoprecipitation. S. Wang, E. Ma, K. Chen, Z. Liu, L. Li, X. Guo

Non-targeted metabolomics of cooked cowpeas and pigeon pea from Ghana. B. Sayre-Chavez, B. Baxter, C. Broeckling, M. Munoz-Amatriain, M. Manary, E. Ryan

Detection of heavy metals in cannabis-based nutraceutical products. D. Nakamura, B. Herring, A.E. Brown, D.L. Sparks

Environmental microclimate and soil conditions: Influences on elemental profile from Pinot noir wines from fourteen different vineyard sites. M. M. M. Lima, D. Hernandez, A. Yeh, T. Reiter, R.C. Runnebaum

Commercial pectin production from dried Florida orange peel, effect of process conditions on pectin structure and function. R.G. Cameron, K. Ferguson, C. Dorado

Comparison Analysis of Toxic Trace Metal Contents in Vegetables from Different Local Markets of Lahore, Pakistan: S. Islam

Portable food-freshness recognition platform based on MOF-enhanced colorimetric combinatorics and deep convolutional neural networks. P. Ma, Q. Wang

Manothermosonication modified citrus pectin by a continuous-flow system: Improved emulsifying and encapsulation properties. W. Wang, D. Liu, H. Feng

Colorimetric detection of monoterpenes in hemp (*Cannabis sativa*) essential oil. X. Luo, L. Lim

Total available water-soluble vitamin C and antioxidant capacity from five common citrus fruit peels. A. Kim, J. Om

Defining a process for the extraction of bromelain from pineapple waste. N. Affrifah, E. Cudjoe, A.S. Budu, F.K. Saalia

Effect of vacuum drying on flavor and aroma compound retention and stability in hops (*Humulus lupulus* L.). M. Naziemiec, M.T. Kwasniewski, R. Anantheswaran, R. Elias

Investigation of the antioxidant properties and phytochemical composition of *Rivina humilis* and *Cissus sicyoides* berries. A. Goldson-Barnaby, H. Virgo

Investigation of multicomponent dairy gel system for 3D printing. S. Joshi, M. Bareen, J. Sahu, S. Naik, S. Prakash

Incorporation of silver nanoparticles (AgNPs) with chicken eggshell powder for enhanced antimicrobial activities against foodborne pathogens and their biofilms. K. Tao, K. Huang

Sustainable, reusable and biodegradable hydrogel "jelly ice cubes" as food cooling media. J. Zou, L. Wang, G. Sun

Nanocellulose reinforced alginate films and their applications in controlled release of active molecules into food simulant media. C. Villa, L.T. Sanchez, M.I. Pinzon, N.D. David, V. Valderrama

Combined mechanistic study of *Colocasia gigentia* leaves for the alleviation of pain and inflammation. M. Adnan, M. Chy, M. Riad Chowdhury

Commercial flavored olive oil analysis by nuclear magnetic resonance spectroscopy and ultraviolet-visible spectroscopy. S. Ok

NMR spectra of American bourbon whiskeys. H. Zhang

Effect of phosphate-solubilizing bacteria on phosphorus fractions transformation and bacterial community dynamics during kitchen waste composting. Z. Yabin, Z. Zhang, Y. Wei, J. Li

Characterization of bioactive oligosaccharides and glycosides in *Rehmannia glutinosa* using liquid chromatography-mass spectrometry based methods. Y. Chen, J.J. Castillo, G. Couture, N. Bacalzo, C.B. Lebrilla

H1 lubricant transfer from a hydraulic piston filler into a semi-solid food system. Y.S. Song, P. Chao, L.B. Edano, J.L. Koontz

Elemental analysis of food and dietary supplements by LA-ICP-MS. C. Martinez-Lopez, T. Todorov

The effect of Weber Fractions and Interstimulus Intervals on the probability of odorant recognition during sequential head space stimulations. Z. Alcott, J. Ong, A. Gomez, D. Huang, L. Solla, T.E. Acree

Quantification of polyphenolic compounds in pineapple rinds (*Ananas comosus*) obtained from industrial and household waste, and determination of their antioxidant capacity for

potential use in the formulation of an added value food product.

R. Abarca Aguilar

Green sweet pepper as a functional ingredient of wheat bread: Effect on dough rheology and bread quality. R. Kaur, K. Kaur (also in SciMix)

Obvious fluctuations in the essential oil profile of *Ducrosia anethifolia* under various circumstances: Flavorous decanal, anticonvulsant 2-dodecenal-E, and sedative chrysanthenyl acetate. A. Shayganfar, H. Mumivand

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WEDNESDAY MORNING Aug. 25

World Congress Center B213 - B214

General Papers

L. Liu, Organizer X. Fan, T. Z. Jin, Presiding

8:00. Animal toxicity testing reduction efforts in the environmental fate and effects division. W.P. Eckel, M. Lowit, T. Johnson, E. Harwood, A. Blankinship, J. Holmes, D. Hoff

8:15. New tests to predict the functionality of wheat gluten in bread making. M. Schopf, K. Scherf

8:30. Comparison of benzyl 6-O-beta-D-apiofuranosyl-b-D-glucoside in different varieties of culinary sage (*Salvia officinalis*). N. Chiang, S. Ray, S. Komarnytsky, C. Ho, J.P. Munafa

8:45. Omega-3 phospholipidomic profiling by nuclear magnetic resonance spectroscopy of commercial New Zealand species fish head by-product. M.K. Ahmmed, A. Carne, H. Tian, A.A. Bekhit

9:00. Nondestructive multiplex detection of foodborne pathogens with background microflora and symbiosis using a paper chromogenic array and advanced neural network. Z. Jia

9:15. Metabolomics and lipidomics strategy to assess the combined toxicity of carbon dots in clams and Cd²⁺. H. Wang, Z. Qi

9:30. Calcium binding to peptide from whey protein hydrolysis. Y. Jiang, X. Liu, L.M. Ahrné, L.H. Skibsted

9:45. Inhibitory effects of titanium dioxide nanoparticles on beneficial gut bacteria. Y. Wu, H. Xiao

Zoom Room 44

Application of Omics Technologies in Food and Medicinal Plant Omics for Bioactive Molecule Research

J. An, J. Suh, Y. Wang, Organizers, Presiding

10:30. Introductory Remarks.

10:35. New openings for the tricky separation, enrichment and untargeted investigation of short bioactive peptides. A. Capriotti, A. Cerrato, C. Montone, C. Lammi

11:05. Polymethoxylated flavones profiling of various citrus germplasm in combination with mining and characterization of biosynthesis-related genes. J. Xu, Z. Peng, J. Chen, H. Zhang

11:35. Targeted *Salix* chemoprofiling for improved medicinal potential of willow bark. C. Dawid, K. Antoniadou, C. Herz, N. Förster, M. Zander, C. Ulrichs, I. Mewis, V.K. Mittermeier, T. Hofmann, E. Lamy

World Congress Center B213 - B214

General Papers

L. Liu, Organizer M. Sarker, Presiding

10:30. Redox-active natamycin: Antifungal efficacy and food safety. J.H. Kim, C.C. Tam, K.L. Chan, L.W. Cheng, K.M. Land, M. Friedman, P. Chang
10:50. Intelligent films for shrimp-freshness monitoring based on pectin, sodium alginate, cellulose nanocrystals, and red cabbage extracts. Y. Lei, Q. Yao, Z. Jin, Y. Wang
11:10. Barley (*Hordeum vulgare*) performance after successive exposures to cerium oxide nanoparticles and perfluorooctanesulfonic acid. C. Rico, D.C. Wagner, P. Ofoegbu, I. Sayers, J. Glover, A. Harms
11:25. Improvement of bioaccessibility and anti-inflammatory activity of resveratrol by fabrication of novel zein-based composite nanoparticles. J. Liu, Y. Zhang, B. Gao, L. Yu
11:40. Co-assembly of zein and sodium hyaluronate to form core-shell colloidal nanoparticles in flow-focus microfluidics. H. Guo, W. Wang, D. Liu
11:55. Pectin-chitosan-coated nanoliposome is a promising nanocarrier for encapsulation, controlled delivery, and enhanced biological activity of food bioactive compounds. N. Karim, W. Chen
12:10. Photoinactivation of *Aspergillus niger* spores by curcumin loaded nanoemulsions. C. Villa, L.T. Sanchez, M.I. Pinzon, L.M. Arbealez

Zoom Room 24

Nutrients: Microbiome Interaction Feeding the Gut: What Drives a Healthy Gut

L. A. Doherty, P. J. Karl, J. W. Soares, Organizers K. Mahalak, G. Zhang, Organizers, Presiding
10:30. Introductory Remarks.
10:35. The impact of gut microbiota on avenanthramide metabolite from whole grain oat intake. S. Sang
11:05. Beta-lactam antibiotic exposure alters the gut microbiota peptidoglycan profile. Y. Qiao
11:35. Specific Gut Microbial Enzymes Drive Colitis Promotion by Triclosan. J. Zhang, M. Walker, K. Sanidad, H. Zhang, E. Zhao, K. Chacon-Vargas, V. Yeliseyev, J. Parsonnet, T. Haggerty, G. Wang, J. Shimpson, P. Jariwala, V. Beaty, J. Yang, H. Yang, A. Panigraphy, L. Minter, D. Kim, J. Gibbons, L. Liu, Z. Li, H. Xiao, V. Borlandelli, H. Overkleeft, E. Cloer, M. Major, D. Goldfarb, Z. Cai, M.R. Redinbo, G. Zhang
11:55. The role of gut microbiota on the biotransformation and biofunction of nobiletin, a major citrus flavonoid. Y. Chen, Q. Wang, M. Luo, H. Du, Y. Han, M. Wang, H. Xiao
12:25. Concluding Remarks.

Chemical Communication between Living Organisms in Agricultural Systems: Early Career Symposium

Spons. AGRO, CoSpons. AGFD, COMSCI, ENVR
Genome Editing in Agriculture: Leveraging New Breeding Tools to Improve Crops & Their Production
Genome Editing in Agriculture: Tools and Traits
Spons. AGRO, CoSpons. AGFD
Human Health Paradigms: Exposure, Risk Assessment & Policies for Agrochemicals
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WEDNESDAY AFTERNOON Aug. 25

Zoom Room 43

Application of Omics Technologies in Food and Medicinal Plant Omics for Bioactive Molecule Research

J. An, J. Suh, Y. Wang, Organizers, Presiding
2:00. MicroRNA-mediated anti-diabetic activity of phenolic acids. H. Lee, J. Lee
2:30. Accelerating drug discovery by high throughput metabolomics and systems biology. A. Palermo

3:00. Efficient discovery of dihydrochalcones in star fruit using UHPLC-MS/MS combined with molecular networking. Z. Wang, J. Li, A. Chambers, J. Crane, Y. Wang
3:30. Concluding Remarks.

Zoom Room 24

Nutrients: Microbiome Interaction Feeding the Gut: What Drives a Healthy Gut

L. A. Doherty, P. J. Karl, J. W. Soares, Organizers K. Mahalak, G. Zhang, Organizers, Presiding
2:00. Introductory Remarks.
2:05. Human gut microbial enzymes in xenobiotic and endobiotic processing. M.R. Redinbo
2:35. Gut microbiota dictate the metabolic fate of curcumin in the mice and human. Z. Li, H. Luo, C. Pan, H. Xiao
2:55. Gut microbiota-mediated biotransformation of selected polyphenols. E. Zhao, Z. Li, M. Gu, Y. Sun, F. Li, W. Dixon, H. Xiao
3:15. Gut microbiota and microbial catabolism modulate the anti-inflammatory activity of aronia berry polyphenols. B.W. Bolling
3:45. Concluding Remarks.

Zoom Room 38

Application of Omics Technologies in Food and Medicinal Plant Omics for Biomarker Research

J. An, J. Suh, Y. Wang, Organizers, Presiding
4:30. Introductory Remarks.
4:35. Biomarkers of food intake by metabolomics. O. Fiehn, J. Folz
5:05. The application of metabolomics to study food biomarkers. S. Sang
5:35. A metabolomics profiling of cantaloupe hybrids grown in various locations in the United States. J. Singh, R. Metrani, K.M. Crosby, J. Jifon, S. Ravishankar, B.S. Patil

Zoom Room 24

Nutrients: Microbiome Interaction Feeding the Gut: What Drives a Healthy Gut

P. J. Karl, K. Mahalak, G. Zhang, Organizers L. A. Doherty, J. W. Soares, Orgs., Presiding
4:30. Introductory Remarks.
4:35. Value of in vitro gut models in deciphering the impact of prebiotics on the human gut microbiota. P. van den Abbeele
5:05. Citrus pectins modulate the gut microbiota and increase short-chain fatty acid production in vitro. J. Firrman, K. Mahalak, J. Bobokalonov, L. Liu, J. Lee, K. Bitteringer, M. Lisa, R. Gadaingan
5:35. Digestive survival of human and bovine milk proteins and release of antimicrobial and immunomodulatory milk peptides. D. Dallas
6:05. Concluding Remarks.

WEDNESDAY EVENING Aug. 25

Zoom Room 12

Application of Omics Technologies in Food and Medicinal Plant Omics (Others)

J. An, J. Suh, Y. Wang, Organizers, Presiding
7:00. Application of metabolomics to elucidate quality changes in animal-derived foods. R. Ramanathan, S. Heena, F. Kiyimba, G. Mafi
7:30. Structural characterization of dietary carbohydrates using liquid chromatography-mass spectrometry (LC-MS) methods. J.J. Castillo, M. Amicucci, A.G. Galermo, E. Nandita, G.A. Couture, N. Bacalzo, Y. Chen, C.B. Lebrilla
8:00. Alien chemistry: Elucidating the function and biosynthesis of pyrrolidine and phenanthroindolizidine alkaloids in highly

invasive *Vincetoxicum rossicum*. C.J. Kempthorne, V. Kanellis, J. Mc Nulty, D.K. Liscombe
8:30. Concluding Remarks.

Zoom Room 24

Nutrients: Microbiome Interaction Feeding the Gut: What Drives a Healthy Gut

P. J. Karl, K. Mahalak, G. Zhang, Organizers L. A. Doherty, J. W. Soares, Orgs., Presiding
7:00. Introductory Remarks.
7:05. Effects of kefir paraprobiotics and flavonoid-rich prebiotics on diet-induced obesity. H. Kim, K. Seo, J. Jeong
7:35. Dietary intake of king oyster mushroom (*Pleurotus eryngii*) attenuated high-fat diet-induced obesity via ameliorating lipid metabolism and alleviating gut microbiota dysbiosis. H. Du, H. Xiao
8:05. Probiotic effects of *Lactobacillus fermentum* Zjuids06 and *Lactobacillus plantarum* ZY08 on hypercholesteremic golden hamsters. D. Yang, Z. Hu, J. Liu, J. Firrman, D. Ren
8:35. *Lactobacillus plantarum* ZY08 mitigates alcohol-related liver disease by improving intestinal barrier function. Q. Ding, F. Cao, T. Valencak, J. Liu, D. Ren
8:55. Concluding Remarks.

Chemical Communication between Living Organisms in Agricultural Systems: Early Career Symposium

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THURSDAY MORNING Aug. 26

Zoom Room 24

Nutrients: Microbiome Interaction Gut Microbiota Saccharolytic/Proteolytic Metabolism

L. A. Doherty, J. W. Soares, G. Zhang, Organizers P. J. Karl, K. Mahalak, Organizers, Presiding
10:30. Introductory Remarks.
10:35. Intestinal transit time, an important but often neglected factor, affecting gut microbial composition and metabolism. H.M. Roager
11:05. Environmental pH is a determinant of the gut microbiota community composition and production of short chain fatty acids. J. Firrman, L. Liu, K. Mahalak, C. Tanes, K. Bittinger, V. Tu, J. Bobokalonov, M. Lisa, H. Zhang, P. van den Abbeele
11:35. Wheat bran as insoluble dietary fiber drives human gut microbiome stability and functionality. T. Van De Wiele
12:05. Concluding Remarks.

Feeding a Hungry World Amidst Varying Pesticide Regulations

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THURSDAY AFTERNOON Aug. 26

Zoom Room 24

Nutrients: Microbiome Interaction Gut Microbiota Saccharolytic/Proteolytic Metabolism

L. A. Doherty, J. W. Soares, G. Zhang, Organizers P. J. Karl, K. Mahalak, Organizers, Presiding
2:00. Introductory Remarks.
2:05. Dietary fiber and mucosal glycan degradation by human gut bacteria: opposing roles in health and disease. E.C. Martens
2:35. Role of dietary fiber in the recovery of the human gut microbiome and its metabolome. E.S. Friedman
3:05. Ecological memory of prior nutrient exposure in the human gut microbiome. J. Letourneau
3:30. Prebiotic lactulose as efficacious microbiota and metabolite modulator in cirrhosis environment. A. Mancini, S. Larsen, F. Campagna, P. Franceschi, P. Amodio, C. Pravadelli, M. Pindo, K. Tuohy
3:55. Concluding Remarks.

World Congress Center B211 - B212

Application of Omics Technologies in Food and Medicinal Plant Omics for Flavor Research

J. An, J. Suh, Y. Wang, Organizers, Presiding
4:30. Introductory Remarks.
4:35. Approaches in strawberry multi-omics and systems genetics to improve fruit flavor. S. Lee, F. Zhen, C. Barbey, Y. Oh, H. Han, V. Whitaker
5:00. Sensory properties and metabolomic profiles of different apple cultivars grown in Korea. K. Kim, G. Kim, I. Chun, J. Sung
5:25. Identification of coffee compounds that suppress brew bitterness. C. Gao, E. Tello, D.G. Peterson
5:50. Metabolomics approach in understanding formation of key mango flavors. J. Suh, J. Sung, A. Chambers, J. Crane, Y. Wang

THURSDAY EVENING Aug. 26

Zoom Room 25

Application of Omics Technologies in Food and Medicinal Plant Omics (Others)

J. An, J. Suh, Y. Wang, Organizers, Presiding
7:00. Comparative UHPLC-Q-Orbitrap HRMS-based metabolomics unveils biochemical changes of black garlic during ageing process. P. Liao, W. Chang, Y. Chen
7:25. Non-targeted VOC profiling by GC-IMS and machine learning - principles and applications. P. Weller
7:50. Multi-omics approach in tea polyphenol research regarding tea plant growth, development and tea processing: Current technologies and perspectives. J. Li, Y. Wang, J. Suh
8:15. Concluding Remarks.

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Schedule of Technical, Business and Social Meetings

Sunday August 15	11 am – noon	Future Programs	via Zoom
Sunday August 15	1 pm – 2 pm	Special Topics and Business	via Zoom
Sunday August 15	3 pm – 6 pm	Executive Committee	via Zoom
Sunday August 22	7 pm – 9 pm	AGFD Poster Session & Reception	Convention Center Hall B4
Monday August 23	8 pm – 10 pm	Sci-Mix	Convention Center Hall B4