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PICOGRAM V. 92

AMERICAN CHEMICAL SOCIETY

254th National Meeting and Exposition
Chemistry's Impact on the Global Economy

AUGUST 20-24, 2017

Washington DC, USA

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FALL 2017 AGRO SYMPOSIA

WASHINGTON RENAISSANCE HOTEL

AGRO POSTER SESSIONS Wednesday 12 – 2 PM in Washington Convention Center Hall D

Sci-Mix Monday: 8:00 – 10:00 PM in the Washington Convention Center, Halls D/E

Technical Program: pp. 59 – 79

Abstracts: available online only at www.agrodiv.org

SYMPOSIUM or LECTURESHIP	Room	Sun	Mon	Tue	Wed	Thu
Roles of Natural Products for Biorational Pesticides in Agriculture	Mt Vernon Sq B	D	AM			
Mechanistic Modeling & Effectiveness of Buffer Strips for Regulatory Frameworks	Meet Rm 2	AM				
Risk Assess & Beyond: Innovative Approaches to Meet FIFRA & ESA Consul Needs	Meet Rm 13/14	AM				
Adv in Residue Analytical Methods: Innovation, Current Status & Future Prospects	Meet Rm 15	AM				
ENVR: Ecological & Human Health Impacts of Emerging Environ Contaminants	Meet Rm 3	D	AM			
Environmental Fate, Transport & Modeling of Agriculturally-Related Chemicals	Meet Rm 2	PM	AM			
Veterinary Drugs: Research, Residues & Regulations Residues Analysis	Meet Rm 13/14	PM	AM			
Agrochemical Formulations	Meet Rm 15	PM				
Pesticides, Pollinator Health & Agricultural Sustainability	Meet Rm 16	PM	AM			
Managing Pesticide Use & Use Data	Meet Rm 15		D	AM		
ENVR: Measurements & Methods in Environmental Nanotechnology	Meet Rm 10/11		D			
Adv in Insecticide Mode of Action, Chemistry & Resistance: New Chemistry. **Dr. Jeffrey Bloomquist, ACS International Award for Research in Agrochemicals**	Mt Vernon Sq B		PM	D		
Atmospheric Fate & Transport of Agricultural Emissions	Meet Rm 2		PM	D		
2,4-D Human Exposure Data: Lessons from Decades of Study	Meet Rm 13/14		PM			
Fate & Metabolism of Agrochemicals: EARLY CAREER SCIENTIST SYMPOSIUM	Meet Rm 16		PM			
Application of Spatial Technologies to Advance Exposure Modeling & Risk Assessments	Meet Rm 13/14			AM		
Pesticide Registration, Monitoring & Enforcement	Meet Rm 16			D		
AGFD: **JAFC Award (Dr. Francisco Hidalgo)** & Young Scientist Award Symposium	Conv Ctr 144B			AM		
USDA-ARS Sterling B. Hendricks Memorial Lectureship, Dr. John Pickett	Mt Vernon Sq B			11:45 AM		
Tiered Testing for Pollinator Protection: Design, Implementation & Interpretation	Meet Rm 13/14			PM		
Adv Techniques for Isolation, Identification & Quantitation of Ag/Pharma Relevant Compounds from Biological Samples. **JAFC Award, Drs. Nikola Pavlović & Wan Chan**	Meet Rm 15			PM		
Biorational Control of Medical & Veterinary Pests: Novel Tools & Targets	W: Mt Vern Sq B Th: Meet Rm 4				D	D
Analytical, Environmental & Regulatory Challenges with Legalized Cannabis	Meet Rm 2				AM	
Developing Pesticide Environmental Risk Assessment Approaches	Meet Rm 13/14				D	
Emerging Mass Spectrometry Trends in Support of Agricultural Research & Development. **Dr. Qing X. Li, AGRO Innovation Award**	Meet Rm 15				AM	
AGRO Memorial Symposium: Remembering Bob Krieger & Richard Allen	Meet Rm 16				D	
Poster Session: Protection of Agricultural Productivity, Public Health & Environment	Conv Ctr Hall D				12 – 2 PM	
Communicating Pesticide Science to the Public	Meet Rm 2				PM	D
Good Laboratory Practices for the Agrochemical Professional	Meet Rm 15				PM	
ENVR: Poster Session	Conv Ctr D				6 - 8 PM	
Species Habitat Determination & Chemical Exposure Routes & Timing	Meet Rm 13					AM
Synthesis & Chemistry of Agrochemicals	Meet Rm 14					D
AGFD: Nanoscale Sensing in Foods & Other Complex Media	Conv Ctr 149E					D
ENVR: Adv Environ Analytical Methods for Compliance Reporting & Exposure RA	Meet Rm 3					AM
Current Regulatory & Scientific Landscape of Mixture Toxicity & Risk Assessment	Meet Rm 13					PM

***Schedule Legend**:* A = AM; D = AM & PM; P = PM

DIVISION BUSINESS AND PLANNING

AGRO Business and Governance Meeting
Sunday 5:00 – 9:00 PM
Washington Renaissance Hotel, Penn Quarter Room
AGRO Members welcome

Program Planning – Blues and Brews
Tuesday 5:15 – 7:00 PM
Washington Renaissance Hotel, Congress Ballroom C
Beverages are FREE
Members welcome but bring your ideas; see page 47

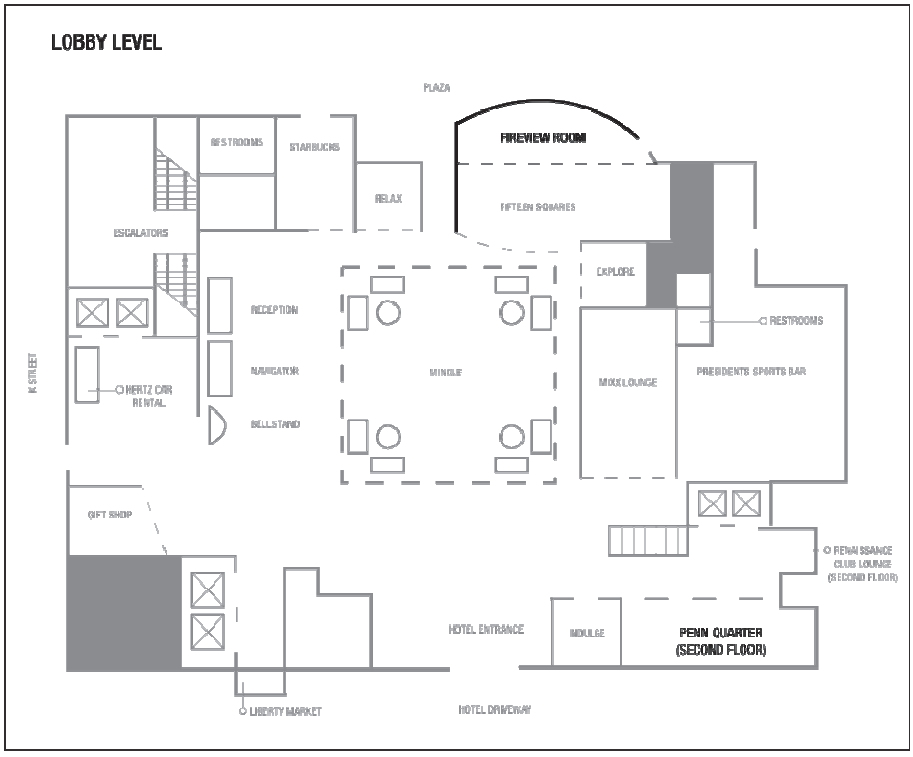
SOCIAL EVENTS

Graduate Student Luncheon
Monday 11:45 AM – 1:20 PM
Washington Renaissance Hotel, Meeting Room 12
Reservations required; see page 42

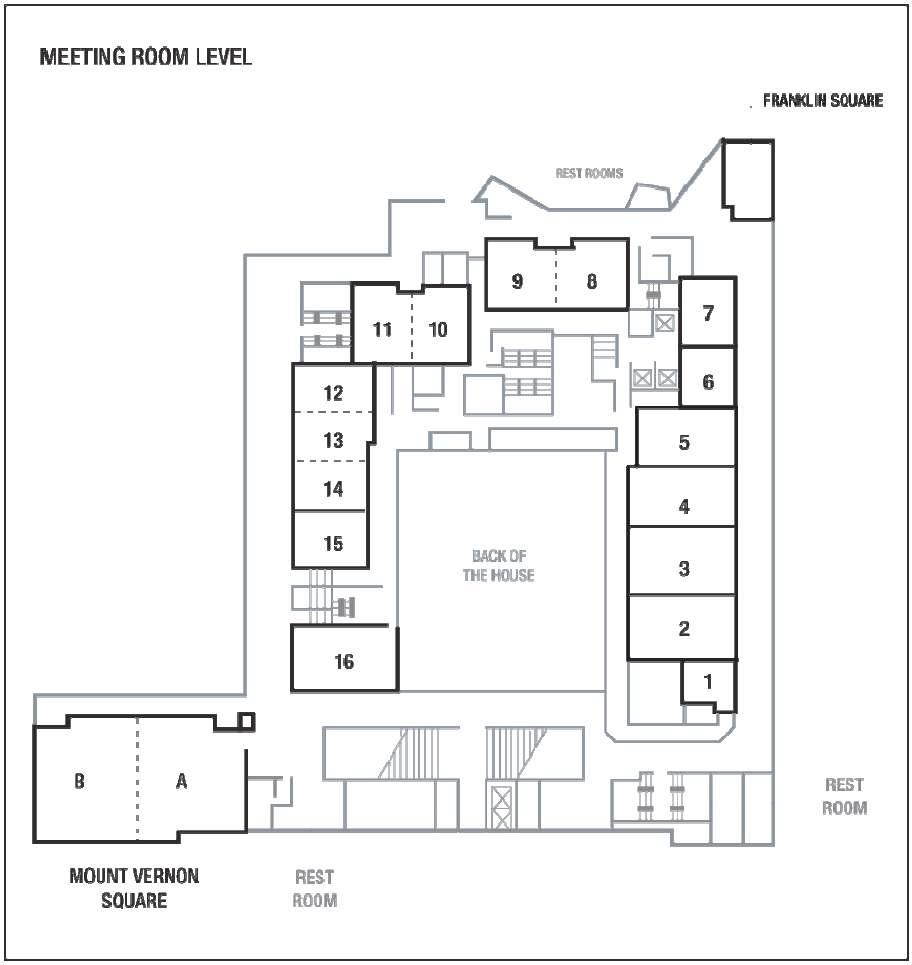
Sterling B. Hendricks Award Lecture Reception for John Pickett
Tuesday following the 11:45 AM lecture
Washington Renaissance Hotel, Congress Ballroom C

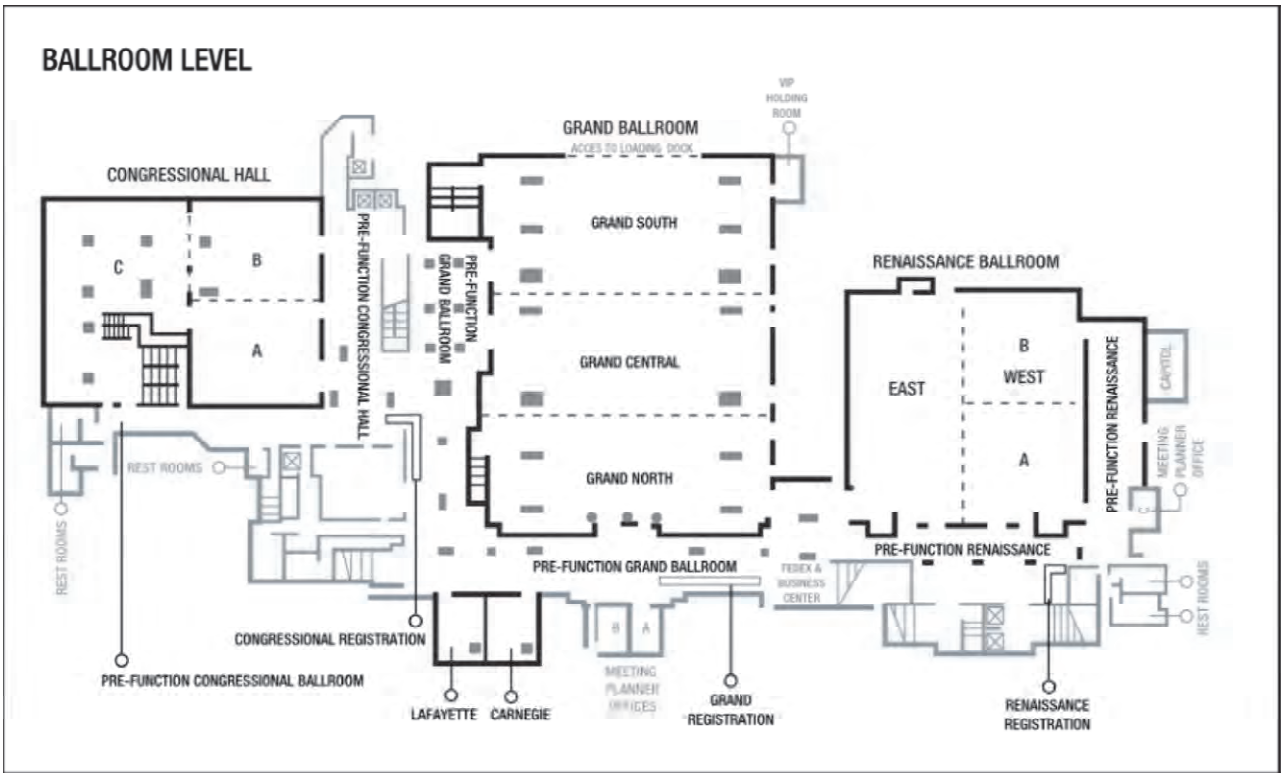
AGRO Awards Social
Wednesday 6:00 – 8:00 PM
Washington Renaissance Hotel, Congress Ballroom C
Members/Speakers/Guests welcome

WASHINGTON RENAISSANCE HOTEL



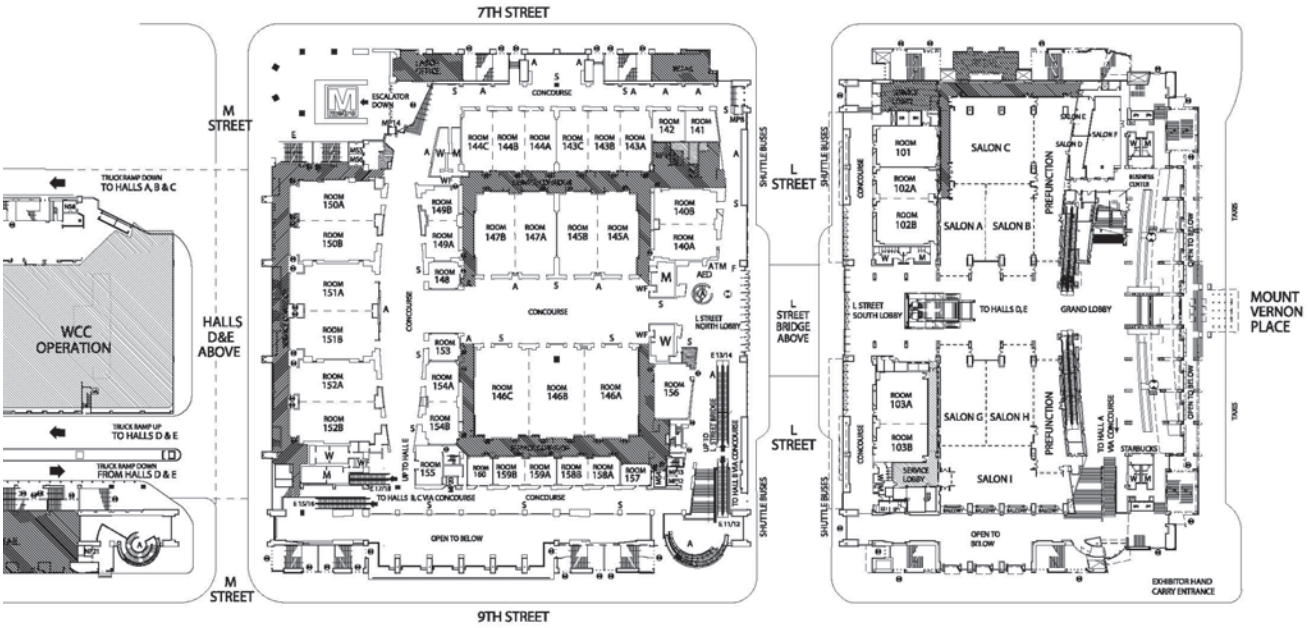
WASHINGTON RENAISSANCE HOTEL



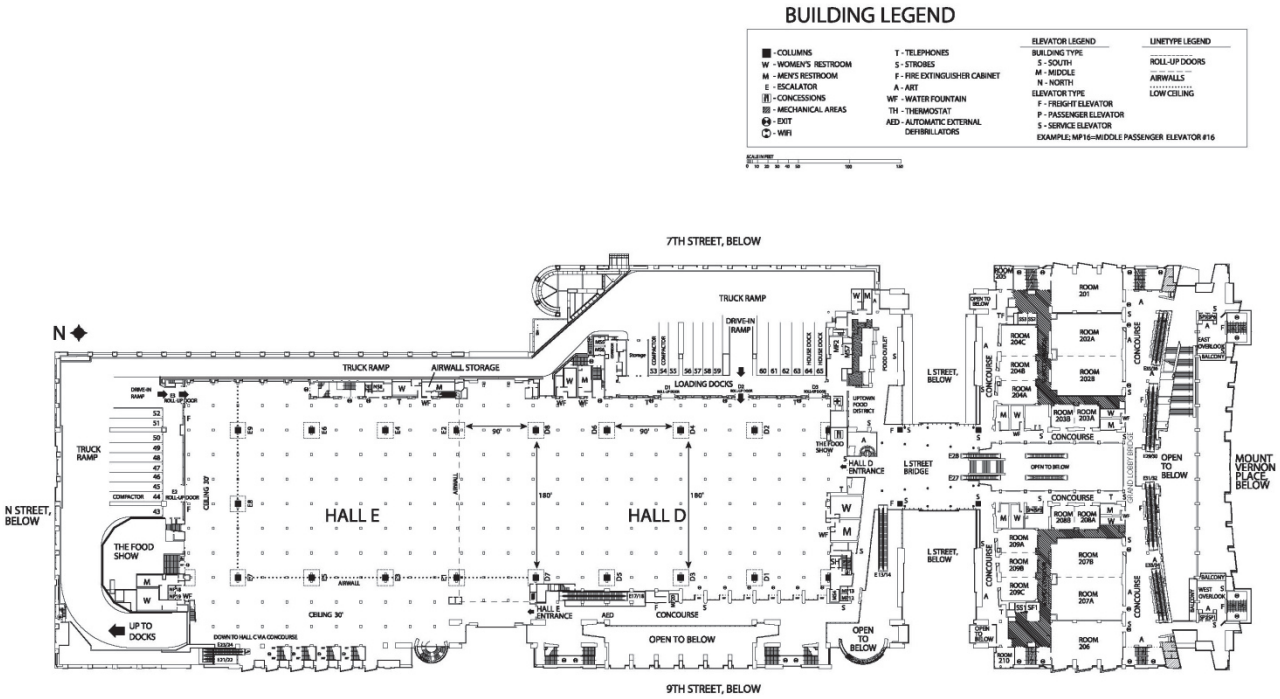


WASHINGTON CONVENTION CENTER

STREET LEVEL – AGFD



LEVEL 2 – POSTER SESSIONS



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WEYLCHEM

Better chemistry – achieving more.

From the Chair's Desk

Jay Gan

Welcome as we gather once again for a week of scientific exchange and interaction with friends and colleagues. Our Program Chair Scott Jackson has put together an exciting program with 28 symposia and a large poster exhibition representing over 410 scientific presentations. Thank you to the scientists presenting their work, the symposium organizers, those working behind the scenes choreographing this important event, and our many sponsors. Your ideas, time, talents, and donations are recognized and appreciated. Great job Scott and Team AGRO!

Recognizing Award Winners. Congratulations to winners of the ACS International Award for Research in Agrochemicals (Jeffrey Bloomquist) and the Innovation Award in Chemistry of Agriculture (Qing-Xiao Li), sponsored by DuPont Crop Protection and BASF, respectively. Symposia in recognition of these achievements begin Monday PM and continue through Wednesday AM. Together with AGFD, we will recognize those who have received the USDA-ARS Sterling B. Hendricks Memorial Lectureship, the Kansas City Section Kenneth A. Spencer Award for Outstanding Achievement in Agricultural and Food Chemistry, and the Research Article of the Year Award Lectureship in the *Journal of Agriculture and Food Chemistry*. Details on all these presentations can be found on the award pages. We appreciate the financial support for all these award sponsors.

In the News. I would like to draw your attention to several symposia that relate to hot topics highlighted in the news:

Pesticides, Pollinator Health, and Agricultural Sustainability
Risk Assessment and Beyond: Innovative Approaches to Meet FIFRA and ESA Consultation Needs
Managing Pesticide Use and Use Data
Biorational Control of Medical and Veterinary Pests
Analytical, Environmental, and Regulatory Challenges with Legalized Cannabis

and a number of symposium on pollinators and agrochemicals. Check out the program on page 59 for further details.

Early Career Scientist Symposia, New Investigator Award Finalists, and Student Presentations. Support our early career scientists by attending the presentations of AGRO's three New Investigator Award (NIA) finalists (p. 39) and AGRO's 15 Student Travel Awardees who will give either oral presentations (p. 41) or poster presentations. Each of these presenters is seeking constructive feedback as they embark on their new careers. The NIA is sponsored by Dow AgroSciences and the Student Education Awards by Bayer.

Preparing for Boston 2018. Julie Eble, the AGRO 2018 Program Chair, is actively soliciting symposia topics for the August 2018 meeting in Boston (p. 47). Please join us for the **Blues & Brews – AGRO Program Brainstorming – Happy Hour** on Tuesday evening, starting at 5:15 PM at *Washington Renaissance Hotel*. This is an opportunity to share your ideas, socialize with potential symposium co-chairs, and relax with a cold beverage and music. Topic champions and resource people are available to mentor and to support your efforts. We are also seeking additional topic champions. Symposium proposals for Fall 2018 are due November 15, 2017. If you cannot make it to the brainstorming session in person, please contact Julie at julie.eble@eblegroup.com.

Fellas! A long-time AGRO member, Stephen Duke, has received the 2017 ACS Fellows award. Five AGRO members, Diana Aga, Jay Gan, Marja Koivunen, Steven Lehotay, and Thomas Stevenson, are recipients of the AGRO Division Fellow award. Please give them a pat on the back for their unwavering contributions to AGRO over the years!

Strategic Planning and Membership Survey. Since our Strategic Planning Retreat in October, the Champions have been working hard to accomplish the established goals. AGRO's goals are focused on outreach, membership engagement, and multi-year programing; therefore, we need our help and participation and are seeking volunteers. We need your input and looking forward to the lively discussions, brainstorming, and networking at the Washington, D.C. meeting.

"I would like to learn more about AGRO and how to get involved." Whether you are new to ACS or a longtime member, we welcome your interest and desire for greater involvement in AGRO. During the meeting, please visit with us at the AGRO welcome table and seek out one of our officers (pictures on p. 51) or join us at our social on Wednesday (p. 9) or governance meeting on Sunday. Our website www.agrodiv.org is a great resource for those not attending the meeting or anyone seeking contact information and periodic updates. Check out what AGRO has to offer including: Lunch and Learn Webinar Series, archives of our enewsletter and *PICOGRAM*, award opportunities, sponsorships, membership, and more.

AGRO 2017 Elections Results. AGRO held elections in June, and we thank all of you who ran for the various offices. I am happy to report that we have a number of new people who will be involved. If you are interested in running next year, please let me know. We will need the slate finalized in May 2018.

2018 Vice Chair: Cheryl Cleveland
2018 Secretary: Sharon Papiernik
2018 Treasurer: Del Koch
2018 – 2020 Executive Committee Members
John J. Beck, Aaron Gross, Leah S. Riter,
Yelena Sapozhnikova, and Tianbo Xu
New 2017 – 2019 Executive Committee Member
Kalumbu Malekani

Congratulations to all!

Looking forward to our time together in Washington, DC!

STRATEGIC PLANNING RETREAT
ACS AGRO DIVISION
October 22 – 23, 2016

Strategic Planning Participants – front row: Carol Duane (ACS headquarters), Peney Patton, Kalumbu Malekani, Ashli Brown Johnson, Julie Eble, Larry Krannich (ACS headquarters); back row: Wayne Jones (ACS headquarters), Al Barefoot, Aaron Gross, Stephen Duke, Amy Ritter, Michelle Hladik, Ken Racke, Mike Krolski, Michael Barrett, John Clark, Steven Lehotay, Jay Gan, Leah Riter

Sixteen AGRO leaders participated in the AGRO Strategic Planning Retreat at the ACS headquarters in Washington DC with Larry Krannich, Carol Duane, and facilitator-in-training, Wayne Jones. The work of this group built upon AGRO's early strategic plans and is outlined on the next page.

The participants and AGRO officers and Executive Committee encourage every AGRO member to review the goals and strategies to meet these goals. ***If you have ideas, please contact any of the participants.***

One reflection as the workshop closed was that ideas for moving AGRO forward are consistent across workshops. However, communication and implementation from year to year needs improvement. Therefore, the group plans to communicate more at the 2017 national meeting in Washington DC and will work towards better mentoring and execution.

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: Steve 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 US, 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: Michael 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: Steve 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

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AGRO Awards Committee Report

Jim Seiber, Chair

Jeffrey Bloomquist of the University of Florida is the recipient of the 2017 ACS International Award for Research in Agrochemicals, which is sponsored by DuPont Crop Protection. He receives this award for his research and exceptional accomplishments in the field of insecticide toxicology and resistance. This award will be presented in a symposium organized by John Marshall Clark at the 254th ACS meeting in Washington DC beginning on Monday afternoon and continuing all day Tuesday (see p. 15).

The 2017 AGRO Award for Innovation in Chemistry of Agriculture, which is sponsored by BASF, will be awarded to **Qing X. Li** of the University of Hawai'i. He will present his lecture on using proteomics, metabolomics, and immunoassays to solve agricultural and environmental chemistry questions on Wednesday morning (see p. 17).

The 2018 recipient of the ACS International Award for Research in Agrochemicals is **Stephen Powles** of the University of Western Australia. He will receive this award for his research in elucidating the role of P450s in broad spectrum multiple herbicide resistance in weeds. He will receive this award at a symposium to be organized by Todd Gaines at the 256th National ACS Meeting in Boston, Massachusetts. Nominations for the 2019 International Award for Research in Agrochemicals and the 2018 AGRO Award for Innovation in Chemistry of Agriculture are being sought. The nomination criteria for these awards can be found on pages 27 and 29, respectively.

Bruce German of University of California, Davis, is the winner of the 2017 Kenneth A. Spencer Award which is sponsored by the ACS Kansas City Section and cosponsored by AGRO and AGFD (see p. 19). Eckhard Hellmuth will lead the organization of a symposium which will be hosted by AGFD at the Spring 2018 ACS meeting in New Orleans, Louisiana. Nominations for the 2018 Kenneth A. Spencer Award are being solicited by the ACS Kansas City Section; criteria can be found on page 29.

The winner of the USDA-Agricultural Research Service Sterling Hendricks Lectureship is **John Pickett** of Rothamsted Research. He will present his lecture on agricultural chemistry and sustainable food production in a lunch time symposium organized by Steve Duke and Kim Kaplan on Tuesday (see p. 21). Nominations for the 2018 Hendricks Lectureship Award are now being accepted (p. 31).

The IUPAC Division on Chemistry and the Environment is soliciting nominations for the 2018 International Award for Advances in Harmonized Approaches to Crop Protection Chemistry sponsored by Dow AgroScience (p. 35).

The AGRO Division is pleased to announce that **Stephen Duke** has received the 2017 ACS Fellows award (see p. 11). In addition, five AGRO members have received the 2017 AGRO Fellows Award: **Diana Aga**, **Jay Gan**, **Marja Koivunen**, **Steven Lehotay**, and **Thomas Stevenson** (see pp. 12-13). The Awards Committee is accepting new award nominations for the Division Fellow Award. Criteria for the award and what to submit on page 25. AGRO nominations for the ACS Fellow are limited and must be submitted through the Division Chair. The deadlines each year are March 31 for the AGRO Fellow Award and April 1 for the ACS Fellow Award.

The AGRO and AGFD Divisions with the *Journal of Agricultural and Food Chemistry* (JAFC) are pleased to announce the outstanding papers in JAFC (see p. 23). Winners this year are: for AGRO, **Wan Chan** of the Hong Kong University of Science and Technology and **Nikola Pavlović** of University of Niš, Serbia who will present their lecture on Tuesday afternoon; and for AGFD, **Francisco Hidalgo** of El Instituto de la Grasa of the Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC) in Sevilla, Spain who will present his lecture on Tuesday morning in the AGFD Division Program. The call for nominations of papers published in 2017 will be solicited from AGRO and AGFD members and from the public through the JAFC website beginning in late Fall 2017 (December 31 deadline, p. 37).

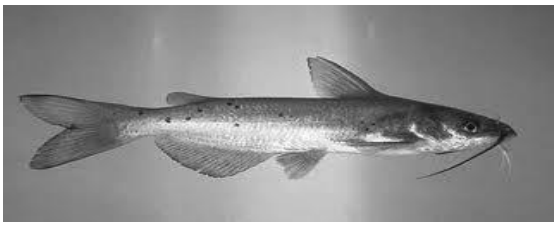
This year we have three New Investigator Award Finalists: **Maykel Hernández-Mesa** of Laboratoire d'Etude des Résidus et Contaminants dans les Aliments" (LABERCA) in Nantes, France; **Caitlin Rering** of USDA-Agricultural Research Service in Gainesville, Florida; and **Emily Woodward** of the US Geological Survey in Sacramento, California (see p. 39). This award, sponsored by Dow AgroScience, 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.

AGRO has also established an endowment fund in collaboration with Bayer for students to promote an understanding of the role of chemistry in agriculture. This year, 15 students received travel awards to attend the Washington DC meeting and are listed on page 41. Four senior graduate students were selected to present oral presentations, and they would like constructive feedback. Please attend their presentations.

Please consider nominating a deserving colleague for these AGRO Division and external awards.

SYMBIOTIC RESEARCH

Solutions for Research in Life Science



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The AGRO Division Awards & Social

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Celebrate AGRO award winners!

ACS International Award for Research in Agrochemicals

Jeffrey Bloomquist

AGRO Award for Innovation in Chemistry of Agriculture

Qing Li

ACS Fellow Award

Stephen Duke

AGRO Fellow Awards

Diana Aga, Jay Gan, Marja Koivunen,
Steven Lehotay, Thomas Stevenson

USDA-ARS Sterling Hendricks Lecturer

John Pickett

AGRO New Investigator Award Finalists

Maykel Hernández-Mesa; Caitlin Rering, Emily Woodward

AGRO Education Award Winners

Wednesday, August 23, 6:00 - 8:00 PM
Washington Renaissance Hotel, Congress Ballroom C

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 Dr. Stephen O. Duke

Stephen O. Duke received his Ph.D. from Duke University in Plant Physiology and Biochemistry. He has been involved in chemical aspects of agricultural sciences for more than 40 years. He is currently Research Leader of a USDA, Agricultural Research Service natural products laboratory located at the National Center for Natural Products Research at the University of Mississippi School of Pharmacy in Oxford, Mississippi. Before that, he was Director of the Southern Weed Science Laboratory in Stoneville, Mississippi.

While Steve's earlier research focused on herbicides, his recent activities have expanded to the use of genes and natural chemicals for pest management. The research teams of the group that he currently leads have patented two natural fungicides, a natural algicide, a gene for herbicide resistance, genes for natural fungicide and herbicide production, natural insect repellents, a method for obtaining greater yields of a pharmaceutical from a plant, and several uses of a nutraceutical in disease prevention. His personal research has dealt with the mechanisms of action of synthetic and natural herbicides and phytoxins, genetically-engineered herbicide-resistant crops, and allelochemical involvement in allelopathy.

He has been President or Chair of the Weed Science Society of America (WSSA), the International Weed Science Society (IWSS), the International Allelopathy Society (IAS), and the Agrochemical Division of the American Chemical Society (AGRO). He is a fellow of the American Association for the Advancement of Science, WSSA, and AGRO, as well as recipient of the Molisch Award (IAS), the Outstanding International Achievement award of IWSS, and the International Research Award of AGRO. The University of the Basque Country (Bilbao, Spain) awarded him an honorary doctorate in 2008. He is Editor-in-Chief of *Pest Management Science* and serves on the editorial boards of the *Journal of Chemical Ecology* and *Pesticide Biochemistry and Physiology*. He has authored over 400 refereed papers and book chapters, co-written a text book, and edited nine books. Much of this work is highly cited, resulting in Web of Science and Google Scholar h-indexes of 57 and 75, respectively.

He has had many roles in AGRO in addition to Chair. He has contributed to AGRO international activities by representing AGRO by co-organizing symposia at international meetings (e.g., Pacifchem and the International Symposium on Pesticide and Environmental Safety). His nomination of AGRO for the ACS ChemLuminary Award for International Activities in 2014 was successful. As member of the AGRO committee that organized the Lunch and Learn Webinar Series, he has helped organize many of these presentations, moderated several of them, and gave one of them himself. He has co-edited six ACS Symposium Series volumes, edited two special issues of journals based on AGRO symposia, and edited a special section of the *Journal of Agricultural and Food Chemistry* based on a symposium that he co-organized. He is a long standing member of the AGRO Strategic Planning Committee and is the Chair of the newly formed AGRO Partnership Committee. He was Chair of the temporary "Committee on Committees" that rewrote the AGRO Operations Manual.

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

The Fellow of the American Chemical Society (ACSF) designation is awarded to a member who, in some capacity, has made exceptional contributions to the science or profession and has provided excellent volunteer service to the ACS community.

AGRO Division Fellow Awards

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

Presented to Diana Aga, Jay Gan, Marja Koivunen, Steven Lehotay, and Thomas Stevenson

Diana Aga is the endowed Henry M. Woodburn Professor of Chemistry at the University at Buffalo, The State University of New York. Dr. Aga has served the ACS AGRO Division in many substantial ways for more than ten years, from organizing symposia to serving in the Executive Committee and co-chairing the Early Career Scientist Committee. Dr. Aga obtained her BS degree in Agricultural Chemistry from the University of the Philippines at Los Banos and her Ph.D. degree in Analytical and Environmental Chemistry at the University of Kansas. She was a postdoctoral fellow at the Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Switzerland. She is recipient of various prestigious awards, including the NSF CAREER, the Alexander von Humboldt Research Fellowship, and the Fulbright Fellowship. Dr. Aga is author of more than 130 peer-reviewed scientific articles and book chapters and is editor of the *Journal of Hazardous Materials*.

Diana's current research interests include investigating the fate and transport of contaminants in the environment, such as, persistent organic pollutants, pesticides, pharmaceuticals, endocrine disrupting chemicals, and engineered nanomaterials. She is an expert in developing trace analytical methods for organic and heavy metal contaminants in complex environmental matrices using chromatography and mass spectrometry. She has been evaluating the efficiencies of various treatment processes in removing emerging contaminants and antibiotic resistance genes in animal wastes and in wastewater treatment plants.

Jay Gan is a Professor of Environmental Chemistry in the Department of Environmental Sciences at the University of California, Riverside. Jay's more than 25 years of research experience has centered on analysis, environmental fate processes, risk assessment, and mitigation, of pesticides, pharmaceuticals and personal care products (PPCPs), and other anthropogenic chemicals. He has published 4 books and over 250 research articles in top-tier journals. He was elected Fellow of Agronomy Society of America, Fellow of American Association for the Advancement of Science, and Fellow of the Soil Science Society of America.

Jay has been an active ACS and AGRO member since 1993. He has organized or co-chaired over a dozen symposia at ACS, IUPAC, and Pacific Chem meetings, and he and his students and postdocs have made a large number of technical presentations. He has served on the AGRO Executive Committee and in the roles of AGRO Division Vice Chair, Programming Chair and Chair.

Marja Koivunen is a Product Development Manager with AMVAC Chemical Corporation. She has served AGRO for many years as Chair and Co-Chair of the Early Career Scientist Committee, organizing the AGRO Student Travel Awards and Poster Competition at the ACS National meetings. Besides oral and poster presentations, she has organized symposia and was co-editor an ACS book. She participated in AGRO 2011 Strategic Plan planning session and has served on the Executive Committee.

Marja started her career in the agrochemical industry with Kemira Agro (now part of Yara International) in Finland. After receiving her Ph.D. in soil science from University of California, Davis in soil microbiology and biochemistry, she did her postdoctoral work in the Department of Entomology with Bruce Hammock at UC Davis, working on immunoassay development for pesticide residue analysis of both human and environmental samples. Marja's past work experience includes research, management, and regulatory positions with agrochemical companies, contract research organizations, and the State of California. She has authored several scientific papers on soil microbiology, pesticide analytics, natural product pesticide discovery and product development, as well as patents, review articles, and book chapters. She has served in the CDFA Fertilizer Research and Education Program's Technical Advisory Subcommittee and holds a California Agricultural Pest Control Adviser license. Her teaching experience includes agrochemical and international agriculture courses at California State University and Chico and Yuba Community College.

AGRO Division Fellow Awards

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

Presented to Diana Aga, Jay Gan, Marja Koivunen, Steven Lehotay, and Thomas Stevenson

Steven Lehotay is a Lead Scientist with the USDA Agricultural Research Service at the Eastern Regional Research Center in Wyndmoor, Pennsylvania. He earned Ph.D. and B.S. degrees in chemistry from the University of Florida. Since joining USDA-ARS in 1992, his scientific investigations have involved improvement in the analysis of pesticides, veterinary drugs, and other contaminants in food and environmental samples. His work has addressed all aspects of the analytical process using many types of analytical techniques applied in novel and useful ways. He has been a Thomson Reuters Highly Cited Researcher since 2014, as (co-)author of nearly 150 scientific publications and over 200 abstracts. He has been an invited speaker for over 120 presentations and lectures around the world.

Steve's activities with AGRO have included: Executive Committee member, chair of the Membership Committee, participant in two strategic planning meetings, coordinator of the New Investigator Award, member of the International Committee, and (co-)organizer of several symposia. He was the first recipient both of the AGRO Award for Innovation in Chemistry of Agriculture in 2012 and NACRW Excellence Award in Sample Preparation in 2015 (shared). Other honors include a 2014 USDA Secretary's Honor Award (shared) and the 2011 AOAC International Wiley Award. His international involvement includes serving as a member of the scientific committees for Recent Advances in Food Analysis, Latin American Pesticide Residue Workshop, Veterinary Drug Residue Analysis, and SaskVal. Steve also serves on the editorial boards for *Analytical and Bioanalytical Chemistry*, *Chromatographia*, *Food Analytical Methods*, and *Food Additives and Contaminants: Part A*.

Thomas Stevenson received his B.S. in chemistry from Saint Louis University in 1979 where he carried out undergraduate research with Harold A. Dieck funded by a Monsanto Summer Fellowship. He earned his Ph.D. in organic chemistry from the University of Illinois in 1983, under the supervision of Nelson J. Leonard. After postdoctoral research at the University of Geneva from 1983 to 1985 with Wolfgang Oppolzer, Stevenson joined DuPont Crop Protection as a research chemist, rising in ranks to his current position as DuPont Fellow. As an undergraduate he won the Merck Index Award as outstanding senior chemistry major at Saint Louis University. During his doctoral studies he held a University of Illinois Graduate Fellowship.

A member of ACS, Stevenson has organized numerous technical sessions in both the AGRO and ORGN Divisions. His honors include DuPont Pedersen Medal and the ACS Heroes of Chemistry Award. He has also received the DuPont Bolton-Carothers Innovative Science Award, the DuPont Sustainable Growth Excellence Award, and the R&D 100 Award, as well as the ACS Award for Team Innovation, the Philadelphia Organic Chemists Club Industrial Award, ACS Award for Innovation in Chemistry of Agriculture, and the IPO National Inventor of the Year. The DuPont Crop Protection Scientific Leadership Award which he received in 1994 allowed him to spend a sabbatical in the labs of Paul Knochel at Phillips-Universität Marburg in Germany during 1996.

Congratulations Diana, Jay, Marja, Steve, and Tom

for all you do for AGRO!

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ACS International Award for Research in Agrochemicals

Sponsored by DuPont Crop Protection

Mechanisms of synergism for increased insecticidal action

Jeffrey Bloomquist obtained a B.S. degree from Purdue University (1978), an M.S. degree from Mississippi State University (1981), and a Ph.D. from the University of California, Riverside (1984), all in Entomology. He served as a postdoctoral associate and research associate at Cornell University in the laboratory of professor David Soderlund (1985-1988), before accepting a position with Rhone-Poulenc Ag Co. In 1989, Jeff became an assistant professor in the Department of Entomology at Virginia Polytechnic Institute and State University. He attained the rank of full professor in 2003. He has established an internationally recognized program in neurotoxicology, including work on environmentally-induced Parkinsonism, as well as insecticide resistance and the search for new insecticidal molecules.

He produced some of the first papers on the Parkinsonian effects of neurotoxic insecticides and established up-regulation of the dopamine transporter (DAT) as a new biomarker for neurotoxic insult in animal models. The central findings of this work were cited as justification for an NIH grant program (RFA ES-00-002, Background section) *The Role of the Environment in Parkinson's Disease* (http://grants2.nih.gov/grants/guide/rfa-files/RFA-ES-00-002.html). Related studies demonstrated a linkage between exposure to mitochondrial-directed insecticides, Parkinsonism, and diabetes.

More recently, professor Bloomquist was lead P.I. on one of the original proposals funded by the FNIH/Grand Challenges in Global Health program. This project was one of only 43 funded out of >1500 applications, and the approach of using bivalent acetylcholinesterase (AChE) inhibitors to increase selectivity and safety was specifically mentioned in a column written by Bill Gates in the Oct 1, 2007 edition of *Newsweek* calling for increased efforts to fight malaria. A subsequent NIAID-funded project on neglected tropical diseases identified new carbamates having up to 1000-fold selectivity for malaria mosquito AChE compared to human AChE (US Patent # 8,129,428).

Since moving to the University of Florida in 2009 as a member of the new Emerging Pathogens Institute, professor Bloomquist is supervising several projects on malaria and zika control. The main goal of an FNIH-funded VCTR project was to optimize the neurotoxic action and insecticidal efficacy of chemistries acting upon insect potassium channels, an under-exploited target site. Recent work has shown the potential of these compounds to synergize the pyrethroid, permethrin.

Research under the Deployed War Fighter Research Program investigated the mode of action and neurotoxicity of the insect repellent, DEET, recently claimed by other investigators to be neurotoxic to humans via AChE inhibition. These studies found that DEET has low toxicity and is a poor anticholinesterase inhibitor, findings that suggest the use of DEET as a repellent does not pose a serious neurotoxic hazard to humans. His group also identified a series of novel fluorinated phenylalkylamides with insecticidal and repellent activity equal to or exceeding that of DEET.

Jeff has recently initiated a program of plant-based chemical screening in collaboration with Dr. Nur Tabanca of the USDA subtropical horticulture laboratory in Miami, Florida and laboratories in Italy, Turkey, and Brazil. Plant extracts and identified plant compounds are screened for biological activity and novel modes of action. These efforts represent a new area of research for the Bloomquist laboratory and an effort to leverage natural products as “green chemistry.” Finally, he is Co-P.I. on a new five year CDC award (Southeastern Regional Center of Excellence in Vector Borne Diseases: Gateway Program), for which his group will develop novel essential oils or other mixtures for control of *Aedes aegypti,* the main vector of Zika in Florida.
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Please join us in a three session symposium honoring Dr. Bloomquist beginning on Monday, August 21, at 1:05 PM in Mount Vernon Square B

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

Applications of proteomics, metabolomics, and immunoassays in agricultural and environmental chemistry

Qing X. Li was born in China and came to the US in 1986. He received his B.S. in Agriculture from Shandong Agricultural University at Taian, China in 1982. Dr. Li received his Ph.D. in agricultural and environmental chemistry from the University of California at Davis in 1990 and then post-doctoral training in the University of California at Berkeley. He joined the University of Hawaii at Manoa in 1995 as an assistant professor, was tenured and promoted to associate professor in 1999 and to full professor in 2002. He was director of the pesticide residue chemistry laboratory at University of Hawaii at Manoa from 1995 to 2013. Since 2011, Qing has served as director of UH Proteomics Core Facility, funded by NIH. Since 2015, he has served as an associate editor for the *Journal of Agricultural and Food Chemistry*.

Qing's research is centered on agrochemicals with an emphasis on immunoassay, bioremediation, proteomics, metabolomics, and phytopharmaceuticals. His research has resulted in over 300 peer-reviewed scientific publications which have been cited for more than 6000 times. His current H-index by google scholar is 40 and his current i10-index is 149. His research has resulted in approximately 80 publications concenring immunoassays for 42 different agrochemicals including pesticides and food additives. He and his colleagues discovered π-cation interactions (not to be confused with cation-π interaction) between an antibody and the target molecule as a mechanism of molecular recognition.

In the area of environmental remediation, Qing's research group studied how to integrate and use sunlight (photolysis), ozone (ozonation), novel catalysts, extracellular enzymes, and microorganisms to break down toxic chemicals and reduce the risk to humans and wildlife. His group has published more than 50 papers in bioremediation, identified 10 new bacterial species, and elucidated novel biotransformation pathways of agrochemicals in the bacterial species. His bioremediation research focuses on catabolic mechanisms of pesticides and persistent pollutants.

Qing has advanced proteomics in various areas of agricultural and environmental applications. His team used multi-omics approaches including proteomics and metabolomics to elucidate mechanisms of microbial degradation of agrochemicals and petroleum byproducts. His team successfully demonstrated mass spectrometry-based protein barcoding for food authentication and bacterial identification and classification. His current research group is also investigating palm peroxidase and glycoproteomics. They recently reported workflow, biological mass spectrometry and bioinformatics methods to quantitative site-specific *N*-glycosylation of palm peroxidase. Those tools and workflows that can be readily modified by the end-users to study plant protein *N*-glycosylation and physiological functions of *N*-glycosylation, thus to increase crops to resist stresses and increase yields. Recently, he and his colleagues discovered *C*-glycosylflavones for Alzheimer's disease treatment and elucidated the novel mechanism of action being selective modulation of glycogen synthase kinase-3β via an ATP noncompetitive inhibition.

Qing has routinely taught an undergraduate course on environmental biochemistry and a graduate course on advanced laboratory techniques. He has mentored 18 M.S. students, 20 Ph.D. students, 27 post-doctoral fellows and 20 researchers. He has hosted 34 visiting professors and scholars for research.

Dr. Li will be presented this award prior to his lecture on Wednesday, August 22, at 8:00 AM in Meeting Room 15.

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

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ACS Kansas City Section
2017 Kenneth A. Spencer Award
Co-Sponsored by AGFD & AGRO

Bruce German is a professor in Food Science and Technology and Director of the Foods for Health Institute at University of California, Davis. He received his Ph.D. from Cornell University and joined the faculty at the University of California, Davis in 1988. In 1997, he was named the first John E. Kinsella Endowed Chair in Food, Nutrition, and Health.

His research interests include the structure and function of dietary lipids, the role of milk components in food and health and the application of metabolic assessment to personalizing diet and health.

The goal of his research is to build the knowledge necessary to improve human health through personalized health measurements and foods. Research projects directed to this goal are studying how individual human lipid metabolism responds to the chemical composition and structural organization of foods. Each person has slightly different responses to diet based on their genetics, their lifestage and lifestyle, their metabolism, and their nutrition status. Thus, it is necessary to understand the molecular basis of these differences, how to measure them, and how to design food strategies to complement them. We are working on analytical strategies to enable individuals to monitor how their body reacts to various foods and to modify their consumption to maintain good health.

With health targets established, it is the equally important task of the research to understand how to provide superior choices in foods that integrate the compositional, structural and nutritional functionalities of biomaterials. The model being used of how to proceed is milk, the product of millennia of constant Darwinian selective pressure to produce a food to nourish, sustain, and promote healthy infant mammals to be healthier http://www.imgconsortium.org/ .

Milk is the only bio-material that has evolved for the purpose of nourishing growing mammals. Survival of offspring exerted a strong selective pressure on the biochemical evolution of lactation as a bioguided process. Just as evolution of any biological organism, the strong survive, which leads to the appearance of new traits that promote health, strength, and ultimately, survival. This evolutionary logic is the basis of the research program to discover physical, functional, and nutritional properties of milk components and to apply these properties as principles to foods.

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Dr. German will present his award lecture
as part of the AGFD program at the
255th ACS National Meeting & Exposition
March 18-22, 2018
New Orleans, Louisiana

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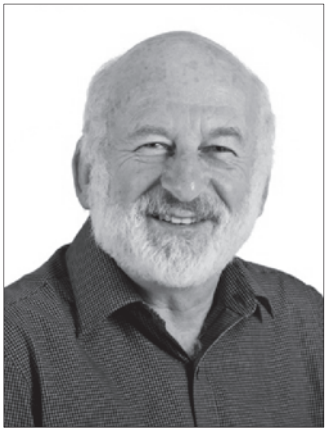
2017 Sterling B. Hendricks Memorial Lectureship Award

Sponsored by USDA-Agricultural Research Service

Co-Sponsored by AGFD & AGRO Divisions

New opportunities for sustainable food production from the chemical science of agriculture



John Pickett is internationally celebrated for his pioneering work on insect pheromones. His discoveries about how semiochemicals govern communication between insects and, more widely, manage interactions between insects and their plant or animal hosts have been remarkable. These contributions are significantly enhancing pest management and agricultural sustainability.

John made the first chemical characterizations of mosquito, sandfly and aphid sex pheromones. The chemical identification of the aphid sex pheromone in 1987 was for the vetch aphid, Megoura viciae Buckton, a pest of several crops including legumes and beans. He subsequently led the development of methods for commercial scale production of the aphid sex pheromone components from catmint *Nepeta cataria* (Lamiaceae).

In addition, John was the first to report enhanced insect attraction efficacy when pheromones and plant-derived semiochemicals were used together in traps. Such work is playing a leading role in the contemporary moves away from wide spectrum pesticides to more precise controls through the use of compounds that target specific pests at critical stages in their life cycle.

Discovering this beyond additive increase from mixing of the two types has not only been important for trapping higher number of insect pests in detection, monitoring, and control programs, but it also has been an important step in understanding the complexity of semiochemicals as part of the science of chemical ecology. The impact of his research reaches far beyond the scientific and agricultural communities, providing benefits to the natural ecosystem and society.

This is particularly exemplified by John's work in Africa where he has helped develop a "push–pull" companion cropping system that is overcoming some of the major limitations on grain production. Yields of the main staple and cash cereal crops in sub-Saharan Africa have been severely constrained by parasitic striga weeds and stemborers. Now by intercropping maize with a repellent plant desmodium as a push combined with planting an attractive trap plant Napier grass—the pull—both delivering semiochemicals as plant secondary metabolites repelling pests and attracting beneficial insects, farmers are surmounting the limitation problems without harming the ecology. More than 40,000 subsistence farmers in West Kenya have already adapted the system and are benefitting from this practical approach.

John recevied his B.S. and Ph.D. at the University of Surrey in Guildford, England. He is currently the Michael Elliott Distinguished Research Fellow at Rothamsted Research in Harpenden, England, the longest running agricultural research station in the world. He also serves as Deputy Chair of the British Crop Production Council's Board of Trustees.

Among John's many honors and awards are Fellow of the Royal Society, the Wolf Foundation Prize in Agriculture, The Croonian Prize Lecture, Foreign Associate of the U.S. National Academy of Sciences, President of the Royal Entomological Society (2014), and being made a Commander of the Order of the British Empire (CBE) for his services to biological chemistry.

John has more than 530 publications and patents. In his spare time, he is a jazz trumpeter in the six-piece jazz band Christine and the Stackyard Stompers.

By Kim Kaplan, USDA-ARS

Dr. Pickett will deliver his lecture immediately following presentation of the Sterling B. Hendricks Lectureship Award on Tuesday, August 22, at 11:45 AM, in Mount Vernon Square B

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JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

2017 Research Article of the Year Lectureship Awards

Co-sponsored by AGFD & AGRO Divisions

AGRO AWARD

Wan Chan collaborated with **Nikola Pavlović** to tackle a long-unresolved health issue among the populations in the Balkan Peninsula. The residents long suffered a common chronic kidney disease known as the Balkan endemic nephropathy, but it was not known what caused the condition. For some time, the cause was mistakenly attributed to fungal toxins (especially ochratoxin), but more recently it has been shown that a different class of toxins, the aristolochic acids, present in a common local weed, *Aristolochia clematitis*, is to be blamed.

It was assumed that the toxins entered the food chain due to the commingling of the fruits of the weed with commercial grains. However, Chan and Pavlović's teams examined the soil where the grains were grow and discovered that the aristolochic acids are in fact retained in the soil as the weeds decay, which are then taken up by the food crops through their roots and subsequently deposited into the grains. Results from this study have effectively resolved an almost 60-year old mystery of the Balkan kidney disease.

Wan Chan received his Ph.D. from the Hong Kong Baptist University in 2008. After conducting his postdoctoral research at Massachusetts Institute of Technology, he joined the Department of Chemistry, at the Hong Kong University of Science and Technology in 2011 as an Assistant Professor and was promoted to Associate Professor in 2017. Wan has a long-standing interest in food and chemical toxicology studies. Currently, his research group mainly focuses on developing new analytical methods to identify and quantitate food-borne toxicants.

Nikola M. Pavlovic graduated at the Medical Faculty, University Nis, Serbia in 1974. Since 1988, he has been an Associate Professor in Internal Medicine at the University of Nis. Nikola's research focuses on renal bone disease, the role of lipids in the initiation and the progression of renal diseases, and the role of environmental factors in the etiology of renal diseases and attendant upper urothelial cancers.

J Agric Food Chem 2016; 64:5928–5934.

AGFD AWARD

Francisco J. Hidalgo's article showed that lipid-derived carbonyls are trapped by food phenolics under common food processing conditions at the same time that they are being produced. When onions were fried, onion phenolics contributed to the removal of toxicologically-relevant aldehydes produced during deep-frying and the produced carbonyl-phenol adducts were found in the fried onions. Therefore, the protective role of food phenolics against lipid oxidation is not only a consequence of their ability to scavenge lipid radicals, but also to their capacity for the scavenging of the reactive carbonyls produced in the course of lipid oxidation.

Francisco is Research Professor and Head of the Department of Lipid Characterization and Quality at the Instituto de la Grasa, from the Spanish National Research Council (CSIC). He obtained his Ph.D. in Organic Chemistry at University of Seville (Spain) and worked as postdoc with John E. Kinsella at Cornell University and Al L. Tappel at University of California, Davis. His research career has involved the study of carbonyl chemistry in both foods and living beings as well as the control of these reactions, the application of NMR spectroscopy to oil analysis, and the presence of peptides in lipid matrixes. Current research interests are related to the consequences of carbonyl–amine reactions in food quality and safety, and their control by phenolic compounds; in particular, the characterization of the triple defensive barrier of phenolic compounds against the lipid oxidation-induced damage in food products.

J Agric Food Chem 2016; 64:5583–5589.

AGRO Presentation

Advanced Techniques for Isolation, Identification and Quantitation of Ag/Pharma Relevant Compounds from Biological Samples

Renaissance Washington, Meeting Room 15

TUESDAY 1:25 – AGRO 190. Identification and quantitation of naturally-occuring carcinogens, aristolochic acids, in raw ag commodities and soil: Identification and estimation of novel exposure pathway. W. Chan, **N.M. Pavlović**

AGFD Presentation

Journal of Agricultural and Food Chemistry Best Paper Award and Young Scientist Award Symposium

Walter E. Washington Convention Center, Room 144B

TUESDAY 8:00 – AGFD 150. Carbonyl-trapping ability of phenolic compounds: An additional protective role of phenolic compounds against the broadcasting of the lipid oxidative damage in foods. R. Zamora, **F.J. Hidalgo**

Congratulations to these creative scientists!

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- 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
- Population modeling (with our partners Integral Consulting Inc.)

Environmental Fate and Exposure Modeling

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

Field Studies

- Study design and directorship
- Prospective groundwater studies
- Ecological monitoring studies
- Drift reduction technology assessments
- Pollinator field studies
- Surface water monitoring
- Field volatility studies
- Simulated rainfall runoff
- Regional groundwater monitoring
- Community drinking water monitoring

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.

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John Hanzas

802.229.1877 | jhanzas@stone-env.com

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:

James N. Seiber
AGRO Awards Committee Chair
jnseiber@ucdavis.edu
phone: 530-752-1141

AGRO Division Fellows

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

ACS Fellows from the AGRO Division

2009	Glenn Fuller	2012	Jeanette M. Van Emon	2015	Rodney Bennett
2010	James N. Seiber	2014	Kevin Hicks		John Johnston
2011	John W. Finley		Laura L. McConnell	2016	Aldos C. Barefoot
	N. Bushan Mandava		Kenneth D. Racke	2017	Stephen O. Duke

AGRO nominations for the ACS Fellow are limited and must be submitted through the AGRO Division Chair. Contact the Chair by February 1; ACS deadline is April 1.

The selection of ACS Fellows is based on documented excellence and leadership in both of two areas: (1) the science, the profession, education, and/or management, and (2) volunteer service in the ACS community. Nomination documents must address both of these areas. See ACS website for details.

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Past Awardees of the Burdick & Jackson International Award

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, Champagne-Urban
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 (retired), Beltsville, Maryland
1977 Francis A. Gunther, University of California-Riverside
1978 Julius J. Menn, Stauffer Chemical Co., Mountain View, California
1979 Milton S. Schechter, USDA-ARS (retired), Beltsville, Maryland
1980 Minuro 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

Past Awardees of the ACS International Award For Research in Agrochemicals

Co-Sponsored by BASF & DuPont Crop Protection

1992 Bruce Hammock, University of California-Davis
1993 Morifuso 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 Hollingworth, Michigan State University, East Lansing
Hideo Ohkawa, Kobe University, Japan
2004 Stephen Duke, USDA-ARS, Oxford, Mississippi
John Marshall 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 (retired), Brighton, United Kingdom
Fredrick J. Perlak, Monsanto, St. Louis, Missouri
2008 David M. Soderlund, Cornell University, Ithaca, New York
2009 R. Donald Wauchope, USDA-ARS (retired), Tifton, Georgia
2010 Shinzo Kagabu, Gifu University, Gifu, Japan
2011 George P. Lahm, DuPont Crop Science, Newark, Delaware

Past Awardees of the ACS International Award For Research in Agrochemicals

Sponsored by DuPont Crop Protection

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

CALL FOR NOMINATIONS
ACS INTERNATIONAL AWARD FOR RESEARCH IN AGROCHEMICALS
Sponsored by DuPont Crop Protection

2019 Fall ACS National Meeting in San Diego, California

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:

James N. Seiber
AGRO Awards Committee Chair
530-752-1141
jnseiber@ucdavis.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 2019 Fall National ACS Meeting in honor of the awardee.

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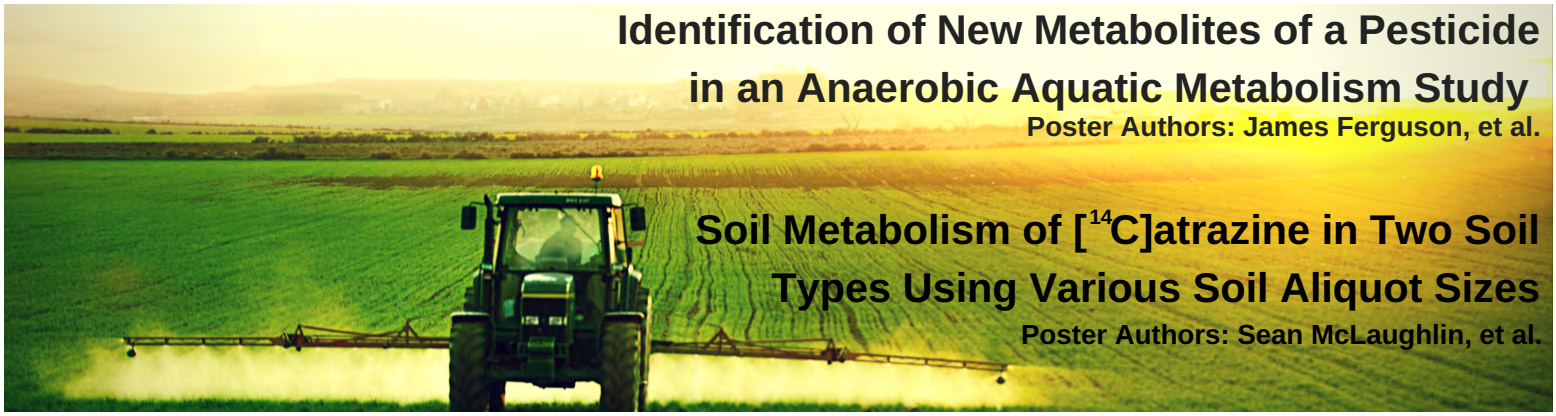

Identification of New Metabolites of a Pesticide in an Anaerobic Aquatic Metabolism Study

Poster Authors: James Ferguson, et al.

Soil Metabolism of [^{14}C]atrazine in Two Soil Types Using Various Soil Aliquot Sizes

Poster Authors: Sean McLaughlin, et al.

Are Additional Solvent Extractions in Soil/Sediment Laboratory Studies Really Necessary? A Follow-up Presentation with an Expanded Data Set

Poster Authors: Kalumbu Malekani, et al.

Tiered Testing for Pollinator Protection: Experiences in Design, Implementation & Interpretation

Session Co-chair: Ronald C. Biever

Complications Associated with Establishing Reliable Brood Termination Rates in Tier II Honey Bee Tunnel Studies

Platform Presenter: Larry Brewer

Novel Analytical Determination of Active Ingredient Concentration in Royal Jelly and Sucrose Diet Solutions

Poster Authors: Kristen Rathjen, et al.

Emerging Mass Spectrometry Trends in Support of Agricultural Research & Development

Session Co-chair: Paul Reibach

Pesticide Residues in Cannabis: Pesticide Exposure Risk Assessment

Platform Presenter: Paul Reibach

www.SmithersViscient.com

CALL FOR NOMINATIONS
AGRO AWARD FOR INNOVATION IN CHEMISTRY OF AGRICULTURE
Sponsored by BASF Corporation

2018 Fall ACS National Meeting in Boston, Massachusetts

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:

James N. Seiber
AGRO Awards Committee Chair
530-752-1141
jnseiber@ucdavis.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 256th National ACS Meeting in August 2018 in Boston, Massachusetts.

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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, Universtiy of Hawai'i, Mānoa, Hawai'i

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CALL FOR NOMINATIONS

2018 STERLING B. HENDRICKS MEMORIAL LECTURESHIP

Sponsored by USDA-Agricultural Research Service

Co-Sponsored by AGFD & AGRO Divisions

The USDA-Agricultural Research Service (ARS) is seeking nominations for the 2018 Sterling B. Hendricks Memorial Lectureship Award. This Lectureship was established in 1981 by ARS to honor the memory of Sterling B. Hendricks and to recognize 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 deadline is **November 30, 2017**.

The AGRO Division and the Agricultural & Food Chemistry Division (AGFD) co-sponsor the lecture which will be held in a joint session of these divisions. The lectureship is presented at an AGFD symposium in even-numbered years and in an AGRO symposium in odd-numbered years. The award includes an honorarium of $2000, a bronze medallion, and expenses to attend the meeting.

Nominees will be outstanding senior scientists in industry, university, consulting, or government positions. *Current ARS employees are not eligible.* The Award will be presented at the 256th American Chemical Society National Meeting held in 2018 in Boston, Massachusetts, prior to the lecture. Giving a presentation is a requirement of the honor.

The **Nomination Package** includes:

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

Nomination letters should be sent electronically with the subject “Sterling Hendricks Award Nomination” to:

kim.kaplan@ars.usda.gov

If submitting a hard copy nomination, use overnight courier.

Kim Kaplan, Lecture Coordinator
ARS Office of Communications
5601 Sunnyside Ave, Rm. 1-2253, Mail Stop #5128
Beltsville, MD 20705
301-504-1637 - phone

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, Nobel Laureate, University of California-Berkeley
1984 Frederick Ausubel, Harvard Medical School, Boston, Massachusetts
1985 Alan Putnam, Michigan State University, East Lansing
1986 Ralph Hardy, Cornell University and BioTechnica International, Ithaca, New York
1987 Mary-Dell Chilton, Ciba-Geigy Corporation, Research Triangle Park, North Carolina
1988 Bruce N. Ames, University of California, Berkeley
1989 Sanford A. Miller, University of Texas Health Science Center at San Antonio, Texas
1990 Roy L. Whistle, Purdue University, West Lafayette, Indiana
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, New York
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 (retired), Beltsville, Maryland
1999 Bruce D. Hammock, University of California-Davis
2000 William S. Bowers, University of Arizona, Tuscon
2001 Malcolm Thompson, USDA-ARS (retired), Beltsville, Maryland
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, Maryland
2005 Donald L. Sparks, University of Delaware, Newark
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, California
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, Missouri
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

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Call for Nominations
2018 Kenneth A. Spencer Award
Sponsored by ACS Kansas City Section

The Kansas City Section of the American Chemical Society is soliciting nominations for the 2018 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 $6000. 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:
http://cas.umkc.edu/chemistry/kcacs/Spencer%20Award/Spencer Award.html

Send nomination by November 15, 2017, to:

Kenneth A. Spencer Award, Kansas City Section of ACS
c/o Eckhard Hellmuth
Department of Chemistry, University of Missouri-Kansas City
5100 Rockhill Road
Kansas City, MO 64110
816-235-2290 - phone

Past Kenneth A. Spencer Award Winners

1955	Ralph M. Hixon, Iowa State University
1956	Conrad A. Elvehjem, University of Wisconsin
1957	William C. Rose, University of Wisconsin
1958	E.V. McCollum, Johns Hopkins University
1959	Karl Folkers, Merck, Sharpe & Dohme Res. Labs.
1960	C.H. Bailey, University of Minnesota
1961	H.L. Haller, USDA-Agricultural Research Service
1962	A.K. Balls, USDA-Agricultural Research Service
1963	C.C. King, Rockefeller Foundation
1964	Daniel Swern, Temple University
1965	Aaron M. Altschul, USDA-Agricultural Research Service
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-Agricultural Research Service
1983	Peter Albersheim, University of Colorado
1984	Richard H. Hageman, University of Illinois
1985	Bruce N. Ames, University of California-Berkeley
1986	John M. Brenner, 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-Agricultural Research Service
1998	Mendel Friedman USDA-Agricultural Research Service
1999	James A. Sikorski, Monsanto Co.
2000	Wendell L. Roelofs, Cornell University
2001	James Tumlinson USDA-Agricultural Research Service
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-Agricultural Research Service
2007	David A. Schooley, University of Nevada-Reno
2008	Ron G. Buttery, USDA-Agricultural Research Service
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-Agricultural Research Service, ret.
2014	Ronald Horst, USDA-Agricultural Research Service, ret.
2015	Thomas Selby, DuPont Crop Protection
2016	Agnes Rimando, USDA-Agricultural Research Service
2017	Bruce German, University of California, Davis

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Advisory Committee on Crop Protection Chemistry

Call for Nominations

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

This award recognizes individuals in government, intergovernmental organizations, industry, and academia who have exercised personal leadership for **outstanding contributions to international harmonization for the regulation of crop protection chemistry**.

The award is administered by the IUPAC Advisory Committee on Crop Protection Chemistry. It is presented on a biennial basis during even-numbered years in conjunction with an IUPAC-sponsored conference or special symposium.

Awardees receive an honorarium plus travel and per diem reimbursement to attend the award presentation ceremony. Corporate sponsorship for the award has been arranged with Dow AgroSciences.

Nominations for the 2018 award are due **December 1, 2017** and should be sent to:

Dr. John Unsworth, Chairman
IUPAC Advisory Committee on Crop Protection Chemistry
25 Vellacotts
Chelmsford, Essex CM1 7EA
UNITED KINGDOM
Phone: +44 1245 440 056
Email: unsworjo@aol.com

Nominations will consist of:

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

Past Awardees

2016 – Daniel L. Kunkel, IR-4 Project, Rutgers, NJ, USA
https://iupac.org/dan-kunkel-to-receive-the-iupac-international-award-for-advances-in-crop-protection-chemistry/

2014 – Árpád Ambrus, National Food Chain Safety Office, Budapest, Hungary
https://www.degruyter.com/view/j/ci.2014.36.issue-3/ci.2014.36.3.9b/ci.2014.36.3.9b.xml

2012 – Lois A. Rossi, Office of Pesticide Programs, Environmental Protection Agency, Washington, DC, USA
www.iupac.org/publications/ci/2012/3404/iw3_rossi.html

2010 – Denis J. Hamilton, Animal and Plant Service, Queensland Department of Primary Industries, Brisbane, Australia
www.iupac.org/publications/ci/2010/3204/iw3_hamilton.html

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JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

CALL FOR NOMINATIONS

2018 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 2017 (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 2017 ACS National Meeting in Washington DC

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 (< 500 words)
- Suggestion of a category AGFD or AGRO
- The words "*JAFC* nomination" in the title 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 2018, and the award will be presented at the Fall 2018 ACS National Meeting held in August in Boston, Massachusetts.

Send your nominations to
jafcaward@acs.org

Deadline for nominations
December 31, 2017

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2017 NEW INVESTIGATOR AWARD FINALISTS
Sponsored by Dow AgroSciences

Maykel Hernández-Mesa received his Ph.D. in Analytical Chemistry from the University of Granada (Spain) in 2016 under the supervision of Prof. Ana María García-Campaña and Prof. Carmen Cruces-Blanco. His Ph.D. was focused on the development of analytical methods based on capillary electrophoresis, capillary electrochromatography, and liquid chromatography, for the determination of 5-nitroimidazole residues in food, environmental, and clinical samples. After completing his Ph.D. studies, he was awarded a postdoctoral fellowship from the Spanish "Fundación Ramón Areces", enabling him to join the "Laboratoire d'Etude des Résidus et Contaminants dans les Aliments" (LABERCA) in Nantes (France). Under the scientific supervision of Bruno Le Bizec (director of LABERCA) and Gaud Dervilly-Pinel, Maykel is currently exploring the potential of ion mobility-mass spectrometry as an innovative tool in steroidomics. In this context, he is developing new strategies for the detection of steroidome disruption in livestock that has been exposed to forbidden veterinary substances.

SUNDAY, *Renaissance Washington, Meeting Rooms 13/14*
1:30 – 44. Ion mobility-mass spectrometry as an innovative strategy to investigate the steroids profile. **M. Hernández-Mesa**, A. Escourrou, F. Monteau, G. Dervilly-Pinel, B. Le Bizec

Caitlin Rering is a postdoctoral fellow at the Center for Medical, Agricultural and Veterinary Entomology at the USDA-Agricultural Research Service under the supervision of John Beck and Rachel Vannette. She is studying interactions between the floral microbiome and pollinators, including impacts on crop yield and honey bee health. Caitlin believes agriculture is the most crucial interplay between humans and the environment. As such, her research interests seek to develop new integrative pest management strategies that incorporate ecological paradigms for better human and environmental outcomes. She recently earned a Ph.D. in Agricultural and Environmental Chemistry from the University of California, Davis under the advisement of Ron Tjeerdema, where she investigated the toxicity, degradation and transport of pesticides. Caitlin previously earned a B.S. in chemistry at Oregon State University.

MONDAY *Renaissance Washington, Mt. Vernon Square B*
8:55 – 68. Do volatiles produced by nectar-dwelling microbes affect honey bee preferences? **C. Rering**, J.J. Beck, R. Vannette

Emily Woodward received her Ph.D. in Soil Science and Biogeochemistry in 2016 from the Pennsylvania State University under the direction of Jack Watson. Emily also has an M.S. in Soil Science from Penn State and a B.A. in Geology and Environmental Science from the University of Akron in Ohio. Currently, she is a postdoctoral researcher at the United States Geological Survey at the California Water Science Center in Sacramento. Emily is interested in studying the fate and transport of emerging contaminants in soil and water systems. Her current research focuses on nitrogen stabilizer and herbicide safener compounds in agricultural soils and corresponding drainage waters. Her research includes developing methods to analyze and extract these compounds from soil, sediment, and water, characterizing their occurrence in agricultural systems in the Midwest, and investigating potential exposure effects on non-target organisms. In addition, she is a part-time lecturer at California State University, Sacramento where she teaches the introductory *Physical Geology* class for geology majors and non-majors fulfilling their general education science requirement.

MONDAY, *Renaissance Washington, Meeting Rooms 16*
2:45 – 132. Assessing seasonal off-field transport of understudied agricultural chemicals to Midwest streams: The nitrogen stabilizer compound, nitrapyrin, and three dichloroacetamide herbicide safeners. E.E. Woodward, M.L. Hladik, D.W. Kolpin

The AGRO Division is grateful for the sustained support of the AGRO New Investigator Award

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Our task is simple, yet monumental. To provide enough food for the world, while protecting it at the same time. We believe that with the right combination of innovative science, tenacious problem solving and unshakable passion, we can do it. We will meet the needs of today while laying a foundation for a better tomorrow. And in doing so, we will not only grow a healthier world, we will make sure that abundance endures for us all.

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2017 AGRO EDUCATION AWARDS
FOR STUDENT TRAVEL WINNERS
SPONSORED BY BAYER CROPSCIENCE

Congratulations to all our travel grant winners!

ORAL PRESENTATIONS

Jerod Hurst, Assessing dairy manure management strategies for removal of antimicrobials and spread of antimicrobial resistant genes, *University at Buffalo, The State University of New York, Diana Aga,* **AGRO 88**
MONDAY 10:55 AM
Renaissance Washington, Meeting Room 13/14

Nick Larson, Chemical interventions to reduce honey bee interaction with food sources, *University of Florida, Jeffrey Bloomquist*, **AGRO 104**
MONDAY 10:55 AM
Renaissance Washington, Meeting Room 16

Scott O'Neil, ATP-sensitive inwardly rectifying potassium channel regulation of viral infections in honey bees, *Virginia Tech, Troy Anderson,* **AGRO 101**
MONDAY 9:20 AM
Renaissance Washington, Meeting Room 16

Qi Yao, Volatile Organic Compound Emission from Poultry houses, *University of Maryland, Alba Torrents*, **AGRO 115**
MONDAY 2:45 PM
Renaissance Washington, Meeting Room 2

POSTER PRESENTATIONS

WEDNESDAY 12:00 PM- 2:00 PM
Walter E. Washington Convention Center, Hall D

Tittaya Boontongto, Determination of phenol residues in agricultural surface water by dispersive solid-phase extraction coupled with HPLC, *Khon Kaen University, Thailand, Rodjana Burakham*, **AGRO 344**

Rui Chen, Physiological characterization of inward rectifying potassium (Kir) channels in the insect nervous systems, *Louisiana State University, Daniel Swale*, **AGRO 307**

Ping He, Mass spectrometry based detection of vitellogenin peptides as biomarker of fish exposure to estrogenic compounds in aquatic, *University at Buffalo, The State University of New York, Diana Aga,* **AGRO 345**

Shiyao Jiang, Synergistic effect of permethrin with potassium channel blockers on *Anopheles gambiae*,*University of Florida, Jeffrey Bloomquist*, **AGRO 306**

Niranjana Krishnan, Risk assessment of foliar insecticides commonly used in corn and soybean production on monarch butterfly (*Danaus plexippus*) larvae, *Iowa State University, Steven Bradbury*, **AGRO 302**

Zhilin Li, Characterizing the physiological role and toxicological potential of potassium transport pathways in the tick salivary gland, *Louisiana State University, Daniel Swale*, **AGRO 305**

Edmund Norris, Plant essential oils are capable of enhancing diverse synthetic pyrethroids against susceptible and resistant mosquito strains, *Iowa State University, Joel Coats,* **AGRO 303**

Lei Su, Transformation of 2,4-D herbicides in simulated leaf surface systems, *University at Buffalo, The State University of New York, Ning Dai*, **AGRO 346**

Emily Wall, Analysis of veterinary drug residues in imported and domestic crawfish using liquid chromatography time-of-flight mass spectrometry, *Louisiana State University, Kevin Armbrust*, **AGRO 343**

Colin Wong, Analysis of activity of monoterpenoid plant compounds on nematode acetylcholine receptors, *Iowa State University, Joel Coats,* **AGRO 304**

Zijiang Yang, Prediction of air pollutant emissions from poultry houses by a modified Gaussian plume model, *University of Maryland, Alba Torrents*, **AGRO 347**

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

Students and post-docs are cordially invited to attend

The AGRO Graduate Student & Post-Doc Box Luncheon

Enjoy lunch on us and visit with professionals in academia, industry, and government to discuss career opportunities in the AGRO sector and your future involvement in AGRO.

Monday, August 21, from 11:45 AM – 1:00 PM
Renaissance Washington, Meeting Room 12

CONTACT: PAUL REIBACH (preibach@smithers.com)
RESERVATIONS ARE REQUIRED
Reservations made after July 31 are on a space available basis.

THE FOOD IS FREE!

R&D at Monsanto

Monsanto's Technology (R&D) Organization, is a multi-functional, multi-crop organization of over 5,000 professionals comprised of four broad areas:

Biotechnology – is responsible for the discovery, development, and integration of novel genes into superior hybrids and varieties developed by Breeding to create new traits such as herbicide tolerance, insect resistance, drought tolerance, higher yield and increased nutrition. The team also develops new molecular technologies that allow Monsanto to better analyze seeds to increase the efficiency of our breeding programs.

Breeding – is responsible for developing superior hybrids and varieties that possess desirable characteristics such as higher yield potential, better disease resistance and drought tolerance. The team has pushed the boundaries of breeding practices through advanced molecular technologies, such as marker assisted selection, to achieve these goals.

Regulatory – is responsible for conducting scientific studies to prove the safety and effectiveness of our technology in order to obtain the necessary government approvals globally to launch our products.

Chemistry – is responsible for developing our weed management solutions and seed treatments to protect farmers' crops. This team is also responsible for the development and promotion of agronomic practice improvements for enhanced yield potential and sustainability.

Learn more & apply: monsanto.com/careers

Typical Roles

We are looking for top scientific talent with backgrounds in one of the following or a closely related discipline:

- Agronomy
- Analytical/Formulations Chemistry
- Biochemistry
- Bioinformatics/Genomics
- Data Management/Data Mining
- Developmental Biology
- Drought/Abiotic Stress Tolerance
- Engineering and Automation
- Field Research Agronomy
- Gene Discovery/Trait Characterization
- Gene Suppression Technology
- Global Germplasm Management
- Microbiology
- Nutrient and Water Use Efficiency
- Plant Breeding and Genetics
- Plant Molecular Biology
- Plant Pathology/Entomology/Nematology
- Plant Physiology
- Plant Transformation
- Protein Sciences
- Regulatory Sciences/Affairs
- Statistical/Quantitative Genetics
- Structural Biology

Skills Needed to Succeed

- Content expertise
- Agility
- Perserverence
- Negotiation skills
- Scientific acumen
- Problem solving
- Communication skills
- Broad relationships
- Technical expertise
- Business strategy
- Relationships & networks

Internal Recognition Programs

- Quarterly Technology Recognition Awards
- Above and Beyond Technology Awards
- Queeny Awards
- Reggie Awards
- Rapid recognitions
- Keystone People Team Award

Development Opportunities

- Global, Regional and Local Leadership Exchanges
- People Manager Forums (local)

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CALL FOR APPLICANTS
AGRO DIVISION
2018 NEW INVESTIGATOR AWARD
Sponsored by Dow AgroSciences

2018 Fall ACS National Meeting in Boston, Massachusetts

The AGRO Division seeks nominations for the New Investigator Award (NIA) to be awarded at the ACS meeting in Boston, Massachusetts DC in August 2018. 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 2018, applications will be considered from ***scientists who have obtained their doctorates no earlier than the year 2013.***
- 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 **300-word 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 256th ACS National Meeting in Boston, Massachusetts.

Deadline:
The extended abstract, *curriculum vitae*, and letter(s) must be received by the New Investigator Award (NIA) Coordinator no later than **March 21, 2018**.

For more information, please contact:
Steven J. Lehotay, NIA Coordinator
USDA-Agricultural Research Service
steven.lehotay@ars.usda.gov

The AGRO Division is grateful for the sustained support of the AGRO New Investigator Award

Dow AgroSciences

CALL FOR APPLICANTS
AGRO DIVISION 2018 EDUCATION AWARDS
Sponsored by Bayer CropScience

UNDERGRADUATE & GRADUATE STUDENT RESEARCH

Travel Support for Student Posters and Senior Grad Student Oral Presentations

2018 Fall ACS National Meeting in Boston, Massachusetts

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 2018 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 256th ACS Fall National Meeting, which will be held in August 2018 in Boston, Massachusetts. 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.

Graduate students who have previously attended scientific meetings AND are in or nearing their last year of graduate school are encouraged to do an oral presentation instead of a poster. AGRO members will be available to provide constructive critiques. **PLEASE NOTE: You must contact** the organizers to determine if you are eligible to do an oral presentation ***before*** submitting your abstract.

To apply, students should submit the following no later than March 21, 2018:

1. A **300-word 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:

Marja Koivunen
AMVAC Chemical Corporation
Davis, California
tel: 530-574-1837
email: mekoivunen@gmail.com

Diana Aga
Chemistry Department, NSC 611
University of Buffalo
Buffalo, NY 14260
tel: 716-645-4220
email: dianaaga@buffalo.edu

Abstracts will be reviewed by the Education Committee.
Applicants will be notified of their selection status in May 2018.

Special thanks to our sponsor for their generous contribution!

Notes from the Program Chair

Scott Jackson

Our division's commitment to advance knowledge and promote innovative solutions for agricultural productivity, public health and the environment is evident in the high quality programming for our Washington DC meeting. Symposia encompass 12 of the 17 technical topics for which AGRO actively programs, and they are listed to in the next column. Over 410 abstracts have been categorized into 28 oral symposia, which have been distributed into five concurrent sessions Sunday PM through Wednesday and four concurrent sessions on Sun AM and Thursday. Our poster session with over 90 posters will be held on Wednesday from 12 – 2 PM. We will also have two special symposia: Communicating Pesticide Science to the Public and the AGRO Memorial Symposium: Remembering Bob Krieger and Richard Allen. With such a full program, we encourage you to come early and stay late.

Steven Lehotay, the **New Investigator Award** coordinator, will oversee the competition in which three finalists will give oral presentations of their work (p. 39). Marja Koivunen and Diana Aga have again organized our **Education Awards**. This year, four senior grad students will give oral presentations, and 11 students will join the poster session on Wednesday (p. 41). Please encourage our budding scientists and attend the New Investigator Award and the student oral and poster presentations. They all will be recognized with awards and grants for travel at the **AGRO Awards Social** on Wednesday evening.

The achievements of three of our most eminent colleagues will be honored. We will begin on Monday afternoon with a three-session symposium honoring **Jeffrey Bloomquist** with the ACS International Award for Research in Agrochemicals, sponsored by DuPont Crop Protection. The AGRO Innovation Award goes to **Qing X. Li**, who will give a lecture Wednesday morning in the symposium entitled*, Emerging Mass Spectrometry Trends in Support of Agricultural Research and Development*. **John PIckett** is the winner USDA-ARS Sterling B. Hendricks Memorial Lectureship Award and will deliver his lecture, *New opportunities for sustainable food production from the chemical science of agriculture*, on Tuesday midday.

AGRO and AGFD co-sponsor the Kenneth A. Spencer Award for Outstanding Achievement in Agricultural and Food Chemistry, which is sponsored by Kansas City Section of ACS. This year's winner, **Bruce German**, will present his lecture at the Spring 2018 National ACS Meeting in New Orleans in the AGFD program.

AGRO's diverse scientific interest has resulted in a growing interactions with many ACS groups and other scientific societies. Our symposia are co-sponsored by ten ACS divisions and committees (AGFD, ANYL, CEI, CHAL, CHAS, CINF, COLL, ENVR, INOR, ORGN, and PROF). AGRO is also co-sponsoring symposia in ENVR and AGFD which are listed in the program.

I thank our many volunteers for their continued commitment to the division, offering their time and expertise to provide exceptional programming and networking opportunities for our members and colleagues. In addition, our gratitude goes out to the companies and organizations that generously provide funds to support our program. We look forward to a productive and fun-filled experience interacting with old friends and making new colleagues.

See you in DC!

AGRO SYMPOSIA BY STANDING TOPIC

** Award Symposium

Advances in Agrochemical Residues, Analytical and Metabolism Chemistry, and Metabolomics

- Advanced Techniques for Isolation, Identification, and Quantitation of Ag/Pharma Relevant Compounds from Biological Samples**
- Advances in Residue Analytical Methods: Innovation, Current Status and Future Prospects
- Emerging Mass Spectrometry Trends in Support of Agricultural Research and Development**

Agrochemical Toxicology and Mode of Action

- Advances in Insecticide Mode of Action, Chemistry, and Resistance: Dr. Jeffrey Bloomquist, ACS International Award for Research in Agrochemicals**

Air Quality and Agriculture

- Atmospheric Fate and Transport of Agricultural Emissions

Biorational Pesticides, Natural Products, Pheromones, and Chemical Signaling in Agriculture

- Roles of Natural Products for Biorational Pesticides in Agriculture
- USDA-ARS SB Hendricks Memorial Lectureship: John Pickett**

Discovery and Synthesis of Bioactive Compounds

- Synthesis and Chemistry of Agrochemicals

Ecosystem Exposure and Ecological Risk Assessment

- Application of Spatial Technologies to Advance Exposure Modeling and Risk Assessments
- Developing Pesticide Environmental Risk Assessment Approaches
- Risk Assessment and Beyond: Innovative Approaches to Meet FIFRA and ESA Consultation Needs
- Species Habitat Determination and Chemical Exposure Routes and Timing

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

- Environmental Fate, Transport and Modeling of Agriculturally-Related Chemicals
- Fate and Metabolism of Agrochemicals: Early Career Scientist
- Mechanistic Modeling and Effectiveness of Buffer Strips for Pesticide Regulatory Frameworks

Formulation and Applications Technology

- Agrochemical Formulations

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

- Biorational Control of Medical and Veterinary Pests
- Veterinary Drugs: Research, Residues and Regulations

Human Exposure, Health, and Risk Assessment

- 2,4-D Human Exposure Data: Lessons from Decades of Study

Pesticides, Pollinators, and Non-target Arthropods

- Pesticides, Pollinator Health, and Agricultural Sustainability
- Tiered Testing for Pollinator Protection: Experiences in Design, Implementation, and Interpretation

Regulations, Harmonization, and MRLs

- Analytical, Environmental, and Regulatory Challenges with Legalized Cannabis
- Current Regulatory and Scientific Landscape of Mixture Toxicity and Risk Assessment
- Good Laboratory Practices for the Agrochemical Professional
- Managing Pesticide Use and Use Data
- Pesticide Registration, Monitoring, and Enforcement

AGRO Program Committee
Standing Programming and Champions

Julie Eble, 2017 Program Committee Chair

Additional Volunteers Needed for the 2018 Meeting in Boston, Massachusetts

Contact: julie.eble@eblegroup.com

Advances in Agrochemical Residues, Analytical and Metabolism Chemistry, and Metabolomics
Kevin Armbrust, armbrust@lsu.edu
Lisa Buchholz, lmbuchholz@dow.com
Tao Geng, tao.geng@monanto.com
Mingming Ma, mma3@dow.com
Leah Riter, Monsanto, leah.s.riter@monsanto.com

Agricultural Biotechnology
Jeff Hughes, jeffrey.a.hughes@monsanto.com

Agriculture in Urban and Peri-urban Environments: Food Production, Structural Protection, Turf and Ornamentals, Water Reuse, and Down-the-Drain Chemistries
Jay Gan, jgan@ucr.edu
Pam Rice, pamela.rice@ars.usda.gov

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

Air Quality and Agriculture
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Christopher Bianca, chris.bianca@jrfamerica.com
Cathleen Hapeman, cathleen.hapeman@ars.usda.gov
Jim Seiber, jnseiber@ucdavis.edu

Biorational Pesticides, Natural Products, Pheromones, and Chemical Signaling in Agriculture
John Beck, john.beck@ars.usda.gov
Joel Coats, jcoats@iastate.edu
Aaron Gross, adgross@vt.edu

Developments in Integrated Pest Management and Resistance Management
Tory Anderson, tanderson44@unl.edu
Jeff Bloomqiust, jbquist@epi.ufl.edu
Si Hyeock Lee, shlee22@snu.ac.kr

Discovery and Synthesis of Bioactive Compounds
Thomas Stevenson, thomas.m.stevenson@dupont.com
John Beck, john.beck@ars.usda.gov

Ecosystem Exposure and Ecological Risk Assessment
Amy Ritter, rittera@waterborne-env.com

Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals
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Human and Animal Health Protection: Vector Control, Veterinary Pharmaceutical, Antimicrobial, and Worker Protection Products
Steve Lehotay, steven.lehotay@ars.usda.gov
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Human Exposure, Health, and Risk Assessment
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Non-Food/Feed Production and Uses of Ag Commodities and Byproducts
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Pesticides, Pollinators, and Non-target Arthropods
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Regulations, Harmonization, and MRLs
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Heidi Irrig, heidi.irrig@syngenta.com
Ken Racke, kracke@dow.com
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Technological Advances and Applications in Agricultural Science (e.g., Nanotechnology and Biocontrol Agents)
Danny Brown, dmbrown@landolakes.com
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Rai Kookana, Rai.Kookana@csiro.au
Mingming Ma, mma3@dow.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

Julie Eble, 2018 Program Chair

As you see from the Topics list on the previous page, the new Programming Committee is quite active. Hopefully, you have seen and responded to the questionnaire asking for your interest in participating as a Topic Champion for one of the topics above. Being a Topic Champion is not too time consuming and entails:

- Stimulating development of new symposium proposals,
- Providing advice to the Programming Committee and the AGRO Program Chair concerning symposium proposals,
- Helping to identify symposium co-organizers,
- Mentoring and assisting first-time and inexperienced symposium organizers, and
- Assisting the Division in communicating AGRO programming opportunities and plans within their professional networks.

Please contact me if you would like to know more.

We are also working on a multi-year approach to programming which will use the Topics and Topic Champions above and will tie in programming with other ACS Divisions as well as with other national and international partners. The Committee's charter has been refreshed and will soon be available in the Operations Manual (See the "About Us" tab on the website).

Last year, Program Chair Jay Gan and the Program Committee put together an outstanding scientific program for the 252nd ACS National Meeting and Exposition in Philadelphia, Pennsylvania. This year, Program Chair Scott Jackson is orchestrating another excellent program for the 254th ACS National Meeting to be held in Washington DC, August of 2017, with 28 planned symposia. And I am excited to be Program Chair for the 2018 256th American Chemical Society National Meeting and Exposition meeting which will be in Boston, Massachusetts.

I encourage you to consider chairing or co-chairing a symposium. The experience is an exciting and rewarding way to build or renew your career with excellent networking opportunities. AGRO enthusiastically supports symposium organizers with 7 Easy Steps for Organizing a Symposium and provides technical assistance from Officers and Program Champions. We are actively seeking volunteers, newer scientists, and Standing Program Champions to submit their symposium ideas for the 2018 Boston meeting and even for the 2019 meeting to be held in San Diego.

If you have an idea you want to explore or you want to put your toe in the water as a volunteer, please drop me an email at julie.eble@eblegroup.com.

Another questionnaire will be coming to you on Educational Programming. Please take a minute or two to respond. John Clark, the Liaison for Educational Programming, is looking for your input.

Finally, if you are attending the Washington DC meeting, you can also submit your ideas at the AGRO table or come to the Brews and Blues meeting. Look for announcements in the eNewsletter, the next *PICOGRAM*, and on the website, and plan to attend the Program Planning Meeting (Blues and Brews) in Washington DC. We look forward to hearing from you!

Plan to attend

AGRO Program Brainstorming

and

Blues & Brews

Happy Hour

Tuesday, August 22
5:15 – 7:00 PM
Washington Renaissance Hotel, Congress Ballroom C

- **Share your ideas about the future AGRO programming**
- **Learn more about organizing a symposium**
- **Let us know what topics are the most important to you**

Free refreshments will be served

ALL ARE WELCOME, BUT BRING YOUR IDEAS!

PROGRAMMING & OUTREACH ACTIVITIES 2017 – 2020

Activity/Event	Leaders/ Champions	Status	Actions Required
2017 – 2018 AGRO Lunch and Learn Webinar Series	Laura McConnell	• Planning is underway	• **Proposals for 2017 – 2018 webinars are being accepted**
54th North American Chemical Residue Workshop July 22 – 25, 2018 Naples, Florida www.nacrw.org	Steve Lehotay	• Program to be released in February 2018 • Co-Sponsored by AGRO	• Submit abstracts for oral presentations by April 15, 2018 and poster presentations by June 1
256th ACS National Meeting August 19 – 23, 2018 Boston, Massachusetts	Julie Eble	• Volunteers and champions NEEDED!! • Planning is underway	• **Symposia proposals due November 15, 2017**
2018 – 2019 AGRO Lunch and Learn Webinar Series	Laura McConnell	• Proposals for this season are welcome	
14th IUPAC International Congress of Crop Protection Chemistry May 19 – 24, 2019 Ghent, Belgium www.iupac2019.be	Pieter Spanoghe pieter.spanoghe@ugent.be	• This meeting has been moved from Brazil in 2018 to Belgium in 2019 • Details to be released in 2018	• Check official website and sign-up for IUPAC 2019 News
258th ACS National Meeting August 25 – 29, 2019 San Diego, California	Cheryl Cleveland	• Watch the AGRO eNewsletter for planning session information at Washington, DC and Boston meetings	• Volunteers and champions NEEDED!! • Symposia proposals due November 15, 2018
260th ACS National Meeting August 23 – 27, 2020 San Francisco, California	2019 Vice Chair	• Watch the AGRO eNewsletter for planning session information at Boston and San Diego meetings	• Volunteers and champions NEEDED!! • Symposia proposals due November 15, 2019

2017 - 2018 Lunch and Learn Webinar Series

AGRO provides free and open access to webinar recordings on our website to encourage use by educators, regulators, policy-makers and researchers.

Recordings from over 50 scientists are now available on the AGRO website. Topics range from insecticide discovery to advances in measuring pyrethroids, weed resistance, seed treatment, chemical ecology, protecting pollinators, and natural products.

Webinar topics are selected and organized by the AGRO Webinar Committee made up of government, academic, and industry scientists.

Webinar topics can be proposed at any time to the co-chairs Laura McConnell (laura.mcconnell@bayer.com) or Julie Eble (julie.eble@eblegroup.com). Other members of the webinar committee are Steven Duke (USDA-ARS), John Clark (U Mass Amherst), and Cody Howard (CA Air Resources Board).

Special Thanks to our Sponsor for their Generous Contribution!

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Future ACS National Meetings

255th ACS National Meeting & Exposition
March 18-22, 2018, New Orleans, Louisiana
The Food, Energy, Water Nexus

256th ACS National Meeting & Exposition
August 19-23, 2018, Boston, Massachusetts
Nanotechnology

257th ACS National Meeting & Exposition
March 31-April 4, 2019, Orlando, Florida
Chemistry for New Frontiers

258th ACS National Meeting & Exposition
August 25-29, 2019, San Diego, California
Chemistry of Water

259th ACS National Meeting & Exposition
March 22-26, 2020, Philadelphia, Pennsylvania
Macromolecular Chemistry: The Second Century

260th ACS National Meeting & Exposition
August 23-27, 2020, San Francisco, California
Chemistry from Bench to Market

262nd ACS National Meeting & Exposition
August 22-26, 2021, Atlanta, Georgia

264th ACS National Meeting & Exposition
August 21-25, 2022, Chicago, Illinois

266th ACS National Meeting & Exposition
August 13-17, 2023, San Francisco, California

Thinking about organizing a symposium for a future National Meeting?

It's really not that difficult. Here's how:

AGRO Supports Symposium Organizers

- Assistance with developing a symposium summary and Call for Papers
- Help with identifying co-organizers
- Funding to help with travel, non-member registrations ($500 each ½ session)

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

Save The Date

July 22-25, 2018

55th North American Chemical Residue Workshop

www.NACRW.org

Naples Grande Beach Resort

Naples, Florida

Bringing Scientists together to develop and validate better methodologies

NACRW

NORTH AMERICAN CHEMICAL RESIDUE WORKSHOP

AGRO Division Officers, Councilors, and Executive Committee

AGRO Division Officers

Division Chair
Jay Gan
951-827-2712
jgan@ucr.edu

Program Chair
Scott Jackson
919-547-2349
scott.jackson@basf.com

Vice Chair
Julie Eble
484-431-6978
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Secretary
Sharon K. Papiernik
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Treasurer
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Councilors

Rodney Bennett, rodbennettdac@gmail.com
Jeanette Van Emon, vanemon.jeanette@epa.gov
Aldos Barefoot, Alternate
Kevin Armbrust, Alternate

Executive Committee Members

2015 – 2017

Yelena Sapozhnikova, yelena.sapozhnikova@ars.usda.gov
Lacey Jenson, ljenson@vt.edu
Mike Krolski, mike.krolski@bayer.com
Leah Riter, leah.s.riter@monsanto.com
Thomas Sparks, tcsparks@dow.com

2016 – 2018

Charles Cantrell, charles.cantrell@ars.usda.gov
Heidi Irrig, heidi.irrig@syngenta.com
Thomas Stevenson, thomas.m.stevenson@dupont.com
Daniel Swale, dswale@gmail.com
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2017 – 2019

Cheryl Cleveland, cheryl.cleveland@basf.com
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Qing Li, qingl@hawaii.edu
Paul Reibach, preibach@smithers.com
Amy Ritter, rittera@waterborne-env.com

AGRO Division Past Chairs

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

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 winners of the ACS International Award for Research in Agrochemicals and/or 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 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.

** Social Committee

Purpose: This Committee directs social events in coordination with other Committees and maintains a hospitality table in the area where Division sessions are located at the fall ACS meeting.
Composition: The Social Committee Chair is appointed; additional members are identified by the Committee Chair and appointed with Division Chair and EC approval.

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

James Seiber, Chair, 530-752-1465
jnseiber@ucdavis.edu
MEMBERS: John Casida, Janice Chambers, John Marshall Clark, Joel Coats, Steve Duke, Bruce Hammock, Ernest Hodgson, Robert Hollingworth, Bob Krieger, Ralph Mumma, Hideo Ohkawa, Sharon Papiernik, Nancy Ragsdale, Will Ridley, David Soderlund, Don Wauchope, Izuru Yamamoto, Scott Yates

Bylaws Committee

Rodney Bennett, rodbennettdac@gmail.com
Jeanette Van Emom, vanemon.jeanette@epa.gov

Communications Committee

Cathleen Hapeman, Co-Chair, *PICOGRAM* Editor
301-504-6451, cathleen.hapeman@ars.usda.gov
Laura McConnell, Co-Chair, Webmaster
919-549-2012, laura.mcconnell@bayer.com
Jeff Jenkins – Public Relations
Sharon Papiernik – Awards Coordinator
Leah Riter – Social Media Coordinator
Yelena Sapozhnikova – eNewsletter Coordinator

Development Committee

Scott Jackson, Co-Chair, 919-547-2349
scott.jackson@basf.com
Del Koch, Co-Chair, 573-443-9003
kochd@abclabs.com
Laura McConnell, 919-549-2012
laura.mcconnell@bayer.com

Early Career Scientist Committee

Diana Aga, Co-Chair, 716-645-4220
dianaaga@buffalo.edu
Marja Koivunen, Co-Chair, 530-574-1837
mekoivunen@gmail.com
Steven Lehotay, New Investigator Award Coordinator
215-233-6433, steven.lehotay@ars.usda.gov
MEMBERS: Troy Anderson, David Barnekow, John Clark, Joel Coats, Jay Gan, Vincent Hebert, Ann Lemley, Glenn Miller, Paul Reibach

Finance Committee

Joel Coats, Chair, jcoats@iastate.edu
Del Koch, Ex Officio, kochd@abclabs.com
MEMBERS: Kevin Armbrust, Al Barefoot, Barry Cross, Scott Jackson, Kenneth Racke

International Activities Committee

Ken Racke, Co-Chair, 317-337-4654
kracke@dow.com
Jay Gan, Co-Chair, 951-827-2712
jgan@ucr.edu
MEMBERS: Eloisa Dutra Caldas, Paul Hendley, John Johnston, Rai Kookana, Steven Lehotay, Weiping Liu, Laura McConnell, Karina Miglioranza, Jim Seiber, Keith Solomon, John Unsworth

Membership Committee

Steven J. Lehotay, Chair, 215-233-6433
steven.lehotay@ars.usda.gov
MEMBERS: John Beck, Leah Riter, Daniel Swale

2017 Nominating Committee

Pamela Rice, Chair, 612-624-9210
pamela.rice@ars.usda.gov
Cathleen Hapeman, 301-504-6451
cathleen.hapeman@ars.usda.gov
Steve Duke, 662-915-1036
stephen.duke@ars.usda.gov

Programming Committee (see p. 46 for listing)

Julie Eble, Chair, 484-431-6978
julie.eble@eblegroup.com

Webinar SubCommittee

Laura McConnell, Chair, 919-549-2012
laura.mcconnell@bayer.com
MEMBERS: John Clark, Steve Duke

Social Committee

Jeff Jenkins, Co-Chair for venue, 541-737-5993
jeffrey.jenkins@oregonstate.edu
Jessica Malin, Co-Chair for social program, 302-451-3597
jessica-nicole.malin@dupont.com

Strategic Planning Committee

Ashli Brown Johnson, Co-Chair, 662-325-3428
abrown@mscl.msstate.edu
Julie Eble, Co-Chair, 484.431.6978
julie.eble@eblegroup.com

Report from the 6th Latin American Pesticide Residue Workshop (LAPRW) San José, Costa Rica May 2017

Steven Lehotay, International Activities Committee

The 6th Latin American Pesticide Residue Workshop (LAPRW) was held in San José, Costa Rica on May 14-17, 2017. Prof. Elizabeth Carazo and her team in the Centro de Investigación en Contaminación Ambiental (CICA) of the Universidad de Costa Rica organized the event, which matched the LAPRW attendance record of nearly 500 participants. AGRO is acknowledged as a sponsor of the event in the program book and on the LAPRW website: https://laprw2017.fundacionucr.ac.cr/index.php/en-us.

The 6th LAPRW program consisted of 46 scientific talks, two round table discussions, and 121 posters. In addition, 28 vendors showed their latest instruments and products in the exhibition booths. Four satellite training workshops were coordinated by 8 different international organizations and were held immediately before and after the meeting: *Ecological Risk Asssessment of Pesticides*, *Collaborative Pesticide Residue Studies*, *Risk Assessment for the Establishment of Pesticide Maximum Residue Limits*, and *Data Quality and Management*.

As before, AGRO sponsored two $500 poster awards for LAPRW. The poster judging committee, chaired by Dr. André de Kok, consisted of nine experts from nine countries in Europe and the Americas. The first winner was **Karla Solana**, Leonel Córdoba, Clemens Ruepert, and Berendina Van Wendel of the Universidad Nacional in Costa Rica for their poster entitled, *Polyurethane Foams, a Passive Sampling Technique to Be Used in Environmental Air Monitoring of Pesticides in Caribbean Coast of Costa Rica.*

Karla Solana receives the poster award below from Profa. Ionara Pizzutti (left), President of LAPRW.

The second AGRO poster award went to an international team of **Ana Cecilia Dufilho**, Pablo Macchi, Luis Medina, Rodrigo Palma Troncoso, Verónica Cesio, and Silvina Niell from Universidad Nacional del Comahue, Argentina, Servicio Agrícola y Ganadero, Chile, and Universidad de la República, Uruguay whose poster was entitled, *Use of an Ecotoxicological Model and Bioindicators for the Management of Aquatic Systems in Agricultural Basins in Latin America and Caribbean*.

AGRO's participation with LAPRW promotes international awareness of AGRO and fits with our strategic goal to "be a global platform for collaboration and information exchange to advance innovative solutions for a sustainable food supply, the protection of the environment and public health."

Councilor Report for the 253rd National Meeting & Exposition San Francisco, California April 2017

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!

Actions of Council

Election Results for Candidates for President-Elect, 2018
The Committee on Nominations and Elections presented four candidates for President-Elect, 2018: Bonnie A. Charpentier, Mark D. Frishberg, Anne M. Gaffney and Willie E. May.
The Council selected Bonnie A. Charpentier and Willie E. May as candidates for 2018 President-Elect.

Election Results for Candidates for Districts III and VI
The Councilors from these districts selected Alan B. Cooper and Teri Quin Gray as District III candidates; and Rita R. Boggs and Paul W. Jagodzinski as District VI candidates.

Election Results for Candidates for Directors-at-Large
The Committee on Nominations and Elections announced the selection of Kenneth P. Fivizzani, Wayne E. Jones Bonnie A. Lawlor and Barbara A. Sawrey as candidates for Directors-at-Large for 2018-2020 terms.

Council Policy Committee
A recommendation by the Council Policy Committee for the Petition for the Removal of Officers and Councilors (Bylaw III, Sec. 1, I; Bylaw VII, Sec. 1, c; Bylaw VII, Sec.4, d) failed, while the Petition on the Rights of Affiliates (Bylaw II, Sec.1, a, 2, 1, 3, b, (3) and (4) was approved by Council.

2018 Member Dues
The Council voted to approve the member dues to the fully escalated rate of $171 for 2018. On the recommendation of the Committee on Divisional Activities, Council approved a formula

for allocating dues funds to divisions, effective for the 2017 division performance.

Committee on Membership Affairs

- On the recommendation of the Committee on Membership Affairs, Council voted to extend the provision of $15 commissions to International Chemical Sciences Chapters to recruit new members.
- As of December 31, 2016, the ACS membership was 156,129, which is 0.5% less than on the same date in 2015. The number of new members who joined ACS in 2016 was 23,700. The Society's overall retention rate is 83.5%.
- The number of international members increased in 2016 to 27,388, exceeding the committee's target by 5%. Retention of graduate students increased in 2016 by 2% to 76.2%.

Committee on Committees

The Council approved the recommendation of the Committee on Committees that the Committee on Project SEED be continued; and that the Committee on Chemists with Disabilities, the Committee on Public Relations and Communications, the Committee on Women Chemists be continued.

Committee on Local Section Activities

On the recommendation of the Committee on Local Section Activities, Council approved a petition from the Santa Clara Valley Local Section in California to change the name of the section to the Silicon Valley Local Section.

Resolutions

The Council passed resolutions:

- In memory of deceased Councilors
- In gratitude for the officers and members of the California and Santa Clara Local Sections, the Divisional Program Chairs, Symposium Organizers and ACS Staff for the planning and execution of the 253rd ACS National Meeting.

Special Discussion

The Council conducted a Special Discussion on *ACS Yesterday and Today: Paving the Way to Tomorrow*.

Forty councils provided input to the Joint Board-CPC Task Force on Governance Design on the following topics:

1) What should the Society and its governance do differently to achieve its objects?
2) If you could change one thing about ACS governance, what would it be?
3) What should the Task Force leave "as is"?

A poll conducted of the 222 Councilors at the conclusion of the discussion revealed:

- That 57% of the Councilors disagreed that the current governance structure, processes, and procedures are already optimal to achieving the objects of ACS in the 21st Century.
- That 84% of the Councilors are willing to provide additional feedback to the Task Force.

Committee on Budget and Finance

- ACS generated a Net from Operations in 2016 of $23.8 million, which was $7.2 million higher than in 2015. Total revenues in 2016 were $526.8 million, increasing 2.9% or $15 million over 2015.
- Expenses for 2016 were $503 million, which was $7.8 or 1.6% higher than the previous year. This was attributed to a continued emphasis on expense management across the organization.
- The Society's financial position strengthened in 2016, with Unrestricted Net Assets, or reserves, increasing from $163.3 million at the end of 2015 to $206.5 million at the end of 2016.
- Additional information can be found at www.acs.org. [Click "About ACS", then "ACS Financial Information."
- Attendance for the San Francisco was a total of 18,850. San Francisco is one of the most popular cities, but was also one of the most expensive.

ACS Board of Directors

The ACS Board of Directors met March 31 – April 1, 2017 and considered a number of key strategic issues and responded with several actions.

- The Board received and discussed reports from its committees on Executive Compensation, Strategic Planning, Corporation Associates, Professional and Member Relations and the Joint Board-Council Committee on Publications.
- The Board received an extensive briefing and approved several recommendations from its Committee on Executive Compensation.
- On the recommendation of the Joint Board-Council Committee on Publications, the Board voted to approve the reappointments of Editors-in-Chief for several ACS journals.
- On the recommendation of the Committee on Professional and Member Relations, the Board approved the screening lists for the 2018 Priestley Medal and the ACS Award for Volunteer Service. From these lists, the Board will select the recipients of these awards.
- The Board heard reports from the Presidential Succession on their current and planned activities for 2017.
- The Board held a discussion and provided input to its Strategic Planning Committee on context setting and change drivers to be addressed during the strategic planning process.
- The Board of Directors is elected by and acts in the best interests of the members of the Society. Please contact them with your comments, concerns, ideas, and suggestions at secretary@acs.org.

ACS Executive Director/CEO

The ACS Executive Director/CEO reported on several issues relating to Information Technology, the Executive Leadership Team retreat, ACS Financials, and the Board Regulations on the Governing Board for Publishing. His direct reports updated the Board on the activities of the Membership Division, Chemical Abstracts Service (CAS), and the ACS Publication Division.

BYLAWS***
OF THE
DIVISION OF AGROCHEMICALS
OF THE
AMERICAN CHEMICAL SOCIETY

*** *Proposed bylaws submitted August 2012. Effective TBD. Approved, as amended, by the Committee on Constitution and Bylaws, acting for the Council of the American Chemical Society.*

Bylaw I. Name and Objects

Section 1. The name of this organization shall be the Division of Agrochemicals (hereinafter referred to as the "Division") of the AMERICAN CHEMICAL SOCIETY (hereinafter referred to as the "SOCIETY").

Section 2. The objects of the Division shall be to bring together persons particularly interested in agrochemicals, to consider all scientific aspects of chemistry relevant to the control of pests of agricultural or public health significance and to other methods for enhancing or modifying agricultural productivity, to develop and improve the professional stature of chemists with these interests, and to render whatever service it may to the scientific and lay communities on the topic of agrochemicals.

Bylaw II. Members and Affiliates

Section 1. Membership in the Division shall be open to all members of the SOCIETY. Application for membership shall be made in writing to the Secretary of the Division and shall be accompanied by one year's dues.

Section 2. A Society Affiliate of the SOCIETY may apply to the Secretary to become a Society Affiliate of the Division. Provided that Division dues established for Society Affiliates are paid, a Society Affiliate shall have all the privileges of membership in the Division except those of voting for or holding an elective position of the Division, voting on articles of incorporation or bylaws of the Division, or serving as a voting member of its Executive Committee.

Section 3. The Division may accept Division Affiliates who are not members or Society Affiliates of the SOCIETY but who wish to participate in the activities of the Division. Such affiliates shall be entitled to all the privileges of membership in the Division save those withheld by the Bylaws of the SOCIETY.

Section 4. Members may resign their membership in the Division by submitting their resignation, in writing, to the Secretary during the year for which their dues are paid.

Section 5. The name of any member of the Division who is in arrears in payment of dues by as much as one year shall be stricken from the rolls. A member dropped for nonpayment of dues may be reinstated upon payment of arrearages.

Section 6. Affiliates shall retain affiliate status only so long as payment is made of Division dues. An affiliate's name is to be stricken from the rolls as soon as the affiliate is in arrears in the payment of dues.

Section 7. The anniversary dates of Division members and National Affiliates of the Division shall coincide with their anniversary dates in the SOCIETY.

Bylaw III. Officers and Councilors

Section 1. The officers of the Division shall be a Chair, a Chair-Elect, a Vice-Chair, a Secretary, and a Treasurer. The Chair-Elect shall automatically succeed to the office of Chair upon expiration of the latter's term of office or if this office becomes vacant. The Vice-Chair shall automatically succeed to the office of Chair-Elect upon expiration of the latter's term of office or if this office becomes vacant. The offices of Secretary and of Treasurer may be held by one individual. Only MEMBERS are eligible to hold elective positions.

Section 2. The duties of the Chair shall be to preside at meetings of the Executive Committee, to carry into effect the decisions and recommendations of the Committee, to preside at stated meetings of the Division, and to appoint all committees except as otherwise provided.

Section 3. The duties of the Chair-Elect shall be to serve in the absence of the Chair of the Division and to act as Chair of the Program Committee.

Section 4. The duties of the Vice-Chair shall be to serve in the absence of the Chair-Elect and to act as Assistant Chair of the Program Committee, with particular emphasis on planning and developing technical programs.

Section 5. The duties of the Secretary shall be to keep minutes of all meetings of the Division and of the Executive Committee; to keep a roll of Division members and affiliates and to submit the same annually to the Executive Director of the SOCIETY for verification as provided in the Bylaws of the SOCIETY; to conduct the business correspondence of the Division as assigned to the Secretary by the Chair or by the Executive Committee; to prepare and submit an annual report of Division activities to the SOCIETY as required in the SOCIETY's Bylaws; to perform such other duties as may, from time to time, be assigned by the Chair or Executive Committee or required by the SOCIETY's Bylaws.

Section 6. The Treasurer shall act as custodian of the funds of the Division, collect dues and other revenues, and pay the bills of the Division after the same have been authorized by the Executive Committee. The Treasurer shall maintain accurate records of receipts and disbursements and shall submit a report of the financial condition of the Division at the annual meeting of the Division. The Treasurer shall furnish a surety bond, the premium for which shall be paid from Division funds.

Section 7. Councilors and Alternate Councilors shall represent the Division on the Council of the SOCIETY as provided in the Constitution and Bylaws of the SOCIETY.

Section 8. The Division shall have an Executive Committee, which shall consist of the officers of the Division; the Immediate Past Chair of the Division; the Councilors and Alternate Councilors; the Chairs, Chairs-Elect, Vice-Chairs, and Immediate Past Chairs of Subdivisions, if any; and fifteen (15) Members-at-Large. The Chair of the Division shall serve as Chair of the Executive Committee.

Section 9. The officers of the Division other than the Chair and the Chair-Elect shall be elected by ballot as described elsewhere in these bylaws.

Section 10. At the annual meeting of the Division, the Executive Committee shall appoint a Nominating Committee consisting of at least three members, one of whom shall be the Immediate Past Chair of the Division, who shall serve as Chair of this Committee. This Committee shall nominate two candidates for the office of Vice-Chair and at least ten (10) candidates for the positions as Members-at-Large to be filled on the Executive Committee. This Committee shall nominate candidates for each of the following offices to be filled:

Councilor, Alternate Councilor, Secretary, and Treasurer. This Committee shall submit a report in writing to the Chair of the Division for preparation of the ballot to be mailed to the membership. Additional nominations may be made in writing by any group of at least five members and presented to the Chair of the Division not less than three months prior to the fall meeting.

Section 11. Officers and Members-at-Large shall be elected by the members and Division Affiliates of the Division. Only members of the Division may vote for Councilors and Alternate Councilors. The Secretary or other designated officer of the Division shall prepare an election ballot, on which shall appear the names in order chosen by lot of all candidates nominated and found willing to serve. The form of the ballot and procedures for balloting will be in compliance with the overall procedures of the Society. The Tellers shall count the ballots thus received, using the list of members provided by the Secretary to verify the eligibility of all those voting. Any ballot envelope not validated by the voter's accompanying hand-inscribed name shall be rejected. The Secretary shall set and announce in advance of the balloting the interval during which ballots must be received to be counted; this interval shall not be less than four nor more than seven weeks following the ballot mailing. The Tellers Committee, appointed by the Chair of the Division, shall be responsible for counting all valid ballots received within the interval and shall certify the results to the Secretary, who shall in turn certify the results to the SOCIETY, the elected officials, and the Division. Elections are to be by plurality, should there be more than two candidates for an office. Resolution of a tie vote shall be made by the Executive Committee.

Section 12. The Chair, the Chair-Elect, the Vice-Chair, the Secretary, and the Treasurer of the Division shall serve for one year or until their successors are elected.

Section 13. The terms of office of the Members-at-Large of the Executive Committee shall be three years. Five Members-at-Large shall be elected each year.

Section 14. The terms of Councilors and Alternate Councilors and all officers excluding the Chair, Chair-Elect, and Vice-Chair shall begin on January 1 following their election. The terms for Chair, Chair-Elect, and Vice-Chair shall begin at the conclusion of the fall meeting of the SOCIETY.

Section 15. Vacancies in offices other than Chair and Chair-Elect shall be filled by the Executive Committee. Incumbents so selected shall serve until the next regular election.

Bylaw IV. Councilors

The Division shall have Councilors and Alternate Councilors whose terms of office shall be three years. Alternate Councilors shall serve only for specific meetings of the Council when a Councilor is not able to attend.

Bylaw V. Committees

Section 1. There shall be a Program Committee, consisting of three or more members, one of whom shall be the Chair-Elect of the Division, who shall serve as Chair of the Committee. A second member of the Committee shall be the Vice-Chair. The Program Committee shall have the entire responsibility for organizing the program of papers for all Division meetings. It shall work cooperatively with other Divisions of the SOCIETY and other bodies in planning joint sessions and symposia of mutual and timely interest.

Section 2. There shall be a Membership Committee of three or more members. This Committee shall aggressively promote membership in the Division by members of the SOCIETY.

Section 3. There shall be a Finance Committee of two or more members. This Committee shall audit the accounts of the Treasurer prior to the business meeting of the Division and report its findings at the annual meeting. This Committee shall advise the Executive Committee on financial resources.

Section 4. There shall be an Awards Committee of at least six members. This Committee shall maintain and develop the Division and International Awards Programs.

Section 5. There shall be a Social Committee of at least two members. This Committee shall direct social events in coordination with other committees and maintain a hospitality table at Division meetings.

Section 6. There shall be a Communications Committee of at least three members. This Committee shall be responsible for coordination of the communication and publication activities of the Division, (including newsletter, *PICOGRAM,* and other Division publications).

Section 7. Special committees may be appointed to consider, conduct, and report upon such special matters as may be delegated to them.

Section 8. Except where otherwise provided, committee appointments shall be made by the Chair, with the advice and approval of the Executive Committee.

Bylaw VI. Dues

Section 1. Members of the Division shall pay annual dues, the exact amount to be decided by the Executive Committee. Dues are payable in advance. Members who have been granted emeritus status by the SOCIETY and who are interested in the work of the Division shall be granted all privileges of Division membership without the payment of annual dues.

Section 2. Affiliates shall pay annual dues of $2.00 more than members, except that Division Affiliates who are regularly matriculated students specializing in a chemical science shall pay annual dues of an amount to be decided by the Executive Committee.

Bylaw VII. Subdivisions

Section 1. Composition. The Division may sponsor Subdivisions devoted to specialized fields within the area of Division interest. Membership in the Division shall be a requirement for membership in a Subdivision.

Section 2. Formation. Formation or discontinuance of a Subdivision shall be at the discretion of the Executive Committee of the Division. Steps to initiate a Subdivision may be made by petition of a group of Division members to the Executive Committee or by the action of the Executive Committee. The scope of the activities of any Subdivision shall be defined by the Executive Committee.

Section 3. Officers. Upon approval of the formation of a Subdivision, the Executive Committee of the Division shall appoint a Chair, Chair-Elect, Vice-Chair, and Secretary for the Subdivision. The Chair-Elect shall assume the office of Chair after one year. In succeeding years the Subdivision shall elect at the annual meeting a Chair-Elect and a Secretary. The Chair, a Chair-Elect, and Secretary shall constitute a Steering Committee for the Subdivision. This Steering Committee shall report through the Chair of the Subdivision and be responsible to the Executive Committee of the Division, of which Subdivision Chairs shall be members *ex officio*.

Section 4. Funds. The necessary expenses for each Subdivision shall be authorized by the Executive Committee of the Division from Division funds and shall be paid by the Treasurer of the Division upon the usual authentication.

Bylaw VIII. Meetings

Section 1. There shall be a meeting of the Division at each a national meeting of the SOCIETY at least once per year, unless the Executive Committee votes otherwise, provided the requirements for a minimum number of meetings as specified in the SOCIETY Bylaws shall be met.

Section 2. The annual meeting of the Division shall be held at one of the national meetings of the SOCIETY. The fall meeting of the SOCIETY will be designated as the annual meeting unless otherwise instructed by the Executive Committee. Division business requiring

vote of the membership shall be conducted only at this meeting, except as provided elsewhere in these bylaws, or as directed by the Executive Committee.
Section 3. Special meetings of the Division may be called by the Executive Committee, provided notice is given to the membership in writing or by publication in *Chemical & Engineering News* at least two months in advance.
Section 4. Fifteen (15) members of the Division shall constitute a quorum for the conduct of business.
Section 5. The fee for registration at any special meeting shall be decided by the Executive Committee in accordance with the Bylaws of the SOCIETY.
Section 6. The rules of order in the conduct of Division meetings not specifically provided in these bylaws or in the SOCIETY's documents shall be the most recent edition of *Robert's Rules of Order, Newly Revised*.

Bylaw IX. Papers
Section 1. The Program Committee may approve or reject papers submitted for presentation before any meeting of the Division.
Section 2. The rules for papers presented before meetings of the SOCIETY as outlined in the Bylaws and Regulations of the SOCIETY shall govern the Division.

Bylaw X. Amendments
Section 1. These bylaws may be amended at any annual meeting of the Division by a two-thirds (2/3) vote of the members present. All amendments shall be submitted in writing to the Secretary at least sixty (60) days prior to the meeting. Upon approval of the Executive Committee, the Secretary shall send the text of the proposed amendment to the members of the Division at least thirty (30) days prior to the annual meeting.
Section 2. Amendments shall become effective upon approval by the Committee on Constitution and Bylaws, acting for the Council, unless a later date is specified.

Bylaw XI. Dissolution
Upon dissolution of the Division, any assets of the Division remaining thereafter shall be conveyed to such organization then existent as is dedicated to objects similar to those of the Division and the AMERICAN CHEMICAL SOCIETY, or to the AMERICAN CHEMICAL SOCIETY, so long as whichever organization is selected by the governing body of the Division at the time of dissolution shall be exempt under Section 501(c)(3) of the Internal Revenue Code of 1954 as amended or under such successor provision of the Code as may be in effect at the time of the Division's dissolution.

NOTES

PROGRAM

DIVISION BUSINESS AND PLANNING

AGRO Business Meeting
Sunday 5:00 – 9:00 PM
Renaissance Washington, Penn Quarter Room
AGRO Members and guests welcome

Program Planning – Blues and Brews
Tuesday 5:15 – 7:00 PM
Renaissance Washington, Congress Ballroom C
Beverages are FREE
Members welcome, but bring your ideas; see page 47

SOCIAL EVENTS

Graduate Student Luncheon
Monday 11:45 AM – 1:00 PM
Renaissance Washington, Meeting Room 12
Reservations required; see page 42

Sterling B. Hendricks Award Lecture Reception
Tuesday following the 11:45 AM lecture
Renaissance Washington, Congress Ballroom C

AGRO Awards Social
Wednesday 6:00 – 8:00 PM
Renaissance Washington, Congress Ballroom C
Members/Speakers/Guests welcome

AGRO POSTERS

- AGRO will have one poster session
  Wednesday, 12:00 – 2:00 PM
  Walter E. Washington Convention Center Hall D
- All AGRO posters are expected to be up by 12 PM
- Presenters are expected to stand by their posters from 12:00 PM – 2:00 PM

AGRO COFFEE
Renaissance Washington AGRO Welcome Area

SUNDAY MORNING

Roles of Natural Products for Biorational Pesticides in Agriculture
J. J. Beck, C. Rering, *Organizers*
S. O. Duke, *Organizer, Presiding*

Section A
Renaissance Washington, Mount Vernon Square B

8:25 Introductory Remarks.

8:30 – 1. Role of the IR-4 Project in the regulatory approval of biopesticides for use in specialty crop protection. **J. Baron**, M.P. Braverman, D. Kunkel

8:55 – 2. Encapsulation of essential oils into nanoparticles to be used as environmentally-friendly alternative pesticides. **S. Kim**

9:20 – 3. Uptake and translocation of tritium labeled thymol in citrus plants. **C. Wong**, J.R. Coats, V.C. Albright

9:45 – 4. Interaction of silver nanoparticles embedded in *Ocimum tenuiflorum* phytols against *Xanthomonas* species. **M. Bapat**

10:10 Intermission.

10:30 – 5. Endophytes as source of natural pesticide. **N. Kaushik**

10:55 – 6. Can resistance inducers and plant growth regulators be used to control phytoplasma diseases? A case study of woody plants. **W. Schweigkofler**

11:20 – 7. Fenpicoxamid: A natural product-based active ingredient for disease control. **K.G. Meyer**, J. Owen, C. Yao, K. Myung, G. Kemmitt, A. Leader, D. Young, N. Wang, P. Johnson

11:45 Concluding Remarks.

Mechanistic Modeling and Effectiveness of Buffer Strips for Pesticide Regulatory Frameworks
D. R. Jones, O. Perez-Ovilla, *Organizers, Presiding*

Section B
Renaissance Washington, Meeting Room 2

8:25 Introductory Remarks.

8:30 – 8. Use of buffers and vegetated filter strips in risk management of pesticides. **R.D. Jones**

8:55 – 9. Effect of the formulation of vegetative filter strips pesticide residue degradation on environmental exposure assessments. **A.M. Ritter**, R. Munoz-Carpena, G. Fox, O. Perez-Ovilla, I. Rodea-Palomares

9:20 – 10. Experimental testing of a new algorithm for analysis of vegetative filter strips with shallow water table effects. **G. Fox**, R. Munoz-Carpena, R. Purvis

9:45 Intermission.

10:05 – 11. Variability in buffer effectiveness based on VFSMOD simulations in a probabilistic exposure assessment. **M. Winchell**, L. Padilla, Z. Tang, M. Whitfield Aslund

10:30 – 12. Meta-regression model for predicting pesticide removal efficacy of buffer strips. **H. Chen**, M. Grieneisen, M. Zhang

10:55 – 13. Vegetated ditches as a best management practice to filter pesticides, sediment, and other constituents from agricultural and urban runoff water. **W.M. Williams**, J. Trask, D. Denton

11:20 – 14. Evaluation and modeling of pesticides removal efficacy in golf courses. **O. Perez-Ovilla**, R. Munoz-Carpena, P. Rice, L.L. McConnell, T. Xu

11:45 – 15. Mechanistic modeling of the influence of a shallow water table on surface low, sediment and pesticide transport through vegetative filter strips. **R. Munoz-Carpena**, C. Lauvernet, N. Carluer, G. Fox

12:10 Concluding Remarks.

Risk Assessment and Beyond: Innovative Approaches to Meet FIFRA and ESA Consultation Needs
D. D. Campbell, J. Crossland, G. Hall, L. Honey, *Organizers*
B. McGaughey, *Organizer, Presiding*
C. Rossmeisl, *Presiding*

Section C
Renaissance Washington, Meeting Rooms 13/14

8:25 Introductory Remarks.

8:30 – 16. Reducing pesticide exposure to threatened and endangered species. **C. Tortorici**

8:55 – 17. Addressing highly specialized FIFRA uses in the endangered species act consultation process: Necessity is the mother of invention. **C. Layne**

9:20 – 18. Piloting a net-conservation benefit approach for pesticide registrations under the Endangered Species Act. **D.D. Campbell**

9:45 – 19. Decision framework for assessing pesticide effects to endangered species through mitigation actions. **N. Gard**, C. Menzie, N.J. Snyder, M. Kern, A.C. Barefoot

10:10 Intermission.

10:30 – 20. Mitigation and the ESA pesticide national consultation process. **P. Ashfield**, K. Bissell, L. Laniawe, A. Raabe

10:55 – 21. Making better environmental impact decisions using Virginia's Natural Heritage Data Explorer. **J. Bulluck**

11:20 – 22. National invasive species management: Protecting ESA listed species in infested ecosystems. **J. Crossland**

11:45 – 23. Facilitating voluntary conservation on private lands: Partnerships and Endangered Species Act predictability. **M.R. Martin**, D. Flynn, G. Hall, R. Gooch, J. Fritscher

12:10 Concluding Remarks.

Advances in Residue Analytical Methods: Innovation, Current Status and Future Prospects
Cosponsored by ENVR
Financially supported by Golden Pacific Laboratories
S. Perez, E. A. Schoenau, *Organizers*
T. Geng, R. Hill, M. Saha, *Organizers, Presiding*
X. Zhou, *Presiding*

Section D
Renaissance Washington, Meeting Room 1envr5

8:25 Introductory Remarks.

8:30 – 24. Proof of concept: Cost savings start with method design not development. **E.A. Schoenau**

8:55 – 25. Adapting LC-MS/MS methodology for soy allergen determination using different mass spectrometers and other variables. **L. Sheng**

9:20 – 26. Endogenous soybean allergen levels are less affected by transgenesis than by traditional breeding. **R. Herman**, B.J. Fast, R. Hill

9:45 – 27. QuEChERS-based approach to FDA Pesticide Analytical Manual (PAM) to fulfill the EPA requirement for Office of Prevention, Pesticides and Toxic Substances Residue Chemistry Test Guidelines OPPTS 860.1360. **S. Perez**, R. Perez, N. Tarkalanov, Y. Park, J. Adams

10:10 Intermission.

10:30 – 28. Benefits of using radiolabeled test materials for developing residue analytical methods. **P. Cassidy**

10:55 – 29. Residue analysis of bee-related matrices: Challenges and techniques. **R.S. Andrews**, R.F. Gooding, J.E. Jones

11:20 – 30. Improvements to high-throughput determination of neonicotinoid insecticides including differential ion mobility spectrometry (DMS) in various pollinator matrices. **J. Warnick**

11:45 Discussion.

ENVR Division

Ecological and Human Health Impacts of Emerging Environmental Contaminants
Cosponsored by AGRO and CHAL
X. Pan, M. I. Selim, B. Zhang, *Organizers, Presiding*

Renaissance Washington, Meeting Room 3

8:30 Introductory Remarks.

8:35 – ENVR 1. Emerging environmental contaminants in the oceans: An overview of SOST priorities and US NSF investments. **L. Clough**

9:20 – ENVR 2. Applications of the web-based CompTox Chemistry Dashboard to support emerging contaminants in the Superfund Program. **A. Frame**, A.J. Williams, R. Judson, A. Mageid, G. Patlewicz, I. Shah, J. Smith, C. Grulke, J. Edwards

9:45 – ENVR 3. Changes in iodine speciation in surface waters receiving wastewater effluent. **K.E. Studer**, H. Weinberg

10:10 – ENVR 4. Effects of zinc oxide nanoparticles on the neurological behavior and pharyngeal pumping of C. *elegans*. **L. Lish**

10:35 Intermission.

10:50 – ENVR 5. Uptake of hormones and pharmaceutical and personal care products by quagga mussels (*Dreissena bugensis*) in an aquatic ecosystem. **X. Bai**, K. Acharya

11:15 – ENVR 6. Impact of nanoparticles on plant growth and development and the microRNA-mediated regulation. **B. Zhang**

11:40 – ENVR 7. Do humic acids alleviate the ecotoxicity of graphene oxide on crustacean *Daphnia Magna*?. **Y. Zhang**

12:05 – ENVR 8. Ecocultural factors of carbon emission, ecological footprints and implication for chemical safety in the environment. **K.O. Oloruntegbe**

SUNDAY AFTERNOON

Roles of Natural Products for Biorational Pesticides in Agriculture
J. J. Beck, S. O. Duke, C. Rering, *Organizers*
C. Rering, *Presiding*

Section A
Renaissance Washington, Mount Vernon Square B

1:25 Introductory Remarks.

1:30 – 31. New opportunities for controlling parasitic weeds with chemistry from antagonistic plants. T. Hooper, Z.R. Khan, C. Midega, **J.A. Pickett**

1:55 – 32. Probing the mode of action of the phytotoxin *t*-chalcone with RNAseq. **S.O. Duke**, C. Díaz-Tielas, E. Grãna, A. Sánchez-Moreiras, M.J. Reigosa, Z. Pan

2:20 – 33. Metabolites produced by foliar pathogens for buffelgrass biocontrol in the Sonoran Desert. **M. Masi**, S.E. Meyer, S. Clement, M. Cristofaro, A. Cimmino, A. Evidente

2:45 Intermission.

3:05 – 34. Secondary metabolites from plant pathogenic fungi as potential herbicides. **K.M. Meepagala**, B.M. Clausen, R.D. Johnson, S.O. Duke

3:30 – 35. Insect antifeedant activity and preparation of dihydrobenzofurans from *Cyperus* spp. **M. Morimoto**

3:55 – 36. Host plant-based semiochemicals for attracting the leaf-footed bug, an insect pest of California agriculture commodities. **J.J. Beck**, J.N. Chuong, W. Gee, L.W. Cheng

4:20 Concluding Remarks.

Environmental Fate, Transport and Modeling of Agriculturally-Related Chemicals
Cosponsored by ENVR
M. Barrett, J. Gan, S. H. Jackson, M. T. Shamim, T. Xu, *Organizers*
L. Padilla, Z. Tang, *Organizers, Presiding*

Section B
Renaissance Washington, Meeting Room 2

1:25 Introductory Remarks.

1:30 – 37. Fate of organophosphate pesticides in wetlands receiving agricultural drainage. C. Sahin, **M. Karpuzcu**

1:55 – 38. Improving the exposure assessment of plant protection products in chronic chironomid toxicity tests by determining depth-related sediment and pore-water concentrations. **P. Dalkmann**, A. Dorn, K. Hammel, D. Faber, E. Hellpointner

2:20 Intermission.

2:40 – 39. Reliable estimation of abiotic hydrolysis formation and decline parameters across pH and temperature for pesticide risk assessment. **S. Wente**, K. Pluntke

3:05 – 40. Validation of a high throughput screening assay for the determination of pesticide soil adsorption. **K. Lynn**, C. Brown, H. Wang, M. Hastings, B. Zercher, R. Gantzer, R. Rasoulpour

3:30 – 41. Case-study to evaluate the representativeness of public groundwater monitoring data to assess the potential for leaching to groundwater. **V. Houck**, T.L. Negley, A. Newcombe, R. Morris

3:55 – 42. Identification of dominant factors influencing PRZM5 refined leaching predictions. J. Stryker, L. Padilla, N. Peranginangin, X. Hu, **M. Winchell**

4:20 Concluding Remarks.

Veterinary Drugs - Research, Residues, and Regulations
Residues Analysis
Financially supported by Bryant Christie
S. J. Lehotay, *Organizer, Presiding*

Section C
Renaissance Washington, Meeting Rooms 13/14

1:00 Introductory Remarks.

1:05 – 43. Rapid, simple, and effective cleanup of bovine liver samples prior to UPLC-MS/MS multiresidue veterinary drugs analysis. **M.S. Young**, K. Tran

1:30 – 44. NEW INVESTIGATOR AWARD FINALIST. Ion mobility-mass spectrometry as an innovative strategy to investigate the steroids profile. **M. Hernández-Mesa**, A. Escourrou, F. Monteau, G. Dervilly-Pinel, B. Le Bizec

1:55 – 45. Improving the throughput of drug residue analysis using vibrational shaking technology. **M. Danaher**

2:20 – 46. Brazil food control challenges II - avermectin residues crisis in Brazil: A reliable method for the simultaneous detection of 5 avermectins in bovine muscle using LC-MS/MS with electronspray ionization. A.M. Montes Nino, **R.H. Granja**

2:45 Intermission.

3:05 – 47. Orbitrap or Time-of-flight? **A. Kaufmann**

3:30 – 48. Application of a screening method for drug residues in fish, shrimp, and eel using liquid chromatography high resolution mass spectrometry. **S. Turnipseed**, J. Storey, I. Wu, W. Andersen, J. Lohne

3:55 – 49. Development of a simple and rapid extraction method for the determination of resorcyclic acid lactones, stilbenes and trenbolone in liver tissues with enzymatic digestion. **C. Akre**, B. Shurmer, T. Chambers

4:20 – 50. Analytical challenges and developments for methods required to support regulatory requirements. **P. Martos**, C. Wroblewski

4:45 Concluding Remarks.

Agrochemical Formulations
Cosponsored by ENVR
R. Acosta Amado, M. Meredith, S. Pilotek, S. Sumulong, R. Totten, *Organizers*
H. Adusumilli, L. Riter, *Organizers, Presiding*

Section D
Renaissance Washington, Meeting Room 15

1:00 Introductory Remarks.

1:05 – 51. Development of environmentally benign agricultural adjuvants at Evonik. **R. Stiltoner**, J.A. Heuser, C.A. Poffenberger, R. Haensel, A. Singer

1:30 – 52. Assessing the potential impact of a tall oil based surfactant blend on estrogenic, androgenic and aromatase endpoints in a fish endocrine screening assay. **S.L. Levine**

1:55 – 53. Role of a multiactive bio-organic substance on protection and yield of rice crop in southern India. **S. Pathare**, M. Bapat

2:20 – 54. Toxicology data supporting inert tolerance exemptions: Approaches to testing surfactants appropriately to inform human health risk assessment. **D. Saltmiras**

2:45 Intermission.

3:05 – 55. Regulatory perspectives on surfactant analytical methods. **R. Hill**, H. Adusumilli

3:30 – 56. Novel nanostructured pesticide delivery technology to enhance leaf/cuticle penetration and to decrease environmental loading. **E. Manek**, R.V. Jones, F. Darvas

3:55 – 57. Structured surfactants as rheology modifiers for electrolyte systems. **K. Buchek**, E. Shaw, E. Weber

4:20 – 58. Building sustainability into the development of florpyrauxifen-benzyl herbicide formulations. **D.G. Wujek**, J. Atkinson, D. Grandcolas, D. Hopkins

4:45 Concluding Remarks.

Pesticides, Pollinator Health, and Agricultural Sustainability
Financially supported by Intrinsik
M. Feken, T. Steeger, *Organizers*
J. R. Purdy, J. M. Van Emon, *Organizers, Presiding*

Section E
Renaissance Washington, Meeting Room 16

1:00 Introductory Remarks.

1:05 – 59. Honey bee colony-level food requirements and supplemental feeding: A review in support of dietary exposure assessment. **J.R. Purdy**, S. Rodney

1:30 – 60. Honey bee nectar foragers feeding themselves and the colony: A review in support of dietary exposure assessment. **S. Rodney**, J.R. Purdy

1:55 – 61. Workshop on pesticide exposure assessment paradigm for non-*Apis* bees. **R. Singh**, S. Hinarejos

2:20 – 62. Guttation water as a potential pesticide exposure route to honey bees: A review of recent literature. A. Schmolke, B. Kearns, **B. O'Neill**

2:45 Intermission.

3:05 – 63. Measured pesticide levels in nectar and pollen: The real news about dietary exposure of honey bees. **V.J. Kramer**

3:30 – 64. Measuring and mitigating abrasion of treated corn seed coatings as a route of insecticide exposure for honey bees. **R. Johnson**, D. Sponsler, C. Lin

3:55 – 65. Characterizing chronic toxicity to honey bee colonies with a colony feeding study design. **A. Olmstead**

4:20 – 66. Imidacloprid: A case study in the application of a regulatory framework in assessing pesticide risks to bees. **J. Housenger**, K. Sappington

4:45 Discussion.

ENVR Division

Ecological and Human Health Impacts of Emerging Environmental Contaminants
Cosponsored by AGRO and CHAL
X. Pan, M. I. Selim, B. Zhang, *Organizers, Presiding*

Renaissance Washington, Meeting Room 3

1:30 – ENVR 46. Identification of novel polyfluorinated compounds in the Tennessee River downstream of manufacturing facilities near Decatur, Alabama, USA. **S. Newton**, R.L. McMahen, J. McCord, J. Stoeckel, M. Chislock, A. Lindstrom, M. Strynar

1:50 – ENVR 47. Heavy metals in subtidal sediments from coastal ecosystems in Niger Delta: Distribution, source apportionment and contamination assessment. **N. Benson**, J.P. Essien, A. Olajire

2:10 – ENVR 48. RNA-mediated technology for pest management – environmental benefits and risks. **X. Pan**

2:30 – ENVR 49. Effect of earthworm activity on the fate of antibiotics and abundance of antibiotic-resistant bacteria and resistance genes in a compost amended silt loam soil. **C. Chen**, K. Xia

2:50 – ENVR 50. Bioaccumulation of perfluoroalkyl acids by three species of earthworms exposed to contaminated soils. **B. Wen**, Y. Wu, H. Zhang, S. Zhang

3:10 Intermission.

3:25 – ENVR 51. Investigating effects of benzoic acid on the fat storage and gene expressions in the insulin-signaling and fatty acid synthesis pathways using the *Caenorhabditis elegans* model. **L. Lewis**

3:45 – ENVR 52. Alkaline fermentation effectively enhances the recovery of carbon source and removal of antibiotic resistance genes from waste sludge. **H. Huang**, X. Zheng, Y. Chen, L. Hui

4:05 – ENVR 53. Cloning and expression of protocatechuate dioxygenase gene from *Klebsiella pneumoniae:* Application for degradation of sulphonated aromatic amines. **S. Dixit**, S. Garg

4:25 – ENVR 54. Antibiotics and antibiotic-resistant genes in bulk and rhizosphere soils: A greenhouse study of vegetables grown in soils amended with antibiotic-containing manure. **C. Chen**, G.K. Guron, K. Xia, A. Pruden, M. Ponder, P. Du

4:45 – ENVR 55. Presence of antibiotic resistance genes in treated wastewater and biosolids used for land application. C. Bodenreider, J. Holt, S.J. Fischer, **B.V. Kjellerup**

MONDAY MORNING

Roles of Natural Products for Biorational Pesticides in Agriculture
S. O. Duke, C. Rering, *Organizers*
J. J. Beck, *Organizer, Presiding*

Section A
Renaissance Washington, Mount Vernon Square B

8:25 Introductory Remarks.

8:30 – 67. Host plant and microbial volatiles as powerful new tools to manage tortricid pests of horticultural crops. **A. Knight**

8:55 – 68. NEW INVESTIGATOR AWARD FINALIST. Do volatiles produced by nectar-dwelling microbes affect honey bee preferences? **C. Rering**, J.J. Beck, R. Vannette

9:20 – 69. Attraction of sterile male Mediterranean fruit flies, *Ceratitis capitata* (Diptera: Tephritidae), to tea tree oil. **N. Tabanca**, J. Niogret, N.D. Epsky

9:45 – 70. Understanding interactions between *Drosophila suzukii* and it yeast microbes: Implications for larval fitness and development. **M. Lewis**, K. Hamby

10:10 Intermission.

10:30 – 71. Semiochemicals as biorational tools in the management of root knot nematodes. **B. Torto**

10:55 – 72. Kairomonal approach to monitor the population of the cocoa pod borer, *Conopomorpha cramerella* (Lepidoptera: Gracillariidae), a major pest of cocoa in Asia. **J. Niogret**, H. Alborn, N. Tabanca, K. Ingram, S. Lambert, P.E. Kendra, N.D. Epsky

11:20 – 73. Method to improve the detection of volatile compounds in insects using headspace solid-Phase microextraction (HS-SPME). **J. Chen**

11:45 – 74. Conflicting data on the value of sesquiterpene lactones for defense against sunflower insect pests. **J. Prasifka**

12:10 Concluding Remarks.

Environmental Fate, Transport and Modeling of Agriculturally-Related Chemicals
Cosponsored by ENVR
M. Barrett, J. Gan, S. H. Jackson, M. T. Shamim, T. Xu, *Organizers*
L. Padilla, Z. Tang, *Organizers, Presiding*

Section B
Renaissance Washington, Meeting Room 2

8:25 Introductory Remarks.

8:30 – 75. Revisions to PRZM5.0 runoff methods and erosion algorithms to reflect current rainfall intensity patterns. **T.L. Estes**, K.L. Armbrust

8:55 – 76. Field study to determine runoff and deposition of an herbicide in pasture conditions. **L. Carver**, J. Trask, N.J. Snyder, C. Mucha Hirata, A.C. Barefoot

9:20 – 77. Tracer studies in headwater watersheds in the Midwestern U.S. to characterize stream flow dynamics. **G. Goodwin**, D. Perkins, M. Cox, L. Carver, J. Trask, S.M. Chen

9:45 – 78. Nitrate fluxes are strongly correlated with fluxes of the metolachlor metabolite, MESA. **C.P. Rice**, G. McCarty, C.J. Hapeman

10:10 Intermission.

10:30 – 79. Withdrawn

10:55 – 80. Long-term trends in pesticide concentrations and loads in Lake Erie tributaries. **S. Biswas**, L. Johnson, A.R. Roerdink, K. Krieger, J. Kramer, E. Ewing

11:20 – 81. Application of the SWAT model and high-resolution monitoring data for the identification of herbicide source areas in a high agricultural intensity catchment. **H. Rathjens**, M. Winchell, R. Sur, D. Baets, F. Krebs, D. Lembrich

11:45 – 82. High tier spray drift evaluation for ground applications. **Z. Tang**, T. Xu, K. Qin, P.N. Coody

12:10 Concluding Remarks.

Veterinary Drugs – Research, Residues, and Regulations
Regulatory and Antimicrobial Resistance Matters
Financially supported by Bryant Christie
S. J. Lehotay, *Organizer, Presiding*

Section C
Renaissance Washington, Meeting Rooms 13/14

8:25 Introductory Remarks.

8:30 – 83. Unique watershed-level assessments for a veterinary medicinal product (Revalor-XR) containing trenbolone acetate and 17β-estradiol. **Q. Ma**, J. Staveley, J. Ma, C. Celly, G. Scheef

8:55 – 84. Developments in EU legislation: Validation and new food and animal health regulations. **S. Sterk**, M.H. Blokland, B.J. Berendsen, L.A. van Ginkel

9:20 – 85. USDA/FSIS exploratory pilot project to enhance data collection for antimicrobials used in food animals via the NARMS cecal sampling program. **P. Basu**

9:45 – 86. Enhancing antibiotic stewardship: Antibiotic administration route impacts swine intestinal microbiota and resistance gene diversity. **C. Loving**

10:10 Intermission.

10:30 – 87. Effect of biological treatment of manure on the concentration of antibiotic residues and tetracycline resistance genes. **T. Van den Meersche**, G. Rasschaert, E. Van Coillie, F. Haesebrouck, M. Heyndrickx, E. Daeseleire

10:55 – 88. TRAVEL AWARD GRADUATE STUDENT PRESENTATION. Assessing dairy manure management strategies for removal of antimicrobials and spread of antimicrobial resistant genes. **J. Hurst**, L. Sassoubre, D.S. Aga

11:20 – 89. Monitoring the quantity and persistence of tetracycline resistance genes in swine waste over a period of 100 days. **M. Couch**, A. Abdulrheem, C. Cruse, C. Fullington, E.D. Conte, S. Antle, J.H. Loughrin, R. Parekh, A. Getahun

11:45 – 90. Detection of acetyltransferase modification of aminoglycoside in bacteria using ultra-high performance liquid chromatograph-mass spectrometry. **J.J. Perez**

12:10 Concluding Remarks.

Managing Pesticide Use and Use Data
M. A. Robertson, K. Steinmann, *Organizers*
M. Zhang, *Organizer, Presiding*

Section D
Renaissance Washington, Meeting Room 15

8:25 Introductory Remarks.

8:30 – 91. Overview of the California Pesticide Use Reports database. **K. Steinmann**, M. Zhang, M. Robertson

8:55 – 92. Pesticide Use Reports (PUR) data has enabled hundreds of academic and medical research studies. **M. Grieneisen**, M. Zhang

9:20 – 93. Employing pesticide use data to evaluate the impact of integrated pest management programs in Arizona and California. J.J. Farrar, **A. Crump**, A.J. Fournier, P.C. Ellsworth

9:45 – 94. Estimating outdoor residential and urban pesticide use from the California Pesticide Use Reporting database. **W.M. Williams**, C. Hoogeweg, Y. Luo, K.D. Moran

10:10 Intermission.

10:30 – 95. Using the California School Pesticide Use Report database to facilitate the adoption of effective least toxic pest management practices at schools sites statewide. **E. Denemark**

10:55 – 96. Using pesticide use reporting databases to provide comments on regulatory processes and policies. **A. Crump**, J.J. Farrar, A.J. Fournier, P.C. Ellsworth

11:20 – 97. PURwebGIS: simplifying a large agro-environmental spatio-temporal dataset for quick assessment and decision making. M. Zhang, **C. DeMars**

11:45 – 98. Economic and pest management analysis of proposed pesticide regulations. **J. Steggall**

12:10 Concluding Remarks.

Pesticides, Pollinator Health, and Agricultural Sustainability
Financially supported by Intrinsik
J. R. Purdy, J. M. Van Emon, *Organizers*
M. Feken, T. Steeger, *Organizers, Presiding*

Section E
Renaissance Washington, Meeting Room 16

8:25 Introductory Remarks.

8:30 – 99. Evaluating the impacts of pesticides on pollination as an ecosystem service: A synopsis of the IPBES report. **J. Pettis**

8:55 – 100. Assessing effects of pesticides on bee immune system. **D. Lehmann**

9:20 – 101. TRAVEL AWARD GRADUATE STUDENT PRESENTATION. ATP-sensitive inwardly rectifying potassium channel regulation of viral infections in honey bees. **S. O'Neal**, D. Swale, J.R. Bloomquist, T.D. Anderson

9:45 – 102. Use of a colony simulation model for assessing pesticide impacts to honey bees. **K. Garber**, G. DeGrandi-Hoffman, T. Purucker, B. Curry, A. Kanarek

10:10 Intermission.

10:30 – 103. Using an adverse outcome pathway network to describe the weight of evidence linking nicotinic acetylcholine receptor activation to honey bee colony failure. **C. LaLone**

10:55 – 104. TRAVEL AWARD GRADUATE STUDENT PRESENTATION. Chemical interventions to reduce honey bee interaction with food sources. **N.R. Larson**, U.R. Bernier, J.R. Bloomquist, T.D. Anderson

11:20 – 105. State Managed Pollinator Protection Plans (MP3s): Common sense solutions to complex challenges. **D. Hoskins**

11:45 – 106. Systemic insecticide risk assessment for pollinators in ornamental horticulture crops. **R.S. Cowles**, C. Palmer, J.A. Bethke, J. Chong, B.D. Eitzer, D. Potter, D. Smitley

12:10 Concluding Remarks.

ENVR Division

Ecological and Human Health Impacts of Emerging Environmental Contaminants
Cosponsored by AGRO and CHAL
X. Pan, M. I. Selim, B. Zhang, *Organizers, Presiding*

Renaissance Washington, Meeting Room 3

8:00 – ENVR 95. PAH compounds identified in crude oil utilizing GCMS induce germ cell apoptosis in *Caenorhabditis elegans*. **X. Pan**, J. Polli, B.R. Rushing, M.I. Selim, B. Zhang

8:20 – ENVR 96. Analysis of time change of environmental risks: A case study of time change of risks caused by the emission of VOSs from polymeric materials used for commercial products. M. Noguchi, **A. Yamasaki**

8:40 – ENVR 97. Potential environmental pollution via released leachates and microparticules from dental resin-based composite. **S. Mulligan**, G. Kakonyi, S. Thornton, J.J. Ojeda, M. Ogden, K. Moharamzadeh, A. Fairburn, N. Martin

9:00 – ENVR 98. Influence of low concentration erythromycin on microbial community structure in sediment. **C. Yang**, C. Guo, Z. Dang

9:20 – ENVR 99. Transformation and fate of neonicotinoid insecticides during drinking water treatment. **K. Klarich**, D.M. Cwiertny, G.H. LeFevre

9:40 Intermission.

9:55 – ENVR 100. Chlorination disinfection by-products in drinking and swimming pool water. **W.U. Anake**, N.U. Benson, A. Williams, O.H. Fred-Ahmadu, O.B. Enamuotor

10:15 – ENVR 101. Migration mitigation of 2,4,6-trinitrotoluene from firing ranges by decreasing desorption using monopotassium phosphate and montmorillonite. **J. Jung**, K. Nam

10:35 – ENVR 102. Predicting solvent-water partitioning of charged organic species using quantum-chemically estimated Abraham pp-LFER solute parameters. **C.W. Davis**, D.M. Ditoro

10:55 – ENVR 103. Photoreactivity of metal-organic frameworks in aqueous solutions: Metal dependence of reactive oxygen species production. **Y. Gao**, G. Yu

Measurements and Methods in Environmental Nanotechnology
Cosponsored by AGRO and ANYL
S. Hanna, M. Johnson, A. R. Montoro, B. C. Nelson, C. M. Sims, *Organizers*
E. Petersen, *Organizer, Presiding*

Renaissance Washington, Meeting Rooms 10/11

8:00 Introductory Remarks.

8:05 – ENVR 112. Detecting and verifying chemical transformations of silver nanomaterials in textiles. **D. Gorka**, J.M. Gorham

8:30 – ENVR 113. Measurements of transformations of silver dietary supplements in simulated gastrointestinal fluids. K.E. Marchionda, N. Patel, **R.I. Maccuspie**

8:55 – ENVR 114. Optical nano-tracker for capture, sequestration and detection of metal oxide nanoparticles. A. Othman, D. Andreescu, **E. Andreescu**

9:20 – ENVR 115. Advances in the metrology for characterizing the uptake, translocation and genotoxicity of engineered nanomaterials in terrestrial plants. **B.C. Nelson**

9:45 Intermission.

10:05 – ENVR 116. Separation and quantification of dissolved and nanoparticulate metals with SEC-ICP-MS. **P. Paydary**

10:30 – ENVR 117. Effect of environmental and biological matrices on single particle ICP-MS nanoparticle sizing and counting capabilities. **A.R. Montoro**, K. Murphy, M. Winchester

10:55 – ENVR 118. Separation, sizing, and quantitation of gold nanoparticles in *Caenorhabditis elegans* using mass spectrometry and imaging techniques. **M. Johnson**, S. Hanna, N. Sharp, J. Bennett, A.R. Montoro, K. Murphy, B.C. Nelson

11:20 Concluding Remarks.

MONDAY AFTERNOON

ACS International Award for Research in Agrochemicals

Advances in Insecticide Mode of Action, Chemistry, and Resistance: New Chemistry
Symposium Honoring Dr. Jeffrey Bloomquist

Financially supported by DuPont Crop Protection

J. M. Clark, *Organizer*
J. A. Ottea, D. M. Soderlund, *Presiding*

Section A
Renaissance Washington, Mount Vernon Square B

1:05 Introductory Remarks and Presentation of Award.

1:30 – 107. Mechanisms of synergism for increased insecticidal action. **J.R. Bloomquist**

1:55 – 108. Characterizing potassium transport pathways as novel targets for insecticide design. **D. Swale**

2:20 – 109. Specific modes of action can facilitate rational approaches to overcoming resistance to chemical insect control agents. **J.A. Pickett**

2:45 – 110. Developing RNA interference as a pest management tool for western corn rootworm: Identifying opportunities and potential risks. **B. Siegfried**

3:10 Intermission.

3:30 – 111. Lessons learned in the search for mosquitocidal AChE inhibitors having both target selectivity and resistance-breaking properties. **P.R. Carlier**, J.R. Bloomquist, J. Li, M. Totrov

3:55 – 112. Discovery of novel topical and spatial repellents for use against mosquitoes. **U.R. Bernier**

4:20 Discussion.

Atmospheric Fate and Transport of Agricultural Emissions
Cosponsored by ENVR
R. Li, *Organizer*
S. Grant, G. Rothman, *Organizers, Presiding*

Section B
Renaissance Washington, Meeting Room 2

1:50 Introductory Remarks.

1:55 – 113. Development of an applied orchard air blast sprayer pesticide deposition model. **H. Thistle**, M. Teske, M. Willett

2:20 – 114. Simple 1st principle approach for predicting the evaporation and spray drift (ground applications) of atomized liquid droplets. **S. Cryer**, A. Altieri

2:45 – 115. TRAVEL AWARD GRADUATE STUDENT PRESENTATION. Volatile organic compound emissions from poultry houses. **Q. Yao**, C.J. Hapeman, H. Li, M.D. Buser, J. Wanjura, G. Holt, P. Downey, A. Torrents

3:10 Intermission.

3:25 – 116. Modeling dispersion of dust emissions from pesticide treated seeds during agricultural seed planting operations. **S. Ghosh**, S. Grant, K. Crist, F. Rice

3:50 – 117. Significant impact of biomass burning on $PM_{2.5}$ concentrations in a Rocky Mountain valley: Results of multiple source apportionment models. **R. Li**, W. Zhang, R. Hardy, R. Kotchenruther, T. Ward

4:15 – 118. How do we turn our knowledge of pesticide volatilisation and drift into actions and regulations to minimise the effects of vapour drift? **T. Geoghegan**

4:40 Panel Discussion.

2,4-D Human Exposure Data: Lessons from Decades of Study
Cosponsored by ENVR
J. S. Lakind, *Organizer*
C. J. Burns, K. D. Racke, *Organizers, Presiding*

Section C
Renaissance Washington, Meeting Rooms 13/14

1:50 Introductory Remarks.

1:55 – 119. Epidemiology and public health protection: The 2,4-D story. **C. Burns**

2:20 – 120. History, use and regulation of 2,4-D. **K.D. Racke**, S. McMaster

2:45 – 121. Critical and systematic evaluation of 2,4-dichlorophenoxyacetic acid (2,4-D) exposure data: Quality and generalizability for human assessments. **J.S. Lakind**, C.J. Burns, D.Q. Naiman, C. O'Mahony, G. Vilone, A.J. Burns, J.S. Naiman

3:10 Intermission.

3:30 – 122. 2,4-D Human exposure data: Harmonisation of published data. G. Vilone, J.S. Lakind, C.J. Burns, **C. O'Mahony**

3:55 – 123. Ensuring harmonized and comparable laboratory measurements to improve public health. **H. Vesper**

4:20 Panel Discussion.

5:00 Concluding Remarks.

Managing Pesticide Use and Use Data
M. A. Robertson, M. Zhang, *Organizers*
K. Steinmann, *Organizer, Presiding*

Section D
Renaissance Washington, Meeting Room 15

1:50 Introductory Remarks.

1:55 – 124. California pesticide use trend in agriculture in the last twenty five years. **M. Zhang**, H. Chen, M. Grieneisen, K. Steinmann, M.A. Robertson

2:20 – 125. Efficacy of different strategies for the reduction of pesticide risk in agriculture: Inferences from The California Pesticide Use Reports (PUR) from 1993 to 2014. L. Epstein, **M. Zhang**

2:45 – 126. Index method to evaluate growers' pesticide use for identification of effective on-farm pest management strategies: A case study of wine grape in Madera County, California. **Z. Qin**, M. Zhang, **B. Xu**, W. Li

3:10 Intermission.

3:30 – 127. Botanical pesticide registration and use in California. **M. Grieneisen**, M.B. Isman

3:55 – 128. Spatial re-allocation of pesticide use data in agricultural and urban settings. **C. Hoogeweg**, R. Vamshi, W.M. Williams, M.J. Cheplick

4:20 – 129. Predicting illness rates from pesticide use data: The promise and challenges of geoinformatics. **L. Graham**, G. Wroblicky, M. Zeiss

4:45 Concluding Remarks.

Fate and Metabolism of Agrochemicals: EARLY CAREER SCIENTIST SYMPOSIUM
Y. Ding, S. Grant, F. Jia, M. Ma, *Organizers, Presiding*

Section E
Renaissance Washington, Meeting Room 16

1:50 Introductory Remarks.

1:55 – 130. Practical challenges when conducting guideline soil adsorption batch equilibrium studies with low mobility compounds. **T. Siyoum**, M.A. Ponte

2:20 – 131. Metabolism and residues of 2,4-dichlorophenoxyacetic acid in DAS-40278-9 maize (*Zea mays*) transformed with *Aryloxyalkanoate Dioxygenase-1* gene. **X. Zhou**, S.L. Rotondaro, M. Ma, Y. Adelfinskaya, J. Balcer, B.M. Wendelburg, A.L. Latham

2:45 – 132. NEW INVESTIGATOR AWARD FINALIST. Assessing seasonal off-field transport of understudied agricultural chemicals to Midwest streams: The nitrogen stabilizer compound, nitrapyrin, and three dichloroacetamide herbicide safeners. **E.E. Woodward**, M.L. Hladik, D.W. Kolpin

3:10 Intermission.

3:30 – 133. Aerobic soil degradation of ^{14}C-meptyldinocap and identification of major metabolites. **J.A. Taylor**, J. Balcer, M. Jung, K. Lynn, A.L. Latham

3:55 – 134. Concentration methods of aquatic or soil/sediment samples in preparation for chromatographic analyses. **M. Lee**, M.A. Ponte

4:20 – 135. Characterizing the surface abiotic degradation products of UK-2A. Q. Xiong, K. Myung, C. Yao, P. Graupner, Y.A. Adelfinskaya, J.F. Daeuble, S.T. Meyer, Z. Buchan, N. Wang, **K.G. Meyer**

4:45 – 136. Novel in vitro method for metabolite identification from fertile hen egg. **Y. Yuan**, V. Gaddamidi

5:10 Discussion.

ENVR Division

Measurements and Methods in Environmental Nanotechnology
Cosponsored by AGRO and ANYL
S. Hanna, M. Johnson, A. R. Montoro, B. C. Nelson, C. M. Sims, *Organizers*
E. Petersen, *Organizer, Presiding*

Renaissance Washington, Meeting Rooms 10/11

1:30 Introductory Remarks.

1:35 – ENVR 155. Degradation of single-layered g-C_3N_4 nanomaterial via Fenton reaction. **Y. Feng**, Z. Xie, G. Liu

2:00 – ENVR 156. Probing interactions between graphene oxide and human serum albumin protein: Measurements, mechanisms, and implications for nanoparticle-cell membrane interactions. **X. Liu**, C. Yan, K. Chen

2:25 – ENVR 157. Radiochemical studies on the fate of C_{60} in soils. **D. Navarro**, R.S. Kookana, M. McLaughlin, J. Kirby

2:50 Intermission.

3:10 – ENVR 158. Surface functionalized cellulose nanomaterials with fluorogenic probes. **J.W. Woodcock**, D. Fox, J. Gilman, S. Stranick, B. Natarajan

3:35 – ENVR 159. Development of a microwave induced heating method for the detection of carbon nanotubes in environmental matrices. **S.R. Al-Abed**, D.D. Dionysiou, Y. He

4:00 – ENVR 160. Methods to assess the environmental degradation of carbon nanotube/polymer nanocomposites. **D.G. Goodwin**, J.M. Gorham, K.C. Scott, L. Sung

4:25 – ENVR 161. Agglomeration of *Escherichia coli* with positively charged nanoparticles can lead to artifacts in a standard *Caenorhabditis elegans* toxicity assay. S. Hanna, A.R. Montoro, A. Peterson, V. Reipa, L. Scanlan, S. Hosbas Coskun, T. Cho, M. Johnson, V.A. Hackley, B.C. Nelson, M. Winchester, J. Elliott, **E. Petersen**

4:50 Concluding Remarks.

MONDAY EVENING

Sci-Mix
S. H. Jackson, *Organizer*

Walter E. Washington Convention Center, Halls D/E

8:00 - 10:00

278, **283**, **285**, **288**, **290**, **293**, **294**, **295**, **297**, **298**, **300**, **302**, **303**, **304**, **305**, **306**, **307**, **308**, **321**, **323**, **324**, **328**, **332**, **335**, **337**, **338**, **339**, **340**, **343**, **344**, **345**, **346**, **347**, **348**, **349**, **356**, **360**, **361**, **363**, **365**.
See Subsequent Listings.

TUESDAY MORNING

Advances in Insecticide Mode of Action, Chemistry, and Resistance: Mode of Action
Financially supported by DuPont Crop Protection
J. M. Clark, *Organizer*
T. Anderson, J. G. Scott, *Presiding*

Section A
Renaissance Washington, Mount Vernon Square B

8:35 Introductory Remarks.

8:40 – 137. Canonical and non-canonical binding sites of neonicotinoids determining their selective actions on insect nicotinic acetylcholine receptors. M. Ihara, D. Sattelle, **K. Matsuda**

9:05 – 138. Muscarinic acetylcholine receptors as a target for mosquitocide development. **A.D. Gross**, P.R. Carlier, J.R. Bloomquist

9:30 – 139. Synergism between pyrethroids and neonicotinoids on insect cholinergic synaptic transmission. **S. Thany**

9:55 Intermission.

10:15 – 140. Mode of action characterization of the novel plant-parasitic nematicide, fluazaindolizine. **D. Cordova**, I. Kang, J. Andreassi, E. Benner, F. Partridge, D. Sattelle, J. Desaeger, T. Thoden, M. Rivera, S. Gutteridge, G.P. Lahm

10:40 – 141. Afidopyropen: New and potent modulator of insect TRP channels. **A. Nesterov**, R. Kandasamy, D. London, L. Stam, W. von Deyn, X. Zhao, V.L. Salgado

11:05 – 142. Selective actions of isoxazoline antagonists and macrolide activators on ligand-gated chloride channels. **Y. Ozoe**

11:30 Concluding Remarks.

Atmospheric Fate and Transport of Agricultural Emissions
Cosponsored by ENVR
G. Rothman, *Organizer*
S. Grant, R. Li, *Organizers, Presiding*

Section B
Renaissance Washington, Meeting Room 2

8:10 Introductory Remarks.

8:15 – 144. Estimating exposure from volatile and semi-volatile pesticides. **C. Peck**, G. Rothman, S. Shelat, C. Smith, F. Khan, J. Dawson

8:40 – 145. Developments in the evaluation of airborne exposures to pesticides. **D.A. Sullivan**, R.D. Sullivan, D.J. Hlinka

9:05 – 146. Measurement methods for volatile pesticides and impact on risk assessment. **G. Rothman**, C. Peck, F. Khan, M.T. Shamim

9:30 – 147. Predicting pesticide volatility through coupled above/below ground multiphysics modeling. M. Mao, **S. Cryer**, A. Altieri, P.L. Havens

9:55 Intermisssion.

10:15 – 148. Recent history of fumigant and semi-volatile bystander risk assessment and use of PERFUM. **R. Reiss**

10:40 – 149. Simulating emissions of 1,3-dichloropropene after soil fumigation under several field-management conditions. **S.R. Yates**, D. Ashworth, Q. Zhang

11:05 – 150. SOFEA3 modeling of 1,3-Dichloropropene concentrations in ambient air. **I. Van Wesenbeeck**

11:30 Concluding Remarks.

Application of Spatial Technologies to Advance Exposure Modeling and Risk Assessments
Cosponsored by ENVR
P. L. Havens, C. Hoogeweg, N. Thurman, *Organizers, Presiding*

Section C
Renaissance Washington, Meeting Rooms 13/14

8:10 Introductory Remarks.

8:15 – 151. Expanding the capacity and scope of the spatial aquatic model (SAM) for pesticides. **N. Thurman**, J. Hook, S. Thawley, K. Pluntke, R. Shamblen, G. Rothman, J. Carleton, C. Koper, D. Young

8:40 – 152. Development of spatially explicit groundwater scenarios for use in EPA's Pesticide Exposure Assessments. **R.F. Bohaty**, D. Young, M. Ruhman, J.C. Hook, S. Lennartz, P. Villanueva

9:05 – 153. Use of topographic and hydrographic spatial datasets in determining watershed areas in static water body exposure modeling. **L. Padilla**, N. Peranginangin, X. Hu, M. Winchell

9:30 – 154. Soil sustainability: Tthe reality of erosion reduction practices by farmers and the impact to estimated environmental concentrations in a risk assessment. **A.M. Ritter**, D.A. Desmarteau, P. Hendley

9:55 Intermission.

10:15 – 155. Considerations of input parameter quality in watershed models. **N. Thurman**, J. Hook, K. Pluntke, S. Thawley, R. Shamblen, G. Rothman, J. Carleton, C. Koper, D. Young

10:40 – 156. Novel application of the SWAT model toward nutrient management decision-making and user-oriented access and assessment through a web interface. **A. Jacobson**, D. Perkins, R. Gali, C. Moloney, C. Wade

11:05 – 157. Using web-based technologies to inform stakeholders - CoPST. **C. Hoogeweg**, R. Breuer, D. Denton, W.M. Williams

11:30 Concluding Remarks.

Managing Pesticide Use and Use Data
K. Steinmann, M. Zhang, *Organizers*
M. A. Robertson, *Organizer, Presiding*

Section D
Renaissance Washington, Meeting Room 15

8:10 Introductory Remarks.

8:15 – 158. Walking the California county lines with pesticides on the mind: A tale of two cities. **A. Pitchford**, M. Nash, Y. Yuan, F. Ayivi, M. Ensminger, Y. Luo, D. Denton

8:40 – 159. Seasonality in pesticide signals in California's urban watersheds. **D. Wang**, M. Ensminger, R. Budd, N. Singhasemanon, K.S. Goh

9:05 – 160. Comparing efficacy of herbicides and surfactants in water hyacinth management. **D. Bubenheim**, J. Madsen, G. Kyser

9:30 – 161. Methodology for prioritizing pesticides for surface water monitoring in agricultural and urban areas of California. **Y. Luo**

9:55 Intermission.

10:15 – 162. Applications of California's Pesticide Use Reporting Database in water quality investigations. **J. Domagalski**, J. Orlando

10:40 – 163. Spatio-temporal analyses of pesticide use on walnuts and potential risks to surface water in California. **H. Chen**, M. Zhang

11:05 – 164. Improving operational aquatic plant management in the California Sacramento-San Joaquin delta resource. **D. Bubenheim**

11:30 Concluding Remarks.

Pesticide Registration, Monitoring and Enforcement
Financially supported by Bryant Christie
H. B. Irrig, J. J. Johnston, *Organizers, Presiding*

Section E
Renaissance Washington, Meeting Room 16

8:35 Introductory Remarks.

8:40 – 165. Pesticide residues in foods: An overview of registration tolerance setting at the U.S. EPA. **D. Hrdy**

9:10 – 166. IR-4 Project: Facilitating the registration of crop protection products for specialty crops. **J. Baron**, D. Kunkel

9:35 – 167. USDA FSIS Policy guiding pesticides domestic and imported products. **M.M. O'Keefe**

9:55 Intermission.

10:15 – 168. U.S. National Residue Program. **R. Kishore**, R. Duverna, L. Bluhm

10:45 – 169. USDA's Pesticide Data Program: A national residue monitoring program. D. Haynes, **S. Abubeker**

11:10 Discussion.

USDA-ARS Sterling B. Hendricks Memorial Lectureship

Dr. John Pickett

Financially supported by USDA-Agricultural Research Service
Cosponsored by AGFD
S. O. Duke, K. Kaplan, *Organizers, Presiding*

Renaissance Washington, Mount Vernon Square B

11:45 Introductory Remarks.

11:55 – 143. New opportunities for sustainable food production from the chemical science of agriculture. **J.A. Pickett**

12:45 Discussion.

Reception follows
Renaissance Washington, Congress Ballroom C

AGFD Division

Journal of Agricultural and Food Chemistry Best Paper Award and Young Scientist Award Symposium
Cosponsored by AGRO, CINF, and PROF
K. D. Deibler, *Organizer, Presiding*

Walter E. Washington Convention Center, Room 144B

8:00 Introductory Remarks.

8:10 – AGFD 150. Carbonyl-trapping ability of phenolic compounds: An additional protective role of phenolic compounds against the broadcasting of the lipid oxidative damage in foods. R. Zamora, **F.J. Hidalgo**

8:50 Intermission.

9:05 – AGFD 151. Developing novel chemical imaging approaches in agriculture using mass spectrometry. **S. Annangudi**, J.R. Gilbert, S. Wilson

9:35 – AGFD 152. Controlling physical properties of β-lactoglobulin microgels to enhance emulsion stabilization. **O.G. Jones**

10:05 – AGFD 153. Desired flavor-active and undesired food-borne toxicants in our food: How food chemists can help to produce healthier foods with good sensory attributes. **M. Granvogl**

10:35 Intermission.

10:50 – AGFD 154. Dietary intake of oxidized lipids exacerbates colon inflammation and colon cancer through activation of Toll-like receptor 4 (TLR4). **G. Zhang**

11:20 – AGFD 155. Construction of the next generation platforms to monitor food contamination and food fraud. **X. Lu**

TUESDAY AFTERNOON

Advances in Insecticide Mode of Action, Chemistry and Resistance: Resistance
Financially supported by DuPont Crop Protection
J. M. Clark, *Organizer*
A. D. Gross, D. R. Swale, *Presiding*

Section A
Renaissance Washington, Mount Vernon Square B

1:50 Introductory Remarks.

1:55 – 170. Breaking the resistance cycle, challenges and opportunities. **J. Hemingway**

2:20 – 171. Mechanisms of insecticide resistance in *Bemisia tabaci* with special reference to acetyl-CoA carboxylase inhibitors. **R. Nauen**

2:45 – 172. Pesticides, pollinators, and parasites: Protecting bees with comparative toxicology. **T.D. Anderson**

3:10 Intermission.

3:30 – 173. Two novel house fly Vssc mutations, D600N and T929I, give rise to new insecticide resistance alleles. H. Sun, S. Kasai, **J.G. Scott**

3:55 – 174. Molecular basis of pyrethroid repellency. **K. Dong**

4:20 – 175. Identification and interaction of multiple genes resulting in DDT resistance in the *91-R* strain of *Drosophila melanogaster* by RNAi approaches. **J.M. Clark**, J.H. Kim, K.S. Yoon, J. Moreau, J. Zina

4:45 Concluding Remarks.

Atmospheric Fate and Transport of Agricultural Emissions
Cosponsored by ENVR
S. Grant, *Organizer*
R. Li, G. Rothman, *Organizers, Presiding*

Section B
Renaissance Washington, Meeting Room 2

1:50 Introductory Remarks.

1:55 – 176. Significant impact of atmospheric emissions and transport of pesticides on water resources. **R. Li**

2:20 – 177. Assessing pesticide wet deposition risks in agricultural watersheds. **T.L. Potter**, A. Coffin

2:45 – 178. Higher tier framework for determining appropriate buffer distance to non-target plants. **J.W. Perine**, T.M. Ledson, R.A. Brain

3:10 Intermission.

3:30 – 179. Modeling of herbicide vapor phase uptake and injury to target plants. Y. Zhang, **S. Cryer**, L. Acharya

3:55 – 180. Bringing plants to the surface. Why we should and how we could incorporate differences in plant species and other characteristics into pesticide volatilisation models. **T. Geoghegan**, K.J. Hageman

4:20 – 181. Impact of water stress on dicamba dissipation in susceptible soybean. **C.D. Willett**, E.M. Grantz, M.N. Thompson, J.K. Norsworthy

4:45 Panel Discussion.

Tiered Testing for Pollinator Protection: Experiences in Design, Implementation and Interpretation
Financially supported by
SynTech Research, Dow AgroSciences
R. C. Biever, M. Echeverria, M. A. Maks, *Organizers*
B. L. Bret, *Organizer, Presiding*

Section C
Renaissance Washington, Meeting Rooms 13/14

1:25 Introductory Remarks.

1:30 – 182. Development of tiered testing guidelines for pollinator protection. **M. Echeverria**, A. Pease

1:55 – 183. Challenges and successes with tiered testing for pollinator protection in a regulatory framework. **C. Hart**, B. Martinovic-Barrett, N. Lauro, N. McKenzie, W. Hou

2:20 – 184. Unforeseen challenges of pollinator toxicity test matrices. **S. Long**, J. Staveley, B.M. Polakoff, R. Coler, J. Hoberg, M. Patnaude, K. Rathjen

2:45 – 185. Overcoming the challanges of Tier 1 guideline studies for pollinators. **H. Krueger**

3:10 Intermission.

3:30 – 186. Validation of the 22-day honey bee larval toxicity, repeated (chronic) exposure study design. **D. Schmehl**, J. Ellis, S.L. Clark

3:55 – 187. Complications associated with establishing reliable brood termination rates in tier II honey bee tunnel studies. J. Louque, **L. Brewer**

4:20 – 188. Vital role of hive management in honey bee tier II studies. **M. Hill**

4:45 – 189. Regulatory evaluation of tier 2 pollinator toxicity tests. **R. Bireley**

5:10 Discussion.

Advanced Techniques for Isolation, Identification and Quantitation of Ag/Pharma Relevant Compounds from Biological Samples
J. A. Taylor, Y. Yuan, *Organizers, Presiding*

Section D
Renaissance Washington, Meeting Room 15

Journal of Agricultural and Food Chemistry 2017 Award Address

Drs. Nikola Pavlović and Wan Chan

1:25 Introductory Remarks.

1:30 – 190. Identification and quantitation of naturally-occurring carcinogens, aristolochic acids, in raw ag commodities and soil: Identification and estimation of novel exposure pathway. W. Chan, **N.M. Pavlović**

Financially supported by JAFC

2:20 – 191. Achiral and chiral analysis of pharmaceutical compounds/metabolites using SFC-MS and 2D LC-SFC-MS. **G. Li**, L. Zang, Y. Yang, S. Joseph, C. Venkatramani, M. Al-Sayah, M. Goel, J. Girotti

2:45 – 192. Innovative approaches to sample clean-up, chromatography, and mass spectrometry for metabolite identification in support of agrochemical and pharmaceutical development. **J. O'Neill**

3:10 Intermission.

3:30 – 193. Purification and identification of conjugated agrochemical metabolites from biological matrices. **M.A. Jalal**, T. Nguyen, T. Lee, A.F. Rose, S.V. Bondarenko, G. Kirk, S.H. Jackson

3:55 – 194. Fast and efficient UPLC method development for metabolite isolation and identification. **M. Ma**, J. McFadden, P. Graupner, Y.A. Adelfinskaya, K. Lynn, J.A. Taylor, J.R. Gilbert, L. Buchholz, A.L. Latham, R. Rasoulpour

4:20 – 195. Employing microbial biocatalysts to deliver scalable amounts of metabolites for identification and biological evaluation. **L. Evans**

4:45 – 196. Characterization of fat soluble metabolites of agrochemicals in biological matrices. **J. LaMar**

5:10 Concluding Remarks.

Pesticide Registration, Monitoring and Enforcement
Financially supported by Bryant Christie
H. B. Irrig, J. J. Johnston, *Organizers, Presiding*

Section E
Renaissance Washington, Meeting Room 16

1:50 Introductory Remarks.

1:55 – 197. FDA's Pesticide residue monitoring and enforcement. **C. Liang**

2:20 – 198. Overview of the Codex Committee on Pesticide Residues (CCPR): What it is and what it does. **D.J. Miller**

2:45 – 199. Same data, different outcome? A comparison of pesticide residue evaluations by EPA and JMPR. **M. Doherty**

3:10 Intermission.

3:30 – 200. USDA Food Safety and Inspection Service (FSIS) equivalence of foreign food safety systems for pesticides. **S.R. Edwards**

3:55 – 201. Pesticide MRLs and trade. **J. Chao**

4:20 Panel Discussion.

WEDNESDAY MORNING

Biorational Control of Medical and Veterinary Pests: Novel Tools and Targets
J. M. Clark, A. D. Gross, *Organizers*
J. R. Coats, E. Norris, *Organizers, Presiding*

Section A
Renaissance Washington, Mount Vernon Square B

8:00 Introductory Remarks.

8:05 – 202. Phytochemical synergists: Natural plant oils as synergists for diverse pyrethroids. **E. Norris**, M. Archevald-Cansobre, A.D. Gross, L. Bartholomay, J.R. Coats

8:30 – 203. Mosquitocidal activity and physiological actions of matrine, a plant natural product insecticide. Y. Li, S. Jiang, J. Taylor-Wells, **J.R. Bloomquist**

8:55 – 204. Glutamate receptor-cation channel: A target of naturally occurring compounds. **A.D. Gross**, R. Islam, J.R. Bloomquist

9:20 Intermission.

9:40 – 205. Molecular and nano-scale approaches to biorational control of mosquito vectors. **L. Bartholomay**, P.M. Airs, Y. Phanse, K. Olson, B. Beaty

10:05 – 206. Overcoming insecticide resistance: Inhibiting ABC transporters as a means of increasing insecticide efficacy. **T.D. Anderson**

10:30 – 207. Various strategies utilizing attractant toxic sugar baits in population management for mosquitoes, biting midges, and tabanids. **D. Kline**

10:55 Concluding Remarks.

Analytical, Environmental and Regulatory Challenges with Legalized Cannabis
Cosponsored by CHAS
K. L. Armbrust, G. C. Miller, *Organizers, Presiding*

Section B
Renaissance Washington, Meeting Room 2

8:05 – 208. Withdrawn.

8:25 Introductory Remarks.

8:30 – 209. Regulating pesticides on cannabis in California. **J. Townzen**

8:55 – 210. Regulating medical cannabis cultivation as agriculture. **J. Marcu**, K. Nevedal, S. Sherer

9:20 – 211. Time for a proactive approach to protecting public health and consumer safety in the cannabis industry. **L. Engelking**

9:45 Intermission.

10:05 – 212. Pesticide residues in *Cannabis*: Pesticide exposure risk assessment. **P. Reibach**

10:30 – 213. New research on tobacco and e-cigs: Lessons for cannabis. **S.M. Lomnicki**, F. Hasan

10:55 – 214. Cannabis concentrates 101: Basic extraction and post-extraction processing techniques. **T. Vu**

11:20 – 215. Representative and random cannabis sampling, sampler quality systems, and demonstration of competency in sampler protocols. **K. Watson**

11:45 Concluding Remarks.

Developing Pesticide Environmental Risk Assessment Approaches
Cosponsored by ENVR
R. Morris, N. Peranginangin, *Organizers, Presiding*

Section C
Renaissance Washington, Meeting Rooms 13/14

8:00 Introductory Remarks.

8:05 – 216. Ecological risk assessment of nano-enabled pesticides (nanopesticides): Considerations for regulatory evaluation. **R.S. Kookana**

8:30 – 217. Influence of multiple chemical and non-chemical stressors on benthic communities in a Midwest agricultural stream. **L.W. Hall**, W. Killen, R. Anderson, R. Alden

8:55 – 218. Bioavailability as a measure of risk: Utilizing carbonaceous material to reduce organochlorine pesticide bioavailability in field conditions. **M. Anderson**, A. Torrents, C.J. Hapeman, R. Chaney, L.L. McConnell, C. Green, R.E. Plummer, T. LaChance

9:20 – 219. Application of kinetic modeling to predict the fate of bound residue degradation in soil. **M. Zhang**, S. Whiting, B. Clark

9:45 Intermission.

10:05 – 220. Case study on estimating potential human health pesticide concentrations in drinking water from the use of benzobicyclon on rice in California. **K.E. White**, J. Carleton, J. Hetrick, K. Milians, G. Orrick, C. Peck, A. Shelby, N. Thurman, D. Young

10:30 – 221. Characterization of drinking water intake watersheds and associated community water systems vulnerable to pesticide contamination. **R.F. Bohaty**, J. Hetrick, D. Spatz

10:55 – 222. New data for old: What does screening assessment mean for older pesticides in registration review? A pyrethroid example. **P. Hendley**, J. Giddings, R. Jones, S.H. Jackson, R. Underwood

11:20 – 223. Risk mitigation and environmental risk assessment. **R. Sur**, M. McCoole, Z. Tang, A. Nikolakis

11:45 Concluding Remarks.

Emerging Mass Spectrometry Trends in Support of Agricultural Research and Development
J. Balcer, P. Reibach, *Organizers, Presiding*

Section D
Renaissance Washington, Meeting Room 15

AGRO Award for Innovation in Chemistry of Agriculture

Dr. Qing X. Li

8:00 Introductory Remarks.

8:05 – 224. Applications of proteomics, metabolomics, and immunoassays in agricultural and environmental chemistry.

Financially supported by BASF

8:55 – 225. High resolution mass spectrometry applications in the identification of environmental metabolites to support the discovery and development of new agricultural products. **Y.A. Adelfinskaya**

9:20 – 226. Cold metabolism: HRAM mass spectrometry support for the early phases of insecticide discovery. **J.C. Guo**

9:45 Intermission.

10:05 – 227. Automated strategy for targeted and untargeted metabolite identification in xenobiotic metabolism. **R. Lee**, V. Lashin, A. Paramonov, A. Sakharov

10:30 – 228. Beyond accurate mass, workflows for small molecule structure elucidation in agricultural research. **S.A. Baumann**, S. Tong, I. Blazenović

10:55 – 229. Development and use of UHPLC-HRMS, MS/MS libraries, and compound databases for screening chemical residues and contaminants in foods. **J.W. Wong**, J. Wittenberg, K. Simon, K. Zhang, D. Hayward, H. Park, Z. Jia, R. Carlson, J. Wang, J.S. Chang

11:20 – 230. Screening and quantitative analyses for cannabis samples using LC-MS/MS. **P.C. Winkler**

11:45 Concluding Remarks.

AGRO Memorial Symposium: Remembering Bob Krieger and Richard Allen
Financially supported by Stone Environmental
K. Gohre, T. S. Ramanarayanan, E. A. Schoenau, J. N. Seiber, *Organizers*
M. M. Dyk, G. C. Miller, *Organizers, Presiding*

Section E
Renaissance Washington, Meeting Room 16

8:00 Introductory Remarks.

8:05 – 231. Understanding human biomonitoring data in a health risk assessment context. **R.A. Becker**

8:30 – 232. Urinary dialkyl phosphates as biomarkers of hazard and exposure: A review. **A. Chukwudebe**

8:55 – 233. Contribution of hand exposures to total pesticide exposures of barehanded and gloved hand harvesters. **G. Sankaran**, J. Ross, D.A. Eastmond, R.I. Krieger

9:20 – 234. Are the assumption of genericness and the use of surrogate chemicals in worker exposure and risk assessment valid? **M.E. Krolski**, C. Lunchick

9:45 Intermission.

10:05 – 235. Risk assessment of incidental non-dietary exposure based on studies of surface reside transfer of boric acid and DOT from treated residential surfaces. **C. Bernard**, M. Manning

10:30 – 236. Surrogating biomonitoring data: Case study of pyrethroids in pet spot-on products. **J.H. Driver**, J.H. Ross

10:55 – 237. Validating EPA's Standard Operating Procedures for residential exposure to insecticide-impregnated pet collars. **J. Ross**, J.E. Chambers, J. Driver

11:20 – 238. Minimizing exposure to volatile pesticides. **J.N. Seiber**, G.C. Miller, J.E. Woodrow

11:45 Concluding Remarks.

AGRO Posters

12:00 PM – 2:00 PM

Walter E. Washington Convention Center, Hall D

All presenters are expected to stand by their posters from 12:00 PM – 2:00 PM.
**** Student Travel Award**

Assessing Human and Ecosystem Health Risks of Agrochemicals
D. D. Campbell, J. Crossland, G. Hall, L. Honey, B. McGaughey, *Organizers*

276. Improved ESA implementation through species distribution modeling. **R. Smyth**

277. Invasive species and biodiversity: Combining information to prioritize management projects. **J. Dean**

278. Natural variability of allergen levels in conventional soybeans: Assessing variation across North and South America from five production years. **T. Geng**

279. Effects of different protective measures on body exposure levels of chlorothalonil applicators in cucumber greenhouses. **A. Xuehua**

280. Higer *in vitro* hepatic clearance of bifenthrin in children versus adults. A. Chadrasekaran, K. Kassahun, **G.C. Nallani**, L. Shen, Z. Liu, S.F. El-Naggar

281. Effects of mixtures of dicamba and glyphosate on non-target plants. **D. Olszyk**, T. Pfleeger, E. Lee, M. Blakeley-Smith, T. Shiroyama, M. Plocher

282. Two study designs and data types used to determine mixture ecological toxicity of crop protection herbicide products. T. Jones-Jefferson, P. Valverde, **K. Ralston-Hooper**

283. Toxicity impacts of dicloran exposed to UV-light on zebrafish. **L. Basirico**, E. Vebrosky, K.L. Armbrust

284. Using population models to gain insights into direct and indirect effects of pesticides on listed fish populations. A. Schmolke, **B. Kearns**, V. Forbes, M. Kern, K. Kapo, C. Moloney, A.C. Barefoot, H. Ochoa-Acuna

285. Use of bias factors and other methods to assess potential maximum annual concentrations of surface water monitoring data. **P. Mosquin**, J. Aldworth, W. Chen

286. Quantification of surface water monitoring data using an integrative spatial and temporal analysis approach. **J. Hetrick**, C. Peck, J.C. Hook, R.F. Bohaty

287. Inductive habitat modeling as a tool to predict listed aquatic species' occurence in the absence of critical habitat. B. Kearns, **J. Amos**, S. Kay

288. Applying the source to outcome approach for exposure, hazard and risk evaluation of an irritant aerosol. **S. Flack**, P. Hinderliter, T.M. Ledson, A.Z. Szarka, K. Lichti-Kaiser, T.S. Ramanarayanan, D. Wolf

289. Case study on evaluating ecological risk from the use of pesticides on rice. **K.E. White**, J. Hetrick, G. Orrick, C. Peck, M. Ruhman, A. Shelby, N. Thurman, D. Young

290. Innovative approaches for assessing risk to wildlife from the use of a veterinary medicinal product in cattle. **J. Staveley**, J. Nusz, J. Thiry, G. Scheef

Pollinators, Pesticides, and Risk Assessment
R. C. Biever, B. L. Bret, M. Echeverria, M. A. Maks, *Organizers*

291. Pollinator protection label language. **A. McCaskill**, I.D. Kelly, L. Bowers

292. What is the honey bee (*Apis mellifera*) RT25 and what does it mean? **C. Wendel**, R. Baris

293. Novel analytical determination of active ingredient concentration in royal jelly and sucrose diet solutions. **F. McGuinness**, K. Rathjen, A. Fauser, A. Clarke, M. Kelly, J. Hoberg, P. Reibach

294. ATP-sensitive inwardly rectifying potassium channel modulators alter cardiac function in honey bees. **S. O'Neal**, D. Swale, J.R. Bloomquist, T.D. Anderson

295. Seasonality and acetone solvent effects on the success of in-vitro honey bee larval studies. **M.H. Huang**, S. Oberrauch, A. Kling, E. Verge, J. Eckert

296. Industry perspective on tiered testing for pollinator protection. **R. Brinkmeyer**

297. Withdrawn

298. Challenges and achievements in the conduct of the chronic oral toxicity test with the adult honey bee. **J. Leonard**

299. 21-Day chronic larval toxicity test guidance and acute oral toxicity test guidelines for honeybees (*Apis mellifera*). T. Steeger, **N. Al-Tall**

300. Assessment of pesticide risks on honey bee colonies in higher tier studies. **C. Berg**

301. Modeling the exposure of honey bees to seed treatment insecticides during corn planting. D. Sponsler, M. Wransky, **R. Johnson**

****302.** Risk assessment of foliar insecticides commonly used in corn and soybean production on monarch butterfly (*Danaus plexippus*) larvae. **N. Krishnan**, K. Bidne, R. Hellmich, J.R. Coats, S. Bradbury

Discoveries in the Chemistry of Pest Control
J. J. Beck, S. O. Duke, C. Rering, *Organizers*

****303.** Plant essential oils are capable of enhancing diverse synthetic pyrethroids against susceptible and resistant mosquito strains. **E. Norris**, M. Archevald-Cansobre, A.D. Gross, L. Bartholomay, J.R. Coats

****304.** Analysis of activity of monoterpenoid plant compounds on nematode acetylcholine receptors. **C. Wong**, J.R. Coats

****305.** Characterizing the physiological role and toxicological potential of potassium transport pathways in the tick salivary gland. **Z. Li**, D.R. Swale

****306.** Synergistic effect of permethrin with potassium channel blockers on *Anopheles gambiae*. **S. Jiang**, J.R. Bloomquist

****307.** Physiological characterization of inward rectifying potassium (Kir) channels in the insect nervous systems. **R. Chen**, D.R. Swale

308. Mode-of-action studies of a novel ligand-gated chloride channel antagonist insecticide, fluxametamide. **M. Asahi**, T. Kagami, K. Nakahira, M. Kobayashi, Y. Ozoe

309. Withdrawn

310. Comparative behavioral responses of *Aedes aegypti*, *Aedes albopictus* and *Culex quequinfasciatus* to plants base repellent of vetiver compounds. **J. Nararak**, T. Chareonviriyaphap

311. Differential transcription profiles of *Plutella xylostella* following sublethal treatment of five different insecticides. Y. Gao, K. Kim, **S. Lee**

312. RNAi validation of detoxification genes involved in ivermectin tolerance in *Drosophila melanogaster*. **J. Kim**, J. Moreau, Y. Ali, P. Razo , K.S. Yoon, J.M. Clark

313. Antifungal and herbicide activities of fungi from continental Antarctica. V. Godinho, V. Gonçalves, C. Carvalho, I. Santiago, H. Moraes, G. Vitoreli, C. Cantrell, D. Wedge, S. Duke, **L. Rosa**

314. New pesticidal diterpenoids from *Vellozia gigantea* (Velloziaceae), an endemic neotropical plant living in the endangered Brazilian biome Rupestrian Grasslands. M. Ferreira, C.L. Cantrell, S.O. Duke, A. Ali, **L. Rosa**

315. Functionality of a maize chitnase potentially involved in ear rot pathogen resistance. **P. Dowd**, T.A. Naumann, N.P. Price, E.T. Johnson

316. MycoSymbiosis: Antifungal activity against phytopathogenic fungi produced by endophytic fungi associated with medicinal plants from Brazil and United States. **C. Carvalho**, A.F. Silva-Hughes, D.E. Wedge, C.L. Cantrell, Z. Pan, R.M. Moraes, S.S. Amorim, X. Wang, N. Techen, N. Tabanca, S.C. Queiroz, L. Rosa

317. Influence of polymeric surfactant structure and physical-chemical properties on the physical stability of an oil in water emulsion type agrochemical formulation. **R. Acosta Amado**, G. Powels

318. Polysorbate evolution. **J. Wall**

319. Environmental fate studies with ^{14}C-POEA. **M.R. Shepard**, M.L. Kurtzweil, S.L. Levine

320. Identification of metabolites in soil and water-sediment studies conducted with ^{14}C-POEA. **M.R. Shepard**, **M.L. Kurtzweil**, S.L. Levine

321. Colorants: The most active inert ingredients in pesticide formulations. **V. Shing**

322. Comparison of CARES-NG and DEEM/CALENDEX acute and long-term drinking water exposures. **A.Z. Szarka**, A.D. Gibson

Pesticide Use and Regulatory Issues
J. Gan, M. A. Robertson, K. Steinmann, M. Zhang, *Organizers*

323. Using pesticide use reporting to track mating disruption in almonds. **M. Parker**

324. Patterns of fumigant use in California grapes. **D. Downie**

325. Roles of national associations in state and federal regulatory cooperation: Implications for future cannabis policy. **K.L. Armbrust**, E. Vebrosky, L. Basirico

326. Withdrawn

327. Challenges for U.S. crop protection labeling specialists in today's regulatory environment. **K. Shears**, N. Algarin

328. Evolving roles and regulatory obligations for distributors and retailers in the agrochemical value chain. **S. Sumulong**

Advances in Analysis of Agriculturally-Important Chemicals
S. Perez, M. Saha, *Organizers*

329. Identification of new metabolites of a pesticide in an anaerobic aquatic metabolism study. **J. Ferguson**, K.M. Campbell, P. Halarnkar, J.T. Cole

330. Isolation and identification of a complex insecticide metabolic profile in laying hens. **J.A. Taylor**, J. Balcer, P. Edwards, A.L. Latham

331. Identification of trifluoroacetic acid as polar metabolite from pesticides containing a trifluoromethyl (CF_3) moiety using ^{14}C tracer technology. **K. Ahn**, Y. Choy, T. Fleischmann, D. Dohn

332. Isolation, characterization, and identification of metabolites of non-labeled, stable isotope labeled, and radioactive compounds using various analytical techniques and strategies. **A. Mutlib**, L. Shen, K. Kassahun, X. Huang

333. Identification and characterization of a polar metabolite produced from a FMC herbicide administered to Sprague-Dawley rats. **L. Shen**, X. Huang, A. Mutlib, G.C. Nallani, A. Chadrasekaran, H. Li

334. Transformation rate of insecticide spirotetramat to its metabolites in perilla leaves. **J. Kang**, J. Hwang, S. Lee, S. Kwak, M. Kang, J. Ryu, S. Hong, J. Kim

335. Highly sensitive and selective detections of fumigants on paper based colorimetric sensors. **P. Tang**, G. Sun

336. Novel sorbent for pass-through cleanup: A simple, quick, and effective alternative for removal of lipids and chlorophyll from QuEChERS extracts. **M.S. Young**, K. Tran

337. Are additional solvent extractions in soil/sediment laboratory studies really necessary? A follow-up presentation with an expanded date set. **K. Malekani**, M.J. Schocken, M.F. Lenz, R.L. Warren, K. Venkatesh, S. Mislankar, K.M. Campbell, S.P. McLaughlin, Q. Ma, P. Cassidy, P. Miner

338. Improvement of extraction efficiency for multiresidue analysis methods of pesticides in agricultural products with QuEChERS method. **S. Lee**, J. Hwang, S. Kwak, J. Kang, S. Hong, M. Jang, G. Rhee, Y.D. Lee, J. Kim, M. Kang, J. Ryu

339. FT-IR Testing method and stewardship for 2,4-D and dicamba resistant crops. **A.E. Brown**, D.L. Sparks, C.X. Reid, A. Meredith, D. Reynolds

340. Novel ionisation technique enhances sensitivity and lowers matrix effects in the UPLC-MS/MS analysis of a range of crop protection chemicals and their metabolites. **M. Jones**, P. Hancock

341. Simultaneous determination of 68 pesticides in tobacco by GC-MS/MS using multi-walled carbon nanotubes as a reversed dispersive solid phase extraction sorbent. **L. Chen**, H. Cui, L. Zhao, Y. Qin, M. Fan, Y. Jia, L. Pan, H. Liu

342. Streamlined analysis of >150 veterinary drugs including aminoglycosides in egg, meat, liver, and kidney samples by ultrahigh performance liquid chromatography: Tandem mass spectrometry. **S.J. Lehotay**, A.R. Lightfield

****343.** Analysis of veterinary drug residues in imported and domestic crawfish using liquid chromatography time-of-flight mass spectrometry. **E. Wall**, K.L. Armbrust

****344.** Determination of phenol residues in agricultural surface water by dispersive solid-phase extraction coupled with HPLC. **T. Boontongto**, R. Burakham

****345.** Mass spectrometry based detection of vitellogenin peptides as biomarker of fish exposure to estrogenic compounds in aquatic environments. **P. He**, E. Matich, L. Yonkos, A. Friedman, G. Atilla-Gokcumen, D.S. Aga

Environmental Fate of Agrochemicals
S. H. Jackson, L. Padilla, Z. Tang, *Organizers*

****346.** Transformation of 2,4-D herbicides in simulated leaf surface systems. **L. Su**, N. Dai

****347.** Prediction of air pollutants emission from poultry houses by a modified Gaussian plume model. **Z. Yang**, Q. Yao, M.D. Buser, C.J. Hapeman, J. Alfieri, H. Li, P. Downey, A. Torrents

348. Evaluation of ammonia air-surface exchange at the field scale: Integration of soil and stomatal emission potential parameterizations in a modelling approach. **N. Lichiheb**, L. Myles, E. Personne, M. Heuer, M. Buban

349. Spatial and temporal patterns of coarse and fine particulate matter in the Unites States: Influences from different sources. **R. Li**

350. Improving prediction of climate, snowpack and precipitation that affect agricultural ecosystems and the fate and transport of agrochemicals. **R. Li**, S. Wang, R. Gillies

351. Spray drift and volatilization testing facilities. **T. Lane**, J. Eastep, R. Hecker, J. Arnold

352. Using models to evaluate exposure to non-target plants through runoff and drift from agricultural fields. **A.M. Ritter**, M.J. Cheplick, D.A. Desmarteau, M. Guevara

353. Vegetative Filter Strip (VFS) modeling in risk assessment. **A.M. Ritter**, D.A. Desmarteau, P. Hendley

354. Influence of preferential flow on agrochemical transport through riparian buffers. E. Orozco, **R. Munoz-Carpena**, B. Gao, G. Fox

355. Evaluating VFS efficacy to mitigate pesticide risk to aquatic threatened species using coupled exposure-effect models: The case of salmonids. **I. Rodea-Palomares**, Q. Zhao, R. Munoz-Carpena, A.M. Ritter, G. Fox, D. Blancher, D. Park

356. Farm pond pesticide monitoring case study for the evaluation of vegetative filter strip efficacy and aquatic persistence and accumulation. **S. Wente**, E. Odenkirchen

357. Quantification of turfgrass buffer performance in reducing transport of pesticides in surface runoff. P.J. Rice, **T. Xu**, J. White, B. Horgan, J. Williams, P.N. Coody, E.L. Arthur, L.L. McConnell

358. Removal of neonicotinoid insecticides by prairie strips in row-cropped watersheds with historical seed coating use. **M.L. Hladik**, S. Bradbury, L.A. Schulte, M. Helmers, C. Witte, D.W. Kolpin, J.D. Garrett, M. Harris

359. Development of multivariate regression model using soil properties and pesticide soil sorption coefficients. **M. Kim**, A. Chadrasekaran, R. Morris

360. Soil metabolism of [^{14}C]atrazine in two soil types using various soil aliquot sizes. **S.P. McLaughlin**, A. Dean, D. Koch, M. McDonough, M. Crabb, R. Brackett

361. Adsorption/desorption coefficient relationships versus typical soil characteristics for different agrochemical classes. **M.A. Ponte**

362. Fate and transport of the agricultural antibiotic sulfadiazine in soil. **D. Ashworth**, S.R. Yates, L. Ma, J. Sangster

363. Penetrative behaviors of azoxystrobin and chlorothalonil into apples cuticular waxes and fungicide systemicity. **J. Hwang**, D. Seok, S. Lee, S. Kwak, J. Kang, S. Hong, J. Kim

364. Correlation analysis for the enantioselective degradation and toxicity of isofenphos-methyl to the *Plutella xylostella*. **B. Gao**

365. Uptake translocation of insecticide dinotefuran from soil into radish. **K. Se-Yeon**, J. Hwang, S. Lee, J. Ryu, M. Kang, J. Kang, J. Kim, S. Hong

WEDNESDAY AFTERNOON

Biorational Control of Medical and Veterinary Pests: Bringing New Products to Market
J. M. Clark, J. R. Coats, *Organizers*
A. D. Gross, E. Norris, *Organizers, Presiding*

Section A
Renaissance Washington, Mount Vernon Square B

2:25 Introductory Remarks.

2:30 – 239. Products for global vector control: putting the rational into biorational. **D. Strickman**

2:55 – 240. Behavior manipulation of vectors of disease. **A. Mafra Neto**, E. Keogh, T. Dekker, G. Batista, L. Mboera, E. Kemibala, P. Kija, S. Singh, W. Foster, G. White, J. Saroli, R. Silva, M. Shahbazi, C.R. Bernardi, W. Urrutia, R. Borges, G. Martinez, B. Avalos, L. Mafra, K. Spencer

3:20 – 241. Development of deltamethrin for mosquito control. **M.E. Krolski**, K. Vandock, J. Brill

3:45 Intermission.

4:05 – 242. Novel pest control technologies: Utilizing behavioural assays for the development of push-pull strategies against *Ae. aegypti*. **U. Gordon**

4:30 – 243. Future public health vector control: Bringing new products to market. **R. Vaidyanathan**

4:55 – 244. Bringing new products to market: Collaborative efforts leading to innovative solutions in vector control. **N. Hamon**

5:20 Concluding Remarks.

Communicating Pesticide Science to the Public
P. A. Brindle, C. Tiu, *Organizers*
H. B. Irrig, *Organizer, Presiding*

Section B
Renaissance Washington, Meeting Room 2

2:00 Introductory Remarks.

2:05 – 245. Advocacy for science with non-scientists. **L.H. Latimer**

2:30 – 246. Using evidence-based practices to address lay theories about chemicals: Tapping guidance from the National Academy of Science. **K. Rowan**

2:55 – 247. Starting the science conversation through humor and community. **G. O'Sullivan**

3:20 – 248. What's the hazard in risk? **R. Mitkus**

3:45 Intermission.

4:05 – 249. Communicating pesticide food safety issues to the public. **C.K. Winter**

4:30 – 250. Communicating science to the public at the National Pesticide Information Center. **J.J. Jenkins**, A. Leytem, A. Hallman, B. Hanson

4:55 – 251. Changing the GMO conversation one person at a time. **A. Hood**

5:20 Panel Discussion.

Developing Pesticide Environmental Risk Assessment Approaches
Cosponsored by ENVR
R. Morris, N. Peranginangin, *Organizers, Presiding*

Section C
Renaissance Washington, Meeting Rooms 13/14

2:00 Introductory Remarks.

2:05 – 252. Evaluation of drift potential of higher order tank mix combinations. **T. Orr**, A. Schapaugh, N. Pai, T. Bhakta

2:30 – 253. Expanding the tiered approach for drift exposures to non-target plants. **J.W. Perine**, R.A. Brain, T.M. Ledson

2:55 – 254. Withdrawn

3:20 – 255. Consideration of using bias factors and other methods to estimate potential maximum concentrations in monitoring data. **J. Aldworth**, P. Mosquin, W. Chen

3:45 Intermission.

4:05 – 256. Current status of regulations involving environmental risk assessment in Brazil. **A. Cione**

4:30 – 257. Comparison of surface water pesticide environmental risk assessment tools in U.S. and China. **D. Mao**, W. Chen, M.J. Cheplick

4:55 – 258. Global use of field trials based on ecoregion similarities: Southside (Southern vs. Northern Hemisphere). **B. Gottesburen**, R. Gangaraju, M.T. Shamim

5:20 – 259. Global use of field trials based on ecoregion similarities: Comparison of data from New Zealand and Chile vs. Europe. **B. Gottesburen**, H. Bayer, K. Platz, B. Erzgraeber, F. Donaldson, J. Goulet Fortin, A. Fischer, F. Kroeger

5:45 Concluding Remarks.

Good Laboratory Practices for the Agrochemical Professional
Cosponsored by ENVR
C. Lee, P. M. Maldonado, K. Watson, *Organizers, Presiding*

Section D
Renaissance Washington, Meeting Room 15

2:00 Introductory Remarks.

2:05 – 260. EPA good laboratory compliance. **D. Myers**

2:30 – 261. Office of Pesticide Programs processing of GLP inspection referrals and evaluation of GLP non compliance. **D.D. Rice**

2:55 – 262. Real world examples of what not to do. **C. Lee**

3:20 – 263. How personnel can make or break your EPA GLP study. **P.M. Maldonado**

3:45 Intermission.

4:05 – 264. Conduct of method validations and independent laboratory verifications. **L. Sanghani**, N.A. Khan, M. Ansari

4:30 – 265. Auditing field aerial drift studies and field volatility studies using Good Laboratory Practices (GLPs). **K. Watson**

4:55 – 266. Practical application of OECD document 17: Application of GLP principles to computerized systems. **J.A. Franchetti**

5:20 – 267. Using the governance risk and compliance model to ensure implementation of computerized systems that meets regulators expectations. **J.A. Franchetti**

5:45 Discussion.

AGRO Memorial Symposium: Remembering Bob Krieger and Richard Allen
Financially supported by Stone Environmental
M. M. Dyk, K. Gohre, G. C. Miller, E. A. Schoenau, J. N. Seiber, *Organizers*
T. S. Ramanarayanan, T. Xu, *Organizers, Presiding*

Section E
Renaissance Washington, Meeting Room 16

2:00 Introductory Remarks.

2:05 – 268. Richard Allen, valued colleague and scientist: Aldicarb potable well monitoring study. **R. Jones**, P.N. Coody, Z. Tang, D.G. Dyer, I.D. Kelly, T. Xu, K. Repprecht, D. Netzband, C. Lam, M. Cole

2:30 – 269. Past present and future of environmental research on crop protection products. **I.D. Kelly**

2:55 – 270. Determination of adduct formation between human serum albumin and organophosphates using MALDI-TOF/TOF and LC-Q/TOF. **Q.X. Li**, S. Chu

3:20 – 271. Summary of the fate and behavior of mandestrobin in the environment. **K. Gohre**, J.C. Aston, J.J. Maurer, J. Whitby, T. Nguyen, M.A. Jalal, S.H. Jackson, R. Allen

3:45 Intermission.

4:05 – 272. What is t_{REP} and how does it impact risk assessment? A PWC sensitivity analysis. **J.G. Whitby**, K. Gohre, S.H. Jackson

4:30 – 273. Fate and transport studies of a pre-emergent herbicide in tiled fields of the Upper Midwest. **T. Xu**, R. Jones, D. Netzband, D.R. Gabbert, C. Hassinger, M. Veal, S. Blanchfield, P.N. Coody, B. Hoppie

4:55 – 274. Evaluation of model simulation of pesticide transport through subsurface tile drains. **M. Winchell**, Z. Tang, H. Rathjens, J. Stryker, L. Padilla, **T. Xu**

5:20 – 275. Higher tier assessment options in drinking water assessments. **R. Jones**, R. Freedlander, P.L. Havens, W. Chen, N. Peranginangin, S.H. Jackson, K.S. Henry

5:45 Concluding Remarks.

WEDNESDAY EVENING

ENVR Division Poster Session

6:00 - 8:00
Walter E. Washington Convention Center, Hall D

Advances in Environmental Analytical Methods for EPA Compliance Reporting and Exposure Risk Assessment
Cosponsored by AGRO and CHAL
Financially supported by Shimadzu
W. Lipps, B. Prakash, *Organizers*

ENVR 385. Effect of hormesis of polymyxin B sulfate enhanced by weak magnetic field on *Vibrio qinghaiensis* sp.-Q67. **K. Li**

ENVR 386. 76% increase in throughput for determination of semi-volatiles using narrow-bore GC columns and rapid data acquisition with a highly sensitive quadrupole GC-MS system. **B. Prakash**, T. Ogura, W. Lipps

Changes in Chemical Risk Assessment under Amended TSCA: Approaches and Implementation
Cosponsored by AGRO, CEI and CHAL
M. Card, T. R. Henry, L. Libelo, E. Wong, *Organizers*

ENVR 387. Public access to environmental chemistry data via the EPA CompTox Chemistry Dashboard. **A.J. Williams**, C. Grulke, J. Smith, R. Jolley, J. Dunne, E. Edmiston, J. Edwards

ENVR 388. Quantitative structure-activity relationships predictions of toxicokinetic parameters for risk-based prioritization. **B.L. Ingle**, B. Veber, J. Wambaugh, J. Nichols, R. Tornero-Velez

Ecological and Human Health Impacts of Emerging Environmental Contaminants
Cosponsored by AGRO and CHAL
X. Pan, M. I. Selim, B. Zhang, *Organizers*

ENVR 389. Pharmaceutical chemicals, steroids and xenoestrogens in fish and sediments from the tidal freshwater Potomac River. **G. Arya**, K. De Mutsert, C. Jones, T.B. Huff, G.D. Foster

ENVR 390. Biocomposite alginate-chitosan beads coated magnetic nanoparticles for removal of oxybenzone in seawater systems: Application to inhibit coral reef photo-bleaching. A.G. Zapata, F.M. Alvarez, **G. Cruet**, V. Fernandez-Alos, F.R. Roman

ENVR 391. Untargeted screening and apportionment of brominated compounds in house dust. **B. Dhungana**, H. Peng, B. Subedi, P.D. Jones, J.P. Giesy, G.P. Cobb

ENVR 392. Genotoxicity and cytotoxicity of nine benzothiazoles: Development and application of a high content screening *in vitro* micronucleus test for genotoxicity and cytotoxictyassessment. **M. Ma**, C. Huang, K. Rao, Y. Xu

ENVR 393. Protective toxicokinetic and toxicodynamic changes associated with aflatoxin B_1 detoxification. **B.R. Rushing**, M.I. Selim

ENVR 394. Occurrence of polycyclic aromatic hydrocarbons in mantises. **H. Shimazu**

ENVR 395. Phthalate and non-phthalate plasticizers in indoor dust from childcare facilities, salons, and homes across the USA. **B. Subedi**, K. Sullivan, B. Dhungana

ENVR 396. Preliminary investigation of seasonal changes in pesticides and PPCPs in surface water in eastern North Carolina. B.R. Rushing, **A.R. Wooten**, M.I. Selim

ENVR 397. Occurrence and concentrations of polybrominated diphenyl ethers in soils from an e-waste recycling area in north China. **Z. Wu**

ENVR 398. Metabolism of organophosphate flame retardants (OPFRs) in freshwater fish: Field and laboratory studies. **Y. Xu**, K. Rao, R. Hou, M. Ma, Z. Wang

Measurements and Methods in Environmental Nanotechnology
Cosponsored by AGRO and ANYL
S. Hanna, M. Johnson, A. R. Montoro, B. C. Nelson, E. Petersen, C. M. Sims, *Organizers*

ENVR 478. Microplate based colorimetric assays for characterization of redox reactivity of nano materials for water treatment. **Y. Hwang**, P. Mines, M. Jakobsen, H. Andersen

ENVR 479. Glutathione functionalized gold nanoparticle-dynamic light scattering tandem for rapid and selective detection of cadmium. **I. Terry**, J. Wiley, A.K. Singh, S.S. Dasary

ENVR 480. Application of cloud point extraction for the analysis of manufactured nanoparticles in complex solids-containing matrices. **A. Mukherjee**, V.A. Hackley

THURSDAY MORNING

Biorational Control of Medical and Veterinary Pests: Characterization of Insecticide Resistance
J. M. Clark, E. Norris, *Organizers*
J. R. Coats, A. D. Gross, *Organizers, Presiding*

Section A
Renaissance Washington, Meeting Room 4

8:50 Introductory Remarks.

8:55 – 366. Overcoming insecticide resistance: Detection and management of insecticide-resistant human lice. J.H. Kim, K. Gellatly, K.S. Yoon, E. Murenzi, **J.M. Clark**

9:20 – 367. What is kdr? L. Smith, S. Kasai, **J.G. Scott**

9:45 – 368. Breaking insecticide resistance: Peptide neurohormone targets. **A. Nuss**

10:10 Intermission.

10:30 – 369. GPCR regulatory signaling pathway: The mechanisms underlying insecticide resistance in mosquitoes. **N. Liu**

10:55 – 370. Determination and comparison of the cuticular thickness across several insecticide resistant and susceptible populations of the common bed bug, *Cimex lectularius* L., using scanning electron microscopy (SEM). **R. Koganemaru**, K. Patton , D. Miller

11:20 – 371. Overcoming insecticide resistance: Characterizing resistance mechanisms in mosquito populations. **J.A. Ottea**

11:45 Concluding Remarks.

Communicating Pesticide Science to the Public
H. B. Irrig, C. Tiu, *Organizers*
P. A. Brindle, *Organizer, Presiding*

Section B
Renaissance Washington, Meeting Room 2

8:25 Introductory Remarks.

8:30 – 372. Three fundamentals of effective communications and how to use them. **J. Gilder**

9:20 – 373. Chemical and pesticide communications and advocacy: The current state of play. **J. Byrne**

10:10 Intermission.

10:30 – 374. Communicating concepts in pesticides and agriculture to a concerned public. **K.M. Folta**

10:55 – 375. Communicating safety of agricultural technology to non-science audiences. **C. Moseley**, P. Laird, P.F. Hoekstra

11:20 – 376. Communicating turf pesticide risk assessment science to the public: Lessons learned. **S.Z. Cohen**

11:45 Panel Discussion.

Species Habitat Determination and Chemical Exposure Routes and Timing
A. Kenney, D. Perkins, C. Wade, *Organizers*
R. F. Bohaty, A. Frank, *Organizers, Presiding*

Section C
Renaissance Washington, Meeting Room 13

8:25 Introductory Remarks.

8:30 – 377. Mapping U.S. Fish and Wildlife Service listed species current range maps: The good, the bad, and the ugly. K. Paul, **N. Golden**

8:55 – 378. Approaches for defining spatially explicit habitat in the absence of federally declared critical habitat. **J. Amos**, B. Kearns, S. Kay

9:20 – 379. Characterizing land use for pesticide risk assessments. **A.C. Barefoot**, T. Carro, A. Frank, C. Jones

9:45 – 380. Development of detailed habitat classification for wildlife exposure modeling. **W. Stiteler**, T.L. Negley

10:10 Intermission.

10:30 – 381. Systematic and AI-specific sources of uncertainty in screening pesticide aquatic risk assessments: How much do they add to regulatory confusion? **P. Hendley**, C.M. Holmes, M. Winchell, D.A. Desmarteau, A.M. Ritter, J. Giddings

10:55 – 382. Tools for estimating the magnitude of population effects to endangered species using predicted pesticide exposure concentrations, extent of overlap of species ranges with pesticide use sites, and refined toxicity data. C. Rossmeisl, **C. Peck**, C. Jennifer, J.C. Hook, K. Garber, M. Panger, N. Golden, G. Noguchi, D. Baldwin

11:20 – 383. Identification of riparian buffer strips within agricultural fields in Illinois using satellite imagery. **K. Copenhaver**

11:45 – 384. Collaborative approaches to pollinator habitat conservation at multiple scales and across industry sectors. **I. Caldwell**, D. Perkins, K. Copenhaver

12:10 Concluding Remarks.

Synthesis and Chemistry of Agrochemicals
Cosponsored by ORGN
J. D. Eckelbarger, *Organizer*
T. M. Stevenson, *Organizer, Presiding*

Section D
Renaissance Washington, Meeting Room 14

8:25 Introductory Remarks.

8:30 – 385. Investigation of heteroatom substituents in insecticidal *N*-(5-aryl-1,3,4-thiadiazol-2-yl)amides. **J.D. Eckelbarger**, A. Buysse, M.H. Parker, M.C. Yap, J.M. Babcock, R. Hunter, Y. Adelfinskaya, J.G. Samaritoni, N. Garizi, T.K. Trullinger

8:55 – 386. Discovery of NexGard®. **M. Xu**, J.K. Long, G.P. Lahm, T. Wagerle, W. Shoop

9:20 – 387. Synthesis of quinoline sulfonamides as insecticidal METI inhibitors with low mammalian toxicity. **W. von Deyn**, M. Puhl, N. Rankl

9:45 – 388. Insecticide discovery: Synthetic spinosyn mimics. **T.C. Sparks**, G.D. Crouse, D.A. David, A. Brown, B. Kristy, J.G. Samaritoni

10:10 Intermission.

10:30 – 389. Triflumezopyrim (DuPont Pyraxalt®): Discovery and optimization of mesoionic pyrido[1,2a]pyrimidinones as a novel class of insecticides. **W. Zhang**, C.W. Holyoke, T.F. Pahutski, K.A. Hughes, M.T. Tong

10:55 – 390. New macrocyclic compound for broad spectrum disease control. **B.M. Nugent**, K.G. Meyer, C. Yao, J. Owen, J.M. Renga, K. Myung, J.F. Daeuble, P. Johnson

11:20 – 391. Niementowski, Gould-Jacobs and Co.: Forgotten name reactions enable the synthesis of fungicidal tubulin polymerization inhibitors and promoters. **C. Lamberth**

11:45 Concluding Remarks.

ENVR Division

Advances in Environmental Analytical Methods for EPA Compliance Reporting and Exposure Risk Assessment
Cosponsored by AGRO and CHAL
Financially supported by Shimadzu
H. Chen, M. Li, W. Lipps, B. Prakash, *Organizers, Presiding*

Renaissance Washington, Meeting Room 3

8:00 Introductory Remarks.

8:05 – ENVR 518. Pipeline leak environmental forensic tools: A case study still used today for training purposes. **R. Bost**

8:25 – ENVR 519. Analysis of perfluorinated compounds in water by LCMSMS. **W. Lipps**

8:45 – ENVR 520. Polychlorinated biphenyls in effluent discharged from a wastewater treatment plant. **R. Jing**, E.K. Wilson, B.V. Kjellerup

9:05 – ENVR 521. Microwave assisted synthesis of aminopyridines Schiff bases and characterization as selective cyanide colorimetric sensor. **Y.M. Hijji**, R. Rajan

9:25 – ENVR 522. Characterization of acrylamide-induced cardiotoxicity during cardiac progenitor commitment and atrioventricular canal differentiation in zebrafish. **M. Huang**, **J. Jiao**, **Y. Zhang**

9:45 Intermission.

10:00 – ENVR 523. Reexamining weighted factors contributing to the rates of structural and chemical transformations of metallic nanoparticles. **J.M. Pettibone**, J. Liu, F. Zhang, A. Allen, A. Johnston-Peck

10:20 – ENVR 524. Evaluation of toxic metals in filler tobacco and filter samples of cigarette brands and related human health implications. **N. Benson**, W.U. Anake, A. Adedapo, **O.H. Fred-Ahmadu**, O. Odubogun

10:40 – ENVR 525. Occurrence and health risk assessment of hazardous contaminants in herbal medicines. **W.U. Anake**, N.U. Benson, A. Williams, O.H. Fred-Ahmadu, T.A. Kasali

11:00 – ENVR 526. Chemical speciation and contamination associated risks of trace metals in *Camellia sinensis*. N. Benson, **O.H. Fred-Ahmadu**, W.U. Anake, A. Adedapo

11:20 Concluding Remarks.

AGFD Division

Nanoscale Sensing in Foods and Other Complex Media
Cosponsored by AGRO, ANYL, COLL, ENVR, and INOR
T. V. Duncan, B. Park, Y. Wang, *Organizers*
R. G. Weiner, *Organizer, Presiding*

Walter E. Washington Convention Center, Room 149A

8:30 Introductory Remarks.

8:35 – AGFD 248. *In situ* and real-time monitoring of pesticide translocation and persistence in tomato plants by surface enhanced Raman spectroscopy. T. Yang, **L. He**

9:00 – AGFD 249. Surface plasmon resonance imaging for label-free detection of foodborne pathogens and toxins. **J. Chen**, B. Park

9:25 – AGFD 250. Improving the robustness of plasmonic nanoparticles for sensing in complex media. **A.J. Haes**

9:50 – AGFD 251. Nanomaterials-based biosensor system for rapid detection of *Salmonella* Typhimurium in poultry supply chains. **Y. Li**, J. Lin, J. Wang, M. Liao

10:15 Intermission.

10:30 – AGFD 252. Applications of near infrared fluorescent single walled carbon nanotube sensors to food and agriculture security. **M. Strano**

10:55 – AGFD 253. Active botulinum neurotoxin serotypes A and B detection and differentiation by FRET-based sensor. **Y. Wang**, H.C. Fry, I. Medintz, G.E. Skinner, K.M. Schill, T.V. Duncan

11:20 – AGFD 254. Bionanotechnology: Sensing from simple solutions to complex outcomes for food safety. **S. Neethirajan**, X. Weng, S. Ahmed, J. Jang

THURSDAY AFTERNOON

Biorational Control of Medical and Veterinary Pests: Development and Future Potential of Spatial Repellents
J. R. Coats, A. D. Gross, *Organizers*
J. M. Clark, E. Norris, *Organizers, Presiding*

Section A
Renaissance Washington, Meeting Room 4

1:15 Introductory Remarks.

1:20 – 392. Preventing the bite: Potential of spatial repellents in the prevention of mosquito-borne disease. **N. Achee**

1:45 – 393. Field evaluation of transfluthrin against outdoor biting mosquito in Thailand. **T. Chareonviriyaphap**, C. Sukkanon, J. Hii, M. M.C

2:10 – 394. Molecular basis of transfluthrin repellency in *Aedes aegypti*. **F. Liu**, P. Xu, E. Bandason, Y. Du, L. Smith, J. Scott, K.R. Chauhan, K. Dong

2:35 – 395. Excito-repellency properties of *Cinnamomum porrectum* (Roxb.) leaf essential oil against laboratory populations of *Aedes aegypti*, *Ae. Albopictus*, and *Culex quinquefasciatus* (Diptera: Culicidae). **S. Thongsahuan**, W. Pronphol, S. Panpongsiri, T. Khongsukniran, J. Nararak, T. Chareonviriyaphap

3:00 – 396. Semiochemicals and other behavior-modifying chemicals for prevention of tick bite and tick-borne disease transmission. **A. Li**

3:25 – 397. Development of non-pyrethroid spatial repellents. **J.R. Coats**, E. Norris, J.S. Klimavicz

3:50 Concluding Remarks.

Communicating Pesticide Science to the Public
P. A. Brindle, H. B. Irrig, *Organizers*
C. Tiu, *Organizer, Presiding*

Section B
Renaissance Washington, Meeting Room 2

1:15 Introductory Remarks.

1:20 – 398. Pesticides? How hard can it be to talk about that? **N. Sisk**

1:45 – 399. Trade, regulation, and the court of public opinion: Today's strategies for tomorrow's problems. **D. Taveau**

2:10 – 400. Are we safe yet? **J.M. Stewart**

2:35 – 401. Developing a safety communication strategy using social media analytics: Pilot program to address pesticides residue. N. Mitchell, B. Kennedy, R. Vinas, **M. Basu**

3:00 – Panel Discussion.

3:25 – Concluding Remarks.

402. Withdrawn

Current Regulatory and Scientific Landscape of Mixture Toxicity and Risk Assessment
Financially supported by Exponent
P. L. Havens, K. Ralston-Hooper, J. Staveley, *Organizers*
S. L. Levine, *Organizer, Presiding*

Section C
Renaissance Washington, Meeting Room 13

1:15 Introductory Remarks.

1:20 – 403. Assessing pesticide mixtures with potential synergistic interactions to support of endangered species assessments. **S.L. Levine**

1:45 – 404. Toxicological assessment of chemical mixtures needs a realignment of assumptions, methods, and study designs. **C.J. Borgert**

2:10 – 405. Accounting for pesticidal mixture interaction in ecological risk assessment in the US EPA office of pesticide programs. **E. Odenkirchen**, F.T. Farruggia

2:35 – 406. Statistical analysis of experiments with crop protection mixtures. P. Valverde, **K. Ralston-Hooper**, T. Jones-Jefferson

3:00 – 407. Prospective risk assessment for mixtures of agricultural chemicals in surface water: Results of two case studies. **C.M. Holmes**, M. Hamer, C. Brown, R. Jones, L. Maltby, E. Silberhorn, J.S. Teeter, M. Warne, L. Weltje

3:25 – 408. Foliar herbicide interactions: A weed science perspective. **B.G. Young**

3:50 Concluding Remarks.

Synthesis and Chemistry of Agrochemicals
Cosponsored by ORGN
T. M. Stevenson, *Organizer*
J. D. Eckelbarger, *Organizer, Presiding*

Section D
Renaissance Washington, Meeting Room 14

1:15 Introductory Remarks.

1:20 – 409. Herbicidal oxazolidinones. **T.M. Stevenson**, P.L. Sharpe

1:45 – 410. Discovery of novel maize selective acetyl-CoA carboxylase inhibitors. **J. Scutt**

2:10 – 411. Discovery of bicyclopyrone. **A.J. Edmunds**, A. De Mesmaeker, S.V. Wendeborn, W.T. Rueegg, A.M. Michel, J.H. Schaetzer, R.G. Hall, R. Beaudegnies

2:35 – 412. Carbonyl containing heterocycles as aromatic moities in HPPD herbicides. **T.M. Stevenson**, T. Cenizal

3:00 – 413. Journey towards new herbicides: Quinoxalines and acyl prolines. **T. Seitz**

3:25 – 414. Scaffold hopping approaches in the agrochemical lead optimization. **C. Lamberth**

3:50 Concluding Remarks.

AUTHOR INDEX

Abstracts without a Division name are AGRO abstracts

AGRO Division

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www.agrodiv.org

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HOURS OF OPERATION

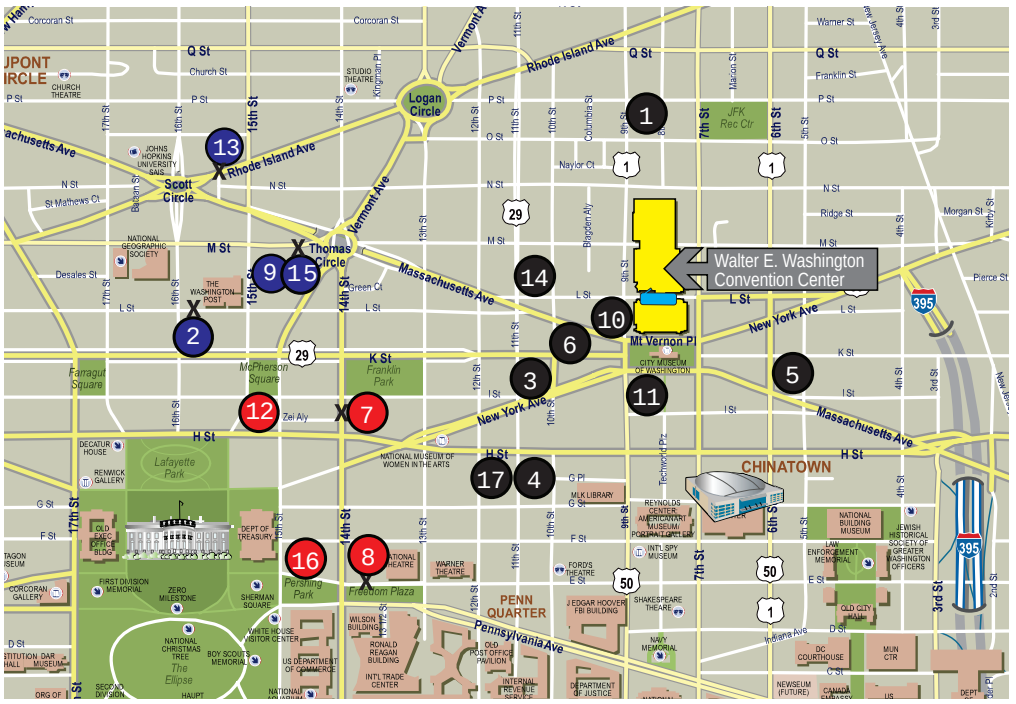
SUNDAY, August 20
7:00 AM - 10:00 AM ..... 15 minute intervals
10:00 AM - 4:00 PM ..... 30 minute intervals
4:00 PM - 7:00 PM ..... 15 minute intervals
7:00 PM - 11:00 PM ..... 30 minute intervals

MONDAY, August 21
7:00 AM - 10:00 AM ..... 15 minute intervals
10:00 AM - 4:00 PM ..... 30 minute intervals
4:00 PM - 11:00 PM ..... 15 minute intervals

TUESDAY, August 22
7:00 AM - 10:00 AM ..... 15 minute intervals
10:00 AM - 4:00 PM ..... 30 minute intervals
4:00 PM - 11:00 PM ..... 15 minute intervals

WEDNESDAY, August 23
6:30 AM - 11:00 PM ..... 30 minute intervals

THURSDAY, August 24
7:00 AM - 6:00 PM ..... 60 minute intervals



LEGEND

Route 1 | Route 2 | Walk to Convention Center | Boarding Location | Shuttle Pickup

Key...	HOTELS	ROUTE	BOARDING LOCATION
1	Cambria Suites Washington DC Convention Center	W	Walk to Walter E. Washington Convention Center
2	Capital Hilton	2	L Street Entrance
3	Embassy Suites by Hilton Washington D.C. - Convention Center	W	Walk to Walter E. Washington Convention Center
4	Grand Hyatt Washington	W	Walk to Walter E. Washington Convention Center
5	Hampton Inn Washington-Downtown-Convention Center	W	Walk to Walter E. Washington Convention Center
6	Henley Park Hotel	W	Walk to Walter E. Washington Convention Center
7	Hilton Garden Inn Washington DC Downtown	1	Main Entrance on 14th Street
8	JW Marriott Washington D.C.	1	Pennsylvania Avenue Entrance
9	Loews Madison Hotel	2	Walk to Westin Washington City Center - M Street
10	Marriott Marquis Washington, DC	W	Walk to Walter E. Washington Convention Center
11	Renaissance Washington, DC Downtown	W	Walk to Walter E. Washington Convention Center
12	Sofitel Washington DC Lafayette Square	1	Walk to Hilton Garden Inn @ 14th & H Street
13	The Darcy, Curio Collection by Hilton	2	Main Entrance - Rhode Island
14	The Morrison Clark Historic Inn	W	Walk to Walter E. Washington Convention Center
15	The Westin Washington DC City Center	2	Main Entrance on M Street - across from hotel
16	W Washington DC	1	Walk to JW Marriott - Pennsylvania Avenue
17	Washington Marriott at Metro Center	W	Walk to Walter E. Washington Convention Center

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