



CORNUCOPIA

including the AGFD program for the
264th American Chemical Society (virtual & live) National Meeting on
August 21 - 25, 2022
in

CHICAGO

Jonathan Beauchamp, Michael Granvogl & LinShu Liu
Program Chairs

Questions about
VIRTUAL PROGRAMMING?

see page 2

Going to Chicago?

Join the AGFD Award Reception (free refreshments!)

Marriott Marquis Chicago

2121 South Prairie Avenue

Tuesday, August 23, 6:30- 8:30pm

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

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

We're on LinkedIn, too!

MESSAGE FROM THE CHAIR

Hello Colleagues,

So far, 2022 has been a remarkable year. In the last 7 months we have taken great strides to achieve our goals. Even though Covid-19 is still raging, farmers, food processors and inspectors, transporters, and retailers work hard and selflessly, ensuring to provide enough food, and safe food to every American family, and to the world. AGFD members, along with other colleagues in the agricultural and food frontier, continue to endeavor in the research of food engineering, flavor, safety, new packaging materials, nutrition, gut-diet interactions, and green chemistry. The results were presented at the ACS 2022 Spring National Meeting (March 20-24, San Diego, CA) in 12 symposia, totaling 176 oral presentations and 77 posters. Once again, we demonstrated the creativity and flexibility of our AGFD community.

The roots of our strength grow from our diversity and unity. AGFD covers 19 professional disciplines, with members from all over the world, from the Americas, Europe, Asia, and Africa to Australia. As in every society, and as we can see throughout history, the fusion and transformation of knowledge and culture promote great leaps in science and technology. We are happy to see new faces in every National Meeting, and we are excited by the discovery and invention that we learn about through reading publications. We should treasure this diversity and unity, and we should work together and respect each other.

Here, I also want to express my special thanks to Jonathan Beauchamp and Jason W. Soares. Sadly, in March, our long-time friend and young leader, Michael Granvogl passed away due to an accident, and we miss him dearly. Due to these unfortunate circumstances, Jonathan stepped up to take the role of Division Chair-Elect and the co-chair of the AGFD Program for the ACS Fall Meeting; and he is doing very well now. We benefit from his originality and creativity. Thank you, Jonathan! Jason accepted the Vice-Chair position in this emergency. Jason is from the US Army DEVCOM Soldier Center, and is the current Chair of the Tri-Service Microbiome Consortium. He will bring fresh air and inject new ideas into our community. Both Jonathan and Jason possess rich experience in running big organizations and large-sized National/International Meetings. I wish Jonathan and Jason success with ACS and AGFD!

Best regards,

LinShu Liu, Ph.D.
2022 AGFD Chair
Linshu.liu@usda.gov

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VIRTUAL PROGRAMMING – HOW DOES IT WORK ?

See the ACS website links, below, for the Chicago meeting.

Go to **ACS.org, Meetings and Events, ACS Meetings and Expositions,**

Click on **Frequently Asked Questions** or use the link:

<https://www.acs.org/content/acs/en/meetings/acs-meetings/fall-2022/attend/faq.html>

FUTURE PROGRAMS

INDIANAPOLIS March 26-30 2023

ACS Meeting Theme - Crossroads of Chemistry

Agri-Food Sustainability at a Crossroads: Challenges of the Food, Energy and Water Nexus Vinka Craver craver@uri.edu Yufeng Jane Tseng yjtseng@csie.ntu.edu.tw Lingyun Chen lingyun1@ualberta.ca Michael Appell michael.appell@usda.gov Omowunmi Sadik omowunmi.sadik@njit.edu

Citrus Flavor in the Omics Era Yu Wang yu.wang@ufl.edu Anne Plotto anne.plotto@ars.usda.gov

Before the Coffee Break: The Rich and Complex Chemistry of Coffee Nina Buck nina.buck@ivv.fraunhofer.de Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de

Functional Ingredients in Food Processing Xian Wu wux57@miamioh.edu William Dixon dixonwi4@msu.edu Zhengze Li zhengze.li@ndsu.edu

Advances in Food Packaging and Preservation Majher Sarker majher.sarker@usda.gov Tianxi Yang tianxi.yang@ubc.ca

Recent Advances in Analytical Strategies for Food Allergen Detection and Mangement Qinchun Rao qrao@fsu.edu Chris Mattison chris.mattison@usda.gov

Biomarkers of Food or Drug Intake: Chemistry at the Intersection of Human Health Applications Y Lan Pham y.lan.pham@ivv.fraunhofer.de Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de

General Papers Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de Jason Soares Jason.w.soares.civ@mail.mil

General Posters and Undergraduate Poster Competition Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de Jason Soares Jason.w.soares.civ@mail.mil Kathryn Deibler Kdd3@cornell.edu

Withycombe-Charalambous Graduate Student Symposium Kathryn Deibler Kdd3@cornell.edu

Panel Discussion: Career Paths in Academia, Government and Industry Alyson Mitchell aemitchell@ucdavis.edu Brian Guthrie Brian_Guthrie@cargill.com

Panel Discussion: The Road to Successful Publishing Coralía Osorio Roa cosorior@unal.edu.co Brian Guthrie Brian_Guthrie@cargill.com Veronika Samoza v.somoza.leibniz-lsb@tum.de Lucy Yu lyu5@umd.edu Jonathan Beauchamp jonathan.beauchamp@ivv.fraunhofer.de

SAN FRANCISCO August 13-17 2023

ACS Meeting Theme - Harnessing the Power of Data

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

Chemistry of Wine Gavin Sacks gls9@cornell.edu Elizabeth Chang eabc@vt.edu Gal Kreitman gal.kreitman@ejgallo.com

Alternative Protein Sources for Human Nutrition (Plant-Based Protein) Brian Guthrie brian_guthrie@cargill.com Michael Morello mjmorello226@gmail.com John Finley jfinle5@lsu.edu

New Source of Future Foods for Zero Hunger Coralía Osorio Roa cosorior@unal.edu.co Laura McConnell laura.mcconnell@bayer.com

Mycotoxins Hans-Ulrich Humpf humpf@uni-muenster.de

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Advances in Food Chemical Informatics, Knowledge Bases and Databases Brian Guthrie
brian_guthrie@cargill.com David Wild djwild@indiana.edu

Oat Bioactives & Their Health Benefits Shengmin Sang ssang@ncat.edu Changling Hu YiFang Chu

Sustainable Agriceuticals: Chemistry of Traditional Medicines Wally Yokoyama
wally.yokoyama@usda.gov

JAFC Best Paper Award

Young Scientist Award

Sterling Hendricks Award

Chemical Intervention Technology to Improve Microbial Stability of Food Xuotong Fan Tony Jin
tony.jin@usda.gov

Artificial Intelligence Applications for Food and Agriculture Bosoon Park bosoon.park@usda.gov
Michael Appell michael.appell@usda.gov

Smart Food Safety Xiaonan Lu xiaonan.lu@mcgill.ca Rickey Yada r.yada@ubc.ca

Microplastics and Nanoplastics in Seafood Changqing Wu changwu@udel.edu

Future of Agriculture and Food: Sustainable Approaches to Achieve Zero Hunger (co-org w/AGRO)
Coralia Osorio Roa cosorior@unal.edu.co

PFAS and Phthalates in Food and Consumer Products John Finley JFinley@agcenter.lsu.edu

NEW ORLEANS March 17-21 2024

ACS Meeting Theme - The Many Flavors of Chemistry

Authenticity and Adulteration Analysis Neil Da Costa neil.dacosta@iff.com

New Technologies in Flavor Analysis Mike Morello mjmorello226@gmail.com

Executive Committee Meeting Minutes

Takes place at every ACS National Meeting

Online via Zoom on March 13, 2022, prior to San Diego meeting

Attending: Mike Appell, Jonathan Beauchamp, Keith Cadwallader, Lingyun Chen, Xiaofen Du, Carl Frey, Mike Granvogl, Brian Guthrie, Cathleen Hapeman, Lauren Jackson, Tony Jin, Youngmok Kim, LinShu Liu, Karley Mahalak, Bob McGorin, Mike Morello, Mike Qian, Majher Sarker, Jason Soares, Steve Toth, Mike Tunick, Tom Wang, Changqing Wu, Jianping Wu, Xian Wu, Tianxi Yang, Wally Yokoyama

AGFD Chair LinShu Liu called the meeting to order at 12:06 pm Pacific Time.

The minutes of the previous meeting were approved.

Steve Toth gave the **Treasurer's Report**. The division has \$982,616 in the treasury. So far this year AGFD has \$333 in

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revenue (from book royalties) and no expenditures. The budget for the San Diego meeting this month was \$40,000. Expenditures are usually in the \$100,000-110,000 range in a year, but were only \$15,800 in 2021 because of the pandemic and lack of in-person symposia and activities.

Mike Morello discussed the **Awards**. The IFF Award is going to Shengmin Seng (four people were nominated). Fereidoon Shahidi's committee is evaluating the AGFD Fellow Award nominations. Mike Granvogl reported that the Young Scientist Award has been won by Boyan Gao (three nominations were received). Brian Guthrie leads the effort for the Young Industrial Scientist Award; no nominations were received this year. Lucy Yu is in charge of the Teranishi Fellowship, which is being awarded to Zihan Wang. Mike Tunick reported that no nominations were received for the Distinguished Service Award. We do not have the list of 25- and 50-year members yet since we are having problems obtaining the AGFD rosters from ACS. Mike Appell, Carl Frey, and Mike Morello comprise the ACS Fellow Award Nomination Committee; nominations are due on April 1, and three have been received so far. AGFD hosts the Kenneth Spencer Award, which is sponsored by the Kansas City Local Section and has been won by H.N. Cheng. Cathleen Hapeman reported that Stephen Duke has won this year's Sterling Hendricks Award. She also announced that the Journal of Agricultural & Food Chemistry Research Article of the Year deals with unraveling the ergot alkaloid and indole diterpenoid metabolome in fungus, with Silvio Uhlig as lead author. Mike Morello also discussed the possibility of establishing a new award named after George Washington Carver, and he will connect with the ACS Committee on Minority Affairs about this.

Cathleen Hapeman gave the **Journal** report. The impact factor has risen to 5.279. JAFRC has split off ACS Agricultural Science & Technology (Laura McConnell, Deputy Editor) and ACS Food Science & Technology (Coralia Osorio Roa, Deputy Editor). Thomas Hofmann is the Editor-in-Chief for these journals. An editorial on how to write review papers was published in all three.

In the **Program** Report, LinShu Liu said that the Fall 2021 hybrid meeting in Atlanta had 12 symposia. Mike Granvogl reported that the Fall 2022 meeting in Chicago will also be hybrid, with 20 symposia, and that the Spring 2023 meeting in Indianapolis needs more programming. Cathleen Hapeman suggested that we cosponsor some symposia in Indianapolis with AGRO, which will be present at that meeting. Steve Toth said that any budget we set for Chicago will be guesswork since we do not know if a banquet will be held there. He moved that we set a cap at \$35,000 and the motion passed unanimously.

Subdivision reports were given. Past Chair Jonathan Beauchamp spoke for the Flavor Subdivision, which had a successful meeting last time and has a symposium at this meeting. Functional Foods & Natural Products Chair Xian Wu said that they held a symposium at the previous fall meeting and will have one in Indianapolis. Food Bioengineering Chair Tianxi Yang reported that they will have symposia at three upcoming meetings. Food Safety Chair Tony Jin said that they are holding a symposium at this meeting. Diet & Gut Microbiome Past Chair Jason Soares said that they will have symposia at both meetings next year. There were no reports from the Nutrition or Sustainability & Green Technology Subdivisions.

LinShu Liu Proposed to establish a new subdivision "Agricultural". It was discussed in "Special Topics" Meeting and approved by ExCom Meeting today, March 13, 2022. The subdivision is chaired by Wallace Yokoyama; its mission is to promote the research on the Chemistry and Processing Technology of Agricultural Products and Byproducts for Health, Pharmaceutical, and Biomedical Applications.

The **Council** report was given by Mike Tunick and Lauren Jackson, both of whom serve on the Divisional Activities Committee. Mike reported that DAC has been reorganized under its new Chair, and that he will be the next Chair of the Grants & Recognition Subcommittee. They had only two applications for Innovative Project Grants (IPG) in the last go-around, and suggested that AGFD continue apply for these. He participated in DAC's strategic planning session a few weeks ago. Lauren reported that the ACS Executive Committee also had a strategic planning session where they established four initiatives; \$50 million will be spent on these over the next five years. Council will vote on a proposed name change by CARB to Division of Carbohydrate Chemistry and Chemical Glycobiology. There is also a petition to establish an International Chemical Sciences Chapter in Switzerland. Budget & Finance is looking to change where money for divisions and local sections is coming from, and they hope to set up an endowment. ACS memberships are now at total membership. They are also looking at alternate dues schedules for people in countries where less money is premium, standard, and base levels, and the Society is taking in more money than before despite a decrease in

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available for memberships. The San Diego meeting has 7400 in-person registrations and 2200 virtual ones.

Lauren Jackson heads the **Strategic Planning Committee**, which has six members. AGFD received \$7500 from a 2021 IPG, which will cover the facilitators, and the cost to the division will be around \$20,000, which will cover travel and hotels for 15 people. We will try for an in-person October planning retreat. A motion for a \$20,000 budget for this effort was passed unanimously.

Immediate Past Chair Youngmok Kim heads the **Nominations Committee**. The previous nominee for Vice-Chair had to step down, and the new nominee is Jonathan Beauchamp (Fraunhofer Institute for Process Engineering & Packaging), who thanked everyone for the selection. Jason Soares (Natick Soldier Research, Development & Engineering Center) agreed to be Vice-Chair for 2023. Mike Tunick was reelected Councilor and Keith Cadwallader and Mike Qian were reelected Alternate Councilors. Bosoon Park and Brian Guthrie will remain as At-Large Executive Committee members through 2024. All subdivision positions are filled.

Membership Chair Mike Qian is trying to get more information from ACS. AGFD membership was 2513 in November 2021, the last time a roster was made available.

Cornucopia Editor Carl Frey reported that 100 paper copies of the latest issue are being sent to the San Diego meeting. The issue is also now on the website.

Mike Appell, reporting for the **Communications Committee**, said that the website was moved to wix.com, which has 180 million users in 190 countries. It can be accessed from many devices and platforms and costs \$200 for 3 years. The site has been updated and 1200 users access it annually. Mike gave statistics on who uses the site. They will consider adding a social aspect and back issues of the Cornucopia.

There was no **Old Business** or **New Business**. The meeting adjourned at 1:46 pm.

Submitted by Michael Tunick



Meet AGFD Vice-Chair Jason Soares

Jason Soares joined the U.S. Army DEVCOM Soldier Center as a research chemical engineer in December of 1999 and currently leads the development of an *in vitro* fermentation model to simulate the human small and large intestines, named GI-jA²COB (joint Army Automated Colon on a Bench), to study the influence of stress on microbial community dynamics and intervention strategies, including prebiotics and probiotics, to enhance health and performance. Jason currently chairs the TriService Microbiome Consortium, part of the Biotechnology Community of Interest, the AGFD Diet and Gut Microbiome sub-division, and co-leads the NATO working group on Microbiome for Health and Performance. He has >60 publications, >100 presentations, 3 patents and numerous recognitions for his efforts in biological sciences.

Meet AGFD Chair-Elect Jonathan Beauchamp



Jonathan Beauchamp, Ph.D., [physics degree, Univ. College London, doctoral degree environmental physics, Univ. of Innsbruck, Austria]. At the Fraunhofer Institute for Process Engineering and Packaging IVV in Freising, Germany, he leads dynamic emissions R&D. Jonathan's research characterizes emissions of volatile organic/aroma compounds – of foods and flavors, non-consumer goods, and the human volatilome, the latter for detection of volatile disease biomarkers in exhaled breath. Jonathan's technical expertise centers on the use of proton transfer reaction-mass spectrometry for analyzing dynamic volatile emissions and extends to (comprehensive) gas chromatography mass spectrometry combined with olfactometry, GC×GC-MS and ion mobility MS. Jonathan has >70 papers/book chapters and has edited/co-edited several ACS Symposium Series volumes; *The Chemical Sensory Informatics of Food: Measurement Analysis and Integration* (2015), *Sex, Smoke, and Spirits: The Role of Chemistry* (2019), and *Dynamic Flavor: Capturing Aroma Release using Real-Time Mass Spectrometry* (2021). He co-organized/chaired several ACS symposia. Jonathan is an ACS member and is active in AGFD since 2013, serving as Flavor sub-division chair, Division Chair-Elect and Division Program Chair. He is Associate Editor of the *Journal of Breath Research*, Editorial Board Member of *Food Packaging and Shelf Life* and Advisory Board Member of *Heliyon Environment*.

In Memorium

Michael Granvogl
Dec. 21, 1974 - Mar. 23, 2022



On March 23 this year, we lost a dear friend and esteemed colleague, Professor Michael Granvogl, a formidable presence in the field of agricultural and food chemistry research. Michael was born on December 21, 1974 in Munich, Germany. His passion for science led him to embark on a degree in food chemistry at the Technical Univ. of Munich (TUM), where he graduated as a nationally certified food chemist in December 1998, the latter being a unique qualification in Germany that accompanies the food chemistry degree for students with particular aptitude and resolve. As an undergraduate Michael's interest in aroma chemistry led him to pursue a Ph.D. at TUM. His thesis explored thermally-induced generation of key aroma compounds in the common onion (*Allium cepa*), where he identified for the first time a series of highly odor-active sulfur compounds. He was awarded the title of *Dr. rer. nat.* – or *Doctor of Natural Sciences*, the international equivalent of *Doctor of Philosophy* – in December 2007. Michael's personable and open disposition earned him a strong professional network. After earning his Ph.D., despite several job offers from industry, Michael opted to remain in academia, commencing habilitation training, a German University program to qualify as a Professor. He defended his habilitation in December 2016 with a body of research on the formation and analysis of desirable (aroma-active) and undesirable (food-borne toxicants) in foods, which solidified his position as international subject matter expert on thermally-induced food-borne toxicants and aroma compounds. In May 2019, he received tenure at the

University of Hohenheim, Germany through his appointment as Professor of the Chair of Food Chemistry, where he built up and led a young and dynamic team of food chemists. During his academic research, Michael received several awards, notably the AGFD Young Scientist Award in 2013. Beyond his professional achievements, Michael was an accomplished hiker and skier, spending both the summer and winter months heading up and/or down his native Alps and farther afield. Besides these active sports pursuits, he was a passionate soccer fan, following and celebrating the many victories of his local team, FC Bayern Munich, which brought him much joy, and the occasional respite from this heavy workload. At the time of his sudden and tragic passing, Michael Granvogl was AGFD Chair-Elect & Program Chair and officer for the AGFD Young Scientist Awards. His dedication and indispensable contribution to the division over the past decade is warmly acknowledged. He will be sorely missed, both professionally and personally, as is evident from the tributes (below) to Michael from friends and colleagues from within the division, with which we close this obituary.

"Michael will be remembered as a talented colleague, a charming friend and a wonderful leader of AGFD"

"Mike was on his way to being a great leader of the AGFD Division. We remember his contributions to chemical science and food technology"

"He was always full of energy, enthusiasm and excitement"

"He was the perfect person to mentor young scientists in food science"

"It was always a pleasure to see Michael at ACS meetings and to work with him as part of the AGFD leadership"

"He and his contributions will be remembered and sorely missed within our ACS community"

"I am grateful for having the honor of knowing him and will keep him in my memories"

Thanks to Jonathan Beauchamp (Fraunhofer IVV) & Claudia Oellig (University of Hohenheim) for preparing this obituary.

In commemoration of his scientific achievements, *Journal of Food Bioactives* is launching a special issue dedicated to and in memory of Prof. Michael Granvogl, which will be guest edited by AGFD members Xiaoting Zhai (xiaotingzhai@ahau.edu.cn), Jonathan Beauchamp (jonathan.beauchamp@ivv.fraunhofer.de), and Yu Wang (yu.wang@ufl.edu). We are currently soliciting contributions to this commemorative issue, either original research manuscripts or review papers on the topics of flavor chemistry and food bioactives, which closely relate to Dr. Granvogl's own research pursuits. This special issue will celebrate the life and work of Dr. Michael Granvogl and will act as a legacy for his important contributions to our special field. Please visit the journal page (<http://www.isnff-afb.com/index.php/JFB/index>) or contact the guest editors for further information on contributing to this journal collection. The submission deadline for contributions is October 31, 2022.

WINDY CITY CHALLENGE

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

ACROSS

- 1 American & United hub
4 STAT!
8 Cringe in fear
13 'Smoke' w/o tobacco
15 Brother of Cain & Abel
16 Matrix or orderly display
17 Cloud Gate (bean) artist
20 Hemat__ or hal__
21 Backtalk, lip, attitude
22 Period of hard work
24 Relating to bees
27 Educated in classrooms
31 Organization of soldiers
32 Japanese pro golfer Aoki
34 Neither here nor __
35 Playground jump game
37 Auld lang __
38 Too late to the ER
39 Poet's 'before this time'
42 West Texas city: El __
46 Type of yellow muffin
52 Teaser, introduction.
54 Middle of March date

- 55 Odd alternative
56 Tunes, songs
58 Intel's HQ home: Santa __
59 Person of action
60 Teenage facial trial
62 US gov't security force
64 *The Untouchables* Oscar winner
70 Lengths X widths
72 Fishing pole attachment
73 Peach __ or apple __
74 Left ventricle exit artery
75 __ nostra
76 Public announcements

DOWN

- 1 Female reproductive cells
2 Fled on foot
3 Printer quality spec
4 Requests
5 Some bodies of water
6 Energy driving molecule
7 Vietnamese noodle soup
8 Auto dealer's inventory area

- 9 Surgeon's workplace
10 Cubs home: __ Field
11 Dinner table command
12 e.g.: Knob Creek or Bulleit
14 Some written test answers
18 Chewbacca's companion
19 __Kosh B'gosh!
23 Fireworks display reactions
24 Back scratch reaction
25 All for it
26 Little rascal
27 US Air Force cold war reconnaissance program
28 Stick to itself
29 Sea eagle
30 When doubled, first name of jazz singer Bridgewater
32 Cents in a dollar
33 Pop/gospel singer Orrico
36 Music format: __-rom
40 Hospital caregivers
41 *Charlotte's Web* writer: __ White
42 1/1,000,000

- 43 Hello? __ you there?
44 Bears home: __ Field
45 Melville's South Sea novel
47 Medicates too much
48 Become less severe
49 Argentina's __ Peron
50 Irish airline: __ Lingus
51 A double helix molecule
53 Black Sea port
57 Anger
58 Home of 'Breaking News'
60 Dead man's hand: __ & eights
61 Pepsi __
62 US airspace monitor
63 My man!
65 Circular circumference section
66 Keanu's *The Matrix* role
67 Distinctive time period
68 Probably in the sun too long
69 Absolutely!
71 It's part of every email addy

AWARD NEWS



Shengmin Sang, Ph.D., Distinguished Professor, Center for Excellence in Post-Harvest Technologies, Dept. of Family and Consumer Sciences, North Carolina A&T State University won the 2022 **Award for the Advancement of Application of Agricultural and Food Chemistry**. This award (sponsored by International Flavors and Fragrances, Inc.) recognizes outstanding contributions to pure and applied agricultural and food chemistry. The award celebrates Dr. Sang's research on the role of bioactive compounds in functional foods for chronic disease prevention. His team studies bioactive compounds in grains, ginger, tea, apple, soy, and rosemary for the prevention of gut inflammation, colon cancer, asthma, diabetes, diabetic complications, and obesity through a program independently and in collaboration with others. He is a leader in identifying the role of dietary polyphenols to lower the accumulation of reactive carbonyl species (RCS) and to prevent the development of RCS associated chronic diseases. He

synthesized and patented prodrugs of aspirin with gingerols, shogaols and pterostilbene that minimize gastrointestinal complications. He has been a strong advocate for whole grain (WG) phytochemicals in promoting human health. He demonstrated the efficacy of wheat bran (WB) phytochemicals for colon cancer prevention, identified alkylresorcinols (ARs) as the major bioactive components, and observed a synergism between butyric acid (the microbial-derived metabolite of WB fiber) and AR against the development of colon cancer - the first study demonstrating the synergy between WG fiber and phytochemicals. Dr. Sang has >230 peer reviewed publications, >120 conference abstracts, and has been cited >21,000 times. He has trained >80 undergraduate/graduate students, postdocs, and research assistants.



Boyan Gao, Ph. D., Associate Professor Dept. of Food Science and Engineering Shanghai Jiao Tong Univ., Shanghai, China, received the 2022 **AGFD Young Scientist Award**. This honor recognizes scientists early in their careers for their outstanding scientific contributions to agricultural and food chemistry. Dr. Gao's research has focused on food safety, value added use of agricultural products and by-products, and non-targeted approaches for detection of food adulteration. His research on fatty acid esters of 3-monochloropropan-1,2-diol (3-MCPD esters), a group of new processing-induced food toxicants with nephrotoxicity and testicular toxicities, identified that in rat models that could be absorbed into the blood circulation, metabolized to form Type II metabolites in several organs and tissues, and excreted via urine. His team has investigated the value-adding health beneficial factors in a number of edible materials, including sorghums, red rice, plantago, and the oils and flours of pomegranate, jiaogulan and tomato seeds. Characterizing bioactive factors in the oils and the flours of these seeds may lead to their value-added use and enhanced profitability. Dr. Gao's team characterized and identified fats and oils with

special fatty acid or triacylglycerol sn-position profiles for improving human nutrition. Dr. Gao has 65 peer reviewed articles and 9 oral/poster presentations at ACS national meetings. He has matriculated 3 Ph.D. and 2 M.S. students

Fidel Toldrá, Ph.D, Professor. Instituto de Agroquímica y Tecnología de Alimentos (CSIC) Paterna (Valencia), Spain and **Michael J. Morello**, retired (formerly PepsiCo R&D, Barrington, IL) each received a 2022 **AGFD Fellow Award**. The AGFD Fellow Award recognizes outstanding scientific contributions to agricultural and food chemistry.

Stephen Toth III, International Flavors & Fragrances Inc., Union Beach, N.J., received the 2022 **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 Treasurer.

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MORE AWARD NEWS

Zihan Wang, University of Alberta (advisor: Professor Jianping Wu) won the 2022 **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 2022: Hans-Ulrich Humpf, David B. Johnston, David Kendra, Robert Kryger, Shigeru Nakajima, Maureen A. Ngoh, Mark Richards, Jan Rothenburger, Don Sartor, Hedwig Schlichtherle-Cerny, Daniel E. Smith, Andrew J. Taylor.

Brian Guthrie, Ph.D., Corporate Fellow, Cargill, Inc and **Bhimanagouda (Bhimu) S. Patil**, Ph.D., Regent Professor and Leonard Pike Inaugural University Professor, Texas A&M University, have been named 2022 **ACS Fellows** for their extensive work in agricultural and food chemistry and their many years of AGFD volunteer work.

The team of **Silvio Uhlig**, **Oscar Daniel Rangel-Huerta**, **Hege H. Divon**, **Elin Rolén**, **Kari Pauchon**, **Mark W. Sumarah**, **Trude Vrålstad**, and **Justin B. Renaud** won the **Journal of Agricultural and Food Chemistry Research Article of the Year Award (AGFD)** for their publication *Unraveling the Ergot Alkaloid and Indole Diterpenoid Metabolome in the *Claviceps purpurea* Species Complex Using LC–HRMS/MS Diagnostic Fragmentation Filtering*. DOI: 10.1021/acs.jafc.1c01973

The team of **Teng Yang**, **Tao Zhang**, **Xiang Zhou**, **Pengyu Wang**, **Jianhua Gan**, **Baoan Song**, **Song Yang**, and **Cai-Guang Yang** won the **Journal of Agricultural and Food Chemistry Research Article of the Year Award (AGRO)** for their publication *Dysregulation of ClpP by Small-Molecule Activators Used Against *Xanthomonas oryzae* pv. *Oryzae* Infections*. DOI: 10.1021/acs.jafc.1c01470



The ACS AGRO and AGFD divisions have selected **Stephen O. Duke**, Ph.D., to present the 2022 **Sterling B. Hendricks Memorial Lecture** at the ACS National Meeting in Chicago. AGRO will host the lecture. Dr. Duke is an internationally recognized leader in weed management and biopesticides. His research has led to discoveries of the mechanisms and modes of action of herbicides and the efficacy of using safer natural product pesticides, including mosquito repellants, antimalarial compounds and natural compounds with antimicrobial properties.



H.N. Cheng, Ph.D., is the recipient of the 2022 **Spencer Award**. The award will be presented at a banquet in his honor organized by the Kansas City local ACS section. The Spencer Award, the most prestigious ACS award recognizing advancements in agricultural and food chemistry, honors his work on green chemistry methodologies for agro-based materials and using agricultural materials and byproducts to produce eco-friendly and sustainable products. Dr. Cheng served as ACS President, he is an ACS Fellow, a Polymer Chemistry Div. Fellow and AGFD Fellow. A symposium marking this award at the ACS Fall National virtual meeting (AGFD/AGRO co-org.) will include presentations by Dr. Cheng, his colleagues, and collaborators.



IFT awarded **Michael Qian**, Ph.D, Professor of Food Chemistry, Oregon State University, the **Distinguished Lipid and Flavor Science Award in Honor of Stephen S. Chang** for his research in identifying key flavor compounds, including sulfur compounds, particularly the off-flavors in wine. His combination of state-of-the-art analytical and sensory techniques has identified flavor components of sensory significance. His work in flavor chemistry has significantly contributed to the understanding of both flavor and off-flavor formation, resulting in major improvements in the quality of food and beverage products for consumers.

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

AGFD DIVISION MEMBERSHIP APPLICATION

The Agricultural and Food Chemistry Division (AGFD) of the American Chemical Society (ACS) is a non-profit organization dedicated to the technical advancement of all aspects of agricultural and food chemistry. AGFD encourages technical advancement in the field by -

- organizing symposia/workshops on agricultural/food chemistry at ACS national meetings and other venues
- publishing proceedings of AGFD symposia
- publishing the *Cornucopia* newsletter
- updating members several times a year via e-mail blasts
- hosting social and networking gatherings at ACS national meetings
- providing cash awards and recognition to leading undergraduate and graduate students, young scientists and established scientists in the field of agricultural and food chemistry

At ACS National Meetings you can discuss division activities at the AGFD information table located near the AGFD technical session rooms. Join >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
LinShu Liu USDA-ARS-ERRC
linshu.liu@ars.usda.gov

Chair-Elect - Serves 1 year. Substitute for the Chair as needed
Jonathan Beauchamp
Fraunhofer-Institute
jonathan.beauchamp@ivv.fraunhofer.de

Vice-Chair - Serves 1 year. Assist Chair-elect. Develop future technical programs.
Jason W. Soares
US Army CCDC-SC Natick MA
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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.
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aemitchell@ucdavis.edu
Lauren Jackson (thru '23)
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Michael Tunick (thru '24)
mht39@drexel.edu

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

Student Activities - Attract and retain graduate/undergraduate student membs.

Nominations - Develop officer slate.
Served by immediate past chair.
Youngmok Kim
youngmok.kim@finlays.net

Finance - Monitor Division's finances.
Served by immediate past chair.
Youngmok Kim
youngmok.kim@finlays.net

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 '24)
kdd3@cornell.edu
Michael Qian (thru '24)
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At-Large Executive Committee Members - Assist in Div. management. Serves 3 years.

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Awards - Oversee awards process.

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Teranishi Fellowship
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Young Industrial Scientist Award
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Multidisciplinary Program Planner

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Hospitality - Organize receptions and banquets. Alyson Mitchell
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Membership - Recruit and retain Division members. Michael Qian
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Sustainability/Green Tech. Sub.Div.

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Symposium Synopses

Extraction & Biotechnology: A Natural & Sustainable Future for Flavors

Synopsis: Extraction and fermentation of food, herbs and spices predates history. However, through the 20th and into the 21st century the flavor industry grew to industrialization, utilizing chemical synthesis. Now the landscape is changing to reflect the needs of consumers to be more natural, sustainable and authentic. This session highlights the past, present and future of creating flavors from natural ingredients.

New Insights in Gut Microbiota Health-Benefits

Synopsis: The human microbiota is composed of ca. 10¹⁴ bacterial cells, with high qualitative and quantitative diversity among individuals. Studies have revealed that 98 % of human intestinal microbiota belong to only 4 bacterial families: Firmicutes (64 %), Bacteroidetes (23 %), Proteobacteria (8 %) and Actinobacteria (3 %). Gut dysbiosis (when bacteria in the gastrointestinal tract are unbalanced) has been associated with developing lifestyle diseases, such as metabolic syndrome, colorectal cancer and obesity. Although each individual has a unique microbiota composition, it has been seen that gut microbiota modulation can help to control those diseases. This symposium shows advances in this field.

Modification of Agricultural Biomass into Value-Added Products

Synopsis: In this symposium, speakers from all over the world will present their outstanding research outcomes on technology development to produce valuable products from agricultural waste/byproducts. New renewable biomass, bio-synthesis, catalysis, chemical modification, technological process, life cycle and techno-economic analyses will be the key areas focused on in this symposium platform.

Sustainability & Greentech in Agriculture & Food

Synopsis: This symposium focuses on emerging developments and applications of sustainable chemistry for food security, green agriculture, energy, water, synthetic biology, systems engineering, bio-products, byproduct stream valorization, data integration, and analysis. It will discuss how social science can identify the most outstanding systems-level opportunities for minimizing resource inputs and waste and maximizing crop productivity and food utilization. The symposium will identify the scientific, engineering, and data challenges that must be overcome to realize a sustainable food-agriculture-green technology system. Topics include sustainable food supplies, green processing technologies, food waste & bio-product utilization, nanosensors, and wireless sensor networks to improve yields and minimize inputs. Other relevant areas include innovative and economically viable chemical products and technologies.

Emerging In Vitro Gut Models for Understanding Nutrient-Microbiome Interactions

Synopsis: The human gut microbiome is the site of numerous biochemical and microbiological interactions with repercussions for nutrition and health; however, detailed study of the gut microbiome within the human host is limited due to logistical and ethical concerns. To facilitate in-depth understanding of nutrient-microbiome interactions, numerous model systems have been developed. This symposium will highlight advances in the state of the art of gut microbiome models, as well as new insights into gut microbiome implications for host health and nutrition.

Advancements in Food & Metabolomics

Synopsis: Untargeted metabolomics is an emerging research approach that utilizes comprehensive chemical profiling techniques of all small molecules with multivariate data analysis techniques to interrogate how chemical compounds relate to characteristics of interest. Since data collection is comprehensive, analyzing hundreds to thousands of compounds, this approach allows an unbiased investigation of chemical profile without the need to determine compounds of interest a priori. In this symposium, work presented will describe methods and applications for the use of untargeted chemical profiling in foods.

Food, Food System & Precision Nutrition

Synopsis: Diet plays a critical role in modulating an individual's nutrition and ultimately health. The field of nutrition, similar to that of medicine, has evolved in recent years from study of diet to focus on personalization and precision. However, these are complex issues and require efforts ranging from food production to basic mechanistic studies. In addition to a focus on food, consideration of a food system is also necessary to fully capture the impact of environmental changes and processing on food components, bio-actives; which ultimately impact human nutrition and

continued on next page

Symposium Synopses - continued

health. This symposium seeks to stimulate discussion on the role, relationship and contribution by food, food system toward personalized, precision nutrition.

Nanoencapsulation & Delivery of Bioactive Food Ingredients Using Food Biopolymers

Synopsis: Bioactive food ingredients are a group of components with functions to promote human health and improve our quality of life. However, most of them are not stable during food processing and storage. Moreover, they have a low bioavailability when they are admitted orally. Therefore, different delivery systems are developed to improve their solubility, stability, as well as bioavailability. Nanoencapsulation systems constructed by food biopolymers, including food proteins and polysaccharides, were found to be able to protect and target delivery of the bioactive components. Those novel systems include but not limited to nanoparticles, nanoemulsions, Pickering nanoemulsions, solid-lipid nanoparticles, etc. The objective of this symposium is to provide an opportunity for scholars to discuss current progress in this area and to exchange their ideas and research findings, and thereby promote collaborations between researchers.

General Papers

Synopsis: A potpourri of cutting-edge research spanning the broad and exciting field of agricultural and food chemistry. If you are a chemist who eats food, then this symposium is not to be missed!

General Posters

Synopsis: An eclectic collection of posters crammed into a mind-blowingly comprehensive session. Come and broaden your horizon by marveling at the painstaking experiments and ground-breaking data packed onto a 4'x8' canvas and a chance to mingle and network with leading emerging food scientists with an eager passion to discuss their work.

Biobased Polymers & Applications

Synopsis: Natural materials - e.g. keratin, saccharides, chitosan, proteins - can find unique applications in drug delivery and industrial processes.

Alternative Protein Sources for Human Nutrition (Plant-Based Protein)

Synopsis: The development and use of non-meat proteins, called alternative protein, is rapidly advancing. The chemistry, physics, processing, quality and nutrition of foods with alternative proteins are expected to have a significant impact on the entire supply chain from the farm to the fork. Many new alternative proteins are currently under development. Research on isolation and concentration of plant proteins, analysis of protein functionality, optimizing sensory properties, use in matrixes, and measurement and prediction of digestibility will be presented.

Advancement of Application & Food Chemistry Award: Symposium Honoring Shengmin Sang

Synopsis: Invited colleagues will help review and celebrate Distinguished Professor Sang's innovative contributions to Agricultural and Food Chemistry. The symposium focuses on how compounds isolated from agricultural products can serve as therapeutic agents in treating chronic diseases. Presentations address the microbiome in cancer therapeutics, influence of compounds from ginger on lung inflammation, the zebrafish model in natural product discovery, potential of phloretin and quercetin to reduce tissue methylglyoxal, along with Prof. Sang's review of his research.

Spencer Award: Symposium in Honor of Dr. H.N. Cheng

Synopsis: See the Awards News page of this Cornucopia

JAFC Research Article of the Year Award & AGFD Young Scientist Award Symposium

Synopsis: See the Awards News page of this Cornucopia

Sustainable Agriceuticals

Synopsis: Agricultural and food processing wastes contain nutritional and health-promoting components that, if utilized, would improve the economics of farming and food production. We have called these valuable bioactive waste or byproducts "Agriceuticals". They are often discarded or removed because of undesirable taste or textural sensory properties. These undesirable properties are often the characteristics of bioactive constituents. Scientists from China,

continued on next page

Symposium Synopses - continued

Japan, Philippines, South Korea, Spain, Tajikistan, and USA will present their research on in vitro and in vivo studies of peptides, polysaccharides, phenolic and polyphenolic components of leaves, peels, seeds. The role of bacteria, both as probiotics and food fermentation, to further process and increase the value of agricultural byproducts will be presented.

Utilization of Upcycled Foods in New Product Innovation

Synopsis: Future sustainable global agriculture and food systems call for waste reduction and efficient use of natural resources. Upcycling food wastes and by-products back to the food production chain would help to address the shortage/depletion of natural resources, environmental pollution, alleviate the social economic related issues, thereby facilitating the sustainable development of the food industry. In this symposium, six latest studies in utilization of different upcycled foods in the food value chain for potential product innovation will be presented. The topics cover upcycling wine-grape polyphenols for cocoa-based product, volatile composition of wine-grape seeds, pectin fraction from citrus peel and its modification, HLB citrus using as volatile source, watermelon rind upcycling for its amino acids and volatiles, and volatiles from coffee pulp. The symposium will serve as a platform for presenting state-of-art research and scientific exchange in this emerging sustainability-oriented innovation.

Breeding for Better Nutrients and Flavor for Freshly Consumed Fruits and Vegetables

Synopsis: Health and wellness are subjects of increasing interest to consumers, manufacturers, researchers, and policy makers. Increasing fruit and vegetable consumption fits into this critical mission as one of the major determining factors for their consistent intake is improved flavor and nutrients, which could be achieved by advanced plant breeding technologies. This symposium includes eight presentations starting with a review of plant breeding, followed by research on breeding better aroma, taste, and texture for cucumber, tomato, strawberry, blueberry, orange, soybean, and lettuce. Insights on flavor-contributing chemicals and corresponding genetic expression of the aforementioned seven fruits and vegetables will be exhibited by this symposium. The symposium will show the latest research in plant breeding associated with flavor, while traditional plant breeding has a major focus on yield and disease control. The symposium will cover scientific aspects and potential industry value to achieve the nationwide goal of promoting fresh fruit and vegetable consumption by improved flavor and nutrients.

Advances in Packaging Recycling and Sustainability

Synopsis: One of the biggest sustainability challenges facing the global food packaging industry is the push to incorporate recycled plastic and paper in food contact packaging materials to fuel the circular economy. Typical challenges for recycled material include traceability, overcoming potential misuse during prior handling, and separation of food contact compliant from non-compliant waste. This stresses the need to have a more complete understanding of the risks from undesirable contaminants in the food packaging made from the recycle. Replacing petroleum-based plastics with biodegradable options is another key approach towards improving packaging sustainability and reducing plastic waste. Consumer and industry trust in recycled packaging is critical for market growth and is dependent upon due diligence to identify and remove contaminants from the recycle.

Food Bioactives in Infectious and Autoimmune Diseases

Synopsis: Common autoimmune diseases include celiac disease, type 1 diabetes, inflammatory bowel disease, multiple sclerosis, psoriasis, rheumatoid arthritis, and systemic lupus erythematosus. It is believed that the cause of autoimmune diseases is a combination of environmental factors, immune system changes, and genetics. Dietary bioactive components, for example, flavonoids, linoleic acid, and tryptophan are known for their biological immunomodulatory activities. However, they are typically subjected to extensive biotransformation by the host's enzymes, immune cells, and gut microbiota in the gastrointestinal tract. This symposium encourages research that explores novel dietary bioactive components or metabolites derived from known bioactive components with the goal of preventing and alleviating infectious and/or autoimmune diseases. The testing range of dietary bioactive components includes but is not limited to phytochemicals, herbs, vitamins, minerals, polypeptides, and polysaccharides. In addition, this symposium covers studies that focus on how dietary bioactive components/metabolites regulate gut microbiota, impact inflammatory cytokines, influence intestinal mucosal barrier, and monitor immune cells' function. Dissecting these scientific questions will provide critical and innovative insights into developing dietary preventative interventions and curative treatments for infectious and autoimmune diseases.

AGFD TECHNICAL PROGRAM

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

SUNDAY MORNING Aug. 21

Biobased Polymers & Application

Raisha Gorshkova, Organizer; LinShu Liu, Organizer;
Jinwen Zhang, Organizer; Xiao Zhang, Presider;
Zengshe Liu, Presider

Conv.Ctr. Rm. S503a

8:00 AM Synthesis of Lignin-based polymers Hoyung Chung

8:25 AM Inhibiting ice recrystallization by cellulose nanocrystals (CNCs): Influences of CNCs concentration and storage temperature Min Li

8:50 AM Analysis of lignins using 31P benchtop NMR spectroscopy Juan Araneda

9:15 AM Cellulose-based biofoam to replace Styrofoam packaging Xiao Zhang

9:40 AM Intermission

9:50 AM Influence of Poly(ethylene oxide) (PEO) on the mechanical, thermal, and degradation properties of PLA/PBSeT blends Sangwoo Kwon

10:15 AM Manufacturing structural biopolymers as technical materials to boost food security Muchun Liu

10:40 AM Blend films from banana and potato food waste with chitosan: Physicochemical properties and biodegradability Shu Xu

11:05 AM Innovative biofertilizer in sustainable agriculture Ali Ayoub

11:30 AM 3D printing bio-composites with improved performance Zengshe Liu

Extraction & Biotechnology: A Natural & Sustainable Future for Flavors

Lewis Jones, Organizer; Lewis Jones, Organizer;
Elizabeth Kreger, Organizer; Fanette Peche, Presider;
Terry Miesle, Presider; Taylor Windbiel, Presider
Conv.Ctr. Rm. S504bc

8:00 AM Introductory Remarks

8:05 AM Flavor extracts: the past, present and future of flavour Lewis Jones

8:30 AM New natural deep eutectic solvent (NADES) for food-grade Maillard type model reactions Daniela Hartl

8:50 AM Sub-critical water extraction: cleaner extracts, sustainably Gian Leocata

9:10 AM Intermission

9:20 AM Characterization of volatile compounds and analysis of njangsa seed oils from enzyme-assisted and hexane extractions Victor Wyatt

9:40 AM Comparative analysis of the physicochemical properties of essential oils derived from guava leaf, basil, lemon grass and lemon peel Olunmi Adewusi

9:40 AM Comparative analysis of the physicochemical properties of essential oils derived from guava leaf, basil, lemon grass and lemon peel Omotola Ajide

SUNDAY AFTERNOON Aug. 21

Biobased Polymers & Applications

Raisha Gorshkova, Organizer; LinShu Liu, Organizer;
Jinwen Zhang, Organizer; Xiao Zhang, Presider;
Zengshe Liu, Presider

Conv.Ctr. Rm. S504bc

2:00 PM Highly flexible and wet stable keratin films with controlled length of disulfide crosslinkage formed via room temperature reduction-oxidation Bingnan Mu

2:25 PM Bile acid-containing amphiphilic functional copolymers for targeted delivery of genes and drugs Alexy Sanseigne

2:50 PM Role for monosaccharides in the nucleation inhibition and transport of collagen for materials design Cassandra Martin

3:15 PM Chitosan biopolymer for sustainable and precision agriculture Ramesh Raliya

3:40 PM Denaturation to expose protein reactive groups? Not so fast. Chris Hunt

4:05 PM Intermission

4:20 PM Multifunctional hydrogel based on gelatin methacryloyl/oxidized dextran/polylysine for multidrug resistant bacteria infected wound healing J M Yang

4:45 PM Modification of kidney bean (*Phaseolus vulgaris*) protein using combined treatments of pH-shift and ultrasound or heat to improve emulsifying properties for industrial application. Uyory Choe
5:10 PM The Hofmeister effect on protein and polysaccharide-based hydrogels Yan Huang

Breeding for Better Nutrients and Flavor for Freshly Consumed Fruits and Vegetables

Dr. Xiaofen Du, Organizer, Presider; Yun Yin, Organizer, Presider

Conv.Ctr. Rm. S504A

2:00 PM Introductory remarks

2:05 PM Flavor of cucumber fruit: a genetics perspective Yiqun Weng

2:30 PM Volatile aroma and texture of 379 cucumber progenies and the impact of growing environment Oyindamola Akinpelu

2:55 PM Biochemical and genetic approaches to improving tomato flavor quality Denise Tieman

3:20 PM Breeding for a better-flavor strawberry Zhen Fan

3:45 PM Intermission

4:00 PM Role of flavoromics in northern highbush blueberry (*Vaccinium corymbosum*) breeding Michael Qian

4:25 PM Flavoromics-based insights into effect of different rootstocks on flavor quality of orange juices from HLB- affected trees Xin Liu

4:50 PM Development of edamame (vegetable soybean) varieties to increase domestic production in the Mid-Atlantic region Bo Zhang

5:15 PM Breeding for improved phytonutrient content in lettuce Renee Eriksen

Extraction & Biotechnology: A Natural & Sustainable Future for Flavors

Lewis Jones, Organizer; Lewis Jones, Organizer; Elizabeth Kreger, Organizer; Fanette Peche, Presider; Terry Miesle, Presider; Taylor Windbiel, Presider
Conv.Ctr. Rm. S503A

2:00 PM Introductory Remarks

2:05 PM Fermentation flavors - a retrospect and a look forward Glen Austin

2:30 PM Precision Sprouting Technology: Scaling the natural factory within a grain to develop soluble whole grain sprouted flours to replace highly processed / chemically modified ingredients Erhan Yildiz

2:50 PM Esterase catalyzed biosynthesis of short-chain esters from engineered *E. coli* Aditya Sarnaik

3:10 PM Intermission

3:20 PM Biomass upgrading for solutions to end the natural vanillin shortage Ian Klein

3:40 PM WITHDRAWN

4:00 PM Concluding Remarks

Advancement of Application of Agricultural & Food Chemistry Award: Symposium honoring Shengmin Sang

LinShu Liu, Organizer, Presider; Michael Morello, Organizer, Presider

Zoom/Virtual

3:00 PM Introductory Remarks

3:05 PM Microbiome as modified of cancer therapeutics Christian Jobin

3:35 PM Targeting airway hyperresponsiveness and lung inflammation in asthma with derivatives of bioactive components of ginger Charles Emala

4:05 PM Zebrafish model for natural product discovery TinChung Leung

4:35 PM Dietary phloretin and quercetin reduce plasma and tissue methylglyoxal and its glycation products in healthy mice treated with methylglyoxal Emilia Alfaro-Viquez

5:05 PM Intermission

5:20 PM Let the farm be the pharmacy: Functional foods for chronic disease prevention Shengmin Sang

5:50 PM Concluding Remarks

MONDAY MORNING August 22

General Papers

Michael Granvogl, Organizer; Jonathan Beauchamp, Organizer; LinShu Liu, Organizer, Presider
Conv.Ctr. Rm. S505a

8:00 AM Introductory Remarks

8:05 AM Electrochemical assessment of coffee qualities Christopher Hendon

8:25 AM Effects of flavor composition of performance of flavored shisha tobaccos John Lauterbach

8:45 AM Characterization of acetal formations in cherry and tangerine e-cigarette liquids as monitored via GC/MS Haley Menees

9:05 AM WITHDRAWN

9:25 AM Fabrication of charged self-assembling patchy particles templated with partially gelatinized starch Peilong Li

9:45 AM Investigating the early history of olive oil using environmentally relevant replica experiments inspired by biofuels research Rebecca Gerdes

10:05 AM Intermission

10:20 AM Efficacy of filtration methods in removing peanut protein from frying oil Robert Beverly

10:40 AM Evaluating the quality of commercially spray-dried egg as nutritional supplement Philip Pirkwieser

11:00 AM Effect of processing methods on the nutrient contents of *Raphia hookeri* seed pulp Rafat Arotayo

11:20 AM Identification of isopeptides between human tissue transglutaminase and gluten peptides Barbara Lexhaller

11:40 AM Bioactive dipeptides in cured meats and its cardiovascular health relevance Fidel Toldra

Sustainability & Greentech in Agriculture & Food

Michael Appell, Organizer; Omowunmi Sadik, Organizer, Presider; Vinka Craver, Presider; Y. Jane Tseng, Presider; Lingyun Chen, Presider

Conv.Ctr. Rm. 5S04d

8:00 AM Introductory Remarks

8:05 AM Sustainability and greentech in agriculture and food Omowunmi Sadik

8:35 AM WITHDRAWN

9:05 AM Application of pulsed electric fields for the sustainable valorization of slaughterhouse blood proteins: Impact of treatment and pH on enzyme inactivation and bioactivity of hemoglobin hydrolysates

Zain Sanchez- Reinoso

9:35 AM Intermission

9:50 AM Greener nano-catalyst for the degradation of forever chemical PFAS Manavi Yadav

10:20 AM Determination of lead concentration in Capsicum annum fruits Marcos Vinicius Oliveira da Silva

10:50 AM WITHDRAWN

11:20 AM Biosynthesis of MnOx nano and microparticles for food systems Vinka Craver, Zachary Shepard

11:50 AM Panel Discussion

MONDAY AFTERNOON August 22

General Papers

Michael Granvogl, Organizer; Jonathan Beauchamp, Organizer; LinShu Liu, Organizer, Presider

Conv.Ctr. Rm. S505a

2:00 PM Introductory Remarks

2:05 PM In vitro models for the identification of flavor compounds helping to control food intake Veronika Somoza

2:25 PM Extraction of biologically active compounds from bio-waste by using environmentally friendly NADES solvents Bartosz Tylkowski

2:45 PM Molecular docking studies of Camu-Camu (Myrciaria dubia) fruit bioactive compounds Juliana Maria Garcia Chacan

3:05 PM Scalable functional cationic swabs for improved pathogenic microbes sampling from food contact surfaces Ahmed El-Moghazy

3:25 PM Protocol for the rapid detection of salmonella by using antibody functionalized immuno-magnetic iron oxide nanoparticles Bilal Javed

3:45 PM Using surface immobilized DNAzymes for the identification of foodborne pathogens Shadman Khan

4:05 PM Intermission

4:20 PM Ice recrystallization inhibition activity in bile salts Tao Wu

4:40 PM Determination of glyphosate and AMPA in oat flour using ion chromatography-mass spectrometry Jingli Hu

5:00 PM Discovery of thermostable affinity agents targeting ASFV for surveillance test development Huan Jia

5:20 PM Effective and rugged analysis of glyphosate and metabolites in Tenebrio molitor larva (mealworms)

using liquid chromatography tandem mass spectrometry Leesun Kim

5:40 PM What's that fishy smell in roasted coffee : Fishy aroma in coffee leads to unexpected high levels of trimethylamine detection Joshua Zyzak

Spencer Award: Symposium in honor of Dr. H.N. Cheng

Michael Appell, Organizer, Presider; Christine Hilbert, Presider; Sarah Leibowitz, Presider;

Conv.Ctr. Rm. S504bc

2:00 PM Introductory Remarks

2:05 PM Modified sophorolipids: a versatile family of molecules for emulsification and bioactivity Richard Gross

2:30 PM Sustainable polyethers and polyesters containing eugenol moieties Massoud Miri

2:55 PM Modified HM-Pectin with enhanced gelling ability Qu-Ming Gu

3:20 PM Industrial applications of vegetable oil Atanu Biswas

3:45 PM Intermission

4:05 PM Applications and structural characteristics of green agro-based biopolymers for contaminant remediation. Michael Appell

4:30 PM Oat by-products: successes from the past Michael Morello

4:55 PM Award Introduction

5:05 PM Agro-based raw materials as green product platforms H.N. Cheng

Sustainability & Greentech in Agriculture & Food

Michael Appell, Organizer; Omowunmi Sadik, Organizer, Presider; Vinka Craver, Presider; Y. Jane Tseng, Presider; Lingyun Chen, Presider

Conv.Ctr. S504a

2:00 PM Introductory Remarks

2:05 PM Development of anti-inflammatory probiotic Limosilactobacillus reuteri EFEL6901 as kimchi starter: In vitro and In vivo evidence Namsoo Han

2:35 PM Functional alginate-TiO₂ graphene oxide nanohybrids to minimize post-harvest loss of fruits and vegetables under visible light Piyumi Kodithuwakku

3:05 PM Sustainable nanomaterials for adsorptive removal of contaminants from food and beverages.

Michael Appell

3:35 PM Intermission

3:50 PM Development of new/improved gelling properties from plant proteins for food texturization Lingyun Chen

4:20 PM Antifungal efficacy of nanodelivered azoxystrobin against *Rhizoctonia solani* in Soybean (Glycine max Cristina Sabliov

4:50 PM Sustainability and green technology "in silico databases, and tools Y. Jane Tseng

5:20 PM Panel Discussion

Sustainable Agriceuticals

Hyunsook Kim, Organizer, Presider; LinShu Liu, Organizer; Daxi Ren, Organizer; Wallace Yokoyama, Organizer; Liangli Yu, Organizer, Presider
Conv.Ctr. Rm. S504d

2:00 PM Introductory Remarks

2:10 PM Agronomy, Chemical Analysis and Antidiabetic Activity of Basil (*Ocimum Species*) Mei Wang

2:35 PM Methionyl-methionine dipeptide improves mammaryogenesis and lactogenesis over free methionine by suppressing the expression of a novel long non-coding RNA MGPNCR that promotes dephosphorylation of eIF4B Hongyun Liu

3:00 PM Multiple onsite analysis system using a microarray biochip Yoshihiro Ito

3:25 PM Asymmetric composite dressing with aligned nanofiber arrangement and micro-patterned structure for severe burn wound healing Xian-Ai Shi

3:50 PM Intermission

4:10 PM Soluble free and soluble conjugated phenolics in tomato seeds and their potential beneficial activities Li Yanfang

4:35 PM Profiling gallbladder bile from gilts, barrows, and sows for supplementation in nursery pigs Wes Mosher

5:00 PM Extraction and utilization of bioactive compounds in pomegranate peel Xingzhu Wu

Nanoencapsulation & Delivery of Bioactive Food Ingredients Using Food Biopolymers

Qingrong Huang, Organizer, Presider; Qin Wang, Organizer, Presider

Zoom/Virtual

3:00 PM Introductory Remarks

3:05 PM Comparison and molecular mechanisms of soy protein isolate-gum Arabic based complexes and glycation conjugates for encapsulation and delivery applications of food bioactives Yue Zhang

3:30 PM Simple coacervation of soy glycinin: Mechanism, hollow condensate formation and the application Nannan Chen

3:55 PM Single- and double-layer zein-gum arabic nanoencapsulations: preparation, structural characterization, thermal properties, and controlled release in the gastrointestinal tract Yi Wang

4:20 PM Intermission

4:35 PM Improving bioaccessibility and anti-lipogenic activity of carnosic acid using zein/carboxymethyl dextran nanoparticles Ting Zheng

5:00 PM Chitosan based nanoparticles for enhancing the immunostimulatory effect of CpG oligodeoxynucleotides Lingyun Chen

MONDAY EVENING August 22

SCI-MIX

Michael Granvogl, Organizer; Jonathan Beauchamp, Organizer; LinShu Liu, Organizer, Presider
Conv.Ctr. Hall F2

8:00 PM Cellulose nanocrystals for starter plant plugs Alireza Abbasi

8:00 PM Vermicompost: A potential amendment to improve soil health and reduce GHG in agricultural systems Veronica Suarez Romero

8:00 PM Degradation of bioplastics in agricultural soils using biosolarization Shruti Parikh

8:00 PM Optimization of an advanced glycation end-products assay using a microtiter plate Agustan Vaquez- Rodriguez

8:00 PM Printable freshness colorimetric indicator prepared with cellulose nanocrystal-silver nanoparticles for intelligent food packaging SeongYoung Kwon

8:00 PM Chemical analysis of ghost pipe (*Monotropa uniflora*) by LC-MS/MS Benjamin Brickle, Brandon Canfield

8:00 PM Nanomaterials-based Fluorescence Biosensor for Simultaneous and Rapid Detection of Multiple Veterinary Drug Residues in Poultry Products Yaping Peng

8:00 PM Supercritical fluid extraction optimization using response surface methodology from *Nardostachys jatamansi* for modulating proliferation of stomach cancer cells Vinitha Ug

8:00 PM Physicochemical properties of low-cost solar pyrolysis biochar Simeng Li

8:00 PM Fabrication of plastic bags from potato starch: Process and mechanical properties Riya Singh

8:00 PM Colorimetric detection of *Escherichia coli* O157:H7 by using magnetophoresis and iron oxide nanocatalyst Jiwon Park

8:00 PM Amylose coated hollow silica particle for oral delivery of antioxidants to the lower part of gastrointestinal tract Sumin Kwon

8:00 PM Solid state polymerization of biodegradable poly(Butylene Sebacate-Co-terephthalate): Influence of progress duration Dae Gyu Lim

8:00 PM Quantifying honey adulteration using ¹³C NMR and natural isotope abundances Kassie Picard

8:00 PM Comparison of physicochemical properties of starch made from *Manihot esculenta* (cassava) and *Ipomoea batatas* (sweet potato) Oluwayemi Onawumi, Rukayat Tirimisiyu

8:00 PM Colorimetric detection of biogenic amines in fermented beverage by surface functionalized iron oxide nanozyme Ji-Su Ko

8:00 PM Effect of torrefied spent coffee grounds on the thermal properties of PBAT based biocomposites Youngsan Kim

8:00 PM Improvement of lactoferrin thermal stability by complex coacervation using soy soluble polysaccharides Tiantian Lin, Younas Dadmohammadi, Seyed Davachi, Hooman Torabi, Peilong Li, Benjamin Pomon, Rohit Kapoor, Alireza Abbaspourrad

8:00 PM Photoisomerization of cyanidins acylated with hydroxycinnamic acids under visible light Ellia H. La

8:00 PM Roles of MAPK and Nrf2 signaling pathways in quercetin alleviating redox imbalance induced by hydrogen peroxide in mammary epithelial cells Yongxin Li

8:00 PM Roles of MAPK and Nrf2 signaling pathways in quercetin alleviating redox imbalance induced by hydrogen peroxide in mammary epithelial cells Ning Han

8:00 PM Bioactive compounds from Nigerian plants of and their usage in food Industries: A review Ubaida Muhammad Adamu

8:00 PM Impact of superheated steam roasting on the polyphenol composition, bioactivity and volatile compound profile of cocoa beans Sawali Navare

8:00 PM Biotransformation of forchlorfenuron by the fungus *Cunninghamella elegans* Jaclyn Moreno

8:00 PM Integrating chemical and biological catalysis for simultaneous production of polyphenolics and butyric acid from waste pomegranate peels Qianru Zhao

8:00 PM Improved hepatic thiol redox balance as a prominent metabolic event associated with the growth-promoting effects of phenolic extracts from rice husk and corn pericarp in Nile tilapia Aulia Kanwal

8:00 PM Functional alginate-TiO₂ graphene oxide nanohybrids to minimize post-harvest loss of fruits and vegetables under visible light Piyumi Kodithuwakku

8:00 PM Effect of seaweed polysaccharides as food additives on intestinal microbiome: A review Hongyu Zhang

8:00 PM Application method and environment on deposition, dissipation and metabolism of chlorothalonil on pakchoi Dong Zhang

8:00 PM Solid-state fermentation as an efficient strategy to enhance the phenolic contents and antioxidant activities of oriental mustard bran Joy Roasa

8:00 PM Characterization of Brazilian sugarcane molasses: Applications in ruminant feeding Arthur Rodrigues

8:00 PM Using the pseudophase kinetic model to determine the distributions of theaflavins and explore the influence factors on their partition behaviors in the oil-in-water emulsions Lu Cheng

10:25 AM New strategies to evaluate and manage recycled materials for food contact: A European point of view Olivier Vitrac

10:50 AM WITHDRAWN

11:15 AM Recycled plastic content determination through aggregation - induced emission Michael Shaver

Food Bioactives in Infectious and Autoimmune Diseases

Fang Li, Organizer, Presider; Hang Ma, Organizer, Presider; Xian Wu, Organizer, Presider
Conv. Ctr. Rm. S504bc

8:00 AM Introductory Remarks

8:05 AM Cottonseed kernel extracts downregulate proinflammatory cytokine gene expression in mouse macrophages Heping Cao

8:25 AM Alleviation of dextran sulfate sodium-induced colonic inflammation by different oligo- and polysaccharide fractions from garlic via restoring immune homeostasis, improving antioxidant status and alleviating intestinal microbiota dysbiosis Zhichang Qiu

8:45 AM Bitter sensing TAS2R50 mediates trans-Resveratrol-induced anti-inflammatory effect on interleukin 6 release in HGF-1 cells Veronika Somoza

9:05 AM The protective effect of carnosic acid on dextran sulfate sodium-induced colitis based on metabolomics and gut microbiota analysis Xian Wu

9:25 AM Intermission

9:35 AM Potential adverse effects induced by foodborne titanium dioxide engineered nanoparticles Hengjun Du

9:55 AM Sw5a: The trojan horse against ToLCNDV infection in tomato Namisha Sharma

10:15 AM Dietary 5-demethylnobiletin attenuated dextran sulfate sodium-induced colitis in mice by inhibiting the immune response and regulating gut microbiota Mingyue Song

TUESDAY MORNING August 23

Advances in Packaging Recycling and Sustainability

Dr. John L Koontz, Organizer, Presider; Yoon Song, Organizer, Presider
Conv.Ctr. Rm. S505a

8:00 AM Introductory Remarks

8:05 AM Food safety considerations regarding expanded PCR use in food packaging Kevin Nelson

8:30 AM Dissolution recycling of polyolefins: Recycled resins with virgin-like properties Amy Waun

8:55 AM Survey of intentionally and non-intentionally added substances from post-consumer polyolefins Khairun Tumu

9:20 AM Quality and performance of landfill diverted mixed plastic waste used for food packaging Mark Early

9:45 AM Intermission

10:00 AM Current and future perspectives for post-use solutions for plastic packaging. Christopher White

New Insights in Gut Microbiota Health-Benefits

Coralia Osorio Roa, Organizer, Presider
Conv.Ctr. Rm. S504d

8:00 AM Introductory Remarks

8:10 AM Identification of novel gut microbiota-derived metabolites of curcumin in mice Minna Luo

8:40 AM Fermentability of strawberry soluble fiber by *Bacteroides* spp Pongpol Thanuphol

9:10 AM Deciphering the relationship between gut microbe-derived SCFAs and dietary carbohydrates using LC-MS based platforms Cheng-Yu Weng

9:40 AM Bacterial endotoxin lipopolysaccharides regulate gene expression in human colon cancer cells Heping Cao

10:10 AM Concluding Remarks

Sustainable Agriceuticals

Hyunsook Kim, Organizer, Presider; LinShu Liu, Organizer; Daxi Ren, Organizer; Wallace Yokoyama, Organizer; Liangli Yu, Organizer, Presider
Zoom/Virtual

10:00 AM Introductory Remarks

10:10 AM Antihypertensive effects of milk fermented by *Lactobacillus reuteri* Z09 and *Lactobacillus helveticus* Z11 on spontaneously hypertensive rats
Daxi Ren

10:30 AM Antiobesity properties of fermented loquat (*Eriobotrya japonica*) leaf teas in vivo and invitro
Wallace Yokoyama

10:50 AM Novel ACE inhibitory peptides derived from whey protein hydrolysates: Identification and molecular docking analysis
Yuqing Tan

11:10 AM WITHDRAWN

11:30 AM Intermission

11:50 AM Ultrasonic-assisted extraction of chinese propolis: Optimization based on phenolic content, flavonoid content and antioxidant capacity
Shiqin Peng

12:10 PM A new approach on the treatment of acute infection diseases by antibiotic-pectin formulae
Zayniddin Muhidinov

TUESDAY AFTERNOON August 23

Advances in Packaging Recycling and Sustainability

Dr. John L Koontz, Organizer, Presider; Yoon Song, Organizer, Presider
Conv.Ctr. Rm S504a

2:00 PM Introductory Remarks

2:05 PM Current FDA views on recycled plastic for food contact
Sean Fischer

2:30 PM Efficient depolymerization of polystyrene and re-polymerization of the crude monomer
Muhammad Rabnawaz

2:55 PM Will biodegradable plastics relieve single use plastic waste concerns? New challenges for sustainable alternatives
Amar Mohanty

3:20 PM Multifunctional biodegradable additives for simultaneously improving the toughness and composting rate of bioplastic packaging
Caroline Multari

3:45 PM Intermission

4:00 PM Advances in sustainable active packaging materials
Julie Goddard

4:25 PM Sustainable plant oil-based adhesives for resealable multilayer food packaging films
Greg Curtzwiler

4:50 PM Ductile keratin/chitin composites from improved matrix-reinforcement compatibility and amide crosslinkages via controlled degree of chitin deacetylation.
Bingnan Mu

5:15 PM Creation and characterization of a film with a color pH indicator coating to determine the spoilage of beef, using bio-based materials
Ana Romero

JAFRC Research Article of the Year Award & AGFD Young Scientist Award Symposium

Michael Granvogl, Organizer; Thomas Hofmann, Organizer; Jonathan Beauchamp, Organizer, Presider
Conv.Ctr. Rm. S504bc

2:00 PM JAFRC Paper of the Year Award

2:05 PM Semi-targeted analysis of peptide ergot alkaloids and indole diterpenoids in the *Claviceps purpurea* species complex
Silvio Uhlig

2:45 PM AGFD Young Scientist of the Year Award

2:50 PM 3-Monochloropropane 1,2-diol fatty acid esters: absorption, metabolism, nephrotoxicity and testicular toxicity in Sprague-Dawley rats
Boyan Gao

3:30 PM Closing remarks

Nanoencapsulation & Delivery of Bioactive Food Ingredients Using Food Biopolymers

Qingrong Huang, Organizer, Presider; Qin Wang, Organizer, Presider
Zoom/Virtual

3:00 PM Physicochemical characterization, rheological properties, tribology, and structure of rice bran oil bodies and hydrogels filled with rice bran oil bodies and hydrocolloids
Duoxia Xu

3:25 PM Food-grade high internal phase Pickering emulsions selectively encapsulating cinnamaldehyde and eugenol based on pea protein-pectin-EGCG complexes for extrusion 3D printing: Altering the interfacial properties
Tingting Feng

3:50 PM Bovine serum albumin/carboxymethyl inulin complexes stabilized-Pickering emulsions enhancing oral bioavailability of nobiletin
Guiying Huang

4:15 PM Intermission

4:30 PM Headspace manipulation via metal-organic-framework (MOF) Promising strategies in addressing food safety and food waste challenges
Boce Zhang

4:55 PM Structure, assembly, and applications of peanut oleosin particles
Yijun Pan

5:20 PM Improvement of lactoferrin thermal stability by complex coacervation using soy soluble polysaccharides
Tiantian Lin

5:20 PM Improvement of lactoferrin thermal stability by complex coacervation using soy soluble polysaccharides
Younas Dadmohammadi, Seyed Davachi, Hooman Torabi, Peilong Li, Benjamin Pomon, Rohit Kapoor, Alireza Abbaspourrad

Sustainable Agriceuticals

Hyunsook Kim, Organizer, Presider; LinShu Liu, Organizer; Daxi Ren, Organizer; Wallace Yokoyama, Organizer; Liangli Yu, Organizer, Presider
Zoom/Virtual

3:00 PM Introductory Remarks

3:10 PM Gut microbiota composition in relation to the metabolism of oral administered resveratrol Mingfei Yao

3:30 PM Upregulation of 4-hydroxynonenal contributes to the negative effect of polyunsaturated fatty acid on alcohol-induced liver injury and hepatic steatosis Jiaomei Li

3:50 PM Immunomodulatory effects of the mixed Lactobacillus plantarum and Bifidobacterium longum on lipopolysaccharide-induced intestinal injury in mice Jiahuan Dong

4:10 PM Cimifugin ameliorates lipotoxicity-induced hepatocytes damage and steatosis through TLR4/p38 MAPK and SIRT1 involved pathways Songtao Li

4:30 PM Intermission

4:50 PM Kefir lactic acid bacteria derived bioconversion of citrus pomace and whey and high-fat diet-induced obesity Hyunsook Kim

5:10 PM Bifidobacterium bifidum E3 combined with Bifidobacterium longum subsp. infantis E4 improves intestinal injury a mouse model caused of LPS by inhibiting the NF- κ B /MAPK signaling pathway Bailiang Li

5:30 PM Hypoglycemic mechanism of Tegillarca granosa polysaccharides on type 2 diabetic rats via gut microbiota Xingwei Xiang

5:50 PM Lactobacillus plantarum ZY08 relieves progression of non-alcoholic fatty liver disease by altering gut microbiota Feiwei Cao

WEDNESDAY MORNING August 24

Emerging in Vitro Gut Models for Understanding Nutrient-Microbiome Interactions

Laurel Doherty, Organizer, Presider; Ida Pantoja-Feliciano, Organizer, Presider; Karley Mahalak, Presider

Conv.Ctr. Rm. S504a

8:00 AM Introductory Remarks

8:05 AM Use and relevance of microbial endocrinology in the design of in vitro gut models for understanding nutrient-microbiome interactions Mark Lyte

8:35 AM RapidAIM microbiome assay for preclinical testing and clinical trials. Daniel Figeys

9:05 AM Nutritional deficiency recapitulates intestinal injury associated with environmental enteric dysfunction in human patient-derived Organ Chips Cicely Fadel

9:35 AM Accelerating synthetic biotic development with gut-on-a-chip technology Mark Nelson

10:05 AM Intermission

10:25 AM Prebiotic properties exploration of various insoluble fibers using the ex vivo SIFRÅ® technology Pieter Van den Abbeele

10:55 AM Single source vs. combined fecal samples for in vitro gut microbiota studies Jenni Firrman

11:25 AM Modelling the human lower GI tract through in vitro fermentation Laurel Doherty

11:55 AM Concluding Remarks

Modification of Agricultural Biomass into Value-Added Products - Utilization of Agricultural Biomass

Helen Ngo, Organizer, Presider; Majher Sarker, Organizer, Presider; Madhav Yadav, Organizer
Conv,Ctr. Rm. S504bc

8:00 AM Introductory Remarks

8:05 AM Sodium hydroxide and sodium carbonate pretreatments on sweet sorghum bagasse and their effect on enzymatic hydrolysis Valerie Garcia-Negron

8:35 AM WITHDRAWN

9:05 AM Lignin-derived carbon membranes for hosting high performance alkali metal anodes Lei Tao

9:35 AM Fractionation and characterization of functional components of wheat brans Madhav Yadav

10:05 AM Intermission

10:25 AM Solid-state fermentation as an efficient strategy to enhance the phenolic contents and antioxidant activities of oriental mustard bran Joy Roasa

10:55 AM Pyrolytic conversion of cellulosic pulps from *Oenothera*-first biomass fractionation Charles Mullen

11:25 AM Cascaded thermochemical processing of wet and dry agricultural biomass waste for upgraded fuels and solid products Samantha Rubin

11:55 AM Concluding Remarks

General Papers

Michael Granvogl, Organizer; Jonathan Beauchamp, Organizer; LinShu Liu, Organizer, Presider
Zoom/Virtual

10:00 AM Introductory Remarks

10:05 AM Acrylamide mitigation: a comparison between potato chips and vegetable chips Eva HÅŕŕlzle

10:25 AM Quantitation of odorants in Cumberland rosemary, *Conradina verticillata* Claire Gorman

10:45 AM Identification of odorants in American persimmon fruit, *Diospyros virginiana* L. John Munafo

11:05 AM Identification of odorants in shell ginger roots *Alpinia zerumbet*) Oshin Sahni

11:25 AM Identification of odorants in whiteleaf mountain mint, *Pycnanthemum albescens* Melissa Dein

11:45 AM Intermission

12:00 PM Identification and quantification of anthocyanin and catechin compounds in purple tea leaves and minimally processed flakes Elsayed Abdelaal

12:20 PM Simultaneous analysis and quantification of nonpolar and polar lipids by normal-phase HPLC-CAD from six species of marine sample Guan-Hua Zhao

12:40 PM FTIR study of α -amylase -caffeine interaction at different temperatures Arshad Khan

1:00 PM Measuring size-dependent enthalpy alterations in dry milled white rice via bomb calorimetry William Wang

1:20 PM Photoisomerization of cyanidins acylated with hydroxycinnamic acids under visible light Ellia H. La

1:40 PM Concluding Remarks

WEDNESDAY AFTERNOON AUGUST 24

General Posters

Jonathan Beauchamp, Organizer; LinShu Liu, Organizer

Conv.Ctr. Hall F2

12:00 PM Multi-response kinetic modelling of the formation of five Strecker aldehydes during kilning of barley malt Jose Piornos

12:00 PM Analysis of biogenic amines and benzo[\pm]pyrene in black pepper prepared under various cooking methods Kwang Lee

12:00 PM Analysis of furan in dried red pepper powder prepared by various cooking methods Kwang Lee

12:00 PM Chemical analysis of ghost pipe (*Monotropa uniflora*) by LC-MS/MS Benjamin Brickle, Brandon Canfield

12:00 PM Use of nuclear magnetic resonance spectroscopy to authenticate varietal honeys via multivariate analysis Cory Emal, Gregg Wilmes

12:00 PM Integrated analysis of aromatic and metabolic components in beers with smart databases for GC-MS Emiko Shimbo

12:00 PM Comparison of aroma profiles from mealworm (*Tenebrio molitor*)-based reaction flavors optimized by consumer preferences Hyeyoung Park

12:00 PM Development and validation of an HPLC-UV/Vis method for determination of carotenoids in sweet corn Jhongyan Huang

12:00 PM Determination of sugars in foods using HPAE-PAD in dual eluent generation cartridge mode Jingli Hu

12:00 PM Trapping effects of lipid peroxidation product a 4-hydroxynonenal (4-HNE) - by apple flavonoid, phloretin Richmond Djorgbenoo

12:00 PM Colorimetric detection of biogenic amines in fermented beverage by surface functionalized iron oxide nanozyme Ji-Su Ko

12:00 PM Simultaneous determination of pesticide multi-residues in pork and pork fat using GC-MS/MS and modified QuEChERS method Jonghwa Lee

12:00 PM Quantifying honey adulteration using ^{13}C NMR and natural isotope abundances Kassie Picard

12:00 PM Digital database of absorption spectra of 177 diverse flavonoids Masahiko Taniguchi

12:00 PM Supercritical fluid extraction optimization using response surface methodology from *Nardostachys jatamansi* for modulating proliferation of stomach cancer cells Vinitha Ug

12:00 PM Nanomaterials-based Fluorescence Biosensor for Simultaneous and Rapid Detection of Multiple Veterinary Drug Residues in Poultry Products Yaping Peng

12:00 PM The role of leaf surface pH in controlling the transformation of nanoscale Cu on plant leaf surfaces Chaoyi Deng

12:00 PM Insoluble bound phenolics and the potential beneficial activities of tomato seeds Li Yanfang

12:00 PM Anti-osteoclastogenesis activity analysis of diatom polysaccharides produced by a semi-continuous photobioreactor system Su-Yuan Lai

12:00 PM Vermicompost: A potential amendment to improve soil health and reduce GHG in agricultural systems Veronica Suarez Romero

12:00 PM Effect of torrefied spent coffee grounds on the thermal properties of PBAT based biocomposites Youngsan Kim

12:00 PM Cellulose nanocrystals for starter plant plugs Alireza Abbasi

12:00 PM 2018-2019 Survey of dioxin and dioxin-like compounds in the U.S. domestic meat, poultry, and Siluriformes fish supply Cristian Ochoa

12:00 PM Challenge for the innovative technologies for the flame retardant textiles SeChin Chang

12:00 PM Physicochemical properties of low-cost solar pyrolysis biochar Simeng Li

12:00 PM Determination of target nutritional elements in a market basket of eight types of commercial plant-based milk alternatives using inductively coupled plasma mass spectrometry (ICP-MS) Benjamin Redan

12:00 PM Comparison of physicochemical properties of starch made from *Manihot esculenta* (cassava) and *Ipomoea batatas* (sweet potato) Oluwayemi

Onawumi, Rukayat Tirimisiyu

12:00 PM Optimization of an advanced glycation end-products assay using a microtiter plate Agustan Vasquez- Rodriguez

12:00 PM Determination of short chain fatty acids by headspace-GC-FID in human fecal samples: Stinky day in the life of an analytical chemist! Lee Polite
 12:00 PM Amylose coated hollow silica particle for oral delivery of antioxidants to the lower part of gastrointestinal tract Sumin Kwon
 12:00 PM Biological studies on some coloring agents as food additives and their potential risks Tamany Alanezi
 12:00 PM Selenium bioaccessibility and protein-bound Se distribution in Se-enriched oyster mushrooms Aline Oliveira
 12:00 PM HILIC determination of creatinine, ascorbic acid and uric acid in citrus fruits, pharmaceutical formulations and human fluids Yuegang Zuo
 12:00 PM Colorimetric detection of Escherichia coli O157:H7 by using magnetophoresis and iron oxide nanocatalyst Jiwon Park
 12:00 PM Sequential culture with Hanseniaspora uvarum, Pichia kluyveri and Saccharomyces cerevisiae to improve the quality of Kyoho wine Kuan-Chen Cheng
 12:00 PM Fermented Chenopodium formosanum sprout extraction attenuates PM2.5-induced alveolar macrophages inflammation Kuan-Chen Cheng
 12:00 PM Sourgarcane bagasse via coaxial electrospinning as the support for Kluyveromyces marxianus K21 immobilization in bioethanol production Kuan-Chen Cheng
 12:00 PM Fabrication of plastic bags from potato starch: Process and mechanical properties Riya Singh
 12:00 PM Printable freshness colorimetric indicator prepared with cellulose nanocrystal-silver nanoparticles for intelligent food packaging SeongYoung Kwon
 12:00 PM Degradation of bioplastics in agricultural soils using biosolarization Shruti Parikh
 12:00 PM Solid state polymerization of biodegradable poly(Butylene Sebacate-Co-terephthalate): Influence of progress duration Dae Gyu Lim

General Posters - Virtual/Zoom

Jonathan Beauchamp, Organizer; LinShu Liu, Organizer
 Virtual/Zoom

12:00 PM Chemical methods to determine effect of gamma irradiation on a nucleating agent at irradiation doses applicable for fresh produce Mary Dawn Celiz
 12:00 PM Evaluation de l'activite antioxydante des extraits de saponines dans le marrubiumvulgare I Abdellatif Amnay
 12:00 PM Use of pectin in the therapy of ulcer colitis. Clinical and endoscopic assessment Abdusamad Dustov

12:00 PM Characterization of brazilian sugarcane molasses: Applications in ruminant feeding Arthur Rodrigues
 12:00 PM Improved hepatic thiol redox balance as a prominent metabolic event associated with the growth-promoting effects of phenolic extracts from rice husk and corn pericarp in Nile tilapia Aulia Kanwal
 12:00 PM Cross-serological reaction of peanut and tree nut allergic IgE to glandless cottonseed proteins Christopher Mattison
 12:00 PM In Silico Modeling of Peanut Allergic IgE and Docking to Ara h 2 Christopher Mattison
 12:00 PM Synthesis of starch-based bioplastic coating for packaging material. Cornelli Marcella
 12:00 PM Comparison of allergenicity among different milks and exploration of effective measures to alleviate food allergy Cuicui Duan
 12:00 PM Vachellia schaffneri leaves: A forestry waste or a sustainable resource of antibacterial compounds against foodborne pathogens? Debasish Bandyopadhyay
 12:00 PM Application method and environment on deposition, dissipation and metabolism of chlorothalonil on pakchoi Dong Zhang
 12:00 PM Construction of ZnO@mSiO₂ antibacterial nanocomposite for inhibition of microorganisms during maize storage and improving the germination Dong-Dong Zhang
 12:00 PM Specific gravity and refractive index studies of salvia rosmarinus in ethanol Elizabeth Zippi
 12:00 PM Understanding the response mechanisms and material properties for the 4D-printing concept using model food systems Ezgi Pulatsu
 12:00 PM The analysis of circular RNA-associated ceRNA networks as potential targets for N-acetylcysteine- alleviated non-alcoholic fatty liver disease Feiwei Cao
 12:00 PM Prebiotic effects of dextran from Leuconostoc mesenteroides on the human gut microbial ecosystem Geonhee Kim
 12:00 PM Lactobacillus plantarum with high mannitol production and its application in fermented sweet potato juice Hansheng Gong
 12:00 PM Effect of seaweed polysaccharides as food additives on intestinal microbiome: A review Hongyu Zhang
 12:00 PM Biotransformation of forchlorfenuron by the fungus Cunninghamella elegans Jaclyn Moreno
 12:00 PM Optimization of culture conditions for high sporulation efficiency and spore production of Bacillus amyloliquefaciens NY12-2 Jae-Han Bae
 12:00 PM Pectin-Zein hydrogel microspheres: in Vitro, Ex Vivo, and In Vivo studies Jamshed Bobokalonov
 12:00 PM Effect of metal ions and temperature on thiamine stability JhonghueiHuang

12:00 PM Robust, reusable, self-cleanable and compostable cooling media based on gelatin Menadione sodium bisulfite hydrogels Jiahua Zou
12:00 PM Dynamic changes in microbial community succession and flavor formation during fermentation of chinese fish sauce with different fermentation processes Jiarun Han
12:00 PM Metabolism of methoxylated dietary compounds by Eubacterium limosum, a gut bacterium Jingyuan Huang
12:00 PM Gene expression of E.coli Jyoti Bhatia
12:00 PM Pinot noir wines elemental profile: reproducibility across three vintages in wines from fifteen different vineyard sites Maisa M. M. Lima
12:00 PM Development of qPCR-based assay method for endonuclease activity of cas9-sgRNA ribonucleoprotein complexes Minh Tri Nguyen
12:00 PM Defining a process for the extraction of bromelain from pineapple waste Nicole Sharon Affrifah
12:00 PM QSAR model of carcinogenicity based on data from GreenScreen hazard assessment Pei-Hua Wang
12:00 PM Integrating chemical and biological catalysis for simultaneous production of polyphenolics and butyric acid from waste pomegranate peels Qianru Zhao
12:00 PM Heating induces chemical modification and variable solubility of pecan allergens Rebecca Dupre, Christopher Mattison
12:00 PM Camellia seed oil, a high-quality cooking oil, attenuates liver oxidative damage but exacerbates hepatic steatosis in alcohol-Induced C57BL/6 mice Rui Guo
12:00 PM Buckwheat stover inhibits decarboxylation of p-hydroxyphenylacetate to p-cresol in anaerobic incubation of dairy excreta Rui Su
12:00 PM Impact of superheated steam roasting on the polyphenol composition, bioactivity and volatile compound profile of cocoa beans Sawali Navare
12:00 PM Development of DNA-free genome editing technology for no dextran producing Leuconostoc citreum using CRISPR-Cas9 system Seul-Ah Kim
12:00 PM Evaluation of antioxidant activity of alkaloid extracts obtained from Marrubium Vulgare L Ta Ha
12:00 PM Benchmark dataset for hazardous substances for safer alternative chemicals Tien-Chueh Kuo
12:00 PM Estimation of lactose removal by increase in freezing point during processing of milk by ultrafiltration Tina Truong
12:00 PM Estimation of lactose removal by increase in freezing point during processing of milk by ultrafiltration Maryanne Drake
12:00 PM Enhanced phenyllactic acid production using whole cell bioconversion of Sporolactobacillus inulinus ATCC 15538 Yayun Cheng

12:00 PM Roles of MAPK and Nrf2 signaling pathways in quercetin alleviating redox imbalance induced by hydrogen peroxide in mammary epithelial cells Yongxin Li, Ning Han
12:00 PM Current trends in safer alternatives and risk assessment Yu-Ke Wang
12:00 PM Application of shark chondroitin sulfate with different molecular weights in bone nutrition and bone tissue repair Yunquan Zheng
12:00 PM Effect and mechanism of Citrus depressa Hayata peel extract against acetaminophen-induced liver injury in mice Zheng-Yuan Su
12:00 PM Developing Double Green M peanut protein-based meat substitutes by a high-moisture extrusion process: a multi-scale method to visualize the Black TM process for forming a meat-like fibrous structure Jinchuang Zhang

Advancements in Food & Metabolomics

Conv.Ctr. Rm S504d

Dr. Jessica Cooperstone, Organizer, Presider; Devin Peterson, Organizer

2:00 PM Incorporating principles of green chemistry into the metabolomics workflow Amelia Palermo

2:25 PM Ion mobility mass spectrometry in food metabolomics Timo Stark

2:50 PM Gut microbiota and metabolomics as useful tools to dissect the complex structures of black tea polymers Shengmin Sang

3:15 PM Chemical drivers of vanilla flavor liking Diana Forero-Arcila

3:40 PM Intermission

4:05 PM Sensoproteomic discovery of taste modulating peptides in soy sauce Verena Mittermeier

4:30 PM Lipid fingerprinting in eleven species of dietary fish by non-targeted LC/MS Siddabasavegowda Bommegowda

4:55 PM Whole wheat bread: Impact of enzymatic lipid oxidation and characterization of aroma drivers of liking Devin Peterson

5:20 PM Discussion

Alternative Protein Sources for Human Nutrition (Plant-Based Protein)

John Finley, Organizer, Presider; Brian Guthrie, Organizer, Presider; Michael Morello, Organizer, Presider

Conv.Ctr. Rm S504bc

2:00 PM Introductory Remarks

2:05 PM Green proteome: Waste into wealth Sureyya Ozcan

2:35 PM Tuning emulsifying and foaming properties of pulse proteins: current status and future opportunities Jiajia Rao

3:05 PM Flavor tuning of cheese by application of plant-based protein hydrolysates Sonja Froehlich
3:35 PM Improving plant-based hamburger flavor through studying flavor formation in grilled beef hamburger Joshua Zyzak
4:05 PM Intermission
4:20 PM In vitro digestion, a suitable alternative to animal models for evaluating digestibility of proteins and estimating PDCAAS (Protein Digestibility Corrected Amino Acid Score) values Vicenta Garcia Campayo
4:50 PM Prevention of obesity and insulin resistance by hairless canary seed (*Phalaris canariensis* L.) peptides in western diet-induced obese mice Uriel Urbizo
5:20 PM Concluding Remarks

Emerging in Vitro Gut Models for Understanding Nutrient-Microbiome Interactions - New Insights in Gut Microbiota Health-Benefits

Laurel Doherty, Organizer, Presider; Ida Pantoja-Feliciano, Organizer, Presider; Karley Mahalak, Presider
Conv.Ctr. Rm. S504a
2:00 PM Introductory Remarks
2:05 PM The differential effect of soluble and insoluble rice fiber on the human gut microbiota in vitro. Karley Mahalak
2:35 PM Intermission
2:55 PM Investigating prebiotics in a microfluidic model of colorectal cancer Daniel Penarete
3:25 PM Concluding Remarks

Modification of Agricultural Biomass into Value-Added Products - Utilization of Agricultural Biomass

Helen Ngo, Organizer, Presider; Majher Sarker, Organizer, Presider; Madhav Yadav, Organizer
Conv.Ctr. Rm 503a
2:00 PM Introductory Remarks
2:05 PM Can (semi)volatile organics present in agro-industrial waste hydrochars limit potential environmental applications? Madeline Karod
2:35 PM The fuel value of animal slurries: Saving nutrients and the environment Benjamin Wirth
3:05 PM Enhancing biogas production from brewery byproducts with rumen fluid pretreatment Stephanie Chen
3:35 PM Enhancing conversion of agricultural wastes to products by teamwork Joan Lynam
4:05 PM Intermission
4:25 PM Product centric technologies for agricultural residue conversion to fuels and value-added chemicals Ejaz Ahmad

4:55 PM Engineered biocatalyst to convert thermochemically-treated biomass-derived heterogeneous substrates to advanced platform chemicals Lahiru Jayakody
5:25 PM Developing plant biomass hybrids for sustainable crop protection in sub-saharan Africa Tahira Pirzada
5:55 PM Concluding Remarks

Nanoencapsulation & Delivery of Bioactive Food Ingredients Using Food Biopolymers

Qingrong Huang, Organizer, Presider; Qin Wang, Organizer, Presider
Zoom/Virtual
3:00 PM Structural design and versatile applications of pickering double emulsions as delivery vehicles for precise nutrition Jie Xiao
3:25 PM Assembly of lactoferrin particles via transglutaminase-induced crosslinking strategy: Application in oleogel- based Pickering emulsion with enhanced nutrient delivery Zihao Wei
3:50 PM Milled miscellaneous black rice particles stabilized Pickering emulsions delivery system Xuanxuan Lu
4:15 PM Intermission
4:30 PM Milled whole walnut particles with enhanced carnosic acid bioaccessibility and their application to stabilize Pickering emulsions for 3D printing Qianru Liu
4:55 PM Using the pseudophase kinetic model to determine the distributions of theaflavins and explore the influence factors on their partition behaviors in the oil-in-water emulsions Lu Cheng
5:20 PM Delivery of polymethoxyflavones (PMFs) using emulsions stabilized by whey proteins derived biomaterials Weiping Jin
5:45 PM Concluding Remarks

THURSDAY MORNING August 25

Food, Food System & Precision Nutrition

Thomas Wang, Organizer, Presider
Conv.Ctr. Rm S504bc
8:00 AM Agriculture is neither a risky nor an uncertain/impossible business since 1975 at Liaqat Corp (Pvt) Ltd, by field-based mobile commercial innovative industrialisation for zero hunger, at profit-loss/PPP/turn-key basis Liaqat Ali
8:25 AM Using NMR spectroscopy to trace ¹⁵N-Isotopes through an engineered food chain John Love
8:50 AM Development of curcumin-based photoactive edible films. Cristian Villa
9:15 AM Bitter peptides released during digestion of non-bitter tasting casein stimulate mechanisms of

gastric acid secretion via activation of bitter taste receptor TAS2R16 Phil Richter

9:40 AM Intermission

9:55 AM Food systems biology database A novel resource providing comprehensive information about molecular food systems, chemosensory receptors and beyond Andreas Dunkel

10:20 AM Quantitative estimation of total carotenoid content in palmyrah fruit pulp, shrimp shells, and brown algae: A comparative spectroscopic analysis Sutharshiny Sathyaruban

10:45 AM Rapid-throughput quantification and structural elucidation of food carbohydrates using UPLC-QqQ MS Garret Couture

11:10 AM The effects of roasting on the ethanol-extractable components of cottonseed Zhongqi He

11:35 AM Elucidating the physicochemical characteristics of Asin Tibuok: Understanding the science behind Asin Tibuok as a model of indigenous knowledge conservation Isaac Jerome Dela Cruz

Utilization of Upcycled Foods in New Product Innovation

Xiaofen Du, Organizer, Presider; Yixiang Xu, Organizer, Presider
Conv.Ctr. Rm S504a

8:00 AM Introductory Remarks

8:05 AM Flavanol-rich Chardonnay and Pinot Noir thinned clusters as functional food ingredients in cocoa-based products Xueqi Li

8:35 AM Quantitation of odorants in Chardonnay marc seeds Sarah Warner

9:05 AM Use of pectin recovered from agro-food industry waste in food and health product innovation Wei Zhao

9:35 AM Intermission

9:50 AM Steam explosion of HLB tolerant citrus as a potential source of volatiles and other commercial products Christina Dorado

10:20 AM Use of rind in watermelon juice blends for its amino acid content, volatile aroma compounds, and associated consumer acceptance Xiaofen Du

10:50 AM Upcycling of coffee by-products: Exploring the aroma of a coffee pulp puree Nina Buck

General Papers

Michael Granvogl, Organizer; Jonathan Beauchamp, Organizer; LinShu Liu, Organizer, Presider
Virtual/Zoom

10:00 AM Introductory Remarks

10:05 AM Changes of major components in tea fermentation process: A review Yujia Zhang

10:25 AM Applicability of the R5 sandwich ELISA for gluten detection in various food matrices confirmed by an international collaborative study Katharina Scherf

10:45 AM Structure, functional characteristics and in vitro digestibility of laccase-crosslinked β -lactalbumin: Impacts of Superfine grinding pretreatment Jialun Hu

11:05 AM Absorption and metabolism of ginger compounds in chicken Shuwei Zhang

11:25 AM Optimization of the characteristics and functional properties of the white bread with mango peel flour and ascorbic acid Cesar Moreno Rojo

11:45 AM Intermission

12:00 PM Prebiotic beverage from smallanthus sonchifolius sweetened with stevia Cesar Moreno Rojo

12:20 PM Piperine prevents lipid accumulation induced by oleic acid in HepG2 via modulating circadian rhythm genes BMAL1 and CLOCK Muwen Lu

12:40 PM Phytochemical investigation of Annona Glabra - insilico study and its biopesticidal activity Mity Thambi

1:00 PM Quantification of nitrate and nitrite in beverages consumed in Fiji: a risk assessment Adrian Chetty

1:20 PM Bioactive compounds from Nigerian plants of and their usage in food Industries: A review Ubaida Muhammad Adamu

1:40 PM Concluding Remarks



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on your calendar for the
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in
INDIANAPOLIS



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

Sunday August 14	9:00-10:00am	Future Programs	https://ucdavis.zoom.us/j/98290854910
Sunday August 14	10:30-11:30am	Special Topics/Business	https://ucdavis.zoom.us/j/93882224134
Sunday August 14	1:00-3:00pm	Executive Committee	https://ucdavis.zoom.us/j/96023190792
Tuesday August 23	6:30-8:30pm	AGFD Award Reception	Marriott Marquis Chicago