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AMERICAN CHEMICAL SOCIETY
AGRO Division
Fall 2021 Hybrid Meeting and Expo
Resilience of Chemistry

August 22 - 26, 2021

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From the Chair's Desk

Leah S. Riter

Welcome to the ACS Fall 2021 National Meeting. The theme of this meeting *Resilience of Chemistry*. Although this theme was selected several years ago in the *before times*, I cannot think of a more appropriate theme to focus on as we are moving forward in the recovery from the pandemic. Innovations in chemistry such as mRNA technology have allowed many of us to see the light at the end of the darkness of 2020 and early 2021. With these challenges in mind, I invite you to take a moment to reflect on the innovations our AGRO Division fosters and the contributions we make to protecting public health through the *Resilience of Chemistry*.

AGRO Division has been selected as a finalist for two ChemLuminary Awards! Our nominations are in Best activity or program highlighting ACS Change Driver(s) or Strategic Planning and Technical Division Global Engagement Award. The awardees will be announced at a ceremony at the Fall 2021 national meeting. Thank you to all our wonderful volunteers for the amazing work that has led to these nominations. And another big thank you to those who helped me put together these nominations, especially Cathleen Hapeman and Rodney Bennett.

AGRO Sponsored and Cosponsored Awards. Thank you to Qing Li and the 2021 Award committee actions. Congratulations to our newest AGRO Fellows: Michael Krolski, Qing Li, Kalumbu Malekani, and Carmen Tiu. Also, a big thank you to all our award sponsors. And importantly, the following 2021 award winners will be featured in the August virtual program:

- International Award for Research in Agrochemicals (sponsor Corteva) – **David Sattelle**
- AGRO Award for Innovation in Chemistry of Agriculture (sponsor BASF) – **Jeffrey Bloomquist**
- Kenneth A. Spencer Award (sponsor ACS Kansas City Section) – **Takayuki Shibamoto**
- USDA-ARS Sterling Hendricks Award – **Fereidoon Shahidi**
- JAFC Article of the Year Award, AGRO – **David Steiner**

Nominations for our 2023 International and 2022 Innovation Awards and cosponsored awards are being sought through December 31. All award details can be found at https://www.agrodiv.org/awards/.

2021 ACS Fellow from AGRO. Congratulations to Sharon Schneider who has been named a 2021 ACS Fellow. Based on our Division size, AGRO can submit up to four nominations each year. We have a number of very worthy candidates among us, and I would encourage our membership to consider nominating a fellow member next year (deadline is typically end of March). Nominations must be sponsored/signed off by the Division Chair, but they can be championed by other members.

2021 New Investigator and Student Awards. Congratulations to Marla Bianca, Gareth Thomas, and Zijiang Yang who are the 2021 New Investigator Award Finalists, see p. 33. Thanks to Sasha Kweskin for leading these efforts. Congratulations to the nine awardees of the student travel awards program, see p. 35. Winners of the poster competition will be announced at the end of the meeting at the AGRO Social. Thanks to Aaron Gross and Sara Whiting for co-chairing this committee for 2021. In addition, two early career symposia will be part of the program. Please take some time to attend the student and early career talks and posters at the fall meeting.

AGRO Elections were held this summer. We appreciate the work of the Nominations and Election Committee, Cheryl Cleveland (chair), Julie Eble, Rodney Bennett, and Leah Riter for arranging the AGRO annual ballot process this year. We thank all the candidates for their willingness to serve. AGRO holds annual elections, so if you are interested in running for an office in 2022, it is not too early to contact me, as I will be leading this effort next year.

2022 Officers

Vice Chair: Aaron Gross
Secretary: Sharon Schneider
Treasurer: Del Koch

Executive Committee Members (EC)

2022 – 2024
Shanique Grant, Edmund Norris, Thomas Sparks, Katoria Tatum-Gibbs, and Sara Whiting
2022 – 2023 to finish Aaron Gross' term
Andrew Coates

Congratulations to all!

PacifiChem 2021. AGRO Division is hosting nine symposia at the PacifiChem meeting to be held as a hybrid virtual/in person event December 16 – 21, 2021 in Honolulu, Hawaii. Registration is now open. Details of AGRO related symposia can be found on page 44 and on the AGRO website.

AGRO Strategic Plan. In 2022, we plan to refine our strategic plan, which was most recently updated in 2016. Details of the current strategic plan can be found on the AGRO website (https://www.agrodiv.org/about-us/strategic-plan/).If you are interested in volunteering to take an active role refining our strategic plan, please reach out to Leah Riter or Cheryl Cleveland.

As we prepare for this update it is a great opportunity to look back at the accomplishments since our last update and to brainstorm for ideas for the future. I had the opportunity to dig through the AGRO archives, and I was truly amazed at the breadth of impact that our division achieves. I hope this summary helps energize you as it has done for me as I review on the accomplishments of the past and plan for the exciting future of our division. The 2016 strategic plan has three goals, and I would like to highlight some of the accomplishments the division has made for each of these goals.

Goal 1 - Increase AGRO's outreach to scientific and public communities

The AGRO Division developed and expanded its relationships across the scientific community to enrich its membership

experience and to enhance the role of the ACS and the Division in the worldwide community of agricultural scientists. AGRO has drawn upon our newly established Liaison Committee to expand our international scientific society partnerships greatly. This committee leverages AGRO members who are also active in other societies to develop relationships with those organizations. This endeavor has been highly successful and due to this effort AGRO actively collaborates with and/or supported six international and two national scientific societies.

Goal 2 - Attract and retain an increasingly diverse and engaged membership by creating tangible benefits and opportunities to advance the AGRO mission.

Communication is key to developing and maintaining an engaged membership. AGRO has focused on updating our communication and using a multilayered approach to reach members in the way that they are most comfortable gaining information. AGRO has improved our digital tools to share information including a redesigned website and social media presence. We revamped our website to facilitate further the timely delivery of AGRO newsworthy events including a newsfeed and events calendar and webinar recordings. Our expanded social media presence, including Twitter and LinkedIn, allows the division to connect quickly with members with timely information.

In addition, AGRO Division has focused on cultivating future leaders in the chemistry workforce through our vibrant programs to attract and mentor new scientists. These programs encourage service and leadership and foster diversity and equality to meet the transdisciplinary challenges in agricultural chemistry. The AGRO Education Awards for Student Travel, New Investigator Award, and the AGRO Early Career Symposium Series are all fed by actively engaging students and early career scientists in AGRO activities. The newly established Early Career Symposium Series was supported by a 2015 – 2016 IPG, and AGRO has formally chosen to fund this popular program each subsequent year.

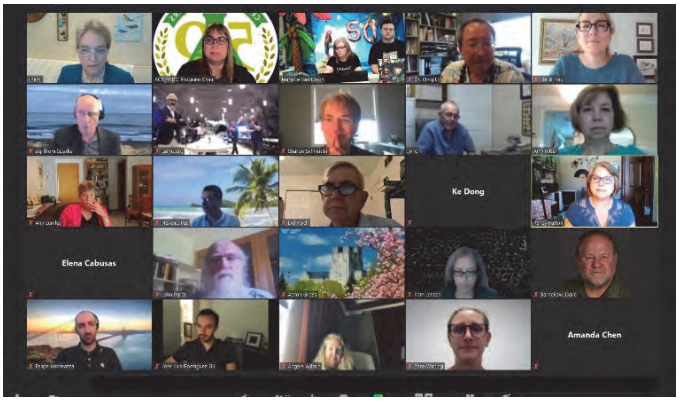
Goal 3 - Provide strategic, multi-year programming that advances the AGRO mission.

The AGRO division has proactively introduced modern conference approaches to enhance the conference experience and improve the environmental sustainability of our conference. In 2018, AGRO collaborated with ACS meetings and expositions to pioneer the theater style programming format to decrease both the physical and environmental footprint of our meeting.

Experience in transitioning to the theater format gave our division a head-start to creatively addressing the challenges of the first virtual ACS meeting in Fall 2020. Before the conference, we hosted a series of question-and-answer sessions with our organizers and presenters to improve the meeting experience for our division's members. During the conference, AGRO focused on attendee experiences and interaction at the virtual conference by hosting 16 interactive social and technical events in our networking room. Advanced zoom functions such as polling and breakout rooms provided a more personalized meeting experience for our members.

In addition, in 2019 AGRO readdressed our long-range programming and updated our standing and trending program themes with champions to ensure long term continuity. AGRO launched our popular Vendor Interface Program (VIP) at the 2018 ACS National Fall Meeting to provide technical discussions between AGRO members and industry service providers.

The AGRO Division hosted interactive events at the fall 2020 virtual meeting for attendees to reconnect with their colleagues across the Division.



The AGRO Division partnered with ACS to develop the Vendor Interface Program (VIP) in 2018. This well attended (100 – 120 members) event focuses on technical collaboration and networking between AGRO members and agricultural industry service providers.

I hope that this brief review of our past accomplishments excites you about the future of our division. I see a bright future as AGRO continues to find innovative ways to bring together the global community of agricultural scientists. If you have ideas for our next strategic plan, please reach out to me to volunteer for the strategic planning committee. I encourage all interested members to **get involved as an AGRO volunteer!** The backbone of AGRO is talented and generous volunteers in our division. Now more than ever we appreciate our volunteers who contribute their time, energy, and knowledge to our Division. For those who want to help-out on a small task or a large one, fill out the *Get Involved* form on the AGRO website (https://www.agrodiv.org/get-involved/).

Thank you for the opportunity to serve as your Division Chair over the last year. A very special thank you goes to Qing Li and Peney Patton who planned our Fall National meeting in another year of flux. I look forward to seeing you all on-line.

Stay safe …

And welcome to the ACS Fall National Virtual Meeting!

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Eurofins Agroscience Services congratulates AGRO on 50 years of scientific innovation and outreach

At Eurofins Agroscience Services, we value continued scientific advancement, pioneering new solutions, and engaging the next generation. That's why, for more than 30 years our organization has partnered with AGRO in its mission to bring together a worldwide community of scientists and stakeholders to advance knowledge and promote innovative solutions for the protection of agricultural productivity, public health and environment.

Thank you to the many members and friends who have supported this organization over the years, and here's to the next 50 years of scientific education and inspiration.

Eurofins Agroscience Services Group

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www.eurofins.com/agroscienceservices

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AGRO Awards Committee Report

Qing X. Li, Chair

David Barry Sattelle, Professor, Centre for Respiratory Biology at University College London, and CE Bioscience Ltd, UK is the recipient of the 2021 International Award for Research in Agrochemicals. He is recognized for his exceptional research and contribution in molecular neurotoxicology, including the action of both natural toxins and synthetic toxicants as agrochemical control agents. The award will be virtually presented at a symposium organized by John M. Clark and Kazuhiko Matsuda at the 262nd National ACS Meeting on Monday, August 23, at 10:30 AM. We thank Corteva Agriscience for its sponsorship of this award.

The recipient of the 2022 International Award for Research in Agrochemicals will be **Jeffrey G. Scott**, Professor in the Department of Entomology, Cornell University. He will be recognized for developments of cutting-edge technologies in insecticide resistance. The award will be presented at a symposium organized by John M. Clark at the 264th National ACS Meeting in Chicago, August 21 - 25, 2022.

Jeffrey R. Bloomquist is the winner of the 2021 AGRO Award for Innovation in Chemistry of Agriculture. He is recognized for his exemplary contributions to the advancement of agricultural and veterinary pest management. He will set the stage for one of the early career scientist symposia in the virtual session on Tuesday, August 24, at 10:30 AM as part of the Early Career Symposium: Advances in Vector Control & Insecticide Science. The award will be virtually presented at the 262nd National ACS Meeting in August 2021. We thank BASF for its sponsorship of this award.

Nominations for the 2023 International Award for Research in Agrochemicals and the 2022 AGRO Award for Innovation in Chemistry of Agriculture are being sought. The nomination criteria for these awards can be found on pages 25 and 27, respectively.

The ACS Kansas City Section will award the 2021 Kenneth A. Spencer Award, which co-sponsored AGFD and AGRO, to **Takayuki Shibamoto**, Professor Emeritus, Environmental Toxicology, University of California, Davis for his contributions in lipid peroxidation associated with diseases, natural antioxidants and their role in prevention of oxidative damages, and analysis and fate of pesticides in the environment. He will virtually present his lecture in the AGRO symposium Analytical Technologies in Agrochemistry and Strategies for Chiral Separation on Tuesday, August 24, at 2:00 PM. The USDA-ARS Sterling B. Hendricks Memorial Lectureship, which co-sponsored AGFD, will be presented by **Fereidoon Shahidi** in the AGFD Division program. Nominations for the 2021 awards for the Kenneth A. Spencer Award and the USDA-ARS Sterling B. Hendricks Memorial Lectureship are now being accepted (pp. 28 – 29).

The AGRO and AGFD Divisions with the Journal of Agricultural and Food Chemistry (JAFC) will sponsor two lectureships for outstanding papers published in JAFC. This year's winners for the AGRO paper are **David Steiner**, Rudolf Krska, Alexandra Malachová, Ines Taschl, and Michael Sulyok, which will be presented in the AGRO symposium: Practical Residue Analytical Methods for the Analysis of Samples from Environmental and Consumer Safety Related Studies on Monday, August 23, at 10:30 AM. The winners for the AGFD paper are Raúl González-Domínguez, Mireia Urpi-Sarda, Olga Jáuregui, Paul W. Needs, Paul A. Kroon, and Cristina Andrés-Lacueva which will be presented in the AGFD program. The call for nominations of papers published in 2021 will be solicited from AGRO and AGFD members and from the public through the JAFC website beginning in late Fall 2021 (p. 30).

The 2021 finalists for the AGRO New Investigator Award are **Marla Bianca** (USDA-ARS, Beltsville, Maryland), **Gareth Thomas** (Rothamsted Research, England), and **Zijiang "River" Yang** (University of Maryland, College Park). Each will present in a symposium of their choice (p. 33). The winner will be announced at the AGRO Awards Social on Thursday, August 26, at 12:30 – 2:00 PM. 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. The application requirements for the 2022 New Investigator Award can be found on page 36.

The AGRO Education Award for Student Travel, which is sponsored by Bayer, serves to promote an understanding of the role of chemistry in agriculture. This year, nine students will receive this award, four of whom will give oral presentations in the sessions throughout the week (p. 35). The remainder will present posters in the three poster sessions held on Tuesday, August 24 at 7:00 – 9:00 PM and will compete for 1st, 2nd, and 3rd place. Winners will be announced at the AGRO Awards Social, on Thursday, August 26, at 12:30 – 2:00 PM. Please attend their sessions and support our newest AGRO scientists. The application process for the Student Travel Awards for 2022 can be found on page 37. ***Please note the requirements have changed.*** *Only posters presentations will be eligible for the Education Award for Student Travel and the meeting competition*. Senior graduate students are encouraged to present both a poster and an oral presentation.

This year we congratulate **Michael Krolski**, **Qing Li**, **Kalumbu Malekani**, and **Carmen Tiu** as newly elected AGRO Fellows. The Awards Committee is accepting nominations for the AGRO Division Fellow Award (see below). We also congratulate **Sharon Schneider** who received the ACS Fellow Award. AGRO nominations for the ACS Fellow 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.

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

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You Are Cordially Invited To:

The AGRO Division Awards Virtual Social

Celebrate all the AGRO award winners!
Play games for valuable prizes!

ACS Fellow Award

Sharon Schneider

AGRO Fellow Awards

Michael Krolski, Qing Li, Kalumba Malekemi, and Carmen Tiu

ACS International Award for Research in Agrochemicals

David Sattelle

AGRO Award for Innovation in Chemistry of Agriculture

Jeffrey Bloomquist

USDA-ARS Sterling Hendricks Lecturer

Fereidoon Shahidi

ACS Kansas City Division Spencer Award

Takayuki Shibamoto

AGRO Division *JAFC* Article of the Year

David Steiner

AGRO New Investigator Award Finalists

Marla Bianca, Gareth Thomas, and Zijiang Yang

AGRO Education Travel Award Winners

Thursday, August 26, 12:30 - 2:00 PM Eastern Daylight Time

ALL AGRO DIVISION MEMBERS, SPEAKERS, AND THEIR GUESTS ARE INVITED TO JOIN US

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ACS Fellow Award

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

Presented to Sharon K. Schneider

Sharon K. Schneider is recognized as an ACS Fellow for service to the society and for exemplary contributions to advancing knowledge of soil processes that affect the fate and transport of organic compounds and crop productivity. She is an authority on the distribution, transformation, sorption, and volatilization of pesticides after soil application, and the impacts of soil erosion on soil properties and crop productivity. Her service to the AGRO as elected Secretary, Awards committee member, and enthusiastic volunteer has improved the efficiency and stature of division affairs and service to its members. She received the Agrochemicals Division Fellow Award in 2016.

Sharon is Research Leader of the USDA, Agricultural Research Service (ARS) North Central Agricultural Research Laboratory in Brookings, South Dakota. Sharon began her career with ARS as an undergraduate in St. Paul, Minnesota. After earning her BA in chemistry (University of Minnesota, Morris) and her Ph.D. in soil and water science (University of Nebraska, Lincoln), she joined ARS permanently. She served ARS in Riverside, California and Morris, Minnesota before assuming leadership of the laboratory in Brookings. Throughout her career, she encountered tremendous mentors: Bill Koskinen in St. Paul, Scott Yates in Riverside, and Mike Lindstrom at Morris, who contributed greatly to her success.

Throughout her productive research career, Sharon has focused on developing new methods and advancing knowledge of the fate and transport of pesticides in the environment, information that is critical for devising reduced-risk pesticide management approaches. Experiments ranged from small-scale laboratory studies to large-scale field experiments. Her careful experimental work determined the rate and mechanisms of degradation of agrochemicals in soil, and developed information needed to reduce the off-site transport of agrochemicals under different management practices. She was instrumental in the development of a method to measure the permeability of plastic films to fumigant vapors that is now a standard ASTM method; this work was recognized with a Federal Laboratory Consortium Award and a USDA-ARS Technology Transfer Award. Her recent research provides some of the first direct assessments of the influence of tillage erosion on soil properties affecting productivity, leading to methods that restore productivity to eroded soil and enhance food security.

Sharon has been an active member of ACS and the Agrochemicals Division for more than 20 years, being elected to the position of Division Secretary each year since 2012. She has served on the Awards Committee for 10 years and nominated numerous worthy candidates for Division awards. She was a member of the organizing committee and scientific program committee for the 13th IUPAC International Congress of Pesticide Chemistry in 2014. She has served as a member-at-large on the AGRO Executive Committee, evaluated student and early career presentations, and organized symposia. In addition ACS, Sharon is an active member of the American Society of Agronomy and the Soil Science Society of America and is a Fellow of both organizations. She currently serves as an Associate Editor of Pest Management Science and as a Technical Editor of Agricultural and Environmental Letters.

Thank you, Sharon, for your outstanding service to ACS and contributions to chemical science!

ACS Fellows from the AGRO Division

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

AGRO Division Fellow Award

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

Presented to Michael Krolski, Qing Li, Kalumba Malekemi, and Carmen Tiu

Michael E. Krolski graduated from the University of Wisconsin-Madison with a BS in Chemistry and earned his PhD in Synthetic Organic Chemistry from Iowa State University, studying with Prof. George A. Kraus. Mike started his agricultural career in 1987 at Mobay, which was formed as a joint venture between Monsanto and Bayer, performing plant and animal metabolism studies at the Research Farm in Stilwell, Kansas. He worked in various capacities at Bayer sites in Monheim, Germany and Research Triangle Park before Bayer's purchase of Monsanto brought him back to the Midwest, where he currently is stationed at the research facility in Chesterfield, MO but works in his basement due to the pandemic lockdown. His current position at Bayer CropScience is Senior Principal Scientist in Human Safety where he is on the Operator and Residential Exposure team performing worker and residential risk assessments. During his time at Bayer, Mike has done research in plant and livestock metabolism, environmental fate, method development, residue analysis, crop field trials, ADME (adsorption, distribution, metabolism, and excretion), PBPK (physiologically based pharmacokinetics), and human exposure.

Mike has served on the AGRO Division Executive Committee and participated in the AGRO Strategic Planning Retreat in 2016. He has organized symposia for the AGRO Division, the Pan-Pacific Conference, and the 2014 IUPAC Congress. He is currently co-editing his second ACS Symposium Book, *Task Force Data Generation for Risk Assessment*. Look for it at your local bookseller. Outside of ACS, Mike is the Technical Chair for the Agricultural Handler Exposure and the Agricultural Reentry Task Forces and is on the technical committee for the Council for the Advancement of Pyrethroid Human Health Risk Assessment.

Qing X. Li received his BS in agriculture from Shandong Agricultural University, China, his PhD in agricultural and environmental chemistry from the University of California-Davis in 1990, his post-doctoral training at University of California-Berkeley. He joined the University of Hawaii (UH) at Manoa in 1995. He was director of the pesticide residue chemistry laboratory at the University of Hawaii at Manoa from 1995 to 2013. Since 2011, Qing has served as director of the UH-Manoa Proteomics Core Facility.

Qing has been an ACS member since 1989. He has co-organized many symposia and served on the AGRO Executive Committee and on the AGRO Awards Committee. He now chairs the AGRO Awards Committee. Qing has also served as AGRO Vice Chair in 2020 and is currently the 2021 AGRO Program Chair. He will be the AGRO 2022 Chair. He is also an Associate Editor for the Journal of Agricultural and Food Chemistry since 2015.

His research addresses fundamental issues in agricultural chemistry with emphasis on pesticide chemistry, remediation, proteomics, phytopharmaceuticals, and food chemistry. His work has resulted in about 400+ peer-reviewed scientific publications, of which approximately 70 were published in ACS journals. His papers were cited more than 11K times. His research has been well recognized by numerous awards including the ACS AGRO Award for Innovation in Chemistry of Agriculture (2017) and the ACS International Award for Research in Agrochemicals (2020).

In 2020, Qing received the University of Hawaii's Medal for Excellence in Research. He has mentored 19 MS students, 28 PhD students, 32 post-doctoral fellows, 20 junior researchers, and 43 visiting scientists in leadership positions around the world. Since 2005, Qing has been an international honorary scientist and advisor, Korea.

AGRO Division Fellow Award

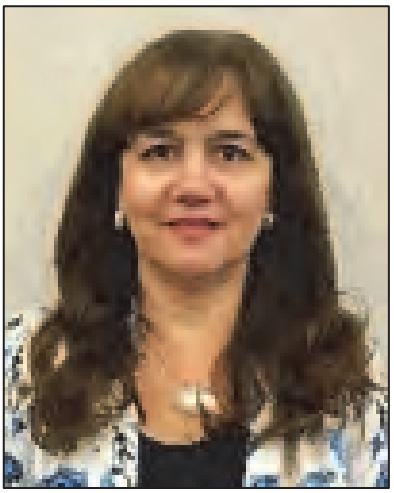
For continued and substantial contributions of time, talents, and service to the AGRO Division and agrochemical science

Presented to Michael Krolski, Qing X. Li , Kalumba Malekemi, and Carmen Tiu

Kalumbu Malekani (Malek) is Technical Director, North America and Director of the Environmental Fate and Metabolism Department at Smithers ERS. He holds a BS in Chemistry from the University of Zambia, an MS in Soil Science and Applied Analytical Chemistry from the University of Aberdeen (Scotland), and a PhD in Environmental and Soil Chemistry from South Dakota State University. After his postdoctoral research at the Connecticut Agricultural Experiment Station, under the direction of Joe Pignatello, Malek joined Bayer CropScience in Stilwell, Kansas, as a Senior Research Chemist performing regulatory environmental fate studies. After five years, he then joined DuPont Crop Protection in Newark, Delaware, working in the Environmental Risk Assessment, Registration, and Regulatory Sciences for eight years.

At Smithers, Malek supervises a team of scientists in charge of conducting a broad range of regulated studies, primarily in agricultural products, pharmaceutical API, and industrial chemicals. He manages the department's operations and activities related to the conduct, analysis, evaluation, and reporting of contracted studies in Environmental Fate, Plant, and Animal Metabolism, ensuring conformance to the department's technical, quality assurance, and financial performance, including P&L responsibility. He also provides technical expertise to Business Development and supports the development of customer relationships. His career highlights include representing Smithers ERS on The American Chemistry Council (ACC) Biocides Panel for two years, assisting member companies in understanding the conduct of the environmental studies.

Malek joined ACS as a graduate student member in 1991 and has been active in the AGRO Division for more than 12 years. He has co-organized many symposia with topics ranging from the environmental fate of agrochemicals to handling of mixtures in the environment and ecological implications. He has served on the AGRO Executive Committee, on the 2016 Strategic Planning Committee, as the co-chair of the AGRO Liaison Committee, and as mentor/coach for the Early Career Scientist Symposium organizers. He is a member of the Editorial Advisory Board of the new Agricultural Science & Technology Journal.



Carmen Tiu earned a Bachelor of Science in chemistry engineering and a Master of Science in organic chemistry from Timisoara Politehnic in Romania. She began her agrochemical experience with Dow Chemical now Corteva Agriscience and has spent thirty-three years accumulating expertise across R&D areas related to Formulation Chemistry, Regulatory, Government and Public Affairs, Global Risk Assessment (humans and environment), Global Residue Expert and Leader for Residue, Comp, and Agronomics, and Global MRL and Import Tolerances strategies.

Carmen has contributed at external regulatory advocacy events and publications to set global regulations (OECD, Codex, others) for global residue programs, proportionality of residues with rate, climatic zones, seasonality, and the Global ONE-MRL scheme where the first registration country prompts Codex to set MRL, adopted by all 188 member countries. Carmen and has many internal and external recognitions in the residues, risk, and food standards areas.

She has been a member of AGRO for many years, has organized symposia, and served on the Executive and the Development Committees.

Congratulations Mike, Qing, Malek, and Carmen!
And thank you for all you do for AGRO!

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

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

Environmental Fate and Exposure Modeling

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

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)

- GLP and NELAC audits and training

State Regulatory Support

- Experience working with state regulators on a variety of agricultural related projects.

Please contact John Hanzas (Stone) or Scott Teed (Intrinsik) for more information and let us help you solve your capacity, scientific or technical issues with respect to agrochemicals.

One contract is all that is required to engage the Stone/Intrinsik team. No additional administration or other teaming fees are charged.

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John Hanzas
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Scott Teed
613.761.1464
steed@intrinsik.com

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
qingl@hawaii.edu

AGRO DIVISION FELLOWS

1971	Louis Lykken	1985	Henry Dishburger	2012	Jeffrey J. Jenkins
	Tom H. (Bucky) Harris		Richard C. Honeycutt		John J. Johnston
	Herman Beckman (Posthumous)	1986	Gunter (Jack) Zweig	2013	Stephen O. Duke
1972	Wendell F. (Bud) Phillips	1987	Willa Garner		Cathleen J. Hapeman
	Don G. Crosby	1988	Jan Chambers		Kenneth D. Racke
	Elvins Y. Spencer		James Seiber		Teresa A. Wehner
1973	Mr. Roger C. Blinn	1990	Joseph Fenyes	2014	Aldos C. Barefoot
	Philip C. Kearney	1991	Nancy N. Ragsdale		Jeanette M. Van Emon
	Julius J. Menn	1992	Don Baker	2016	Kevin J. Armbrust
1974	Morton Beroza		Joel Coats		Del A. Koch
	James P. Minyard, Jr.		Guy Paulson		Sharon K. Papiernik
	Joe C. Street	1993	Larry Ballantine		Pamela J. Rice
1975	Hank F. Enos	1994	James Heitz	2017	Diana Aga
	Maurice B. Green		Ralph Mumma		Jay Gan
	Charles H. Van Middelem		Willis Wheeler		Marja Koivunen
1976	Marguerite L. Leng	1996	John Bourke		Steven J. Lehotay
	Jack R. Plimmer	1998	Hank Cutler		Thomas M. Stevenson
	Gerald G. Still		Paul Giesler	2018	John J. Beck
1977	Gustave K. (Bob) Kohn	2000	Barry Cross		Julie E. Eble
1978	S. Kris Bandal	2001	Robert Hoagland	2019	Leah S. Riter
	Paul Hedin	2003	Judd O. Nelson	2020	Cheryl B. Cleveland
1979	Rodney D. Moss	2005	Rodney Bennett		Aaron D. Gross
1980	G. Wayne Ivie	2006	Terry D. Spittler		Heidi B. Irrig
	John B. Siddall (Posthumous)	2007	John M. Clark	2021	Michael E. Krolski
1981	Robert M. Hollingworth		Ann T. Lemley		Qing X. Li
	Gino J. Marco		R. Donald Wauchope		Kalumba Malekemi
1983	John Harvey, Jr.	2008	Allan S. Felsot		Carmen Tiu
		2011	Laura L. McConnell		

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ACS International Award for Research in Agrochemicals

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Invertebrate neurones, genomes, phenotypic, and target-based screening in the search for new leads and new targets for the control of pests, parasites, and disease vectors

David B. Sattelle received his PhD in Zoology from the University of Cambridge in 1971 working on invertebrate neurobiology and joined the Cambridge – based AFRC Unit of Invertebrate Chemistry and Physiology. The award of a Sir Henry Wellcome Travel Fellowship enabled him to work at the University of Massachusetts, Amherst and the Marine Biological Laboratory in Woods Hole, USA.

On returning to Cambridge he led a group working on invertebrate neurotransmitter receptors and ion channels, molecules which include important targets for anthelmintic drugs and insecticides. He was awarded the 1983 Pfizer Academic Award for his research in this field. He was elected a Fellow of Queens' College, Cambridge, where he directed studies in Natural Sciences (Biology). David's work on the receptors and channels of identified insect neurons and the cloning and functional expression of insect and nematode neurotransmitter receptors has contributed to our understanding of the molecular targets of many crop protection chemicals and animal health drugs. These include pyrethroids, neonicotinoids, levamisole and many others.

In 1999, David moved to Oxford to join the MRC Functional Genomics Unit as Head of Neural Signalling and was appointed Professor of Molecular Neurobiology in 2000. In Oxford he explored the utility of invertebrate genetic model organisms (*Caenorhabditis elegans* and *Drosophila melanogaster*) in understanding human nervous system and neuromuscular diseases such as Alzheimer's disease, muscular dystrophy, spinal muscular atrophy and congenital myasthenia. Such models offer low-cost, high-throughput chemical and genetic screens in the search for new chemical leads and new drug targets. He was appointed a Fellow of Wolfson College. In Oxford, David also worked on the first reported genome of a pest insect species (flour beetle) and the first completed genome of a beneficial insect species (honeybee) as well as the first genome of an insect used in biological control (a parasitoid wasp).

He then served as Head of Neural Systems and Professor of Molecular Neurobiology at The University of Manchester and is currently Research Associate Professor of Molecular Neurobiology at University College London. Recently he has worked on the genomes of the Lyme disease tick and the mosquito vector of dengue, yellow fever, and zika. He has also developed an invertebrate automated phenotyping platform (INVAPP) which facilitates both chemical and genetic screening. This technology has been applied in the search for new drugs for human nervous system and neuromuscular disorders and new chemical leads to combat neglected tropical diseases in situations where mosquito vector control is threatened by resistance to current insecticides and where there is an urgent need for an effective anthelmintic to control human whipworm. His 363 papers have nearly 20,000 citations, and he has and h-index of 77. He is Co-founder and Chief Scientific Officer of CeBioscience Ltd. David is a Fellow of the Royal Entomological Society, The Royal Society of Biology and a Member of The Academy of Europe.

Dr. David Sattelle will present his award lecture in a virtual symposium on Monday, August 23, from 10:30 AM to 12:30 PM Eastern Daylight Time.

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

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AGRO Award for Innovation in Chemistry of Agriculture

Sponsored by BASF Corporation

Novel chemical insecticides and repellents for insect control

Jeffrey Bloomquist was raised in northern Indiana and obtained BS (Purdue University, 1978), MS (Mississippi State University, 1981), and PhD (University of California, Riverside, 1984), all in entomology. He then held postdoctoral appointments at Cornell University (1985-1988), before accepting a position with Rhone-Poulenc Ag Co. He moved to the Department of Entomology at Virginia Tech as an assistant professor in 1989 and attained the rank of full professor in 2003.

Jeff has established an internationally recognized program in neurotoxicology, including work on toxicant-induced neurodegeneration, as well as insecticide resistance and the search for new insect control molecules. In 2009, he relocated his laboratory to the University of Florida, where he currently leads multiple projects on new insecticides and repellents for mosquito control. The overall goal is a new commercial material of high efficacy, but without any field resistance. This research began while still at Virginia Tech with the investigation of novel bivalent inhibitors of acetylcholinesterase (AchE) and explored the topography of the insect catalytic gorge with compounds that interacted with both the peripheral and catalytic sites of the enzyme. This research, funded by the Grand Challenges in Global Health program and the National Institute of Allergy and Infectious Diseases, identified bivalent inhibitors with contact activity and little cross resistance, as well as novel carbamate compounds having over 500-fold selectivity for malaria mosquito AchE compared to human AchE, contrary to established dogma that anticholinesterases are inherently non-selective. Recent experiments on honeybees and varroa mites have shown that two of these carbamates have excellent activity against varroa with little or no toxicity to bees.

Subsequent research, supported by the Foundation for the National Institutes of Health, aimed to optimize the selectivity and insecticidal efficacy of compounds acting upon voltage-sensitive potassium channels of insect nerve and muscle, a novel target. This research led to the identification of a new lead molecule, 2-methoxy-N-((1-phenylcyclopentyl)methyl)benzamide, that shows promise as a new lead for insect control, which also acts as a strong synergist of pyrethroids.

Research supported by the Deployed War Fighter Research Program on new chemical repellents for disease vector control resulted in the identification of novel phenyl and pyridine amides that have repellent potency several times that of DEET. Evaluation of the insecticidal activity of this group identified molecules having high contact and vapor efficacy, with no kdr cross resistance.

Finally, he also demonstrated that pyrethroid acids can be repellent and act as strong synergists of standard repellents, as well as pyrethroids themselves. The synergism is achieved through two mechanisms; enhanced vaporization from treated surfaces, as well as enhanced neuronal responses at the level of the antennae. Overall, his discovery research has resulted in significant advances in repellent and insecticide chemistry and efficacy.

Dr. Jeffrey Bloomquist will present his award lecture in a virtual symposium on Tuesday, August 24, from 10:30 AM to 12:30 PM Eastern Daylight Time.

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

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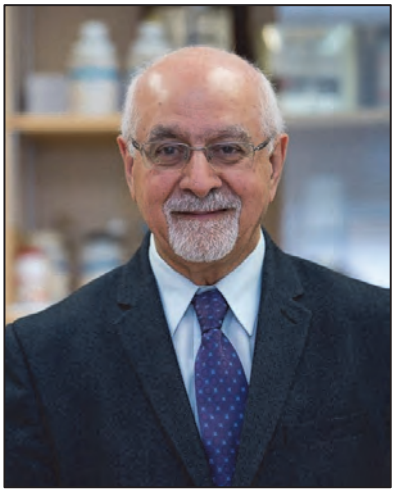
U.S. DEPARTMENT OF AGRICULTURE

2021 Sterling B. Hendricks Memorial Lectureship Award

Sponsored by USDA-Agricultural Research Service

Co-Sponsored by AGFD and AGRO Divisions

Functional foods, nutraceuticals, and natural health products: Achievements and challenges



Fereidoon Shahidi is internationally recognized for his basic and applied research on food lipids and phenolic antioxidants. He has made outstanding and pioneering contributions to both the fundamental and applied areas of food and nutraceutical science, food technology, functional foods, and antioxidant phenolics and has significantly advanced the discipline of food, nutrition, and agricultural science at the national and international levels.

Fereidoon obtained his PhD in physical-organic chemistry from McGill University in 1977 and is a University Research Professor in the Department of Biochemistry at Memorial University of Newfoundland, Canada, where he also has cross-appointments with the Department of Biology, the Department of Ocean Sciences, and the aquaculture program. He is renowned for his studies in food chemistry, food biochemistry, seafood and aquaculture, nutraceuticals, and flavor research, and has received twelve patents for his development of alternative meat-curing systems as well as green tea catechin derivatives and methods of their use. The results of his seafood and seafood byproduct research has greatly supported Canada's seafood and marine oil industries.

Fereidoon is one of the most highly cited researchers in food science, nutrition, and agricultural sciences, being listed 814 out of nearly 160,000 individuals by the Stanford University's World's top 2% scientists. His groundbreaking scientific achievements have resulted in numerous awards, including the American Oil Chemists' Society (AOCS) Stephen S. Chang Award, the Alton E. Bailey Award, and the Supelco AOCS Research Award. He is also the recipient of several awards from the ACS, including the Advancement of the Application of Agricultural and Food Chemistry Award and Distinguished Service Award. He is also a Fellow of ACS and its Agricultural and Food Chemistry Division as well as seven other societies. He is currently the chair of the Scientific Council of the International Union of Food Science and Technology (IUFoST) and is the principal founder of the International Society for Nutraceuticals and Functional Foods (ISNFF) as well as the Nutraceuticals and.Functional Food Division of the Institute of Food Technologists (IFT).

Since 1987, Fereidoon has obtained more than $12 million in outside funding for research support, and his work has resulted in the publication of more than 1,000 research articles, book chapters, and patents. The editor and/or author of 78 books, he also now serves as the editor-in-chief of the Journal of Food Bioactives and Food Production, Processing, and Nutrition.

Throughout his career, Fereidoon has collaborated with many other universities in different countries in South America, North America, Asia, and Europe. In his role as a mentor, guide, and educator, he has trained 35 PhD and 46 MS students, and more than 50 research associates, postdoctoral fellows, and assistants, as well as visiting professors and scholars. His former students, now his colleagues, occupy key positions as faculty members, government workers, and industry leaders in over twenty countries on five continents, attesting to the vital role he has played in educating the next generation of scientists.

Dr. Fereidoon Shahidi will present his award lecture in the virtual AGFD Awards Symposium on Tuesday, August 24, from 10:30 AM to 12:30 PM Eastern Daylight Time.

New technologies that support climate resiliency and keep farmers productive, profitable and sustainable are vital to meet the needs of today and those of future generations.

Under the **Good Growth Plan**, Syngenta is committed to:

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ACS Kansas City Missouri Local Section
2021 Kenneth A. Spencer Award
Co-Sponsored by AGFD & AGRO

Trace analysis of toxic carbonyl compounds in food and the environment

Takayuki Shibamoto is a Distinguished Professor Emeritus in the Department of Environmental Toxicology, University of California (UC), Davis. He received his PhD from the Agricultural and Environmental Chemistry Graduate Group at UC Davis in 1974, followed by two years of post-doctoral training in the Department of Food Science. He joined the UC Davis Department of Environmental Toxicology as an assistant professor in 1979 was promoted to to professor in 1987.

Takayuki served as department chair (1988 – 1995), master advisor for undergraduate programs (1983 – 1988; 2004 – 2014), and director of the trace analytical laboratory (1983 – 2018). He was also a visiting professor at the Shizuoka University, Ochanomizu University, and Oita University in Japan as well as the China Medical University in China. He has served on the editorial advisory board of the *Journal of Essential Oil Research* since 1987 and as Associate Editor of the *Journal of Agricultural and Food Chemistry* from 2009 to 2017.

At UC Davis, Takayuki taught two major undergraduate courses, Quantitative Analysis of Environmental Toxicants and Food Toxicology. Graduate students from 13 countries received degrees (17 PhD and 18 MS) under his supervision. In total, 84 postdocs and visiting scientists from 18 countries have studied in his lab.

Takayuki was also Director of USDA's IR-4 Western Region from 1992 to 2003. USDA IR-4 is a US government funded research program associated with pesticides. The Western Region covers 13 western states and has been the most productive region since he became Director. In 1996, he received the USDA Group Honor Award for Excellence for his IR-4 work. In 2009, he also received the IR-4 Hall of Fame Award, the highest honor bestowed upon an individual by the IR-4 Program.

Over his career, Takayuki has published nearly 460 research manuscripts, books, and book chapters. He has long been heavily involved in agrochemical research, in particular pesticide related projects including analytical method development and studies of biodegradation over time. He has also studied dioxin formation and its fate in the environment and was one of the pioneers of glass capillary gas chromatography. His accomplishments in these areas are reported in prestigious journals, such as *Environmental Science and Technology* and the *Journal of Agriculture and Food Chemistry*.

He has published numerous articles on the analysis of volatiles in natural plants and cooked foods. He has developed excellent methods for sample preparation and analysis of highly reactive and volatile carbonyl compounds, such as formaldehyde and malonaldehyde. Using his new methods, Takayuki discovered many antioxidants in natural plants, Maillard reaction products, and a brewed coffee. He has published over 200 articles associated with the role of these chemicals in human health. Based on these groundbreaking works, he has received several awards, including the American Chemical Society's Fellows Award and Award for the Advancement of Agriculture and Food Chemistry (2013). Takayuki has been identified as a Highly Cited Researcher by ISI since 2001.

Dr. Takayuki Shibamoto will present his award lecture in a virtual AGRO symposium on Tuesday, August 24, from 4:30 to 6:30 PM Eastern Daylight Time.

Sustainability helps ensure agriculture will continue to lead the way for farmers, society and our planet.

At Syngenta, our **Good Growth Plan** outlines key commitments to advance the way the agricultural industry thinks about the future of farming.

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- **Striving for carbon neutral agriculture**
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JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

2021 Research Article of the Year Lectureship Awards

Co-sponsored by AGFD & AGRO Divisions

AGRO AWARD: D. Steiner, R. Krska, A. Malachová, I.Taschl, M. Sulyok. Evaluation of Matrix Effects and Extraction Efficiencies of LC–MS/MS Methods as the Essential Part for Proper Validation of Multiclass Contaminants in Complex Feed. *J. Agric. Food Chem.* 2020; 68(12), 3868–3880. DOI: 10.1021/acs.jafc.9b07706

The authors investigated the contribution of matrix effects and extraction efficiencies to the overall performance of LC-MS/MS multiclass methods and proposed a fit for purpose validation protocol for complex feed matrices. The proposed approach is based on artificially prepared model matrices which ensures an accurate but not overestimated method performance and better reflects real-life conditions of complex feedstuff. Considerable analyte/matrix dependent differences between performance criteria for compound feed formulas and single feed ingredients revealed that requirements of future validation guidelines for feed should be extended and harmonized.

Practical Residue Analytical Methods for the Analysis of Samples from Environmental & Consumer Safety Related Studies Virtual Symposium
MONDAY, 10:30 AM EDT
Zoom Room 45

Evaluation of matrix effects and extraction efficiencies of LC-MS/MS methods as the essential part for proper validation of multiclass contaminants in complex feed.

David Steiner is an analytical chemist and Team Lead at Romer Labs Diagnostic GmbH in Tulln, Austria. He holds an MS in nutritional science and a PhD in food chemistry and biotechnology which he received from the University of Natural Resources and Life Sciences, Vienna (BOKU). During his PhD, he developed a unique LC-MS/MS based multiclass approach for the simultaneous determination of >1200 agricultural contaminants in complex feed. He conducted this work within the Austrian Competence Centre for Feed and Food Quality Safety and Innovation (FFoQSI GmbH). His research interests include toxicology and analytical chemistry with special focus on mycotoxin analysis aimed at improving food and feed safety.

AGFD AWARD: R. González-Domínguez, M. Urpi-Sarda, O. Jáuregui, P.W. Needs, P.A. Kroon, **C. Andrés-Lacueva** Quantitative Dietary Fingerprinting (QDF)—A Novel Tool for Comprehensive Dietary Assessment Based on Urinary Nutrimetabolomics
DOI: 10.1021/acs.jafc.8b07023

The authors present a new analytical tool for quantitative dietary fingerprinting using urinary metabolomics analysis, which allows the simultaneous quantitation of around 350 food-derived metabolites including polyphenols, glucosinolates, amino acids, methylxanthines, alkaloids and markers of alcohol and tobacco consumption. Dietary assessment is a challenge in nutritional studies, so this method is a significant tool for precision nutrition studies and investigating gut microbiota.

Cristina Andrés-Lacueva is full professor and Icrea Academia awardee at the Nutrition, Food Science, and Gastronomy Department of the Pharmacy and Food Science Faculty at the University of Barcelona where she leads the Biomarkers and Nutritional and Food Metabolomics research group. Since 2017,she has been a Principal Investigator at CIBERFES-isciii, Biomedical Research Network on Frailty and Healthy Aging. Her group works on the understanding of qualitative and quantitative links between dietary patterns, nutritional phenotype, and risk factors for diet-related chronic diseases.

Raúl González-Domínguez received his PhD in Chemistry at the University of Huelva, Spain in 2015, and then joined the University of Barcelona as a postdoctoral researcher under the Juan de la Cierva program funded by the Spanish Ministry of Science. His research interests are focused in the development and application of targeted and untargeted metabolomics approaches in food science, epidemiological, nutritional, and biomedical research.

AGFD Awards Virtual Symposium
Tuesday, 10:30 AM EDT
Zoom Room 23

Quantitative dietary fingerprinting (QDF)—A novel tool for comprehensive dietary assessment based on quantitative large-scale multianalyte metabolomics platform.

Congratulations to these creative scientists!

Past Awardees of the ACS International Award For Research in Agrochemicals

1969 John E. Casida, University of California, Berkley
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

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CALL FOR NOMINATIONS
ACS INTERNATIONAL AWARD FOR RESEARCH IN AGROCHEMICALS
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2023 Fall ACS National Meeting in San Francisco, California, 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 2023 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

2022 Fall ACS National Meeting in Chicago, Illinois, 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 2022 in Chicago, Illinois.

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

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

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CALL FOR NOMINATIONS
2022 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 2022 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 2022 Award will be presented at the ACS National Meeting in Chicago, Illinois just prior to the lecture. The Divisions of Agrochemicals (AGRO) and Agricultural and Food Chemistry (AGFD) co-sponsor the lecture, and in 2022, AGRO 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, 2022**.

PAST STERLING B. HENDRICKS MEMORIAL LECTURESHIP AWARD WINNERS

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

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 2022 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 Jon Tally
via email or request for a Dropbox, jonftally@gmail.com
Or via USPS to:
Jon Tally
808 SW Lake Pines Drive
Lee's Summit, MO 64082

Past Kenneth A. Spencer Award Winners since 1960

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

JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

CALL FOR NOMINATIONS

2022 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 2021 (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 2022 ACS National Meeting held in August in Chicago, Illinois.

Send your nominations to
jafcaward@acs.org

Deadline for nominations
January 15, 2022

All Graduate Students & Post-Docs

You Are Cordially Invited to Attend the

AGRO Student & Post-Doc Networking Sessions

Daily from 4:00 – 4:30 PM EDT on the Zoom Meeting Platform

Are you wondering about the different career paths you can take after graduation? Visit and network with professionals in academia, consulting, government, and industry to discuss and explore career opportunities.

Sunday, August 22, 4:00 – 4:30 pm EDT – Consulting
Jacob Mitchell (Stone Environmental)

Monday, August 23, 4:00 – 4:30 pm EDT – Academia
Ke Dong (Duke University), Ashli Brown (Mississippi State University)

Tuesday, August 24, 4:00 – 4:30 pm EDT – Industry
Cheryl Cleveland (BASF), Pat Havens (Corteva)
Sasha Kweskin (Bayer), Solito Sumulong (Provivi)

Wednesday, August 25, 4:00 – 4:30 pm EDT – Government
Sharon Schneider (USDA), Michelle Hladik (USGS)

Thursday, August 26, 4:00 – 4:30 pm EDT – Fun Session
Trivia about agriculture hosted by Sara Whiting (Bayer)

Join us!

For more information contact
SARA WHITING, sara.whiting@bayer.com

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- Expert Witness

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- International Regulatory Affairs
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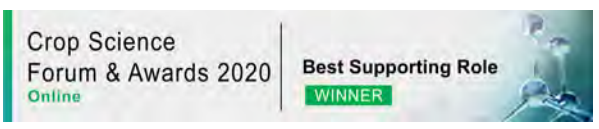
  - Biocide / Antimicrobial Products
  - Biopesticide Products
  - Fertilizers / Biostimulants
- European / UK Regulations:
  - Plant Protection Products including Biopesticides
  - Biocidal Products Regulation (BPR)
  - REACH Regulation
  - Fertilizers / Biostimulants
- Data Compensation

Economic Analysis

- Applied Economic Research
- Agricultural and Food Policy Economic Impact Analysis



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AGRO DIVISION
2021 NEW INVESTIGATOR AWARD FINALISTS

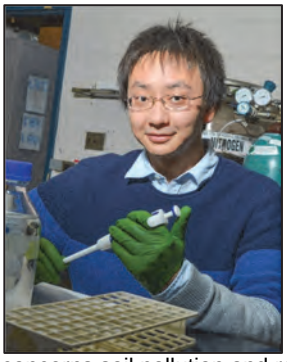
Marla Bianca received her PhD in analytical chemistry at the University of Maryland in College Park where she focused on the contribution of ketone/aldehyde-containing compounds to the composition and optical properties of dissolved organic matter through mass spectrometry and UV-Vis and fluorescence spectroscopy under the Neil Blough. Her methods proved to be a useful tool to reveal information on the composition, source, and structure of dissolved organic matter in natural waters. Marla is postdoctoral fellow at USDA-ARS, Beltsville, Maryland with Clifford Rice. She is developing and optimizing LC-MS/MS methods towards the separation of metolachlor metabolites that are being used as additional transient tracers to improve elucidation of environmental processes and to show how these two metabolites relate to soil and land features which in turn can be used by modelers in assessing conservation practices. Marla is passionate about the environmental side of chemistry and loves field sampling. She has been to superfund sites on the side of mountains to out into the Pacific Ocean and Sargasso Sea and to agricultural fields in Maryland. She looks forward to applying her knowledge of analytical skills to solve environmental challenges.

Environmental Fate, Transport, and Modeling of Agriculturally-Related Chemicals Virtual Symposium
MONDAY, 11:50 AM EDT, Zoom Room 02
NEW INVESTIGATOR AWARD FINALIST. Chiral separation of metolachlor metabolites (MESA and MOXA) to track nitrate-N transport and elucidate environmental processes.

Gareth Thomas received his PhD from the University of Exeter in 2019 and was primarily based at Rothamsted Research. His project focused on characterizing the volatile chemical signaling involved in the interactions between beneficial soil fungi and fungal plant pathogens under the direction of Mike Birkett, David Withall, Chris Thornton, and Murray Grant. During his PhD, he developed a keen interest in chemical ecology, particularly the study of microbial volatile organic compounds. Gareth is a post-doctoral research scientist at Rothamsted Research (England) with József Vuts and John Caulfield working on Acute Oak Decline (AOD); a disease threatening UK oak trees. Characteristic symptoms of AOD include necrotic tissue on the bark, which consistently harbors several pathogenic bacterial species and cause lesions and cavities on the tree. Larval galleries of the two-spotted oak buprestid beetle, *Agrilus biguttatus* (Coleoptera: Buprestidae), also commonly co-occur with these lesions, indicating a possible role for *A. biguttatus* in vectoring the pathogens and spreading the disease. His research aims to determine the role of AOD bacterial volatiles in the behavior of *A. biguttatus* which could enable the identification of attractive bacterial compounds and could be used to optimize semiochemical-based strategies to monitor the spread of the beetles. This would provide practical tools for beetle management.

Chemical Communication between Living Organisms in Agricultural Systems: Early Career Virtual Symposium
WEDNESDAY, 10:35 AM EDT, Zoom Room 02
NEW INVESTIGATOR AWARD FINALIST
Investigating the role of acute oak decline (AOD) bacterial volatiles on the behavior of the two-spotted oak buprestid *Agrilus biguttatus* (Coleoptera: Buprestidae)

Zijiang "River" Yang is a postdoctoral research associate at University of Maryland (UMD), Department of Civil and Environmental Engineering. He earned his PhD in 2020 and MS in 2017 in Environmental Engineering from University of Maryland under the direction of Cathleen Hapeman and Alba Torrents. He received his BS in Structural Engineering from Southwest University of Science and Technology, Mianyang, Sichuan, China, under direction Bin Jia. River's post-doctoral research UMD involves several collaborative projects with USDA. The first concerns soil pollution and remediation evaluating the effectiveness of carbonaceous materials in mitigating the bioaccumulation of organochlorinated pesticides and the distribution of residues between soil and indigenous earthworms under field conditions. He is also developing more accurate statistical data analyses and sampling design approaches for more accurate risk assessments. He has expanded his collaborative circle to include the ARS Southwestern Cotton Ginning Research Laboratory in Las Cruces, New Mexico where he is examining dispersion modelling and the characterization of particulate matter distribution as released from cotton ginning facilities. This has led to evaluating and to modifying the predictive accuracy of the regulatory air dispersion model (AERMOD) under these very low-altitude conditions.



Environmental Fate, Transport, and Modeling of Agriculturally-Related Chemicals Virtual Symposium
TUESDAY, 11:25 AM EDT, Zoom Room 02
NEW INVESTIGATOR AWARD FINALIST.
Assessment and modeling of particulate matter concentration and dispersion from low-altitude emission sources.

In 2022, the AGRO Division will have a new sponsor to support the AGRO New Investigator Award

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2021 AGRO Education Travel Awards
Sponsored by Bayer Cropscience

Congratulations to all our student travel grant winners!

ORAL PRESENTATIONS

Anamika Chatterjee, Environmental fate of dsRNA biopesticides: Metal-catalyzed RNA hydrolysis in aquatic environments. *Washington University in St. Louis, Kimberly Parker*.
MONDAY, 8:20 PM EDT, Zoom Room 02

Reem Khan, Low-cost ultrasensitive method for PFAS detection through electrochemistry.
SUNDAY, 11:25 AM EDT, Zoom Room 01

Stephen Sharkey, Hydrogen bonding site number predicts dicamba volatilization from amine salts. *Washington University in St. Louis, Kimberly Parker.*
WEDNESDAY, 7:30 PM EDT, Zoom Room 02

Ke Zhang, Quantification of double-stranded RNA molecules as model RNA interference biopesticides in agricultural soils. *Washington University in St. Louis, Kimberly Parker.*
SUNDAY, 11:00 AM EDT, Zoom Room 01

POSTER SESSION
Pesticides, Pollinators, and Crop Protection

TUESDAY, 7 – 9 PM EDT, Room Row 2

Christopher Fellows, Synergistic effects of agrochemical exposure phosphorothioate insecticides in the Western honey bee, *Apis mellifera*. *Louisiana State University, Daniel Swale.*

Sarah McComic, Post-translational histone modifications alter permethrin susceptibility in *Drosophila melanogaster*. *Louisiana State University, Daniel Swale.*

Flinn O'Hara, Toxicity and changes to feeding behavior of *Aphis gossypii* after exposure to commercial insecticides. *Louisiana State University, Daniel Swale.*

Morgan Roth, Electroantennography to measure small hive beetle (*Aethina tumida*) responses to established attractant and repellent molecules. *Virginia Polytechnic Institute and State University, Aaron Gross.*

Na Xie, Resistance to insecticides with different modes of action in *Drosophila melanogaster* with Rdl mutation in GABAA receptors: More than just cyclodienes and phenylpyrazoles. *Virginia Polytechnic Institute and State University, Aaron Gross.*

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

CALL FOR APPLICANTS
AGRO DIVISION
2022 NEW INVESTIGATOR AWARD

2022 Fall ACS National Meeting in Chicago, Illinois, USA

The AGRO Division seeks nominations for the New Investigator Award (NIA) to be awarded at the ACS meeting in Chicago, Illinois, in August 2022. 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.

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 2022, applications will be considered from ***scientists who have obtained their doctorates no earlier than the year 2017.***
- A panel consisting of at least three AGRO members will chose 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.

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 262nd ACS National Meeting in Atlanta, Georgia.

Deadline:
The extended abstract, *curriculum vitae*, and letter(s) must be received by the New Investigator Award (NIA) Coordinator no later than **March 30, 2022 (subject to change)**.

For more information, please contact:
Sasha Kweskin, NIA Coordinator
Bayer US LLC, Crop Science Division
sasha.kweskin@bayer.com

The AGRO Division is grateful for the sustained support of the AGRO New Investigator Award and will announce the 2022 Sponsor this Fall

CALL FOR APPLICANTS
AGRO DIVISION 2022 EDUCATION TRAVEL AWARDS
Sponsored by Bayer US LLC, Crop Science Division

UNDERGRADUATE and GRADUATE STUDENT RESEARCH

Travel Support for Student Posters

2022 Fall ACS National Meeting in Chicago, Illinois, 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.

Applications are sought for the 2022 Travel Awards. Selected undergraduate and graduate students will be awarded up to $600 each to help defray costs of attendance to give a poster or an oral presentation at the 264th ACS Fall National Meeting, which will be held in August 2022 in Chicago, Illinois. 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: *Starting in 2022 and beyond, 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.*

To apply, students should submit the following no later than March 30, 2022 (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

NOTE:
Files sent directly to the coordinators will not be accepted.

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
email: adgross@vt.edu

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 2022

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Notes from the Program Chair

Qing X. Li, qingl@hawaii.edu

The AGRO program at the 262nd National ACS Meeting and Exposition will be held virtually as an online only event on Sunday – Thursday, August 22–26, 2021. The National ACS Meeting and Exposition will be hybrid (online and in-person in Atlanta) with the main theme being *Resilience of Chemistry*. All programs are scheduled in the Eastern Time Zone.

ACS has had virtual meetings since 2020, so the virtual meeting format is not new to most of us if not all. Such experiences allow us to share ideas, connect, and explore cutting-edge science. ACS has promised "giving scientific professionals a platform to present, publish, discuss and exhibit the most exciting research discoveries and technologies in chemistry and its related disciplines." The meeting will facilitate networking opportunities, career development and placement, and provide companies an opportunity to exhibit products and services to a targeted audience." The AGRO technical and networking opportunities are briefly summarized below to help you familiarize with the scheduled events. As always, AGRO will deliver an excellent technical program and will provide quality networking opportunities.

Technical Program. ACS meeting schedule is available at: https://www.acs.org/content/acs/en/meetings/acs-meetings.html AGRO will have up to four concurrent virtual symposia in four 2-hour, virtual sessions on Sunday to Wednesday and three sessions on Thursday. Over 200 oral presentations are distributed in 22 symposia, and 29 posters will be presented in three topics.

- Virtual Session 1: 10:30 AM – 12:30 PM
- Virtual Session 2: 2:00 – 4:00 PM
- Virtual Session 3: 4:30 – 6:30 PM
- Virtual Session 4: 7:00 – 9:00 PM

The AGRO technical program will be composed of following:

- The ACS-wide plenary session and Kavli lectures on Sunday, Monday, and Tuesday, 12:30 – 2:00 PM.
- Online live oral presentations, live Q/A, and discussions. AGRO talks will only be available live (online) unless the presenter pays to have their talk available on demand.
- Online live poster presentations. There will be a Zoom room with breakout rooms for each poster. AGRO Poster Session is on Tuesday, 7:00 – 9:00 PM.

Award Presentations. Live (online) award lectures are scheduled on different days. **David B. Sattelle** will be receive the ACS International Award for Research in Agrochemicals on Monday at 10:30 AM in the symposium *Receptor / Channel Targets of Chemicals Controlling Insect and Nematode Pests, Vectors, and Pathogens*. The symposium is organized by John Clark and Kazuhiko Matsuda. We thank Corteva Agriscience for sponsoring this award. **Jeffrey R. Bloomquist** will receive the AGRO Award for Innovation in Chemistry of Agriculture and will present his lecture on Tuesday, 10:30 AM. Thank you to BASF for sponsoring this award.

Takayuki Shibamoto will receive the 2021 Kenneth A. Spencer Award on Tuesday, 2:00 PM which is sponsored by the ACS Kansas City Section. This year the award is hosted by AGRO and co-sponsored by AGFD. The USDA Sterling Hendricks Memorial Lectureship will be given by **Fereidoon Shahidi** on Tuesday morning. This year AGFD hosts this award and AGRO co-sponsors. **David Steiner** will accept the Journal of Agriculture and Food Chemistry (JAFC) Research Article of the Year Lectureship Award on behalf of his team for their paper, *Evaluation of Matrix Effects and Extraction Efficiencies of LC–MS/MS Methods as the Essential Part for Proper Validation of Multiclass Contaminants in Complex Feed*, on Monday morning.

Early Career Scientist Awards. AGRO New Investigator Award (NIA) finalists **Marla Bianca**, **Gareth Thomas**, and **Zijiang Yang** have been selected from among the applications, and the winner will be announced at the AGRO Awards Social. They will present their talks in the morning sessions on Monday, Wednesday, and Tuesday, respectively. Nine students were selected for the AGRO Education Awards for Student Travel this year including five posters and four oral presentations. Best of luck to students as they compete in our AGRO poster contest! (Please note that in 2022 this award will only include poster presentations.) Thank you to Bayer CropScience for sponsoring the student award.

Congratulations to all our award winners!

Early Career Symposia. AGRO will also host two Early Career Symposia on Tuesday and Wednesday: *Advances in Vector Control on Insecticide Science*, organized by Edmund Norris, Aaron Gross, and Daniel Swale, and *Chemical Communication between Living Organisms in Agricultural Systems*, organized by Nurhayat Tabanca and Kelsey Fisher.

Special Thanks. Thank you to our Awards Committee, co-chaired by Qing Li and Jeanette Van Emon; Early Career Scientist Committee, co-chaired by Aaron Gross and Sara Whitig; Sasha Kweskin for organizing the NIA; Kalumba Malekemi for mentoring the Early Career Symposia, and the award selection committees from USDA-Agricultural Research Services, the ACS Kansas City Section, and Journal of Agricultural and Food Chemistry for their time and commitment to the award programs.

Division Networking Events (nontechnical program). Networking is an integral part of any scientific meeting. AGRO will host the following virtual networking events to help you connect.

- **Coffee Talk** daily from 10:00 AM to 10:30 AM daily
- **Early Career Networking** from 4:00 to 4:30 PM daily
- **Blues and Brews** on Wednesday, 12:30 - 2:00 PM. Bring your ideas for AGRO symposia for Fall 2022.
- **AGRO Awards Social** on Thursday, 12:30 - 2:00 PM.

Many prizes will be given at the social networking events. I encourage you to take advantage of these networking options to get the most out of your ACS conference experience.

AGRO Programming Support. AGRO's high-quality programming at ACS meeting is possible because of the many enthusiastic and dedicated volunteers. Thank you for your continued commitment to AGRO and your resiliency in dealing with the changes and challenges we have worked through together this year. I am particularly grateful for all the guidance from Leah Riter, Cheryl Cleveland, Cathleen Hapeman, Laura McConnell, and Peney Patton. Big thanks to all symposium organizers for organizing the meeting and soliciting abstracts as well as to all presenters for submitting quality abstracts. In addition, thank you to the many companies and organizations that generously provide funds to support our program. I look forward to a productive and fun-filled experience as we interact in new ways with our colleagues in the AGRO community.

Enjoy the Meeting!

AGRO Strategic Programming Committee
Standing Programming and Champions

Additional Volunteers Needed for the 2022 Chicago Meeting

Heidi Irrig, 2022 Committee Chair; heidi.irrig@syngenta.com

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

Agrochemical Toxicology, Mode of Action and Omics
John Clark, jclark@vasci.umass.edu
Ralf Nauen, ralf.nauen@bayer.com
Qing Li, qingl@hawaii.edu

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

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

Human and Animal Health Protection: Vector Control, Veterinary Pharmaceutical, Antimicrobial, and Worker Protection Products
Steve Lehotay, steven.lehotay@usda.gov
Aaron Gross, adgross@vt.edu

Human Exposure, Health, and Risk Assessment
Cheryl Cleveland, cheryl.cleveland@basf.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
Joe Wisk, joseph.wisk@basf.com
Daniel Schmehl, daniel.schmehl@bayer.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**

Comments from the Vice-Chair

Heidi Irrig, 2022 Program Chair
heidi.irrig@syngenta.com

Are you ready? After spending the last 15 months in isolation, working from home with little contact with others due to the COVID-19 pandemic, are you prepared for a live ACS event? I, like many AGRO members, have been an introvert my entire life. In some ways, the pandemic has been an introvert's dream: to work alone without feeling bad about it! However, this pandemic has forced even me to admit that I miss the benefits of in-person collaboration. So, let's get ready for a wide-open, fully live 264th ACS National Fall Meeting in Chicago, August 20 – 25, 2022.

Programming Committee. The AGRO 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. The committee also discusses ways to partner through programming with other ACS Divisions and other national and international partners.

A key activity of the Programming Committee is to maintain a volunteer list of topic champions in support of symposium planning. Topic Champions are needed to: a) serve as a general resource as an expert in their given area, b) identify timely symposia topics, and c) support specific symposia through identification of and/or mentoring of co-organizers. In addition to the national programming, we are also interested in any ideas our membership would suggest in connecting AGRO better with the ACS Regional meetings in your area.

To Chicago we go! The overall theme for the Chicago meeting is **Sustainability in a Changing World**. Sustainability seems to be the "it" word in many of our work and research arenas. What is the definition of sustainability in our AGRO community today? What is your role in fostering sustainability in our dynamic universe? Let's explore sustainability for our AGRO Division in Chicago.

As Vice-Chair of AGRO, one of my responsibilities has been to identify AGRO members who have furthered AGRO's goal of advancing agricultural science by promoting innovative solutions for the protection of agricultural by participating in our Divisions' activities. Do you know someone who has enthusiastically worked for AGRO on top of their day job or research for years? An individual who is fun to work with and always ready to talk about agricultural science, their symposium, and the AGRO program at the national ACS meeting? Then you probably know a future AGRO Fellow! AGRO is a great group of volunteers dedicated to promoting and sharing our love of agricultural science. Every year AGRO recognizes a few members whose dedicated and enthusiastic service keeps AGRO moving forward. Please consider nominating a candidate for the AGRO Fellow award by letting the new Vice-Chair, Aaron Gross, know of the special volunteer and their actions to further AGRO.

Like watching a recorded concert from home is not the same as attending it live, neither is ACS. Volunteers are needed. Please contact me, Heidi Irrig, if you would like to help. A key opportunity to discuss programming ideas will be at the Blues and Brews brainstorming session on Wednesday, 12:30pm to 2:00pm (EST) August 25, 2021. We have planned fun idea generation activities and chances to win prizes during this virtual event. We look forward to hearing from you and seeing you in this forum.

Be a part of the fun & creative

AGRO Program Brainstorming

and

Virtual Blues & Brews
Chicago Style Happy Hour

Wednesday, August 25, 2021
12:30 – 2:00 PM

- **Creative brainstorming about future AGRO programming**
- **Learn more about how easy it is to organize a symposium**
- **Planning for the Chicago National Meeting in 2022**
- **Chicago Meeting Theme: Sustainability in a Changing World**

Gift Card Prizes, Socializing,
Fun Chicago Food & Drink Trivia,
Sharing Ideas including Your Favorite Windy City Cocktail Recipe, and More

WE WILL BE LIVE IN CHICAGO, RIGHT?! YOU BET WE WILL!
SO, LETS DEFINE AGRO SUSTAINABILITY IN A CHANGING WORLD!

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

Recordings of the 2019 – 2021 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 AGRO Lunch and Learn Webinar Series.

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

Laura McConnell, laura.mcconnell@bayer.com
Amanda Chen, Natalia Peranginangin, James Seiber, Tom Sparks, Solito Sumulong, Daniel Swale

2021 Webinars

50 Years at EPA

Dana Vogel
Director of Health Effects Division
U.S. EPA
Office of Pesticide Programs

This presentation will focus on EPA's history over the last 50 years with a focus on the accomplishments of the Office of Pesticide Programs. Ken Racke and Jeanette Van Emon will give a short update on plans for the AGRO50 and Beyond celebration.

September 22, 12:00 PM to 1:00PM Eastern US Time

Let´s Go Molecular: Bee Pollinator Toxicogenomics Meets Pesticide Risk Assessment

Ralf Nauen
Distinguished Fellow
Bayer Crop Science
Molecular Entomology and Toxicology

Find out the latest discoveries and advancements in bee pollinator risk assessment..

October 13, 12:00 PM to 1:00PM Eastern US Tim

Special Thanks to our Sponsor for their Generous Contribution!

eurofins | agroscience services

PROGRAMMING AND OUTREACH ACTIVITIES 2021 – 2023

Activity/Event	Leaders/ Champions	Status	Actions Required
AGRO Lunch and Learn Webinar Series	Laura McConnell	• Several seminars are scheduled for Fall 2021 • Proposals for webinars are being accepted	• Watch for eNewsletter announcements and sign-up to participate
Pacifichem 2021 December 16 – 21, 2021 Honolulu, Hawai'i www.pacifichem.org	John Johnston Ken Racke	• AGRO sponsoring nine symposia	• Registration open
12th International Symposium on Adjuvants for Agrochemicals April 24 – 29, 2022 Bordeaux, France www.isaa2020.org	David Cameron Peter Westbye	• Abstract submission for posters still open	• Submit poster abstracts • Registration open
58th North American Chemical Residue Workshop July 2022 www.nacrw.org	Steve Lehotay	• Check website for updates and details • Co-Sponsored by AGRO	• Submit abstracts for: • **Oral presentations typically in March** • **Poster presentations typically in May**
264nd ACS National Meeting August 21 – 25, 2022 Chicago, IL	Heidi Irrig	• Planning underway • Symposia proposals (Call for Papers) due November 15, 2021	• Volunteers and champions NEEDED!! • Attend Blues and Brews Chicago Style 8/25/2021
265th ACS National Meeting March 26 – 30, 2023 Indianapolis, Indiana	Ken Racke	• This is venue is being considered for a small program	
266th ACS National Meeting August 13 – 17, 2023 San Francisco, California	Aaron Gross		

Future ACS National Meetings

263rd ACS National Meeting & Exposition
March 20-24, 2022, San Diego, California
Bonding Through Chemistry

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August 21-25, 2022, Chicago, Illinois
Sustainability in a Changing World

265th ACS National Meeting & Exposition
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Crossroads of Chemistry

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August 13-17, 2023, San Francisco, California
Harnessing the Power of Data

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

270th ACS National Meeting & Exposition
August 17-21, 2024, 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
- Help with identifying co-organizers
- Some 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

Pacifichem 2021

The 2020 International Chemical Congress of Pacific Basin Societies has been rescheduled for 2021. Pacifichem 2021 will be a hybrid meeting – presentations may be made virtually or in- person.

Honolulu, Hawaii, USA
December 16 - 21, 2021

A CREATIVE VISION FOR THE FUTURE

Chemistry is, and always should be, a creative enterprise, providing us with unique and unprecedented innovations to make human society happier, healthier, and more sustainable. In addition to being a discovery science, chemistry allows us, through limitless combinations and permutations of the over 100 elements, to create new substances that nature has not yet seen in the 13.5 billion-year history of our universe and to employ them in the betterment of our Earth. Pacifichem 2021 will create an active forum and a productive platform where thousands of papers in more than 200 symposia will disclose state-of-the-art, cutting edge findings in chemistry and related multidisciplinary areas that inspire active discussion and opportunities for international collaboration, thereby promoting creativity and a clear creative vision for chemistry.

CORE CHEMISTRY

A focus on the core areas of chemistry will be part of Pacifichem 2021. Topic areas for symposia will include:

Analytical; Organic; Inorganic; Physical, and Theoretical; Macromolecular and Biological Chemistry; Materials Science; Nanotechnology; Chemical Education and Communication

CHEMISTRY FOR GLOBAL CHALLENGES

This subtheme emphasizes chemistry that contributes to human society and helps to create a better world for the future. Topic areas for symposia will include:

Chemistry for Sustainability; Chemistry of Energy; Chemistry of Health Care; Artificial Intelligence and Big Data; **Chemistry for and from Agriculture and Food**; Environmental Chemistry of Atmospheric Processes; Geomicrobial Processes; Contaminant Transport/Mitigation

AGRO WILL LEAD 9 PACIFICHEM 2021 SYMPOSIA (consisting of 111 presentations/12 half-day sessions)

Technical program symposia co-organized by AGRO Members

- Proteomics and metabolomics in agricultural, environmental, and public health sciences
- Pesticide residues in food: Advancing global standards that facilitate trade and ensure consumer safety
- Deciphering chemical signals and -omics for sustainable pest management
- Rodenticide environmental fate and non-target effects
- Emerging technologies and advances in measuring and assessing the environmental fate of pesticides and other agrochemicals
- Developments in pesticide ecological risk assessment approaches in the Pacific Rim
- Recent developments in the analysis of pesticide residues in foods: advances and challenges
- Agricultural sustainability: The critical links between chemistry, exposure assessment, risk assessment, and regulations
- Future of insect growth regulators and utilization of *in silico* technology

AGRO Networking and Social Event to be organized – stay tuned for timing and details!

For further details or to share your ideas, please contact one of the AGRO Pacifichem 2021 champions:

John Johnston, johnjohnstonchemist@gmail.com
Ken Racke, kenracke@gmail.com

Check the website for the latest details
www.pacifichem.org

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John Johnston, johnjohnstonchemist@gmail.com
Ken Racke, kenracke@gmail.com

Check the website for the latest details
www.pacifichem.org

AGRO Division Officers, Councilors, and Executive Committee

2021 AGRO Division Officers

Division Chair
Leah S. Riter
636-737-9331
leah.riter@bayer.com

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

Vice Chair
Heidi Irrig
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heidi.irrig@syngenta.com

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

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

Councilors

2021 – 2023

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Jeanette Van Emon, jmvanemon@gmail.com
Kevin Armbrust, Alternate, armbrust@lsu.edu
Brittany Rauzan, Alternate, brittany.rauzan@gmail.com

Executive Committee Members

2019 – 2021

Mike Krolski, mike.krolski@bayer.com
Edmund Norris, edmund.norris@usda.gov
Caitlin Rering, caitlin.rering@usda.gov
Sara Whiting, sara.whiting@bayer.com
Carmen Tiu, carmen.tiu@corteva.com

2020 – 2022

James Foster, jfoster@agrodiv.org
Pat Havens, patrick.havens@corteva.com
Mingming Ma, mingming.ma@corteva.com
Kalumbu Malekani, kmalekani@smithers.com
Ralph Warren, ralph.warren@basf.com

2021 – 2023

Amanda Chen, amanda.chen@bayer.com
Aaron Gross, adgross@vt.edu
Amy Ritter, rittera@waterborne-env.com
Solito Sumulong, solito.sumulong@gmail.com
Spenser Walse, spencer.walse@usda.gov

AGRO Division Past Chairs

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

What the AGRO Committees Do

** 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.

***** New committee members are being sought***

AGRO Division Committees

Awards Committee

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

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Yelena Sapozhnikova, eNewsletter Coordinator
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Early Career Scientist Committee

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Sasha Kweskin, New Investigator Award Coordinator,
636-737-2320, sasha.kweskin@bayer.com
Kalumbu Malekani, Early Career Scientist Symposium Mentor,
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MEMBERS: Diana Aga, Troy Anderson, Joel Coats, Cathleen Hapeman, James Klimavicz, Steven Lehotay, Edmund Norris, Scott O'Neal, Daniel Swale, Nurhayat Tabanca

Finance Committee

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International Activities Committee

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MEMBERS: Eloisa Dutra Caldas, Paul Hendley, John Johnston, Rai Kookana, Steven Lehotay, Weiping Liu, Laura McConnell, Karina Miglioranza, Chris Peterson, Amy Ritter, Jim Seiber, Keith Solomon, John Unsworth

Liason Committee

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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 2022

Leah Riter, Chair, 636-737-9331, leah.riter@bayer.com
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Julie Eble, 484-431-6978, julie.eble@agrodiv.org

Programming Committee (see p. 40)

Heidi Irrig, Chair, 336-632-7243, heidi.irrig@syngenta.com
Webinar SubCommittee (see p. 42)
Laura McConnell, 636-737-4787, laura.mcconnell@bayer.com

AGRO 50th Celebration Committee

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

Strategic Planning Committee

To be reconstituted in 2022

AGRO Strategic Plan

AGRO Vision Statement

Fostering sustainable agriculture and
protecting public health through chemistry

AGRO Mission Statement

Bringing together a worldwide community of scientists and stakeholders
to advance knowledge and promote innovative solutions
for the protection of agricultural productivity, public health, and environment.

GOAL 1: ***Increase AGRO's outreach to scientific and public communities.***
Impact: High; Resources: Med-high

1-1. Design an outreach/partnership committee by Q1 2017 to develop liaisons with other scientific divisions in ACS and other scientific societies/organizations.
Impact, H; Resources, L
Champions: Stephen Duke, Al Barefoot

1-2. Establish relationships with other organizations within one year leading to nine symposia in the next three years including two other organizations in the U.S., three international, and four with other ACS divisions. Coordinate with G3S3.
Impact, H; Resources, H
Champions: Al Barefoot, Ken Racke, Jay Gan

1-3. Extend public awareness of AGRO issues through four targeted press releases per year by working with the ACS press office and developed presentations for AGRO to share by August 2017.
Impact, M; Resources, L
Champion: Dena Barrett

GOAL 2: ***Attract and retain an increasingly diverse and engaged membership by creating tangible benefits and opportunities to advance the AGRO mission.***
Impact: High; Resources: Medium

2-1. Clearly define and communicate membership and participation benefits via creating an AGRO poster, presentation, and advertisement by August 2017.
Impact, H; Resources, M
Champions: Leah Riter, Steve Lehotay

2-2. Conduct an on-line membership engagement survey and create a feedback mechanism on the website to enable a volunteer coordinator to link people with opportunities by August 2017.
Impact, H; Resources, M
Champions: Ashli Brown Johnson, Leah Riter

2-3. The membership committee will create an incentive and recognition program and communication strategy to promote engagement by new and current AGRO volunteers by August 2018.
Impact, H; Resources, M
Champions: Steven Lehotay, Ashli Brown Johnson, Michelle Hladik

GOAL 3: ***Provide strategic, multi-year programming that advances the AGRO mission.***
Impact: High; Resources: Med-high

3-1. Design and launch a program committee by the end of Q2 2017 to implement a plan for the 2018 national meeting that develops a multiyear programming approach that maintains the AGRO division culture and includes webinars and electronic options for both national and regional meetings.
Impact, H; Resources, L
Champions: Julie Eble, John Clark, Jay Gan

3-2. Update symposia topic list to evaluate past programming performance in order to aid program design committee in planning future meetings by the end of March 2017.
Impact, M; Resources, L
Champions: Peney Patton, Mike Krolski

3-3. By end of 2017, partner with two other organizations, divisions, or societies to bring in Hot Topics and educational (*e.g.*, workshops, short courses) programming to increase membership (additional cosponsors in future years). Coordinate with G1S2.
Impact, H; Resources, variable
Champions: Aaron Gross, Amy Ritter, Kalumbu Malekani

AGRO Combined Governance Conference Call

September 14, 2020

11:00 AM – 1:00 PM CDT

Sharon Schneider, Secretary

ATTENDANCE

Officers: Cheryl Cleveland, Chair; Leah Riter, Program Chair; Qing Li, Vice-Chair; Sharon Schneider, Secretary; Del Koch, Treasurer; Julie Eble, Past-Chair; Rodney Bennett, Jeanette Van Emon, Councilors; Kevin Armbrust, Brittany Rauzan, Alternate Councilors

Executive Committee Members (EC): James Foster, Aaron Gross, Pat Havens, Heidi Irrig, Mike Krolski, Kalumbu Malekani, Mingming Ma, Amy Ritter, Daniel Swale, Carmen Tiu, Sara Whiting, Tianbo Xu

Committee Chairs and Guests: Chris Bianca, Dave Barnekow, Amanda Chen, Jay Gan, Cathleen Hapeman, Scott Jackson, Marja Koivunen, Sasha Kweskin, Ann Lemley, Laura McConnell, Andy Newcombe, Ed Norris, Peney Patton, Ken Racke, Phil Sarff, Solito Sumulong, Nurhayat Tabanca, Suhelen Vasquez Cespedes, Spencer Walse

1. Virtual Meeting Recap and Key Learnings – *Leah Riter, Peney Patton, et al.*

- Program Chair's comments: Riter thanked the AGRO leadership, volunteers, symposium organizers, and authors for their agility, creativity, and perseverance as we all worked to embrace the virtual platform for this groundbreaking first virtual meeting held by ACS.
- The technical program was very strong – but was not as large as recent AGRO programs. Initially this year we had 390 abstracts submitted, but by the final program 40% of submitted abstracts were withdrawn – leaving 232 abstracts in the final AGRO program. The average number of abstracts in the final programs from 2015 – 2019 was about 400 with an estimated withdraw rate of 10-15%. So, our final program was about 60% of a typical year, mostly due to a high withdraw rate. Considering the extenuating circumstances of 2020, Riter believes that this number is very positive.
- In addition to the technical program, AGRO hosted 8 key social events in our networking room at the fall meeting: Our Virtual 50th Celebration, the Early Career Session, the Blues and Brews Brainstorming Session, and AGRO Social and Award Celebration, plus four poster discussion sessions. Additionally, across the meeting our members made good use of the Coffee and Happy Hours. AGRO's networking components were very successful, thanks to the volunteers that made all of this happen.
- AGRO conducted a survey after the meeting with approximately 100 responses. Members expressed more satisfaction with broadcast sessions than other formats; people are overall satisfied with the virtual networking and social events; most are likely to attend a virtual meeting; lower number of people likely to present or organize a symposium. AGRO will send a letter to the ACS regarding how AGRO embraced the virtual platform, summarizing the AGRO feedback plus feedback on virtual platform, etc.
- Below are some of the more common comments from our members.

<u>AGRO Member's Positive Feedback:</u>

- Potential to view more presentations – no schedule conflicts
- Lots of content – so much it was hard to view in 2 weeks.
- AGRO social events that helped people connect.
- Guidance for preparing and uploading the presentations was excellent, particularly the premeeting question-answer sessions (by Zoom) hosted by AGRO Division.

<u>AGRO Members Concerns and Requests:</u>

- Attendees feedback
  - More than 2 weeks to view content
  - Improved interface for the virtual meeting.
    - Improved search and chat functions
    - Clear program posted on the website, with presentation ID numbers
  - Faster resolution/elimination of IT issues.
  - Promotion of EXPO – vendors did not get a lot for their dollars.
  - Include live sessions (instead of only prerecorded)
  - More parallel broadcast sessions
  - Broadcast sessions should have questions/discussions immediately after presentation
- Presenter feedback
  - Presenters want feedback as to how many people viewed their talks/posters.
  - Better way to get in touch with audience – chat was insufficient.
  - Author ability to check uploaded talks and posters before meeting goes live.

2. Financial update/learnings on virtual meeting – *Del Koch*

- Overall speaker reimbursements will be lower than normal; financial impact should be positive in terms of having the virtual meeting.
- Because of the high fees associated with international wire transfers (~$60), Koch agreed with a speaker to try Western Union for the speaker's $50 reimbursement. The service charge was <$10 and all seemed to go well.

ACTION: Western Union is the recommended option for reimbursements for international participants.

3. ACS Learnings and Spring 2021 Meeting plans – *Leah Riter, Qing Li*

- AGRO will not program in Spring 2021; will likely be all virtual or a hybrid in the spring. ACS is still debating on the fall meeting.

4. Atlanta Progress (including new virtual elements) – *Qing Li*

- 2021 Program Chair Li organized potential program into 5 groups; 2020 Blues and Brews was first ever virtual and well attended; ideas were also solicited on the website. Members have submitted lots of ideas.
- No ACS calendar is available for the Fall 2021 meeting. Organizers hope that we do not have to prepare an in-person meeting and then scramble to transition it to a virtual meeting. QIng will follow up with those who volunteered to help organize sessions to prepare calls for papers.
- Suggestion for Qing to contact the topic champions to fill out deficiencies in the program (for example, synthesis and small molecule development).

ACTION: Development committee requests a procedure for matching program and sponsors. The ACS mechanism for adding

a sponsor for a specific symposium is relatively easy, but it is more difficult to recognize a sponsor for overall programming.

5. MPPG Update – *Qing Li, Heidi Irrig*
Meeting was regarding themes for future meetings. Lots of discussion about the virtual platform, high cost of registration. Themes are *Resilience of Chemistry* for the Fall 2021 meeting in Atlanta, *Sustainability in a Changing World* for Fall 2022 in Chicago, and *Harnessing the Power of Data* for Fall 2023 in San Francisco.

6. AGRO 50th Anniversary and Beyond – *Ken Racke, Jeannette Van Emon*
The committee proposes to plan an additional symposium to precede gala, complete the historical timeline and photo collection, organize the field tour, and organize a live networking session. Andrew Coats is making inquiries or the field tour, for which multiple formats have been proposed. Many divisions have postponed awards, so ACS is considering establishing a day devoted to Division awards. This would be a good day to host the 50th Anniversary Celebration.

7. Pacifichem and IUPAC 2023 – *John Johnston, Ken Racke*
- Pacifichem 2020 became Pacifichem 2021 (Honolulu December 2021). The organization will keep 2020 contributions plus solicit new contributions. Details are not yet available. Ken Racke and John Johnston will lead programming and networking at the meeting.
- AGRO had already authorized $65K for Pacifichem 2020 and the Executive Committee approved forwarding that support to 2021.
- IUPAC 2023 is planned for New Delhi, India. AGRO will need to determine the level of sponsorship the Division wishes to provide.

8. Webinar plan for 2020-2021 – *Laura McConnell*
Webinar organizers were intending to promote the 50th anniversary through webinars. Ideas included early years of AGRO, history of AGRO, AGRO innovation, etc. These webinars would take more work to organize so McConnell is asking for volunteers to help. Suggestion to reach out to SOCED group, Chem Ed Division, etc. to link to education.

9. IPG for Strategic Update in Atlanta – *Cheryl Cleveland, Leah Riter*
Cheryl submitted a special IPG for strategic planning updates. Those decisions will not come until later this month. The proposal planned for 12 members to gather for a strategic retreat at a cost of $7500 from DAC with matching funds from AGRO. Proposed to arrange this around the Atlanta meeting using an ACS facilitator. If the proposal is funded, they will be seeking a variety of committed members to participate. If it is not funded, AGRO may need to develop another plan for strategic planning.
MOTION: If AGRO is awarded a special strategy retreat IPG by ACS, AGRO agrees to fund up to $8500 to hold a strategic update retreat in 2021 or later. *Passed*

Committee Reports
Nominating Committee – ***Julie Eble***
- Julie announced the following Election Results:

Heidi Irrig as Vice Chair
Del Koch and Sharon Schneider continue as Treasurer and Secretary, respectively
Rodney Bennett and Jeannette Van Emon as Councilors
Kevin Armbrust and Brittany Rauzan as Alternate Councilors
EC Members-at-Large: Amy Ritter, Amanda Chen, Aaron Gross, Spencer Walz, and Solito Sumulong, with Ed Norris to complete Heidi Irrig's term on the EC.
- Completing their terms: Yelena and Daniel Swale and Carmen Tiu. Following the chair progression: Qing Li will serve as program chair in 2020-21; Leah Riter is Chair for 2020-21; Cheryl Cleveland is past chair beginning today. Julie Eble thanked the volunteers for their service to AGRO.

Awards Committee – *Jim Seiber, Qing Li*
- James Seiber was honored with an Agrochemicals Division Lifetime Achievement Award. This was a one-time award but there could be future honorees.
- Thomas Stevenson was named an ACS Fellow. Cheryl Cleveland, Aaron Gross, and Heidi Irrig were approved as AGRO Fellows.
- Qing X. Li was the recipient of the 2020 ACS International Award for Research in Agrochemicals. David Barry Sattelle is the recipient of the 2021 International Award for Research in Agrochemicals. The award will be presented at a symposium organized by John M. Clark at the 262nd National ACS Meeting in Atlanta, Georgia in August 2021.
- Thomas Sparks was the recipient of the USDA-ARS Sterling Hendricks Memorial Lectureship, co-sponsored by AGRO and AGFD. Jerry King was the awardee of the 2020 Kenneth A. Spencer Award, co-sponsored by AGFD and AGRO.
- This year's winners of the JAFC Lectureship Award were Peter Robatscher and Michael Oberhuber for AGRO and Masafumi Tokuoka for AGFD.
- Alex Gaffke, Edmund Norris, and Jose Luis Rodriguez Gil were the awardees of the 2020 AGRO New Investigator Award, sponsored by Valent. This year, twenty students received the AGRO Education Award for Student travel, sponsored by Bayer.
- Ke Dong was the winner of the 2020 AGRO Award for Innovation in Chemistry of Agriculture.
- Jim Seiber, Awards Committee Chair, is passing the leadership baton to Qing Li. In addition, several committee members including Nancy Ragsdale and Ralph Mumma are retiring. Jim and his assistant, Loreen Kleinschmidt, have diligently served AGRO for nearly twenty years along with ACS staff and all the members of the Committee. Incoming chair Qing Li expressed a big thank you to Jim, Loreen, Nancy, Ralph, and all of the Awards Committee for their sustained dedication. The current awards committee is composed of 13 members.

ACTION: The Awards Committee requests for new committee members. If you are interested in serving on the AGRO Awards Committee, please contact Qing Li (qingl@hawaii.edu).
ACTION: Nominations for the 2021 awards are now being accepted. Please send your nomination to Qing Li (qingl@hawaii.edu).

Bylaws Committee – *Rodney Bennett*
The ACS is streamlining their requirements for what much be included in Division bylaws; some things will just be in procedures. There is a new template. Rod and Jeanette will prepare revised bylaws. The EC will review first, then the Bylaws Committee of ACS, then general AGRO membership for vote. The committee will work to ensure that the bylaws are not restrictive with respect to electronic voting, etc.

Councilor Report – *Jeannette Van Emon, Rodney Bennett*
See complete report attached. In Atlanta, the Council wants to cap attendance, reduce the expo floor, and reduce the number of concurrent sessions. They are soliciting ideas for new meetings. ACS will start basing allocations on data for the previous 3 meetings.

Communications Committee – *Cathleen Hapeman, Laura McConnell*

- As ACS made the transition to a virtual meeting, the Communications Committee sent email blasts and regularly updated the website to ensure that membership had the most up-to-date information. However, the technical program and associated meetings were not finalized until right before the meeting. The electronic version of the PICOGRAM was posted on the website, and hard copy was sent to the entire membership as normal, to arrive after the national meeting.
- The Communications Committee worked with leadership and developed an email campaign, The Top Ten Reasons to Attend the ACS Virtual Meeting, to encourage participation in the virtual meeting.
- The AGRO Division will continue to use the anniversary logo until after the Atlanta Meeting as many of the activities were moved in the hopes that the Atlanta meeting will be in person.

ACTION: The committee recommended that calls for papers be submitted through the website rather than via individual e-mails.

Development Committee – *Carmen Tiu, James Foster*

- More than 100 sponsorship request letters were sent out beginning in early November 2019 (earlier than the usual timescale of February of the year of the meeting). A separate 50th anniversary celebration flyer was sent out with the regular sponsorship request letter. Table sponsorship for the 50th Anniversary Gala Event is being organized by Andy Newcombe. Expectations for 50th anniversary table sponsorship need to planned ahead in the case of a hybrid or totally virtual meeting so that the appropriate recognition is given.
- Scott Jackson assisted with efforts to find sponsors, but the committee was ultimately unable to find enough sponsors to cover the Early Career Scientist Award. In every category, sponsorship was higher in 2019/20 than the previous year; this may have been due to the 50th anniversary.
- James Foster will become the new committee chair. New membership request to replace Carmen Tiu. Mingming Ma accepted a nomination, and since committee membership is at the Chair's discretion, Ma was confirmed as a new member of the development committee.

ACTION: The committee requested that to facilitate communication, it would be helpful if companies would designate the person to whom the sponsorship letter should be addressed. The committee requests that at the annual meeting, on the AGRO table or elsewhere, a contact information sheet used to provide the appropriate contact information.

Early Career Committee – *Aaron Gross, Sasha Kweskin, Kalumbu Malekani*

- The committee received 27 completed applications for the travel award. 20 were awarded: 4 were oral and 16 were posters. Some withdrew, so this declined to 11 posters and 4 orals in the virtual meeting. Awardees were from 9 educational institutions. Instead of travel reimbursement, the Division spent about $1379 on registrations and headsets.
- Four winners of the New Investigator Award were selected, and checks were sent through the mail.
- The committee discussed an ongoing issue: students who want to give an oral presentation are not always contacting the chair for their session of interest to ensure there is a slot for them. This is logistically complicated.
- Marja Koivunen will be stepping back as co-chair but will continue as a member. The AGRO chair named Sara Whiting as new co-chair of the committee.

MOTION: For an in-person meeting, AGRO Division will provide up to $7,500 for the Fall national meeting to support Early Career Symposia with a maximum funding per symposium of $3,000. For a virtual meeting AGRO Division will provide up to $3,750 for the Fall national meeting to support Early Career Symposia with a maximum funding per symposium of $1,500. These funds should be provided from AGROs educational endowment fund for a period of 2021 to 2025 or until repealed by the Executive Committee. The funds provided to the Early Career Symposia are instead of the standard symposium support allotment provided by AGRO division. These Early Career Symposia will be part of the AGRO programming at the national meeting. They should be organized by and feature speakers that are early career scientists (within 10 years of highest degree earned, or equivalent – including postdoctoral fellows, research assistants, and new assistant professors) with mentorship in organization, if possible, by an experienced scientist. Nearly all of the oral and poster presentations in the Early Career Symposia should be given by early career scientists. *Passed.*

Finance Committee and Treasurer's Report – *Joel Coats, Del Koch*
Report available per request.

AGRO Division Conference Call March 17, 2021

10:00 AM – 12:00 PM CDT

Sharon Schneider, Secretary

ATTENDANCE

Officers: Leah Riter, Chair; Qing Li, Program Chair; Heidi Irrig, Vice-Chair; Sharon Papiernik, Secretary; Del Koch, Treasurer; Cheryl Cleveland, Past-Chair; Rodney Bennett, Jeanette Van Emon, Councilors; Brittany Rauzan, Alternate Councilor

Executive Committee Members (EC): Amanda Chen, James Foster, Aaron Gross, Pat Havens, Mike Krolski, Mingming Ma, Kalumbu Malekani, Ed Norris, Caitlin Rering, Amy Ritter, Solito Sumulong, Spencer Walse, Ralph Warren, Sara Whiting

Committee Chairs and Guests: Andrew Coates, Joel Coats, Jay Gan, Cathleen Hapeman, Scott Jackson, Sasha Kweskin, Laura McConnell, Peney Patton, Jim Seiber, Nurhayat Tabanca, Tianbo Xu

1. Fall National Meeting: General Meeting Updates – *Qing Li*

- Spring 2021 meeting will be entirely virtual for all ACS and will occur over multiple weeks. ACS 2021 fall meeting will be

a hybrid (in-person and virtual), but AGRO has determined that the format will be entirely virtual for AGRO.
- Twenty-eight AGRO symposia have been announced; there are more than 100 symposium organizers.
- Abstract submission opened March 15 and will close April 12. This was announced via e-mail blast to all AGRO members. Please encourage people to submit abstracts; the open window is narrow this year. A link to abstracts is on the AGRO website. Submission is at https://www.acs.org/content/acs/en/meetings/acs-meetings/abstract-submission/call-for-abstracts.html
- Qing noted need for multiple volunteers. Interested persons may sign up on the AGRO website.
- Symposium organizers are encouraged to consider a special issue a collection of papers in JAFC and/or Agricultural Science and Technology. Symposium organizers can likely lead this as guest editors. There should be original research (not just review papers) in such a collection.
- *PICOGRAM*: There will not be a paper copy for the Spring 2021 edition. There will still be an electronic version of the Spring 2021 PICOGRAM on the AGRO webpage.The main reason for the Spring Picogram is to announce the Calls for Papers, and the timing of abstract submission makes this not useful.

2. Symposium Sponsors in Virtual Format – *Laura McConnell, Qing Li*
- What shall sponsors be offered in a virtual context? Sponsors will be listed in the *PICOGRAM* and recognized at virtual social events. Other ideas: Perhaps they can display a slide at the beginning of their sponsored session if that is feasible. Introductory comments should include sponsor information. The committee will need to clarify this before the meeting, once the format is determined, to ensure parity.

3. Mentoring Students and Awards for Students at Virtual Meeting – *Aaron Gross*
- Some ideas have been presented for partnering students with experienced scientists during the meeting. Some advisors may send their students to the Atlanta meeting to attend in-person programming of other divisions. AGRO is mostly interested in supporting student participation in AGRO programming, so student awards should foster that.

MOTION: Student travel award winners in 2021 shall receive reimbursement for their student registration plus support equivalent to the cost of the 2021 one-year student dues in ACS and AGRO plus a $50 Amazon gift card to offset some of the costs of attending an online meeting. Poster awards are $100 (3rd prize), $200 (2nd prize) and $300 (1st prize). *Motion passed.*

4. AGRO 50th and Beyond – *Ken Racke, Jeanette Van Emon, Heidi Irrig, Andrew Coates, Cheryl Cleveland*
- Overall project – Plans are in flux; stay tuned for more updates.

Open IPGs: AGRO Tour
- The AGRO 50th committee is proposing to postpone the ag tour until such time as we meet in person at a national meeting. Might that be Chicago? If yes, urban agriculture may be a relevant topic; locations showcasing traditional ag are about 3 hours from Chicago. The next national meeting would be back in San Francisco, California in 2023.
- There might be opportunities for a virtual tour in Atlanta. Or for a combination of California, Georgia, and Illinois? A professionally-produced option would be cost-prohibitive but volunteers might be enlisted.
- The theme for Chicago is Sustainability – perhaps the tour could be morphed to fit that theme. There might be opportunities to partner with AGFD since they typically sponsor sustainability nexus sessions.
- It is potentially possible to extend this IPG for multiple years since it supports in-person programming and DAC understands this delay is pandemic-related. An interim report would be helpful.
- DAC is interested in more effectively using IPG. We may want to use one of these IPGs (tour or timeline) and go forward as we can, then pursue additional funding for additional activities for the postponed 50th anniversary. We currently have a full slate of IPGs (2 plus the special Strategic Planning one). Van Emon volunteered to talk with DAC to get their input.

<u>AGRO 50th Timeline</u>
- There was significant work on Version 1 last August in time for the virtual 50th; Version 1 can be found here: https://www.agrodiv.org/uncategorized/call-for-new-submissions-for-agro-50th-anniversary-timeline/ Unfortunately it was not possible to make this version interactive from the site and it needs to be downloaded to use.
- Only 17 members contributed milestones. Cheryl Cleveland pleaded with members to contribute additional milestones this Spring – Cheryl has simplified the template to include only Milestone, date, impact, website or reference (optional). This new template is available on the AGRO website or you can contact Cheryl at cheryl.cleveland@basf.com
- It is important to complete this project this year, to free up one of the AGRO IPGs.
- *Post meeting*: Laura and Cheryl held a meeting with the web development vendor to discuss improved format for final version for the AGRO website this fall and addition of a webform for collection this Spring. Deadline for new Entries is May 30th.

5. Financial Matters Regarding the 2021 Meeting

MOTION: For the ACS 2021 virtual Fall meeting, New Investigator Award finalists shall receive reimbursement for their 2021 meeting registration, plus support equivalent to the cost of the 2021 one-year dues in ACS and AGRO, and a $100 Amazon gift card to offset some of the costs of attending an online meeting. *Motion passed.*

MOTION: Allocation for early career sessions should be $1250 per symposium in 2021 to fully or partially reimburse speakers for registration fees. Allocation for general symposia should be $350 per half-day session in 2021 to fully or partially reimburse speakers for registration fees. Organizers are encouraged to let speakers know that limited funds may be available. *Motion passed.*

6. Award Payout Inconsistencies – *Qing Li, Del Koch*
- Practice had been to write checks on request; if checks were not requested, they were not issued. Qing and Del are working on an improved process for 2021.

7. Election Candidates for Officer and EC Ballot – *Leah Riter*
- Cheryl Cleveland is looking for candidates for all elected positions in order to arrange annual elections this summer. Candidates for Executive Committee or Vice Chair are

especially encouraged to contact Cheryl at cheryl.clevleand@basf.com. Any member is eligible to apply.

8. Financial Report – *Del Koch*
Information is available upon request.

9. Division Activity Report and Award Nominations – *Leah Riter*
Information is available upon request.

10. 2021 Strategic Planning Retreat – *Leah Riter, Cheryl Cleveland*

- IPG was awarded. ACS is considering options for either virtual or in person strategic planning meetings. Will need further guidance from ACS. Will follow up offline.

11. DAC Updates – *Jeannette Van Emon, Rodney Bennett*

- Divisions allocation changes for 2021. DAC is discussing how to properly allocate funds now that in-person meetings are not paramount. There is a petition to change the formula for allocations to divisions. All formulas would result in about a $1000 increase to AGRO. No division will lose more than 7.5% of their allocation. This year, there will be 2 allocations, plus the dues allocation.
- Membership Activities Committee is proposing changes to membership categories that will offer lower-cost membership options with limited benefits. Projection is to increase membership and income.
- Councilor-only committees may be eliminated (still needs a vote from council) and committees will be open to ACS membership.

12. Sponsorship for LAPRW

- Historically AGRO has sponsored 2 poster awards at $500 each. Steve Lehotay is on steering committee for LAPRW and strongly encourages that instead of poster awards, AGRO should sponsor LAPRW at $1000 for the 2021 virtual meeting. This would give AGRO a virtual booth and opportunities for outreach.

MOTION: For the 2021 LAPRW meeting, AGRO will sponsor LAPRW at $1000 per the guidelines provided by LAPRW. Starting in 2023, AGRO will sponsor 2 poster awards at $500 each. *Motion passed.*

13. Request from Chris Bianca, Membership Committee Chair Please e-mail him at chris.bianca@corteva.com or chrismbianca@gmail.com:

- ✓ How has the AGRO division made a difference in your career and helped you?
- ✓ How have you being a member of the AGRO division influenced a new member to develop their career?
- ✓ Would you be willing to do an interview/podcast to discuss the AGRO division and your experience in industry or academia?

14. Webinars on Formulations, Inerts, and Adjuvants – *Solito Sumulong* (AGRO and ISAA Agrochemical Board)

- ISAA meetings have been canceled so some papers/presentations are going stale. Proposal is for AGRO and ISAA to partner to produce webinars on formulations, inerts, and adjuvants. Would like more information from AGRO webinar organizers to investigate options for ISAA to partner.
- Webinars have fallen through the cracks in 2021 because of the pandemic. Webinars are a very valuable part of AGRO programming, so the Executive Committee encouraged additional efforts to keep this going. Will discuss further offline.

15. Round Table

- Brittany Rauzen is a member of the Committee for Environmental Improvement (CEI) for ACS. In this role, she will serve as a liaison between AGRO and CEI.
- Heidi Irrig noted that she is seeking candidates for AGRO Fellow. Suggests assembling a list of potential candidates. An AGRO Archive would be helpful in passing along information.
- Sara Whiting is investigating options for mentoring at the virtual national meeting to make the meeting more one-on-one for students. Need to coordinate with Qing Li and Aaron Gross. More work offline.

AGRO Division Conference Call
June 7, 2021

10:00 AM – 12:00 PM CDT

Sharon Schneider, Secretary

ATTENDANCE

Officers: Leah Riter, Chair; Qing Li, Program Chair; Heidi Irrig, Vice-Chair; Sharon Schneider, Secretary; Del Koch, Treasurer; Cheryl Cleveland, Past-Chair; Rodney Bennett, Jeanette Van Emon, Councilors; Brittany Rauzan, Alternate Councilor

Executive Committee Members (EC): Amanda Chen, James Foster, Aaron Gross, Pat Havens, Mike Krolski, Mingming Ma, Caitlin Rering, Amy Ritter, Solito Sumulong, Spencer Walse, Ralph Warren, Sara Whiting

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

1. Fall National Meeting – *Qing Li*

- Dates: Sunday (8/22) to Thursday (8/26) with all times in Eastern Daylight Time
- Format: ACS is hybrid but AGRO is virtual only. AGRO talks will only be available live unless the presenter pays to have their talk available on demand. Presenters can pre-record a talk if they choose to. Format of posters has not been set by ACS but will include a Zoom room with breakout rooms for each poster. Posters are Tuesday evening from 7:00 to 9:00 PM Eastern.
- One-day registrations may be available even for members.
- Technical sessions: AGRO has 4 concurrent virtual symposia from Sunday to Thursday with 201 oral and 29 posters presentations. Thanks to Peney Patton for scheduling sessions and events. Thanks to symposium organizers for organizing the meeting and soliciting abstracts.
- Session scheduling: In total, AGRO will have 60 2-hour oral sessions. The overall ACS session schedule at a glance is fixed. We have very limited flexibility. All sessions cannot be synchronized. The main factors we considered are: topic

(subject areas), symposium flow, presenter location, and time slot fit. We are programming in five topics (same as last year): crop protection, enabling technologies, environmental challenges, global challenges, and human health. All posters are grouped into 3 topics: (a). Agrochemistry Advances & Applications in Technology; (b). Human Health Environmental Fate, Transport, & Modeling of Agriculturally Related Chemicals; and (c). Pesticides, Pollinators, & Crop Protection.

- We have to program over the international award address.
- Organizers can make necessary changes such as the order of presentations, for the presenters' convenience, for example, within their session(s).
- Review of ACS session schedule at a glance: From Sunday (8/22) to Thursday (8/26). See website: https://www.acs.org/content/acs/en/meetings/acs-meetings.html
  - In person: Start at 8 am. Each session is 2 hours.
  - Break (Coffee): 10:00 am – 10:30 am
  - Virtual-1: 10:30 am – 12:30 pm
  - Lunch: 12:30 pm – 2:00 pm
  - Virtual-2: 2:00 – 4:00 pm
  - Break: 4:00 pm – 4:30 pm
  - Virtual-3: 4:30 – 6:30 pm
  - Break: 6:30 pm – 7:00 pm
  - Virtual-4: 7:00 – 9:00 pm
- Non-technical events to be hosted by AGRO
  - Coffee: 10:00 – 10:30 AM daily
  - Early Career Networking and Mentoring (Sara Whiting): 4:00 -4:30 AM daily
  - Blues and Brews (Heidi Irrig): Wed 12:30 – 2:00 PM
  - AGRO Award social (Leah RIter): Thu 12:30 – 2:00 PM
- Volunteers Needed for Fall Meeting
  - AGFD Ambassador: James Foster volunteered; Qing Li made introductions after the call.
  - Volunteers for each non-technical event:
    - AGRO Awards social: Jeanette Van Emon
    - Blues and Brews: Pat Havens, Amy Ritter, Carmen Tiu
    - Early Career: Sasha Kweskin, Mingming Ma, Joel Coats
    - Coffees: Heidi Irrig
    - Any: Rodney Bennett, Solito Sumulong, Laura McConnell
    - Participants on the call were also asked to serve as ice breakers and informal facilitators in discussion sessions.
    - Additonal volunteers still needed – please reach out to Qing Li if you are available.

MOTION: The Division will spend up to $1000 for prizes, incentives, and engagement activities to encourage participation in non-technical events. *Passed.*

2. AGRO Combined Governance Meeting – *Leah Riter*

The meeting is held in conjunction with the national meeting in a normal year but was successfully held afterwards in 2020.

MOTION: The 2021 Combined Governance meeting will be held within a month after the national meeting. It will be online and open to all members. *Passed*.

3. Student Travel Award – *Aaron Gross*

- The Division received 9 applications, 5 for posters and 4 for oral presentations. The committee requested and received permission (via electronic vote) to surpass the normal guidance of a maximum of 25% of student award winners giving an oral presentation.
- Coordinating scheduling and evaluation of oral talks is difficult.
- Student stipends will reimburse winner for student registration fees and membership fees, plus a $50 prize. Each winner will receive a check for $138 after their presentation is complete.
- Sara Whiting is working on a networking event, and they will be looking for volunteers in consulting, academia, government, and industry to mentor student and early career scientists.

4. Development Committee Update – *Laura McConnell*

- Symposium Sponsors:
  - *Agriculture* https://www.mdpi.com/journal/agriculture
    Early Career: Chemical Communication between Living Organisms in Agricultural Systems
  - Stone and Intrinsik:
    Off-Target Measurement & Management of Pesticide Drift & Volatility
    Environmental Fate, Transport, & Modeling of Agriculturally-Related Chemicals

5. The *PICOGRAM* – *Cathleen Hapeman*

- There was no *PICOGRAM* in Spring 2021 only a pdf of the Call for Papers posted on the website, so the editor recommended recognizing award winners from 2020 and 2021 with color photographs. This would increase printing costs.
- If the Division wishes to publish the election results in the *PICOGRAM*, the publication date may be pushed into July or later. (Post meeting note: based on this request Cheryl Cleveland accelerated her timing of annual election; the ballot opened on June 16th and closed on July 7th.)
- The EC noted that there is no need for the *PICOGRAM* to be sent so it is received before the national meeting; the program will be available online.

MOTION: Up to $1000 in additional funds are approved to print the *PICOGRAM* with select color pages. *Passed.*

6. AGRO 50th and Beyond – *Ken Racke, Jeanette Van Emon*

- Because of the pandemic, the IPG AGRO received for the 50th celebration may be delayable, but it will not eliminate the cap on the number of active projects.
- The proposal at this time is to target the Fall 2023 AGRO program in San Francisco for most AGRO 50 and Beyond activities:
  - Special symposium
  - Gala reception
  - Participation by ACS and AGRO dignitaries and legends
  - Historical slide show
  - Food and fun
  - Sponsored table displays
  - Ag field tour
- Rationale: By hosting these AGRO 50 and Beyond events at the originally intended location, San Francisco, we will be best able to 1) take advantage of the pre-planning and regional contacts that had been arranged, and 2) organize these high-profile activities for the Division in what has historically been its most successful location. It is clear that the Fall 2022 ACS location in Chicago does not lend itself to

an ag field tour, and we believe that there are synergies to be had by keeping the symposium and gala activities linked with the ag tour at the same meeting.

7. Timeline Project – *Cheryl Cleveland*

- Laura McConnell helped the team by identifying an alternate web contractor with additional layout skills for final project. A Zoom call in May with members generated additional input. The final version is planned to be complete by August meeting.
- Completion with allow clearance of one IPG; since our meeting is virtual, it is anticipated that no presentation on the IPG is required by ACS.

8. 2021 Strategic Planning Retreat – *Leah Riter*

No ACS format for virtual strategic planning, therefore AGRO's session is delayed. (Post meeting update – Rodney heard back from ACS – AGRO is not scheduled for 2021 – therefore we should plan for a 2022 – hopefully in person)

9. Pacifichem – *John Johnston, Ken Racke*

- Pacifichem was originally planned for Dec-2020 but was postponed to Dec-2021 due to COVID concerns and restrictions. Pacifichem is now planned to occur in Honolulu during December 16-21, 2021 as a hybrid event (in-person and virtual).
- Registration for both in-person and virtual Congress will open in August 2021.
- John Johnston and Ken Racke have been coordinating symposia submissions and organization of interest to AGRO. Our primary means of coordination is via contacting the lead organizer for each and every symposium, as Pacifichem will not provide us directly with access details.The ACS staff supporting Congress logistics have been very helpful when asked by individual symposium organizers for assistance with their sessions.
- Based on the delay, the AGRO program for Pacifichem 2021 is anticipated to be smaller than would have occurred if the meeting had been held in 2020.
    - 111 papers for Pacifichem 2021 (instead of 152 submitted for 2020)
    - 9 symposia for Pacifichem 2021 (instead of 12 for 2020)
    - Total of 12 half-day oral sessions (instead of 20 sessions for 2020)
    - Finalization of session arrangements was expected from co-organizers by May 24
- In the coming weeks, authors who have submitted abstracts will be asked by the Congress secretariat how they intend to participate in their scientific session, either in person or virtual. Once we have a better feel for in-person vs. hybrid participation for the AGRO session presenters, we will have a better feel for organization of an AGRO-related, in-person social event as had been anticipated.

10. ACS Spring 2023 Indianapolis AGRO Programming – *Ken Racke*

- A progress report for AGRO Indy 2023 planning will be brought forward to the Fall 2021 AGRO Combined governance meeting (in Aug or Sep).
- Meanwhile, Suhelen Vasquez Cespedes and Ken Racke will appreciate receiving any additional ideas from the AGRO membership for Indy 2023 plans.

11. China Green Pesticide Conference – *Qing Li*

Qing will serve as the bridge to AGRO for this conference.

12. ACS Ag Science and Technology Update – *Laura McConnell, Deputy Editor*

This sibling journal of *Journal of Agricultural and Food Chemistry* is seeking manuscripts.

13. Councilor Report – *Jeanette Van Emon, Rodney Bennett*

- ACS is expecting 4000 people to attend the 2021 meetings in-person in Atlanta. ACS staff will attend both the live and virtual meeting and evaluate the future of hybrid meetings. Councilors will meet virtually for the 2021 Atlanta meetings.
- ACS is planning to increase meeting fees; to create a new fee structure; to increase grant programs. More information to come.

14. Webinars – *Laura McConnell*

- Recording is available for "The Journey from Plant Protection to Plant Health: Biological Formulation Prospects" by Renaud Perrin and Elodie Shaw
- July 21: "New Herbicide Modes of Action for New Commercial Herbicides – Searching for the Holy Grail" by Steve Duke
- Sept. 22: "50 Years at EPA" by Dana Vogel
- Oct. 13: Let's Go Molecular: Bee Pollinator Toxicogenomics Meets Pesticide Risk Assessment: by Ralf Nauen

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AGRO Councilors' Report
Fall Virtual Meeting
August 19, 2020

Jeanette M. Van Emon and Rodney Bennett, Councilors

Please contact Jeanette and Rodney if you have a particular concern or would like further information on any of the issues below. They would enjoy hearing from the AGRO membership.

Summary of Governance Issues and Actions

The Council meeting was held virtually due to the ongoing global COVID-19 pandemic. Councilors were urged to take into account their own actions and habits to make their own communities safer; to use their positions as members of the scientific enterprise to spread helpful messages and encourage the safe practice of mask wearing, physical distancing, and limiting exposure within your communities; and to take active roles in dismantling any barriers that may deter or impede their colleagues in their research or careers. All attendees were encouraged to review the ACS statements on diversity and reflect on how to implement these in their local sections and divisions. The continuous and ongoing struggle in this country to create a safe and equitable society for all was brought to Council's attention. The ACS encourages inclusivity and opposes discrimination in scientific learning and practice.

Elections. All voting was conducted electronically. The Council elected Elizabeth M. Howson, Zaida C. Morales-Martinez,

Margaret J. Schooler, and **Jeanette M. Van Emon** for three-year terms (2021-2023), and Mark D. Frishberg for a one-year term (2021) on the Council Policy Committee (CPC). The Council elected Martha G. Hollomon, Diane Krone, Sarah M. Mullins, Andrea B. Twiss-Brooks, and Javier Vela for three-year terms (2021-2023) on the Committee on Committees (ConC) and Jetty L. Duffy-Matzner, Kevin J. Edgar, Neil D. Jespersen, Julianne M. D. Smist, and Linette M. Watkins for three-year terms (2021-2023) on the Committee on Nominations and Elections. **Congratulations to our own AGRO Councilor, Jeanette!**

Key Actions and Resolutions. On the recommendation of the Committee on Committees, and with the concurrence of the Council Policy Committee, Council approved the Petition to Clarify Amendments to the Standing Rules and disbanded the Joint Board-Council Committee on Chemical Abstracts Service, contingent on approval by the Board of Directors. On the recommendation of the Committee on International Activities, and with the concurrence of the Council Policy Committee, Council approved the creation of an ACS International Chemical Sciences Chapter in Israel, contingent on approval by the Board of Directors.

Highlights from ACS Executive Committee and Committees

Committee on Nominations and Elections. Ballots for the 2020 fall national election will be distributed starting on September 28th, with a voting deadline four weeks later on October 23rd. ACS members eligible to vote and with an email address on file will receive an electronic ballot with the option to request a paper ballot. The ACS election vendor, Survey & Ballot Systems, will send three email reminders during the voting period to those who have not voted as of the reminder dates. nomelect@acs.org

Committee on Budget and Finance. ACS's 2020 financial performance through July 31, 2020, yielded a Net from Operations of $55.7 million, or $25 million greater than the same period in 2019. Total revenues are $354 million, 5% ahead of last year, and total expenses are $298 million, or 3% below last year. Unrestricted Net Assets increased to $466 million. The most direct revenue impact to the Society related to the COVID pandemic has been related to revenues due to the termination of the in-person Spring National Meeting and termination of the in-person Green Chemistry Conference. The Society expects to meet its budgeted net contribution of $41.3M. The theme of the 260th ACS National Meeting was *Moving Chemistry from Bench to Market*. As of August 19, 2020, registration for the Meeting was: Member 3,494; Student Member 1,638; Unemployed Member 25; Non-Member 945; and Student Non-Member 375 for a **Total of 6,477 Attendees.** The total number of presentations by Category was Virtual Presentation Uploads, All Inclusive (SciMtgs) 1,735; Virtual Platform 1,655; and Temporary Access Option 640 for a **Total Presentation Uploads of 4,067**.

The Board's Committees. The Board received and discussed reports from its committees on Budget and Finance, Executive Compensation, Publications, Pensions and Investments, Professional and Member Relations, and its Governing Board for Publishing, which included the activities, opportunities, and challenges of the Chemical Abstracts Service (CAS) and the ACS Publications Division. On the recommendation of the Committee on Professional and Member Relations, the Board voted to approve the Society's nominees for the 2021 National Science Board Public Service Award and the 2021 Perkin Medal. Changes in the selection criteria for the Priestley Medal, the Charles Lathrop Parsons Award, and the Award for Volunteer Service to the ACS were also approved, as well as revisions to the National Awards Code of Conduct Confirmation statement. The Board approved an amendment to the Board Regulations on the duties of the Committee on Professional and Member Relations to include "monitoring, assessing, and facilitating the Society's progress on Diversity, Inclusion, and Respect." On recommendations of the Committee on Publications, the Board voted to approve the appointments and the reappointments of several editors-in-chief of ACS journals. The Board received a briefing and approved recommendations from its Committee on Executive Compensation stemming from a recent executive salary benchmarking study. The compensation of the Society's executive staff continues to be reviewed regularly by the Board.

Chief Executive Officer's Report. The Board received an extensive report from the CEO on issues relating to Safety and Diversity, Inclusion, and Respect as core values of the Society, and the continued response of the Society to the COVID-19 pandemic, ACS membership, ACS financial performance, and upcoming events and activities. The Board held a strategic discussion on ways to turn the ACS Core Value of Diversity, Inclusion, and Respect (an important strategic issue facing the Society) into a prioritized action plan for the coming years. The development of such a plan would be undertaken in collaboration with the Advisory Board on Diversity, Inclusion, and Respect and would promote the coordination of committee activities so as to emphasize the urgency of *moving the needle* both within ACS and in the broader chemistry enterprise. The Board received an update on the development of a re-envisioned Professional and Leadership Development Portfolio. The portfolio will position ACS to cultivate strategic partnerships with colleges and universities, corporations, and government agencies. There will be a continued focus of adhering to the goal of developing Highly Effective Professionals, which is the center point of the project framework developed by the NextGen Task Force on Leadership Development in December 2019.

The Board received an initial debrief, led by the Chief Executive Officer, of the first-ever virtual ACS National Meeting and Exposition. There will be a complete review and assessment of the event from multiple perspectives in the weeks to come. The debriefing led into a status update from the Task Force on the Future of Meetings, who has been charged with performing a deep dive on the current portfolio of ACS meetings and conferences; identifying current offerings; evaluating governance and staff support structures, revenue streams, financial targets, and business models. Recommendations will ensure the sustainability and future relevance of that portfolio. The Board offered a resolution in memory of Nina I. McClelland, a member of the ACS Board of Directors (1996-2004) who also served as its Chair (2001-2003).

Board Approval of Council Action. The Board of Directors voted to confirm the amendments to Bylaw XI, per the Petition to Clarify Amendments to the Standing Rules approved by Council on August 19, 2020. The Board of Directors voted to confirm the disbanding of the Joint Board-Council Committee on Chemical Abstracts and to authorize the formation of the Israel International Chemical Sciences Chapter both in accordance with Council action on August 19, 2020.

Committee on Meetings and Expositions (M&E). The M&E committee meeting was attended by President-Elect Cheng who acknowledged his appreciation for the opportunity to meet with

the committee and to share his outlook on the future of national meetings as it relates to his presidential theme, *Growth, Collaboration, and Advocacy*.

In response to the COVID-19 pandemic, meeting planners now give serious consideration to virtual meetings which are a good way to reach people who do not want to (or cannot) travel, resulting in reduced cost as no there are no hotel or other travel expenses. Hybrid meetings may also merit future consideration. As of now, no organizations have undertaken a hybrid meeting format. However, the American Heart Association, which is larger than ACS, has scheduled a hybrid meeting in November 2020. This meeting will be monitored by ACS for any lessons learned. Most of the virtual meetings of other organizations were/will be in the three to five-day range with an average fee of $264 for members and an average fee of $319 for non-members. Student fees had an average of $40.

Major trends in chemistry include globalization that allows for international collaborations and a multi-disciplinary response to current challenges such as such as energy, diseases, clean air and water, food, population growth, and climate change. Successful meetings are critical for ACS to fulfil its mission. Thus, 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. ACS has been working on a plan similar to topical sessions called Convergence Research Communities, which DAC may offer as a pilot experiment at a future meeting.

The article *Looking ahead towards ACS Meeting of the Future* appeared in the August 3, 2020 publication of *C&EN*. The content paralleled much of what M&E addressed in the March and June meetings. The article also focused on what future meetings could look like.

The termination of the 2020 Spring National Meeting and the transition of Fall meetings to 100% virtual was completed without liability. There were limited payouts for activities, such as developed floor plans and site visits, already incurred by some vendors. **All vendors and hotels released ACS from any contractual liabilities, which could have been about a nine million dollar obligation!** All 2020 regional meetings have been either cancelled or rescheduled without penalty. All specialty meetings managed by ACS including Pacifichem 2020 have been either cancelled or rescheduled without penalty.

For the Fall 2020 meeting, the projected number of registrants was 7400. To date, there were 4952 registrants. Of this number, 1641 were first timers, and 897 were international, resulting in $829K for registration fees, 59% of the budgeted $1.4M. The Virtual Expo Hall had 65 exhibitors and sponsorships resulting in $189K in revenue, 145% of the projected $130K.

Accepted Papers numbered 5677 (3497 oral on-demand and 1161 poster on-demand), 377 SciMix Presentations, 224 (29% of oral abstracts in broadcast sessions) Live Broadcasts, and 1019 Broadcast Presentations. Abstracts totaled 7574 but had a 22% withdrawal rate of 1640. For this meeting, additional money was dedicated to international digital marketing; the links had close to 200,000 clicks total, which is impressive, but the registration numbers indicate more work is needed.

The Spring 2020 National Meeting was terminated on March 9, just nine days prior to the move in date. At that time, there were 12,551 registrants and 14,021 scientific contributions, including 8,576 oral sessions and 5,445 poster presentations. n collaboration with ACS Publications and other ACS divisions, SciMeeting, a virtual science-sharing database was developed for presenters whose abstracts were accepted to share their posters and presentations. The number of submissions totaled 2,419 with 42,595 views.

Considerations for the ACS 2021 National Meetings

- As San Antonio (Spring) and Atlanta (Fall) are currently high-risk sites, planning, particularly for Spring, is for a virtual or hybrid meeting, with a Mon-Thurs timeframe.
- Expectation is that the meeting in San Antonio will be hybrid, which will add another level of complexity to the planning. Social distancing requirements will restrict space capacity for all of the contracted venues.
- M & E will work with DAC to reduce programming
  - Past ACS programming limited divisions to one each small, medium, & large meeting rooms based on division size
  - There is a call to bring back P2C2 to allow Program Chairs the opportunity for PCs to collaborate and discuss future trends
- Fall 2021 National Meeting in Atlanta
  - Initially planned to end on Wednesday, the meeting will probably be extended to Thursday to schedule Division Awards symposia that have been pushed back from both 2020 meetings

Information Details for the Spring 2021 National Meeting

Considerations to include in the presentation to the Board at its August 20 meeting.

- Cap attendance at ~5500 because there will be no available rooms for overflow
- Cap concurrent session rooms at ~70 in comparison to the average number of 130 for Spring meetings
- Limit the number of expo booths based on approved formulas for the number of square feet per person allowed for social distancing or no expo hall at all if the meeting is face-to-face

Potential Hybrid Meeting Formats

- Simultaneous face-to-face and virtual
  - Concurrent face-to-face sessions for presenters who can participate in person
  - Limited virtual rooms in which divisions could assign presentations that would be streamed live
  - Continue to stream live the opening general session, Kavli Lectures, and the closing session.
  - Virtual expo hall
- Two-Week Two-fer (face-to-face followed by 100% virtual)
  - Week One (more details to be provided)
    - Face-to-face meeting with a limited number of sessions and attendees
    - Meeting days may have to change from Sunday-Thursday to Monday-Friday
  - Week Two (more details to be provided)
    - 100% virtual
    - On-demand presentations including oral sessions from week one and new presentations
    - Possible set aside days
      - Awards Day: each division gets a room all-day for its awards program to respond to concerns divisions have expressed about the multiple delays in scheduling recognizing award recipients
      - Global Day: Work with offices in China and India on programming possibilities

- Individuals who pay for the in-person meeting would get the virtual option as part of the meeting package with the Awards and/or Global Day as an added attraction.
- The registration fee would stay at its current rate.
- National meetings typically do not make a profit but the last two or three years, we have returned a profit on both meetings, mostly by reducing some of our expenses and being more efficient in producing meetings.
- Meeting budgets are net neutral.
- The primary goal of the meetings is to present the science, making a profit is secondary.
- The mandate to be profitable is not off the table but is being set aside as we plan meetings that best serve ACS members during the challenge of COVID-19.
- The Board will consider the motion to increase the meeting rate at its December 2020 meeting.
- Do in-person or virtual and do it well rather than doing both and not have either meet our standard.
- Awards and Global Day are worthwhile experiments to try.
- Universities are going to have budget restrictions and people may not be able to travel.
- Industry is doing just find in the virtual world, at this time there is not a strong business need to lift travel restrictions.

ACTION ITEM for AGRO Members. Please review the above proposed meeting options and send your comments to Jeanette Van Emon (jmvanemon@gmail.com) as she is a member of M&E and the committee is gathering comments. The goal is to collect information as ultimately the decision will be up to Tom Connelly and the Board. All comments will be collated for the committee for discussion. A position paper will be developed based on the collected comments and M&E's input to detail the committee's stance on factors to determine the preferred meeting format. The goal is to get a decision on the meeting format from the Board as early as possible preferably before the abstract submission.

Committee on Committees (ConC). During its virtual meeting on March 24, 2020, the Committee on Committees (ConC) voted to endorse the Petition to Clarify Amendments to the Standing Rules, and voted not to take a position on the Petition on Benefits and Dues. ConC unanimously voted to rename the ConC Subcommittee on Diversity to the ConC Subcommittee on Diversity, Inclusion, and Respect. ConC liaisons gave presentations on the committee appointment process and the new enhancements to the online preference form. ConC also developed its recommendations for 2021 Chairs of the Council Standing and Other Committees that were approved by the ACS President-Elect on May 26, 2020. Based on their performance reviews, ConC recommended to the Council Policy Committee, that the Committee on Technician Affairs be continued, and that subject to the concurrence by the Board of Directors, the Committee on Patents and Related Matters be continued. CPC approved both these recommendations. The ACS Board of Directors approved the continuation of the Committee on Patents and Related Matters. ConC voted in October 2019 to recommend to Council that it disband the Joint Board-Council Committee on Chemical Abstracts Service (CCAS). ConC reviewed CCAS for multiple cycles, and after numerous and thoughtful discussions decided that most, if not all, of the responsibilities defined in the CCAS charter are already being performed by Chemical Abstracts Service (CAS) itself. CAS already has many tools to communicate with ACS members, Society governance, and customers.

At its virtual meeting in August, the committee received reports and considered recommendations from its subcommittees on leadership development; committee systems and structure; and diversity, inclusion, and respect. ConC also received updates on scheduled performance reviews for the Committees on Analytical Reagents, Chemistry and Public Affairs, Community Activities, Environmental Improvement, Ethics, Minority Affairs, Public Relations and Communications, Science, SEED, and Women Chemists. ConC will continue developing recommendations for all 2021 appointments and reappointments for the committees of Council Standing, Society, and Joint Board-Council for consideration by the President-Elect and Chair of the Board of Directors.

Committee on Technician Affairs (CTA). The ACS CTA met on Sunday, August 16, 2020 via conference call and awarded the 2020 National Chemical Technician Award to John Stelter of 3M Corporation. A March 21, 2020 *C&EN* article highlights John Stelter's accomplishments. CTA awarded three Young Chemists for the YCC/CTA Leadership Development travel award to attend the Leadership Institute in Atlanta in January 2020. The CTA Professional Development Subcommittee held a CTA symposium discussion with invited panelists who shared their career experiences with the chemical technical professionals and persons interested in the chemical industrial career field. A video highlighting the CTA committee *What the CTA can do for the Chemical Technical Professional* is ready for deployment.

The stakeholders Outreach Subcommittee surveyed possible stakeholders including titles and descriptions and plans to use the information for awards and future activities development. The subcommittee is working on connecting other committees and divisions with CTA. The committee is continuing to ensure success to serve the chemical technical professional stakeholders by planning an updated strategic planning session in 2021. CTA is seeking nominations for the Travel and YCC/CTA leadership awards, and 2021 National Chemical Technician Award. Please visit the CTA website at www.acs.org/cta and join our LinkedIn group, ACS Committee on Technician Affairs (CTA). Follow us on Twitter @cta_acs.

Senior Chemist Committee (SCC). The SCC continues to make progress toward achieving its vision to improve lives using the knowledge and experience of senior chemists. The SCC Awards Subcommittee, in partnership with the Business Development and Management Division, prepared nominations for the ACS Fellows program. Two local sections have been selected to receive SCC ChemLuminary Awards this year for the Best Ongoing Senior Chemists Activity and Best New Senior Chemists Activity. Seven local sections received funding from the SCC Mini-Grant Program and were provided information on how to succeed with planning events using virtual platforms. SCC's efforts to recognize 70-year plus members is continuing. Local sections have presented 280 certificates this year; a total of 874 certificates have been presented to this group since the inception of the program that was spearheaded by SCC in 2017.

C&EN featured *The New World for Senior Chemists* in the June 22 which highlighted the resilience of senior chemists and things learned and observed amidst the COVID-19 pandemic. Senior chemists were encouraged to join discussions on the *Senior Chemists on the Move* Group on the ACS Network and share their perspectives on the pandemic. *Supporting Excellence in Education and Making a Difference* was the headline for the spring issue of *The Newsletter for Senior Chemists.* The issue achieved a 43.1% opening rate (20,615) and featured articles on

senior chemists' involvement with the ACS Science Coaches, the ACS Mentors Program, and contributions made by George Washington Carver and St. Elmo Brady.

Goal 1 of the SCC strategic plan is to develop avenues to expand communications and promotions to enhance awareness of senior chemists' activities. The strategy for doing so is to develop a training plan for social media, virtual communication, and other technical methodologies (e.g., how to participant on the Senior Chemists on the Move Network Group and how to use Zoom and Facebook). After the ACS Spring National meeting cancellation, SCC decided to move forward with this goal and developed an *at a glance* module on *How to Zoom* to encourage the engagement of senior chemists during the coronavirus pandemic. SCC also prepared a document on how to host virtual meetings and to have planned practice sessions. SCC believes that this is good time to help senior chemists stay connected. SCC is working with the Younger Chemists Committee and the Undergraduate Programs Advisory Board on this effort.

Society Committee on Education (SOCED). SOCED is developing reports and recommendations to the Board and Council on Society policies related to chemical education. The committee is considering ways to incorporate key aspects of two policy statements, the *Importance of Hands-on Laboratory Science* and the *Teaching of Evolution*, into the Science Education Policy statement. The team selected to represent the US at the 52nd International Chemistry Olympiad held virtually on July 25 consists of Anugrah Chemparathy, Dougherty Valley High School, CA, California Local Section; Alex Li, Lexington High School, MA, Northeastern Local Section; Ananthan Sadagopan, Westborough High School, MA, Central Massachusetts Local Section; and Alec Zhu, Lexington High School, MA, Northeastern Local Section.

The **American Association of Chemistry Teachers** (AACT) has grown to over 7,200 members, 89% of whom are K-12 teachers of chemistry. Of these, nearly 450 are student members, and nearly 350 are international members. The general resource library has nearly 850 lesson plans, labs, and demos. Selected items were made available to the chemistry community for remote teaching of middle school, high school, and Advanced Placement/general chemistry. As the Biennial Conference on Chemical Education was cancelled, summer virtual symposia are being organized to support the professional development of chemistry teachers. In May, ACS moderated the National Consortium of Secondary STEM Schools virtual roundtable *Looking Ahead at Laboratory Experiences*. Access to other ACS resources was increased in response to COVID-19. ***ChemMatters*** expanded subscriber access to digital issues. ***Chemistry in Context*** is offering its online interactive activities for the 10th edition. Chemistry at Home was added to the ACS Website that lists educational resources by topic, *The Earth, Water, Food, Health, and Your Body* and T*he Periodic Table*, putting a spotlight on the connection between chemistry and everyday life.

Post-Secondary Education. Fourteen university departments have now been selected as partners in the ACS Bridge Program, an initiative that seeks to increase the number of graduate students from underrepresented groups in the chemical sciences. Georgia Tech, The Ohio State University; The University of California, San Diego; and the University of Wisconsin, Madison are ACS Bridge Sites that will offer masters or post-baccalaureate programs supporting students on their way to a PhD in the chemical sciences. Ten ACS Bridge Partnership Departments will also enroll students who have submitted their graduate school applications to the ACS Bridge Program, providing a supportive, bridge-like environment for students from underrepresented groups at California State University, Fresno; Florida Agricultural Mechanical University; Indiana University; South Dakota State University; Stony Brook University; The University of Alabama, Tuscaloosa; The University of Arkansas; University of Massachusetts at Amherst; The University of Michigan; and The University of Northern Colorado. As part of the launch of ACS Graduate Student Organizations (GSOs), graduate students and graduate student organizations are invited to charter an ACS-GSO or affiliate with ACS.

At the end of May 2020, there were 18,300 ACS student members, compared to 18,800 at the end of May 2019. There are currently 402 active domestic student chapters (out of 1,194). There are also 83 international student chapters chartered in 28 countries, surpassing the 2020 goal of 70 chapters. National Meeting Travel Grants were not distributed as the 2020 Fall ACS National Meeting was virtual.

In place of the many activities disrupted as a result of COVID-19, new programs were established, including informal Social Distancing Socials (one hosted by student chapter leaders), a Journal Club, and social media engagement campaigns for undergraduate and graduate students. Sixteen **SCI Scholars** were selected from 115 applicants for a ten-week paid industrial summer internship at one of 13 participating SCI companies. These undergraduate sophomores and juniors, who are majoring in chemistry or chemical engineering with a minimum GPA of 3.5, also received $1,000 for professional development and a certificate. Many internships were canceled due to COVID-19 but virtual options were offered if available. All students still received their summer stipends.

The **New Faculty Workshops** originally scheduled for June and August are transitioning to a virtual event July 21 – 28 including additional attendees for selected workshop sessions. Virtual cafés have been held to support participants of recent workshops during the transition to remote instruction. The 2020 **Postdoc to Faculty Workshop** will also be held virtually, July 31 – August 2. A new booklet ***Tips for Securing a Faculty Position*** shares advice from workshop facilitators.

Chemists with Disabilities Committee (CWD). CWD promotes chemistry through educational and professional opportunities for persons with disabilities. CWD leverages its resources for impact beyond the community of chemists with disabilities for the betterment of ACS. Twenty-three CWD members attended the on March 21 virtual meeting. A live CART (computer assisted real-time transcription) service for our hearing-impaired colleagues was employed through the Zoom videoconference platform.

A robust agenda included a review of the existing CWD programs including our accessible 3-D printed periodic table, the CWD student travel award, and an update on our plans to revise our signature document. Presentations on enhancements to the ACS Committee Preference Form as well as plans for our CWD member video profile project were shared. CWD representation on the Diversity, Inclusion, and Respect Advisory Board was discussed and plans for future virtual meetings were solicited from the membership in attendance. The majority of CWD members felt that the virtual meeting was a success and valuable to the progression of the goals and objectives of the CWD.

Committee on Science (ComSci). ComSci voted to approve the new public policy statement on critical materials. Five public policy statements will be considered for action by ComSci during its meeting in August: *Sustainability and the Chemical Enterprise*;

Science and Technology in the Budget; *Visas for Academic Study and Scientific Collaboration*; *Scientific Integrity in Public Policy*; and *A Competitive U.S. Business Climate: Innovation, Chemistry and Jobs*. ComSci is helping develop a fact sheet on synthetic drugs. ComSci is also organizing a symposium on *Critical Materials: Perspectives from the Industry, Government, and Research Communities* for the Fall National Meeting and is planning symposia on the plastics problem for San Antonio and sustainable development goals for Atlanta. On behalf of ACS, ComSci submitted a nomination for the *Grand Prix de la Fondation de la Maison de la Chimie*, which is awarded biennially in even years.

Committee on Membership Affairs (MAC). MAC remains focused on ensuring that our membership remains vibrant, relevant, and useful to chemical scientists and engineers worldwide. With the enactment of the Schedule of Membership concept this spring, ACS has created a more robust process to make thoughtful changes to ACS membership. The next step entails creating, discussing, and enacting sound revisions to the benefits, dues, and discounts of ACS membership. Council called for such flexibility in our 2019 spring special discussion. Over the coming months and years, MAC will be working with all stakeholders to propose changes for Council to consider. We want to hear from our Councilors and Members concerning how we can specifically build a more inclusive and relevant ACS membership.

It remains important to note that the underlying trends that have buffeted membership this last decade have not ceased. We continue to face headwinds from changes to how younger chemical scientists, engineers, and allied professionals want to affiliate with ACS which have resulted in decreased membership and dues. The time to act for a better future is now.

As of the week of June 22, ACS has over 148,200 traditional members, a drop of over 4,000 members from our 2019 close. We have seen some slowing of new joins due to the pandemic, but our renewals have kept pace, and we have seen limited usage of an employment impact waiver we rolled out in April. The latter two items are good news which belies muted impacts of the recession on the chemistry enterprise so far. While our impact from the COVID-19 recession has not been too significant to date, the underlying trends of declines we have seen for at least a decade have continued unabated. Better news is our official ACS membership number now stands at over 158,000 members (3.5% growth from 2019).

The difference between this number and the previous number is it includes over 9,700 ACS Community Members. What are Community Members? Community Members are ACS members that joined as part of an ongoing market test which MAC chartered in March 2020. For the first time, the technology underpinning ACS membership provided us an opportunity to offer different benefits to different members. Working with staff, MAC created a test of a sustainable membership concept which we believe will ensure a vibrant, inclusive, and robust ACS membership for this century. It is important to note that Community Members only receive a handful of newsletters and five extra download tokens for C&EN articles per month at no cost. They do not receive the rest of our portfolio of membership benefits: full C&EN access, career services, publications downloads, SciFinder activities, webinar library access, meeting discounts, the ability to vote, etc.

During this test period (enrollment runs through August 31, 2020), non-member registrants for an ACS webinar are offered the ability to opt-into be a Community Member. By design, the offer is not marketed and relies purely on the element of surprise.

While this is merely a test, the results have been very encouraging. The cost of sustaining this membership concept is minimal. These members were already ACS customers and already accessing ACS resources so attaching a name to these interactions costs us nothing. For example, 100% of them are webinar registrants that we were already serving, and we have found initial evidence that 12% of them are ACS Publications authors and 85% were already known to ACS Publications.

The advantages of Community Membership are numerous. ACS has tens-of-millions of annual interactions with individuals, and this concept presents an opportunity to bring a significant fraction of them into our membership tent. They are already aware of our membership but chose not to join. By inviting them in with a low barrier to entry, we all have increased opportunities to expand our networks and build a more representative and inclusive Society.

It also creates customers with amplified loyalty to all things ACS. A more loyal meeting attendee, author, user, educator, etc. increases our bottom line and makes meeting our mission objectives easier. It also helps us build a robust pipeline of potential paying members. A normal acquisition costs ACS anywhere from $100 – a$300 while these conversions are a fraction of those costs. Only weeks into the test, we have seen 21 upgrades, which is beyond our forecasts for so early in the market test. MAC will be closely reviewing this information as we work with ACS governance to propose concepts for 2022 ACS membership. The initial results are encouraging, and we look forward to working with all of you to build a Society for the 21st century.

The committee also wants to remind all ACS members of the unique role they play in ensuring a vibrant ACS. Personal networking and sharing stories about the value that you find in ACS with potential members is a strong personal incentive to join the Society. While likely not sufficient on its own to fully address the recent trends in joins and departures, it goes a long way in reducing the burden on our initiatives. A personal referral simply cannot be matched. Thank you for all that you do to support ACS.

Committee on Divisional Activities (DAC). The Multidisciplinary Program Planning Group reported that the theme for Philadelphia, *Macromolecular Chemistry: The Second Century*, will be moved to the Spring 2021 meeting in San Antonio. It was subsequently learned that the Fall meeting would be entirely virtual.

DAC sponsored a 2019 Spring/Fall Program Chairs Breakfast to provide a venue for program chairs to collaborate on programming and discuss programming needs and aspirations. DAC started hosting in May a series of bi-weekly online Program Chair meetings. With the move to a fully virtual national meeting, the participant list was expanded to include division chairs, committee programing chairs and staff. The well-received bi-weekly question-and-answer meetings focused on Fall meeting preparations and concerns.

DAC is reviewing the impact of the Spring Meeting termination and the move to a fully virtual Fall meeting on division allocations. A significant component in the formula used is based on national meeting and half-day technical session attendance. The committee will seek ways to minimize the impact of the 2020 Spring/Fall meeting changes. One suggestion under consideration would use an average of past meeting data to calculate allocations for 2021.

DAC is using a new scoring rubric to evaluate Fall Innovative Project Grant (IPG) proposals. The new scoring rubric was distributed to divisional leadership, posted on the IPG submission site, and implemented in evaluating the current round of submissions. The deadline for Fall IPG applications was July 15, 2020. IPGs for innovative project and for division strategic planning will be evaluated at its August meeting. The next IPG deadline is February 15, 2021. DAC seeks ways to enhance collaborative programing between divisions on emerging topic areas and approved pursuing a 2021 pilot of Convergence Research Communities and is soliciting group proposals.

DAC wishes to acknowledge the outstanding efforts of the divisions and the Multidisciplinary Program Planning Group in organizing and reorganizing to deliver a wide range of excellent programming in support of the Fall 2020 theme, *Moving Chemistry From Bench to Market*.

Women Chemist Committee (WCC). The vision of the WCC is *Empowering Women Chemists*. The WCC's mission is to attract, retain, develop, promote, and advocate for women to positively impact diversity, equity, and inclusion in the Society and the profession. As many other ACS units have done, WCC has sought ways to continue to carry out our strategies aimed at achieving our mission in a virtual world. WCC has continued our competitive awards programs during 2020. Winners of the awards, such as the WCC/Eli Lilly & Company travel award and the Merck Research award, were encouraged to continue to participate in the virtual meeting, while they were also invited to use their award funding to attend an 2021 ACS national meeting.

WCC has three major events planned during the Fall 2020 Virtual National Meeting. On Sunday, August 16th, WCC in collaboration with the Committee on Minority Affairs (CMA) will be hosting a *Wikipedia Edit-a-Thon*. It is well documented that among scientists, specifically chemists, with biographies on Wikipedia, women are vastly underrepresented when compared to their representation among ACS members. See *C&EN* **https://cen.acs.org/careers/women-in-science/Wikipedias-women-scientists/96/i37#:~:text=At%20the%20forefront%20of%20the,scientists%2C%20both%20living%20and%20dead.** This event, which empowers ACS members to be part of the solution, will take place virtually and will provide some guidance on how to author and edit scientist biographies on Wikipedia. Pre-registration is required, **https://www.eventbrite.co.uk/e/wikipedia-edit-a-thon-tickets-101542400052**

The WCC will host a half-day session, in collaboration with CMA, co-sponsored by the Division of Professional Relations, and tied to the Fall 2020 thematic program *Diversity and Inclusion in Bench to Marketplace Chemistry* in the virtual format. The WCC is continuing discussions on launching virtual events that allow engagement of a large population of members outside of the national meeting setting. Please be sure to follow WCC on social media (Facebook, LinkedIn, Instagram) to get the latest updates on future WCC virtual events.

Committee on Project SEED (Project SEED). The year 2020 brought several changes to Project SEED. January welcomed the new Project SEED database, allowing high school students to apply to Project SEED online. Over 670 students started online applications between the application launch and the extended deadline. This new online application helps to connect the nearly 100 site coordinators with a broadened pool of applicants; alerts staff and the committee to geographic regions with expressed student interest, but no nearby Project SEED sites; and unexpectedly, helped this year's program quickly shift to a virtual model as COVID-19 led to the cancelation of in-person research projects. There were 571 students listed in proposals from 86 Project SEED sites.

During the Spring virtual executive meeting, the committee held a discussion with subject matter expert, Erica Greenberg from the Urban Institute, on poverty in America and student financial eligibility including expanded methods of demonstrating eligibility. The committee also selected the ChemLuminary finalists for 2019 Project SEED activities: California Local Section, Central New York (formerly Syracuse), Indiana Local Section, and Puerto Rico Local Section. During that meeting, the committee approved 469 students at nearly 86 Project SEED sites, with increased stipends of $3,200 for first-time participants (up from $2,500) and $3,800 (up from $3,000) for returning students. Late April, the Project SEED Committee met again and voted to cancel in-person research due to COVID-19, opting instead to host a Virtual Summer Camp and selecting the 325 participants from the students that had already started to apply.

The virtual summer camp (July 6 – 31), sought to achieve three objectives for the participants: (1) Research basics and preparedness; (2) Professional development and college readiness; and (3) Exposure to chemistry-related career pathways. Students participated in weekly webinars, virtual panels, and discussions, completed assignments centered around the three objectives, and participated in a virtual conference the final week. Upon completion of these activities, students were paid a stipend of $1,000. To ensure that the students were receiving meaningful and regular feedback on their work, the committee selected 64 undergraduate and graduate students to serve as Cabin Leaders. They were responsible for meeting with the students regularly, grading weekly assignments, and generally setting the tone for the camp. Each Cabin Leader was paid $1,500 for their work.

It is the committee's hope that Summer 2021 will bring a return to in-person research with increased participation from returning students. Project SEED credits the numerous contributions from industry, academia, ACS local sections, ACS members, and the Project SEED Endowment.

Council Reports May Be Found At The Following Website:
https://www.acs.org/content/acs/en/about/governance/councilors/committee-reports-tocouncil-at-national-meetings.html

AGRO Councilors' Report
Spring Virtual Meeting
March 24, 2021

Jeanette M. Van Emon and Rodney Bennett, Councilors

Summary of Governance Issues and Actions

The Spring 2021 ACS Meeting was fully virtual with 4,400 registered attendees, more than 8,700 abstracts and 120 live scientific sessions per day. The Council of the American Chemical Society met virtually with H.N. Cheng, President of the Society and Council, presiding. Both of the AGRO Councilors (Rodney Bennett and Jeanette Van Emon) were present for the entire meeting and also attended additional Council Committee meetings.The ACS has identified three major long range change

drivers for further discussion at the Fall 2021 meeting: Chemistry and Social Responsibility; Scientific Doubt and Polarization in the U.S.; and Strained Pipeline and Changing Workplace. We will keep you up-to-date on the progress of these discussions.

To date, all Councilors and other committee members do not have to be present in Atlanta for the Fall 2021 ACS meeting but may attend governance meetings virtually. ACS staff conducted a survey of registration fees for other scientific meetings and proposed to the ACS Board to increase the registration fees for the Fall 2021 meeting. The Board accepted this proposal. The Council was not involved in this decision.

Council Meeting. The minutes of the August 19, 2020 Council meeting were approved without discussion. Councilors observed a moment of silence commemorating the passing of fellow Councilors, remembering them with respect and affection, and extending sincerest condolences to their families in their bereavement.

Nominations and Elections Report. The Council heard presentations from the four nominees (John C. Warner, Judith C. Giordan, Gerard Baillely, and Anne M. Gaffney) for ACS president-elect 2022. The Council voted to select John C. Warner and Judith C. Giordan as candidates for President-Elect 2022.

Dr. Amber Hinkle introduced the candidates for the Board of Directors, chosen by voting Councilors in District I and District V for the election to be conducted this fall for the term 2022-2024: District I, D. Richard Cobb and Katherine L. Lee; and District V, Lisa Balbes and Joseph A. Heppert.

Dr. Hinkle then announced the following candidates for Director-at-Large on the Board of Directors: Rodney M. Bennett (YAY!), Arlene Garrison, Natalie A. LaFranzo, and Lee H. Latimer. The two successful candidates will fill 2022-2024 terms.

Reports of Society Officers

President H.N. Cheng reported that the *Presidential Theme of Growth, Collaboration, and Advocacy* continues to guide his symposia, webinars, articles, and books. He announced planned symposia for the Spring and Fall 2021 meetings, multiple webinars on entrepreneurship and new frontiers in chemistry, and a *C&EN* Comment on sustainability. He concluded by detailing his outreach to International Chemical Sciences Chapters and the results of a successful advocacy workshop for younger chemists.

President-Elect Angela Wilson thanked staff and member volunteers for all their work being conducted virtually. Dr. Wilson mentioned her participation in events organized by divisions, local sections, and regional meetings. Her initiatives next year will focus on the public understanding of chemistry and the future of the chemical enterprise.

Board Chair Paul Jagodzinski reported that the Board heard reports from ACS Officers, the Governing Board for Publishing, and the Chief Executive Officer. On the recommendation of the Committee on Publications, the Board approved the reappointment of several Editors-in-Chief for ACS journals. He concluded by inviting Councilors to a Board-sponsored keynote session on the *Future of Science in the U.S.: National Science Board's Vision 2030* at the ACS Spring 2021 virtual meeting.

Chief Executive Officer Thomas M. Connelly, Jr. reported that the Board of Directors approved extensive changes to the ACS Strategic Plan and added a fifth Strategic Goal: To Embrace and to Advance Inclusion in Chemistry. Dr. Connelly made the following personnel announcements: Rajendrani Mukhopadhyay was appointed as the first Vice President of Diversity, Equity, Inclusion, and Respect; Glenn Ruskin, Vice President of External Affairs and Communications, will retire at midyear; Anthony Pitagno will serve as Senior Director of Government Affairs, Outreach, and Alliances; Sue Morrissey was appointed Vice President of Communications, a newly-created staff division; Kate Fryer, Executive Vice President for Membership, will leave ACS on March 26 for a new opportunity; and LaTrease Garrison is the Executive Vice President of Education and of Membership, effective March 29, 2021. Membership in the Society grew in 2020, and ACS met all five Financial Guidelines finishing 2020 with record revenues and net from operations. Other 2020 ACS achievements can be found at www.acs.org/acshighlights

Reports of Elected Committees

Council Policy Committee (CPC). Martin Rudd thanked Councilors for participating in the two mock meetings of Council, as those preparations helped to enhance the experience for the virtual Council. CPC offered concurrence on the motions of the 2022 Schedule of Membership from the Membership Affairs Committee, and the 2022 Distribution Formula for Division Funding from the Divisional Activities Committee. CPC's two working groups continue to tackle several issues: ensuring representation of all ACS members on Council, including those within the US and overseas, and exploring the future formats and timings of Council Meetings.

Committee on Committees (ConC). Diane Krone reported that the performance review for the Committee on Ethics has been completed. Council voted on the recommendation of the Committee on Committees, and with the concurrence of the Council Policy Committee, that the Committee on Ethics be continued.

ConC reviewed the structure and appointment process of ACS committees and identified systematic barriers preventing or limiting engagement opportunities for unintentionally excluded members and some demographic groups. The committee drafted a petition that would harmonize the ACS committee structures, relax the *Councilor Only* designation that exists for some committees, and standardize committee term limits. The committee heard feedback that because of the nature of their work, some committees may have a need for ongoing expertise. This is especially true for those committees who are specialized and, as a result, find it harder to attract new members. ConC voted to amend their petition as a result. Council voted with the concurrence of the Council Policy Committee, to approve the *Petition to Harmonize Committee Structures, Processes, and Terms*, as amended.

Nominations and Elections (N&E). Amber S. Hinkle announced that all candidates, including those for President-Elect 2022 and any other petition candidates (certified by the July 15 deadline), will be placed on the ballot this Fall. The Committee reviewed the distribution of the member population within the six electoral districts to determine equitable representation as required in the Standing Rules (SR IV, 9. a), and found the Society to be in compliance. The committee will develop slates of potential candidates for the Council Policy Committee and the Committee on Committees for 2022-2024 terms. Names of qualified individuals for President-Elect and/or Directors for future consideration can be submitted by email to the committee at nomelect@acs.org.

Reports of Society Committees and Committee on Science.

Budget and Finance (B&F). William Greenlee reported that in 2020, ACS generated a Net from Operations of $60 million, which was almost $20 million higher than budget. Total revenues

were $618.4 million, increasing 3.9% or $23.1 million over 2019. Expenses for the year were $557.4 million, almost even with the prior year and almost 5% below budget. This result was attributable to strong revenue performance from the Society's Information Services units (CAS and ACS Publications) and a combination of COVID-19 related impacts and careful management of expenses across the ACS. The Society's sources of net contribution totaled $130.5 million and included Information Services and Investments. These sources funded net expenses associated with Society Programs. The Society's financial position strengthened considerably in 2020, with Unrestricted Net Assets, or reserves, increasing by 35% to $553 million at December 31.

Education (SOCED). Carmen Gauthier reported the committee implemented a new organizational structure that is better aligned with its duties and goals. The US National Chemistry Olympiad, Local Section and National Exams will be offered virtually again this year, omitting the laboratory portion of the National Exam. The ACS Bridge Program has 23 participating departments with one-to-two-year bridge experiences in which prospective Black, Latinx, and Indigenous students preparing to transition into doctoral programs may enroll. The Lasting Encounters between Aspiring and Distinguished Scientists (LEADS) Conference, an initiative of ACS Immediate Past President Luis Echegoyen, is planned for November 2021.

Science (ComSci). Martin G. Kociolek reported that ComSci is working with President Cheng to organize a colloquium on *New Frontiers and Opportunities for Chemistry* which will be presented through a series of webinars in summer 2021 and a symposium at the fall meeting. ComSci announced the organization of various symposia focusing on plastics, innovation, and sustainable chemistry for the Fall 2021 meeting. The committee will consider revisions to three policy statements that are up for renewal this year addressing energy policy, the science and technology of hydraulic fracturing, and preventing the reemergence of chemical weapons.

Reports of Standing Committees

Economic and Professional Affairs (CEPA). Eric Bruton reported that the ACS Career Consultant Program had a challenging but successful 2020 and was able to provide more than 350 one-on-one consultations, more than 700 virtual office hours interactions, and host six career days that reached nearly 900 individuals. CEPA helped in the design of COVID-related questions for the 2020 Membership survey. Results showed that the majority of ACS members felt secure in their jobs, despite the economic effects of the pandemic, and CEPA recently developed a plan to assist members facing unemployment through layoffs.

Membership Affairs (MAC). Brian M. Mathes reported that the number of ACS members increased for the third year in a row. The growth was attributed to concerted efforts placed on strategic market tests. This trajectory is not sustainable, however, and the committee has conducted significant analysis on other ways to grow the membership. The 2022 Schedule of Membership was developed to include more members, under various categories. The Council voted to approve the 2022 Schedule of Membership.

Meetings and Expositions (M&E). Rick Ewing reported that planning the Fall 2021 ACS meeting in Atlanta as a hybrid meeting is fully underway with contingencies for a seamless transition to a fully virtual meeting should that be needed. In 2020, six of seven regional meetings were canceled, while for 2021 the spring regional meetings are planned as virtual, the fall meetings are planned as in person, and the Rocky Mountain Regional Meeting will be hybrid.

Divisional Activities (DAC). James M. Takacs reported that DAC received six Innovative Project Grants (IPG) applications for the spring cycle and is using a new scoring rubric to evaluate proposals. The committee has been working on a new allocation formula for Divisions that is transparent, immediately implementable, reduces the year-to-year variation in the distribution amount, and will work in all current national meeting formats. Council voted with the concurrence of the Council Policy Committee, to approve the Distribution Formula for Division Funding. DAC acknowledged the dedicated efforts of the Multidisciplinary Program Planning Group and participating divisions in organizing a wide range of excellent programming in support of the delayed Spring Meeting theme, *Macromolecular Chemistry: The Second Century*.

Local Section Activities (LSAC). Matthew Reichert reported that the LSAC hosted the Local Section Track during the ACS Leadership Institute Experience kick-off weekend on January 9-10, 2021. Over 140 local section representatives participated in the virtual sessions. Following the success of last year's Diversity, Inclusion, and Respect grant pilot, LSAC voted to add these grants to its portfolio. The committee drafted a petition to provide LSAC with the authority to support Local Sections by taking action on their behalf, including appointing an interim executive committee and/or facilitating a Local Section's election when there is a lapse in the local section's leadership. Council voted with the concurrence of the Council Policy Committee, to approve the *Petition to Amend the Duties of the Committee on Local Section Activities.*

Constitution and Bylaws (C&B). Donna G. Friedman reported that the committee certified 11 unit bylaws since the fall 2020 meeting. C&B voted to interpret the word "mail" as including "email" in unit bylaws still using "mail" in their election bylaws, provided that those bylaws do not include words such as "envelope" or "postmark".

Reports of Other and Joint Board-Council Committees

Technician Affairs (CTA). Jennifer McCulley reported that the CTA awarded the 2020 National Chemical Technician Award to John Stelter of the 3M Corporation, and the 2021 National Chemical Technician Award to Nita Xu of the Dow Corporation. The committee selected and recognized the Midland Local Section as the recipient of the 2020 ChemLuminary award. The committee is seeking new associates and nominations for its awards, especially the 2022 National Chemical Technician Award.

New Business

The Council adopted the following resolution:
"BE IT RESOLVED That the Council of the American Chemical Society expresses its sincere and heartfelt concern for all members and staff of the American Chemical Society and their families who have been touched by the COVID-19 pandemic. We salute your resolve and offer our deepest appreciation and gratitude for your coordinated response to the COVID-19 pandemic. A brighter future awaits us and together we will ensure that the Society emerges from the pandemic stronger than ever and doubly committed to our vision of *Improving all People's Lives through the Transforming Power of Chemistry*.

AMERICAN CHEMICAL SOCIETY
Fall 2021 Hybrid Meeting and Exposition
Resilience of Chemistry
August 22 – 26, 2020

AGRO SCHEDULE AT A GLANCE

See pages 61-76 for full program

Time (EDT)	Sunday August 22	Monday August 23	Tuesday August 24	Wednesday August 25	Thursday August 26
10:00 – 10:30 AM	**Coffee Break** 	**Coffee Break**	**Coffee Break**	**Coffee Break**	**Coffee Break**
10:30 AM – 12:30 PM	Virtual Session 1	Virtual Session 1	Virtual Session 1	Virtual Session 1	Virtual Session 1
12:30 – 2:00 PM	**Opening Session**	**Kavli**	**Kavli**	**Blues and Brews** 	PRIZE$!!! **AGRO Awards Social**
2:00 – 4:00 PM	Virtual Session 2	Virtual Session 2	Virtual Session 2	Virtual Session 2	Virtual Session 2
4:00 – 4:30 PM	**Student & Post-doc Networking: *Consulting***	**Student & Post-doc Networking: *Academia***	**Student & Post-doc Networking: *Industry***	**Student & Post-doc Networking: *Government***	**Student & Post-doc Networking: *Just for Fun!***
4:30 – 6:30 PM	Virtual Session 3	Virtual Session 3	Virtual Session 3	Virtual Session 3	Virtual Session 3
6:30 – 7 PM	Break	Break	Break	Break	Break
7:00 – 9:00 PM	Virtual Session 4	Virtual Session 4 / **Sci-Mix**	Virtual Interactive Poster Session	Virtual Session 4	

ACS Livestream on ACS Mainstage

AGRO Virtual Technical Sessions

AGRO Networking Sessions

American Chemical Society
AGRO Division
262nd ACS National Virtual Meeting and Expo
August 22 – 26, 2021; Eastern Daylight Time

SYMPOSIUM TABLE

SYMPOSIUM	Zoom Room	Sun Sessions	Mon Sessions	Tue Sessions	Wed Sessions	Thu Sessions
Exposures: Approaches and Processes for Preventing, Detecting, and Monitoring Agrochemical Contamination in the Environment	01	1,2,3				
Bioisosteric Replacement and Scaffold Hopping in Crop Protection Research	02	1,2,3,4				
Sustainability in Agriculture: New Sources and Tools for the Development of Sustainable Crop Protection Solutions	S1: 37 S2: 40	1,2				
Process Research and Development in Crop Protection	S1: 44 S2: 48	1,2				
Metabolite and Process Impurity Identification for Agrochemical Discovery	S3: 46 S4: 01	3,4				
Unmanned Aerial Systems (aka Drones): Pesticide Spraying and Other Agricultural Applications	S3: 30 S4: 03	3,4				
Receptor / Channel Targets of Chemicals Controlling Insect and Nematode Pests, Vectors, and Pathogens ***International Award***	01		1,2,3,4	1		
Environmental Fate, Transport, and Modeling of Agriculturally-Related Chemicals	02		1,2,3,4	1		
Practical Residue Analytical Methods for the Analysis of Samples from Environ. and Consumer Safety Related Studies ***JAFC Award***	03		1,2			
Good Laboratory Practices (GLP): How to Conduct Studies Under the Regulatory Environment	03		3,4			
EARLY CAREER SYMPOSIUM: Advances in Vector Control and Insecticide Science ***Innovation Award***	S1: 03 S2, S3: 02			1,2,3		
Analytical Technologies in Agrochemistry and Strategies for Chiral Separation ***Spencer Award***	01			2,3		
Enhanced Agrochemical Applications through Surfactant, Formulation, and Colloid Technology	03			2,3		
AGRO POSTER SESSION				4		
Human Health Paradigms: Exposure, Risk Assessment, and Policies for Agrochemicals	01				1,2,3,4	
EARLY CAREER SYMPOSIUM: Chemical Communication between Living Organisms in Agricultural Systems	02				1,2	
Genome Editing in Agriculture: Leveraging New Breeding Tools to Improve Crops and Their Production / Tools and Traits	03				1,2,3	
Bioavailability and Environmental Relevance of Strongly Sorbed and Sequestered Chemicals	04				1,2	
Off-Target: Measurement and Management of Pesticide Drift and Volatility	S1: 03 S2: 02				3,4	
Everywhere but the Crop Field: Exploring Pesticide Use and Usage	01					1,2
Feeding a Hungry World Amidst Varying Pesticide Regulations	S1, S2: 02 S3: 01					1,2,3
Design, Conduct, and Reporting of Studies to Measure Exposure to and Effects of Chemicals on Pollinators in the Environment: Can it be Both Practical and Realistic?	03					1,2,3
Nontarget Analyses and Emerging Contaminants: Implications for Agrochemical Risk Assessment / Introduction to the Technology and Agrochemical Case Studies	S1: 11 S2: 32 S3: 02					1,2,3

American Chemical Society
AGRO Division

262nd ACS National Virtual Meeting and Expo

August 22 – 26, 2021; Eastern Daylight Time

Qing X. Li, *Program Chair;* Leah Riter, *Division Chair*

PROGRAM

AGRO MEETING LAYOUT

AGRO BUSINESS MEETING
- This meeting has been postponed to September
- Watch the website and email blasts for time
- All are welcome to attend

AGRO POSTER SESSION – TUE 7:00 – 9:00 PM

AGRO SOCIAL EVENTS
- **Coffee Talk 10:00 – 10:30 AM** everyday
- **Blues and Brews WED 12:30 – 2:00 PM**
- **AGRO Awards Social Thu 12:30 – 2:00 PM**

AGRO STUDENT AND POST-DOC NETWORKING
Five sessions to discuss career path
SUN – Consulting
MON – Academia
TUE – Industry
WED – Government
THU – Fun Session

TECHNICAL SESSIONS - EVERYDAY
Session 1: 10:30 AM – 12:30 PM
Session 2: 2:00 – 4:00 PM
Session 3: 4:30 – 6:30 PM
Session 4: 7:00 – 9:00 PM (no Thursday session)

SUNDAY

10:00 – 10:30 AM EDT in the Virtual Room
AGRO Coffee Talk

SESSION 1: 10:30 AM – 12:30 PM EDT

Exposures: Approaches and Processes for Preventing, Detecting, and Monitoring Agrochemical Contamination in the Environment
Cosponsored by ENVR
M. Hall, J. Coats, *Organizers, Presiders*

Zoom Room 01
10:30 – Introductory Remarks
10:35 – Design parameters for environmental monitoring studies of pesticides and other environmental contaminants. **J. Purdy**
11:00 – Using the exposure and fate assessment screening tool (E-FAST) in aquatic risk assessments for antimicrobial pesticides in the USA. **K. Korthauer**
11:25 – STUDENT TRAVEL AWARD. Low-cost ultrasensitive method for PFAS detection through electrochemistry. **R. Khan**
11:50 – STUDENT TRAVEL AWARD. Quantification of double-stranded RNA molecules as model RNA interference biopesticides in agricultural soils. **K. Zhang**
12:15 – Discussion

Bioisosteric Replacement and Scaffold Hopping in Crop Protection Research
P. Maienfisch, C. Lamberth, *Organizers, Presiders*

Zoom Room 02
10:30 – Introductory Remarks
10:35 – The importance of bioisosterism and scaffold hopping for crop protection research. **P. Maienfisch**
11:00 – False cognates: Structural similarities of compounds with different modes of action and/or biological utilities. **T. Stevenson**
11:25 – Reversal of functional groups as a useful tool in crop protection chemistry. **C. Lamberth**
11:50 – Trifluoromethylpyridine: An important active fragment for discovery of new pesticide. **J. Wu**
12:15 – Discussion

Sustainability in Agriculture: New Sources and Tools for the Development of Sustainable Crop Protection Solutions
Cosponsored by AGFD and ENVR
A. Jaganathan, B. Nugent, B.M. Rauzan, M. Walsh, *Organizers, Presiders*

Zoom Room 37
10:30 – Introductory Remarks
10:35 – Embedding sustainability in crop protection discovery, development, and manufacturing. **A. Batra**
11:25 – Synthesis and biological activity of 6-arylpicolinate herbicides with 2,3,4-trisubstituted aryl tails. **J. Eckelbarger**

11:50 – Cheminformatics, in-silico tools, and predictive models to accelerate the Design-Make-Test-Analyze cycle in Crop Protection Discovery. **D. Tomandl**
12:15 – Discussion and Concluding Remarks

Process Research and Development in Crop Protection
Cosponsored by AGFD
H. Smits, S. Vasquez Cespedes, C. Wang, *Organizers, Presiders*

Zoom Room 44
10:30 – Introductory Remarks
10:35 – Reagents, ligands, and catalysts: A three-fold approach for organic synthesis. **J. Cornella**
11:25 – Searching for the holistic solution. **M. Ford**
11:50 – Guide, predict, and explain experiments probing ligands in catalysis with a platform of high-level descriptors of phosphorus ligands. **T. Gensch**
12:15 – Panel Discussion and Concluding Remarks

SESSION 2: 2:00 PM – 4:00 PM EDT

Exposures: Approaches and Processes for Preventing, Detecting, and Monitoring Agrochemical Contamination in the Environment
Cosponsored by ENVR
M. Hall, J. Coats, *Organizers, Presiders*

Zoom Room 01
2:00 – Introductory Remarks
2:05 – Screening and quantification of food samples for residues of pesticides and veterinary drugs using gas and liquid chromatography with high resolution accurate mass (HRAM) mass spectrometry determination to determine compliance with European legislation. **J. Garvey**
2:30 – Assessing exposure: Case studies of drift and small market basket-type surveys on tea, fruits, and vegetables. **T. Anderson**
2:55 – Fate of nanoencapsulated azoxystrobin and bifenthrin pesticides in strawberry agricultural system. **P. Wang**
3:20 – Discussion

Bioisosteric Replacement and Scaffold Hopping in Crop Protection Research
C. Lamberth, P. Maienfisch, *Organizers, Presiders*

Zoom Room 02
2:00 – Introductory Remarks
2:05 – Discovery of the oxadiazole fungicide flufenoxadiazam. **C. Winter**
2:30 – Bioisostere considerations in the discovery of florylpicoxamid. **K. Meyer**
2:55 – Scaffold hopping and bioisosteric approaches as alternatives to macrocyclic picolinamides. **V. Jackson**
3:20 – Discovery of pyrazole and imidazole fungicides via bioisosteric modifications. **J. Long**
3:45 – Discussion

Sustainability in Agriculture: New Sources and Tools for the Development of Sustainable Crop Protection Solutions
Cosponsored by AGFD and ENVR
A. Jaganathan, B. Nugent, B.M. Rauzan, M. Walsh, *Organizers, Presiders*

Zoom Room 40
2:00 – Introductory Remarks
2:05 – Scaling multi-omics to uncover microbial natural products for enhanced sustainability. **N. Kelleher**
2:55 – Phytochemicals in air and monoterpenes as biopesticides. **Q. Li**
3:20 – Efficient insecticides based on essential oils and clay. **G. Rytwo**
3:45 – Discussion and Concluding Remarks

Process Research and Development in Crop Protection
Cosponsored by AGFD H. Smits, S. Vasquez Cespedes, C. Wang, *Organizers, Presiders*

Zoom Room 48
2:00 – Introductory Remarks
2:05 – Radical deoxyfunctionalisation strategies. **A. Gomez Suarez**
2:45 – Route scouting and development of scalable routes towards insecticidal and fungicidal development candidates. **H. Smits**
3:05 – Route design of Adaveltâ active, a Corteva fungicide. **M. Cismesia**
3:25 – Application of a semi-automated crystallizer to study oiling-out and agglomeration events. A case study in industrial crystallization optimization. **X. Zhao**
3:45 – Panel Discussion and Concluding Remarks

4:00 - 4:30 PM EDT in the Virtual Room
AGRO Student and Post-Doc Networking Session
Topic: Consulting

SESSION 3: 4:30 PM – 6:30 PM EDT

Exposures: Approaches and Processes for Preventing, Detecting, and Monitoring Agrochemical Contamination in the Environment
Cosponsored by ENVR
M. Hall, J. Coats *Organizers, Presiders*

Zoom Room 01
4:30 – Introductory Remarks
4:35 – Evaluating the spatial aquatic model using surface water monitoring data for use in pesticide exposure assessments. **P. Engel**
5:00 – Comparison of neonicotinoid seed coatings and drenches on lettuce. **M. Hladik**
5:25 – Neonicotinoid insecticides in Minnesota surface and groundwater: Occurrence, trends, and future work. **G. Goedjen**
5:50 – Evaluation of ELISA for the analysis of imidacloprid in biological samples: Cross-reactivities, matrix interferences, and comparison to LC-MS/MS. **M. Gross**
6:15 – Discussion and Concluding Remarks

Bioisosteric Replacement and Scaffold Hopping in Crop Protection Research
P. Maienfisch, C. Lamberth, *Organizers, Presiders*

Zoom Room 02
4:30 – Introductory Remarks
4:35 – Novel piperidinyl thiazole derivatives as oomycete fungicides. **M. Naik**
5:00 – *N*-[Hetaryl-2(1H)-pyridinylidene]-cyanamides: A new class of systemic insecticides. **P. Jeschke**
5:25 – Discovery of insecticidal 4-pyridyl dihydroisobenzofuran(one)s. **W. Lambert**
5:50 – Design, synthesis, and structure derivation of fluensulfone. **X. Xu**
6:15 – Discussion

Metabolite and Process Impurity Identification for Agrochemical Discovery
L. Cai, M. Ma, M. Zhang, C. Zu, Organizers, Presiders

Zoom Room 46
4:30 – Introductory Remarks
4:35 – Detoxification via reduction-dehydration-GSH conjugation of a non-selective HPPD-inhibiting herbicide in waterhemp (*Amaranthus tuberculatus*). **C. Concepcion**
5:25 – Separation, isolation and identification of metabolic biotransformation products of a novel 14C-labeled small molecule (compound X) into proteins and peptides in a lactating goat and laying hen metabolism study. **D. Safarpour**
5:50 – Application of online hydrogen-deuterium exchange for fast screening and metabol,ite identification in drug and pesticide metabolism. **V. Badwaik**
6:15 – Discussion and Concluding Remarks

Unmanned Aerial Systems (aka Drones): Pesticide Spraying and Other Agricultural Applications
Cosponsored by ENVR
R. Breckels, J. Perine, K. White, Z. Tang, J. Whall, Organizers, Presiders

Zoom Room 30
4:30 – Introductory Remarks
4:35 – Detoxification via reduction-dehydration-GSH Spray application from UASS: A sprayer manufacturer's perspective. **E. Bals**
5:00 – Unmanned aerial systems: A0 ag chem perspective on the technology. **W. Mayer**
5:25 – Canada's regulatory approach to aerial application via remote piloted aircraft systems (RPAS). **R. Breckels**
5:50 – Overview of regulatory direction of EPA for conventional and unmanned aerial spray applications. **K. White**
6:15 – Panel Discussion and Concluding Remarks

SESSION 4: 7:00 PM – 9:00 PM EDT

Metabolite and Process Impurity Identification for Agrochemical Discovery
L. Cai, M. Ma, M. Zhang, C. Zu, *Organizers, Presiders*

Zoom Room 01
7:00 – Introductory Remarks
7:05 – Comprehensive solutions for accessing metabolites of drugs and agrochemicals. **L. Evans, S. Wrigley**
7:55 – Approaching metabolism prediction in the open with BioTransformer. **Y. Djoumbou Feunang**
8:20 – Why is predicting metabolites harder than predicting metabolism? **R. Clark**
8:45 – Discussion and Concluding Remarks

Bioisosteric Replacement and Scaffold Hopping in Crop Protection Research
P. Maienfisch, C. Lamberth, *Organizers, Presiders*

Zoom Room 02
7:00 – Introductory Remarks
7:05 – Applying bioisosteric replacement strategy in the discovery and optimization of mesoionic pyrido[1,2-a]pyrimidinone insecticides. **W. Zhang**
7:25 – Discovery and structure-based design of 5-membered mesoionic insecticides. **A. Narine**
7:45 – Design, synthesis, and pharmacological optimization of silicon-containing acaricide. **C. Zhou**
8:05 – Discovery and synthesis of herbicidally active 3-heteroaryloxypyrazoles. **M. McLeod**
8:25 – Scaffold hopping in protox-inhibiting chemistry. **G. Theodoridis**
8:45 – Discussion and Concluding Remarks

Unmanned Aerial Systems (aka Drones): Pesticide Spraying and Other Agricultural Applications
Cosponsored by ENVR
R. Breckels, J. Perine, K. White, Z. Tang, J. Whall, Organizers, Presiders

Zoom Room 03
7:00 – Introductory Remarks
7:05 – Drift and deposition uniformity of two drone models according to the flight height. **U. Antuniassi**
7:25 – Drift and deposition uniformity of drone applications according to the droplet size. **U. Antuniassi**
7:45 – In-field evaluation of commercial unmanned aerial spraying systems: Understanding the effect of flight, application, and design attributes on performance. **R. Sinha**
8:05 – Spray Drift Characterization of Hydraulic Spray Nozzles for Remotely Piloted Aerial Application Systems. **D. Martin**
8:25 – Characterization of the spray distribution of unmanned aerial spray systems (UASS) and the development of turnkey systems for vector control. **J. Bonds**
8:45 – Panel Discussion and Concluding Remarks

MONDAY

10:00 – 10:30 AM EDT in the Virtual Room
AGRO Coffee Talk

SESSION 1: 10:30 AM – 12:30 PM EDT

Receptor / Channel Targets of Chemicals Controlling Insect and Nematode Pests, Vectors, and Pathogens
Financially supported by Corteva Agriscience
Cosponsored by AGFD
J. Clark, M. Kazuhiko, *Organizers, Presiders*

2021 ACS International Award for Research in Agrochemicals

David Sattelle

Zoom Room 01
10:30 – Introductory Remarks
10:35 – Invertebrate neurones, genomes, phenotypic and target-based screening in the search for new leads and new targets for the control of pests, parasites, and disease vectors. **D. Sattelle**
11:25 – Characterization of RDL receptors from the bee parasite *Varroa destructor* might lead to species specific insecticides. **S. Lummis**
11:50 – Mode of action of the ectoparasiticide fluralaner: State-dependent inhibition of GABA receptor channels. **Y. Ozoe**
12:15 – Concluding Remarks

Environmental Fate, Transport, and Modeling of Agriculturally-Related Chemicals
Financially supported by Stone Environmental, Inc. and Intrinsik Corp.
Cosponsored by ENVR
S. Jackson, R. Warren, *Organizers, Presiders*

Zoom Room 02
10:30 – Introductory Remarks
10:35 – Overview of the chemical degradation kinetics pathway tool and practical considerations for its application for model inputs. **P. Paulausky**
11:00 – Analysis of subsurface metabolism and groundwater modeling for pesticides **K. White**
11:25 – Inverse estimation of run-off and erosion model parameters for in-field risk mitigation measures and consideration in aquatic exposure assessments. **S. Sittig**
11:50 – NEW INVESTIGATOR AWARD FINALIST. Chiral separation of metolachlor metabolites (MESA and MOXA) to track nitrate-N transport and elucidate environmental processes. **M. Bianca**
12:15 – Discussion and Concluding Remarks

Practical Residue Analytical Methods for the Analysis of Samples from Environmental and Consumer Safety Related Studies
Financially supported by Journal of Agricultural and Food Chemistry
Cosponsored by AGFD
M. Saha, S. Perez, M. Conway, *Organizers, Presiders*

Zoom Room 03
10:30 – Introductory Remarks

2021 AGRO Journal of Agricultural and Food Chemisty Research Paper of the Year Lectureship Award

David Steiner

10:35 – Evaluation of matrix effects and extraction efficiencies of LC-MS/MS methods as the essential part for proper validation of multiclass contaminants in complex feed. **D. Steiner**
11:15 – Development and validation of a multiresidue analytical method for the determination of polar and ionic pesticides in fruits and vegetables using liquid chromatography tandem mass spectrometry. **K. Banerjee**
11:35 – Multi-laboratory study utilizing nDATA (non-target data acquisition for target analysis) workflow for multiresidue pesticide screening by ultra-high performance liquid chromatography-high resolution accurate mass spectrometry with a compound database. **J. Wong**
11:55 – Multiresidue method for quantitation of contaminants in grains by ultra-high performance liquid chromatography with high resolution mass spectrometry (UHPLC-Orbitrap MS). **S. Prakash**
12:15 – Awards Presentation and Q and A
12:25 – Concluding Remarks

SESSION 2: 2:00 PM – 4:00 PM EDT
Receptor / Channel Targets of Chemicals Controlling Insect and Nematode Pests, Vectors, and Pathogens
Financially supported by Corteva Agriscience
Cosponsored by AGFD
J. Clark, M. Kazuhiko, *Organizers, Presiders*

Zoom Room 01
2:00 – Introductory Remarks
2:10 – Game-changing, co-factor aided, robust functional expression of insect nAChRs in Xenopus laevis oocytes revealed nanomolar and picomolar target-site actions of neonicotinoids. **M. Ihara**
2:35 – Selective pest controls at the interface of chemistry and biology. **K. Matsuda**
3:00 – Why is predicting metabolites harder than predicting metabolism? **R. Clark**
3:25 – Exposure to sublethal doses of insecticides can induce insecticide sensitivity changes linked to molecular and cellular modifications. **V. Raymond**
3:50 – Functional expression of a potentially novel insect nicotinic acetylcholine receptor subtype. **A. Jones**
4:00 – Concluding Remarks

Environmental Fate, Transport, and Modeling of Agriculturally-Related Chemicals
Financially supported by Stone Environmental, Inc. and Intrinsik Corp.
Cosponsored by ENVR
S. Jackson, R. Warren, *Organizers, Presiders*

Zoom Room 02
2:00 – Introductory Remarks
2:05 – Combining insecticide fate modeling and insect toxicity thresholds for improved pesticide management. **A. Pender**
2:30 – Aggregation of multiple pesticide use patterns to estimate aquatic exposure at different scales **H. Rathjens**
2:55 – Development and application of a watershed scale modeling tool for assessing pesticide exposure in flowing water bodies. **M. Winchell**
3:20 – Spatial aquatic model (SAM) for spatially-explicit pesticide exposure: Overview and hydrology evaluation. **S. Sinnathamby, G. Dykes**
3:45 – Discussion and Concluding Remarks

Practical Residue Analytical Methods for the Analysis of Samples from Environmental and Consumer Safety Related Studies
Cosponsored by AGFD
M. Saha, S. Perez, M. Conway, *Organizers, Presiders*

Zoom Room 03
2:00 – Introductory Remarks
2:05 – Development of a fit-for-purpose residue quantitative analytical method with high-throughput capabilities **L. Li**
2:25 – Development and application of two multi-residue analytical methods for the quantification of 27 active ingredients in recyclable plastic **M. Onofrio**
2:45 – The future of accurate mass MS/MS quantitation for residue analysis in food matrices. **R. Di Lorenzo**
3:05 – Impact of castor cake application on the fate of toxic alkaloid ricinine in soil. **Y. Chuang**
3:25 – Gas chromatography with a barrier ionization discharge detector for analysis of postharvest fumigants **J. Powell**
3:45 – Discussion and Concluding Remarks

4:00 – 4:30 PM EDT in the Virtual Room
AGRO Student and Post-Doc Networking Session: Academia

SESSION 3: 4:30 PM – 6:30 PM EDT
Receptor / Channel Targets of Chemicals Controlling Insect and Nematode Pests, Vectors, and Pathogens
Financially supported by Corteva Agriscience
Cosponsored by AGFD
J. Clark, M. Kazuhiko, *Organizers, Presiders*

Zoom Room 01
4:30 – Introductory Remarks
4:40 – Ryanodine receptor insecticides: A retrospective look at diamide binding, selectivity and target-based resistance **D. Cordova**
5:05 – Diversifying the insecticide toolkit for vector control. **C. Hill**
5:30 – Avermectin targets in parasitic nematodes **A. Wolstenholme**
5:55 – Toxicity and mode of action of experimental *N*-aryl amide insecticides. **J. Bloomquist**
6:20 – Concluding Remarks

Environmental Fate, Transport, and Modeling of Agriculturally-Related Chemicals
Financially supported by Stone Environmental, Inc. and Intrinsik Corp.
Cosponsored by ENVR
S. Jackson, R. Warren, *Organizers, Presiders*

Zoom Room 02
4:30 – Introductory Remarks
4:35 – Prediction of atrazine concentrations from monitoring data I: SEAWAVE-QEX model and loglinear interpolation. **J. Aldworth**
5:00 – Prediction of atrazine concentrations from monitoring data II: SEAWAVE-QEX and related streamflow models. **P. Mosquin**
5:25 – Using GIS overlay methods to determine vulnerable surface water areas in Brazil. **C. Hoogeweg**
5:50 – Using GIS overlay methods to determine vulnerable agricultural areas in the Ukraine. **C. Hoogeweg**
6:15 – Discussion and Concluding Remarks

Good Laboratory Practices (GLP): How to Conduct Studies Under the Regulatory Environment
Cosponsored by AGFD and ENVR
J. Mazlo, B. Munch, K. Watson, *Organizers;* J. Cypher, *Organizer, Presider*

Zoom Room 03
4:30 – Introductory Remarks
4:35 – History behind the good laboratory practice (GLP) regulations. **B. Munch**
4:55 – Comparison between EPA and FDA GLPs. **B. Munch**
5:15 – OECD GLP, U.S. EPA GLP, and MAD agreements. **K. Karunanandaa**
5:35 – Remote Auditing: A case study on the innovative use of remote quality assurance audits to ensure the compliance of multi-site GLP studies during pandemic travel restrictions. **J. White**
5:55 – Regulatory insights towards rejection of GLP studies. **A. Pandya**

SESSION 4: 7:00 PM – 9:00 PM EDT
Receptor / Channel Targets of Chemicals Controlling Insect and Nematode Pests, Vectors, and Pathogens
Financially supported by Corteva Agriscience
Cosponsored by AGFD
J. Clark, M. Kazuhiko, *Organizers, Presiders*

Zoom Room 01
7:00 – Introductory Remarks
7:10 – Towards experimentally addressing insecticide and possibly antimicrobial resistance by chemical evolutionary processes. **J. Pickett**
7:35 – Screening for anthelmintic drugs: New molecules, new mechanisms? **A. Russell**
8:00 – Target-based binary screen for novel nematicides. **L. Holden-Dye**

8:25 – Toxicogenomic approaches addressing cytochrome P450 mediated insecticide selectivity. **R. Nauen**
8:50 – Concluding Remarks

Environmental Fate, Transport, and Modeling of Agriculturally-Related Chemicals
Financially supported by Stone Environmental, Inc. and Intrinsik Corp.
Cosponsored by ENVR
S. Jackson, R. Warren, *Organizers, Presiders*

Zoom Room 02
7:00 – Introductory Remarks
7:05 – Duplex structure of double-stranded RNA increases chemical stability of RNA interference biopesticides. **K. Parker**
7:30 – Assessing potential risk to plants from secondary exposure to herbicides in compost **J. Antoline**
7:55 – Microplastic fluxes in an agricultural watershed in southeastern Minnesota. **C. Simmerman**
8:20 – STUDENT TRAVEL AWARD. Environmental fate of dsRNA biopesticides: Metal-catalyzed RNA hydrolysis in aquatic environments. **A. Chatterjee**
8:45 – Discussion and Concluding Remarks

Good Laboratory Practices (GLP): How to Conduct Studies Under the Regulatory Environment
Cosponsored by AGFD and ENVR
J. Mazlo, B. Munch, K. Watson, *Organizers;* J. Cypher, *Organizer, Presider*

Zoom Room 03
7:00 – Introductory Remarks
7:05 – Effective GLP instruction for new laboratory personnel. **M. Beran**
7:25 – Collection of water monitoring data: Working in the spirit of GLPs **J. Trask**
7:45 – Significance of data Integrity in GLP Studies. **A. Pandya**
8:05 – Quality systems for In vitro toxicological methods. **A. Ulrey**
8:25 – EPA perspective towards test substance management in GLP testing facility. **A. Pandya**
8:45 – Discussion and Concluding Remarks

TUESDAY

10:00 – 10:30 AM EDT in the Virtual Room
AGRO Coffee Talk

SESSION 1: 10:30 AM – 12:05 PM EDT
Receptor / Channel Targets of Chemicals Controlling Insect and Nematode Pests, Vectors, and Pathogens
Financially supported by Corteva Agriscience
Cosponsored by AGFD
J. Clark, M. Kazuhiko, *Organizers, Presiders*

Zoom Room 01
10:30 – Introductory Remarks
10:40 – Dual-target molecular mechanism of pyrethrum repellency against mosquitoes **K. Dong**
11:05 – *Drosophila melanogaster*, a versatile, highly manipulable insect for investigating insecticide targets and potential resistance mechanisms. **T. Perry**
11:30 – New ligands for the control of human head lice, *Pediculus humanus capitis*. **J. Clark**
11:55 – Concluding Remarks

Environmental Fate, Transport, and Modeling of Agriculturally-Related Chemicals
Financially supported by Stone Environmental, Inc. and Intrinsik Corp.
Cosponsored by ENVR
S. Jackson, R. Warren, *Organizers, Presiders*

Zoom Room 02
10:30 – Introductory Remarks
10:35 – Influence of oxytetracycline antibiotic on the surface complexation mechanism of boron on Tennessee soil: A macroscopic and *in situ* ATR-FTIR study **A. Ray**
11:00 – Effects of tank mixtures in soils **C. Wijntjes**
11:25 – NEW INVESTIGATOR AWARD FINALIST. Assessment and modeling of particulate matter concentration and dispersion from low-altitude emission sources **Z. Yang**
11:50 – Optimizing multi-phase heuristic model of agrochemical spray drift. **S. Cryer**
12:15 – Discussion and Concluding Remarks

EARLY CAREER SYMPOSIUM: Advances in Vector Control and Insecticide Science
A. Gross, E. Norris, D. Swale, *Organizers, Presiders*

Zoom Room 03
10:30 – Introductory Remarks

2021 AGRO Award for Innovation in Chemistry of Agriculture

Jeffrey Bloomquist

10:35 – Novel chemical insecticides and repellents for insect control. **J. R. Bloomquist**
11:25 – Transcriptomic and proteomic analysis of pyrethroid resistance in the Singapore strain of *Aedes aegypti*. **J. Scott**
11:50 – Sodium channel activation underlies transfluthrin repellency in *Aedes aegypti*. **K. Dong**
12:15 – Discussion and Concluding Remarks

SESSION 2: 2:00 PM – 4:00 PM EDT

Analytical Technologies in Agrochemistry and Strategies for Chiral Separation

Cosponsored by AGFD and ENVR

L. Riter, M. Zhang, L. Cai, C. Zu, M. Ma, A. Chen, M.E. Cabusas, P. Jensen, *Organizers*

Zoom Room 01

2:00 – Introductory Remarks

2:05 – Practical approaches towards assessing the risk of chirality for plant protection products following EFSA guidelines **J. ONeill**

2:30 – Chiral screening of agrochemical compounds using high-performance liquid chromatography and supercritical fluid chromatography. **E. Franklin**

2:55 – Advanced Environmental Safety Assessments using Rapid Chiral Separation and Differential Mobility Spectrometry (DMS). **L. Riter**

3:20 – Discussion and Concluding Remarks

EARLY CAREER SYMPOSIUM: Advances in Vector Control and Insecticide Science

A. Gross, E. Norris, D. Swale, *Organizers, Presiders*

Zoom Room 02

2:00 – Introductory Remarks

2:05 – Impact of plant essential oils on metabolic gene expression in the Yellow Feber Mosquito (*Aedes aegypti*) has been characterized. **J. Coats**

2:25 – Mechanism of Toxicity for the Sesquiterpene, Nootkatone. **D. Swale**

2:45 – Looking to nature for inspiration in vector control product development. **C. Hill**

3:05 – Advancing towards a spatial repellent global health policy. **N. Achee**

3:25 – Mosquito-attractive phytochemicals for efficacious ATSB stations. **T. Anderson**

3:45 – Discussion and Concluding Remarks

Enhanced Agrochemical Applications through Surfactant, Formulation, and Colloid Technology

Cosponsored by AGFD

S. Sumulong, R. Acosta Amado, S. Kweskin, S. Bangziger, *Organizers*

Zoom Room 03

2:00 – Introductory Remarks

2:05 – [Withdrawn]

2:30 – Influence of microplastics on denitrification in floating wetland environments. **M. Sutton**

2:55 – Characterization of protonated substituted ureas by using diagnostic gas-phase ion-molecule reactions followed by collision-activated dissociation in tandem mass spectrometry experiments. **E. Feng**

3:20 – Enabling biological formulation development with sustainable surfactant solutions. **L. Schmid**

3:45 – Discussion and Concluding Remarks

4:00 – 4:30 PM EDT in the Virtual Room

AGRO Student and Post-Doc Networking Session: Industry

SESSION 3: 4:30 PM – 6:30 PM EDT

Analytical Technologies in Agrochemistry and Strategies for Chiral Separation

Cosponsored by AGFD, ENVR, and Kansas City Local Section

L. Riter, M. Zhang, L. Cai, C. Zu, M. Ma, A. Chen, M.E. Cabusas, P. Jensen, *Organizers*

Zoom Room 01

4:30 – Introductory Remarks

2021 Kenneth A Spencer Award

Takayuki Shibamoto

4:35 – Trace analysis of toxic carbonyl compounds in food and the environment. **T. Shibamoto**

5:25 – Evaluation of pesticides contamination in agricultural soil and food crops grown in Uttar Pradesh, India. **A. Vig**

5:50 – Development of europium-based methods for the detection of oxytetracycline in citrus tissues. **F. Hijaz**

6:15 – Discussion and Concluding Remarks

EARLY CAREER SYMPOSIUM: Advances in Vector Control and Insecticide Science

A. Gross, E. Norris, D. Swale, *Organizers, Presiders*

Zoom Room 02

4:30 – Introductory Remarks

4:35 – Fluralaner as a new mode of action agrochemical for the control of filth flies: Current findings and future directions. **E. Burgess**

4:55 – Development of an attractive toxic sugar bait targeting *Aedes. j. japonicus*. **C. Lahondere**

5:15 – Exploring acetylcholinesterase targets in Varroa destructor to overcome acaricide resistance. **L. Rault**

5:35 – Transstadial effects on mosquitoes' body size modulate their vector potential. **C. Vinauger**

5:55 – Neurophysiological and insecticidal effects of liriodenine, an alkaloid isolated from the Chinese herb *Zanthoxylum nitidum*. **E. Norris**

6:15 – Discussion and Concluding Remarks

Enhanced Agrochemical Applications through Surfactant, Formulation, and Colloid Technology

Cosponsored by AGFD

S. Sumulong, R. Acosta Amado, S. Kweskin, S. Bangziger, *Organizers*

Zoom Room 03

4:30 – Introductory Remarks

4:35 – AgriCell Platform: Enhanced production, delivery, and uptake of RNA. **J. Frank, S. Zomorodi**

5:00 – Review on the size reduction technology using mechanochemistry approach. **M. Alrbaihat**

5:25 – Varied dissolution silica nanoparticles for nano-enabled disease suppression in plants. **B. Tuga**

5:50 – Translocation of methoxyfenozide delivered by lignin nanoparticles in soybean plants. **O. Mendez**

6:15 – Discussion

SESSION 4 POSTERS: 7:00 PM – 9:00 PM EDT

Pesticides, Pollinators, and Crop Protection
Cosponsored by AGFD
Q. Ling, *Organizer*

Chemical composition of essential oil from *Tetradenia riparia* and its attractant activity for Mediterranean fruit fly, *Ceratitis capitata*. **N. Tabanca**
Comprehensive analysis of the value of single versus multiple year (season) crop residue data for establishment of maximum residue levels (MRLs). **P. Geurs**
Profiling the chemical signature of striga resistance in sorghum roots. **E. Leonard**
Increased viability of encapsulated plant growth promoting microbials in reinforced immobilized capsules. **V. Fulwider**
***** STUDENT TRAVEL AWARD.**Toxicity and changes to feeding behaviour of *Aphis gossypii* after exposure to commercial insecticides. **F. O'Hara**
Intra-soil pulse continuous-discrete application of biological plant protection product. **V. Kalinitchenko**
Volatile phytochemistries reduce reproductive fitness and arrest development of *Aedes aegypti*. **E. Johnson**
***** STUDENT TRAVEL AWARD.** Synergistic effects of agrochemical exposure phosphorothioate insecticides in the Western honey bee, *Apis mellifera*. **C. Fellows**
***** STUDENT TRAVEL AWARD.**Resistance to insecticides with different modes of action in *Drosophila melanogaster* with Rdl mutation in GABAA receptors: More than just cyclodienes and phenylpyrazoles. **N. Xie**
***** STUDENT TRAVEL AWARD.**Electroantennography to measure small hive beetle (Aethina tumida) responses to established attractant and repellent molecules. **M. Roth**
***** STUDENT TRAVEL AWARD.**Post-translational histone modifications alter permethrin susceptibility in *Drosophila melanogaster*. **S. McComic**
Screening mosquito-attractive sugars for efficacious ATSB stations. **X. Ng**
Scaffold-hopping approach to identify new chemotypes of dimpropyridaz. **M. Chen**
Bioisosteric replacement driven lead optimization of tyclopyrazoflor. **M. Chen**
Discovery and synthesis of quinoline and other heterocyclic based fungicides and its significance for agrochemicals. **R. Saxena**, Lalit Kumar Jena, Khushboo Srivastava, Jella Rama Raju, Jatindra Samanta, Ruchi Garg, Santosh Autkar, Hagalavadi Venkatesha, Ramdas Gadakh, Alexander Klausener, Konstantin Poscharny
Mesoioinic insecticide. **S. Narute, J. Pabba, R. Saxena**

Environmental Fate, Transport, and Modeling of Agriculturally-Related Chemicals
Cosponsored by AGFD
Q. Ling, *Organizer*

Compilation and statistical analysis of pollen and nectar pesticide residue levels: Applications to tier 1 and refined residue unit doses (RUDs) for pesticide bee risk assessment. **L. Brewer**
Uptake and transport of pharmaceuticals in celery and lettuce and their influence on phytohormone homeostasis. **Y.-H. Chuang**
Activated sludge respiratory inhibition study with glyphosate based on the OECD 209 guideline. **S. McLaughlin**

Agricultural Advances and Applications in Human Health and Technology
Cosponsored by AGFD
Q. Ling, *Organizer*

Bioaccumulation of neonicotinoid sulfoxaflor and its toxic effects on the zebrafish (*Danio rerio*). **L. Ping**
Development and Validation of a LC-MS/MS method for measuring Mesotrione and its metabolites in crop residues. **A. Chen**
Possible link between resistance of an *Aedes aegypti* chlorpyrifos resistant wild strain and changes in the protein expression and acetylcholinesterase inhibition. **E. Torres**
Impact of drinking water assessments on conventional pesticide registrations. **I. Khanijo**
Enzymatic and antipest activity of maizewin, a defensive protein from maize. **P. Dowd**
Intra-genomic gene targeting in maize using inducible CRISPR-Cas9. **P. Barone**
Building societal trust in gene editing in agriculture. **N. Storer**

WEDNESDAY

10:00 – 10:30 AM EDT in the Virtual Room
AGRO Coffee Talk

SESSION 1: 10:30 AM – 12:20 PM EDT
Human Health Paradigms: Exposure, Risk Assessment, and Policies for Agrochemicals
Cosponsored by AGFD
C. Cleveland, M. Krolski, C. Tan, K. Tatum-Gibbs, *Organizers*

Zoom Room 01
10:30 – Introductory Remarks
10:35 – European Food Safety Authority update on the cumulative risk assessment of pesticide residues **M. Anastassiadou**
11:00 – Changes to agrochemical legislation and regulatory working practices in the European Union and Great Britain. **C. Harris**
11:25 – Establishment of Cumulative Assessment Groups (CAG) and the Cumulative Risk Assessment (CRA) approach in Europe. **S. Melching-Kollmuss**
11:50 – Raising the safety bar for agrochemicals: Development of an operator safety standard for low- and middle-income countries. **C. Kuester**
12:15 – Concluding Remarks

EARLY CAREER SYMPOSIUM: Chemical Communication between Living Organisms in Agricultural Systems
N. Tabanca, K. Fisher, *Organizers*

Zoom Room 02
10:30 – NEW INVESTIGATOR AWARD FINALIST. 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**
10:35 – Smell of fear: Harnessing predatory insect odor cues as a pest management tool for herbivorous insects. **J. Kansman**
10:55 – Volatile organic compounds and learning in entomopathogenic nematodes. **A. Gaffke**
11:15 – Estimating perceptual range of female monarch butterflies (*Danaus plexippus*) to potted vegetative common milkweed (*Asclepias syriaca*) and blooming nectar resources. **K. Fisher**
11:55 – Concluding Remarks

Genome Editing in Agriculture: Leveraging New Breeding Tools to Improve Crops and Their Production / Tools and Traits
Cosponsored by AGFD
M. Ruebelt, M. Fedorova, *Organizers*

Zoom Room 03
10:30 – Introduction
10:35 – CRISPR/Cas technology application: Chromosome engineering. **S. Svitashev**
11:00 – [Withdrawn]
11:25 – Covalent tethering of exogenous DNA to LbCas12a promotes its site-directed integration into the soy genome. **E. Nagy**
11:50 – Employing CRISPR genome editing to rapidly domesticate pennycress into an oilseed-producing cash cover crop called CoverCress. **J. Sedbrook**
12:15 – Concluding Remarks

Bioavailability and Environmental Relevance of Strongly Sorbed and Sequestered Chemicals
W. Williams, L. Gui, X. Huang, M. Pointe, *Organizers*

Zoom Room 04
10:30 – Introduction
10:35 – Challenges associated with predicting the release, fate, and transport of chemicals retained in soil. **B. Kocar**
11:00 – Mechanism of Sorption and Transformation of Gibberellic acid on Ferrihydrite. **J. Zhang**
11:25 – Toxicity of sediment-associated neonicotinoid insecticide to benthic invertebrates: Influence of aging and degradation. **H. Li**
11:50 – [Withdrawn]
12:15 – Panel Discussion
12:25 – Concluding Remarks

12:30 – 2:00 PM EDT in the Virtual Room
AGRO Virtual Blues and Brews Happy Hour

SESSION 2: 2:00 PM – 4:00 PM EDT
Human Health Paradigms: Exposure, Risk Assessment, and Policies for Agrochemicals
Cosponsored by AGFD
C. Cleveland, M. Krolski, C. Tan, K. Tatum-Gibbs, *Organizers*

Zoom Room 01
2:00 – Introductory Remarks
2:05 – OP and NMC toxicity-adjusted exposure trends since FQPA. **D. Miller**
2:30 – Residue Definitions: An Update from the OECD residue chemistry expert group. **M. Doherty**
2:55 – Cumulative aggregate risk evaluation system - next generation (CARES NG) model: Progress and next steps. **J. Rupprecht**
3:20 – Global regulatory harmonization for agricultural biotechnology. **A. Simmons**
3:45 – Discussion and Concluding Remarks

EARLY CAREER SYMPOSIUM: Chemical Communication between Living Organisms in Agricultural Systems
N. Tabanca, K. Fisher, *Organizers*

Zoom Room 02
2:00 – Introductory Remarks
2:05 – Understanding the significance of microbial cues in the postharvest environment: How the life history of stored product insects modulates behavioral response to changing microbial volatiles emitted from wheat after tempering and incubation. **W. Morrison**
2:25 – Ticks repelled by plant scents and derived biorational molecules. **C. Wong**
2:45 – To kill or to repel, that is the question: An exploration of biorational products and their potential uses. **C. Corona**
3:05 – Exposure to (Z)-3-hexenol primes tobacco plants for faster and stronger defense without negatively affecting their ability to grow and reproduce. **B. Paudel Timilsena**
3:25 –Concluding Remarks

Genome Editing in Agriculture: Leveraging New Breeding Tools to Improve Crops and Their Production / Regulations and Public Acceptance
Cosponsored by AGFD
M. Ruebelt, M. Fedorova, *Organizers*

Zoom Room 03
2:00 – Introductory Remarks
2:05 – Delivering Healthy Food Ingredients to Customers Through TALENÂ® Technology. **R. Williams**
2:30 – How CRISPR technology will help you eat more fruits and vegetables. **S. Lawit**
2:55 – Is it CRISPR? Detection of genome edits. **R. Shillito**
3:20 – USDA's revised biotechnology regulations. **B. Juarez**
3:45 –Concluding Remarks

Bioavailability and Environmental Relevance of Strongly Sorbed and Sequestered Chemicals
M. Pointe, L. Gui, X. Huang, W. Williams, Q. Li, *Organizers*

Zoom Room 04
2:00 – Introductory Remarks
2:05 – Assessment of arsenic in soils. **Y. Masue-Slowey**
2:30 – Modeling the sequestration and transformation kinetics of organic arsenical herbicides in a regulatory framework. **W. Williams**
2:55 – Estimating pesticide concentrations in cranberry flood water. **I. Kennedy**
3:20 – Panel Discussion
3:50 –Concluding Remarks

4:00 – 4:30 PM EDT in the Virtual Room
AGRO Student and Post-Doc Networking Session: Government

SESSION 3: 4:30 PM – 6:30 PM EDT
Human Health Paradigms: Exposure, Risk Assessment, and Policies for Agrochemicals
Cosponsored by AGFD
C. Cleveland, M. Krolski, C. Tan, K. Tatum-Gibbs, *Organizers*

Zoom Room 01
4:30 – Introductory Remarks
4:35 – Using the REJV survey to estimate residential pesticide application frequencies. **G. Thornton**
5:00 – Examining US EPA's tiered approach to dietary risk assessment: A case study. **K. Tatum-Gibbs**
5:25 – Evaluation of SEAWAVE-QEX in in a high agricultural intensity catchment in Belgium. **M. Miguez**
5:50 – Advances in modelling residential exposure to Pesticides. **C. Thorp**
6:10 – Concluding Remarks

Genome Editing in Agriculture: Leveraging New Breeding Tools to Improve Crops and Their Production
Cosponsored by AGFD
M. Ruebelt, M. Fedorova, *Organizers*

Zoom Room 02
4:30 – Introductory Remarks
4:35 – Between wish and reality: Where will the EU go from its current burdensome legal situation for innovative plant breeding? **S. Ruthner**
5:00 – Global policy development for plant genome editing. **B. Slutsky**
5:25 – Earning public trust in gene editing. **A. te Plate-Church**
5:50 – Roadmap for successful innovation: From technological breakthrough to societal benefits. **M. Ruebelt**
6:15 – Discussion and Concluding Remarks

Off-Target: Measurement and Management of Pesticide Drift and Volatility
Cosponsored by AGFD and ENVR
F. Salzman, J. Perine, *Organizers*

Zoom Room 03
4:30 – Introductory Remarks
4:35 – Determining the impact of various spray drift reducing technologies. **T. Lane**
5:00 – Towards increased hooded sprayer use for herbicide applications in row crop agriculture **N. Pai**
5:25 – Casanova drift model (CDM): A mechanistic spray drift model for ground application of plant protection products. **N. Pai**
5:50 – Panel Discussion

SESSION 4: 7:00 PM – 9:00 PM EDT
Human Health Paradigms: Exposure, Risk Assessment, and Policies for Agrochemicals
Cosponsored by AGFD
C. Cleveland, M. Krolski, C. Tan, K. Tatum-Gibbs, *Organizers*

Zoom Room 01
7:00 – Introductory Remarks
7:05 – Exposure estimation relative to kinetically derived maximum dose. **J. Dawson**
7:30 – Developing new approach for human and ecological risk assessment of pesticides that minimizes reliance on vertebrate animal testing. **T. Ramanarayanan**
7:55 – Evaluation of new approach methodologies (NAMs) to assess acute and subchronic inhalation toxicity. **M. Hargrove**
8:20 – Incorporation of toxicokinetic data to design human-relevant toxicity studies. **J. Domoradzki**
8:45 – Concluding Remarks

Off-Target: Measurement and Management of Pesticide Drift and Volatility
Cosponsored by AGFD and ENVR
F. Salzman, J. Perine, Organizers

Zoom Room 02
7:00 – Introductory Remarks
7:05 – Determining spray drift vs volatility utilizing a metal tracer. **C. Scott**
7:30 – STUDENT TRAVEL AWARD. Hydrogen bonding site number predicts dicamba volatilization from amine salts. **S. Sharkley**
7:55 – Lessons learned from two years of off-target movement field studies. **B. Brayden**
8:20 – Panel Discussion

THURSDAY

10:00 – 10:30 AM EDT in the Virtual Room
AGRO Coffee Talk

SESSION 1: 10:30 AM – 12:30 PM EDT
Everywhere but the Crop Field: Exploring Pesticide Use and Usage
Cosponsored by ENVR
L. Duzy, T. Burd, C. Lane, R. Willard, *Organizers*

Zoom Room 01
10:30 – Introductory Remarks
10:35 – US endangered species act and the revised method (2020) for national level listed species biological evaluations of conventional pesticides **P. Manson**
11:00 – Agricultural Plant Protection Products in the Non-Agricultural Market Segment Registrant's Perspective. **S. Cosky**
11:25 – Quantification of residential pesticide usage and application practices through analysis of the residential exposure joint venture database. **M. Winchell**
11:50 – Data and methods for evaluating pesticide use in turf. **A. Frank**
12:15 – Panel Discussion
12:25 – Concluding Remarks

Feeding a Hungry World Amidst Varying Pesticide Regulations
Cosponsored by AGFD, COMSCI and ENVR
H. Irrig, J. Stewart, C. Tiu, *Organizers*

Zoom Room 02
10:30 – Introductory Remarks
10:35 – Costs and effects of missing and low MRLs on U.S. producers **A. Tafti**
11:00 – Quantifying the impacts of MRLs on international trade. **P. Herman**
11:25 – Economic and food security impacts of European Union farm to fork strategies. **J. Beckman**
11:50 – United States perspective on trade-related pesticide policy issues. **S. Neumann**
12:15 – Panel Discussion
12:25 – Concluding Remarks

Design, Conduct, and Reporting of Studies to Measure Exposure to and Effects of Chemicals on Pollinators in the Environment: Can it be Both Practical and Realistic?

J. Purdy, J. Collins, A. Krueger, T. Steeger, K. White, *Organizers*

Zoom Room 03
10:30 – Introductory Remarks
10:35 – Assessing side effects of pesticides on honey bees to cover agricultural reality: Adult and larval toxicity, exposure, and effect studies. **J. Pistorius**
11:25 – Designing and conducting pollinator studies that are practical and realistic. **D. Schmehl**
11:50 – Practical application of new approach methods to enhance the understanding of chemical effects on pollinators. **C. LaLone**
12:15 – Panel Discussion
12:25 – Concluding Remarks

Nontarget Analyses and Emerging Contaminants: Implications for Agrochemical Risk Assessment / Introduction to the Technology and Agrochemical Case Studies
R. Wauchope, D. Muir, E. Ulrich, *Organizers*

Zoom Room 11
10:30 – Introductory Remarks
10:35 – State of non-targeted analysis science and future perspectives for agrochemicals. **E. Ulrich**
11:15 – Broad-scope suspect and nontarget screening for pesticide transformation products in groundwater. **K. Kiefer**
11:35 – Application of novel nontargeted analytical techniques to identify pesticides, pesticide degradates, and per- and polyfluoroalkyl substances (PFAS) in North Carolina drinking water. **N. Lee Alexander**
11:55 – Investigation of pharmaceutical transformation products in real agricultural crops irrigated with reclaimed water: Current analytical tools and main difficulties. **P. Plaza-BolaÃos**
12:15 – Discussion and Concluding Remarks

12:30 – 2:00 PM EDT in the Virtual Room
AGRO Division Virtual Awards Social

SESSION 2: 2:00 PM – 4:00 PM EDT
Everywhere but the Crop Field: Exploring Pesticide Use and Usage
Cosponsored by ENVR
L. Duzy, T. Burd, C. Lane, R. Willard, *Organizers*

Zoom Room 01
2:00 – Introductory Remarks
2:05 – Aquatic herbicide use and usage: A low-volume annual use in a highly specialized, highly professional, and highly regulated setting. **C. Lane**
2:30 – [Withdrawn]
2:55 – Black fly suppression with the biological larvicide, Bacillus thuringiensis subsp. israelensis. **E. Gray**
3:20 – Addressing a Sisyphean task: An overview of rangeland grasshopper and Mormon cricket management in the western U.S. **D. Woller**
3:45 – Panel
3:55 – Concluding Remarks

Feeding a Hungry World Amidst Varying Pesticide Regulations
Cosponsored by AGFD, COMSCI and ENVR
H. Irrig, J. Stewart, C. Tiu, *Organizers*

Zoom Room 02
2:00 – Introductory Remarks
2:05 – What are agricultural producers' and food processors' views on divergent regulations for food standards and trade policies? **M. Lantz**
2:30 – Registrant Perspectives on Addressing IT Requests to Support Trade. **H. Irrig**
2:55 – How international pesticide and MRL policies are challenging world hop production and steps the global

hop industry is taking so you can continue to enjoy your beer. **A. George, M. Lantz**

3:20 – Costs of MRL Imbalance are Huge Socially and Economically. **T. Scholz**

3:45 – Panel Discussion

3:55 – Concluding Remarks

Design, Conduct, and Reporting of Studies to Measure Exposure to and Effects of Chemicals on Pollinators in the Environment: Can it be Both Practical and Realistic?

J. Purdy, J. Collins, A. Krueger, T. Steeger, K. White, *Organizers*

Zoom Room 03

2:00 – Introductory Remarks

2:05 – Using in vivo alternative methods to improve the protectiveness of bee risk assessment. **T. Ramminger**

2:30 – Building a toxicity model for bumble bees. **A. Cabrera**

2:55 – Foraging behavior as a universal assay for the non-lethal impact and risk of pesticide exposure for bees. **J. Brunet**

3:20 – Pollinator habitat exposure to insecticide and fungicide mixtures in Iowa agricultural landscapes. **M. Hall**

3:45 – Panel Discussion

3:55 – Concluding Remarks

Nontarget Analyses and Emerging Contaminants: Implications for Agrochemical Risk Assessment / Agrochemical Case Studies

Cosponsored by AGFD,

R. Wauchope, D. Muir, E. Ulrich, *Organizers*

Zoom Room 32

2:00 – Introductory Remarks

2:25 – Screening of pesticides in foodstuffs by high-resolution mass spectrometry: Targeted and non-targeted approaches **Y. Makni**

2:45 – Targets methods for analysis of an extended range of pesticides and their metabolites and future needs and comparability to untargeted analysis. **R. Raina-Fulton**

3:05 – Suspecting screening "known unknown" pesticides and transformation products in soil at pesticide manufacturing sites. **Z. Lu**

3:25 – Panel Discussion and Concluding Remarks

4:00 – 4:30 PM EDT in the Virtual Room

AGRO Student and Post-Doc Networking Session: Fun Session

SESSION 3: 4:30 PM – 6:30 PM EDT

Feeding a Hungry World Amidst Varying Pesticide Regulations

Cosponsored by AGFD, COMSCI and ENVR

H. Irrig, J. Stewart, C. Tiu, *Organizers*

Zoom Room 01

4:30 – Introductory Remarks

4:35 – Innovation in agriculture: the growing need for harmonized standards (MRLs). **G. Kurbis**

5:00 – Looking-up to Codex Enhancements. **C. Tiu**

5:25 – PDP 2019 assessment: Understanding the recent increase in potential tolerance violations. **J.Williams, P. Geurs**

5:50 – EPA human health risk assessment of pesticides used in organic products: A different approach with the same goal. **J. Stewart**

6:15 – Panel Discussion

6:25 – Concluding Remarks

Nontarget Analyses and Emerging Contaminants: Implications for Agrochemical Risk Assessment / Resources, Developments, and Implications for Agrochemical Risk Assessment

R. Wauchope, D. Muir, E. Ulrich, *Organizers*

Zoom Room 02

4:30 – Introductory Remarks

4:35 – Predicting compound amenability with liquid chromatography mass spectrometry to improve non-targeted analysis. **C. Lowe**

4:55 – Structure identification approaches using the US EPA CompTox Chemicals dashboard to support mass spectrometry analyses. **A. Williams**

5:35 – Development and comparison of screening methods for chemical identification. **S. Nason**

5:55 – Nontarget analyses and emerging environmental contaminants: Implications for agrochemical risk assessment - Symposium discussion and Summation. **R. Wauchope, E. Ulrich, D. Muir**

6:15 – Discussion and Concluding Remarks

Design, Conduct and Reporting of Studies to Measure Exposure to and Effects of Chemicals on Pollinators in the Environment: Can it be Both Practical and Realistic?

J. Purdy, A. Krueger, J. Collins, T. Steeger, K. White, Q. Li, *Organizers*

Zoom Room 03

4:30 – Introductory Remarks

4:35 – Effect of nozzle selection on deposition of thiamethoxam in Actara® spray drift and implications for off-field risk assessment. **J. Perine**

5:00 – Screening-level pollinator risk assessment for trisiloxane polyether surfactants (Part I): Challenges and methodologies for estimating exposure of honeybees (*Apis mellifera*). **J. Collins**

5:25 – Screening-level pollinator risk assessment for trisiloxane polyether surfactants (Part II): Effects and risk characterization. **J. Collins**

5:50 – Acute and chronic effects and exposure studies for glyphosate demonstrate low risk to bees. **S. Levine**

6:15 – Panel Discussion

6:25 – Concluding Remarks

Notes

Global Women's Breakfast 2022

"Empowering Diversity in Science"

February 16, 2022

IUPAC

2020 AGRO Education Awards for Student Travel

Sponsored by BAYER

Kadie Britt

Caleb Corona

Maura Hall

Courtney Huerter

Ellis Johnson

Jocelyn Macho

Ryan Paul

Juliano Toniato

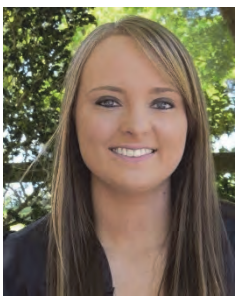
Wilson Rodrigues Valbon

Colin Wong

Zijiang Yang

Poster Winners

1st Place
Na Xie



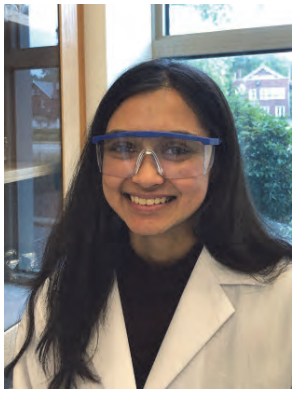
2nd Place
Sarah McComic

3rd Place Tie
Rui Chen

Felipe Andreazza

2021 AGRO Education Awards for Student Travel

Sponsored by BAYER

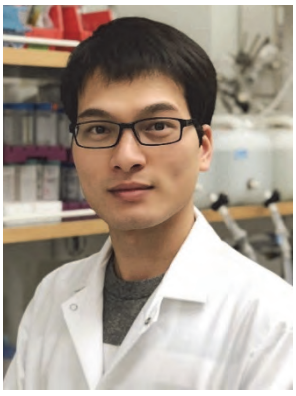


Anamika Chatterjee

Reem Khan

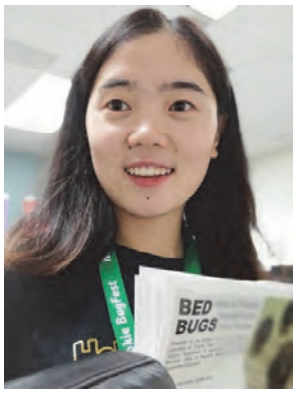
Sarah McComic

Stephen Sharkey



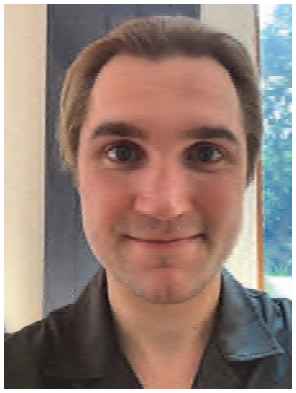
Ke Zhang

Poster Winners



1st Place
Na Xie

2nd Place
Morgan Roth



3rd Place
Flinn O'Hara

PICOGRAM V. 99
and Program

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