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**AMERICAN CHEMICAL SOCIETY
AGRO DIVISION
FALL 2022 HYBRID MEETING AND EXPO
Chicago, Illinois, USA
Sustainability in a Changing World**

August 21 - 25, 2022



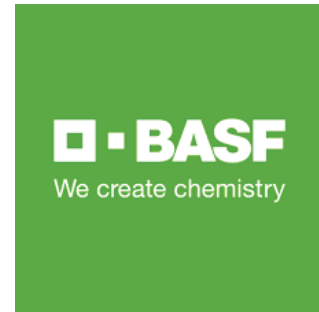
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From the Chair's Desk

Qing X. Li



Welcome to the
ACS Fall 2022 National Meeting and Exposition
Chicago, Illinois
August 21 – 25, 2022
Sustainability in a Changing World

The Fall 2022 meeting will be hybrid meeting which allows us to meet in person as well as online. **Our Program Chair, Heidi Irrig**, has creatively shaped the AGRO Program in the new ACS hybrid platform. We have more than 20 symposia that cover a wide range of innovative and timely topics with agrochemical relevance. The ACS Multidisciplinary Program Planning Group (MPPG) has financially co-sponsored five AGRO symposia that have been identified as aligned with the MPPG theme *Sustainability in a Changing World*. The technical program along with registration details can be found on the ACS website. Please visit: <https://www.acs.org/content/acs/en/meetings/acs-meetings>



AGRO Awards and AGRO Co-sponsored Awards. A big thank you to all our award sponsors! As the AGRO awards committee chair and the AGRO Division Chair, I thank the 2022 Awards Committee members for their selections of the award recipients and all the nominators for their nominations. My thanks also go to Sharon Schneider, Awards Committee Liaison, and Jeanette Van Emon, Awards Committee Vice Chair, for their help along the selection process.

We are pleased to announce that **Yelena Sapozhnikova** is our newest AGRO Fellow. The 2022 award winners who will be recognized and will be presenting at the Chicago meeting.

- International Award for Research in Agrochemicals – **Jeffrey G. Scott**, sponsored by *Corteva*
- AGRO Award for Innovation in Chemistry of Agriculture – **Joel R. Coats**, sponsored by *BASF*
- Sterling Hendricks Memorial Lectureship Award – **Stephen O. Duke**, sponsored by *USDA*
- Kenneth A. Spencer Award – **H. N. Cheng**, sponsored by *ACS Kansas City Section*
- AGRO JAFCA Article of the Year Award – **Song Yang** and **Cai-Guang Song**
- AGFD JAFCA Article of the Year Award – **Silvio Uhlig**

Congratulations to all our awardees. Nominations for 2024 International and 2023 Innovation Awards and cosponsored awards are being sought. Award details can be found at <https://www.agrodiv.org/awards/>

2022 ACS Kathryn C. Hach Award for Entrepreneurial Success. **Pamela G. Marrone** is the winner of the 2022 Kathryn C. Hach Award for Entrepreneurial Success which is sponsored by the Kathryn C. Hach Award Fund. The award recognizes outstanding entrepreneurs who have created a commercially viable business within the chemical enterprise. There are many

ACS national awards, and we need to nominate AGRO members for ACS national awards. ACS will begin accepting nominations for the 2024 ACS National Awards in July 2022. Please visit: <https://www.acs.org/content/acs/en/funding/awards/national.html>

2022 ACS Fellows from AGRO. This year three AGRO members will receive the ACS Fellow Award: **Diana Aga**, **Kevin L. Armbrust**, and **Allan S. Felsot**. Each year we can submit up to four nominations each year. Although nominations must be sponsored/signed off by the Division Chair, they can be championed by other members. We have a number of very worthy candidates among us who have contributed to the field of chemistry and to ACS. I encourage our membership to consider nominating a fellow member early next year. Please contact our in-coming chair, Heidi Irrig (heidi.irrig@syngenta.com).

Early Career Opportunities, New Investigator Finalists, and Student Awards. Congratulations to **Cera Fisher**, **Ellis Johnson**, and **Anais Le Mauff** who are the 2022 AGRO New Investigator Award finalists (see p. 33). Each will present in a symposium of their choice. Thank you, Sasha Kweskin for leading these efforts.

Congratulations to the seven awardees of the student travel awards (p. 35). Winners of the poster competition will be announced at the AGRO Awards Social on Wednesday at 6:00 PM – 8:00 PM EST. Thank you to Aaron Gross and Sara Whiting for co-chairing this committee for 2022.

Early career symposia will be part of the program. Special thanks to Kalumbu Malekani for mentoring the Early Career Scientist Symposia. Please take some time to attend the student and early career talks and posters at the fall meeting. Finally, please note that students and post-docs will have a special luncheon on Monday. Reservations are required; please contact Sara Whiting (sara.whiting@bayer.com). Thank you Sara for organizing this event.

Congratulations to all award winners!

*Please join the celebrations at the AGRO Awards Social
on Wednesday at 6 PM – 8 PM.*

Sunday Evening Activity – Grow with AGRO. Our annual AGRO Combined Governance meeting on Sunday will be rescheduled for early fall will be held online. Please watch your AGRO email. This meeting will be replaced with a meet-and-greet gathering event, Grow with AGRO, for members to get together to catch up and potential new members to learn more about us. Hors d'oeuvres, cash bar, and cool SWAG will be available. Officers and each Committee will present an overview of their roles and duties. Please join the event to learn more about AGRO and become engaged. The meet-and-greet gathering event will be on Sunday from 6:00 to 9:00 PM.

Tuesday Evening Activity – Blues & Brews. Be sure to attend the Blues & Brews idea generation session for the San Francisco Fall meeting. The theme of the San Francisco meeting is *Harnessing the Power of Data* which has me thinking of many wonderful science topics to be explored and presented. Plan to join the fun of a face-to-face live brainstorming forum at the Chicago meeting. The drinks are free but bring your ideas. There is no need to wait until Blues and Brews if you have a great idea! If you have any ideas for future programming, please contact Aaron Gross (adgross@vt.edu) directly.

AGRO at the 265th ACS 2023 Spring National Meeting and Exposition. A committee led by Aaron Gross and Ken Racke is planning an AGRO program at the 265th ACS Spring National Meeting and Exposition, March 26 – 30, 2023, in Indianapolis, Indiana. Although AGRO does not normally participate in the spring national meeting, we are excited about taking advantage of the Indianapolis location since Indy is an AGRO hub! The theme of ACS 2023 spring meeting is Crossroads of Chemistry. The AGRO division will have four symposia, and the calls for papers are described in p. 45.

AGRO 50th and Beyond. The AGRO50 and Beyond celebration was postponed from San Francisco 2020 to San Francisco 2023 fall meeting. The activities are being coordinated by Ken Racke, Jeanette Van Emon, James Seiber, and Aaron Gross. The AGRO tour in California is being coordinated by Heidi Irrig and Andrew Coates. Stay tuned for more information on this celebration!

2023 Strategic Planning. Leah Riter and Edmond Norris are taking the lead to coordinate the AGRO strategic planning retreat possibly in conjunction with a national meeting or a separate standalone meeting in Washington, DC.

AGRO Elections. We appreciate the work of the Nominations and Election Committee, Leah Riter (chair), Cheryl Cleveland, and Rodney Bennett for arranging the AGRO annual ballot process this year. We thank all the candidates for their willingness to serve. Each year, AGRO votes in members to the Executive Committee for a three-year term; a Vice-Chair who serves a three-year rotation of Vice-Chair, Program Chair, and Chair; and one-year terms for Secretary and Treasurer. Every three years, we vote for two Councilors and two alternate Councilors who serve three-year terms. AGRO 2022 election closed on June 26, 2022, and the results are:

2023 Officers

Vice Chair: James Foster

Secretary: Sharon Schneider

Treasurer: Del Koch

Executive Committee Members (EC)

2023 – 2025

Dena Barrett, Kalumbu Malekani,

Natalia Peranginangin, Daniel Swale, Ralph Warren

Congratulations to all!

AGRO holds annual elections, so if you are interested in running for an office or the EC in 2023, please contact me (qingl@hawaii.edu), as I will be leading the Nominating and Election Committee and will take nominations for our annual elections – available positions will include the Executive Committee, Vice Chair, Secretary, Treasurer, Councilors, and Alternate Councilors. All positions are always in need of good candidates.

Division Membership. We welcome new members. Do you know colleagues that would benefit from AGRO membership? Could your employer explore an AGRO membership campaign? One does not need to be an ACS member to be an AGRO Division member, and the price is \$16 or less. ACS has a direct link for online division memberships. Please contact the Membership Chair Chris Bianca (chris.bianca@jrfamerica.com) with questions or references or visit: <https://home.acs.org/forms/s/technical-divisions>

Maintenance of our membership email records can be challenging. Members can help by ensuring their ACS account profiles are up to date. ***If you have had a change in the last year, or if your ACS profile is out of date, please contact ACS member services to update emails*** (service@acs.org). By updating the email through member Services, the change of email will be changed as part of the permanent member record. Also drop Pat Havens (pat.havens@corteva.com) an note as he maintains the database for the email newsletter.

Stay safe!

And welcome to the ACS Fall National Hybrid Meeting!



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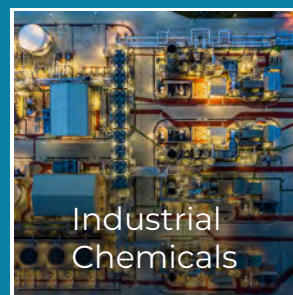
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AGRO AWARDS COMMITTEE REPORT

Qing X. Li, Chair

SENIOR AWARDS. **Jeffrey G. Scott**, Professor, Department of Entomology, Cornell University, is the recipient of the 2022 International Award for Research in Agrochemicals. Jeffrey will receive this award for development of cutting-edge technologies in insecticide resistance which will be presented at a symposium organized by John M. Clark and Ke Dong at the 264th National ACS Meeting in Chicago on Monday, August 22, at 8:00 AM CDT. **Thomas M. Stevenson**, a Corporate Research Fellow at FMC Corporation, is the recipient of the 2023 ACS International Award for Research in Agrochemicals. He will be recognized for his contribution to the commercialization of multiple ground-breaking products that work through new biochemical modes-of-action which include the fungicide famoxadone and the insecticides indoxacarb, chlorantraniliprole, and cyantraniliprole. Kathleen Shelton and Seva Rostovtsev will organize a symposium in Tom's honor at the 266th National ACS Meeting in August 2023 in San Francisco. We thank Corteva Agriscience for their sponsorship.

Joel R. Coats is the winner of the 2022 AGRO Award for Innovation in Chemistry of Agriculture. Joel is recognized for his exemplary contributions to developing safe and effective natural insecticides. His award will be presented on Monday, August 22, at 2 PM CDT. We thank BASF for the sponsorship.

Stephen O. Duke is the winner of the 2022 USDA-ARS Sterling Hendricks Memorial Lectureship Award, which this year is hosted by AGRO and co-sponsored by AGFD on Tuesday at 10:50 AM CDT. Steve is a former ARS scientist and is currently part of the University of Mississippi, Oxford. He is recognized for his basic and applied research concerning natural products as sources of pesticides and for the biochemical and physiological modes of action of and resistance to herbicides. **H.N. Cheng**, the immediate past ACS National President and an ARS Research Scientist, is the recipient of the 2022 Kenneth A. Spencer Award, which is sponsored by the Kansas City Section. He will present his lectureship on Monday at 4:55 PM CDT, which is hosted by AGFD and co-sponsored by AGRO.

The *Journal of Agricultural and Food Chemistry* (JAFC) and the AGRO and AGFD Divisions sponsor two lectureships for outstanding papers published in JAFC the previous year. The 2022 winners for the AGRO paper are Teng Yang, Tao Zhang, Xiang Zhou, Pengyu Wang, Jianhua Gan, Baoan Song, **Song Yang**, and **Cai-Guang Yang**, while the winners for the AGFD paper are **Silvio Uhlig**, Oscar Daniel Rangel-Huerta, Hege H. Divon, Elin Rolén, Kari Pauchon, Mark W. Sumarah, Trude Vrålstad, and Justin B. Renaud. Song Yang will present his lecture on Wednesday at 8:00 AM CDT and Silvio on Tuesday at 2:00 PM CDT.

Pamela G. Marrone of Marrone Bio Innovations is the winner of the 2022 Kathryn C. Hach Award for Entrepreneurial Success award, which recognizes outstanding entrepreneurs who have created a commercially viable business within the chemical enterprise. Pamela will give her award address in the AGRO symposium on Wednesday at 8:55 AM CDT.

FELLOWS. This year we congratulate **Yelena Sapozhnikova** as our newly elected AGRO Fellow. We also congratulate **Diana Aga**, **Kevin L. Armbrust**, and **Allan S. Felsot** as AGRO's newest ACS Fellows. Many thanks to all who nominated our outstanding AGRO members who have worked to make ACS and AGRO supportive places for sharing scientific

knowledge and creating imaginative ways to share science with our global community.

NEW SCIENTIST AWARDS. The 2022 finalists for the **AGRO New Investigator Award** are **Cera Fisher** (Cornell University, Ithaca, NY, USA), **Ellis Johnson** (University of Nebraska, Lincoln, NE, USA), and **Anais Le Mauff** (University of Orléans, Orléans, FR). Each will present in a symposium of their choice (p. 33). The winner will be announced at the AGRO Awards Social on Wednesday at 6:00 PM – 8:00 PM CDT. We thank Syngenta for its sponsorship.

The **2022 AGRO Education Award for Student Travel** serves to promote an understanding of the role of chemistry in agriculture. The seven students who will receive this award (p. 35) will present posters at the AGRO Poster Session on Wednesday at 12:00 noon – 2:00 PM CDT and will compete for 1st, 2nd, and 3rd place. Winners will be announced at the AGRO Awards Social on Wednesday at 6:00 PM – 8:00 PM CDT.

Please attend their sessions and support our newest AGRO scientists. We thank Bayer for its sponsorship.

NOMINATIONS ARE BEING SOUGHT. The AGRO Awards Committee is accepting nominations for the **2024 International Award for Research in Agrochemicals** and the **2023 AGRO Award for Innovation in Chemistry of Agriculture**. Nomination criteria can be found on pages 27 and 28, respectively. Nominations for the 2023 **Sterling Hendricks Memorial Lectureship** and **Kenneth A. Spencer Awards** are also being accepted (pp. 29 and 30, respectively).

The AGRO Awards Committee is accepting nominations for the **AGRO Division Fellow Award** (p. 13). Also consider nominating AGRO members for the **ACS Fellow Award**. Please note that ACS Fellow nominations must be submitted through the Division Chair. The deadlines each year are March 31 for the AGRO Fellow Award and April 1 for the ACS Fellow Award.

The *Journal of Agricultural and Food Chemistry* (JAFC) and the AGFD and AGRO Divisions are seeking nominations for the **JAFC Research Article of the Year Award Lectureship**. Two papers will receive awards, one from each division interest, for an outstanding article published in 2022 (either in an issue of JAFC or as soon as publishable) that demonstrate creativity and impact on agricultural and food chemistry as a whole. The call for nominations of papers published in 2022 will be solicited through the JAFC website beginning in late Fall 2022 (p. 31).

2023 New Investigator Award applications are being accepted; requirements can be found on page 36. This award is presented to scientists who have obtained a doctoral degree within the past five years and are actively conducting academic, industrial, consulting, or regulatory studies of interest to AGRO. Applications are currently being accepted (p. xy). The application process for the **AGRO Student Travel Awards for 2023** can be found on page 37. AGRO has established an endowment fund for students in collaboration with Bayer US LLC, Crop Science Division to promote an understanding of the role of chemistry in agriculture. Please note these awards will only be awarded at the Fall ACS meeting.

AGRO has many outstanding scientists and volunteers. Please consider nominating a deserving colleague for the AGRO Division and external awards.

Meet with Smithers

Smithers Environmental Fate and Metabolism scientists are chairing symposiums and presenting at the ACS National Meeting. Attend a session below or contact us at infoERS@smithers.com to meet with our team.

Smithers Chaired Symposiums:

Support of Agricultural Research & Development using LC-Mass Spectrometry or Extraction Efficiency Testing: New Trends & Best Practices

Monday, August 22, 8:00 AM - 12:00 PM

Room S501bc - McCormick Place Convention Center



Dr. Jim Ferguson



Rory Mumford

Climate Change and Sustainable Agriculture: Impacts on food security/trade, risk assessment and pesticide fate studies (Early Career Symposium)

Wednesday, August 24, 8:00 AM - 12:00 PM

Room S502b - McCormick Place Convention Center



Xavier Poole



Aleksandra Dean

Smithers Presentations:

The Benefits of Data from Instrumentation with Higher Resolving Power in the Analysis of Some Radiolabeled Test Materials

ID: 3738742 Monday, August 22, 09:20 AM - 09:45 AM

Room S501bc - McCormick Place Convention Center

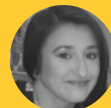


Dr. Jim Ferguson

Assessing the Impact of Soil Characteristics on the Rate of Chemical Degradation under Aerobic Conditions

ID: 3738607 Wednesday, August 24, 11:05 AM - 11:30 AM

Room S502b - McCormick Place Convention Center



Kayla Cabral

Evaluating the effect of application solvent(s) used during a soil metabolism study with [¹⁴C]Glyphosate

ID: 3743122 Wednesday, August 24, 11:30 AM - 11:55 AM

Room S502b - McCormick Place Convention Center



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Celebrate all the AGRO award winners!

ACS Fellow Award

Diana Aga, Kevin L. Armburst, Allan S. Felsot

AGRO Fellow Award

Yelena Sapozhnikova

ACS 2022 Kathryn C. Hach Award for Entrepreneurial Success

Pamela G. Marrone

ACS International Award for Research in Agrochemicals

Jeffrey C. Scott

AGRO Award for Innovation in Chemistry of Agriculture

Joel R. Coats

USDA-ARS Sterling Hendricks Lecturer

Stephen O. Duke

ACS Kansas City Division Spencer Award

H. N. Cheng

AGRO Division *JAFCA* Article of the Year

Song Yang, Cai-Guang Yang

AGRO New Investigator Award Finalists

Cera Fisher, Ellis Johnson, Anais Le Mauff

AGRO Education Travel Award Winners

Wednesday, August 24, 6:00 - 8:00 PM Central Daylight Time

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ACS FELLOW AWARDS

For outstanding achievements in and contributions to science, the profession, and the Society

Presented to Diana Aga, Kevin L. Armbrust, and Allan S. Felsot



Diana Aga, director of the University at Buffalo (UB) RENEW Institute and Henry M. Woodburn Professor of Chemistry in the UB College of Arts and Sciences, has been named a fellow of the American Chemical Society (ACS).

According to the award citation, she is being recognized *For encouraging women and underrepresented minority students to*

pursue careers in environmental and agricultural Chemistry, and for innovative contributions in agrochemical analysis to better understand their ecological and health impacts. She is also being honored for her contributions to the ACS AGRO division, where she has organized a wide variety of student research, learning, and networking activities.

A two-time Fulbright award winner and a past recipient of Germany's Alexander von Humboldt Research Fellowship, Aga is globally recognized for her work in environmental and analytical chemistry.

She has led the UB RENEW Institute since 2021. This university-wide multidisciplinary research institute focuses on complex energy and environmental issues, as well as the social and economic issues with which they are connected.

A prolific scholar with over 180 refereed papers, Aga also continues to lead a lab in the UB chemistry department that analyzes pollutants in the environment; develops ways to break them down and clean them up; and investigates the chemicals' impact on humans and wildlife.

Her team's discoveries have had a far-reaching impact on understanding emerging contaminants such as antimicrobials and other pharmaceuticals; endocrine-disrupting chemicals; engineered nanomaterials; persistent organic pollutants (POPs) such as per- and polyfluoroalkyl substances (PFAS), polybrominated diphenyl ethers (PBDEs), polychlorinated biphenyls (PCBs); and pesticides.

Aga's career was inspired by changes she witnessed near the village where she grew up in the Philippines. She remembers swimming, playing, and fishing frequently in a river near her home, but as the years went on, the river gradually became darkened with pollution. In an interview in 2021, she noted that her research "is inspired by my desire to prevent the continuous deterioration of our environment as a result of industrialization and population growth."

Aga is now playing an important role in training the next generation of researchers. She has mentored dozens of undergraduate and graduate students who have gone on to careers in industry, government, and academia. She hopes to expand this work through programming and partnerships at the RENEW Institute that support pathways to STEM for K-12 and university students from underrepresented groups.

Aga joined UB as a faculty member in 2002 after earning a PhD in analytical and environmental chemistry from the University of Kansas and a bachelor's degree in agricultural chemistry from the University of the Philippines Los Baños.

She is a recipient of the ACS Schoellkopf Medal, the AGRO Fellow Award from the ACS AGRO Division, the Koh Lectureship Award in Science from the Philippine-American Academy of Science and Engineering, and the Menzie Environmental Education Award from the Society of Environmental Toxicology and Chemistry, among other honors.

*By Charlotte Hsu, News Content Manager
University of Buffalo*

ACS FELLOWS FROM THE AGRO DIVISION

2009	Glenn Fuller	2015	Rodney Bennett	2020	Thomas M. Stevenson
2010	James N. Seiber		John J. Johnston	2021	Sharon K. Schneider
2011	John W. Finley	2016	Aldos C. Barefoot	2022	Diana Aga
	N. Bushan Mandava	2017	Stephen O. Duke		Kevin L. Armbrust
2012	Jeanette M. Van Emon	2018	Cathleen J. Hapeman		Allan S. Felsot
2014	Kevin Hicks	2019	Joel R. Coats		
2014	Laura L. McConnell		Steven J. Lehotay		
	Kenneth D. Racke		Beth A. Lorschach		



ACS FELLOW AWARDS

For outstanding achievements in and contributions to science, the profession, and the Society

Presented to Diana Aga, Kevin L. Armbrust, and Allan S. Felsot



Kevin L. Armbrust is recognized for his service to the society and his leadership to meet diverse student needs and for sustained innovative research concerning chemical fate and ecological effects mechanisms to inform regulatory policy. He is a professor and department chairman and holds the Claiborne Chair of Environmental Chemistry and Toxicology in the

Department of Environmental Sciences at Louisiana State University in the College of the Coast and Environment. He co-directs the Center of Excellence in Regulatory Science in Agriculture (CERSA) based out of North Carolina State University and holds adjunct appointments the School of Renewable and Natural Resources at LSU as well as in the College of Science and Engineering at Texas A&M, Corpus Christi.

Kevin has nearly 30 years of experience in organizational leadership and knowledge in the movement, disposition, fate, and toxicity of chemicals in environmental matrices with respect to the regulatory sciences. His career has spanned the crop protection industry, state government, and academia. He received both his B.S. in Environmental Toxicology and his Ph.D. in Agricultural and Environmental Chemistry from the University of California at Davis. He then joined DuPont Agricultural Products where he was responsible for the design, conduct and generation of laboratory and field experiments according to Good Laboratory Practice (GLP) to determine the persistence and fate of pesticides in soil, water, plants, and animals in support of their registration and reregistration.

After a short jaunt as an assistant professor Department of Crop and Soil Sciences at the University of Georgia. Prior to his position in Louisiana, Kevin was the State Chemist for the State of Mississippi, The Director of the State Chemical Laboratory of

Mississippi, and an Associate Professor in the Chemistry department at Mississippi State University.

In addition to his administrative and academic responsibilities at LSU, Kevin he leads the Response and Chemical Assessment Team (RCAT) that provides scientific support to NOAA's Emergency Response Division for chemical spill (including oil spill) response. In his regulatory roll in Mississippi, he played a key coordinating roll in the response to the Deepwater Horizon Oil Spill. He has active research on the fate and effects of chemicals in and upon Louisiana watersheds and agricultural systems, wetlands, and coastal areas.

Kevin's research groups have conducted foundational work on the environmental fate and effects of pharmaceuticals in the early 2000s and the impacts of salinity on pesticide physical properties, degradation mechanisms and toxicity including phototoxicity. Much of his work has resulted in scientifically grounded regulations to protect ecosystem and human health and agricultural product quality. Throughout his career, he has ensured that in areas under his authority that the best regulatory policy is based upon the best available science.

Kevin has been an active member of ACS and the AGRO Division for more than 30 years, serving continuously on the executive committee since 2003, as Vice Chair, Program Chair, and Chair in 2008 – 2010, and as alternate councilor. He consistently organizes innovative symposia and along with his students, regularly presents at annual meetings. This past year he has served on the ACS Committee on Science (COMSCI).

Kevin has served as the chair the USDA Multistate Project (W4045), as the President Elect of the Association of American Feed Control Officials (AAFCO), and on the US FDA's Food Advisory Committee. He has been an active member of the Society of Environmental Toxicology and Chemistry (SETAC) and the Association of Food and Drug Officials (AFDO). He also is on the editorial advisory boards for Journal of Agricultural and Food Chemistry and Agricultural Science and Technology.

He, his wife Debbie, and grown children Andrew (LSU graduate) and Macy Caroline (current LSU student) enjoy the outdoors (when it's not too humid) and the culture that South Louisiana offers including Cajun cuisine, LSU baseball, and especially LSU football. **Geaux Tigers!!**



ACS FELLOW AWARDS

For outstanding achievements in and contributions to science, the profession, and the Society

Presented to Diana Aga, Kevin L. Armbrust, and Allan S. Felsot



Allan S. Felsot is a Professor in the Department of Entomology at Washington State University where he specializes in entomology and environmental toxicology.

His interests in entomology and pesticide technology started while he was an undergraduate biology major at Tulane University. He

developed a project involving the chemistry of mucilage producing seeds that entrapped mosquito larvae, resulting in his first scientific paper. For two of his undergraduate summers, he worked for the Orleans Parish Mosquito Control District conducting population surveillance, bird trapping, and bleeding for arbovirus detection, and treating standing water with oils to kill larvae.

Allan obtained his M.S. in entomology from the University of Florida studying pheromone production by males of the Caribbean fruit fly after dosing with a juvenile hormone agonist. He had the opportunity thereafter to work as a technician for an organic chemist in the USDA Insect Affecting Man and Animal Lab, learning analytical chemistry, noting "that's where the 'bug' really bit me and turned my focus to pesticide chemistry." He earned his Ph.D. in entomology from Iowa State University in 1978 focusing on pesticide environmental chemistry.

Allan's first faculty position was a research leader for pesticide chemistry and toxicology in the Illinois Natural History Survey at the University of Illinois. During his 14+ years at the University of Illinois, he studied the phenomenon of enhanced

biodegradation of soil applied insecticides, showing this phenomenon was the reason certain corn rootworm control products were failing in efficacy after repeated use. He studied landfarming of contaminated soils onto cropland to enhance degradation of pesticide waste created by spills and repeated spray tank rinse out procedures. He also conducted cooperative research with agricultural engineers to study the best agronomic practices for reducing runoff of pesticide residues.

In 1993, Allan moved to Washington State University where he focused on herbicide drift onto non-target crops. He and his research team developed a sentinel plant biomonitoring network to understand how herbicide applications in a dryland wheat region distant to landscapes growing minor crops might be causing symptoms of chemical injury in those crops. His interests then *drifted* to experiments in orchards studying "every other row spraying" as a best management practice to reduce off target drift without sacrificing efficacy. Other projects have focused on fate of imidacloprid when applied by subsurface drip irrigation, and neonicotinoid residues in apiaries across WA State, culminating in a probabilistic risk analysis of potential effects on colony health.

Today Allan is mostly engaged in teaching four courses per semester and has developed new courses, such as *Biotechnology and the Environment* and *Ecological and Integrated Pest Management*. In addition, he and his artist bride and long-time partner, Judy Ruppert, enjoy world-wide traveling adventures, especially to visit their sons and their grandkids in Japan.

With a 45-year research career now in the past, Allan says, "I am still working without retirement plans, but I've learned two important lessons during my career. Teaching is the best way to stay current in a discipline. And pertinently, one should get involved with professional scientific societies, contribute your work to the conferences, volunteer for committees and leadership roles, and most importantly be a good mentor to students. The colleagues you interact with afford wonderful friendships that will last a lifetime."

Thank you, Diana, Kevin, and Allan, for your outstanding service to ACS and contributions to chemical science!



AGRO DIVISION FELLOWS

1971	Louis Lykken Tom H. (Bucky) Harris Herman Beckman (Posthumous)	1985	Henry Dishburger Richard C. Honeycutt	2012	Jeffrey J. Jenkins John J. Johnston
1972	Wendell F. (Bud) Phillips Don G. Crosby Elvins Y. Spencer	1986	Gunter (Jack) Zweig	2013	Stephen O. Duke Cathleen J. Hapeman Kenneth D. Racke Teresa A. Wehner
1973	Mr. Roger C. Blinn Philip C. Kearney Julius J. Menn	1987	Willa Garner	2014	Aldos C. Barefoot Jeanette M. Van Emon
1974	Morton Beroza James P. Minyard, Jr. Joe C. Street	1988	Jan Chambers James Seiber	2016	Kevin J. Armbrust Del A. Koch Sharon K. Papiernik Pamela J. Rice
1975	Hank F. Enos Maurice B. Green Charles H. Van Middlelem	1990	Joseph Fenyes	2017	Diana Aga Jay Gan Marja Koivunen Steven J. Lehotay Thomas M. Stevenson
1976	Marguerite L. Leng Jack R. Plimmer Gerald G. Still	1991	Nancy N. Ragsdale	2018	John J. Beck Julie E. Eble
1977	Gustave K. (Bob) Kohn	1992	Don Baker Joel Coats Guy Paulson	2019	Leah S. Riter
1978	S. Kris Bandal Paul Hedin	1993	Larry Ballantine	2020	Cheryl B. Cleveland Aaron D. Gross Heidi B. Irrig
1979	Rodney D. Moss	1994	James Heitz Ralph Mumma Willis Wheeler	2021	Michael E. Krolski Qing X. Li Kalumbu Malekani Carmen Tiu
1980	G. Wayne Ivie John B. Siddall (Posthumous)	1996	John Bourke	2022	Yelena Sapozhnikova
1981	Robert M. Hollingworth Gino J. Marco	1998	Hank Cutler Paul Giesler Barry Cross		
1983	John Harvey, Jr.	2000	Robert Hoagland		
		2001	Judd O. Nelson		
		2003	Rodney Bennett		
		2005	Terry D. Spittler		
		2006	John M. Clark Ann T. Lemley R. Donald Wauchope		
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AGRO DIVISION FELLOW AWARD

For continued and substantial contributions of time, talents, and service to the AGRO Division and agrochemical science

*Presented to Yelena Sapozhnikova
Congratulations Yelena, and thank you for all you do for AGRO!*



Yelena Sapozhnikova is a Research Chemist at the Eastern Regional Research Center, Agricultural Research Service, United States Department of Agriculture (USDA) in Wyndmoor, Pennsylvania.

Yelena's research focuses on the development of novel methods for analysis of chemical contaminants, including pesticides, veterinary drugs, legacy

and emerging contaminants to improve their analysis and enhance food safety. She conducts research projects on sample processing and preparation, analytical separations, detection, data processing and method validation for diverse chemical contaminants in foods to improve their analysis and, ultimately, protect human health. Her research work has resulted in 75 publications, including 2 book chapters, multiple invited

presentations, webinars, interviews and given trainings in the USA and abroad. She currently serves on the Editorial Boards of the Journal of Food Protection and Bulletin of Environmental Contamination and Toxicology.

Prior to joining USDA in 2011, Yelena was a Research Chemist at the National Oceanic and Atmospheric Administration (NOAA) in Charleston, SC, where she developed analytical methods for analysis of emerging contaminants, including pharmaceuticals and personal care products (PPCPs), hormones, flame retardants, novel antifouling biocides, and applied the developed methods to monitor contaminants in estuarine and marine environment. She served on the Board of Directors for Carolinas SETAC (Society of Environmental Toxicology and Chemistry) in 2005-2011.

Yelena joined ACS while conducting her postdoctoral studies at the Environmental Sciences Department, University of California, Riverside, 2001-2004. In 2004, she received the Agrochemical Division Young Scientist Research Travel Award. Yelena has organized and chaired several symposia for the ACS national meetings and Pacificchem meeting, served on AGRO Executive Committee, and served as an AGRO Division email newsletter editor for the last ten years.

CALL FOR NOMINATIONS AGRO DIVISION FELLOW AWARD

The AGRO Division has established the **Division Fellow Award** to recognize its members whose dedicated and enthusiastic service has kept the Division moving forward.

Criteria shall be –

Continued and substantial contributions of time, talents, and service to the Division of Agrochemicals, ACS, and to agrochemical science over a period of at least six years.

Nominations include a letter, noting the contributions to the Division, and a current *curriculum vitae*. The deadline for submitting nominations is March 31 of each year. Contact the Awards Committee for further information.

Submit nominations electronically to:

Qing X. Li
AGRO Awards Committee Chair
808-956-2011
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ACS KATHRYN C. HACH AWARD FOR ENTREPRENEURIAL SUCCESS

Recognizing outstanding entrepreneurs who have created a commercially viable business within the chemical enterprise

Sponsored by the Kathryn C. Hach Award Fund

Presented to Pamela G. Marrone



Pamela G. Marrone spent her 30+ year career focused on biological products for pest management and plant health. She retired in August 2020 as CEO of Marrone Bio Innovations (MBI), an agbio company she started in 2006. Under her leadership, the company commercialized 10 products from six EPA-registered active ingredients (microbials

and biochemicals) and in 2019 acquired Pro Farm Technologies selling bionutrient seed treatments from wood waste. From 2015 to 2019, Marrone Bio grew by 32% annually and increased gross margins from 5% to 56%.

In August 2013, MBI listed its stock as MBII on NASDAQ. Pam is one of very few if any in the industry who has twice taken a company from founding to scaling to many tens of millions in revenues and only one in 32 women founders to have taken a company public. She is proficient in raising debt and equity, doing turnarounds, navigating companies through major crises, leading M&A, commercializing products, and building robust patent portfolios.

Pamela is an AAAS (American Association for the Advancement of Science) Fellow and is a well-recognized leader in the ag biologicals industry. She has also been awarded Most Admired CEO, Distinguished Career Award (Sacramento Business Journal), the Sustie Award by the Ecological Farming Association, Agrow's Best Manager with Strategic Vision Award, and the NRDC's Growing Green Award in Business Leader category. She holds several hundred patents and is in high demand to deliver keynote addresses on biologicals for pest management, innovation and entrepreneurship.

Earning her B.S. in entomology with Honors and Distinction from Cornell University and Ph.D. in entomology from North Carolina State University, Pamela started her career in biologicals leading the Insect Biology group at Monsanto (1983-1990), which was involved in pioneering projects based on microbial natural products and plant biotechnology. She was founding the president of Entotech, Inc. (1990-1995), a biopesticide subsidiary of Novo Nordisk.

She founded AgraQuest in 1995, where she served as its CEO, Chair, and President until 2006. The company's biofungicide Serenade™, which won the Presidential Green Chemistry Award, became the global biofungicide standard and was the first organic product in Wal-Mart's garden section (>2000 stores) in 2003. She serves on the boards of 180 Life Sciences (NASDAQ:ATNF), Stem Express and Pheronym and advises several other agtech and agbio startups, most founded or led by women.

Pamela is the founder of the Bioproducts Industry Alliance, a trade group of more than 150 companies. She serves on the UC Davis Ag & Environmental Sciences Dean's Advisory Council and served four years as an alumni-elected Trustee of Cornell University. She is on the board of the Foundation for Food and Agricultural Research and is a Senior Fellow of the Arizona State University Swette Center for Sustainable Food Systems.

Pamela co-founded the Sacramento Valley Chapter of the Association for Women in Science (AWIS) and served many years as Treasurer and board member of the national AWIS. When asked recently by AWIS about what she considers the best professional or personal advice she has ever received, Pamela responded, "Don't take things too personally. It's not about you. Others think they are doing the right thing, too. Find ways to de-personalize the disagreements and attacks. Doing this helped me save my companies during monstrous challenges."

Pamela also told AWIS, "**My success is due to resilience; overcoming challenges through determination and unwavering belief in the vision to create a more sustainable food system.**" (<https://www.awis.org/project/pamela-marrone-phd/>)

AGRO congratulates Pamela for her many entrepreneurial successes and for being an inspiration to all, but especially to women.

Dr. Pamela Marrone will present an award lecture, Status and potential for biologicals in crop production on Wednesday, August 24, at 8:55 AM CDT.

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ACS INTERNATIONAL AWARD FOR RESEARCH IN AGROCHEMICALS Sponsored by Corteva Agriscience

Lessons learned from decades of investigations into insecticide toxicology



Jeffrey G. Scott, is being recognized for his work on insecticide resistance and insect toxicology. He received his B.S. in biochemistry from Michigan State University (MSU) and M.S. degree in entomology also from MSU working, with Professor Fumio Matsumura, studying the mode of action of pyrethroid and cyclodiene insecticides. He obtained his Ph.D.

from the University of California, Riverside, working with Professor George Georghiou and studying the biochemistry and genetics of pyrethroid resistance in house flies. His work at Riverside also included collaborations with Professors Tom Miller, Roy Fukuto, and Toshio Shono.

Jeffrey was a postdoctoral associate studying the mode of action and metabolism of bicycloorthocarboxylate insecticides with John Casida at University of California, Berkeley. He then joined the Department of Entomology at Cornell and was promoted to full professor in 1998. His work has focused on diverse areas including insect toxicology, insecticide resistance, pest control, and the evolution of sex determination in house flies. From 2013 – 2015 he spearheaded the global effort to sequence and annotate the house fly genome.

Increased detoxification of insecticides is a major mechanism of resistance, but the large number of genes coding

for enzymes capable of insecticide metabolism in any given species is large, making identification of the specific protein (or gene coding for the protein) a significant challenge. Jeffrey's research group has tackled this problem with protein purification, heterologous expression, RNAi, genetics, molecular biology, proteomics and transcriptomic analyses. His lab was the first to purify (to a high specific content) a single P450 from an insect and identify how a mutation in the CYP6D1v1 promoter increased expression of this protein leading to pyrethroid resistance.

An important mechanism by which insects evolve resistance is due to changes in the target site of the insecticide. His group has actively pursued this line of research across multiple classes of insecticides (organochlorines, cyclodienes, organophosphates, carbamates, pyrethroids, neonicotinoids, spinosyns, etc.) and has documented both the nature of the mutations involved and the frequency of these mutations in different populations.

Jeffrey also made significant contributions to our understanding of the population genetics of resistance and to our understanding of the fitness costs of insecticide resistance. His group has successfully used molecular tools to genotype individual insects that has revolutionized our understanding of these aspects of insecticide resistance.

In recognition of his research achievements Jeffrey has received numerous awards, including Fellow of the Entomological Society of America and the Recognition Award in Insect Physiology, Biochemistry and Physiology from the Entomological Society of America.

In addition to his research Professor Scott has regularly taught two classes dealing with pesticides: *Pesticides, Human Health, and the Environment* and *Insecticide Toxicology*. Numerous graduate students, undergraduates, postdocs and visiting scientists have received training in the Scott lab which has been funded primarily by the NIH and USDA.

*Dr. Jeffrey Scott will present his award lecture in a hybrid symposium
on Monday, August 22, at 8:00 AM CDT.*

*The AGRO Division is grateful for the
sustained support of the International Award.*



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Sustainability in agricultural chemistry



Joel Coats, Charles F. Curtiss Distinguished Professor Emeritus, in the Department of Entomology at Iowa State University, grew up on a farm in Ohio and received his B.S. in Zoology (Chemistry minor) from Arizona State University. His graduate training was at the University of Illinois at Urbana-Champaign, receiving his M.S. and Ph.D. in Entomology (Chemistry minor) with

specialization in insecticide toxicology and environmental toxicology. He was a Visiting Professor for two years in the Department of Environmental Biology at the University of Guelph in Ontario, Canada, teaching in Pesticides in the Environment and Biological Activity of Pesticides. Later he was a Guest Scientist at the Federal Research Center-Jülich in Germany for six months and then moved to Iowa.

At Iowa State, Joel was the primary organizer of the Interdepartmental Toxicology Graduate Program and served as the first Chair of that program for seven years. He taught parts of four courses: Insecticide Toxicology, Pesticides in the Environment, Principles of Toxicology, and Special Topics in Insect Toxicology. He has served as major professor for 52 graduate students who graduated from his lab and has served as adviser for 14 postdocs. His research program includes two main areas: (1) insect toxicology and (2) environmental toxicology and

environmental chemistry of agrochemicals. His scientific publications include 15 books, 9 review articles, 51 book chapters, and 172 peer-reviewed journal articles.

For the past 35 years, Joel has been innovative in investigating natural products as insecticides and insect repellents. He has worked on identifying active components in the materials, their spectrum of activity, mechanisms of action, metabolism, and environmental fate. His research has primarily addressed terpenes and terpenoids, but it has also included studies on naturally-occurring glucosinolates, cyanohydrins, isoflavones, and fatty acids. His laboratory has synthesized hundreds of biorational analogs of terpenoids and used quantitative structure-activity relationships to assist in understanding modes of action and in prediction of better compounds. Importantly, his research has helped pave the way for companies to move forward in research and development of new products in the field of natural pesticides and repellents. He holds 9 patents on insecticides and insect repellents (6 have been licensed), and he currently has 6 pending (all licensed).

Joel is an AGRO Fellow and a Fellow of the American Chemical Society, the American Association for the Advancement of Science, and the Entomological Society of America. He received the ACS International Award for Research in Agrochemicals (2006), the Alumni Achievement Award (2013) from the University of Illinois College of Liberal Arts and Sciences, the Margaret Ellen White Award for Mentoring Graduate Students from the Graduate College at Iowa State University (2015), the John Doull Toxicology Award, from the Society of Toxicology's Central States Chapter (2017), and the C.V. Riley Award from the North Central Branch of the Entomological Society of America (2018). He co-authored the Best Paper for 2020 from the journal *Environmental Toxicology and Chemistry*.

Dr. Joel Coats will present his award lecture in a virtual symposium on Monday, August 22, at 2:00 PM CDT.

The AGRO Division is grateful for the sustained support of the AGRO Innovation Award.



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Stephen O. Duke is internationally recognized for his basic and applied research concerning natural products as sources of pesticides and for the biochemical and physiological modes of action of and resistance to herbicides. He is also well known for his extensive research on the herbicide glyphosate and glyphosate-resistant weeds and crops. His

research has significantly influenced companies involved in pesticide discovery.

Steve received a B.S. in 1966 from Henderson State University (Arkadelphia, Arkansas) and an M.S. in 1969 from the University of Arkansas. He then spent two years as a U.S. Army Medical Service Corps officer, a year of which was spent in Viet Nam. In 1975, he received a PhD in Plant Physiology and Biochemistry from Duke University. He is currently a principal scientist at the National Center for Natural Products Research (NCNPR) which is an institute of the School of Pharmacy of the University of Mississippi in Oxford, Mississippi. Before this position, he was a Research Leader of a USDA, Agricultural Research Service natural products laboratory located at NCNPR and, before that, he was Director of the USDA Southern Weed Science Laboratory in Stoneville, Mississippi.

Steve has a diverse research portfolio. His Ph.D. research was on phytochrome (discovered by Sterling Hendricks) control of plant biochemistry. His earliest research focused on plant photobiology and photochemistry, but he soon began studying the mechanisms of action of both synthetic and natural herbicides. He is especially known for his research on the mode of action of protoporphyrinogen oxidase-inhibiting herbicides. He also delved into the chemistry and mechanisms of chemical warfare between plants (allelopathy). However, much of his research is on the biological activities of newly discovered natural compounds that might be used in pest management. Some of his more recent research has been on the use of genes for pest management.

Steve has authored almost 500 refereed papers and book chapters, two patents, and one co-written text book, as well as editing eleven books. Much of this work is highly cited, resulting in Web of Science and Google Scholar h-indices of 70 and 100, respectively. He has been Editor-in-Chief of the journal *Pest Management Science* since 2012 and serves on the editorial boards of several other journals.

He has been President or Chair of the Agrochemical Division (AGRO) of the American Chemical Society (ACS), the Weed Science Society of America (WSSA), the International Weed Science Society (IWSS), and the International Allelopathy Society (IAS). He is a fellow of ACS, the American Association for the Advancement of Science, AGRO, and WSSA. Other honors include the Molisch Award (IAS), the Outstanding International Achievement award of IWSS, the International Research Award of AGRO, and an honorary doctorate from the University of the Basque Country (Bilbao, Spain). In 2017, he was elected to the USDA Agricultural Research Service Science Hall of Fame.

Dr. Stephen Duke will present his award lecture in a hybrid symposium on Tuesday, August 23, at 10:50 AM CDT.

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ACS KANSAS CITY MISSOURI LOCAL SECTION
KENNETH A. SPENCER AWARD
Co-Sponsored by AGFD & AGRO

Agro-based raw materials as green product platforms



H. N. Cheng obtained his B.S. from UCLA and his Ph.D. from the University of Illinois at Urbana-Champaign. In his R&D work, he has been active in developing and promoting green polymer chemistry as a platform to produce eco-friendly and sustainable products. As part of this work, he has been involved with the use of biobased materials, biocatalysis,

green processing, and green methodology. He has also done much work on polymerization theory and polymer NMR.

H. N. is currently a Research Chemist at USDA Southern Regional Research Center in New Orleans. Prior to 2009, he was Senior Research Fellow at Hercules Incorporated in Wilmington, Delaware, where he held various R&D and managerial positions. He has authored or co-authored over 290 papers and 26 patent publications. He has organized 45 symposia at national meetings since 2000 and edited 23 books.

H. N. has been selected as a Fellow of the American Chemical Society (ACS) (2009), the ACS Polymer Chemistry Division (2010), and the ACS Agricultural and Food Chemistry (2018). He was selected as the Outstanding Scientist of the Year at USDA Southern Regional Research Center in 2014 and in 2019. He was the recipient of ACS Volunteer Service Award (2016), Tillmans-Skolnick Award for Outstanding Service from the ACS Delaware Section (2006), Distinguished Service (2005) and Special Service (2015) Awards from ACS Polymer Division, and ACS Delaware Section Award for research excellence (1994).

H. N. Cheng has been active in ACS for many years and has served in numerous ACS committees and task forces. At the national level, he served as ACS President in 2021 and ACS President-Elect in 2020. He is currently the ACS Immediate Past President. He was Chair of International Activities Committee (2013-2015), Chair of Committee on Economic and Professional Affairs (2006), Co-Chair of Presidential Task Force on *Vision 2025: Helping ACS Members Thrive in the Global Chemistry Enterprise* (2012-2013), Associate Chair of Board-Presidential Task Force on *Multidisciplinarity* (2004-2005), and Chair of CEPA Task Force on *Globalization Issues* (2004-2005). He has also been very active in local sections and technical divisions, serving in many functions.

On the personal side, H. N. is married and has two grown children. In his spare time, he enjoys studying history and poetry and does some volunteer work for his local church.

Dr. H. N. Cheng will present his award lecture in a hybrid AGFD symposium on Monday, August 22, at 4:55 PM CDT.

The Kansas City Section invites you to check out the Eckhard Wilhelm Hellmuth Memorial in Pictures.
<https://acs-kc.com/dr-hellmuth-in-pics>



Risk Assessment

- Ecological and human health risk assessment
- Registration, re-registration, and stewardship of agrochemicals
- Endangered species risk assessment (national and lawsuit driven)
- Pollinator environmental risk assessment
- Regulatory and legal support services
- Public consultation and communication
- Epidemiology
- Refined exposure modeling
- Litigation Support

Environmental Fate and Exposure Modeling

- Surface water exposure (PWC, AGRO, TOXSWA)
- Spray drift (AgDrift, AGDISP, REGDISP)
- Volatilization and atmospheric transport (AERMOD)
- Watershed analysis (SWAT, APEX)
- Urban modeling (SWMM)
- Vegetative filter strips (VFSDMOD)
- Groundwater exposure (PRZM, LEACHP, RZWQM)
- Higher tier probabilistic exposure assessments
- Agronomic best management practices
- Uncertainty analysis
- Custom model development and modification
- Climate change impact analysis

Field Studies

- Study design and directorship
- Field volatility studies
- Drift reduction technology assessments
- Pollinator field studies
- Simulated rainfall runoff
- Ecological monitoring studies
- Surface water monitoring
- Terrestrial and aquatic field dissipation
- Residue trial management
- Prospective groundwater studies
- Regional groundwater monitoring
- Community drinking water monitoring
- Emerging crop protection technologies research – Unmanned Aircraft Systems (UAS) applications

Spatial Analysis

- Endangered species assessments (proximity and co-occurrence)
- Watershed characterization
- High resolution national assessments
- Spatial uncertainty analysis
- GIS tool development for environmental risk assessment
- Web-based GIS solutions

Quality Assurance (RQAP-GLP)

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Scott Teed
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AGRO AWARD

Co-sponsored by AGFD

T. Yang, T. Zhang, X. Zhou, P. Wang, J. Gan, B. Song, **S. Yang**, and **C.-G. Yang**. Dysregulation of ClpP by Small-Molecule Activators Used against *Xanthomonas oryzae* pv. *oryzae* Infections. *J. Agric. Food Chem.* **2021**, *69*, 7545–7553. DOI: 10.1021/acs.jafc.1c01470

Xanthomonas oryzae pv. *oryzae* (Xoo) causes rice bacterial leaf blight disease. Caseolytic protease P (ClpP) is highly conserved in the majority of bacterial species and plays a central role in protein quality control by degrading misfolded proteins. In this research article the authors determined the crystal structure of XooClpP and demonstrated a new mode of action of ClpP activators against Xoo to prevent rice bacterial leaf blight.



Song Yang is a full professor at the Key Laboratory of Green Pesticide and Agricultural Bioengineering, Ministry of Education of China, Guizhou University. He leads the Green Pesticide and Molecular Target Discovery research group and focuses on the discovery of new agrochemical lead compounds as well as their molecular targets and the development of green pesticides targeting agricultural bacterial and fungal disease.

Cai-Guang Yang is a full professor at the State Key Laboratory of Drug Research and the Center for Chemical Biology at Shanghai Institute of Materia Medica, Chinese Academy of Sciences. Since 2020, he has been an Adjunct Professor at School of Pharmaceutical Science and Technology, Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences. He leads the Chemical Biology based Drug Discovery research group and focuses on the development and application of chemical probes for functional intervention of untargeted proteins.



AGRO WEDNESDAY 8:00 AM – 3743464. Dysregulation of ClpP by small-molecule activators used against *Xanthomonas oryzae* pv. *oryzae* infections. T. Yang, T. Zhang, X. Zhou, P. Wang, J. Gan, B. Song, **S. Yang**, and **C.-G. Yang**

AGFD AWARD

Co-sponsored by AGRO

S. Uhlig, O. D. Rangel-Huerta, H. H. Divon, E. Rolén, K. Pauchon, M. W. Sumarah, T. Vrålstad, and J. B. Renaud. Unraveling the Ergot Alkaloid and Indole Diterpenoid Metabolome in the *Claviceps purpurea* Species Complex Using LC–HRMS/MS Diagnostic Fragmentation Filtering. *J. Agric. Food Chem.* **2021**, *69*, 7137–7148. DOI: 10.1021/acs.jafc.1c01973

This research article describes an approach to evaluate the diversity of ergot alkaloids and indole diterpenoids and other important biochemical contaminants present in cereal grains using UHPLC–HRMS, molecular biology methods, statistics, and chemical profiling procedures. The data could be used to set up allowable maximum levels of ergot alkaloids in grain and cereal products.

Silvio Uhlig is a chemist and senior researcher at the Chemistry and Toxicology Research Group at Norwegian Veterinary Institute in Ås, Norway, which works broadly on different topics within toxin chemistry as well as the biology of toxin-producing organisms. He is especially interested in applying modern analytical chemistry techniques in a toxicological or biological context, such as chemotaxonomy or bioassay-guided isolation.



AGFD TUESDAY 2:00 PM – 3742971. Semi-targeted analysis of peptide ergot alkaloids and indole–diterpenoids in the *Claviceps purpurea* species complex using LC–HRMS/MS diagnostic fragmentation filtering. **S. Uhlig**, O. D. Rangel-Huerta, E. Rolén, H. Divon, K. Pauchon, M. Sumarah, T. Vrålstad, J. Renaud

*Congratulations to all these
 creative scientists!*

PAST AWARDEES OF THE ACS INTERNATIONAL AWARD FOR RESEARCH IN AGROCHEMICALS

- 1969 John E. Casida, University of California, Berkeley
1970 Richard D. O'Brien, Cornell University, Ithaca, New York
1971 Robert L. Metcalf, University of Illinois, Champaign-Urbana
1972 Ralph L. Wain, Wye College, University of London, England
1973 Hubert Martin, British Crop Protection Council, London, England
1974 T. Roy Fukuto, University of California-Riverside
1975 Michael Elliot, Rothamsted Experimental Station, Harpenden, England
1976 Morton Beroza, USDA-ARS, Beltsville, Maryland, retired
1977 Francis A. Gunther, University of California-Riverside
1978 Julius J. Menn, Stauffer Chemical Co., Mountain View, California
1979 Milton S. Schechter, USDA-ARS, Beltsville, Maryland, retired
1980 Minoru Nakajima, Kyoto University, Kyoto, Japan
1981 Philip C. Kearney, USDA-ARS, Beltsville, Maryland
1982 Jack R. Plimmer, USDA-ARS, Beltsville, Maryland
1983 Karl Heinz Buechel, Bayer AG, Leverkusen, Germany
1984 Jacques Jean Martel, Roussel Uclaf, Paris, France
1985 Junshi Miyamoto, Sumitomo Chemical Co., Japan
1986 James Tumlinson, USDA-ARS, Gainesville, Florida
1987 Fumio Matsumura, Michigan State University, East Lansing
1988 Ernest Hodgson, North Carolina State University
1989 Toshio Narahashi, Northwestern University, Evanston, Illinois
1990 David Schooley, University of Nevada, Reno
1991 Stuart Frear, USDA-ARS, Fargo, North Dakota
1992 Bruce Hammock, University of California-Davis
1993 Morifusa Eto, Kyushu University, Fukoka, Japan
1994 Toshio Fujita, Kyoto University, Japan
1995 Mohyee Eldefrawi, University of Maryland, Baltimore
Koji Nakanishi, Columbia University, New York, New York
1996 Günther Voss, Ciba, Basel, Switzerland
Klaus Naumann, Bayer AG, Leverkusen, Germany
1997 Fritz Führ, Institute of Chemistry and Dynamic, Jülich, Germany
Izuru Yamamoto, University of Tokyo, Japan
1998 George Levitt, DuPont, Wilmington, Delaware
Leslie Crombie, University of Nottingham, England
1999 Don Baker, Zeneca, Richmond, California
James Seiber, University of Nevada, Reno
2000 George P. Georghiou, University of California, Riverside
Herbert B. Scher, Zeneca, Richmond, California
2001 Donald Crosby, University of California, Davis
Ralph Mumma, Pennsylvania State University, University Park
2002 Keith Solomon, University of Guelph, Canada
Marinus Los, American Cyanamid, Princeton, New Jersey
2003 Bob Hollingsworth, Michigan State University, East Lansing
Hideo Ohkawa, Kobe University, Kobe, Japan
2004 Stephen O. Duke, USDA-ARS, Oxford, Mississippi
John M. Clark, University of Massachusetts, Amherst
2005 Robert Krieger, University of California, Riverside
Janice E. Chambers, Mississippi State University, Starkville
2006 Joel Coats, Iowa State University, Ames
Isamu Yamaguchi, Agricultural Chemicals Inspection Station, Tokyo, Japan
2007 Gerald T. Brooks, University of Sussex, Brighton, United Kingdom, retired
Fredrick J. Perlak, Monsanto, St. Louis, Missouri
2008 David M. Soderlund, Cornell University, Ithaca, New York
2009 R. Donald Wauchope, USDA-ARS, Tifton, Georgia, retired
2010 Shinzo Kagabu, Gifu University, Gifu, Japan
2011 George P. Lahm, DuPont Crop Science, Newark, Delaware
2012 Thomas C. Sparks, Dow AgroSciences, Indianapolis, Indiana
2013 René Feyereisen, National Institute of Agronomic Research (INRA), France
2014 Ralf Nauen, Bayer CropScience, Monheim, Germany
2015 Keith D. Wing, formerly of Rohm and Haas and DuPont Crop Protection, Wilmington, Delaware
2016 Yoshihisa Ozoe, Shimane University, Japan
2017 Jeffrey Bloomquist, University of Florida, Gainesville
2018 Stephen Powles, University of Western Australia
2019 Vincent L. Salgado, BASF, Research Triangle Park, North Carolina
2020 Qing X. Li, University of Hawai'i, Mānoa, Hawai'i
2021 David B. Sattelle, University College, London, England
2022 Jeffery G. Scott, Cornell University, Ithaca, New York
2023 Thomas M. Stevenson, FMC, Newark, Delaware

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CALL FOR NOMINATIONS
ACS INTERNATIONAL AWARD FOR
RESEARCH IN AGROCHEMICALS
SPONSORED BY CORTEVA AGRISCIENCE

2024 Fall ACS National Meeting in Denver, Colorado, USA

The ACS International Award for Research in Agrochemicals is given to a scientist who has made outstanding contributions to the field of agrochemicals at the international level. Their vision and sustained contributions will have opened new horizons for other investigators in their field and beyond.

- The **nomination letter** will include the following statement: "I hereby nominate [insert first, middle, last name] as a candidate for the ACS International Award for Research in Agrochemicals." It will also include the **nominee's birthplace, date of birth, citizenship, business address**, and a **description** (200 – 1000 words) of the reasons why the nominee should receive this award, stressing the individual's major accomplishments.
- Include a **curriculum vitae** of the candidate that includes: places and nature of employment, professional affiliations, honors and awards received, and a list of publications and patents.
- Nominations often include **one or two letters of support**, although this is optional.

Electronic nominations (as a single pdf file) containing all the listed items should be emailed to:

Qing X. Li
AGRO Awards Committee Chair
808-956-2011
qingl@hawaii.edu

Deadline: Nominations should be received by the committee chair by **December 31** of each year. Balloting will be conducted beginning in January, and results will be announced the following spring.

The **nominating official(s)** should be prepared to assist in organizing a symposium at the 2024 Fall National ACS Meeting in honor of the awardee.

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CALL FOR NOMINATIONS

AGRO AWARD FOR INNOVATION IN

CHEMISTRY OF AGRICULTURE

Sponsored by BASF Corporation

2023 Fall ACS National Meeting in San Francisco, California, USA

The ACS Award for Innovation in Chemistry of Agriculture is given to an active researcher working in North America for a chemical innovation that significantly enhances agricultural or veterinary pest management and productivity. The awardee will be asked to give an award address at the National ACS meeting.

The Nomination email will include the following:

1. A **formal letter of nomination** that includes:
 - Name, business address, phone, and email address of the nominator
 - Name, business address, phone, and email address of the nominee
 - A nomination statement (200 – 1000 words) giving reasons why the nominee should receive this award, stressing the chemical innovation and how it has enhanced agricultural or veterinary pest management and productivity
2. The nominee's **current curriculum vitae**
3. One or two **letters of support**
4. Reference or e-mail link to 1 or 2 published **manuscripts that report on the work** which supports the award nomination

Electronic nominations (as a single pdf file) containing all the listed items should be emailed to:

Qing X. Li
AGRO Awards Committee Chair
808-956-2011
qingl@hawaii.edu

Deadline: Nominations should be received by the committee chair by **December 31** of each year. Balloting will be conducted beginning in January, and results will be announced the following spring.

The Awardee will be given the opportunity to present his/her work in a special lecture at the National ACS Meeting in August 2023 in San Francisco, California.

PAST AWARDEES OF THE AGRO AWARD FOR INNOVATION IN CHEMISTRY OF AGRICULTURE

2012	Steven J. Lehotay, USDA-Agricultural Research Service, Wyndmoor, Pennsylvania	2017	Qing X. Li, University of Hawai'i, Mānoa, Hawai'i
2013	Jeanette M. Van Emon, US Environmental Protection Agency, Las Vegas, Nevada	2018	Vincent L. Salgado, BASF, Research Triangle Park, North Carolina
2014	Scott R. Yates, USDA-Agricultural Research Service, Riverside, California	2019	Pamela G. Marrone, Marrone Bio Innovations, Davis, California
2015	Thomas C. Sparks, Dow AgroSciences, Indianapolis, Indiana	2020	Ke Dong, Michigan State University, East Lansing, Michigan
2016	Thomas M. Stevenson, DuPont Crop Protection, Newark, Delaware	2021	Jeffrey Bloomquist, University of Florida
		2022	Joel R. Coats, Iowa State University

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CALL FOR NOMINATIONS

STERLING B. HENDRICKS MEMORIAL LECTURESHIP

Sponsored by USDA-Agricultural Research Service

Co-Sponsored by AGFD and AGRO Divisions

The Agricultural Research Service (ARS), USDA's principal in-house scientific agency, is seeking nominations for the 2023 Sterling B. Hendricks Memorial Lectureship Award. This award is also co-sponsored by the American Chemical Society (ACS).

Established in 1981, the Hendricks Memorial Lectureship honors the memory of Sterling B. Hendricks (1902-1981) by recognizing scientists who have made outstanding contributions to the chemical science of agriculture. Hendricks contributed to many diverse scientific disciplines, including soil science, mineralogy, agronomy, plant physiology, geology, and chemistry. He is most frequently remembered for discovering phytochrome, the light-activated molecule that regulates many plant processes. The lecture should address a scientific topic, trend, or policy issue related to agriculture.

The lecture is a forum for a presentation on a scientific topic, trend, or policy issue related to the chemical science of agriculture. Presenting the lecture is a requirement of the honor. The award includes an honorarium of \$2,000, a bronze medallion, and expenses to present the lecture.

The 2023 Award will be presented at the ACS National Meeting in San Francisco, California just prior to the lecture. The Divisions of Agrochemicals (AGRO) and Agricultural and Food Chemistry (AGFD) co-sponsor the lecture, and in 2023, AGFD will host the lecture.

Nominees may be outstanding senior scientists in industry, university, consulting, or government positions. *Current ARS employees are not eligible.*

The **Nomination Package** includes:

- A letter explaining the nominee's contributions to chemistry and agriculture
- A current *curriculum vitae*

Please send the completed package in pdf format to HendricksLecture@usda.gov

The deadline for nominations is **January 15, 2023**.

PAST STERLING B. HENDRICKS MEMORIAL LECTURESHIP AWARD WINNERS

1981	Norman E. Borlaug, Nobel Laureate, International Maize and Wheat Improvement Center, Mexico City, Mexico	2003	Kriton Kleanthis Hatzios, Virginia Polytechnic Institute and State University, Blacksburg
1982	Warren L. Butler, University of California, San Diego	2004	Robert L. Buchanan, Food and Drug Administration, College Park
1983	Melvin Calvin, University of California, Berkeley	2005	Donald L. Sparks, University of Delaware
1984	Frederick Ausubel, Harvard Medical School, Boston	2006	Stanley B. Prusiner, Nobel Laureate, University of California, San Francisco
1985	Alan Putnam, Michigan State University, East Lansing	2007	Bruce E. Dale, Michigan State University, East Lansing
1986	Ralph Hardy, Cornell University and BioTechnica International, Ithaca	2008	Fergus M. Clydesdale, University of Massachusetts-Amherst
1987	Mary-Dell Chilton, Ciba-Geigy Corporation, Research Triangle Park	2009	Charles J. Arntzen, Arizona State University, Tempe
1988	Bruce N. Ames, University of California, Berkeley	2010	Chris Somerville, Director of the Energy Biosciences Institute, Berkeley
1989	Sanford A. Miller, University of Texas Health Science Center at San Antonio	2011	Deborah P. Delmer, University of California, Davis
1990	Roy L. Whistle, Purdue University, West Lafayette	2012	Eric Block, University at Albany, State University of New York
1991	Peter S. Eagleson, Massachusetts Institute of Technology, Cambridge	2013	Keith Solomon, University of Guelph, Canada
1992	John E. Casida, University of California, Berkeley	2014	Robert T. Fraley, Monsanto, Company, St. Louis
1993	Philip H. Abelson, Deputy Editor, <i>Science</i> , and Scientific Advisor to AAAS, Washington, DC	2015	James H. Tumlinson, Penn State, University Park
1994	Wendell L. Roelofs, Cornell University, Ithaca	2016	May R. Berenbaum, University of Illinois, Urbana-Champaign
1995	Winslow R. Briggs, Carnegie Institution of Washington, Stanford, California	2017	John A. Pickett, Rothamsted Research, United Kingdom
1996	Hugh D. Sisler, University of Maryland, College Park	2018	James N. Seiber, University of California, Davis
1997	Ernest Hodgson, North Carolina State University, Raleigh	2019	John W. Finley, Louisiana State University, Baton Rouge
1998	Morton Beroza, USDA-ARS, Beltsville, retired	2020	Thomas C. Sparks, Corteva Agriscience, Indianapolis, retired
1999	Bruce D. Hammock, University of California, Davis	2021	Fereidoon Shahidi, Memorial University of Newfoundland
2000	William S. Bowers, University of Arizona, Tucson	2022	Stephen O. Duke, USDA-ARS, Oxford, retired
2001	Malcolm Thompson, USDA-ARS, Beltsville, MD, retired		
2002	Irvin E. Liener, University of Minnesota, St. Paul		



CALL FOR NOMINATIONS

2022 KENNETH A. SPENCER AWARD

Sponsored by ACS KANSAS CITY SECTION

The Kansas City Section of the American Chemical Society is soliciting nominations for the 2023 Kenneth A. Spencer Award. The award recognizes meritorious contributions to the field of agricultural and food chemistry. The Kansas City Section presents this award in the hope that it will give added stimulus in research, education, and industry to further progress in agricultural and food chemistry. The award has been awarded annually in Kansas City since 1955 and carries an honorarium of \$6,000. At this meeting the recipient will deliver an address, preferably upon the subject of the work for which they have been recognized. Subsequently, that address will be published, if possible, in an appropriate journal. The Kansas City Section will reimburse the recipient and spouse for round-trip travel expenses to Kansas City for the presentation.

To be eligible for the award, a candidate must be a citizen of the United States and must have done the work for which he or she qualifies as a candidate within the United States. The candidate need not be a member of the American Chemical Society. A candidate's work, whether it be done in education, industry, or research, should have meritoriously contributed to the advancement of agricultural and food chemistry.

The nomination shall include a biographical sketch of the nominee containing minimum vital statistics, parents' names, education, and professional experience; a list of published papers and patents; a specific identifying statement of the work on which the nomination is based; and an evaluation and appraisal of the nominee's accomplishments with special emphasis on the work to be recognized by the award.

The nomination form can be found here:
<https://acs-kc.com/spencer-application>

Submit nominations to
Gary Clapp, geclapp424@yahoo.com
Sarah Leibowitz, sleibowitzacs@gmail.com

- or -

Via USPS:
Gary Clapp
2903 Wilshire Court
St. Joseph, MO 64506

PAST KENNETH A. SPENCER AWARD WINNERS SINCE 1960

1960	C.H. Bailey, University of Minnesota	1992	Clarence A. Ryan, Jr., Washington State University
1961	H.L. Haller, USDA-ARS	1993	Bruce Hammock, University of California, Davis
1962	A.K. Balls, USDA-ARS	1994	William S. Bowers, University of Arizona
1963	C.C. King, Rockefeller Foundation	1995	Robert T. Fraley, Ceregen, A Unit of Monsanto Co.
1964	Daniel Swern, Temple University	1996	James N. BeMiller, Purdue University
1965	Aaron M. Altschul, USDA-ARS	1997	William M. Doane, USDA-ARS
1966	Robert L. Metcalf University of California, Riverside	1998	Mendel Friedman USDA-ARS
1967	Melville L. Wolfrom, The Ohio State University	1999	James A. Sikorski, Monsanto Co.
1968	Herbert E. Carter, University of Illinois	2000	Wendell L. Roelofs, Cornell University
1969	Edwin T. Mertz, Purdue University	2001	James Tumlinson, USDA-ARS
1970	Lyle D. Goodhue, Phillips Petroleum Company	2002	Daniel W. Armstrong, Iowa State University
1971	William J. Darby, Vanderbilt University	2003	Eric Block, University at Albany, State Univ. New York
1972	Emil M. Mrak, University of California, Davis	2004	Steven D. Aust, Utah State University
1973	Esmond E. Snell, University of California, Berkeley	2005	Don R. Baker, Berkeley Discovery Inc.
1974	Roy L. Whistler, Purdue University	2006	Russell Molyneux, USDA-ARS
1975	Thomas H. Jukes, University of California, Berkeley	2007	David A. Schooley, University of Nevada, Reno
1976	E. Irvine Liener, University of Minnesota	2008	Ron G. Buttery, USDA-ARS
1977	N. Edward Tolbert, Michigan State University	2009	George P. Lahm, DuPont Crop Protection
1978	John E. Casida, University of California, Berkley	2010	Clive A. Henrick, Trece, Inc.
1979	Charles W. Gehrke, University of Missouri, Columbia	2011	Michael W. Pariza, University of Wisconsin, Madison
1980	George K. Davis, University of Florida, Gainesville	2012	James N. Seiber, University of California, Davis
1981	John Speziale, Monsanto Agricultural Products Co.	2013	Attila Pavlath, USDA-ARS, retired
1982	Howard Bachrach, USDA-ARS	2014	Ronald Horst, USDA-ARS, retired
1983	Peter Albersheim, University of Colorado	2015	Thomas Selby, DuPont Crop Protection
1984	Richard H. Hageman, University of Illinois	2016	Agnes Rimando, USDA-Agricultural Research Service
1985	Bruce N. Ames, University of California, Berkeley	2017	Bruce German, University of California, Davis
1986	John M. Bremner, Iowa State University	2018	Thomas M. Stevenson, FMC
1987	Hector F. DeLuca, University of Wisconsin, Madison	2019	Thomas C. Sparks, Corteva Agriscience, retired
1988	Boyd L. O'Dell, University of Missouri, Columbia	2020	Jerry W. King, University of Arkansas, retired
1989	Robert H. Burris, University of Wisconsin	2021	Takayuki Shibamoto, University of California, Davis
1990	John E. Kinsella, University of California, Davis	2022	H.N. Cheng, USDA-ARS
1991	George Levitt, DuPont Experimental Station		

JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

CALL FOR NOMINATIONS

2023 RESEARCH ARTICLE OF THE YEAR AWARD LECTURESHIP AWARDS

Sponsored by the Journal of Agricultural and Food Chemistry

Co-sponsored by AGFD & AGRO Divisions

The *Journal of Agricultural and Food Chemistry (JAFC)* and the ACS Divisions of Agricultural and Food Chemistry (AGFD) and Agrochemicals (AGRO) are seeking nominations for the Research Article of the Year Award Lectureship.

Two papers will be awarded, one from each category, for an outstanding article published in 2022 (either in an issue of *JAFC* or *ASAP*) that demonstrates creativity and impact on agricultural and food chemistry as a whole.

Each winner will receive:

- An award plaque
- \$1000 USD
- Travel expenses up to \$1250 USD to attend the Fall 2021 ACS National Meeting in Atlanta, Georgia

Nominations should include:

- Name, affiliation, and e-mail address of the nominator
- Nominee's article title and DOI (hyperlinked to the article if possible)
- Name, affiliation, and e-mail address of the corresponding author (no self-nominations)
- A statement of why the article is outstanding (less than 500 words)
- Suggestion of a category AGFD or AGRO
- The words "JAFC nomination" in the subject of the email

Nominees will be divided into two categories:

- Agrochemicals (pesticides, biofuels and biobased products, and related)
- Agricultural and food chemistry (food, health, and related)

This will be subject to the discretion of the Editor-in-Chief.

The winners will be announced in early 2022, and the award will be presented at the Fall 2023 ACS National Meeting held in August in San Francisco, California.

Send your nominations to: jafcaward@acs.org

Deadline for nominations – January 15, 2023

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AGRO DIVISION NEW INVESTIGATOR AWARD FINALISTS



Cera Fisher is a Postdoctoral Research Associate in the Department of Entomology at Cornell University. She received her Ph.D. in ecology and evolutionary biology at the University of Connecticut in 2019 under the advisement of Elizabeth Lockusch. Cera's primary research interests lie in understanding how nucleotide sequence-level changes contribute

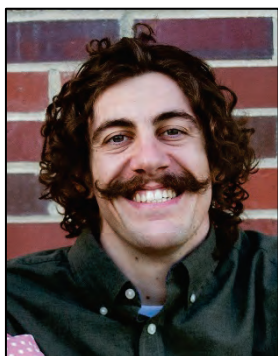
to the origin of new traits, whether morphological or physiological. Her dissertation project investigated the evolution of the novel treehopper helmet from an evo-devo perspective, using RNA-seq and functional genomics. This work compared developmental gene expression across several species separated by as much as 300 million years of evolution.

As a postdoctoral researcher, Cera has turned from the macroevolutionary scale to the microevolutionary, characterizing the genomic basis of insecticide resistance mediated by enhanced detoxification in *Aedes aegypti*, the yellow fever mosquito. This project integrates classical genetics and toxicology in a multi-strain congenic system with cutting-edge high-throughput single molecule and whole-genome shotgun sequencing to provide an unparalleled level of resolution of mutations associated with resistance.

2022 ACS International Award for Research in Agrochemicals: The Many Faces of Insecticide Toxicology: Resistance, Mode of Action, New Insecticides and Novel Control Strategies Resistance and Physiology

McCormick Place Convention Center, S502b

MONDAY 2:55 PM – 3739842. NEW INVESTIGATOR FINALIST. Chromosome-level assembly of the "Rockefeller" *Aedes aegypti* mosquito strain powers investigation of the evolution of pesticide resistance in a vector of human and livestock disease. **C. Fisher**



Ellis Johnson received his Ph.D. in Entomology from the University of Nebraska at Lincoln in 2021 under the supervision of Troy Anderson. His dissertation research focused on the potential management application and modes of action of specific plant oils and their volatile organic compounds against mosquitoes. Ellis is currently a postdoctoral research associate in the Insect

Physiology Lab under the supervision of Troy Anderson at the University of Nebraska at Lincoln. His current research interests focus on the mechanisms of naturally derived compounds that can alter mosquito behavior and disrupt mosquito development. The goal of this research is to provide tools to manage mosquitoes, as well as reduce insecticide resistance selection pressures.

Advances in the Control of Medical, Agricultural, and Veterinary Disease Vectors

McCormick Place Convention Center, S501d

MONDAY 2:55 PM – 3754227. NEW INVESTIGATOR FINALIST. Physiological activities of *Melaleuca cajuputi* (Cajeput Oil) to yellow fever mosquito. **E. Johnson**

Anais Le Mauff is a postdoctoral research scholar in the Emerging Pathogens Institute and Department of Entomology and Nematology at the University of Florida. She earned her Ph.D. in Biology in 2021 at the University of Orleans, France, under the supervision of Steeve H. Thany where she performed a pharmacological characterization of tick nicotinic acetylcholine



receptor through microtransplantation methods. She obtained her M.S. in 2018, in biodiversity, ecology, and evolution at the University of Poitiers, France, and her BS in 2016 in life sciences at the University of Montpellier, France.

Her postdoctoral research aims to understand the physiological mechanisms driving tick salivary gland function to enable blood feeding and how these physiological pathways are altered during *Rickettsia* infection. Fluorescent microscopy is used to determine the cellular and sub-cellular expression of potassium ion channels and ion transporters across salivary gland acini. Secondly, two-electrode voltage clamp electrophysiology is used after tissue microtransplantation to determine the pharmacological profile of ion channels expressed in tick salivary gland acini.

Advances in the Control of Medical, Agricultural, and Veterinary Disease Vectors

McCormick Place Convention Center, S501d

MONDAY 5:05 PM – 3742427. NEW INVESTIGATOR FINALIST. Characterization of the tick *Ixodes ricinus* nicotinic acetylcholine receptors expressed in the synganglion using membrane microtransplantation. **A. Le Mauff**

The AGRO Division is grateful for our new AGRO New Investigator Award sponsor!





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AGRO EDUCATION TRAVEL AWARDS
AND POSTER PRESENTATION COMPETITION
Sponsored by Bayer CropScience

Congratulations to our student travel grant winners!

**AGRO POSTER SESSION
WEDNESDAY, 12:00 – 2:00 PM**

McCormick Place Convention Center, Hall F2

Rui Chen, Poster #2127, 3755419. Characterization of functional interactions between K^+ flux mechanisms that drive insect neural function. *Louisiana State University, Daniel Swale*

Zhilin Li, Poster #2134, 3743988. Characterizing the effect of Kir channels modulators on mosquito cardiac contraction and cellular antiviral immunity. *Louisiana State University, Daniel Swale*

Sarah McComic, Poster #2130, 3742819. Repurposing synthetic β -triketone herbicides to control hematophagous arthropods. *Louisiana State University, Daniel Swale*

XiXian Ng, Poster #2136, 3754461. Sugar compositions drive high attraction of vector mosquitoes. *University of Nebraska, Troy Anderson*

Juliet Ochola, Poster #2027, 3739919. Disruption of the chemical signaling between potato and cyst nematode *Globodera rostochiensis*. *North Carolina State University, Oliver Baars*

Flinn O'Hara, Poster #2031, 3735275. Optimization of inward rectifier potassium channel inhibitors to prevent hemipteran feeding. *Louisiana State University, Daniel Swale*

Oluwatosin Popoola, Poster #2037, 3737393 – 3D- printed nanocomposite for smart antimicrobial food packaging. *Clarkson University, Silvana Andreescu*



The AGRO Division is grateful for support of the AGRO Education Travel Awards

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Monday, August 22, 12:00 – 1:30 pm CDT

Join us!

Reservations required, for more information contact
SARA WHITING, sara.whiting@bayer.com



CALL FOR APPLICANTS AGRO DIVISION NEW INVESTIGATOR AWARD *Sponsored by Syngenta*

2023 Fall ACS National Meeting in San Francisco, California, USA

The AGRO Division seeks nominations for the New Investigator Award (NIA) to be awarded at the ACS meeting in San Francisco, California, in August 2023. The purpose of the New Investigator Award is to recognize scientists who have obtained a doctoral degree and are actively conducting academic, industrial, consulting, or regulatory studies. Please note there will be no NIA at the Spring meeting in Indianapolis.

The Division is interested in work on all aspects of agrochemicals which are broadly defined to mean pesticides of all kinds (e.g., chemical pesticides, biopesticides, pheromones, chemical attractants, fumigants, plant incorporated protectants, and disinfectants) as well as biotechnology-derived crops (e.g., Bt crops, Roundup Ready crops, etc.). The categorical areas of

study related to agrochemicals are very broad and encompass environmental chemistry, toxicology, exposure assessment, risk characterization, risk management, and science policy. Studies of veterinary pharmaceuticals and antibiotics are included in the Division's mission. The Division encourages submissions related to public health protection as well as crop, livestock, aquaculture, and wildlife protection.

AGRO is also interested in the environmental chemistry and effects resulting from agricultural production (e.g., soil processes, water/air quality) and in chemical products made from agricultural commodities and byproducts. This includes biofuels and bioproducts and the issues surrounding their production and use.

The Process:

- To be eligible for the award, the scientist must have obtained his or her doctorate no more than five years before the time of the Fall ACS National Meeting. Thus, for 2023, applications will be considered from **scientists who have obtained their doctorates no earlier than the year 2018**.
- A panel consisting of at least three AGRO members will choose up to three finalists based on their extended abstracts, 1-page *curricula vitae*, and letter(s) of recommendation.
- **Each finalist will receive up to \$1275 for travel and meeting expenses.**
- Each finalist will deliver an oral presentation (which will be judged by the panel) in one of the AGRO Program symposia. The winner, who will receive a plaque, will be chosen after all finalists have presented their papers.

Deadline:

The extended abstract, *curriculum vitae*, and letter(s) must be received by the New Investigator Award (NIA) Coordinator no later than **March 13, 2023 (subject to change)**.

For more information, please contact:

Sasha Kweskin, NIA Coordinator
Bayer US LLC, Crop Science Division
sasha.kweskin@bayer.com

To Apply for the New Investigator Award:

1. Submit a **2500-character abstract** to a symposium in the AGRO Division using the ACS Meeting Abstracts Programming System (<http://maps.acs.org/>).
2. Submit an **extended abstract (maximum 2 pages) describing the candidate's research/studies** to the NIA Coordinator. Include the impact (or potential impact) of the results as it pertains to issues of concern to AGRO.
3. Submit a 1-page **curriculum vitae**.
4. Submit at least **one letter of recommendation** from a current supervisory scientist (e.g., post-doctoral mentor, a business manager, departmental chair).
5. Deliver an oral presentation in an appropriate symposium at the 2023 ACS National Meeting in San Francisco, California.

The AGRO Division is grateful for our new AGRO New Investigator Award sponsor!

syngenta[®]



CALL FOR APPLICANTS

AGRO DIVISION 2023 EDUCATION TRAVEL AWARDS

Sponsored by Bayer US LLC, Crop Science Division

UNDERGRADUATE and GRADUATE STUDENT RESEARCH

Travel Support for Student Posters

2023 Fall ACS National Meeting in San Francisco, California USA

The AGRO Division has established an endowment fund to promote an understanding of the role of chemistry in agriculture. To address this goal, student awards will be made through the Division's Education Committee. Please note there will be no Travel Awards at the Spring meeting in Indianapolis.

Applications are sought for the 2023 Travel Awards. Selected undergraduate and graduate students will be awarded up to \$1,000 each to help defray costs of attendance to give a poster at the ACS Fall National Meeting, which will be held in August 2023 in San Francisco, California. Students should submit their abstracts in the symposium of their choice. First, Second, and Third place winners in the poster competition will receive an additional cash award.

The subject of the presentation should pertain to the chemistry of the AGRO Division. Topics should relate to pest management chemistry including synthesis, metabolism, regulatory, risk assessment, biotechnology, resistance, mode of action, residues, delivery, fate/behavior/transport, and agronomic practices. The AGRO Division is also interested in chemical products made from agricultural commodities and byproducts, including biofuels, and the issues surrounding their production.

PLEASE NOTE: *The requirements of the student travel award will change. Only poster presentations will be eligible for the travel award. Senior graduate students who have previously attended scientific meetings and are in their last year of graduate school are encouraged to do an oral presentation. However, the presentation will not be eligible for the travel award. These students should also submit a poster separate from (but can be related to) their oral presentation.*

For more information, please contact the co-organizers:

Aaron Gross
Virginia Polytechnic Institute and State University
Department of Entomology
Blacksburg, Virginia
tel: 540-232-8448
adgross@vt.edu

To apply, students should submit the following no later than March 13, 2023 (subject to change):

1. A **2500-character abstract** formatted according to the directions given at the ACS Meeting Abstracts Programming System (<http://maps.acs.org/>). Be sure to include name of the applicant, applicant's address, and applicant's e-mail address.

After completing step #1 above, forward the ACS email indicating the abstract number and stating that abstract was successfully submitted to:

posters@agrodiv.org

Only abstracts submitted to symposia organized by the AGRO Division will be eligible for the travel awards.

2. A two-page extended abstract giving more detail of the research/presentation. For a sample extended abstract, visit <http://www.agrodiv.org/graduate-students/>
3. A short letter of nomination from the faculty advisor that verifies current enrollment of the student.

SUBMIT items 2 and 3 and a copy of the ACS email as a **SINGLE pdf file to our posters email address** below with the abstract number in the email subject line.

posters@agrodiv.org

Files sent directly to the coordinators will not be accepted.

Sara Whiting
Bayer R&D Services LLC
700 Chesterfield PKWY W
Chesterfield, MO 63017
tel: 319-512-9385
sara.whiting@bayer.com

*Abstracts will be reviewed by the Education Committee
Applicants will be notified of their selection status in May 2023*

Special thanks to our sponsor for their generous contribution





Notes from the Program Chair

Heidi Irrig, heidi.irrig@syngenta.com

AGRO has embraced change these past two years, meeting differently and approaching new ways of sharing cutting edge research, ideas and connecting like we never envisioned. Flexibility has become the norm for our Fall national meetings. We have adapted quickly to the new formats for meetings and the AGRO Fall 2022 meeting will continue to be a brand-new way of getting together. The Fall 2022 meeting will not like our previous live meetings, and it will not be like our recent zoom meetings either; it will be a hybrid of both.

Please note there is NO Business Meeting in Chicago. Instead we will host QROW with AGRO!

Congratulations! Five AGRO symposium were selected to receive co-sponsorship funding by the Multidisciplinary Program Planning Group (MPPG). These symposia were identified as aligned with the MPPG theme *Sustainability in a Changing World*, which is being co-organized by the Committee on Environmental Improvement (CEI) and the Division of Environmental Chemistry (ENVR). As a technical Division, ENVR will also co-operatively co-sponsor these sessions. Congratulations to the organizers for this special recognition and funding support by MPPG and ENVR! These symposia are:

1. Bioisosteric Replacement and Scaffold Hopping for Bioactive Compound Discovery
2. Early Career Symposium: Deciphering plant-insect-microorganism signals for sustainable crop production
3. Impact of Climate Change on Agriculture and Food Security
4. New Crop Yield Technology Companies Improving Sustainability
5. Sustainable Agriculture - A Promise for the Future

What you need to know about the AGRO Fall 2022 meeting.

- View the Technical Program and register at <https://www.acs.org/content/acs/en/meetings/acs-meetings.html>
- All technical sessions will be held at the McCormick Place Convention Center
- ACS has limited hybrid sessions and AGRO was one of the Divisions to receive the most with 19 hybrid sessions.
- At this point, proof of vaccination will be required to attend the meeting in-person. Please be sure to check the ACS Attendee Safety Plan for any changes to this policy. <https://www.acs.org/content/acs/en/meetings/acs-meetings/registration/attendee-safety-plan.html>
- The Frequently Asked Questions on the ACS website continues to be a great resource for the many questions presenters and presiders have during these strange and unpredictable times! <https://www.acs.org/content/acs/en/meetings/acs-meetings/registration/faq.html>

Three Ways AGRO will be participating in the meeting.

- **In-person room** – like in the past, pre-Covid, all speakers in a room giving their talks with no internet available.
 - Attendees participate in-person in Chicago with live Q&A. Presenters will present and participate in-person or, in some cases, provide a pre-recorded video to be played in the room with no opportunity for live Q&A.
- **Hybrid room** – presenters may give their presentations in Chicago or virtually, but both will be live.
 - Hybrid rooms will have access to internet. People can ask questions live. These sessions will be live streamed from Chicago. Presenters and attendees may participate in-person in Chicago or virtually via the meeting platform, or in some cases, presenters may provide a pre-recorded video to be played during the session.
- **On-Demand presentation** – all presenters have the option of uploading a recorded presentation for on-line view for 2 weeks after the meeting.
 - Presentations uploaded for on-demand access will be available to view within 24 hours after the live presentation time. On-demand presentations will then remain available for registrants for two-weeks after the end-of the meeting.

Awards. While in Chicago, we will recognize the significant achievements of our colleagues in agrochemical research.

Jeffrey Scott will be awarded the ACS International Award for Research in Agrochemicals in a symposium organized by John Clark and Ke Dong. **Joel Coats** will receive the AGRO Innovation Award. **Stephen Duke** will receive the Sterling Hendricks Memorial Lectureship Award which will be hosted by AGRO Division and co-sponsored by AGFD. **H. N. Cheng** will receive the Spencer Award which is sponsored by the ACS Kansas City Section and will give a lecture in a symposium hosted by AGFD and co-sponsored by AGRO. The Journal of Agricultural and Food Chemistry Best Paper Awards for AGRO are **Song Yang** and **Cai-Guang Yang** and for AGFD is **Silvio Uhlig**. This year AGRO will also host a lecture by **Pamela Marrone**, winner of the ACS Kathryn C. Hach Award for Entrepreneurial Success

Early Career Opportunities. *AGRO Education Awards for Student Travel* provides funding for students who present their poster at National ACS meeting. This award helps defray costs associated with the meeting up to \$1,000 for a limited number of students. Thank you to Aaron Gross and Sara Whiting for co-chairing this award program.

AGRO New Investigator Award (NIA) recognizes scientists who have obtained doctoral degree in last five years and have produced significant accomplishments conducting research, consulting, or regulatory studies. This year three finalists were selected, **Cera Fisher, Ellis Johnson, and Anais Le Mauff.** Thank you to Sasha Kweskin for organizing this award program.

Early Career Symposia Series provides funds for symposia within the AGRO program that are organized by and feature speakers within 10 years of their highest degree earned. In Fall 2022, we are delighted to welcome two Early Career Symposia to our Program: *Deciphering plant-insect-microorganism signals for sustainable crop production* organized by Nurhayat Tabanca and Gareth Thomas and *Sustainability in Environmental Fate and Behavior* organized by Aleksandra Dean, Samantha Nedder, and Xavier Poole.

AGRO Programming Support. Finally, we continue to rely on the expertise of Peney Patton (ppatton@agrodiv.org), Program Secretariat for AGRO and ENVR. Thank you, Peney, for all your help during this ever-evolving 2021 – 2022 planning cycle!

Enjoy the Meeting!

GROW with AGRO



August 21, 2022

6:00 – 9:00 pm

Marriott Marquis Chicago, Grand Horizon G

It has been two years since AGRO met in-person, and we are excited to see each other again and meet new members!

We are taking this opportunity to have fun, relax, reconnect, and highlight the AGRO Committees you can join.

We will also be spotlighting AGRO's recent awards and award winners. Did you know AGRO was awarded **two ACS ChemLuminary Award in 2021** for its creative means of engaging members and working with other ACS Divisions?

Come find out what makes this Division so great to be part of! AGRO Committee members will be there and available to answer any questions you may have about the work they do.

If you have ever thought you might like to get more involved in AGRO, **this** is your opportunity to learn more and sign-up!

Please plan to attend this AGRO welcome back event.

Hors d'oeuvres, cash bar, and cool SWAG



List of AGRO Symposia by Topic Area
264th ACS National Meeting and Exposition
August 21 – 25, 2022, Chicago, Illinois USA and Online
Sustainability in a Changing World

Agrochemical Residues, Analytical and Metabolism Chemistry, and Metabolomics

- Uses of HPLC-Mass Spectrometry in Support of Agricultural Research and Development- New Trends and Best Practices
- Extraction Efficiency testing for Residue Analytical Methods: Study Designs, Guideline requirements, Trends and Challenges

Impact of Climate Change on Agriculture and Food Security

- Impact of Climate Change on Agriculture and Food Security

Agrochemical Toxicology, Mode of Action and Omics

- 2022 ACS International Award for Research in Agrochemicals: The Many Faces of Insecticide Toxicology: Resistance, Mode of Action, New Insecticides and Novel Control Strategies

Air Quality and Agriculture

- Pesticide Drift and Volatility: Is the Answer Blowin' in the Wind?

Biorational Pesticides, Natural Products, Pheromones, and Growth Regulators in Agriculture

- Deciphering plant-insect-microorganism signals for sustainable crop production; ***Early Career Scientist Symposium***

Communication

- Sustainable Agriculture – A Promise for the Future

Developments in Integrated Pest Management and Resistance Management

- INsecticide TARgets (INSTAR) Summit

Discovery and Synthesis of Bioactive Compounds

- Bioisoteric Replacement and Scaffold hopping for Bioactive Compound Discovery

Ecosystem Exposure and Ecological Risk Assessment

- Upfront Mitigation: What that Means in the FIFRA/ESA Consultation Process

Environmental Fate, Transport, and Modeling of Agriculturally related Chemicals

- Study Designs, Data Interpretation, and Regulatory Acceptance of Terrestrial Field Dissipation Studies Conducted under OECD Guidance
- Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals
- Sustainability in Environmental Fate and Behavior: ***Early Career Scientist Symposium***

Formulation and Applications Technology

- Enhanced formulations and delivery systems through surfactant and colloid technology
- Unmanned Aerial Systems (aka Drones) Pesticides Spraying and other Agricultural Applications

Human and Animal Health Protection: Vector Control, Veterinary Pharmaceutical, Antimicrobial, and Worker Protection Products

- Advances in the control of Medical, Agricultural, and Veterinary Disease Vectors

Human Exposure, Health, and Risk Assessment

- Human Health Paradigms: Exposure, Risk Assessment and Policies for Agrochemicals

Pesticides, Pollinators, and Non-target Arthropods

- Nontarget Arthropod Risk Assessment Scientific Developments, Challenges and Research Needs
- Pollinator Risk Assessment Modelling, Methods, and Research

Technological Advances and Applications in Agriculture (e.g., Nanotechnology, Biocontrol Agents, Endophytes and Microbiomes)

- New Crop Yield Technology Companies Improving Sustainability



Comments from the Vice-Chair

Aaron Gross, 2023 Program Chair
adgross@vt.edu

As the recently elected Vice-Chair, I am looking forward to working as your 2023 Program Chair in Indianapolis, Indiana and San Francisco, California. I am excited to get back to in-person meetings this fall in Chicago, with the excellent program that Heidi and others have put together. Because of the pandemic, the AGRO 50th Anniversary festivities, which were originally planned for the San Francisco meeting in 2020, are now making a full circle back to San Francisco for the Fall 2023 meeting, allowing us to finally celebrate AGRO 50th and beyond. These activities are being coordinated by Ken Racke and Jeanette Van Emon.

In addition to the regular programming at the Fall 2023 meeting, a reduced AGRO program is also being organized at the Spring 2023 meeting in Indianapolis. This meeting will focus on the proximity to Corteva and other industry partners, the local ACS section, and local universities. Four symposia have been chosen, and the call for papers are present and begin on p. 45.

Programming Committee. The Strategic Programming Committee, chaired by the Vice-Chair, provides an ongoing forum for discussion of multi-year programming based on the standing topics of proven interest. This committee also discusses ways to partner through programming with other ACS Divisions and other

national and international partners. If you are interested in working on the programming committee for the San Francisco meeting, and beyond, please contact me directly (adgross@vt.edu) or the incoming Vice Chair, James Foster (james.foster@ejgallo.com).

A key activity of the Programming Committee is to maintain a volunteer list of topic champions in support of symposia planning. The role of the topic champion is to a) serve as a general resource and an expert in their given area, b) identify timely symposia topics, and c) support specific symposia through identification and mentoring of co-organizers.

The overall theme for the San Francisco meeting is *Harnessing the Power of Data*. A key opportunity to discuss programming ideas for the San Francisco fall meeting will be at the Blues and Brews Brainstorming Session, which will occur in-person at McCormick Place Convention Center at the Chicago meeting in the Skyline Ballroom on Tuesday August 23, 2022, from 6:30 to 7:30 pm. I look forward to hearing from you in this fun, face-to-face live forum. However, there is no need to wait until Blues and Brews, if you have a great idea, please contact me directly.

Be a part of the fun & creative **AGRO Program Brainstorming** and **Blues & Brews for San Francisco**

Tuesday, August 23, 2021
6:30 – 7:30 PM

- ☞ **Planning for the San Francisco National Meeting in 2023**
- ☞ **San Francisco Meeting Theme: Harnessing the Power of Data**
- ☞ **Creative brainstorming about future AGRO programming**
- ☞ **Learn more about how easy it is to organize a symposium**

Socializing, Free Drinks

THIS WILL BE A LIVE ONLY EVENT
BUT YOU CAN SEND AARON GROSS YOUR IDEAS!
adgross@vt.edu



AGRO Strategic Programming Committee Standing Programming and Champions

Additional Volunteers Needed for the 2023 San Francisco Meeting

Aaron Gross, 2023 Committee Chair; adgross@vt.edu

Agrochemical Residues, Analytical and Metabolism

Chemistry, and Metabolomics

Kevin Armbrust, armbrust@lsu.edu
Lisa Buchholz, lisa.buchholz@corteva.com
Tao Geng, tao.geng@bayer.com
Mingming Ma, mingming.ma@corteva.com
Leah Riter, leah.riter@bayer.com
Manasi Saha, manasi.saha@basf.com

Agricultural Biotechnology

Jennifer Anderson, jennifer.anderson@pioneer.com
Jeff Hughes, jeffrey.hughes@bayer.com

Impact of Climate Change on Agriculture and Food Security

Heidi Irrig, heidi.irrig@syngenta.com
Pam Rice, pamela.rice@usda.gov
Amy Ritter, rittera@waterborne-env.com

Agrochemical Toxicology, Mode of Action and Omics

John Clark, jclark@vasci.umass.edu
Aaron Gross, adgross@vt.edu
Qing Li, qingl@hawaii.edu
Ralf Nauen, ralf.nauen@bayer.com

Air Quality and Agriculture

Rod Bennett, rodbennettdac@gmail.com
Cathleen Hapeman, cathleen.hapeman@usda.gov
Patrick Havens, pat.havens@corteva.com
Jim Seiber, jnseiber@ucdavis.edu

Biorational Pesticides, Natural Products, Pheromones, and

Growth Regulators in Agriculture

Joel Coats, jcoats@iastate.edu
Aaron Gross, adgross@vt.edu
Edmund Norris, edmund.norris@usda.gov

Communication

Jennifer Anderson, jennifer.anderson@pioneer.com
Cathleen Hapeman, cathleen.hapeman@usda.gov
Leah Riter, leah.riter@bayer.com

Developments in Integrated Pest Management and Resistance Management

Troy Anderson, tanderson44@unl.edu
Jeff Bloomquist, jbqu coast@epi.ufl.edu
Aaron Gross, adgross@vt.edu

Discovery and Synthesis of Bioactive Compounds

Michael David, michael.david@basf.com

Ecosystem Exposure and Ecological Risk Assessment

Patrick Havens, pat.havens@corteva.com
Amy Ritter, rittera@waterborne-env.com

Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals

Jay Gan, jgan@ucr.edu
Mingming Ma, mingming.ma@corteva.com
Jayanta Nag, jayanta.nag@upl-ltd.com
Pam Rice, pamela.rice@usda.gov

Formulation and Applications Technology

Ricardo Acosta Amado, ricardo.acosta-amado@corteva.com
Danny Brown, dmbrown@landolakes.com
Patrick Havens, patrick.havens@corteva.com
Jeff Hughes, jeffrey.hughes@bayer.com
Erdal Ozkan, ozkan.2@osu.edu

Human and Animal Health Protection: Vector Control, Veterinary Pharmaceutical, Antimicrobial, and Worker Protection Products

Aaron Gross, adgross@vt.edu
Steve Lehotay, steven.lehotay@usda.gov
Edmund Norris, edmund.norris@usda.gov

Human Exposure, Health, and Risk Assessment

Cheryl Cleveland, cherylcleveland51@gmail.com
Mike Krolski, mike.krolski@bayer.com
Claire Terry, claire.terry@corteva.com
Amy Ritter, rittera@waterborne-env.com

Non-Food/Feed Production and Uses of Ag Commodities and Byproducts

Tao Geng, tao.geng@bayer.com
Cathleen Hapeman, cathleen.hapeman@usda.gov

Pesticides, Pollinators, and Non-target Arthropods

Allan Felsot, afelsot@wsu.edu
John Purdy, johnrpurdy@gmail.com Daniel Schmehl,
daniel.schmehl@bayer.com
Joe Wisk, joseph.wisk@basf.com

Regulations, Harmonization, and MRLs

Heidi Irrig, heidi.irrig@syngenta.com
Ken Racke, ken.racke@corteva.com
Carmen Tiu, carmen.tiu@corteva.com

Technological Advances and Applications in Agriculture (e.g., Nanotechnology, Biocontrol Agents, Endophytes and Microbiomes)




Danny Brown, dmbrown@landolakes.com
Tao Geng, tao.geng@bayer.com
Rai Kookana, Rai.Kookana@csiro.au
Mingming Ma, mingming.ma@corteva.com

ADDITIONAL SYMPOSIA AT MOST NATIONAL MEETINGS

- Awards and Tributes
- Protection of Agricultural Productivity, Public Health and the Environment – General Session
- Special Topics



PROGRAMMING AND OUTREACH ACTIVITIES 2022 – 2024

Activity/Event	Leaders/ Champions	Status	Actions Required
AGRO Lunch and Learn Webinar Series	Solito Sumulong	<ul style="list-style-type: none"> Seminars are being scheduled for 2022 – 2023 academic year Submit proposals for webinars 	<ul style="list-style-type: none"> Watch for eNewsletter announcements and sign-up to participate
265th ACS National Meeting March 26 – 30, 2023 Indianapolis, Indiana	Aaron Gross Ken Racke	<ul style="list-style-type: none"> Symposia are set Call for papers are on ACS and AGRO website (see page 45) 	<ul style="list-style-type: none"> Submit abstracts by October 17, 2022
IUPAC International Congress of Crop Protection Chemistry March 14 – 17, 2023 New Delhi, India	Laura McConnell	<ul style="list-style-type: none"> Check out the website iupac2023.in 	<ul style="list-style-type: none"> Submit abstracts by November 30, 2022
9 th LAPRW – Food and Environment Panama City, Panama May 21 – 24, 2023	Steve Lehotay	<ul style="list-style-type: none"> Check website for updates and abstract submission meeting https://www.laprw2023.com/en 	<ul style="list-style-type: none"> Register before March 17, 2023, for best rates
58 th North American Chemical Residue Workshop July 23 – 26, 2023, Marriott Harbor Beach Resort Fort Lauderdale, Florida	Steve Lehotay	<ul style="list-style-type: none"> Check website for updates and details www.nacrw.org Co-Sponsored by AGRO 	Submit abstracts ✓ Oral presentations typically due in March ✓ Poster presentations typically due in May
266 th ACS National Meeting August 13 – 17, 2023 San Francisco, California	Aaron Gross	<ul style="list-style-type: none"> Planning underway Symposia proposals (Call for Papers) due November 15, 2022 	<ul style="list-style-type: none"> Volunteers NEEDED!! Attend Blues and Brews August 23, 2022 Send ideas to Aaron
59 th North American Chemical Residue Workshop July 14 – 17, 2024, Marriott Harbor Beach Resort Fort Lauderdale, Florida	Steve Lehotay	<ul style="list-style-type: none"> Check website for updates and details www.nacrw.org Co-Sponsored by AGRO 	Submit abstracts ✓ Oral presentations typically due in March • Poster presentations typically due in May
268 th ACS National Meeting August 13 – 17, 2024 Denver, Colorado	James Foster	<ul style="list-style-type: none"> Planning underway Symposia proposals (Call for Papers) due November 15, 2023 	<ul style="list-style-type: none"> Volunteers and champions are always NEEDED!! Attend Blues and Brews San Francisco in 2023 Send ideas to James

Future ACS National Meetings

265th ACS National Meeting & Exposition
March 26-30, 2023, Indianapolis, Indiana
Crossroads of Chemistry

266th ACS National Meeting & Exposition
August 13-17, 2023, San Francisco, California
Harnessing the Power of Data

267th ACS National Meeting & Exposition
March 17 – 21, New Orleans, LA
Many Flavors of Chemistry

268th ACS National Meeting & Exposition
August 18-21, 2024, Denver, Colorado
Elevating Chemistry

269th ACS National Meeting & Exposition
March 23-27, San Diego, CA

270th ACS National Meeting & Exposition
August 17-21, 2025, Washington, DC

Thinking about organizing a symposium for a National Meeting?

AGRO SUPPORTS SYMPOSIUM ORGANIZERS

Assistance with

- developing a symposium summary and Call for Papers
- identifying co-organizers
- brainstorming organization and/or merger with other symposium to provide a more enriched symposium
- Funding to help with travel and/or non-member registrations

7 EASY STEPS FOR ORGANIZING A SYMPOSIUM

1. Propose, adopt, or borrow a symposium topic (e.g., Chemistry for and from Agriculture)
2. Inform the AGRO Program Chair, who will add to the list and arrange for Program Committee endorsement
3. Develop a paragraph summary of the symposium scope and potential lecture topics (template is on the website)
4. Identify one or more co-organizers if desired
5. Recruit speakers and invite abstracts (Half-day = 5-8 speakers; 1 day = 12-15 speakers)
6. Review and accept abstracts, order your speakers/sessions
7. Chair the symposium session



AGRO Lunch and Learn Webinar Series Co-sponsored by Eurofins Agroscience Services

Recordings of the 2019 – 2022 AGRO Lunch and Learn Webinars and from previous years are freely available on the AGRO website (<https://www.agrodiv.org/category/webinars/>) and on YouTube.

Planning is underway for the 2022 – 2023 AGRO Lunch and Learn Webinar Series.

If you have an idea for a webinar, please contact any of the webinar committee members:

Solito Sumulong, solito.sumulong@agrithority.com
Amanda Chen, Laura McConnell, Natalia Peranginangin,
James Seiber, Tom Sparks, Daniel Swale

2022 - 2023 Webinars

September 14, 2022, 12:00 – 1:00 PM EDT

Impact of Adjuvant and Formulation Type on UAV Application Description

Jason Wall, Crop Care Applications Team Leader, Croda, Inc

Date to be announced

Natural compounds for the health of plants, humans, and the environment – Sterling Hendricks Memorial Lectureship Award

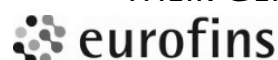
Stephen O. Duke, University of Mississippi

Oct 19, 2022, 12:00 1:00 PM EST

Navigating the Changing Landscape of State and Federal Regulations

Brian Koontz, Industrial Hemp Program Manager, State of Colorado Hemp Program

SPECIAL THANKS TO OUR SPONSOR FOR
THEIR GENEROUS CONTRIBUTION!



agroscience services



Spring 2023 ACS National Meeting and Exhibition

Indianapolis, Indiana, USA

March 26 – 30, 2023

Remarks from the 2023 AGRO Chair and Program Chair

Heidi Irrig, Chair, heidi.irrig@syngenta.com

Aaron Gross, Program Chair, adgross@vt.edu

Why is AGRO Participating in the ACS Spring 2023 National Meeting?



The Agrochemical Division (AGRO) of the American Chemical Society is comprised of academics, government, and industry scientists dedicated to advancing agricultural productivity, public health, and the environment.

While we all enjoy the variety of horticultural crops (typically, fruits and vegetables) from the US west and east coasts and from the south to the north, the row crops grown in the mid-west, also known as the **Crossroads of America**, play a vital role in the global food system. The importance of this growing region to world agriculture is the reason why AGRO will participate with a limited program at the Spring 2023 ACS national meeting!

Additionally, we will have a fantastic opportunity to tour an industry research and development center and discuss the state-of-the-art efforts to develop and bring novel chemistries to life with agricultural industry scientists. This meeting will serve as a preview to the full program at the Fall 2023

National Meeting and Exposition in San Francisco where AGRO will finally come together to celebrate 50 years with expanded programing, the 50th anniversary gala, and a special Ag tour.

Even though AGRO will have a small program at the Spring meeting compared to what we typically host in our Fall program, our Indianapolis program will be full of cutting-edge science research presentations and discussions. This will be achieved with four planned symposiums on hot topics for row crops, agroecosystems, future agricultural technologies, and the ever-growing issue of scientific illiteracy. Detailed descriptions of the symposia, the Call-for-Papers, follow. **Consider submitting an abstract today.**

Please note: We intend for this to be an in-person meeting to take advantage of the U.S. Midwest serving as the Crossroads of America and the regional agricultural activity. This will truly be a special AGRO meeting in a location too good to pass up. If we do not see you in Indy, we hope to see you in San Francisco!



SPRING 2023

Crossroads of Chemistry



Call for Papers

265th ACS National Meeting & Exposition

March 26-30, 2023

Indianapolis, Indiana USA

Advancing Regulation, Education, Public Policy in an Age of Skepticism and Scientific Illiteracy

Purpose of Symposium

This symposium will share examples and best practices describing how scientists can contribute to public education of scientific regulations, guidelines, and weight-of-evidence. Any level of expertise is welcomed to submit examples of publications, communication tools and concerns on policy issues that might need further attention and possibly joint efforts and cross-sectorial cooperation, at national and international level.

The outcome of the symposium is more important than ever, as it attempts to provide solutions to increase the effectiveness of scientific education to the public in an era of skepticism and scientific illiteracy.

Participation and contributions are welcome from members of other ACS Divisions, including ANYL, ENVR, ORGN, and AGFD, as well as other scientific organizations.

Suggested Topics

- Regulatory progress and gaps
- FIFRA improvements
- The Endangered Species Act (ESA) conundrum
- Education and public outreach
- Maximum Residue Limits (MRLs) and trade
- Building trust with consumers and agencies (transparency, communications)
- Food safety paradigms
- Educational programs
- Communication tools

For further information, contact the organizers:

Carmen Tiu, Corteva Agriscience, 317-372-4215, carmen.tiu@corteva.com

Ronda Hamm, Corteva Agriscience, ronda.hamm@corteva.com

Genevieve O'Sullivan, CropLife America, 202-872-3864, gosullivan@croplifeamerica.org

Submit abstracts of 2500 characters or less to

<http://maps.acs.org>

August 15 – October 17, 2022



Call for Papers

265th ACS National Meeting & Exposition

March 26-30, 2023

Indianapolis, Indiana USA

Innovative Technologies to Support 21st Century Agriculture

Purpose of Symposium

The development of new agricultural production technologies will be critical to support the needs of the growing world population in the face of ever-shrinking cultivated land, climate change, resistance, and regulatory pressure. The discovery of new agrochemicals will be vital, but new technologies for active ingredient analysis, production, delivery, and deployment (formulations, targeted spray applications, seed treatments, etc.) are needed. An engaged community with a forum to discuss emerging technologies will help drive the future of agriculture.

This symposium is designed to appeal to a broad audience of academic and industry experts to discuss emerging technologies that will support 21st Century Agriculture and to help guide the future of crop protection. The symposium may be of interest to other ACS divisions such as ENVN, ANYL, AGFD, ORGN and I&EC.

Suggested Topics

- Discovery chemistry (traditional agrochemistry)
- Seed and soil applied chemistry development
- Process Chemistry Development
- Natural products and biologicals
- Animal health-related products and urban pest control
- Digital agriculture
- Advances in formulations, targeted spray applications
- Emerging analytical technologies (offer posters)

For further information, contact the organizers:

John Rohanna, Corteva Agriscience, 317-337-3501, john.rohanna@corteva.com

David Jones, Corteva Agriscience, 317-337-5151, david.jones-1@corteva.com

Robb DeBergh, FMC Agricultural Solutions, robb.debergh@fmc.com

Lucas Huntimer, Elanco Animal Health, lucas.huntimer@elancoah.com

Naresh Pai, Bayer CropScience, naresh.pai@bayer.com

Tobias Harschneck, Boehringer-Ingelheim, tobias.harschneck@boehringer-ingelheim.com

Submit abstracts of 2500 characters or less to

<http://maps.acs.org>

August 15 – October 17, 2022



Call for Papers

265th ACS National Meeting & Exposition

March 26-30, 2023

Indianapolis, Indiana USA

Midwest Row Crop Revolution: Agrochemistry State of Affairs after a Quarter-Century of Biotech-Enabled Agriculture

Purpose of Symposium

The introduction of genetically modified row crops to the Midwestern U.S. and Southern Canada some 25 years ago signaled the beginning of a new agronomic era. Dramatic changes in agricultural practices, including those related to pest management and agrochemical use, have accompanied the widespread adoption of corn and soybean varieties with tolerance to non-selective herbicides and resistance to above- and below-ground insect pests. Currently, more than 90 percent of North American corn and soybeans are produced using genetically modified varieties.

The purpose of this symposium is to bring together experts from academia, industry, government, and advocacy groups to share data and insights regarding the impacts this Midwest row crop revolution has had on agriculture, environmental quality, human well-being, and the agrochemical enterprise.

In addition, implications of how current agrochemical, biotech, and agronomic trends may impact the future will be debated. Perspectives will be invited as to the most desirable options that support the drive towards increased sustainability.

Suggested Topics

- Changes in integrated pest management practices and agrochemical use patterns
- Implications for agrochemical and seed research and development efforts
- Weed resistance and management experiences
- Considerations related to sustainability, conservation management, and ecosystem services
- Transport of pesticides and nutrients and significance for land, water, and air quality
- Human exposure considerations, including food residue standards and impact on trade
- Ecological impact trends, including biodiversity, pollinator health, and endangered species populations
- Best management practices to minimize impacts of agrochemistry in the Midwest region
- Evolving grower and consumer perspectives toward agriculture, agrochemicals, and biotechnology
- Changes in regulation of agrochemicals and seeds
- Evolutionary and/or revolutionary changes anticipated for the coming quarter century

For further information, contact the organizers

Ken Racke, Corteva Agriscience (Retired), 317-358-5618, kenracke@gmail.com

Tom Mueller, University of Tennessee, 865-974-8805, tmueller@utk.edu

Fred Whitford, Purdue University, 765-494-1284, fwhitford@purdue.edu

Submit abstracts of 2500 characters or less to

<http://maps.acs.org>

August 15 – October 17, 2022



Call for Papers

265th ACS National Meeting & Exposition

March 26-30, 2023

Indianapolis, Indiana USA

Understanding Environmental Quality and Health in Agroecosystems

Purpose of Symposium

In modern agriculture, the use of modern integrated cropping systems has led to enormous gains in productivity and efficiency over the last half-century. Although understanding of these systems in an agronomic sense is quite advanced, their role as an overall ecosystem continues to be a fruitful avenue of research.

The purpose of this symposium is to bring together experts from a variety of disciplines working within academia, government, advocacy groups and industry to present current research in how agroecosystems influence environmental quality, how such effects can be quantified, and how policy makers and the public may view the future of the agricultural enterprise in this context.

Suggested Topics

- Defining and assessing ecosystem services offered by agroecosystems
- Implications of current and future agronomic systems on biodiversity
- Measurement and modeling of key factors impacting agroecosystems and their surroundings
- Policy implications of balancing agricultural productivity and environmental quality
- Management of agroecosystem impacts on wildlife and pollinators
- Implications of potential impacts on soil biodiversity
- Environmental risk mitigation and management programs at local to national scales
- Remediation of environmental impacts at local to national scales

For further information, contact the organizers:

Pat Havens, Corteva Agriscience, 317-337-3465, pat.havens@corteva.com

Tamara Lunsman, Corteva Agriscience, tamara.lunsman@corteva.com

Adam Dolezal, University of Illinois at Urbana-Champaign, 217-300-6762, adolezal@illinois.edu

Submit abstracts of 2500 characters or less to

<http://maps.acs.org>

August 15 – October 17, 2022



SAVE THE DATE

March 29, 2023

Crossroads of Ag Innovation

AGRO Evening Social



Networking and
Engagement



Scientific
Celebration



Food and
Fun

- Come celebrate with AGRO during the Spring 2023 ACS meeting in Indianapolis
- Hosted by Corteva Agriscience at its stunning Indy R&D campus
- Transportation will be provided
- **Network and engage** with fellow scientists
- **Enjoy** refreshments and have fun
- Test your knowledge and **win prizes**

More Details Coming Soon!



CORTEVA[™]
agriscience



SAVE THE DATE

North American Chemical Residue Workshop 2023

July 23 – 26, 2023

Marriott Harbor Beach Resort

Fort Lauderdale, Florida, USA

JOIN US!

Our workshop reflects the scope and international nature of topics covered in a scientific program which includes: pesticides, veterinary drugs, environmental contaminants, toxins, and other chemicals of concern in food, environmental, and related applications.

Typical Submission Deadlines:

Oral presentations: March 31

Poster presentations: April 21

NACRW Student Scholarships: April 21

www.nacrw.org



CALL FOR NOMINATIONS

IUPAC International Award for Advances in Harmonized Approaches to Crop Protection Chemistry

This award recognizes individuals in government, intergovernmental organizations, academia, and industry who have exercised personal leadership for outstanding regulatory, public policy, and/or educational contributions supporting international harmonization of crop protection chemistry.

The award is administered by the IUPAC Advisory Committee on Crop Protection Chemistry, a body of the IUPAC Division of Chemistry and the Environment, and is presented on a roughly biennial basis.

The next award will be presented as part of the Agrochemicals Division program for the Fall 2023 American Chemical Society meeting in San Francisco, USA, during August of 2023. Awardees receive an honorarium plus travel and per diem reimbursement to attend the award presentation ceremony.

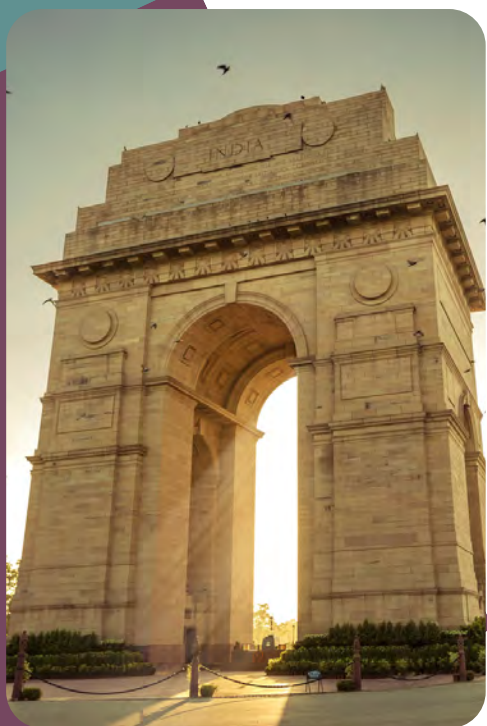
Nominations for the 2023 award are due by December 1, 2022 and should be sent to Dr. Laura McConnell at laura.mcconnell@bayer.com and will consist of:

- A nomination letter including a description (200-1000 words) of the reasons why the nominee should receive this award, stressing the individual's major accomplishments toward international harmonization of crop protection chemistry.
- A curriculum vitae of the candidate that includes places and names of employment, professional affiliations, committee and working group assignments, and listing of relevant regulatory guidance documents, reports, and/or publications.
- One or more letters of support.

IUPAC thanks Corteva Agriscience for providing continued corporate sponsorship of this award.

Past Awardees:

2019 – Mark R. Lynch (posthumously), Department of Agriculture and Food, Ireland
2016 – Daniel L. Kunke, IR-4 Project, Rutgers, NJ, USA
2014 - Árpád Ambrus, National Food Chain Safety Office, Budapest, Hungary
2012 - Lois A. Rossi, Office of Pesticide Programs, Environmental Protection Agency, Washington, DC, USA
2010 - Denis J. Hamilton, Animal and Plant Service, Queensland Department of Primary Industries, Brisbane, Australia



IUPAC

15th ICCPC 2023

14-17 March 2023 | New Delhi

iupac2023.in

Call for Papers

Deadline 30 Nov 2022

Program Themes

- Discovery and Optimization of New Crop Protection Products
- Biopesticides and Biocontrol Agents
- Mode of Action and Development and Management of Resistance
- Biotechnology
- Advances in Analytical Technologies, Informatics, and Nanotechnologies
- Ecological and Human Safety Assessment of Products
- Digital and Precision Agriculture
- Regulatory Landscape, Policy, Trade, and Science Communication

Sponsorship Opportunities Available

Organized by

Society for the Promotion of Sustainable Agriculture (SPSA)

iupac2023@gmail.com

Endorsed by





**9th LATIN AMERICAN PESTICIDE RESIDUE WORKSHOP
FOOD AND ENVIRONMENT
21-24 May 2023, Panamá.**

The ninth edition of LAPRW will be held in a person way, chaired by Msc. Brenda Checa and sponsored by Ministerio de Desarrollo Agropecuario.

Main topics

Advanced analytical techniques and methods,
Analytical quality control and validation,
Monitoring programs and results,
Regulatory and other issues relating to pesticide residues.

Plenary lectures from international scientists
Lectures from Latin American researchers

- young scientists' presentations
- posters and discussion
- exhibition and vendor seminars
- Round tables discussions
- social activities networking

Pre- and post-workshop courses

AGRO Division Officers, Councilors, and Executive Committee

2022 AGRO DIVISION OFFICERS



Division Chair
Qing X. Li
 808-956-2011
 qingl@hawaii.edu



Program Chair
Heidi Irrig
 336-632-7243
 heidi.irrig@syngenta.com



Vice Chair
Aaron Gross
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 adgross@vt.edu



Secretary
Sharon K. Schneider
 605-693-5201
 sharon.schneider@usda.gov



Treasurer
Del A. Koch
 660-248-1911
 dkoch@agrodiv.org

COUNCILORS

2021 – 2023

Rodney Bennett, rodbennett dac@gmail.com
 Jeanette Van Emon, jmvane mon@gmail.com
 Kevin Armbrust, Alternate, armbrust@lsu.edu
 Leah Riter, Alternate, leah.riter@bayer.com

EXECUTIVE COMMITTEE MEMBERS

2020 – 2022

James Foster, james.foster@ejgallo.com>
 Pat Havens, patrick.havens@corteva.com
 Mingming Ma, mingming.ma@corteva.com
 Kalumbu Malekani, kmalekani@smithers.com
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 Katoria Tatum-Gibbs, katoria.tatum-gibbs@basf.com
 Sara Whiting, sara.whiting@bayer.com

AGRO Division Past Chairs

1969	Donald G. Crosby	1988	Paul A. Hedin	2007	Laura L. McConnell
1970	Elvins Y. Spencer	1989	Gustave K. Kohn	2008	John J. Johnston
1971	Wendell Phillips	1990	Willa Garner	2009	Kevin L. Armbrust
1972	Philip C. Kearney	1991	Guy Paulson	2010	Ellen L. Arthur
1973	Roger C. Blinn	1992	Joel Coats	2011	Kenneth D. Racke
1974	Charles H. Van Middeltem	1993	Larry Ballantine	2012	Aldos C. Barefoot
1975	Henry F. Enos	1994	Nancy N. Ragsdale	2013	John M. Clark
1976	Julius J. Menn	1995	Don Baker	2014	Stephen O. Duke
1977	James P. Minyard	1996	Barry Cross	2015	Cathleen J. Hapeman
1978	Gerald G. Still	1997	Willis Wheeler	2016	Pamela J. Rice
1979	S.K. Bandal	1998	Judd O. Nelson	2017	Jay Gan
1980	Jack R. Plimmer	1999	Richard Honeycutt	2018	Scott Jackson
1981	Marguerite L. Leng	2000	Ann T. Lemley	2019	Julie E. Eble
1982	Gino J. Marco	2001	Jeffery J. Jenkins	2020	Cheryl Cleveland
1983	G. Wayne Ivie	2002	Terry D. Spittler	2021	Leah S. Riter
1984	Robert M. Hollingworth	2003	Jeanette Van Emon		
1985	John Harvey, Jr.	2004	Rodney Bennett		
1986	Henry J. Dishburger	2005	Allan Felsot		
1987	James N. Seiber	2006	R. Donald Wauchope		

What the AGRO Committees Do

More volunteers needed!

AWARDS COMMITTEE

Purpose: This committee administers awards offered by the Division to the extent authorized by the Division Executive Committee. The awards program is an integral part of the Division, its purpose being to recognize and encourage outstanding contributions to our science and our Division.

Composition: The Awards Committee Chair is appointed. The Committee consists of ten or more members who are senior and mid-career scientists, including past Award winners and ACS and Division Fellows.

BYLAWS COMMITTEE

Purpose: This Committee ensures that the Division's bylaws are maintained in accordance with changes in Division operations and in accordance with any changes requested either by the ACS, by ACS bylaw changes, or by the Division Executive Committee.

Composition: The Bylaws Committee is appointed. Members consist of currently serving Councilors.

COMMUNICATIONS COMMITTEE

Purpose: This Committee coordinates the Division's communication and publication activities. This includes management of the AGRO Division website, publication of the *PICOGRAM*, compilation of the AGRO eNewsletter, advancement of publication efforts through ACS Books, and publicizing of Divisional activities.

Composition: The Communications Committee Chair is appointed. The Committee Chair appoints at least three additional members.

DEVELOPMENT COMMITTEE

Purpose: This Committee interfaces with the patrons of our industry to coordinate support of our Division's scientific activities.

Composition: The Development Committee Chair is appointed. The Treasurer is a member, and several other members are appointed by the Committee Chair.

EARLY CAREER SCIENTIST COMMITTEE

Purpose: This Committee promotes the interests of students, postdoctoral researchers, and early career scientists and enhances their participation in programs of the AGRO Division. The Committee oversees education and development efforts concerning early career scientists and administers the graduate student travel award program and the New Investigator Award.

Composition: The Early Career Scientist Committee Chair is appointed. The committee consists of 6 or more members including at least 2 graduate students or recent post-grads, one member of the Membership Committee, and one member of the Communications Committee.

FINANCE COMMITTEE

Purpose: The purpose of the Finance Committee is to monitor the financial activities of the Division.

Composition: The Finance Committee Chair is appointed; incumbent Treasurer is an ex-officio member. The Committee Chair nominates approximately four members who have reasonably strong financial skills.

INTERNATIONAL ACTIVITIES COMMITTEE

Purpose: The International Activities Committee (IAC) seeks to enhance the role of AGRO in the broad international scientific community and to enrich its membership experience by promoting international collaborations and interactions among its members. It exists to facilitate coordination of international activities within AGRO, and to increase the participation of scientists from all countries in AGRO. The committee also acts to provide information and support to scientists outside of the United States who are interested in AGRO.

Composition: The International Activities Committee Chair is appointed. The Committee consists of six or more members.

MEMBERSHIP COMMITTEE

Purpose: The purpose of the Membership Committee is to develop programs and activities for the recruitment of new members to the Division and to the ACS, as well as to develop activities and programs for the retention of existing members.

Composition: The Membership Committee Chair is appointed; three or more members are appointed with the advice and approval of the Executive Committee.

NOMINATING AND ELECTION COMMITTEE

Purpose: The Nominating Committee develops a slate of qualified candidates for the elected Division offices that need to be filled for the following calendar year.

Composition: The Nominating Committee Chair is the Immediate Past Chair; other members are traditionally the past two Chairs.

PROGRAMMING COMMITTEE

Purpose: The purpose of the Programming Committee is to plan, develop, and implement the Division's technical program.

Composition: The Programming Committee Chair is the Division Vice-Chair; the Division Program Chair is a committee member. The Committee Chair nominates as many members as necessary to ensure that the Division's programming requirements are met.

STRATEGIC PLANNING COMMITTEE

Purpose: This Committee will assist the Executive Committee in development and implementation of the Division's strategic plan.

Composition: The Strategic Planning Committee Chair is appointed and confirmed by the Executive Committee. The Committee Chair appoints eight or more members.

AGRO Division Committees

AWARDS COMMITTEE

Qing Li, Chair, 808-956-2011, qingl@hawaii.edu
Jeanette Van Emon, Assistant Chair, jmvanemon@gmail.com
MEMBERS: Janice Chambers, John Clark, Joel Coats, Stephen Duke, Bruce Hammock, Hideo Ohkawa, Sharon Schnieder, James Seiber, David Soderlund, Keith Wing, Izuru Yamamoto

BYLAWS COMMITTEE

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Jeanette Van Emon, jmvanemon@gmail.com

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Sharon Schneider, Awards Coordinator
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Leah Riter, Social Media Coordinator
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Pat Havens, eNewsletter Coordinator
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MEMBERS: Emily Saad, Katoria Tatum Gibbs, Spencer Walse

DEVELOPMENT COMMITTEE

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Scott Jackson, 919-746-9223, sjackson@vestaron.com
Del Koch, Ex Officio/Treasurer, 660-248-1911
dkoch@agrodiv.org
Laura McConnell, 636-737-4787, laura.mcconnell@bayer.com
Ralph Warren, 919-547-2064, ralph.warren@basf.com

EARLY CAREER SCIENTIST COMMITTEE

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Sara Whiting, Co-Chair, 319-512-9385, sara.whiting@bayer.com
Sasha Kweskin, New Investigator Award Coordinator,
636-737-2320, sasha.kweskin@bayer.com
Kalumbu Malekani, Early Career Scientist Symposium Mentor,
508-295-2550, kmalekani@smithers.com
MEMBERS: Diana Aga, Troy Anderson, Joel Coats, Cathleen Hapeman, James Klimavicz, Steven Lehotay, Edmund Norris, Scott O'Neal, Daniel Swale, Nurhayat Tabanca

FINANCE COMMITTEE

Joel Coats, Chair, 515-294-4776, jcoats@iastate.edu
Del Koch, Ex Officio/Treasurer, 660-248-1911
dkoch@agrodiv.org
MEMBERS: Kevin Armbrust, Al Barefoot, Barry Cross, Scott Jackson, Bernalyn McGaughey, Ken Racke

INTERNATIONAL ACTIVITIES COMMITTEE

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Paul Reibach, 508-317-0108, phrfect@aol.com
Andy Newcombe, 302-584-5999, andy.newcombe@arcadis.com

MEMBERSHIP COMMITTEE

Chris Bianca, Chair, 484-804-6962, chris.bianca@jrfamerica.com
MEMBERS: Steven Lehotay, Leah Riter, Daniel Swale

NOMINATING AND ELECTION COMMITTEE FOR 2023

Qing Li, Chair, 808-956-2011, qingl@hawaii.edu
Leah Riter, 636-737-9331, leah.riter@bayer.com
Cheryl Cleveland, 919-547-2407, cheryl.cleveland@basf.com

PROGRAMMING COMMITTEE FOR 2022 (see p. 42)

Aaron Gross, Chair, 540-232-8448, adgross@vt.edu
Webinar SubCommittee (see p. 44)
Solito Sumulong, 816 841-0935, solito.sumulong@agrithority.com

AGRO 50TH CELEBRATION COMMITTEE

Ken Racke, Co-Chair, kenracke@gmail.com
Jeanette Van Emon, Co-Chair, jmvanemon@gmail.com

STRATEGIC PLANNING COMMITTEE

Leah Riter, Lead Co-Chair, 636-737-9331, leah.riter@bayer.com
Kevin Armbrust, Co-Chair, 225-578-3030
Edmund Norris, Co-Chair, 352-374-5825,
edmund.norris@usda.gov

AGRO Division Virtual Meeting

March 3, 2022

2:00 – 3:30 PM CDT

Sharon Schneider, Secretary

ATTENDANCE

Officers: Qing Li, Chair; Heidi Irrig, Program Chair; Aaron Gross, Vice-Chair; Sharon Schneider, Secretary; Del Koch, Treasurer; Leah Riter, Past-Chair; Rodney Bennett, Jeanette Van Emon, Councilors; Kevin Armbrust, Alternate Councilor

Executive Committee Members (EC): Amanda Chen, Andrew Coates, James Foster, Shanique Grant, Pat Havens, Mingming Ma, Kalumbu Malekani, Amy Ritter, Thomas Sparks, Solito Sumulong, Katoria Tatum-Gibbs, Ralph Warren, Sara Whiting

Committee Chairs and Guests: Cheryl Cleveland, Joel Coats, Cathleen Hapeman, Sasha Kweskin, Laura McConnell, Tabanca Nurhayat, Peney Patton, Ken Racke

1. Welcome – Qing Li

2. Fall National Meeting

- **General meeting updates – Heidi Irrig**
 - Will be looking for volunteers – contact Heidi if you'd like to volunteer, for example: AGRO hospitality table for in-person attendance, Blues and Brews, coffee hours, awards social
 - Update on meeting format
 - Meeting will be hybrid with 4 options: in-person, virtual, hybrid, or on demand.
 - CDC protocols will be in place; attendees must show their vaccination information when they pick up their badge. A constant stream of information is required to keep everyone engaged and updated as things change.
 - Uncertainty is compounded because organizations/employers are waiting until ~6 weeks out to make decisions on travel.
- **Reimbursement of symposia organizers – Del Koch**

Del has received a couple requests to reimburse symposium organizers but historically, only speakers have been reimbursed.

 - What would AGRO like to do? There might be exceptions, but standard would be that only speakers should receive reimbursement.
 - Recommendation that the policy be clarified. There was a letter used in 2019 that delineated the policy.
 - Will revisit that letter and ensure that it is sent to symposium organizers by Peney.
- **Consideration for reimbursing of government and other speakers who have complicated monetary issues – Rod Bennett**
 - Since it is difficult for government employees to accept funds, is there a way to simplify reimbursement? Each government agency and sub-agency has their own policies and procedures, so there is no blanket approach.
 - AGRO's approach should cover all potential speakers; speakers will need to navigate their own employer's process.

- **Pins commentating AGRO's 50th Anniversary – Heidi Irrig**

AGRO 50th pins are in Heidi's possession; she will bring them to the meeting
 - **Masks made for the Fall 2022 meeting with the Sustainability in a Changing World theme or AGRO logo – Heidi Irrig**
 - ACS will design and distribute for free a mask to meeting attendees that will have ACS logo/meeting.
 - *Looking for a couple volunteers to come up with ideas for AGRO-specific sustainable items* (one suggestion was a reusable badge holder). Please present an estimated cost.
 - **Timing for PICOGRAM / Call for Papers – Heidi Irrig, Cathleen Hapeman**
 - The spring PICOGRAM will be printed. PICOGRAM content will be posted on the AGRO website.
 - Calls for papers are ready to be posted. Abstract submission closes March 14.
 - [Post-meeting update: the abstract submission deadline was extended to March 29.]
 - Deadline for content to be included in the Fall PICOGRAM is June 1.
 - **Blues & Brews – Aaron Gross**
 - New ACS rule: Technical sessions to be held 8 am to noon, 2 to 6 pm are live in-person. No division may hold non-technical sessions during these times.
 - ACS is discussing how Council will meet.
 - Tentative plan is to have in-person Blues and Brews and then follow up with a virtual session afterward. Aaron will be looking for volunteers.
- ### 3. Special AGRO Programming for the Spring 2023 Indianapolis Meeting – Ken Racke
- **Background:** A small AGRO program is planned for the Spring 2023 ACS meeting in Indy. The goal is to boost AGRO influence and membership via regional/local interests. The technical program is to complement, not duplicate, Chicago and San Francisco symposia. The Indy Planning Committee will partner with 2023 Program Chair, Aaron Gross.
 - **Progress so Far:** Have developed a plan of key milestones for the Indy ACS meeting. Initial outreach located interest within Corteva, Purdue Univ., Elanco Animal Health, and SePRO, as well as the Indiana ACS Local Section. First technical program brainstorming session identified four potential symposium topics of high interest on a regional basis to include oral and poster sessions. Sponsorship funding confirmed for hosting of an AGRO social event. David Jones of Corteva will join Ken Racke in helping coordinate Corteva engagement efforts (Suhelen Cespedes Vasquez stepping down)
 - **Next Steps:** Confirm symposium topics and identify co-organizers by mid-April; finalize a 1-page "call for papers" for each symposium by May 15 for the fall PICOGRAM. Hold a brainstorming session and set a tentative date for the AGRO social event. Develop an agrochemical public outreach component for the Indy 2023 plan.
 - **May be opportunities for funding through LSAC.** Suggestion to list Aaron and Ken as joint program chairs so that both are able to access MAPS and be in the loop on ACS correspondence.

4. AGRO 50th and Beyond – 2023 Fall in San Francisco

- **Overall project** – Ken Racke, Jeanette Van Emon, Jim Seiber

Next phase planned as part of the Fall 2023 ACS meeting in San Francisco. Organizing efforts led by Ken Racke and Jeanette Van Emon. Key components include a symposium (AGRO evolution and future opportunities), gala reception, and agricultural field tour. Request to reconstitute an AGRO 50 and Beyond Planning Committee to guide events; will need volunteers

- **Open IPGs – AGRO tour** – Heidi Irrig, Andrew Coates
Andrew has reached out to UC Davis. Hoping to reassemble the ag tour team that was already involved in the prior planning, plus anyone else who wants to join in the planning. Plans to utilize the contacts and tour stop sites that they had signed on when they first tried planning the ag tour (which was in San Francisco). Andrew will coordinate an ag tour planning meeting once everyone is on board

5. Cooperative Agreement with the Society of Quality

Assurance – Heidi Irrig

Peney and Heidi will have an offline meeting.

6. Recent Changes in Communications Committee and its

Activities -- Cathleen Hapeman

Ed Norris and Spencer Walse will be taking over parts of the website maintenance. There is no longer a public relations group. The communications committee handles the website, the webinars (more under purview of program chair), *PICOGRAM*, and e-newsletter

7. Election candidates for Officer and EC ballot – Qing Li

Leah Riter is looking for candidates for all elected positions for annual elections this summer. Candidates for EC, Vice Chair, Secretary, and Treasures are encouraged to contact Leah via email. Any member is eligible to nominate another member; self-nominations are also welcome.

8. Financial Report – Del Koch

- The budget for the 2021 operating account projected a \$64K loss but actuals showed a gain of \$25K. Operating expenses were lower than projected because of the virtual meeting format and only one *PICOGRAM* being printed and shipped. In 2021 we received a larger-than-normal allocation from ACS.
- The 2022 budget projects a \$92K operating loss but some items will be less than projected (Pacifichem support, *PICOGRAM* costs, annual meeting costs).
- Investments showed a gain of \$85K. There were no withdrawals from the AGRO Endowment Fund accounts because our bank account could cover all expenses; our bank account balance is currently \$46K. In a normal year, we spend more than we brought in; this was not the case in 2021.
- Special allocation to Divisions – ACS may ask for information on how AGRO used these funds to support the ACS mission.

9. Nominations and Activity Report – Qing Li

- **Nominations:** Should continue strong nominations for AGRO Fellow; ACS Fellow; International and Innovation Award
- **Division Row is back in person** and will take place in San Diego, CA on Monday, March 21 at Sci-Mix. ACS will provide space for the division posters in a prominent location to give divisions more exposure to national meeting attendees—particularly the younger chemists that divisions are eager to engage. Kevin Armbrust and Laura McConnell

volunteered to put up an AGRO poster at the spring meeting, using the poster AGRO already printed.

- **ACS is offering divisions a “seat”** to have access to the Spring and Fall ACS meeting metrics dashboard. The dashboard will allow divisions to explore visitor numbers, length of visit, and some demographics for the virtual portion of the hybrid meeting, including division-organized symposia and poster sessions. This should be a valuable tool in collecting metrics for these events and planning. It does NOT have in person attendance, and so it will only be a part of the attendance picture. AGRO's designee will be the Division Secretary, who will be responsible for downloading data and sending to EC.

10. International Affairs Committee – Report on Pacifichem 2021 Outcomes – Ken Racke, John Johnston

- After a 1-year delay, Pacifichem 2021 was successfully held as a 100% virtual conference during December, 2021. The program included 10 AGRO-inspired symposia comprised of 79 oral and 6 poster presentations; each symposium had one or more AGRO co-organizers.
- The program was smaller than originally prepared for 2020. Numbers of presentations and attendees were both reduced versus expected. No AGRO networking event was organized. Overall, the conference participation was valuable for AGRO, but overall meeting size and satisfaction were impacted by COVID and the virtual format
- No travel support was needed. No AGRO budget was required (EC approved up to \$65K)
- AGRO International Activities Committee recommends that the Division plan for additional programming engagement at the next Pacifichem in 2025

11. 2022 Strategic Planning Retreat – Leah Riter, Cheryl Cleveland

Will be transferred to Qing and Heidi; they will meet offline. Plan was to make use of ACS's facilitation; should be at least hybrid if not completely virtual

12. Proposal to create an AGRO archive

Referred to a volunteer sub-committee of Bennett, Hapeman, Schneider

13. Councilors Report

- ACS is working on formatting national meeting into a hybrid. ACS and ACS Council is learning that meeting in a hybrid environment is different than in-person.
- ACS has a new membership payment structure so that divisions can expand membership and work more with local sections. ACS is interested in how can we benefit newer/younger chemists, for example in network development; how do we best serve all of our members?
- There are no Councilor-only committees in ACS; all are open to ACS members. If you are interested in participating in ACS committees, please volunteer.

14. Development Committee – James Foster

- 2020 AGRO sponsorship included pledges of \$45,200, with \$41,290 received to date. Pledges for awards were \$19K (all received); for symposia were \$12 (also all received), for *PICOGRAM* advertisements were \$6300 (\$5290 received), and for the 50th anniversary celebration were \$7.9K (\$5K received).
- Pledges and receipts increased in every category compared with 2019; totals mark an increase of >30% over the previous year, even without the special 50th anniversary line item.

- Sponsor-specific thank-you letters were sent to all sponsors in October 2021. Fall 2022 sponsorship request letters were sent out in early February 2022.
- Yelena Sapozhnikova sent the sponsorship request letter to all active AGRO members.

15. Spring 2024 ACS National meeting in New Orleans (17-21 March, 2024).

Theme: *The Many Flavors of Chemistry*. ACS will prioritize symposia and events which are sponsored by two or more divisions and related to the theme, cross listing with MPPG.

16. Round Table

ChemLuminary Awards: Leah has the new AGRO trophies.

AGRO Division Virtual Meeting

May 25, 2022

1:00 – 2:30 PM CDT

Sharon Schneider, Secretary

ATTENDANCE

Officers: Qing Li, Chair; Heidi Irrig, Program Chair; Aaron Gross, Vice-Chair; Sharon Schneider, Secretary; Del Koch, Treasurer; Leah Riter, Past-Chair; Rodney Bennett, Jeanette Van Emon, Councilors

Executive Committee Members (EC): Amanda Chen, Andrew Coates, James Foster, Shanique Grant, Pat Havens, Mingming Ma, Ed Norris, Amy Ritter, Thomas Sparks, Solito Sumulong, Katoria Tatum-Gibbs, Ralph Warren

Committee Chairs and Guests: Joel Coates, Cathleen Hapeman, Laura McConnell, Peney Patton, Ken Racke

1. Welcome – Qing Li

2. Fall National Meeting

- **General meeting updates – Heidi Irrig**
 - No information yet regarding the location of AGRO sessions in Chicago. Peney has made room reservations for non-technical events. Post-meeting update: All AGRO technical sessions are scheduled to be held at the McCormick Place Convention Center.
 - Received a total of 280 abstracts – 30+ are posters and ~20 are in-person posters. Notifications of acceptance are expected today.
- **Update on meeting format – Heidi Irrig**
 - ACS has 3 different types of sessions for this meeting. (1) The majority will be in-person only like pre-COVID. For AGRO, about half are in-person only. (2) The rest of the AGRO sessions will be hybrid. There will be an audience in the room. The speaker may be in person or online. Slides will be projected in the room. If you are virtual, you will hear the speaker and see the slides. Most divisions were only allotted one hybrid session. ENVR and AGRO received the most; ENVR received 22 and AGRO was allotted 18 hybrid half-day sessions. AGRO requested one more, so we have 19. (3) Third option is virtual-only. AGRO is not doing any virtual-only sessions.
 - The Wednesday afternoon posters will be in-person with a simultaneous virtual-only session – each poster will be live or virtual. Posters with a 3-minute summary

will be available on-demand during the meeting and for 2 weeks afterward. Oral presenters may similarly record their talk and make it available for on-demand viewing.

- **Reimbursement of symposia organizers – Del Koch**
Allocation will be a total of \$700 per half-day session. Each symposium's organizer(s) will determine how to spend these funds to support speaker travel.
- **SWAG and Pins Commemorating AGRO's 50th Anniversary – Heidi Irrig**
 - Masks will likely no longer be needed so Shanique Grant volunteered to look into different items and costs Grant provided prices for a few options for 500 units that ranged from about \$2000 to >\$5000 and included lanyards, notebooks, and travel mugs.
 - Input from EC members: customize the product with the AGRO logo. Cathleen will ask AGRO's graphics design company for contacts/products. Suggestion for AGRO to pay to have the items shipped to the meeting and extras sent back to the custodian.
 - Heidi Irrig has the 50th anniversary pins but there are fewer than 500. It appears we may be out of the regular Erlenmeyer flask pins. Recommendation to order additional pins – both the 50th anniversary and the Erlenmeyer.
 - Shanique will circulate some options of AGRO promotional goods, and EC members will vote. Recommendation to offer things with the 50th logo available only at the San Francisco meeting; at other meetings, AGRO should distribute things with the regular AGRO logo.

MOTION: The subcommittee is authorized to obligate no more than \$10K for regular AGRO pins plus 50th anniversary AGRO pins plus other promotional items to be distributed at the Chicago meeting and other AGRO-sponsored meetings.

Motion Passed

- **Volunteers needed**
AGRO Social, hospitality desk, Division Row poster, other duties.
ACTION: Volunteers will be solicited by e-mail with vacant spots recruited at the meeting. Suggestion to re-activate a social committee to manage outreach volunteers.
 - **Blues & Brews – Aaron Gross**
Event will be in-person on Tuesday, 6:30-7:30 pm. No live blues music. Suggestion to use Mentimeter for participants to enter symposium ideas and for program chair to capture them. Consider having a virtual brainstorming session after the meeting if needed.
MOTION: Renew subscription to Mentimeter Pro. Annual subscription is \$300.
Motion Passed
 - **PICOGRAM – Cathleen Hapeman**
 - Due to supply shortages, the printer will not be able to comply with our stringent requirements. The printing will therefore be delayed; the plan is to ship the printed PICOGRAM to AGRO members in August.
 - There will be an online version of the Program available before the Chicago meeting.
 - New deadline for content is June 15; final copy by June 30.
- ACTION:** Suggestion to print maps of meeting locations for AGRO sessions for display at the hospitality desk at the Chicago meeting.

- Laura McConnell asked for a volunteer to take on Picogram advertisement coordination.

ACTION: James Foster from the Development Committee volunteered and will be mentored by McConnell in 2022.

- Replacement for Yelena Sapozhnikova who is resigning as e-newsletter editor is needed before the meeting. This is run through Emma e-mail marketing.

ACTION: Pat Havens volunteered to lead e-newsletter, with Ed Norris as the backup.

3. Financial

- **Cooperative agreement with the Society of Quality Assurance (SQA) – Heidi Irrig**

Agreements are needed for cooperative programming. AGRO's agreement with SQA has expired. No funds are involved. Suggestion to renew the SQA agreement so that if we want to add SQA as a co-sponsor, the contract would be in place.

- **MPPG funding – Heidi Irrig**

AGRO will receive support for 5 symposia with an additional \$500 from MPPG and \$300 from ENVR. Funds will be transferred to AGRO and speakers will be reimbursed through Del.

- **Funding request for SERMACS 2023 – Qing Li**

- The ACS regional meeting organizing committee is requesting \$1000 to support SERMACS 2023.
- Input: if there is no programming for AGRO there is no reason to participate. Because Research Triangle Park and Greenville have a lot of AGRO members and activity, perhaps we should consider co-sponsoring a symposium.
- **TABLED** to Chicago business meeting

4. Special AGRO Programming for the Spring 2023

- **Indianapolis Meeting – Ken Racke**

- Drafting calls for papers for 4 symposia. Co-organizers are from Corteva, Purdue University, University of Tennessee, Elanco Animal Health, CropLife America, FMC, and Boehringer-Engelheim
- Plans for an AGRO social sponsored by Corteva, and a *PICOGRAM* save-the-date page is currently under development.
- The EC confirmed that AGRO will provide symposium support of \$700 per half-day session. Suggestion to consider an IPG to help support symposia that cross divisions. Deadline for IPG proposals is July 15. Also consider MPPG request for funding.

5. AGRO 50th and Beyond – 2023 Fall in San Francisco

- **Overall project – Ken Racke, Jeanette Van Emon**

- Ken and Jeanette will be updating the list of topics and targeted speakers for the for the special symposium
- Ken, Jeanette, and Aaron will be preparing on an updated description and agenda for the gala reception
- Ken and Jeanette will be updating the AGRO 50 budget
- Ken will work with Edmund Morris to update the website
- Planning team will meet again in June or July to advance next steps
- Request for additional volunteers, especially for the gala reception and ag tour

- **AGRO tour – Heidi Irrig, Andrew Coates**

- Andrew, Heidi, and Jeanette will prepare an updated outline of the ag field tour field tour plan
- Still need volunteers and implement tour. James Foster is in the San Francisco area and signed up to help. Also have 2 volunteers from UC-Davis.

6. Candidates for AGRO Ballot – Leah Riter

Elections are June 6 – 27, 2022. Arrangements have been made with VoteNow. Members received a message that elections were open, but that was erroneous. We have a full ballot with prepared bios connected to the ballot.

7. International Affairs Committee – Ken Racke, Carmen Tiu

- Reviewed results of an April survey of AGRO international membership satisfaction and ideas – several ideas under further consideration.
- International activities webpage under the AGRO website is being considered.
- Proposal under development for additional funding for enhancing AGRO international exchanges (Chris Peterson)
- Agreement to seek AGRO engagement with the next Latin American Pesticide Residue Workshop (LAPRW, Panama City, Panama) and 15th IUPAC Congress on Crop Protection Chemistry (New Delhi, India)
- Discussed opportunities for greater agrochemical cooperation with Africa. Identified a number of areas of cooperation with Owen Fraser, head of Africa section of AOAC. Plan to propose an AGRO webinar on Africa AOAC and agrochemical activities.

MOTION: AGRO will sponsor poster awards at \$1,000 total for the 2023 LAPRW in Panama (2 awards). Steve Lehotay will coordinate. AGRO will commit to booth-level sponsorship for the 15th IUPAC International Congress of Crop Protection Chemistry in India-2023 at approximately \$6500: \$5,000 for a bronze/booth level sponsorship plus \$1,500 for associated costs to prepare and ship booth materials.

Motion Passed

8. Proposal to Create an AGRO History Committee – Ken Racke

Proposal presented for further discussion later. See below.

9. Proposal to Create an AGRO Archive – Sharon Schneider

- Committee included Cathleen Hapeman, Rodney Bennett, and Sharon Schneider
- Their opinion is to define the true archives as:
 - *PICOGRAMS*, IPGs, and specific minutes (if not already captured in the *PICOGRAM*).
 - Working documents are not archives but are very useful to the membership. Working documents include examples/templates of general correspondence; introduction and thank you letters to sponsors, symposia organizers, letters to elected/not-elected candidates following AGRO elections, etc.
 - Working documents should be available to everyone who has a specific need.
- Operations Manual (currently on Version 9) needs to be updated.
- How and where should we preserve physical items such as photos, Old Bug Banner; the Division Awards (Plaques), etc. Are the 50th anniversary timeline and other materials a good place to start?
- May want to consider an Archive Committee with an Archivist designated for the Chair of that committee.

DISCUSSION: Would be helpful for each committee to have working documents and calendar of activities. Records retention and depository of operational materials.

ACTION: History Committee and archive referred to an ad-hoc subcommittee. Ken Racke will lead, Sharon Schneider, Rod Bennett, James Foster, Amy Ritter members.

10. Councilor update:

Preference form allows people to request to be on any ACS committee, you do not need to be a Councilor. New membership structures provide opportunities to increase AGRO membership.

11. 2022 Strategic Planning Retreat – Leah Riter, Cheryl Cleveland

- Discussion about whether it should be in conjunction with a national meeting or a separate standalone meeting in Washington, DC.
- IPG: Consider potential divisional collaborations for future meetings. Spring 2023: *Crossroads of Chemistry*, Indianapolis and Fall 2023: *Harnessing the Power of Data*, San Francisco. Deadline is July 15.

12. Diversity Committee – Laura McConnell

No updates. Recommend this as an initiative in the next strategic plan. Consider sending early career people to ACS Leadership Institute and Strategic Planning Retreat. Consider recognizing new members and send them an onboarding message with information about the Division to inform and engage them better.

13. ACS Leadership Institute – Aaron Gross, James Foster

Foster reported on his experience, and what he learned. Both found it very engaging and informative and were inspired to keep AGRO strong.

14. Round Table

- Join NACRW online for the 58th Annual Workshop July 25-29, 2022. Abstract Deadlines extended until June 6, 2022.
- Consider having the Combined Governance meeting via Zoom/Teams after the national meeting. There may be logistical concerns. Suggestion to replace the in-person Combined Governance meetings with a meet-and-greet gathering with food and drink to encourage new AGRO volunteers. Consider having officers and each Committee present an overview of their role/duties so potential recruits can gain awareness of opportunities to participate.

ACTION: Because the meeting extended beyond its scheduled time, many members needed to disconnect and therefore a quorum is lacking for this decision. A motion will be developed and circulated for discussion and vote via e-mail.

- Bylaws committee is working on revised bylaws.

Proposal to Create an AGRO History Committee

May 19, 2022

Ken Racke

AGRO has been celebrating its 50th anniversary, and significant efforts were made to collect historical information related to Divisional activities including a historical timeline of events, photographs, and early programs.

This proposal would create a committee to own and maintain these work products and undertake additional activities to promote preservation and awareness of AGRO history both within and outside the Division.

Without assigning specific ownership of such responsibilities, much of the value of these recent efforts may be lost and future generations of AGRO members may lack appreciation for the rich heritage of their Division and its legendary members. A preliminary description of the purpose and responsibilities of the proposed Committee appears below.

HISTORY COMMITTEE

Purpose: The objectives of the History Committee are to preserve and to celebrate information related to historic Divisional activities and to promote appreciation of the Division's rich heritage of contributions among the membership and within the broader agrochemical community.

Composition: The Committee consists of a Chair, appointed by the Division Chair, and at least two additional members, appointed by the Committee Chair.

Term of Office: There is no set term of office for this committee.

Responsibilities

- **Centralize and lead initiatives** related to collection, preservation, and dissemination of historical information related to the AGRO Division.
- Develop and maintain a **permanent archive** of historic AGRO Division materials and records.
- Curate an electronic archive of **audio/visual materials** related to Divisional activities and personages.
- Maintain and solicit periodic additions to the **AGRO historical timeline** posted to the Divisional website.
- Launch and manage an **AGRO history webpage**, in cooperation with the Communications Committee and the Divisional Web-Manager.
- Promote awareness of key historical contributions of AGRO by preparing **periodic news articles** for dissemination via the website, *PICOGRAM*, and e-newsletters.
- Prepare and **publish a Divisional history**, with an emphasis on the past 25 years to complement the article by Nancy Ragsdale which covered 1976-2001 (*J. Agric. Food Chem.* **2002**, *50*, 7-9).
- Stimulate **AGRO history-related technical programming** (symposia, lectures, webinars), in cooperation with the Program Chair and the Programming Committee.
- Cultivate cooperation with the ACS **Division of the History of Chemistry** (HIST) related to AGRO history efforts and collaborative programming.
- Present a **Committee report** at the fall Governance Meeting held during the ACS meeting to report on the Committee's activities.

AGRO Division Virtual Meeting

July 25, 2022

3:00 – 4:30 PM CDT

Sharon Schneider, Secretary

ATTENDANCE

Officers: Qing Li, Chair; Heidi Irrig, Program Chair; Aaron Gross, Vice-Chair; Del Koch, Treasurer; Leah Riter, Past-Chair; Rodney Bennett, Jeanette Van Emon, Councilors; Kevin Armbrust, Alternate Councilor

Executive Committee Members (EC): James Foster, Shanique Grant, Pat Havens, Ed Norris, Amy Ritter, Thomas Sparks, Solito Sumulong, Katoria Tatum-Gibbs, Ralph Warren

Committee Chairs and Guests: Cathleen Hapeman, Scott Jackson, Laura McConnell, Peney Patton, Ken Racke

1. Welcome – Qing Li

2. Peney Patton Contract for Administrative Assistance – Qing Li

The draft contract specifies the services performed in support of AGRO programming at national ACS meetings and co-sponsored conferences, interfacing with ACS and its computer systems, assisting with AGRO awards, and other services. The term of the agreement is September 1, 2022, to August 31, 2025. Payment is \$45 per hour for a maximum of 400 hours per year.

MOTION: Accept service agreement for Peney Patton with no changes.

Motion Passed

3. Fall Chicago National Meeting – Heidi Irrig

- Heidi is sending out presider and presenter information; on demand instructions; registration instructions for speakers.
- There have been some withdrawals: if ACS is notified, then Heidi and Peney are notified.
- The ACS program should reflect up-to-date information.
- Shanique Grant acquired Grow with AGRO T-shirts and shipped them to Heidi who will then send to Chicago via FedEx to the Marriot Marquis Hotel.
- Rooms for AGRO programming are South Building, fifth floor, S501-505 series.
- **Grow with AGRO** networking event instead of Sunday night Combined Governance meeting. Agenda, food, etc. are planned. Katoria Tatum-Gibbs is looking for photos of committee chairs and committee members for a slide show for the Grow with AGRO event. She requests that they be sent this week.
- **Blues and Brews** will use Mentimeter. Aaron Gross will renew subscription using agroddiv account.
- Pat Havens will coordinate promotion via e-mail blast of Grow with AGRO; Blues and Brews; Sterling Hendricks lecture; Early Career lunch (registration required); other non-technical events.
- Suggestion to continue to highlight awardees on a revolving banner on the AGRO website. Consider having an email blast announcing the award winners. Cathleen Hapeman will send award winner information to Edmund Norris and Pat Havens for e-newsletter and website.

4. AGRO Hospitality table at Chicago:

- Action for Heidi to consider Google calendar or Signup Genius to get volunteers to staff the AGRO table in advance
- Action for Rodney to supplement with a paper sign-up sheet at the table.
- Cathleen usually arranged for printing and posting signage at/around the AGRO table announcing award winners, etc. Peney Patton will find out ACS/venue rules for having signs printed and posted. If signs are untenable, consider having an iPad at the AGRO table.
- Suggestion to have a printed map of where AGRO events are being held for table staffers to reference
- Action for Heidi to have laminated map for use at the desk.
- **On-the-spot membership opportunities**
Become a Member on the AGROdiv.org website allows people to join AGRO from our website. Laura McConnell will create a QR code for the AGROdiv main page and another one for the member page. Hospitality desk folks can direct people to this QR code. Pat Havens will print QR code for membership onto stickers for AGRO desk to distribute.

5. PICOGRAM Update – Cathleen Hapeman

Program will be ready by August 1 and posted on website. Electronic version of the *PICOGRAM* will be available beginning of August, and printed *PICOGRAM* will be mailed after the Chicago meeting.

6. Early Career Scientist Committee Update – Aaron Gross

- Twenty-six students and post-docs are registered for luncheon. Suggest having a wait list in case of cancellations and no-shows. For roundtable discussions, there is good representation of academia and industry, government a bit up in the air because of travel restrictions.
- Aaron Gross and Sara Whiting will send student receipts to Del Koch for reimbursement. They are also looking for poster judges, let them know if you are available.

7. Indianapolis Meeting Update – Aaron Gross, Ken Racke

- Arranging 4 oral symposia sessions and 1 combined poster session.
- Aaron Gross, Ken Racke, and Peney Patton have been requested for full access to AGRO program in MAPS.
- Social networking event planned for March 29, 2023. Corteva will sponsor, budget is confirmed, venue reserved, bus transport contracted.
- Call for papers and save the date prepared for AGRO website, flyers, and e-mail.
- Abstracts will be accepted in MAPS August 15 to October 17. Plan for an AGRO welcome table. Items from the Chicago hospitality table will be taken by Ken Racke to Indianapolis after the Chicago meeting.

8. Election Results – Leah Riter

Vice Chair – James Foster

Treasurer – Del A. Koch

Secretary – Sharon Schneider

Executive Committee (2023-2025): Dena Barrett, Kalumbu Malekani, Natalia Peranginangin, Daniel Swale, Ralph Warren

9. Annual Governance Meeting – Qing Li

Sharon Schneider will send out a Doodle poll for dates in September after Labor Day.

AGRO Councilors' Report

Spring Virtual Meeting

March 23, 2022

Jeanette M. Van Emon and Rodney Bennett, Councilors

Candidates for President-Elect, 2023: The Committee on Nominations and Elections presented to the Council the following nominees for selection as candidates for President-Elect, 2023: Frank Blum, Mary Carroll, Rigoberto Hernandez, and Ingrid Montes. By electronic ballot, the Council selected Mary Carroll and Rigoberto Hernandez as candidates for 2023 President-Elect. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall 2022 National Election.

The Committee on Nominations and Elections announced the results of the election held prior to the virtual Council meeting, to select candidates from the list of nominees for Directors from District II and District IV, on the Board of Directors for the term 2023-2025. By internet ballot, the Councilors from these districts selected Kimberly Agnew-Heard and Marcy Towns as District II candidates and Christopher J. Bannochie and Lisa Houston as District IV candidates. Ballots will be distributed to members residing in District II and District IV around October 1, 2022.

The Committee on Nominations and Elections also announced the selection of the following candidates for Directors-at-Large for 2023-2025 terms: Milagros (Milly) Delgado, Malika Jeffries-El, Will E. Lynch, and Ellene Tratras Contis. The election of two Directors-at-Large from among these four candidates and any selected via petition will be conducted in the fall. Ballots will be distributed to all Councilors around October 1, 2022.

Key Actions and Resolutions. The Council approved the Petition to Amend the Duties of the Committee on Chemists with Disabilities (CWD). This petition sought to change the language in the duties of CWD from students to persons to be more inclusive to ACS members of all levels and backgrounds participating in the Society's meetings and events.

The Council approved the continuation of the Committee on Chemists with Disabilities. The Committee on Committees (ConC) reviews each Society Committee at least every five years and advises the Board of Directors and Council on whether they should be continued. ConC completed the performance review for the Committee on Chemists with Disabilities and recommended its continuation.

The Council approved the Petition to Amend the Use of Dues. The petition has two major components. The first changes the basis for developing the total pool of allotments available for Local Sections and Technical Divisions. The second eliminates the connection between dues revenue and Chemical & Engineering News (C&EN). The total resource pool available for distribution to Local Sections and Technical Divisions will be funded via a quasi-endowment established from the Society's unrestricted investment balances. This replaces the previous pool that was funded through the allocation of 20% of dues revenue to Local Sections and Divisions.

The Council approved a Division name change. Effective January 1, 2023, the Division of Carbohydrate Chemistry (CARB) will change its name to the Division of Carbohydrate Chemistry and Chemical Glycobiology (CARB).

The Council approved a Petition to Charter an International Chemical Sciences Chapter. This petition, contingent on approval by the ACS Board of Directors, allows for a new International Chemical Sciences Chapter in Switzerland to be established.

The Council approved the extension of market testing of the international dues discount program based on World Bank country income levels. The test provides reduced dues for international members residing in emerging nations, which host an ACS chapter, and as defined by World Bank income criteria. The test results, to date, have suggested a positive impact on membership through new members and the expanded inclusivity that a wider global community provides.

The Council approved the 2023 Schedule of Membership. The 2022 Schedule went "live" a few short months ago, and the 2023 Schedule was designed to add more value and an increased choice for membership by adding clarity and a more intuitive explanation of the membership categories. The 2023 Schedule of Membership did not change any dues, benefits, eligibility, or privileges from the 2022 Schedule.

The Council unanimously passed the following resolutions:

- in memory of Past ACS President Nancy B. Jackson and in honor of her many accomplishments for ACS;
- in memory of deceased Councilors and for their service to ACS; and
- for the recognition of officers and members of the San Diego Local Section for their assistance in the Spring 2022 ACS meeting.

Selected Highlights from ACS Executive Committee and Committees

Committee Report Budget and Finance. In 2021, ACS generated a net from operations of nearly \$79 million, which was almost \$48 million higher than budgeted. Total revenues were \$660 million, which was 5.2% or \$32.6 million over budget. Expenses for the year were \$581 million, or 2.5% below budget. This overall result was attributed to strong revenue performance from the Society's Information Services units (CAS and ACS Publications), reduced spending due to COVID-19 related impacts, and careful management of expenses across the ACS. The Society's overall financial position strengthened considerably in 2021 as Unrestricted Net Assets, or reserves, increased by \$123 million to \$676 million on December 31. The increase was primarily the result of the \$79 million net from operations and growth of the Society's investments totaling \$71 million.

Committee Report Nominations and Elections. The Committee on Nominations and Elections solicits input regarding qualified individuals for President-Elect and/or Directors for future consideration. Suggestions may be sent to nomelect@acs.org.

Committee Report Committee on Committees. All Councilors, including new Councilors, were reminded to complete their online committee preference form for 2023 committee assignments. The preference form will be open to all ACS members, and no one will be required to request permission to gain access to the form. The new form will allow users to review each committee by its main topic and focus, along with the skills and expertise needed to serve. The committee preference form will open mid-April at CMTE.acs.org. Users will also be able to submit a skills assessment which will be used when considering which committees may best suit their talent.

Council Policy Committee. The Council Policy Committee (CPC) met virtually several times to discuss ways to promote the ACS Core Values of: Passion for Chemistry and the Global Chemistry Enterprise; Focus on Members; Professionalism, Safety, and Ethics; and Diversity, Equity, Inclusion, and Respect (DEIR). The Change Drivers of: Market Disruption and Economic Downturn; Accelerating Automation of Chemistry; Strained Pipeline and Changing Workplace; Continued Globalization of Chemistry; Chemistry and Social Responsibility; Embracing Open Science; and Scientific Doubt and Polarization in the U.S. were discussed in preparation for the Strategic Café which was to be held in person at the Fall 2022 meeting. However, this event will not be virtual.

Reports From the Board of Directors and Executive Director

The ACS Board of Directors met in Executive Session on March 18 and 19 at the ACS Spring 2022 meeting in San Diego. They considered several key strategic issues and responded with numerous actions. The Board opened its session with a reflection on Diversity, Equity, Inclusion, and Respect (DEIR), led by Immediate Past President, H. N. Cheng.

The Board received an extensive report from the CEO on issues relating to ACS core values of safety and DEIR, membership, financials, the ACS Institute, strategic initiatives, and upcoming events and activities. Notably, the strategic initiatives include funding of up to \$50 million over five years for sustainability, fostering a skilled technical workforce, accelerating digital research data projects, and accelerating life sciences growth.

Note: An announcement was made on May 31, 2022, that Dr. Thomas Connelly, Jr. will be retiring at the end of 2023. The ACS Board of Directors has begun a search for his replacement. ACS has grown and flourished under Dr. Connelly's excellent leadership. "Tom has provided strong leadership for ACS throughout his tenure, especially over the past two years as we experienced a once-in-a-lifetime challenge due to the COVID-19 pandemic. With his guidance, ACS has weathered the pandemic and is now stronger than it's ever been," says Paul W. Jagodzinski, chair of the ACS Board of Directors. "We look forward to Tom's continued leadership through the rest of 2022 and wish him all the best as he enters the next chapter of his life in 2023."

To automatically receive press releases from the American Chemical Society, contact newsroom@acs.org.

The Board's Committees and Task Forces

The Board received and discussed reports from its committees on Executive Compensation, Professional and Member Relations, as well as the ACS Governing Board for Publishing, Budget and Finance and the Working Group on Structure/Representation. Some of these committees requested and obtained Board action on one or more items, as follows:

The Board received an extensive briefing and approved several recommendations from its **Committee on Executive Compensation**. The compensation of the Society's executive staff continues to be reviewed regularly by the Board. Upon recommendation of the ACS Governing Board for Publishing, the Board voted to approve the reappointment of one of its members. The reappointment will be announced once the individual has been notified and appropriate arrangements for their continued service have been made. Upon recommendation of the

Committee on Professional and Member Relations, the Board approved five nominees each for the 2023 Priestley Medal, the 2023 Award for Volunteer Service to the ACS, and the 2023 Charles Parsons Award, as well as a recommendation for an ACS nominee for the 2022 GRAND PRIX of the Fondation de la Maison de la Chimie.

Pending the approval by **Council of the Petition to Amend the Use of Dues**, the Board of Directors resolved to authorize the creation of a quasi-endowment derived from proceeds in the ACS General Fund. The endowment would have an initial principal amount of \$85 million, the annual payout from which would fund individual Technical Divisions and Local Sections per the allotment policies established by the Committees on Divisional Activities (DAC) and Local Section Activities (LSAC). Further, the amount of funding made available for this purpose would be the standard payout from this quasi-endowment or \$3.2 million, whichever is greater.

In other Society Business, the Board ratified interim actions on moving the June 2022 Board meeting to Sunday, May 22- 23 in Atlanta, GA (so as to be co-located with the leadership institute); and approved the recommendation of the Office of Research Grants (with assistance from the Frasch Committee) for the 2022 Herman Frasch Foundation Grant in Agricultural Chemistry. As is customary, the Board heard reports from the Presidential Succession on their current and planned activities for 2022 and 2023. The Board adopted the resolution in memory of ACS Past President Nancy B. Jackson, who passed away in January 2022.

The Board also addressed technical programming issues. It was determined that new strategies need to be considered, such as the introduction of a pilot program to allow topical groups, potentially formed under DAC and/or M&E, to complement the technical programming provided by divisions. In this regard, ACS has been working on a plan similar to the topical sessions called Convergence Research Communities, which DAC may offer as a pilot experiment at a future meeting.

Please let your Councilors know if you have any questions or comments regarding this report.





AMERICAN CHEMICAL SOCIETY
 AGRO DIVISION
 Fall 2022 Hybrid Meeting and Exposition
Sustainability in a Changing World
 August 21 – 25, 2022

AGRO SCHEDULE AT A GLANCE

Time (CDT)	Sunday August 21	Monday August 22	Tuesday August 23	Wednesday August 24	Thursday August 25
8:00 AM		In-Person 1 & Hybrid 1 8:00 AM - 12:00 PM		In-Person 1 & Hybrid 1 8:00 - 10:40 AM	
9:00 AM	ACS Opening Session	In-Person 1 & Hybrid 1 8:00 AM - 12:00 PM Coffee Break 9:45-10:15		Coffee Break 9:20-9:45	In-Person 1 & Hybrid 1 8:00 AM - 12:00 PM Coffee Break 9:45-10:15
10:00 AM					
11:00 AM		<i>International Award</i>	Sterling Hendricks Award Address 10:45 AM - 12:00 PM	<i>JAF C Paper Kathryn C. Hach Awards</i>	In-Person 1 & Hybrid 1 8:00 AM - 12:00 PM Coffee Break 9:45-10:15
12:00 PM		Graduate Student Lunch S503b (South Building, McCormick Place Convention Center)	In-Person Expo 11:00 AM - 6:00 PM	AGRO Virtual Poster Session	
1:00 PM					Sterling Hendricks Reception S501bc (McCormick Place Convention Center)
2:00 PM		In-Person 2 & Hybrid 2 2:00 PM - 6:00 PM			
3:00 PM	In-Person 2 & Hybrid 2 2:00 PM - 6:00 PM		In-Person 2 & Hybrid 2 2:00 PM - 6:00 PM		In-Person 2 & Hybrid 2 2:00 PM - 6:00 PM
4:00 PM	Coffee Break 3:45-4:15	Coffee Break 3:45-4:15	Coffee Break 3:45-4:15		Coffee Break 3:45-4:15
5:00 PM		<i>Innovation Award</i>			
6:00 PM	Grow with AGRO <i>venue change</i> Grand Horizon G (Marriott Marquis Hotel)		Blues 'N' Brews 6:30 pm - 7:30 pm Skyline Ballroom W375c (West Building, McCormick Place Convention Center)		AGRO Awards Social Skyline Ballroom W375c (West Building, McCormick Place Convention Center)
7:00 PM					
8:00 PM		Sci-Mix & Poster Session Hall F2 (McCormick Place Convention Center)			
9:00 PM					

American Chemical Society

AGRO Division

ACS National Hybrid Meeting and Exhibition
August 21 – 25, 2022 (Central Daylight Time)

McCormick Place Convention Center

Chicago, Illinois, USA

Heidi Irrig, *Program Chair*; Qing Li, *Division Chair*

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PROGRAM

DIVISION BUSINESS AND PLANNING

AGRO Business Meeting

Will be rescheduled in September

SUNDAY – 6:00 to 9:00 PM

Grow with AGRO

- Learn more about AGRO Committees and activities
 - Hors d'oeuvres, cash bar, and cool SWAG
- Marriott Marquis Chicago, Grand Horizon G*

TUESDAY – 6:30 to 7:30 PM

Program Planning – AGRO Blues-N-Brews

- Members and others with ideas are welcome
 - Free beverages
- McCormick Place Convention Center
Skyline Ballroom W375c*

SOCIAL EVENTS

AGRO Coffee Break/Intermission

SUNDAY: 9:45 – 10:15 AM; 3:45 – 4:15 PM

MONDAY: 9:45 – 10:15 AM; 3:45 – 4:15 PM

TUESDAY: 9:15 – 9:45 AM; 3:45 – 4:15 PM

WEDNESDAY: 9:45 – 10:15 AM; 3:45 – 4:15 PM

THURSDAY: 9:45 – 10:15 AM

MONDAY - 12:00 - 1:00 PM

AGRO Graduate Student/Post-Doc Luncheon

- Network with scientists and explore career and AGRO opportunities
- Reservations required, Sara Whiting, sara.whiting@bayer.com

McCormick Place Convention Center, S503b

TUESDAY – 12:00 – 01:00 PM

Sterling Hendricks Award Reception

- Follows lecture and discussion
- McCormick Place Convention Center, S503b*

WEDNESDAY – 6:00 – 8:00 PM

AGRO Awards Social

- Hors d'oeuvres, cash bar
- Announcement of NIA and Student winners
- Members/Speakers/Guests welcome

*McCormick Place Convention Center
Skyline Ballroom W375b*

AGRO POSTER SESSION

WEDNESDAY, 12:00 – 2:00 PM

McCormick Place Convention Center, Hall F2

SUNDAY MORNING

Advances in the Control of Medical, Agricultural, and Veterinary Disease Vectors

Co-sponsors: ANYL, BIOT, ENVR, MEDI

Aaron Gross, Daniel Swale, Organizers

Kumudini Meepagala, Edmund Norris, Organizers, Presiders

****Oral – In-person only****

McCormick Place Convention Center, S501d

8:00 AM – Introductory Remarks

8:05 AM – 3741566. Spatial repellents for disease vector control: updates on public health value assessment. **N. Achee**

8:30 AM – 3754900. Small molecule phytochemical attractants for malaria mosquitoes. **T. Anderson**

8:55 AM – 3740553. Comparative efficacy of DEET-based mosquito repellents and synergy mechanism of vanillin against the Asian tiger mosquito, *Aedes albopictus*. **J.-H. Tak**

9:20 AM – 3736728. Understanding the mosquito biting deterrence effect of fatty acids and triglycerides from traditionally used plants. **C. Cantrell**

9:45 AM – Intermission

10:15 AM – 3755677. Current research to control agricultural pests and disease vectors at the USDA-ARS San Joaquin Valley Agricultural Sciences Center. **A. Perez de Leon**

10:40 AM – 3738344. Why so many sodium channel mutations confer insect resistance to pyrethroids? **K. Dong**

11:05 AM – Discussion

11:30 AM – Concluding Remarks

Environmental Fate, Transport, and Modeling of Agriculturally Related Chemicals

Financial Co-Sponsor: Stone Environmental, Intrinsic Corp.

Co-sponsors: AGFD, ANYL, ENVR

Scott Jackson, Ralph Warren, Organizers, Presiders

Oral – Hybrid

McCormick Place Convention Center, S501bc

8:00 AM – Introductory Remarks

8:05 AM – 3739855. Effects of tank mixtures in soils. **C. Wijntjes**

8:30 AM – 3726160. Investigation of the sunlight photolysis of the veterinary antibiotic tiamulin. **J. Congilosi**

- 8:55 AM – 3747025.** Degradation of isopyrazam in water: Kinetics, pathways, transformation products identification and toxicity prediction. **H.L. Zhao**
- 9:20 AM – 3750236.** Photodegradation of pyraclonil in water: Kinetics, transformation products identification and toxicity prediction. **W. Li**
- 9:45 AM – Intermission**
- 10:15 AM – 3753740.** Identification of neonicotinoid photoproducts in the aquatic environment. **C. Beggs**
- 10:40 AM – 3738579.** Chiral separation of metolachlor metabolites (MESA and MOXA) as conservative tracers for agricultural nitrogen in water and water dating. **M. Bianca**
- 11:05 AM – 3729526.** Spectrophotometric determination of glyphosate, aminomethylphosphonic acid (AMPA), and glufosinate using pre-column derivatization. **P. Martin**
- 11:30 AM – 3743254.** Assessment of glyphosate, glufosinate, and aminomethylphosphonic acid (AMPA) presence in central Kentucky watersheds using liquid chromatography-tandem mass spectrometry. **P. Martin, A. Woods**
- 11:55 AM – Concluding Remarks**

Human Health Paradigms: Exposure, Risk Assessment and Policies for Agrochemicals

Regulatory Policy Overviews

Co-sponsors: AGFD, TOXI

Cheryl Cleveland, Katoria Tatum-Gibbs, *Organizers*

Tharacad Ramanarayanan, Cecilia Tan, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S502b

- 8:00 AM – Introductory Remarks**
- 8:05 AM – 3734330.** Rethinking chronic toxicity and carcinogenicity assessment for agrochemicals. **G. Hilton**
- 8:30 AM – 3743018.** Higher tier refinements to drinking water exposure concentrations: A cotton herbicide case study. **M. Winchell**
- 8:55 AM – 3745420.** Bayesian integration of Monte Carlo exposure and pharmacokinetic modeling for lambda-cyhalothrin with urinary 3PBA measurements. **N. Cuvelier**
- 9:20 AM – 3749948.** What does USDA PDP data reveal about dietary exposure to pesticides in animal commodities? **O.A. Szarka**
- 9:45 AM – Intermission**
- 10:15 AM – 3738039.** Evaluating use of CARES NG for conducting probabilistic acute dietary risk assessments for pesticides. **S. Flack**
- 10:40 AM – 3743678.** Exploring the functionality and verifying the accuracy of CARES-NG for conducting probabilistic acute dietary risk assessments for pesticides. **M. Munday**
- 11:05 AM – 3753776.** New approach method to waive subchronic inhalation study. **S. Webb**
- 11:30 AM – Panel Discussion**
- 11:55 AM – Concluding Remarks**

Sustainable Agriculture: A Promise for the Future

Co-sponsors: AGFD, ENVR

Peter Maienfisch, Leah Riter, Amy Ritter, John Rohanna *Organizers*

Shanique Grant, Natalia Peranginangin, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501a

- 8:00 AM – Introductory Remarks**
- 8:05 AM – 3739828.** New chemical interventions for a sustainable agriculture. **J. Pickett**
- 8:55 AM – 3725684.** Improving sustainability in chemical weed control: applications for rapid diagnostics in herbicide resistance management. **R. Edwards**
- 9:20 AM – 3753962.** Towards a future of sustainable dust-free seed planting. **R. Colletti**
- 9:45 AM – Intermission**
- 10:15 AM – 3743071.** Nanoparticle surface charge and aerosol size control for foliar efficacious delivery to plant cells and organelles. **S. Shikha**
- 10:40 AM – 3728861.** Nanoscale sulfur uniquely suppresses fungal disease and increases biomass and yield of crop plants. **Y. Wang**
- 11:05 AM – 3727798.** Long noncoding RNA-EN_181 potentially contributes to the protective effects of *N*-acetylcysteine against non-alcoholic fatty liver disease in mice. **S. Li**
- 11:30 AM – 3742246.** SIVANTO prime: A modern insecticide for sustainable plant protection. **P. Jeschke**

SUNDAY AFTERNOON

Advances in the Control of Medical, Agricultural, and Veterinary Disease Vectors

Co-sponsors: ANYL, BIOT, ENVR, MEDI

Aaron Gross, Daniel Swale, *Organizers*

Kumudini Meepagala, Edmund Norris, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S501d

- 2:00 PM – Introductory Remarks**
- 2:05 PM – 3741258.** Pepper extracts significantly enhance the toxicity and neurophysiological effects of natural pyrethrins in *Aedes aegypti*. **J. Bloomquist**
- 2:30 PM – 3754255.** Diversifying the insecticide toolkit for vector control. **C. Hill**
- 2:55 PM – 3747426.** Targeting kir channels to reduce vector competency of arthropods. **D Swale**
- 3:20 PM – 3729550.** Evolution of different kdr alleles in *Aedes aegypti*. **J. Scott**
- 3:45 PM – Intermission**
- 4:15 PM – 3737264.** Relating laboratory insecticide resistance testing to operational efficacy in mosquitoes. **A. Estep**
- 4:40 – 3744552.** *In vitro* and *in vivo* acaricidal properties of orally delivered ivermectin against the black-legged tick, *Ixodes scapularis*. **J. van Oosterwijk, L. Beimfohr, C. Przybyszewski, A. Li**
- 5:05 – 3755832.** Shut the front door! Protecting hives from small hive beetles through behavioral modification. **A. Gross**
- 5:30 – Discussion**
- 5:55 – Concluding Remarks**

Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals

*Financial Co-Sponsor: Stone Environmental, Intrinsik Corp.
Co-sponsors: AGFD, ANYL, ENVR
Scott Jackson, Ralph Warren, Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501bc

2:00 PM – Introductory Remarks

2:05 – 3731287. Spray atomization in multiphase flow with extensions to tank mixes of agricultural products. **G. Krishnan, S. Cryer**

2:30 PM – 3741549. Novel remote sensing approach for estimating field-scale crop planting and pesticide application timing. **A. Jacobson**

2:55 PM – 3741360. Additives release from agricultural plastic films: Experiment and modeling. **Y. Xu, L. Zeng; Y. He, Z. Lu**

3:20 PM – 3733292. Transport behavior of short-chain and long-chain perfluoroalkyl carboxylic acids (PFCA) in saturated porous media. **L. Qi**

3:45 PM – Intermission

4:15 PM – 3737768. Uptake of organophosphate pesticides by tissues of common reed (*Phragmites australis*) and seagrass (*Zostera capensis*) from polluted watersheds. **C. Olisah**

4:40 PM – 3755604. Nutrient-enriched rice hull biochar improves water use efficiency by corn grown in acidic soil. **P. Rodrigo**

5:05 PM – 3742394. Combination of irrigation methods and vegetable variety selection can be used as a way to achieve the sustainable development of agriculture. **C. Cao, Y. Yang, Q. Tang, H. Chen**

5:30 PM – 3743433. Over 25 years of ecological and drinking water modeling for pesticide registration. **A. Ritter**

5:55 PM – Concluding Remarks

Human Health Paradigms: Exposure, Risk Assessment and Policies for Agrochemicals

New Assessment Methods

*Co-sponsors: AGFD, TOXI
Cheryl Cleveland, Tharacad Ramanarayanan, Organizers
Cecilia Tan, Katoria Tatum-Gibbs, Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501a

2:00 PM – Introductory Remarks

2:05 PM – 3738796. Value of the 90-day dog study in human health risk assessment of agricultural pesticides. **P. Bishop**

2:30 PM – 3738162. Challenges and opportunities to waive the 90-day dog toxicity study for agrochemical human health risk assessments: Key elements from the 2021 CAAT workshop. **L. Murphy**

2:55 PM – 3746699. Efforts to reduce reliance on animal studies to support pesticide registrations. **M. Perron**

3:20 PM – 3738540. Evaluating dietary exposure models considering a combined modeler- and risk assessor-based perspective. **S. Graham**

3:45 PM – Intermission

4:15 PM – 3725730. Interpreting and predicting internal to external concentration relationships using physiologically based pharmacokinetic modeling. **D. Hoer**

4:40 PM – 3745277. OECD pesticide residue definition update. **M. Doherty, D. Murnane, I. Pilote**

5:05 PM – 3754602. ANVISA's challenge on implementing GHS classification in the reevaluation of pesticides. **L. Muratori Aguiar**

5:30 PM – 3735643. European risk assessment of combined exposure to multiple pesticides. **J. van Klaveren**

5:55 PM – Concluding Remarks

Sustainable Agriculture: A Promise for the Future

*Co-sponsors: AGFD, ENVR
Shanique Grant, Natalia Peranganing, Leah Riter, Amy Ritter, Organizers
Peter Maienfisch, John Rohanna, Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S502b

2:00 PM – Introductory Remarks

2:05 PM – 3728712. Driving sustainability end to end in discovery, development and manufacturing of crop protection products. **A. Batra**

2:30 PM – 3736509. Value of biocontrols in sustainable agriculture. **P. Marrone**

2:55 PM – 3728559. Fermenting solutions: Rhamnolipid biofungicides for natural crop protection. **S. J. Wolek**

3:20 PM – 3752526. Delivering the promise of RNA for plant health: Sustainable control of agricultural pests and pathogens. **J. Gillian**

3:45 PM – Intermission

4:15 PM – 3738001. Natural products: A source and inspiration for crop protection solutions. **N. Garizi**

4:40 PM – 3741029. Nature-based solutions using banana paper safeguard potatoes. **B. Tonto**

5:05 PM – 3729763. Designing for sustainability – new and old chemical ideas for decreasing environmental footprint of chemical manufacturing. **D. Gribkov**

5:30 PM – 3728968. Establishing an electrochemistry platform in crop protection research: early incorporation of sustainable methods for impacting downstream synthesis. **C. Scarborough**

5:55 PM – Concluding Remarks

**2022 ACS International Award for
Research in Agrochemicals**

Jeffrey Scott

**The Many Faces of Insecticide Toxicology:
Resistance, Mode of Action, New Insecticides,
and Novel Control Strategies**

Resistance

*Cosponsored by BIOL, MEDI, POLY, and PROF
Financially supported by CORTEVA Agriscience*

John M. Clark, Ke Dong, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S504bc

8:00 – Introductory Remarks

8:05 AM – 3729546. Lessons learned from decades of investigations into insecticide toxicology. **J. Scott**

8:55 AM – 3741121. Role of *Anopheles funestus* CYP6P9 variants in pyrethroid toxicology and resistance: a biochemical perspective. **R. Nauen**

9:20 AM – 3742140. Hyper pyrethroid-resistant dengue vectors in Indochina Peninsula: threats of concomitant knockdown resistance mutations. **S. Kasai**

9:45 – Intermission

10:15 AM – 3741490. Regional differences in susceptibility to spinosyn insecticides registered for Colorado potato beetle management. **I. Scott**

10:40 AM – 3756100. Transcriptional regulation of detoxification in the polyphagous arthropod pest *Tetranychus urticae*. **T. Van Leeuwen**

**Environmental Fate, Transport, and Modeling of
Agriculturally-related Chemicals**

*Financial Co-Sponsor: Stone Environmental, Intrinsik Corp.
Co-sponsors: AGFD, ANYL, ENVR
Scott Jackson, Ralph Warren, Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S501d

8:00 – Introductory Remarks

8:05 AM – 3740069. Integrated approach of regression and machine learning modeling to refine human health risk from pesticides in surface water throughout the conterminous United States. **Y. Wu**

8:30 AM – 3739562. Simulation of pesticide and metabolite concentrations using SWAT+ Landscape routing and conditional management applications. **H. Rathjens, J. Kiesel, M. Miguez**

8:55 AM – 3754908. Using automation techniques and machine learning algorithms to create a multi-source pesticide monitoring database. **Z. Stone**

9:20 AM – 3742815. Probabilistic pesticide usage-based approach to deriving aquatic exposure distributions used in endangered species assessments. **M. Winchell**

9:45 – Intermission

10:15 AM – 3754315. Integrating species-specific landscape information into aquatic exposure

estimates for endangered species assessments. **C. Holmes**

10:40 AM – 3735211. ESASeedPARAM: A seed treatment model for threatened and endangered bird species in the United States. **D. Moore**

11:05 AM - Discussion

11:30 AM – Closing Remarks

**Human Health Paradigms: Exposure, Risk Assessment
and Policies for Agrochemicals
Internal and External Exposure Modeling and
Characterization**

Co-sponsors: AGFD, TOXI

Cheryl Cleveland, Cecilia Tan, *Organizers*

Tharacad Ramanarayanan, Katoria Tatum-Gibbs, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S502b

8:00 – Introductory Remarks

8:05 AM – 3750951. Canadian dietary risk assessment and residues: Challenges and opportunities. **A. Ardiel, H. Griffiths**

8:30 AM – 3755949. Agricultural use and human exposure driven data generation: Impact of drinking water on dietary exposure. **E. Freeman**

8:55 AM – 3721142. Advanced exposure analysis - methods and tools for enhanced human health risk assessment. **J. Doyle**

9:20 – Intermission

9:50 AM – 3739896. Agrochemical evaluation for the 21st century: Achieving the vision. **S. Deglin**

10:15 AM – 3742965. Development of a regulatory package for a new herbicide without the use of animal testing. **T. Ramanarayanan**

10:40 AM – 3756332. Regulatory flexibility for the implementation of NAMs in pesticide registration. **J. Henriquez**

11:05 AM – Closing Remarks

**Support of Agricultural Research and Development
using LC-Mass Spectrometry or Extraction
Efficiency Testing: New Trends and Best
Practices**

Co-sponsors: AGFD, ANYL, ENVR

Kaushik Banerjee, Rory Mumford, *Organizers*

Steve Perez, Manasi Saha, James Ferguson, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501bc

8:00 – Introductory Remarks

8:05 AM – 3731297. Novel mass spectrometry tools to speed the identification of metabolites in agricultural research and development. **J. Balcer**

8:30 AM – 3737254. Extraction efficiency: EU guideline requirements, challenges, limitations and recent experiences for plant residue analytical methods. **C. Spangler**

8:55 AM – 3742438. Improving the extractability of polar and thermally unstable pesticides in food- challenges and solutions. **R. Shinde, K. Banerjee**

9:20 AM – 3738742. Benefits of data from instrumentation with higher resolving power in the analysis of some radiolabeled test materials. **J. Ferguson**

9:45 – Intermission

10:15 AM – 3740858. WITHDRAWN

10:40 AM – 3743569. Practical approaches to finding and elucidating the low level metabolite needles in complex matrix haystacks. **O. Chepelin**

11:05 AM – 3734867. PFAS in food: Method comparison and validation of a QuEChERSER approach. **R. Taylor**

11:30 AM – 3750260. Agricultural applications of nanotechnology: Controlled release of agrochemicals. **M. Alrbaihat**

11:55 AM – Concluding Remarks

Sustainable Agriculture: A Promise for the Future

Co-sponsors: AGFD, ENVR

Peter Maiefisch, Natalia Peranginangin, Leah Riter, Amy Ritter, *Organizers*

Shanique Grant, John Rohanna, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501a

8:00 – Introductory Remarks

8:05 AM – 3737245. WITHDRAWN

8:30 AM – 3743789. Increased crop rotational diversity improves sustainable nitrogen management. **K. White**

8:55 AM – 3754556. Sustainable postharvest treatments for global food security and safety. **S. Walse**

9:20 AM – 3752184. Natural salicylaldehyde for fungal and pre- and post-emergent weed control. **J. Kim**

9:45 – Intermission

10:15 AM – 3750143. APEX simulations to evaluate effectiveness of field-Level conservation practices in reducing off-field pesticide transport for a stewardship assessment tool. **J. Stryker**

10:40 AM – 3730799. VFSSMOD Input definitions, literature references and sensitivity analyses for evaluating vegetative filter strips in pesticide risk assessment. **A. Ritter, R. Muñoz-Carpena, H. Chen**

11:05 AM – 3752109. Environmental impact reduction of crop protection: How to model, how to measure, how to achieve? **A. Gladbach**

11:30 AM – 3731308. Development of a crop disease forecast system with ties to southern rust movement within the U.S. **S. Cryer**

11:35 AM – Concluding Remarks

MONDAY AFTERNOON

2022 ACS International Award for Research in Agrochemicals: The Many Faces of Insecticide Toxicology: Resistance, Mode of Action, New Insecticides and Novel Control Strategies

Resistance and Physiology

Cosponsored by AGFD, TOXI

Financially supported by CORTEVA Agriscience

John M. Clark, Ke Dong, *Organizers*

Ralf Nauen, Kun Zhu, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S502b

2:00 PM – Introductory Remarks

2:05 PM – 3734361. Amitraz resistance in varroa destructor: Insights from monitoring and genomics. **F. Rinkevich**

2:30 PM – 3737322. Fitness advantages and disadvantages of pyrethroid resistance mechanisms in *Aedes aegypti* and their potential consequences to human health. **L. Smith**

2:55 PM – 3739842. NEW INVESTIGATOR FINALIST. Chromosome-level assembly of the “Rockefeller” *Aedes aegypti* mosquito strain powers investigation of the evolution of pesticide resistance in a vector of human and livestock disease. **C. Fisher**

3:20 PM – 3738340. Molecular mechanisms of pyrethrum/pyrethroid repellency in *Aedes aegypti*. **K. Dong**

3:45 PM – Intermission

4:15 PM – 3742219. Loss-of-function of nicotinic acetylcholine receptor subunits reveals distinct insecticidal effects of dinotefuran. **Y. Ozoe**

4:40 PM – 3737424. Insect muscarinic acetylcholine receptors: A target for physiological synergists and the greater effect of the Rdl mutation on the cholinergic system. **A. Gross**

5:05 PM – 3740503. Upregulation of cytochrome P450s in insecticide resistance. **N. Liu**

5:30 PM – Concluding Remarks

Advances in the Control of Medical, Agricultural, and Veterinary Disease Vectors

Co-sponsors: ANYL, ENVR, MEDI, BIOT

Kumudini Meepagala, Edmund Norris, *Organizers*
Aaron Gross, Daniel Swale, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S501d

2:00 PM – Introductory Remarks

2022 AGRO Innovation Award

Financially supported by BASF

Joel Coats

2:05 PM – 3743801. Sustainability in agricultural chemistry. **J. Coats**

2:55 PM – 3754227. NEW INVESTIGATOR FINALIST. Physiological activities of *Melaleuca cajuputi* (Cajeput Oil) to yellow fever mosquito. **E. Johnson**

3:20 PM – 3730802. Synergistic plant essential oils: Exploring their mechanisms of action. **E. Norris**

3:45 PM – Intermission

- 4:15 PM – 3728867.** Development of a peptide bioinsecticide with a novel mode of action. **K. Schneider**
- 4:40 PM – 3754846.** Larvicidal constituents from *Poncirus trifoliatta* (Rutaceae). **K. Meepagala**
- 5:05 PM – 3742427. NEW INVESTIGATOR FINALIST.** Characterization of the tick *Ixodes ricinus* nicotinic acetylcholine receptors expressed in the synganglion using membrane microtransplantation. **A. Le Mauff**
- 5:30 PM – Discussion**
- 5:55 PM – Concluding Remarks**

Pollinator Risk Assessment Modelling, Methods, and Research

John Purdy, Tom Steeger, *Organizers*
Jennifer Collins, *Organizer, Presider*; Katrina White, *Presider*

Oral – Hybrid

McCormick Place Convention Center, S501bc

- 2:00 PM – Introductory Remarks**
- 2:05 PM – 3734582.** Overview of the framework for assessing risk of pesticides to bees in the United States. **K. White**
- 2:30 PM – 3740160.** Non-*Apis* bee life history traits pose unique agrochemical exposure routes. **T. Pitts-Singer**
- 2:55 PM – 3754696.** Identifying routes of exposure and colony-level effects on honey bees from systemic pesticide pollution associated with processing pesticide-treated seeds through ethanol production in Nebraska. **J. Wu-Smart.**
- 3:20 PM – 3744261.** Rethinking pesticide risk assessments in the face of sustainable agroecosystem management. **A. Seshadri**
- 3:45 PM – Intermission**
- 4:15 PM – 3739184.** Methods to assess the generational effects of maternal exposure to agrochemicals. **J. Fine**
- 4:40 PM – 3754574.** Pesticide risk during apple bloom differs between managed honey bees and wild native bees. **S. McArt**
- 5:05 PM – 3736975.** Lab assays of honey bee queen health and fecundity for ecotoxicology. **A. Hamilton**
- 5:30 PM – 3754016.** Water increases lifespan but worker bees (*Apis mellifera*) still living half as long as previously observed. **A. Nearman**
- 5:55 PM – Concluding Remarks**

Sustainable Agriculture: A Promise for the Future

Co-sponsors: AGFD, ENVR

Shanique Grant, Leah Ritter, Amy Ritter, John Rohanna, *Organizers*
Peter Maienfisch, Natalia Peranginangin, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S503a

- 2:00 PM – Introductory Remarks**
- 2:05 PM – 3742689.** Enhancing ecosystem services and biodiversity on farm and pasture lands - A climate positive agriculture. **N. Mutti**
- 2:30 PM – 3740057.** Mitigating climate change: Assessment of innovative approaches integrating climate-smart practices and crop protection products to reduce greenhouse gas emissions (GHG) in agriculture. **Y. Wu**

- 2:55 PM – 3747296.** Catalytic ammonia abatement in agriculture. **T. Knorr**
- 3:45 PM – Intermission**
- 3:20 PM – 37378740.** Digital agronomy: Forming the intersection of sustainability and agricultural automation. **J. Hesterman**
- 3:45 PM – Intermission**
- 4:15 PM – 3742528.** Microplastics - Opportunity for innovation and a more sustainable agriculture. **M. Esson**
- 4:40 PM – 3756128.** European regulatory changes in 2021: How the transparency regulation can help and hinder the sustainable future of agriculture. **D. Williams**
- 5:05 PM – Panel Discussion**
- 5:30 PM – Concluding Remarks**

Unmanned Aerial Systems (aka Drones): Pesticide Spraying and Other Agricultural Applications

Financial Co-Sponsor: Stone Environmental, Intrinsic Corp.
Co-sponsors: ANYL, ENVR

Ross Breckels, Zhenxu Tang, *Organizers*
Melissa Bridges, Shanique Grant, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501a

- 2:00 PM – Introductory Remarks**
- 2:05 PM – 3750379.** Application of pesticides by uncrewed aerial spray systems: Work of the OECD subgroup. **G. Stark**
- 2:30 PM – 3743343.** Uncrewed aerial spray systems and equivalency with conventional techniques: spray drift, operator exposure, crop residue, and efficacy. **J. Bonds**
- 2:55 PM – 3743212.** Industry response to pesticide regulators “state of the knowledge” review of UAV use for pesticide application: Overview of the Unmanned Aerial Pesticide Application System Task Force (UAPASTF). **G. Watson**
- 3:20 PM – 3732402.** Transport Canada remotely piloted aircraft systems. **C. Haughton**
- 3:45 PM – Intermission**
- 4:15 PM – 3742324.** Drift of drone and ground applications according to the droplet size. **U. Antuniassi**
- 4:40 PM – 3743503.** Characterization of the spray distribution, swath width, and swath displacement of Uncrewed Aerial Spray Systems (UASS). **J. Bonds**
- 5:05 PM – 3754469.** Model evaluation of spray drift from unmanned aerial system. **Z. Tang, M. Winchell**
- 5:30 PM – 3738619.** Comparison of drift deposition from a UAS application using tracer dye with multiple downwind sampling methodologies. **A. Rice**
- 5:55 – Concluding Remarks**

Division of AGFD

2022 Kenneth Spencer Award

Financially supported by ACS-Kansas City Divisions
Co-sponsored by AGFD and AGRO

H.N. Cheng

Oral – Hybrid

McCormick Place Convention Center, S504bc

4:55 PM – Spencer Award Introduction

05:05pm – 3739164. Agro-based raw materials as green product platforms. **H.N. Cheng**

MONDAY EVENING

Sci-Mix Poster Session

8:00 – 10 PM

****In-person****

McCormick Place Convention Center, Hall F2

AGRO Posters

- 3734330, ALSO A PLATFPROM PRESENTATION** – Rethinking chronic toxicity and carcinogenicity assessment for agrochemicals. **G. Hilton**
- 3754602, ALSO A PLATFPROM PRESENTATION** – ANVISA's challenge on implementing GHS classification in the reevaluation of pesticides. **L. Muratori Aguiar**
- 3754908, ALSO A PLATFPROM PRESENTATION** – Using automation techniques and machine learning algorithms to create a multi-source pesticide monitoring database. **Z. Stone**
- 3735275** – Optimization of inward rectifier potassium channel inhibitors to prevent hemipteran feeding. **F. O'Hara**
- 3737393** – 3D-printed nanocomposite for smart antimicrobial food packaging. **O. Popoola**
- 3737505** – On the use of science-based thresholds for the interpretation of public environmental monitoring data: Demonstrating glyphosate residues in European surface, ground and drinking water pose no risk to biota, ecosystems or human health. **D. Saltmiras**
- 3739919** – Disruption of the chemical signaling between potato and cyst nematode *Globodera rostochiensis*. **J. Ochola**
- 3741893** – Neonicotinoid insecticides in urban underground storm drain systems: Distribution and trends. **N. Sy**
- 3742819** – Repurposing synthetic β -triketone herbicides to control hematophagous arthropods. **S. McComic**
- 3743988** – Characterizing the effect of Kir channel modulators on mosquito cardiac contraction and cellular antiviral immunity. **Z. Li**
- 3745374** – Assessing human carcinogenicity risk without the rodent cancer bioassay. **A. Goetz-Bouchard**
- 3732194** – Sampling representative test portions of encapsulated ingredients in feed: Vitamin A and D3 nutritional analysis for regulatory and safety requirements. **K. Riter**
- 3747929** – NAM-based tiered phototoxicity testing and acute dermal exposure: A proposed human health risk assessment framework for agrochemicals. **E. Chikwana**

3747959 – Impact of drinking water assessments on conventional pesticide registrations. **E. Chikwana**

3753791 – Systems pharmacodynamic modelling of 4-hydroxyphenylpyruvate dioxygenase inhibition: Predicting tyrosinaemia. **S. Webb**

3754461 – Sugar compositions drive high attraction of vector mosquitoes. **X. Ng**

3755419 – Characterization of functional interactions between K⁺ flux mechanisms that drive insect neural function. **R. Chen**

3757832 – CYP71V7 catalyzes the conversion of 5-pentadecatrienyl resorcinol-3-methyl ether in sorgoleone biosynthesis. **Z. Pan**

3743265 – Analysis of endogenous and radiolabeled natural products derived from ¹⁴C-agrochemicals in plant and animal. **B. Osterman**

3743068 – Effect of microplastics on gastropod immunity to *Parelaphostronglyus tenuis* larvae. **L. Koyanagi**

3747037 – Dissipation and dietary risk assessment of difenoconazole in spinach, wax gourd and summer squash under open field conditions in China. **B. Dong**

TUESDAY MORNING

2022 ACS International Award for Research in Agrochemicals: The Many Faces of Insecticide Toxicology: Resistance, Mode of Action, New Insecticides and Novel Control Strategies

New and Novel Insecticides

Cosponsored by AGFD, TOXI

Financially supported by CORTEVA Agriscience

John M. Clark, Ke Dong, *Organizers*

Blair Siegfried, Yoshihisa Ozoe, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S502b

8:00 – Introductory Remarks

8:05 AM – 3739990. Encircle™ remote termite detection system: An innovative approach enabling integrated management from BASF. **C. Leichter**

8:30 AM – 3741300. Insecticidal centrally-acting spider toxin polypeptides. **J. Bloomquist**

8:55 AM – 3730773. New insecticides: “Chance favors the prepared mind”. **T. Sparks**

9:20 AM – Intermission

9:45 AM – 3744446. Phycotoxins associated with red tide mass-kill events in filth flies. **E. Burgess**

10:10 AM – 3742237. Deconstructing some recent successes in insect resistance management. **T. Dennehy**

10:35 – Concluding Remarks

Bioisosteric Replacement and Scaffold Hopping for Bioactive Compound Discovery

Co-sponsor: ENVR

Clemens Lambeth, Peter Maienfisch, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S501d

8:00 – Introductory Remarks

8:05 AM – 3738045. Herbicidal diarylheterocyclic propionic acid derivatives: A case study in scaffold hopping strategies. **T. Stevenson**

8:55 AM – 3733698. Isosteric ring exchange as a useful scaffold hopping tool in agrochemistry. **C. Lamberth**

9:20 AM – Intermission

9:45 AM – 3742424. Silicon motifs in life science research.
P. Maiefisch

10:10 – Concluding Remarks

EARLY CAREER SYMPOSIUM

Deciphering Plant-Insect-Microorganism Signals for Sustainable Crop Production

Co-sponsor: AGFD, BIOT, Committee on Technician Affairs (CTA)

Nurhayat Tabanca, Gareth Thomas, Organizers, Presiders

Oral – Hybrid

McCormick Place Convention Center, S501a

8:00 – Introductory Remarks

8:05 AM – 3737538. Chemical landscape of *Phragmites australis*. A. Gaffke

8:30 AM – 3730641. Stored product insect interactions with the microbes, *Aspergillus flavus* and *Fusarium verticillioides* on grain: Insect behavioral response to microbial volatiles and propensity for vectoring after harvest. W. Morrison

8:55 AM – 3740468. Bottom-up effects of the rhizobaterium on tritrophic interactions. D. Magalhães

9:20 AM – Intermission

9:30 AM – 3756647. Plant phenotypic plasticity in response to biotic and abiotic factors influences plant interactions with flower visitors and plant reproduction. Q. Rusman

9:55 AM – 3739434. Deciphering the infochemicals in multitrophic plant -insect- microbe interactions: Exploiting the ecological chemistry for sustainable IPM strategies. K. Jayanthi

10:20 AM – 3727396. Characterization of ABC transporter, UDP and CP gene in thiamethoxam-resistant field populations of Asian citrus psyllid, *Diaphorina citri* Kuwayama. X. Chen

10:45 AM – Concluding Remarks

Upfront Mitigation: What that Means in the FIFRA/ESA Consultation Process

Co-sponsor: AGFD, ANYL, BIOL, ENVR

Kathryn Bissell, Tilghman Hall, Bernalyn McGaughey, Organizers, Presiders

Oral – Hybrid

McCormick Place Convention Center, S501bc

8:00 – Introductory Remarks

8:05 AM – 3755189. Simplicity v. Complexity: Finding the balance between safe pesticide use and meaningful mitigation strategies. T. Hall

8:30 AM – 3754598. Using data for developing strategies: Mitigations, pesticides, and ESA. L. Duzy

8:55 AM – 3750029. Opportunities for using decision science to streamline the pesticide risk assessment process for ESA listed species. G. Iacona

9:20 AM – Intermission

9:45 AM – 3752563. Determining upfront mitigation options for atrazine. T. Burd

10:10 AM – 3755752. Making mitigations manageable: Recognizing and compensating agricultural producer stewardship. K. Kunkler

10:35 – Concluding Remarks

Sterling B. Hendricks Memorial Lectureship Award

Stephen O. Duke

Cosponsored by AGFD

Financially supported by USDA-ARS

John Beck, Cathleen Hapeman, Sharon Schneider,
Organizers

Michael Appell, Organizer, Presider

Oral – Hybrid

McCormick Place Convention Center, S501bc

10:50 AM – Award Presentation by Simon Liu

11:00 AM – 3736505. Natural compounds for the health of plants, humans, and the environment. S. Duke

11:50 AM – Discussion

12:00 to 1:00 PM – Reception

McCormick Place Convention Center, S503b

TUESDAY AFTERNOON

2022 ACS International Award for Research in Agrochemicals: The Many Faces of Insecticide Toxicology: Resistance, Mode of Action, New Insecticides and Novel Control Strategies

Toxicology and Physiology

Cosponsored by AGFD, TOXI

Financially supported by CORTEVA Agriscience

John M. Clark, Ke Dong, Organizers

Blair Siegfried, Yoshihisa Ozoe, Organizers, Presiders

Oral – In-person only

McCormick Place Convention Center, S502b

2:00 PM – Introductory Remarks

2:05 PM – 3730825. MIR162 maize event that carries the Vip3A trait gene remains a powerful solution for controlling multiple corn Lepidopteran pests after commercial cultivation for more than 10 years. Z. Wen

2:30 PM – 3744241. Toxicological relevance of K⁺ flux pathways in arthropod neural systems. D. Swale

2:55 PM – 3738076. Gene drive and anti-viral effectors in the yellow fever mosquito, *Aedes aegypti*. W. Reid

3:20 PM – 3739257. Reduced oxidative bioactivation, particularly in nervous system, is responsible for selective resistance to coumaphos in honey bees. S. Cho, K. Yoon, J. Lee, S. Kim; J. Lee; S. H. Lee

3:45 PM – Intermission

4:15 PM – 3734420. Transgenic overexpression of P450 genes confers deltamethrin resistance in the fall armyworm, *Spodoptera frugiperda*. S. Palli

4:40 PM – 3741461. Breaking down the barriers: Strategies to enhance RNAi efficiency in insects. K. Zhu

5:05 PM – 3742579. Gene editing tools for the southern green stink bug, *Nezara viridula*: Challenges and frustrations. B. Siegfried

5:30 PM – 3718197. Age-related difference in the action of pyrethroids on native voltage-sensitive sodium channels from juvenile and adult rat brains. J. Clark

5:55 PM – Concluding Remarks

Bioisosteric Replacement and Scaffold Hopping for Bioactive Compound Discovery

Co-sponsor: ENVR

Clemens Lambeth, Peter Maienfisch, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501bc

2:00 PM – Introductory Remarks

2:05 PM – 3721206. Applications of bioisosteres in the design of biologically active compounds. **N. Meanwell**

2:55 PM – 3743634. Structure-activity investigations toward the discovery of metarylpicoxamid. **K. Meyer**

3:20 PM – 3739571. Picolinamide complex III inhibitors: A review of quinone inside inhibitors and the importance of bioisosteric principles in the discoveries of these new fungicides. **V. Jackson**

3:45 PM – Intermission

4:15 PM – 3736709. Applications of bioisosteres in the discovery of succinate dehydrogenase inhibitors. **O. Loiseleur**

4:40 PM – 3729900. Discovery of a new chemotype of SDHI fungicides through bioisosteric replacements. **C. Zhou**

5:05 PM – 3743441. Scaffold hopping approaches in the invention pathway to ADEPIDYN™. **R. Rajan**

5:30 PM – 3739277. Discovery of succinate dehydrogenase fungicide via computational substitution optimization. **G.-F. Yang**

5:55 PM – Concluding Remarks

EARLY CAREER SYMPOSIUM

Deciphering Plant-Insect-Microorganism Signals for Sustainable Crop Production

Co-sponsor: AGFD, BIOT, Committee on Technician Affairs (CTA)

Nurhayat Tabanca, Gareth Thomas, *Organizers, Presiders*

Oral – In-person only

McCormick Place Convention Center, S501d

2:00 PM – Introductory Remarks

2:05 PM – 3753445. Induced volatiles in maize: Examining the interplay of plant genotype and microbe treatment. **E. Ngumbi**

2:30 PM – 3738606. Nosy pests: Exploiting predatory insect odors to control aphid pests in sustainable crop production. **J. Kansman**

2:55 PM – 3743155. Leveraging hyperspectral reflectance to assess volatile organic compound (VOC) mediated induced responses across the genus *Helianthus*. **J. Dowell**

3:20 PM – 3717166. Investigating the role of acute oak decline (AOD) bacterial volatiles on the behavior of the two-spotted oak buprestid *Agrilus biguttatus* (Coleoptera: Buprestidae). **G. Thomas**

3:45 PM – Intermission

4:15 PM – 3737775. Molecularization of metabolom alterations in exudates of *Lotus japonicus* induced by arbuscular mycorrhiza. **S. Schalk**

4:40 PM – 3741295. Mosquito repellency potential of plants' volatiles: Can people's preferences demand future research need on volatile compounds from *Ocimum tenuiflorum*? **J. Osei-Owusu**

5:05 PM – 3737438. *Streptomyces distallicus*, a potential microbial biolarvicide. **S. J. Kim**

5:30 PM – 3734414. Absorption, translocation, and metabolism of florpyrauxifen-benzyl in cyhalofop-

butyl-resistant barnyardgrass, *Echinochloa crus-galli* (L.) P. Beauv. **J.-I. Hwang**

5:55 PM – Concluding Remarks

From Colloids to Drift Effect: Bridging Formulations to Fields

Co-sponsor: AGFD, ANYL, ENVR

Naresh Pai, Frederick Salzman, Solito Sumulong, Susannah Banziger, Ricardo Acosta Amado, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, OS501a

2:00 PM – Introductory Remarks

2:05 PM – 3740194. Conversations about the future of dicamba: The science behind off-target movement. **L. Riter**

2:30 PM – 3726170. Field volatility of 2,4 dichlorophenoxyacetic acid in a formulated product (MON 301820). **S. Whiting**

2:55 PM – 3743832. Off-target drift reduction efficacy of hooded sprayers for pre- and post-emergent applications. **B. Brayden**

3:20 PM – 3738578. Qualifying hooded sprayers for reduced downwind spray buffer distances in dicamba-tolerant soybeans. **T. Lane**

3:45 PM – Intermission

4:15 PM – 3742951. Phytoglycogen-based materials as emulsifier, solubilizer, or vaccine adjuvant. **Y. Yao**

4:40 PM – 3734699. Crystal nucleation inhibition of poorly-water soluble actives using novel alkoxyated amino alcohol polymers. **M. Tate**

5:05 PM – 3749326. Compatibility of surfactants and seed coating binders with bacterial and fungal strain. **C. Woelfle-Gupta**

5:30 PM – 3729244. Formulation and planter box application of plant beneficial methylotrophic microbes. **J. Whitteck**

5:55 PM – Concluding Remarks

Upfront Mitigation: What that Means in the FIFRA/ESA Consultation Process

Co-sponsor: AGFD, ANYL, BIOL, ENVR

Kathryn Bissell, Tilghman Hall, Bernalyn McGaughey, *Organizers, Presiders*

Oral – In-person only

McCormick Place Convention Center, S503a

2:00 PM – Introductory Remarks

2:05 PM – 3754909. Registrant perspective on the US Fish and Wildlife Consultation process for malathion. **A. Frank**

2:30 PM – 3753141. Streamlining ESA mitigation to facilitate pesticide consultations or how to capitalize on the "Benefit of the Commons". **P. Ashfield**

2:55 PM – 3758179. Importance of communication in establishing a sustainable, scientifically-based FIFRA/ESA consultation process. **A. Beehler**

3:20 PM – 3750043. Mitigation strategy tool: A guide for evaluating mitigation measures in FIFRA/ESA consultations. **A. Krueger**

3:45 PM – Intermission

4:15 PM – 3754259. Web-based, site-specific exposure modeling for endangered species assessment. **B. Engel**

4:40 PM – 3741522. Conservation that counts: Scaling up the FIFRA-ESA consultation process and implementation of offsets across space, time, and registration actions. **J. Bickel**

5:05 PM – 3758188. Upfront mitigation: Is there an engagement role for producers? **D. Parker**

5:30 PM - Discussion

5:55 PM – Concluding Remarks

Division of AGFD

Journal of Agricultural and Food Chemistry

AGFD Best Paper Award

*Sponsored by JAFCD
Co-sponsored by AGRO*

Silvio Uhlig, Oscar Daniel Rangel-Huerta, Elin Rolén,
Hege Divon, Kari Pauchon, Mark Sumarah,
Trude Vrålstad, Justin Renaud

Oral – Hybrid

McCormick Place Convention Center, S504bc

2:00 PM – JAFCD Award Introduction

2:05 PM – 3742971. Semi-targeted analysis of peptide ergot alkaloids and indole-diterpenoids in the *Claviceps purpurea* species complex using LC-HRMS/MS diagnostic fragmentation filtering. **S. Uhlig**

WEDNESDAY MORNING

Climate Change and Sustainable Agriculture: Impacts on food security/trade, risk assessment and pesticide fate studies (including Early Career Symposium)

Co-sponsor: AGFD, CELL, ENVR, TOXI

Aleksandra Dean, Patricia Engel, Cornelis Hoogeweg, Pamela Rice, Amy Ritter, *Organizers*

Frederick Salzman, Xavier Poole, Samantha Nedder, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S502b

8:00 – Introductory Remarks

8:05 AM – 3740076. Predicting the response of future food systems to climate change. **W. Easterling**

8:30 AM – 3738620. EPA Pesticide regulatory efforts related to climate adaptation and agriculture. **J. Dawson**

8:55 AM – 3754393. Incorporating climate change into the conduct of chemical risk assessments to inform risk management, adaptation, and mitigation. **W. Landis**

9:20 AM – 3755929. Incorporating climate change predictions into ecological risk assessments. **Z. Stone**

9:45 – Intermission

10:15 AM – 3750632. Comparative assessment of food trade standards. **C. Tiu**

10:40 AM – 3740007. Reuse water for food production: Treatment challenges and consumer concerns. **J. Czarnecki**

11:05 AM – 3738607. Assessing the impact of soil characteristics on the rate of chemical degradation under aerobic conditions. **K. Cabral**

11:30 AM – 3743122. Evaluating the effect of application solvent(s) used during a soil metabolism study with ¹⁴C-glyphosate. **X. Poole**

11:55 AM – Concluding Remarks

INSEcticide TARgets (INSTAR) Summit

Co-sponsor: AGFD, ANYL, BIOT, ENVR

Troy Anderson, Stephen Duke, *Organizers*

Daniel Swale, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S501d

8:00 – Introductory Remarks

8:05 AM – 3741243. Reflections from past INSTAR symposia and perspectives for the future. **J. Bloomquist**

8:20 AM – 3739619. Molecular targets of insecticides and herbicides – Are there useful overlaps? **S. Duke**

8:45 AM – Intermission

8:55 AM – 3758106. Considerations for next generation long-lasting insecticidal net development toward malaria elimination. **M. Hadi**

9:20 AM – 3750066. Increasing chemical and target diversity by blurring the lines between insecticide and herbicide science. **D. Swale**

9:45 AM – Intermission

10:15 AM – Panel Discussion

11:45 AM – Concluding Remarks

New Crop Yield Technology Companies Improving Sustainability

Co-sponsor: AGFD, ANYL, BIOT, ENVR

Pam Marrone, Keith Wing, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501bc

8:00 – Introductory Remarks

Journal of Agricultural and Food Chemistry

AGRO Best Paper Award

*Sponsored by JAFCD
Co-sponsored by AGFD*

Teng Yang, Xiang Zhou, Pengyu Wang, Jianhua Gan,
Baoan Song, Song Yang, and Cai-Guang Yang

8:05 AM – 3743464. Dysregulation of ClpP by small-molecule activators used against *Xanthomonas oryzae* pv. *oryzae* infections. **T. Yang; X. Zhou, C. Yang, S. Yang**

Kathryn C. Hach Award for

Entrepreneurial Success

Sponsored by Kathryn C. Hach Award Fund

Pamela Marrone

8:55 AM – 3736478. Status and potential for biologicals in crop production. **P. Marrone**

9:45 – Intermission

- 10:15 AM – 3743052.** Using small molecule signaling to enable nitrogen fixation in maize. **A. Greenlon, T. Meragelman, T. Bayer**
- 10:40 AM – 3729541.** Data traits: Improving farm sustainability by digitizing crop physiology using novel living sensors and scalable remote monitoring. **R. Shultz**
- 11:05 AM – 3738264.** Reshaping insect pest control for the protection of crop yield. **J. Yuan**
- 11:30 AM – 3748242.** AgriCell: A novel bio-based microencapsulation technology to improve crop protection. **S. Carballo**
- 11:55 AM – Concluding Remarks**

Nontarget Arthropod Risk Assessment: Scientific Developments, Challenges and Research Need

Co-sponsor: AGFD, ANYL, BIOL, ENVR

Domenica Auteri, Keith Sappington, Tom Steeger,
Organizers

Alessio Ippolito, Katrina White, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501a

8:00 – Introductory Remarks

- 8:05 AM – 3758201.** Insect decline in the Anthropocene. **D. Wagner**
- 8:55 AM – 3736226.** Insect decline – Evaluation of potential drivers of a complex phenomenon. **M. Greve**
- 9:20 AM – 3742602.** Non-target arthropods pesticide risk assessment: An EFSA perspective. **A. Ippolito**
- 9:45 – Intermission**
- 10:15 AM – 3739709.** Industry experience with non-target arthropod testing and risk assessment in Europe. **S. Braaker, E. Pilling**
- 10:40 AM – 3741539.** NTA field testing methods in the EU. **S. Knaebe**
- 11:05 AM – 3739668.** Current framework for assessing and managing the risk of pesticides to non-target arthropods in Canada: A regulatory perspective. **N. Lauro**
- 11:30 AM – 3738523.** Pesticide risk assessment of non-target arthropods at USEPA: Challenges and lessons learned from recent listed species assessments. **K. Sappington**
- 11:55 AM – Concluding Remarks**

AGRO POSTER SESSIONS

AGRO Combined Poster Session

Poster - In-person

McCormick Place Convention Center, Hall F2

12:00 PM

***** Student Travel Award Winner**

SM – Sci-Mix Presenter

- *** Poster #2027, SM: 3739919** – Disruption of the chemical signaling between potato and cyst nematode *Globodera rostochiensis*. **J. Ochola**
- Poster #2029, SM: 3757832** – CYP71V7 catalyzes the conversion of 5-pentadecatrienyl resorcinol-3-methyl ether in sorgoleone biosynthesis. **Z. Pan**
- *** Poster #2031, SM: 3735275** – Optimization of inward rectifier potassium channel inhibitors to prevent hemipteran feeding. **F. O'Hara**
- Poster #2033, SM: 3736294** – Ingestion bioassay protocol for assessing pesticide toxicity to the solitary bee, *Osmia cornifrons*. **N. Phan**
- Poster #2035: 3736552** – Risk estimation for butterflies exposed to permethrin from mosquito control sprays. **T. Bargar**
- *** Poster #2037, SM: 3737393** – 3D-printed nanocomposite for smart antimicrobial food packaging. **O. Popoola**
- Poster #2126, SM: 3737505** – On the use of science-based thresholds for the interpretation of public environmental monitoring data: Demonstrating glyphosate residues in European surface, ground and drinking water pose no risk to biota, ecosystems, or human health. **D. Saltmiras**
- *** Poster #2127, SM: 3755419** – Characterization of functional interactions between K⁺ flux mechanisms that drive insect neural function. **R. Chen**
- Poster #2129, SM: 3745374** – Assessing human carcinogenicity risk without the rodent cancer bioassay. **A. Goetz-Bouchard**
- *** Poster #2130, SM: 3742819** – Repurposing synthetic β -triketone herbicides to control hematophagous arthropods. **S. McComic**
- Poster #2131, SM: 3747929** – NAM-based tiered phototoxicity testing and acute dermal exposure: A proposed human health risk assessment framework for agrochemicals. **E. Chikwana**
- Poster #2132: 3743773** – To evaluate the persistence of pesticides in soil based on their biochemical availability. **P. Kaur**
- Poster #2133, SM: 3747959** – Impact of drinking water assessments on conventional pesticide registrations. **E. Chikwana**
- *** Poster #2134, SM: 3743988** – Characterizing the effect of Kir channel modulators on mosquito cardiac contraction and cellular antiviral immunity. **Z. Li**
- Poster #2135: 3738597** – Dicamba volatility changes based on pre/post application events (Dew/Rain). **T. Lane**
- *** Poster #2136, SM: 3754461** – Sugar compositions drive high attraction of vector mosquitoes. **X. Ng**
- Poster #2137: 3764471** – Pesticide residues in agriculture, ecosystem and environment of cotton and vegetable growing areas and contamination of Ghaggar River. **T. Jindal**
- Poster #2226: 3748260** – New SDHI chemistry does not require new cancer bioassays to evaluate human risk. **N. Ryan**

WEDNESDAY AFTERNOON

Poster #2228, SM: 3753791 – Systems pharmacodynamic modelling of 4-hydroxyphenylpyruvate dioxygenase inhibition: Predicting tyrosinaemia. **S. Webb**

Poster #2230: 3755610 – Predict agrochemical metabolism in early stage by *in vitro* method. **K. Yang**

Poster #2232: 3732194 – Sampling representative test portions of encapsulated ingredients in feed: Vitamin A and D3 nutritional analysis for regulatory and safety requirements. **K. Riter**

Poster #2234, SM: 3743265 – Analysis of endogenous and radiolabeled natural products derived from ¹⁴C-agrochemicals in plant and animal. **B. Osterman**

Poster 3741893 – WITHDRAWN

Poster: 3752364 – WITHDRAWN

AGRO Combined Poster Session: Virtual Session

12:00 – 2 :00 PM

Heidi Irrig, *Organizer*

****Zoom Virtual-only****

3716634 – Residual characteristics and processing factors of carbendazim in persimmon, *Diospyros kaki* Thunb. **J.-Y. Kim**

3728605 – Volatile emissions from exotic fungi vectored by *Euwallacea perbrevis* Schedl (Coleoptera: Curculionidae). **N. Tabanca**

3736920 – Residual characteristics of metaflumizone during ginseng cultivation and processing. **N. Eun Shik**

3737870 – Decade of dicamba: Water monitoring, drift complaints, and regulation in Minnesota. **K. Hall**

3737991 – Maize lectin can function as a defensive protein against insect and fungal pests. **P. Dowd**

3741955 – Establishment of multiresidue analysis of over 350 pesticides in soils using a modified QuEChERS method coupled with GC-MS/MS and LC-MS/MS. **Y.-H. Chang**

3742511 – Study on the vitality of functional microorganisms complex microflora and its effect. **Y. Wu**

3742522 – Residual characteristics of etofenprox and flubendiamide in rice, *Oryza sativa* L. **J.-Y. Kim**

3743051 – Impact of organosilicone spray adjuvants on pollinator health and reproduction. **D. Cox-Foster**

3743068, SM – Effect of microplastics on gastropod immunity to *Parelaphostronglyus tenuis* larvae. **L. Koyanagi**

3743166 – Landscape modelling for non-target arthropod risk assessment of pesticides: challenges and opportunities. **P. Thorbek**

3747037, SM – Dissipation and dietary risk assessment of difenoconazole in spinach, wax gourd, and summer squash under open field conditions in China. **B. Dong**

3754808 – Investigation of gas exchange in pest insect eggs using osmium tetroxide. **J. Powell**

3755615 – Total synthesis and biological evaluation of penicaculin A and analogs. **A. Demeritte**

Bioisosteric Replacement and Scaffold Hopping for Bioactive Compound Discovery

Co-sponsor: ENVR

Clemens Lambeth, Peter Maienfisch, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501bc

2:00 PM – Introductory Remarks

2:05 PM – 3742581. Multidimensional innovations in chiral agrochemicals enabled by the "Chem-Bio" scaffold aryloxazoline. **S. Li**

2:30 PM – 3733591. Fungicidal 5-sulfonyl thiadiazoles and related derivatives. **S.-Y. Hsieh**

2:55 PM – 3735068. Discovery and development of a new class of biaryl ether herbicides. **C. Kalnmals**

3:20 PM – 3736147. Scaffold hopping strategies in the optimization of novel bicyclic herbicides. **D. Barber**

3:45 PM – Intermission

4:15 PM – 3733444. Bioisosteric tactics in the discovery of tetflupyrolimet: A new mode-of-action herbicide. **T. Selby**

4:40 PM – 3734800. Discovery of pyrimidinyl-based kinase herbicides. **P. LePlae**

5:05 PM – 3738494. Novel azolyl *N*-aryloxazolidinone herbicides for *Amaranthus* and grass control in corn and soybeans. **S. De**

5:35 pm – Concluding Remarks**Good Laboratory Practices for the Agrochemical Professional**

Co-sponsor: ENVR

Kimberly Frazier, Johanna Mazlo, Barb Munch, *Organizers*
Jennifer Cypher, *Organizer, Presider*

Oral – Hybrid

McCormick Place Convention Center, S501a

2:00 PM – Introductory Remarks

2:05 PM – 3736282. Quality culture: Incorporating quality principles across your organization. **J. Cypher**

2:30 PM – 3737421. Roles and responsibilities of sponsor in a GLP study as per EPA regulations. **A. Pandya**

2:55 PM – 3734238. WITHDRAWN

3:20 PM – 3755259. SOPs: The 'dirty dozen' and how to maintain compliance. **J. Mazlo**

3:45 PM – Intermission

4:15 PM – 3729272. Auditing test facility as per EPA good laboratory practice standards: Regulatory insights. **A. Pandya**

4:40 PM – 3734243. WITHDRAWN

5:05 PM – 3758114. Insights of method validation studies for stability and homogeneity of test substance in carrier: QA perspective. **A. Pandya**

5:30 PM – Concluding Remarks

INsecticide TARgets (INSTAR) Summit

Co-sponsor: AGFD, ANYL, BIOT, ENVR
Troy Anderson, Stephen Duke, *Organizers*
Daniel Swale, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S501d

2:00 PM – Introductory Remarks

2:10 PM – 3754875. Insecticide resistance management: An introduction to past, present and future INSTAR perspectives. **T. Anderson**

2:30 PM – 3736309. Strategies to mitigate herbicide resistance: Where we have been and where we are going. **P. Tranel**

2:55 PM – 3748049. Use of next-generation sequencing technology to identify the molecular markers of insecticide resistance in mosquitoes. **E. Muturi**

3:20 PM – Intermission

3:50 PM – Panel Discussion

5:20 PM – Concluding Remarks

New Crop Yield Technology Companies Improving Sustainability

Co-sponsor: AGFD, ANYL, BIOT, ENVR
Pam Marrone, Keith Wing, *Organizers, Presiders*

****Oral – In-person only****

McCormick Place Convention Center, S502b

2:00 PM – Introductory Remarks

2:05 PM – 3736299. Peptides for crop protection: How the insecticide SPEAR® ushers in a new era, based on safer molecules and sustainable manufacturing. **B. Kennedy**

2:30 PM – 3725600. Target-based discovery of crop protection chemistries powered by DNA-Encoded libraries. **T. Meade**

2:55 PM – 3741156. WITHDRAWN

3:20 PM – 3750733. Development of a potent and sustainable microbial nematicide from a novel *Burkholderia rinojensis* species. **A. Vasavada**

3:45 PM – Intermission

4:15 PM – 3751638. Nematode pheromone extracts act as boosters for entomopathogenic nematodes' efficacy to control agricultural pests in the soil. **F. Kaplan**

4:40 PM – 3740127. Rapid identification of novel insecticidal actives and MOAs utilizing Micromining™. **A. Guggisberg**

5:05 PM – Panel Discussion

5:50 PM- - Concluding Remarks

THURSDAY MORNING

Bioisosteric Replacement and Scaffold Hopping for Bioactive Compound Discovery

Co-sponsor: ENVR
Clemens Lambeth, Peter Maienfisch, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501bc

8:00 – Introductory Remarks

8:05 AM – 3739295. Discovery of succinate dehydrogenase fungicide via receptor-based scaffold-hopping. **G.-F. Yang**

8:30 AM – 3737198. Discovery of novel 1,3,4-trisubstituted pyrazoles and their use as insecticides. **T. Pahutski**

8:55 AM – 3742450. Design, synthesis, and properties of silicon-containing 1,3-diamide insecticides. **X. Quan**

9:20 AM – 3742666. Exploration of fCo TRPV channel modulators for sucking pest control: Postulation of a comprehensive toxophore model. **S. Rendler**

9:45 – Intermission

10:15 AM – 3741282. Structural exploration of novel pyrethroid esters for repellent and insecticidal activity. **J. Bloomquist**

10:40 AM – 3729860. Design, synthesis, and insecticidal activities of Chlorantraniliprole analogues containing α -substituted alcohol and its derivatives. **G. Yang**

11:05 AM – 3757434. Insecticidal isoxazoline bioisosters. **K. Koerber**

11:30 AM – 3742186. 3-Aryl-2-hydroxy-3-(trifluoromethyl)pyrrolidine Core: A new structural feature for insecticides. **P. Jeschke**

11:55 AM – Concluding Remarks

Nontarget Arthropod Risk Assessment: Scientific Developments, Challenges and Research Needs

Co-sponsor: AGFD, ANYL, BIOL, ENVR
Domenica Auteri, Keith Sappington, Tom Steeger, *Organizers*
Alessio Ippolito, Katrina White, *Organizers, Presiders*

Oral – Hybrid

McCormick Place Convention Center, S501a

8:00 – Introductory Remarks

8:05 AM – 3739599. Advancing the environmental risk assessment of non-target arthropods for plant protection products: Ecosystem services and function. **L. Maltby**

8:30 AM – 3738242. Ecological traits and pesticide risk assessment: Vulnerability of bee species to pesticide exposures. **A. Schmolke**

8:55 AM – 3742299. Use of ecological models to assess the effects of a plant protection product on ecosystem services provided by an orchard. **P. Van den Brink**

9:20 AM – 3739477. Exposure assessment goals to define exposure to pesticides in the field and improve the linking to effects observed in ecotoxicological experiments. **P. Adriaanse**

9:45 – Intermission

10:15 AM – 3744329. LD₅₀ at 95: Time for 100-year upgrade for pollinator risk assessment. **M. Berenbaum**

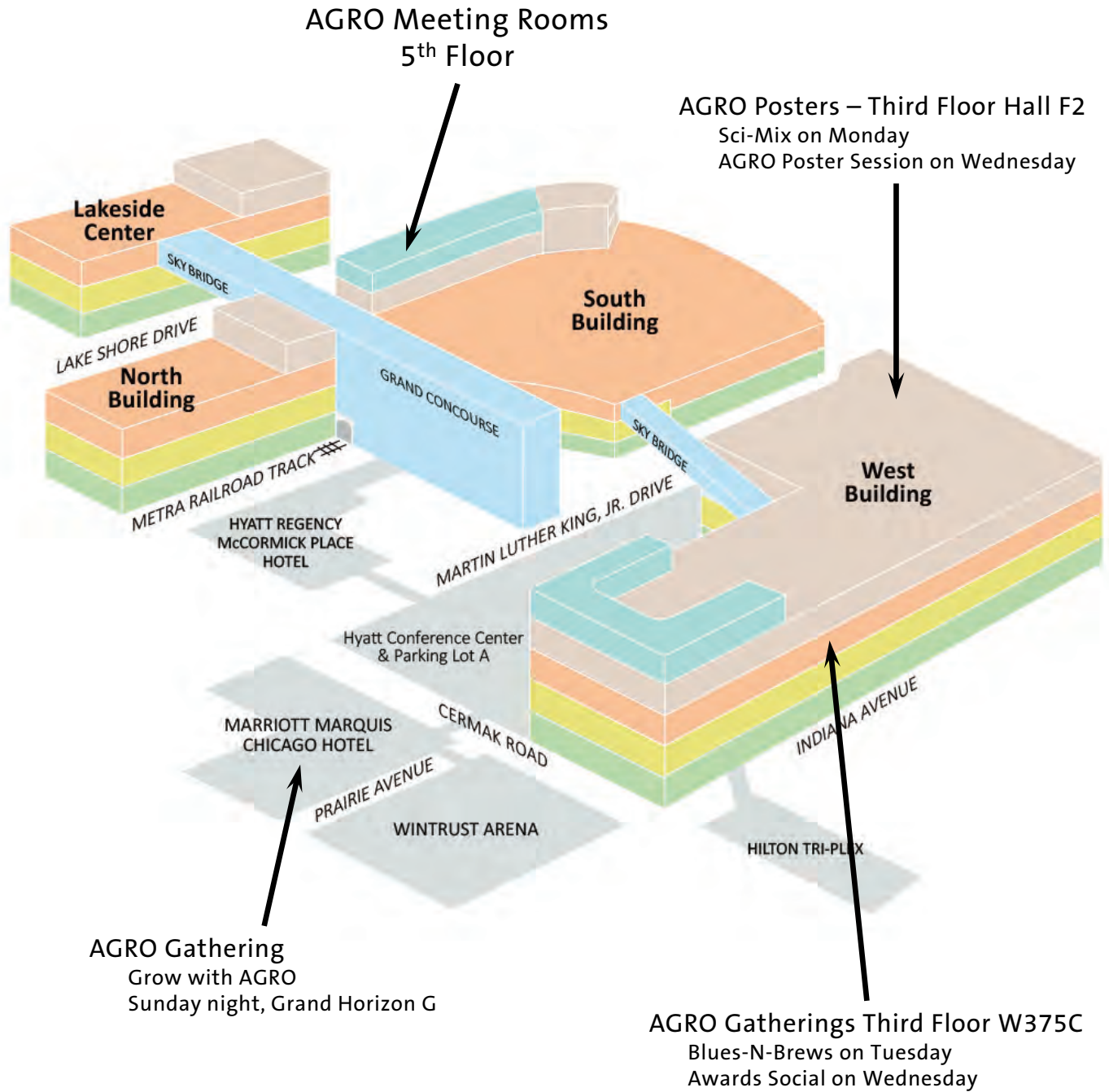
10:40 AM – 3731323. Pesticide risk to managed bees during blueberry pollination is primarily driven by off-farm exposures. **K. Graham**

11:05 AM – 3739634. Calibration of laboratory derived indices for non-target arthropod risk assessment with field data for plant protection products. **E. Pilling**

11:30 AM – 3743636. Assessing risk of insecticide exposures to Lepidoptera: Molecular to population-level effects. **N. Krishnan**

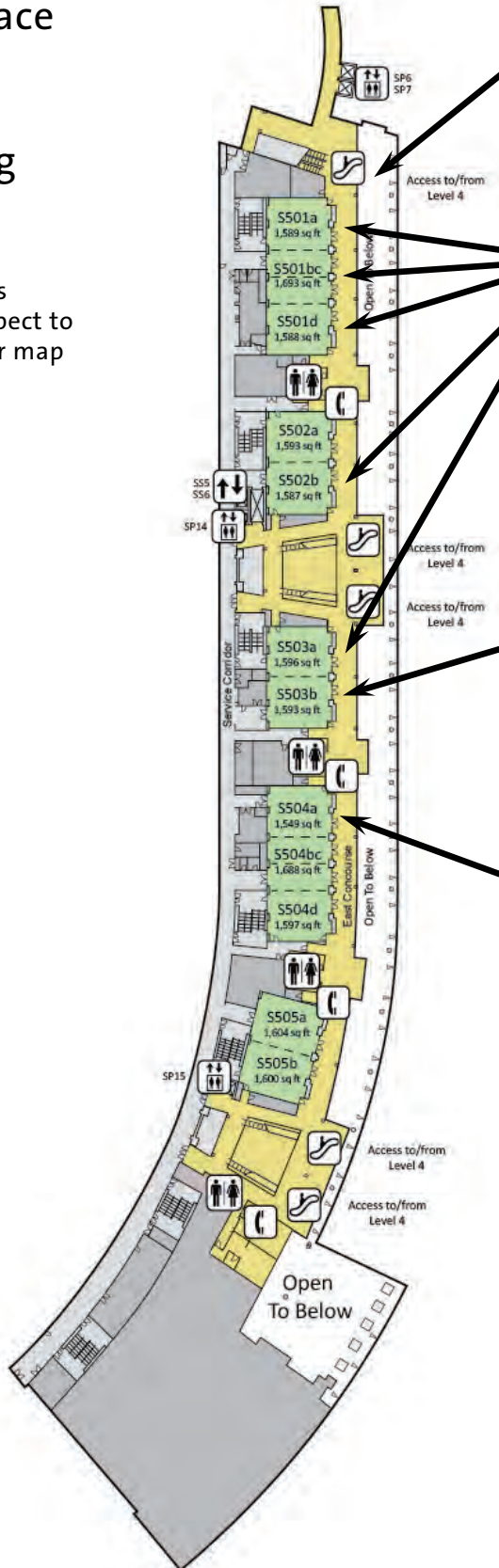
11:55 AM – Concluding Remarks

McCormick Place Convention Center and nearby Hotels



McCormick Place
Convention
Center
South Building
5th Floor

Please note that this is
upside down with respect to
the Convention Center map



Escalator from 4th floor
connects to other escalators
all the way to the 1st floor

AGRO Meeting Rooms

AGRO Meeting Room
Grad Student/Post-doc Luncheon
Sterling Hendricks Reception

AGRO Meeting Room
International Award

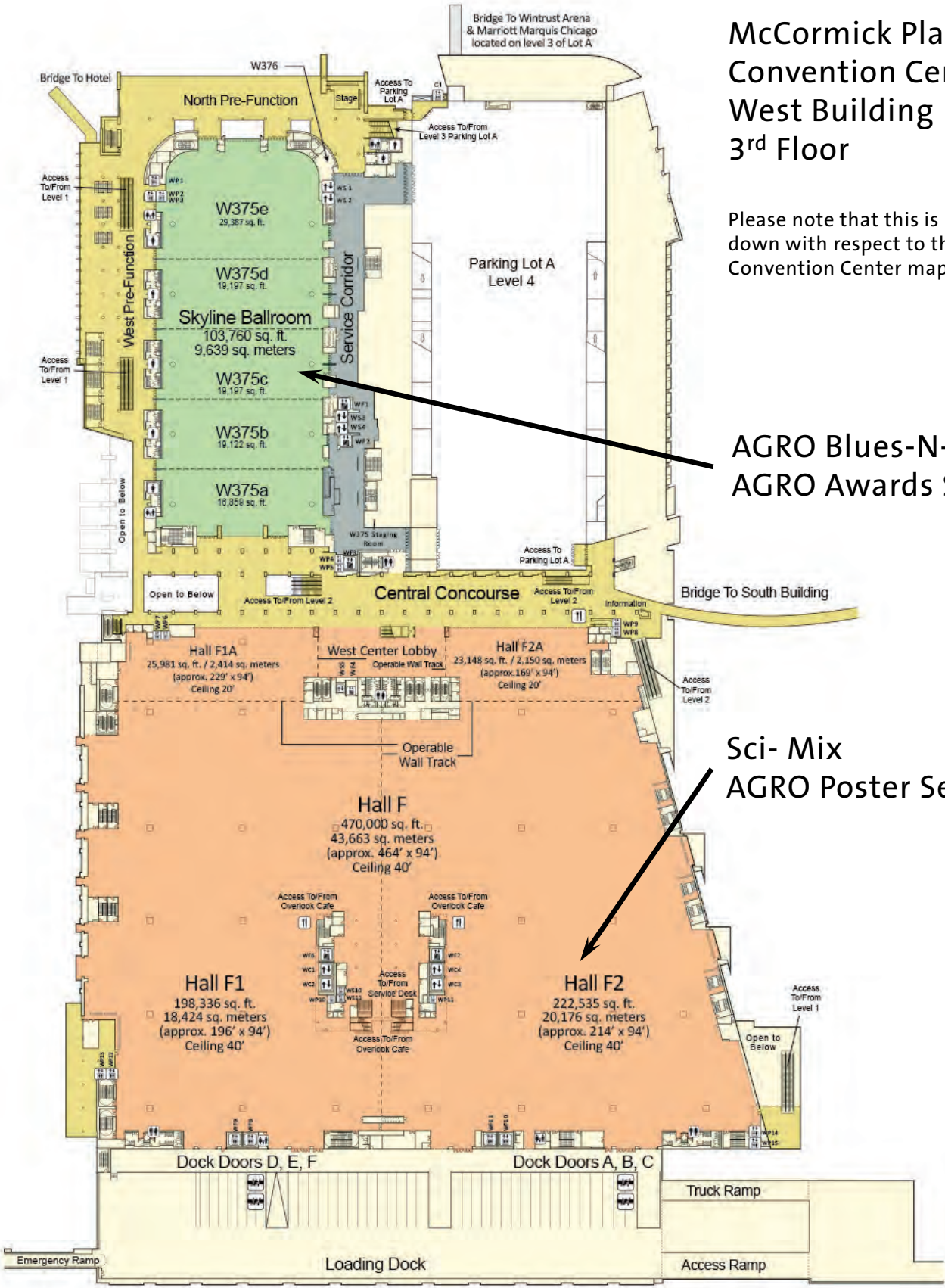
Also... AGFD hosted awards
Spencer Award and JAFC Award

McCormick Place Convention Center West Building 3rd Floor

Please note that this is upside down with respect to the Convention Center map

AGRO Blues-N-Brews
AGRO Awards Social

Sci- Mix
AGRO Poster Session

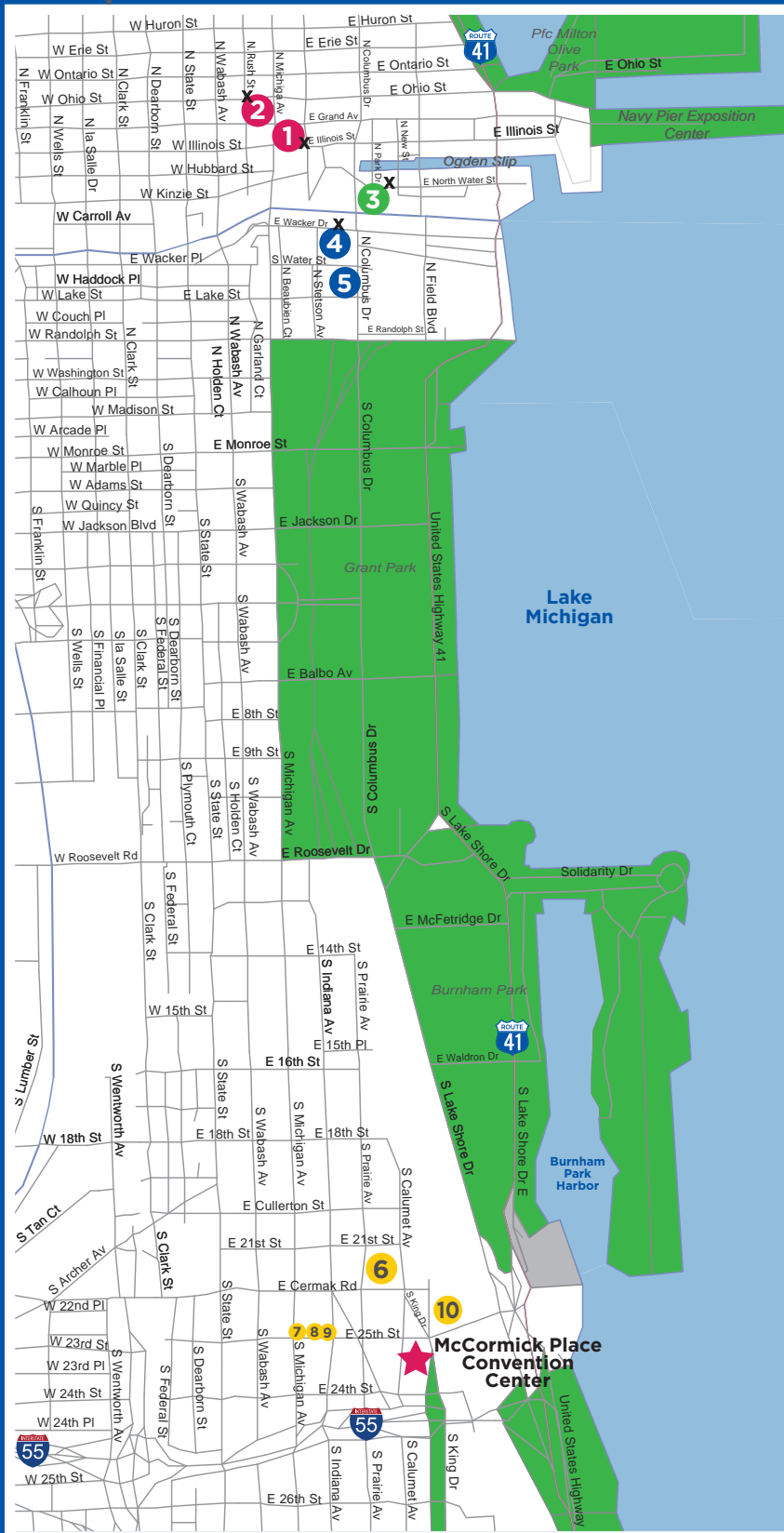


ACS FALL 2022



#ACSFALL2022

SUSTAINABILITY IN A CHANGING WORLD



MAP NUMBER	HOTEL AND SHUTTLE BOARDING LOCATION	SHUTTLE ROUTE
1	InterContinental Chicago Magnificent Mile Curbside at the Illinois St. entrance - 505 N. Michigan Ave.	A
2	Chicago Marriott Downtown Magnificent Mile Curbside on Ohio St. at Rush St. - 540 N. Michigan Ave.	A
3	Sheraton Grand Chicago Riverwalk Curbside on North Water St. across street from hotel - 301 E. North Water St.	B
4	Hyatt Regency Chicago Curbside on Wacker Dr. at East Tower - 151 E. Wacker Dr.	C
5	Fairmont Chicago Millennium Park Use the Hyatt Regency stop - 200 N. Columbus Dr.	C
6	Marriott Marquis Chicago McCormick Place 2121 S. Prairie Ave. • Technical Sessions – ANYL, BIOL, CARB, CELL, CINF, ENVR,	WALK
7	Hampton Inn Chicago McCormick Place 122 E. Cermak Rd.	WALK
8	Hilton Garden Inn Chicago McCormick Place 123 E. Cermak Rd.	WALK
9	Home2Suites by Hilton Chicago McCormick Place 123 E. Cermak Rd.	WALK
10	Hyatt Regency McCormick Place 2233 S. Martin Luther King Dr. • Technical Sessions – BMGT, CHAL, CHAS, GEOC, HIST, PROF, SCHB, TOXI, WCC	WALK
★	McCormick Place Convention Center, West and South Buildings • Technical Sessions – AGFD, AGRO, CATL, CHED, COLL, COMP, ENFL, I&EC, INOR, MEDI, MPPG, NUCL, ORGN, PHYS, POLY, PMSE, PRES, YCC	★

Virtual-only Programming: Technical Session – FLUO

SHUTTLE HOURS OF OPERATION

SUNDAY, AUGUST 21

6:30 AM	Morning Special Event (Zumba)
	One departure from Marriott Marquis to Sheraton Grand
7:00 AM – 10:00 AM	Every 12 minutes
10:00 AM – 4:00 PM	Every 24 minutes
4:00 PM – 8:00 PM	Every 10 minutes
8:00 PM – 10:00 PM	Every 12 minutes

MONDAY, AUGUST 22

7:00 AM – 10:00 AM	Every 10 minutes
10:00 AM – 4:00 PM	Every 24 minutes
4:00 PM – 6:00 PM	Every 12 minutes
6:00 PM – 11:00 PM	Every 10 minutes

TUESDAY, AUGUST 23

7:00 AM – 10:00 AM	Every 10 minutes
10:00 AM – 4:00 PM	Every 24 minutes
4:00 PM – 6:00 PM	Every 12 minutes
6:00 PM – 10:00 PM	Every 10 minutes
10:00 PM – 12:01 AM	Evening Special Event
	Service to/from Hyatt Regency Chicago and Rte A, Rte B, Walk Hotels

WEDNESDAY, AUGUST 24

7:00 AM – 10:00 AM	Every 12 minutes
10:00 AM – 4:00 PM	Every 24 minutes
4:00 PM – 6:00 PM	Every 12 minutes
6:00 PM – 10:00 PM	Every 15 minutes

THURSDAY, AUGUST 25

7:00 AM – 1:00 PM	Every 15 minutes
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Schedule subject to change based on traffic conditions



Wheelchair-accessible vehicle will be scheduled on standby during shuttle operating hours. For additional shuttle information, please call 619-921-0307.

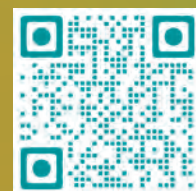


Global Women's Breakfast 2023



“Breaking Barriers In Science”

February 14, 2023





2022 AGRO Education and Poster Awards for Student Travel



Juliet
Ochola
1st Place



Flinn
O'Hara
2nd Place Tie



Sarah
McComic
2nd Place Tie



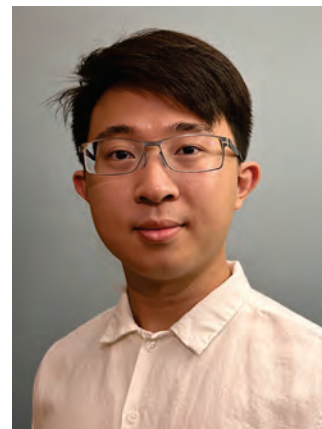
Oluwatosin
Popoola
2nd Place Tie



Rui
Chen



Zhilin
Li



XiXian
Ng

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