Thank you for your continued support!

Diamond

Luis Ruzo

Platinum

BASF

Monsanto

USDA

Syngenta

Gold

Golden Pacific Laboratories

Novasource

ARCADIS

intrinsik
<table>
<thead>
<tr>
<th>SYMPOSIUM or LECTURESHIP</th>
<th>Room</th>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Laboratory Practices for the Agrochemical Professional</td>
<td>CW HALL A1</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terrestrial Disp Studies: Reg Guid/Study Design/Utility of Data in Exp &amp; Risk Char</td>
<td>CW HALL A2</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovative Approaches in Designing Agrochemical Metabolism Studies</td>
<td>REGENCY C1</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emerging MS Trends in Support of Agricultural Research &amp; Development</td>
<td>CW HALL D</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Products as Biorational Pesticides in Agriculture</td>
<td>REGENCY C2</td>
<td>D</td>
<td>PO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adv in Residue Analysis of Bee Relevant Matrices: Methods &amp; Sampling Tech</td>
<td>REGENCY C1</td>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraction Efficiency-Bridging between Metabolism Studies &amp; Residue Analy Methods</td>
<td>CW HALL A1</td>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increasing Value of Water Monitor Data for Pesticide Fate &amp; Effects Evaluations</td>
<td>CW HALL A2</td>
<td>PM</td>
<td>D</td>
<td>PO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glyphosate: Current Status &amp; Future Prospects</td>
<td>CW HALL B1</td>
<td>PM</td>
<td>D</td>
<td>PO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGFD: IAFCAward ID bioactive components in wheat bran: Dr. Shengmin Sang</td>
<td>PCC 110B</td>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ion Channels and G-Protein Coupled Receptors: Honoring Dr. Yoshihisa Ozoe</td>
<td>CW HALL D</td>
<td>D</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACS International Award for Research in Agrochemicals</td>
<td>CW HALL A2</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonicotinoid Insecticides: Use, Fate &amp; Effects</td>
<td>CW HALL B</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Fate and Modeling of Agriculturally-related Chemicals</td>
<td>REGENCY B</td>
<td>PO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollinators: Agrochemicals, Behavior &amp; Disease</td>
<td>REGENCY B</td>
<td>PO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection of Agricultural Productivity, Public Health &amp; the Environment</td>
<td>REGENCY B</td>
<td>PO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fate &amp; Metabolism of Agrochemicals (EARLY CAREER SCIENTIST SYMP)</td>
<td>REGENCY C2</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adv in Ag Biotech: Interpretat/Correlat of ELISA &amp; LC-MS/MS for Protein Quant</td>
<td>CW HALL A1</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrochemicals &amp; Pollinators: Current Science &amp; Risk Assessment Approaches</td>
<td>CW HALL B</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis &amp; Agrochemicals: Analytical, Environmental &amp; Regulatory Challenges</td>
<td>CW HALL B</td>
<td>D</td>
<td>PO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGFD: USDA-ARS Sterling B. Hendricks Memorial Lectureship: Dr. May Berenbaum</td>
<td>PCC 110B</td>
<td>11 AM</td>
<td>11 AM</td>
<td>11 AM</td>
<td>11 AM</td>
<td>11 AM</td>
</tr>
<tr>
<td>AGFD: Kenneth A. Spencer Award: Dr. Agnes Rimando</td>
<td>PCC 111B</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthesis &amp; Chem of Agrochemicals: Symp in Memory of Dr. Thomas Bretschneider</td>
<td>CW HALL D</td>
<td>PM</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRO Innovation Award Address by Dr. Thomas Stevenson</td>
<td>CW HALL A/C2</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adv &amp; Challenge of Controlling Arthropod Pests (EARLY CAREER SCIENTIST SYMP)</td>
<td>CW HALL B</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advances in Metabolism, Metabolomics &amp; Mass Spectrometry</td>
<td>REGENCY B</td>
<td>PO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Fate, Transport &amp; Modeling of Agriculturally-related Chemicals</td>
<td>REGENCY C1/A</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who Should Regulate Pesticides in Our Food?</td>
<td>CW HALL D</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IUPAC Harmonization Award Address by Dr. Daniel Kunkel</td>
<td>CW HALL B</td>
<td>D</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computational Chemistry &amp; Toxicology in Chemical Discovery &amp; Assess (QSARs)</td>
<td>CW HALL A1</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controlling Zika Virus Mosquitoes</td>
<td>CW HALL B</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Risk Assessment of Down-the-Drain Chemicals</td>
<td>CW HALL A1</td>
<td>PO</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsurface Fate of Pesticides</td>
<td>CW HALL A2</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovations in Human Health Exposure &amp; Risk Assessment</td>
<td>CW HALL D</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovations in Mode of Action Studies &amp; Impact of Global Human Health Reqmnts</td>
<td>CW HALL C</td>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advances in Agrochemical Metabolism &amp; Metabolomics</td>
<td>CW HALL C</td>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Study Design: Current &amp; Emerging Guidelines</td>
<td>CW HALL A2</td>
<td>PO</td>
<td>PM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Schedule Legend:** CW = Commonwealth; PCC = Pennsylvania Convention Center; A = AM; D = AM and PM; P = PM; PO = Posters PM
DIVISION BUSINESS AND PLANNING
AGRO Business and Governance Meeting
Sunday 5:00 – 9:00 PM
Loews Philadelphia Hotel, Regency Ballroom A
AGRO Members welcome

Program Planning – Blues and Brews
Tuesday 5:15 – 7:00 PM
Loews Philadelphia Hotel, Regency Ballroom A
Beverages are FREE
Members welcome but bring your ideas; see page 43

SOCIAL EVENTS

Graduate Student Luncheon
Monday 11:45 AM – 1:20 PM
Loews Philadelphia Hotel, Lescaze
Reservations required; see page 36

Sterling B. Hendricks Award Lecture Reception for May Berenbaum
Tuesday following the 11:00 AM lecture
Pennsylvania Convention Center Room 110B

AGRO Awards Social
Wednesday 6:00 – 8:00 PM
Loews Philadelphia Hotel, Regency Ballroom B
Members/Speakers/Guests welcome

Specializing in Providing Analytical Support in Agrochemical, Veterinary and Bioanalytical Industries since 1983.

Agrochemical
◆ Pesticide Residue
◆ Method Development
◆ Formulation Testing
◆ Exposure Studies
◆ Multi-residue Screens
◆ Custom Synthesis
◆ Metabolites
◆ Stable Isotope Analogs

Veterinary
◆ Animal Tissue/Blood
◆ Product Assay
◆ Dissolution Testing
◆ Dose Verification
◆ Forced Degradation
◆ 5-Batch Analysis

Bioanalytical
◆ Product Development Support
◆ Storage Stability
◆ Validation Studies
◆ Custom Research
◆ Analysis of PK Samples
◆ Technical Writing Support

GLP Compliant

For more information, visit our website: www.en-cas.com
# Table of Contents

**Patrons**
inside front cover

**Meeting Schedule**
i

**Venue Maps**
- Map of Lowes Philadelphia Hotel
- Philadelphia City Map & Convention Center

**From the Chair’s Desk – Pamela Rice**
inside back cover

**Awards & Announcements**
- List of AGRO Division Fellows and ACS Fellows from AGRO
- Awards Committee Report
- Call for Nominations, 2017 AGRO Division Fellow
- Invitation for the AGRO Awards Social
- 2016 ACS Fellow from AGRO
- 2016 AGRO Fellows
- 2016 ACS International Award for AGRO Research
- 2016 ACS Innovation Award in Agricultural Research
- 2016 IUPAC Harmonization Award
- 2016 Kenneth A. Spencer Award
- 2016 USDA-ARS Sterling B. Hendricks Memorial Lectureship Award
- 2016 JAFC Research Paper Lectureship Awards
- Call for Nominations, 2018 ACS International Award for AGRO Research
- Call for Nominations, 2017 ACS Innovation Award in Agricultural Research
- Call for Nominations, 2017 USDA-ARS Sterling B. Hendricks Memorial Lectureship Award
- Call for Nominations, 2017 Kenneth A. Spencer Award
- Call for Nominations, 2017 JAFC Research Paper Lectureship Awards

**New Investigators and Students**
- 2016 AGRO New Investigator Award Finalists
- 2016 AGRO Education Grants for Student Travel
- Invitation to Student & Post-Doc Luncheon
- Call for Applicants, 2017 AGRO New Investigator Awards
- Call for Applicants, 2017 AGRO Education Awards

**Programming**
- Notes from the Program Chair – Jay Gan
- Standing Programming and Champions
- Comments from the Vice Chair – Scott Jackson
- Invitation to Blues and Brew – Brainstorming for Washington, DC
- Programming & Outreach Activities 2016 – 2019
- Future ACS National Meetings and 7 Easy Steps for Organizing a Symposium
- AGRO Lunch and Learn Webinar Series
- VI Latin American Pesticide Residue Workshop, May 14-17, 2017, San José, Costa Rica
- 68th SERMAC: Finding Solutions to Environmental Challenges in Ag, Oct 23-26, 2016, Columbia, SC
- 54th North American Chemical Residue Workshop, July 16-19, 2017, St. Pete Beach, FL

**AGRO Division Business**
- AGRO Officers, Councilors, Executive Committee, and Past Chairs List
- What the AGRO Committees Do
- AGRO Division Committees
- Councilor’s Report
- Bylaws of the AGRO Division
- In Memory of Dr. Richard Allen
- E-newsletter
- Advertising in the *PICOGRAM*
- Application for Division Membership/Renewal

**AGRO Events and Technical Program with ENVR & AGFD Cosponsored Symposia**

**AGRO and AGRO-Sponsored ENVR Symposia Author Indices**

- 1 -
We are a One-Stop Shop CRO for your Metabolism, E-Fate and Product Chemistry research needs. Symbiotic Research conducts in-life \(^{14}\text{C}\) fish metabolism, bioaccumulation and fish feeding studies on-site. We are partnered with several in-life \(^{14}\text{C}\) licensed facilities throughout North America to conduct plant and animal metabolism studies. Symbiotic Research is a fully compliant GLP facility, inspected by the US-EPA, USDA and NJDEP/NRC. Our laboratory also holds a permit to receive soil regulated by 7 CFR 330 from foreign and domestic sources.

METABOLISM RESEARCH SERVICES (\(^{14}\text{C} \& \text{NON-}^{14}\text{C LABELED MOLECULES)}

- Plant Metabolism (in-life & analytical)
- Confined Accumulation Studies on Rotational Crops
- Fish Bioaccumulation/Metabolism and Fish Feeding (Catfish/Carp/Trout) (in-life & analytical)
- Animal Metabolism

ENVIRONMENTAL FATE AND SAFETY

- Aerobic and Anaerobic Aquatic Metabolism
- Aerobic and Anaerobic Soil Metabolism
- Aqueous and Soil Photolysis
- High Temperature Hydrolysis/Aqueous Hydrolysis
- Aerobic Mineralization in Surface Water Simulation Biodegradation Test
- Adsorption/Desorption
- Column Leaching and Aged Column Leaching

RESIDUE CHEMISTRY

- Agrochemical residues in animal tissues, crops, soils, water and air are determined from the following studies: Magnitude of Residues in Crops, Processed Commodities, Storage Stability and Livestock Feeding Studies
- Additional areas of analysis in the area of Food Safety (pesticides, mycotoxins, veterinary drugs, etc.)

PRODUCT CHEMISTRY


NICHE DISCOVERY CAPABILITIES AND OTHER SERVICES OFFERED

CE-MS Services: Currently, we are the only E-Fate/metabolism CRO globally to offer CE-MS services to help in the discovery and development of difficult to separate and detect, charged and highly polar metabolites (e.g., photolytic degradation products, small and highly polar metabolites, biopesticides, byproducts, etc.).

Other Services: Residue field trials/sample analysis are conducted internally or through our partnering labs with our own experienced residue chemists serving as study directors, principal investigators or project managers. Toxicity and acute toxicity studies through our partnering labs managed by experienced staff. Formulation Analysis support including 5-batch analysis. Federal and State Registration services provided through experienced consultants. Offering full turnkey operation Project Management services for a product label expansion through our exclusive partner.
Welcome as we gather once again for a week of scientific exchange and interaction with friends and colleagues. Our Program Chair Jay Gan has put together an exciting program with 28 symposia representing over 350 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 Jay and Team AGRO!

Recognizing Award Winners.** Congratulations to winners of the ACS International Award for Research in Agrochemicals and the Innovation Award in Chemistry of Agriculture, sponsored by DuPont Crop Protection and BASF, respectively. Symposia in recognition of these achievements begin Monday AM and Tuesday PM. On Wednesday, AGRO will join IUPAC in presenting the International Award for Advances in Harmonized Approaches to Crop Protection Chemistry. 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:
- Controlling Zika Vector Mosquitoes
- Cannabis & Agrochemicals: Analytical, Environmental & Regulatory Challenges
- Environmental Risk Assessment of Down-the-Drain Chemicals
- Who Should Regulate Pesticides in Our Food?
- Glyphosate: Current Status and Future Prospects

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 two Early Career Scientific Symposia on Tuesday, entitled, Fate and Metabolism of Agrochemicals and Advances and Challenges of Controlling Arthropod Pests. These symposia received additional financial support from an Innovative Projects Grant and from the AGRO Education Fund. Also plan to attend the presentations of the AGRO New Investigator Award (NIA) finalists (p. 33) and the AGRO Student Travel Awardees who will give oral presentations (p. 35). 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 Washington DC. Scott Jackson, the AGRO 2017 Program Chair, is actively soliciting symposia topics for the August 2017 meeting in Washington DC (p. 43). Please join us for the Blues & Brews – AGRO Program Brainstorming – Happy Hour on Tuesday evening. 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 2017 are due November 15, 2016.

International Programming. This year AGRO co-sponsored the IUPAC Crop Protection Chemistry, Ecological Risk Assessment Workshop, in Nairobi, Kenya; the 11th International Symposium on Adjuvants for Agrochemicals; and the North American Chemical Residue Workshop. See our website www.agrodiv.org for details and links to the outcomes of these events.

Strategic Planning and Membership Survey. A strategic planning session is planned for Fall 2016. In 2011, we established, and have since met, many lofty goals of expanding our international presence, creating a monthly enewsletter, developing innovative web-based electronic programming, increasing our pool of symposium organizers, and establishing and strengthening strategic alliances and collaborations with other ACS Divisions and non-ACS organizations. Prior to the workshop, we will solicit feedback from our membership. Please participate in this very important survey! We need your input. We look forward to lively discussions and to setting new goals for the next five years.

“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. 49) or join us at our social on Wednesday (p. 7) 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 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 2017.

2017 Vice Chair: Julie Eble
2017 Secretary: Sharon Papiernik
2017 Treasurer: Del Koch
2017 – 2019 Executive Committee Members
Cheryl Cleveland, Michelle Hladik, Qing Li, Paul Reibach, Amy Ritter
New 2015 – 2017 Executive Committee Member
Yelena Sapozhnikova

Congratulations to all!

Looking forward to our time together in the historic city of Philadelphia!
AGRO DIVISION FELLOWS

1971 Louis Lykken
Tom H. (Bucky) Harris (Posthumous)
Herman Beckman (Posthumous)
1972 Wendell F. (Bud) Phillips
Don G. Crosby
Elvins Y. Spencer
1973 Mr. Roger C. Blinn
Philip C. Kearney
Julius J. Menn
1974 Morton Beroza
James P. Minyard, Jr.
Joe C. Street
1975 Hank F. Enos
Maurice B. Green
Charles H. Van Middelem
1976 Marguerite L. Leng
Jack R. Plimmer
Gerald G. Still
1977 Gustave K. (Bob) Kohn
1978 S. Kris Bandal
Paul Hedin
1979 Rodney D. Moss
1980 G. Wayne Ivie
John B. Siddall (Posthumous)
Robert M. Hollingsworth
Gino J. Marco
Richard C. Honeycutt
Gunther (Jack) Zweig
Willa Garner
Jan Chambers
James N. Seiber
Joseph Fenyes
Nancy N. Ragsdale
Don Baker
Joel Coats
Guy Paulson
Larry Ballantine
James Heitz
Ralph Mumma
Willis Wheeler
John Bourke
Hank Cutler
Paul Giesler
2000 Barry Cross
2001 Robert Hoagland
2003 Judd O. Nelson
2005 Rodney Bennett
2006 Terry D. Spittler
2007 John M. Clark
2008 Allan S. Felsot
2011 R. Donald Wauchop
2012 Jeffrey J. Jenkins
2013 John J. Johnston
2014 Cathleen J. Hapeman
2015 Kenneth D. Racke
2016 Stephen S. Duke
2016 Terresa A. Wehner
2014 Aldos C. Barefoot
2016 Jeanette M. Van Emon
2016 Kevin L. Armburst
2017 Del A. Koch
2017 Sharon K. Papiernik
2017 Pamela J. Rice

ACS Fellows from the AGRO Division

2009 Glenn Fuller
2010 James N. Seiber
2011 John W. Finley
2015 Rodney Bennett
N. Bushan Mandava
2012 Jeanette M. Van Emon
2014 Kevin Hicks
2014 Laura L. McConnell
2014 Kenneth D. Racke

ENVIRONMENTAL & TURF SERVICES, INC.

Providing water quality risk assessment, risk management, monitoring, and expert testimony services, including toxic torts.

- Regulatory assistance with EPA compliance (FIFRA and TSCA)
- Environmental modeling
- Focus on pesticide and fertilizer risk assessment for agriculture and turf
- Staff expertise in environmental chemistry and toxicology, agronomy, hydrogeology, hydrology, bioaccumulation assessment, and geographic information systems (GIS)
- Focus on lead and arsenic for shooting ranges
- FIFRA data compensation and toxic torts

Contact: Stuart Z. Cohen, Ph.D., CGWP
www.environmentalandturf.com
Wheaton, MD
301-933-4700
ets@ets-md.com
Yoshihisa Ozoe of Shimane University in Japan is the recipient of the 2016 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 insect physiology, biochemistry, toxicology, pharmacology of ligand-gated ion channels and G-protein coupled receptors (GPCRs), and QSAR of insecticides. A symposium in his honor and organized by Joel Coats and Aaron Gross will be held on Monday and Tuesday at the 252nd ACS National Meeting in Philadelphia.

The 2016 AGRO Award for Innovation in Chemistry of Agriculture, which is sponsored by BASF, will be awarded to Thomas Stevenson of DuPont Crop Protection. He will present his lecture on the discovery and optimization of biologically active molecules. Agnes Rimando of USDA-Agricultural Research Service is the winner of the 2016 Kenneth A. Spencer Award which is sponsored by the ACS Kansas City Section and cosponsored by AGRO and AGFD who will host her lecture on natural products. Both lectures will be on Tuesday.

The 2017 ACS International Award winner is Jeffrey Bloomquist of the University of Florida. This award will be presented in a symposium organized by John Marshall Clark at the Fall ACS meeting in Washington, DC. Nominations for the 2018 ACS International Award for Research in Agrochemicals and the 2017 AGRO Award for Innovation in Chemistry of Agriculture are currently being evaluated by the Awards Committee. The nomination criteria can be found on pages 23 and 25, respectively (December 31 deadline). Nominations for the 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 May Berenbaum of University of Illinois at Urbana-Champaign. She will present a lecture in a lunchtime symposium on Tuesday in Philly. This year, this event is hosted by AGFD and cosponsored by AGRO. Nominations for the 2017 Sterling Hendricks Lectureship Award are being solicited by USDA-ARS (see page 27; November 1 deadline).

The IUPAC, Division on Chemistry and the Environment, AGRO Division, and external awards. Nominations include a letter, noting the contributions to the Division, and a current curriculum vitae. 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
530-752-1141; jnseiber@ucdavis.edu

EDITOR’S NOTE: As we went to press, we were informed that Aldos Barefoot was awarded the ACS Fellow Award. His bio is on page 94. Congratulations Al!
When you’re dealing with an extremely hydrophobic, photosensitive product, satisfying regulatory requirements can be analytically challenging. EAG scientists have solved this problem using specially designed, large volume quartz photo tubes and a novel, direct-injection HPLC method. We measured adsorption to column walls by rinsing tubes and analyzing runoff, then tested samples at various light exposure intervals. Now our client—and regulators—have a clear picture of the compound’s natural degradation profile. How can you fully understand environmental fate? Ask EAG. We Know How.
You Are Cordially Invited To:

The AGRO Division

Awards & Social

Meet with friends new and old!
Celebrate AGRO award winners!

ACS International Award for Research in Agrochemicals
Yoshishisa Ozoe

AGRO Award for Innovation in Chemistry of Agriculture
Thomas Stevenson

ACS Fellow Award
Aldos Barefoot

AGRO Fellow Awards
Kevin Armbrust, Del Koch, Sharon Papiernik, Pamela Rice

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

ACS Kansas City Section Spencer Award
Agnes Rimando

USDA-ARS Sterling Hendricks Lecturer
May Berenbaum

AGRO New Investigator Award Finalists
Aaron Gross, Anson Main, Ana Maria Velez

AGRO Education Award Winners

Wednesday, August 24, 6:00 - 8:00 PM
Loews Philadelphia, Regency Ballroom B

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

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

Presented to Kevin Armbrust and Del Koch

Kevin L. Armbrust is a professor in and Chair of the Department of Environmental Sciences in the College of the Coast and Environment at Louisiana State University. He also holds the Claiborne Chair of Environmental Toxicology in this college. Kevin has served in the Vice Chair/Program Chair/Chair rotation for the AGRO Division and as a member of the Executive Committee; currently, he is an alternate councilor for AGRO. He has organized numerous symposia for AGRO. Within ACS he also is a member of the Division of Environmental Chemistry and serves on the editorial advisory board for the Journal of Agricultural and Food Chemistry.

Kevin received both his BS in Environmental Toxicology and his PhD in Agricultural and Environmental Chemistry from the University of California at Davis. He was employed by DuPont Agricultural Products as a regulatory scientist and has held faculty positions at the University of Georgia and at Mississippi State University.

While at MSU, Kevin served as the State Chemist of Mississippi, where he lead the state agency with shared responsibility and authority for the quality of animal feed, fertilizer, pesticides and petroleum products sold in the state, the safety of manufactured and retail food, as well as setting the standards and specifications for regulated commodities. He has served on the board of directors of the Association of American Feed Control Officials (AAFCO) and Association of Food and Drug Officials (AFDO). He currently holds an appointment on FDA’s Food Advisory Committee and sits on the Seafood Committee and Laboratory Science and Technology committee for AFDO.

Kevin’s research interests include assessing the fate and effects of chemicals in and upon Louisiana watersheds, wetlands, and coastal areas especially as they influence the regulatory sciences, as well as the risks associated with chemical contaminants in manufactured and retail food. Compounds of interest include petroleum related compounds, pharmaceuticals and personal care products, current use and legacy pesticides, and industrial chemicals.

Del A. Koch is a senior scientific advisor with the Evans Analytical Group (EAG). He has been an active member of the AGRO Division for approximately 18 years and has served as AGRO Treasurer from January 2012 through the present, shepherding AGRO through the very large IUPAC Pesticide Congress. He has greatly enjoyed his involvement in AGRO activities and especially his association with all of the generous, hard-working, and gifted individuals who serve the Division.

Del holds a BS in Chemistry from Centre College in Danville, Kentucky and an MS in Analytical Chemistry from the University of North Dakota. Before joining ABC Laboratories, Del worked at the Grand Forks, North Dakota Energy Technology Center and at the Howard Hughes Medical Institute at Washington University Medical School in St. Louis.

Del joined ABC Laboratories in 1980 as a bench chemist, analyzing crops, soils, and water for trace residues as part of regulatory studies to meet EPA registration requirements in the area of Field Residue Chemistry and Field Environmental Fate. More recently, Del served as a Senior Program Manager, working internally at ABC to develop and improve internal competencies and external communications for ABC’s service line offerings to the agrochemical industry.

Del currently holds the position of Senior Scientific Advisor in the Life Science Division at EAG, Inc. He also serves as a subject matter expert in the area of Residue Chemistry for EAG’s testing facilities in Easton, MD (formerly Wildlife International); Columbia, MO (formerly ABC Laboratories); Hercules, CA (formerly PTRL-West); and Ulm, Germany (formerly PTRL-Europe).

Del has served as a peer-reviewer for several journals, including the Journal of Agricultural and Food Chemistry. He is currently serving as an analytical consultant in the area of trace pyrethroid analyses for an industry task force. He is also a member of the National Alliance of Independent Crop Consultants (NAICC) and has chaired an NAICC symposium.

Congratulations Kevin and Del!
AGRO DIVISION FELLOW AWARDS
For continued and substantial contributions of time, talents, and service to the AGRO Division and agrochemical science

Presented to Sharon Papiernik and Pamela Rice

Sharon K. Papiernik is the Research Leader of the US Department of Agriculture, Agricultural Research Service, North Central Agricultural Research Laboratory in Brookings, SD. She served on the AGRO Executive Committee from 2010-2013, on the Awards Committee since 2011, and as Division Secretary since 2013. She was an active member of the 13th IUPAC Pesticide Congress Organizing and Scientific Programming Committees, co-organizing a symposium on emerging issues in pollinator health. She has served in numerous AGRO volunteer activities.

Sharon earned her BA in Chemistry from the University of Minnesota, Morris, and her PhD in Soil and Water Science from the University of Nebraska. She has 20 years of research experience with the USDA-ARS in the fate and transport of organic compounds in soil and water. Her research provides critical information for the development of agricultural management practices that protect soil and water quality and maintain crop productivity.

She has authored or co-authored more than 90 peer-reviewed publications. Recently, Sharon was named a Fellow of both the American Society of Agronomy and the Soil Science Society of America. She was also a member of a team that developed an ASTM-certified test for the permeability of agricultural films, which received a 2013 Federal Laboratory Consortium Outstanding Partnership Award and the 2015 USDA-ARS Technology Transfer Award for the Pacific West Area.

In addition to her leadership within USDA-ARS, Sharon is active in the American Society of Agronomy/Crop Science Society of America/Soil Science Society of America (ASA/CSSA/SSSA), the Soil and Water Conservation Society, and the International Soil Tillage Research Organization.

Pamela J. Rice is a Research Chemist at the US Department of Agriculture, Agricultural Research Service in Saint Paul, MN, and an adjunct professor at the University of Minnesota. Pam has been an active member of AGRO since graduate school and was awarded AGRO’s Young Scientist Pre-doctoral Research Award. Since then, she was invited to participate in the division’s Strategic Planning Workshops and was elected to the Executive Committee, serving multiple terms through 2013. In 2014, she assumed a more active leadership role when she was elected Vice Chair, serving as Program Chair last year and Chair this year.

Pam has co-organized a number of symposia at ACS national meetings on a multitude of subjects. For the 13th IUPAC Pesticide Congress, she co-chaired two symposia and served on the Organizing and Scientific Programming Committees and on the Outreach to Younger Chemists, Communications, and Social Committees. In 2008, she was a co-chair of the first symposium sponsored by an ACS division at a Society of Environmental Toxicology and Chemistry (SETAC) Annual meeting. Last year she initiated collaborative programming with SETAC and ACS-ENVR at the ACS Boston meeting with a symposium that brought SETAC’s Global Horizon Scanning Research Prioritization Project to AGRO members. The goal was to give AGRO a voice in a global research needs survey and to use the topics identified for collaborative future symposia with SETAC and ACS meetings.

The focus of Pam’s research is characterizing the environmental fate and transport of plant and animal protection products and contaminants of concern, the relationship of land use with the occurrence of contaminants in surface waters, and the assessment of mitigation strategies to reduce the off-site transport and potential ecological effects of contaminants. She currently serves as Lead Scientist on a multi-scientist research project in ARS.

Congratulations Sharon and Pam!
Ensuring that enough healthy, nutritious food is available to people everywhere is one of the most critical challenges facing humanity. From working with farmers to help them increase crop yields to developing a range of packaging materials that enable food to be transported without spoilage, we’re working every day to get more food to more people. Welcome to The Global Collaboratory.

Visit dupont.com/collaboratory to learn more.
Dr. Yoshihisa Ozoe was born and grew up in Izumo, Shimane Prefecture, which is located in the western part of the main island of Japan. He earned his bachelor’s degree (1974), master’s degree (1976), and doctorate (1982) in agricultural chemistry from Kyushu University, Japan. He became assistant professor of environmental chemistry in 1976 and associate professor of bioresource chemistry in 1989 at Shimane University. He is professor of life science and biotechnology at Shimane University from 1996, where he served as department chair for four years.

Dr. Ozoe began his research career by synthesizing insecticidal compounds in the pesticide chemistry laboratory under the supervision of Professor Morifusa Eto where he had the opportunity to study the mode of action of toxic bicyclophosphates. He synthesized the tert-butyl analog in 1976 and found that this type of compound inhibits spontaneous discharges in the GABAergic neuro-muscular junction of the earthworm. After receiving a doctoral degree, he joined Dr. Fumio Matsumura’s group as a research associate at the Pesticide Research Center, Michigan State University (1982 – 1984). He engaged in synthetic work on picrotoxinin/cyclodiene hybrid compounds to support Dr. Matsumura’s notable discovery that cyclodiene insecticides act as GABA receptor antagonists. Dr. Ozoe also worked as a visiting associate professor in Dr. Matsumura’s laboratory at University of California-Davis in 1991 to clone genes encoding insect GABA receptor subunits.

Dr. Ozoe has mainly been studying the modes of action and the structure-activity relationships of insecticidal compounds. His major focus of research is on insect and nematode ligand-gated ion channels as targets of pest control chemicals. While synthesizing noncompetitive antagonists (NCAs) of GABA receptors, he found that structurally diverse NCAs act at the same site and that some of them are selective to insect receptors. He characterized the NCA binding site and showed that the receptor selectivity of NCAs can be changed by their structural modifications. He also indicated that novel chemical types of NCAs, isoxazolines and benzamides, bind to an allosteric site(s) different from the site for conventional NCAs in insect GABA receptors. He recently investigated the actions of competitive antagonists on insect GABA receptors and demonstrated that the orthosteric site is a potential binding pocket for insecticides. His group achieved the cloning, heterologous expression, and characterization of several insect GABA and glutamate receptors as targets of insecticides.

Dr. Ozoe’s research focus is also on G protein-coupled receptors (GPCRs) as targets of insecticides. To study the molecular pharmacology of biogenic amine GPCRs, his group cloned cDNAs encoding two types of octopamine receptors and two types of tyramine receptors from the silkworm. The signaling pathways of insect phenolamine GPCRs and the pharmacology of formamidine insecticides/ACARicides were made clearer by these studies.

Dr. Ozoe has made important contributions to the understanding of the mode of action and the selectivity of GABA receptor antagonists to lead to the development of novel insecticides. His GPCR researches enhanced our understanding of the molecular mechanisms of action of octopamine receptor agonist insecticides. He was the recipient of the High-Prospectiveness Award (1985) and the Prominent-Achievement Award (2004) from the Pesticide Science Society of Japan and the Kitaji Mochizuki Award (2004) from the Biosafety Research Center, Japan.

Please join us in a day-long symposium honoring Dr. Ozoe on Monday, August 22, at 8:25 AM in the Commonwealth Hall D.
Why do we invest more than the industry average in R&D each year?

Simple — to make this his best year ever.

A lot of companies may say they're dedicated to bringing innovative solutions to growers, but BASF truly delivers. We invest such a high percentage of our annual sales back into research and development that we beat the industry average by 23%. It’s this level of commitment to growers that enabled us to discover breakthrough solutions such as Headline® fungicide and Kixor® herbicide technology, now the largest herbicide launch in two decades. And it’s what will help us roll out 28 more cutting-edge products over the next four years. Or should we say, the best four years yet.

To learn more about BASF, visit agproducts.basf.com today.
Dr. Thomas M. Stevenson was born Murphysboro, Illinois. He was educated in the public school systems in Muncie, Indiana and Granite City, Illinois. Dr. Stevenson graduated magna cum laude with a BS in chemistry from Saint Louis University in 1979 where he carried out undergraduate research on the Heck Reaction with Harold A. Dieck funded by a Monsanto Summer Fellowship. He received a PhD 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 in Switzerland from 1983 to 1985 with Wolfgang Oppolzer, Dr. 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 St. Louis University. During his doctoral studies he held a University of Illinois Graduate Fellowship. Dr. Stevenson’s scientific achievements at DuPont were honored with the DuPont 2010 Pedersen Medal. As a co-inventor of the blockbuster insecticides Rynaxypyr® and Cyazypyr®, he has also received the DuPont Bolton-Carothers Innovative Science Award (twice), the DuPont Sustainable Growth Excellence Award, and the R&D 100 Award, all in 2008. In 2010 he was the recipient of the ACS Award for Team Innovation and the IPO Inventor of the Year. He was a member of the DuPont team which received the Heroes of Chemistry award in 2013 for the discovery of Rynaxypyr®. Most recently, he received the Industrial Award from the Philadelphia Organic Chemists Club in 2015. In addition, 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.

Dr. Stevenson holds 65 issued United States Patents. He also has presented over 100 lectures and posters at scientific meetings and universities as well as been an author on more than 30 papers. He has successfully nominated colleagues and teams as well as university professors for internal and external awards and honors (including DuPont’s first two Agrow Awards). Since 2000 he also has been active in the American Chemical Society and IUPAC as a symposium and topic organizer for both the Organic and AGRO Divisions.

He is married and is the father of two daughters. Natalie is a graduate of the University of Delaware with degrees in Environmental Science and Biology. Nicole is a graduate of Bridgewater College in Virginia with degrees in French and International Studies.

Dr. Stevenson will be presented this award prior to his lecture on Tuesday, August 23, at 1:50 PM in the Commonwealth Hall D.

The AGRO Division is grateful for the sustained support of the AGRO Innovation Award.
ADVANCING SCIENCE AND TECHNOLOGY THROUGH INNOVATION

Dow AgroSciences empowers the best scientific minds to develop sustainable agricultural innovations. Our entrepreneurial spirit and commitment to scientific excellence drive our researchers to discover and implement the right solutions at the right time for our customers, the environment and our growing world.

dowagro.com
Harmonized approaches to crop protection for minor uses: Past, present, and future

Dr. Daniel L. Kunkel has been active for the past 25 years in advancing innovative research and harmonized approaches for regulation of crop protection chemicals and establishment of food residue standards supporting minor uses and specialty crops. He currently serves as Associate Director of IR-4’s Food and International Programs at Rutgers University, New Jersey, where he has been on staff since 1991. The IR-4 Project is a publicly-funded (USDA) research program that provides safe and effective pest management tools to growers of specialty crops through the generation of high quality data for regulatory approvals.

For many years, Dr. Kunkel and the IR-4 Project have led efforts to develop field residue trial data to achieve registration approvals and support harmonized maximum residue limits (MRLs) for specialty crops as established by US EPA and other national regulatory authorities to support trade. In the process, he has promoted adoption of cross-regional data sharing, streamlined assessment approaches, and worked tirelessly to resolve scientific issues. One of the hallmarks of Kunkel’s efforts has been the highly collaborative nature of his work. As noted by one of his nominators: Dan has played a pivotal role in coordinating efforts of the grower community, government regulators, crop protection industry, academic researchers and institutions, and policymakers worldwide in garnering, maintaining and improving support for crop protection uses for specialty products.

Leadership of global cooperation efforts through the Global Minor Use Summit (GMUS) has been one of Kunkel’s most significant international contributions. Three of these unique gatherings, involving hundreds of participants from more than 50 countries, have yielded new global consensus and collaborative action plans for advancing harmonization efforts related to minor use registrations and MRLs. As recognized by other award nominators, Dr. Kunkel has been a champion of international harmonization of regulatory standards… and Dan personally has been relentless in developing the infrastructure and personal relationships around the globe to facilitate mutual understanding and respect in addressing MRL issues.

Dr. Kunkel will be presented this award prior to his lecture on Wednesday, August 24, at 8:25 AM in the Commonwealth Hall D.

About this Award
The 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. Awardees receive a USD 3000 honorarium plus travel and per diem reimbursement to attend the award presentation ceremony. Corporate sponsorship for the award is provided by Dow AgroSciences. The award is administered by the IUPAC Advisory Committee on Crop Protection Chemistry and is presented on a biennial basis during even-numbered years. For further information on the award, contact IUPAC Committee Chair, John Unsworth, unsworjo@aol.com, or visit the IUPAC Website at www.iupac.org.

Previous Awardees
2014 Árpád Ambrus, National Food Chain Safety Office, Budapest, Hungary
2012 Lois A. Rossi, Office of Pesticide Programs, US Environmental Protection Agency, Washington, DC, USA
2010 Denis J. Hamilton, Animal and Plant Service, Queensland Department of Primary, Industries, Brisbane, Australia

IUPAC is grateful for the sustained support of the award sponsor

Dow AgroSciences
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)
Dr. Agnes M. Rimando is the 2016 recipient of the Kenneth A. Spencer Award for Outstanding Achievements in Agricultural and Food Chemistry. The Award is supported and administered by the Kansas City Section of the American Chemical Society.

She will receive this most prestigious award of the ACS for agricultural and food chemistry at the Spencer Award Banquet in Kansas City, Missouri, on September 16, 2016. She will also be recognized by an Awards Symposium at the ACS National Meeting and Exhibition in Philadelphia. The symposium is co-sponsored by the AGFD and AGRO Divisions.

Dr. Rimando hails from the Philippines and completed her PhD degree at the University of Illinois at Chicago. She has about 30 years of experience in natural products research, including research stints as a UNESCO scholar in Korea (1985), where she performed her MS thesis, and as a Monbusho Research Scholar in Hiroshima, Japan (1985-87). She has been working with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS) since 1995 where she started as a Postdoctoral Research Associate at the USDA-ARS Russell Research Center in Athens, Georgia.

Currently, Dr. Rimando is a Research Chemist and a Lead Scientist at the USDA-ARS Natural Products Utilization Research Unit in Oxford, Mississippi. Her research involves isolation, chemical structure elucidation, qualitative and quantitative analysis, synthesis, and determination of biological activity of phytochemicals for nutraceutical and pesticidal use. In the past twelve years, her research has focused on a group of phenolic compounds, the stilbenes, specifically the compound pterostilbene.

Dr. Rimando is internationally known for her discovery of pterostilbene in blueberries and its many health benefits. Reports on increases in blueberry sales, up to 185% in the UK, had been attributed to her research results. She is an inventor or co-inventor of seven USDA patents related to pterostilbene that have been licensed and have led to commercialization of at least 40 pterostilbene-containing products currently on the market.

She has received several awards in the past for her outstanding research and scientific contributions. These include the 2014 ACS Fellow, 2014 ACS-AGFD Fellow, 2014 Federal Laboratory Consortium (FLC) Excellence in Technology Transfer Award, 2011 FLC Southeast Region Excellence in Technology Transfer Award, 2010 ACS Ole Miss Section Researcher of the Year, and 2009 USDA ARS Mid-South Area Senior Scientist of the Year.

Dr. Rimando will present her award lecture as part of the AGFD program on Tuesday, August 23, at 8:00 AM in the Pennsylvania Convention Center Room 111B.
Research for the Growing World

USDA’s Agricultural Research Service plays a vital role in improving the production, quality, and quantity of food, feed, fiber, and fuel... ensuring our nation has the safest and most nutritious, abundant, and sustainable food supply in the world.

Our scientists find solutions to challenging and complex issues that affect Americans every day.

Learn more about our research and career opportunities—
Web: www.ars.usda.gov | Twitter: www.twitter.com/USDA_ARS
**2016 STERLING B. HENDRICKS MEMORIAL LECTURESHIP AWARD**

Sponsored by USDA-Agricultural Research Service
Co-Sponsored by AGFD & AGRO Divisions

*How to eat a plant: Phytochemical detoxification in bees vs. butterflies*

**Dr. May R. Berenbaum** is an entomologist whose research has focused on the chemical mechanisms underlying interactions between insects and their host plants. Insects produce a wide variety of chemical compounds for combating predators, detoxifying poisonous substances, securing and preserving food, and otherwise exerting control over their environment.

Her work has transformed the field of chemical ecology, fundamentally changing our understanding of the implications of the dealings between insects that eat plants and the plants they eat, especially on the organization of biological communities and the evolution of the species that make them up.

Dr. Berenbaum’s research also has provided a genetic basis for the theory of coevolution through elegant ecological experiments and chemical and genetic analyses. It clearly has shown the consequences of the “arms race” that exists between plants and the insects that feed on them.

In addition, Dr. Berenbaum is concerned with the practical application of ecological principles to insect-plant interactions in an agricultural context as well as the use of these principles to facilitate bioprospecting—the identification of pharmacologically active substances in plants. Her work also provided a clear outline for how insects evolve resistance to insecticides. This research gives a vivid example of how studies in the basic realm of chemical ecology can inform agricultural practices.

Going far beyond a narrow research focus, Dr. Berenbaum has taken leadership roles on major insect-related problems that are front and center issues today: insects and GM crops, pollinator declines, invasive species, pesticides and resistance, and insect conservation. She is one of the prominent researchers in the scientific response to Colony Collapse Disorder and other stresses involved in the escalating colony losses that beekeepers have been facing.

Along with her path-breaking scientific discoveries, Dr. Berenbaum has had a major impact on the environmental sciences through her public engagement. With her commitment to making complicated scientific subjects, especially entomology, accessible for the public, she has become one of the leading public authoritative sources for information on insects in the country.

Since 1992, Dr. Berenbaum has been head of the department of entomology at the University of Illinois at Urbana-Champaign. She also has held the endowed Swanlund Chair of Entomology at U of I since 1996. President Barack Obama awarded Dr. Berenbaum the National Medal of Science, the nation’s highest scientific honor, in 2014.

Among her many other honors and awards are National Associate, an honor reserved for National Academy of Sciences members who have made extraordinary contributions to the National Research Council; Fellow, American Association for the Advancement of Science; Fellow, American Academy of Arts and Sciences; Tyler Prize for Environmental Achievement; George Mercer Award, Ecological Society of America; Founder’s Memorial Award, Entomological Society of America; and Public Understanding of Science and Technology Award, American Association for the Advancement of Science.

She also has had a new species of cockroach named after her (*Xestoblatta berenbauma*) as well as a character in The X-Files: Dr. Bambi Berenbaum, a famous entomologist and love-interest of Agent Mulder.

*By Kim Kaplan, USDA-ARS*

---

**Dr. Berenbaum will deliver her lecture immediately following presentation of the Sterling Hendricks Award on Tuesday, August 23, at 11:00 AM, in the Pennsylvania Convention Center, Room 110B.**
We need plants to be less thirsty so people don’t go hungry.

Agriculture already uses 70% of the world’s fresh water. And many countries are facing severe shortages. A rising global population and changing rainfall patterns mean we must make the most of this precious resource. As one of the world’s leading agricultural companies, Syngenta is helping farmers to grow more while also conserving water. As part of The Good Growth Plan, we are committed to improving the average productivity of the world’s major crops by 20% without using more water, land or inputs. And we are ready to work with growers, governments, NGOs and all who share this agenda. Please follow our progress at www.goodgrowthplan.com
Dr. Gunda Thöming started her career at the Institute of Plant Diseases and Plant Protection, Leibniz University in Germany where she obtained her PhD in Horticultural Science, Plant Protection/Entomology in 2005. While there and at the Asian Institute of Technology, Pathumthani in Thailand, she investigated systemic effects of active neem ingredients to control thrips. She continued her research on environmentally beneficial pest insect management at the Department of Ecological Plant Protection, University of Kassel, where she focused her research on insect chemical ecology and insect behaviour, particularly the use of kairomones, such as plant volatiles, in plant protection.

While at the Swedish University of Agricultural Sciences, Dr. Thöming studied the behavioural mechanisms involved in host plant choices of herbivore insects. She returned to applied research on kairomones and other semiochemicals and their use in pest insect management when she moved to the Norwegian Institute for Agricultural and Environmental Research. Chemical ecology is the study of how organisms sense their surrounding through chemical stimuli (olfaction and taste) and a growing science field worldwide. However, the knowledge on interactive mechanisms between environment and hosts, their chemical traits and effects on insect behavior in diverse natural settings out in the field is often lacking. This deficit is limiting the knowledge transfer from laboratory results to applied use of semiochemicals in pest insect control.

Since 2013, Dr. Thöming has been working with colleagues from the Norwegian Institute of Bioeconomy Research, the Norwegian Institute of Public Health, the Swedish University of Agricultural Sciences, and the University of Kassel on the establishment of an applied chemical ecology research group which aims for knowledge transfer from basic insect chemical ecology to pest control technology in food production and human health.


Dr. Shengmin Sang is currently an Associate Professor and Lead Scientist for Functional Foods and Human Health of North Carolina Agricultural and Technical State University at North Carolina Research Campus in Kannapolis. He is also a full-faculty member in the UNC Linebergar Comprehensive Cancer Center at University at North Carolina Chapel Hill and an adjunct faculty in the Department of Food, Bioprocessing, and Nutritional Sciences at North Carolina State University.

Dr. Sang’s lab has interest in purifying and identifying bioactive components from functional foods and herbal medicine and to study their bioavailability, biotransformation, and preventive effects on cancer and metabolic syndrome using in vitro and in vivo models. He has published over 150 peer-reviewed articles in reputable journals and over 20 book chapters. He has also received three U.S. patents. Dr. Sang’s research has been supported by research grants from NIH, USDA, NCBC, private foundations as well as private companies. He has received several professional awards, such as the Young Scientist Award and the Fellow Award of the Agricultural and Food Chemistry Division of the American Chemical Society, and the Matthew Suffness Young Investigator Award of the American Society of Pharmacognosy. He also serves as the Editorial Board member of Journal of Agricultural and Food Chemistry and Journal of Functional Foods.

The title of Dr. Sang’s lecture is Identification of bioactive components in wheat bran: An example of team science which he will present at the Journal of Agricultural and Food Chemistry Best Paper Award Session on Sunday, August 21, beginning at 1:00 PM at the Pennsylvania Convention Center Room 110B.
PAST Awardees of the Burdick & Jackson International Award

1969 John E. Casida, University of California-Berkeley
1971 Robert L. Metcalf, University of Illinois, Champagne-Urbana
1972 Ralph L. Wain, Wye College, University of 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, Fukuoka, 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. Georgiou, 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), Brightown, 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 Roehm and Haas and DuPont Crop Protection, Wilmington, Delaware
2016 Yoshihisa Ozoe, Shimane University, Japan.
CALL FOR NOMINATIONS
ACS INTERNATIONAL AWARD FOR RESEARCH IN AGROCHEMICALS
Sponsored by DuPont Crop Protection

2018 Fall ACS National Meeting in Boston, Massachusetts

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 2018 Fall National ACS Meeting in honor of the awardee.

Special thanks to our sponsor for their generous contribution!
Together we provide comprehensive solutions to regulatory, scientific, and technical agrochemical challenges.

Intrinsik is widely recognized as one of the leading ecological risk assessment firms in North America, particularly with respect to agrochemicals.

Clients choose Stone Environmental for sound study design, thoughtful modeling solutions, and cost-effective results that support crop protection chemical registration at state, national, and international levels.
2017 Fall ACS National Meeting in Washington, DC

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 254th National ACS Meeting in August 2017 in Washington, DC.

PAST Awardees of the ACS Award for Innovation in Chemistry of Agriculture

2012 Steven J. Lehotay, USDA-Agricultural Research Service, Wyndmoor, Pennsylvania
2013 Jeanette M. Van Emon, US Environmental Protection Agency, Las Vegas, Nevada
2014 Scott R. Yates, USDA-Agricultural Research Service, Riverside, California
2015 Thomas C. Sparks, Dow AgroSciences, Indianapolis, Indiana
2016 Thomas M. Stevenson, DuPont Crop Protection, Newark, Delaware
Please contact either John Hanzas (Stone) or Scott Teed (Intrinsik) for more information and let us help you solve your capacity, scientific or technical issues with respect to agrochemicals.

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

John Hanzas
802.229.1877 | jhanzas@stone-env.com

Scott Teed
613.761.1464 | steed@intrinsik.com

Risk Assessment
- Ecological and human health risk assessment
- Registration, re-registration, and stewardship of agrochemicals
- Endangered species risk assessment (national and lawsuit driven)
- Pollinator environmental risk assessment
- Regulatory and legal support services
- Public consultation and communication
- Epidemiology
- Refined exposure modeling
- 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 (VF SMOD)
- 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.
CALL FOR NOMINATIONS

2017 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 2016 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, 2016.

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 lecture 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 254th American Chemical Society National Meeting held in 2016 in Philadelphia, Pennsylvania, 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 (hard copy only)

Nomination letters may be sent electronically to:
Kim Kaplan, Lecture Coordinator
kim.kaplan@ars.usda.gov

Hard copy nominations and curriculum vitae are to be submitted via courier to:
Kim Kaplan, Lecture Coordinator
ARS Information Office
Room 1-2253, Mail Stop #5128
5601 Sunnyside Ave
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
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. Amtzen, 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
Smithers Viscient Presentations at the 252nd American Chemical Society National Meeting

Application of toxicokinetics in regulatory-mandated toxicity testing of plant protection products (PPPs): From concept to application

and

Use of toxicokinetics to improve the current extended one-generation reproductive toxicity (EOGRT) study design

Presented by Dr. Shakil Saghir

Pollinator tier I risk assessment: A link between laboratory and field studies

Presented by Dr. Kalumbu Malekani

Making the most of the information in accurate mass spectrometric data

Presented by Dr. James Ferguson

Navigating the pesticide related regulatory landscape with respect to individual state legal cannabis cultivation in the US

Presented by Dr. Paul Reibach

Contact us to set up an appointment during the ACS meeting.
info@SmithersViscient.com
www.SmithersViscient.com
CALL FOR NOMINATIONS
2017 KENNETH A. SPENCER AWARD
Sponsored by ACS KANSAS CITY SECTION

The Kansas City Section of the American Chemical Society is soliciting nominations for the 2017 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/SpencerAward.html

Send nomination by November 15, 2016, 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

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955</td>
<td>Ralph M. Hixon</td>
<td>Iowa State University</td>
</tr>
<tr>
<td>1956</td>
<td>Conrad A. Elvehjem</td>
<td>University of Wisconsin</td>
</tr>
<tr>
<td>1957</td>
<td>William C. Rose</td>
<td>University of Wisconsin</td>
</tr>
<tr>
<td>1958</td>
<td>E.V. McCollum</td>
<td>Johns Hopkins University</td>
</tr>
<tr>
<td>1959</td>
<td>Karl Folkers, Merck, Sharpe &amp; Dohme Res. Labs.</td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td>C.H. Bailey</td>
<td>University of Minnesota</td>
</tr>
<tr>
<td>1961</td>
<td>H.L. Haller, USDA-Agricultural Research Service</td>
<td></td>
</tr>
<tr>
<td>1962</td>
<td>A.K. Balls, USDA-Agricultural Research Service</td>
<td></td>
</tr>
<tr>
<td>1963</td>
<td>C.C. King, Rockefeller Foundation</td>
<td></td>
</tr>
<tr>
<td>1964</td>
<td>Daniel Swern, Temple University</td>
<td></td>
</tr>
<tr>
<td>1965</td>
<td>Aaron M. Altschul, USDA-Agricultural Research Service</td>
<td></td>
</tr>
<tr>
<td>1966</td>
<td>Robert L. Metcalf</td>
<td>University of California-Riverside</td>
</tr>
<tr>
<td>1967</td>
<td>Melville L. Wolfson, The Ohio State University</td>
<td></td>
</tr>
<tr>
<td>1968</td>
<td>Herbert E. Carter</td>
<td>University of Illinois</td>
</tr>
<tr>
<td>1969</td>
<td>Edwin T. Mertz</td>
<td>Purdue University</td>
</tr>
<tr>
<td>1970</td>
<td>Lyle D. Goodhue, Phillips Petroleum Company</td>
<td></td>
</tr>
<tr>
<td>1971</td>
<td>William J. Darby</td>
<td>Vanderbilt University</td>
</tr>
<tr>
<td>1972</td>
<td>Emil M. Mrak, University of California-Davis</td>
<td></td>
</tr>
<tr>
<td>1973</td>
<td>Esmond E. Snell</td>
<td>University of California-Berkeley</td>
</tr>
<tr>
<td>1974</td>
<td>Roy L. Whistler</td>
<td>Purdue University</td>
</tr>
<tr>
<td>1975</td>
<td>Thomas H. Jukes</td>
<td>University of California-Berkeley</td>
</tr>
<tr>
<td>1976</td>
<td>E. Irvine Liener</td>
<td>University of Minnesota</td>
</tr>
<tr>
<td>1977</td>
<td>N. Edward Tolbert</td>
<td>Michigan State University</td>
</tr>
<tr>
<td>1978</td>
<td>John E. Casida</td>
<td>University of California-Berkeley</td>
</tr>
<tr>
<td>1979</td>
<td>Charles W. Gehrke</td>
<td>University of Missouri-Columbia</td>
</tr>
<tr>
<td>1980</td>
<td>George K. Davis</td>
<td>University of Florida-Gainesville</td>
</tr>
<tr>
<td>1981</td>
<td>John Speziale, Monsanto Agricultural Products Co.</td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>Howard Bachrach</td>
<td>USDA-Agricultural Research Service</td>
</tr>
<tr>
<td>1983</td>
<td>Peter Albersheim</td>
<td>University of Colorado</td>
</tr>
<tr>
<td>1984</td>
<td>Richard H. Hageman</td>
<td>University of Illinois</td>
</tr>
<tr>
<td>1985</td>
<td>Bruce N. Ames</td>
<td>University of California-Berkeley</td>
</tr>
<tr>
<td>1986</td>
<td>John M. Brenner</td>
<td>Iowa State University</td>
</tr>
<tr>
<td>1987</td>
<td>Hector F. DeLuca</td>
<td>University of Wisconsin-Madison</td>
</tr>
<tr>
<td>1988</td>
<td>Boyd L. O'Dell</td>
<td>University of Missouri-Columbia</td>
</tr>
<tr>
<td>1989</td>
<td>Robert H. Burris</td>
<td>University of Wisconsin</td>
</tr>
<tr>
<td>1990</td>
<td>John E. Kinsella</td>
<td>University of California-Davis</td>
</tr>
<tr>
<td>1991</td>
<td>George Levitt, DuPont Experimental Station</td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>Clarence A. Ryan, Jr.</td>
<td>Washington State University</td>
</tr>
<tr>
<td>1993</td>
<td>Bruce Hammock</td>
<td>University of California-Davis</td>
</tr>
<tr>
<td>1994</td>
<td>William S. Bowers</td>
<td>University of Arizona</td>
</tr>
<tr>
<td>1995</td>
<td>Robert T. Fraley</td>
<td>Ceregen, A Unit of Monsanto Co.</td>
</tr>
<tr>
<td>1996</td>
<td>James N. BeMiller</td>
<td>Purdue University</td>
</tr>
<tr>
<td>1997</td>
<td>William M. Doane</td>
<td>USDA-Agricultural Research Service</td>
</tr>
<tr>
<td>1998</td>
<td>Mendel Friedman</td>
<td>USDA-Agricultural Research Service</td>
</tr>
<tr>
<td>1999</td>
<td>James A. Sikorski</td>
<td>Monsanto Co.</td>
</tr>
<tr>
<td>2000</td>
<td>Wendell L. Roelofs</td>
<td>Cornell University</td>
</tr>
<tr>
<td>2001</td>
<td>James Tumlinson</td>
<td>USDA-Agricultural Research Service</td>
</tr>
<tr>
<td>2002</td>
<td>Daniel W. Armstrong</td>
<td>Iowa State University</td>
</tr>
<tr>
<td>2003</td>
<td>Eric Block, University of Albany, State Univ. New York</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>Steven D. Aust</td>
<td>Utah State University</td>
</tr>
<tr>
<td>2005</td>
<td>Don R. Baker</td>
<td>Berkeley Discovery Inc.</td>
</tr>
<tr>
<td>2006</td>
<td>Russell Molyneux</td>
<td>USDA-Agricultural Research Service</td>
</tr>
<tr>
<td>2007</td>
<td>David A. Schooley</td>
<td>University of Nevada-Reno</td>
</tr>
<tr>
<td>2008</td>
<td>Ron G. Butterly</td>
<td>USDA-Agricultural Research Service</td>
</tr>
<tr>
<td>2009</td>
<td>George P. Lahm</td>
<td>DuPont Crop Protection</td>
</tr>
<tr>
<td>2010</td>
<td>Clive A. Henrick</td>
<td>Trece, Inc.</td>
</tr>
<tr>
<td>2011</td>
<td>Michael W. Pariza</td>
<td>University of Wisconsin-Madison</td>
</tr>
<tr>
<td>2012</td>
<td>James N. Seiber</td>
<td>University of California-Davis</td>
</tr>
<tr>
<td>2013</td>
<td>Attila Pavlath</td>
<td>USDA-Agricultural Research Service</td>
</tr>
<tr>
<td>2014</td>
<td>Ronald Horst</td>
<td>USDA-Agricultural Research Service</td>
</tr>
<tr>
<td>2015</td>
<td>Thomas Selby</td>
<td>DuPont Crop Protection</td>
</tr>
<tr>
<td>2016</td>
<td>Agnes Rimando</td>
<td>USDA-Agricultural Research Service</td>
</tr>
</tbody>
</table>
We bring it all together

Our strength: Offering a comprehensive range of services including complete registration: from GLP report to finished dossier, with appropriate support before, during and after submission – all from a single source.

CPS laboratory services at a glance:
- Residue analytical services: MORs, feeding studies, stability, TFDs, DRFs, ecotox analytical support, method development
- Environmental Fate: Soil and sediment 14C degradation/metabolism, column leaching, Ads/Des, photolysis, hydrolysis
- Product support services: 5-Batch analyses, method development and validation, GLP characterizations

Our regulatory and scientific services at a glance:
- Registration services and project management
- Preparation and compilation of registration dossiers
- Strategic consultancy
- Analysis and preliminary assessment of available data including check of completeness
- Management and monitoring of all relevant studies
- Identity and physico-chemical parameters
- Metabolism, Toxicology and Human Exposure
- Residues, Risk Assessment and Import Tolerances
- Environmental Fate
- Modelling, Exposure Assessment
- Ecotoxicology Risk Assessments, incl. Higher Tier Risk Assessments
- Efficacy, Biological Assessment Dossiers

Serving the regulated scientific community in the crop protection industry, our laboratory and regulatory business units lift you over your product development hurdles.

Critical Path Services, LLC
Rodney Bennett
Vice President Agrochemicals
Business Development
Tel. +1 610 805 3482
rodney.bennett@criticalpathservices.com

Pat delisio
Vice President Laboratory Services
Tel. +1 610 558 3001 ext. 122
pat.delisio@criticalpathservices.com

www.criticalpathservices.com
CALL FOR NOMINATIONS

2017 RESEARCH ARTICLE OF THE YEAR 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 2016 (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 2017, and the award will be presented at the Fall 2017 ACS National Meeting held in August in Washington, DC.

Send your nominations to
jafcaward@acs.org

Deadline for nominations
December 31, 2016
Solutions to Eliminate Risk and Improve Performance

Managing risk throughout your product’s life cycle is one of the biggest challenges you face. We provide the expertise to help you implement flexible, efficient and scientifically rigorous product stewardship solutions that reduce liability, promote regulatory compliance, facilitate delivery, increase competitive advantage and add value to your bottom line.

We are Arcadis.
Improving quality of life.

For more information, visit www.arcadis.com/us/product-stewardship.
Dr. Aaron Gross received his MS and PhD in Toxicology (minor in Neuroscience and Entomology) from Iowa State University of Science and Technology in 2014 under the direction of Dr. Joel Coats and Dr. Michael Kimber. For his dissertation, Dr. Gross received a U.S. Environmental Protection Agency - Science to Achieve Results (EPA-STAR) fellowship to study the mechanism of action of plant essential oil terpenoids against a tyramine receptor from the southern cattle tick. Currently, he is a Postdoctoral Research Associate at the Emerging Pathogens Institute at the University of Florida. Dr. Gross is interested in studying the mode of action and mechanisms of resistance associated with pesticides. His research focuses on understanding the physiology, pharmacology, and toxicology of G-Protein Coupled Receptors (GPCRs) in arthropods. Dr. Gross’ previous education includes a BS in Biochemistry and a BS in Biomedical Sciences from St. Cloud State University.

TUESDAY, Commonwealth Hall A1 1:30 – 205. NEW INVESTIGATOR AWARD FINALIST. Are muscarinic acetylcholine receptors the target of a new pyrazole oxime insecticide? A.D. Gross, P.R. Carlier, S. Jiang, B. Sun, F. Tong, M.M. Totrov, J.R. Bloomquist

Dr. Anson Main is a postdoctoral research associate with the Department of Fisheries and Wildlife Sciences at the University of Missouri-Columbia. Dr. Main received his PhD in Environment and Sustainability from the University of Saskatchewan in 2016 under the supervision of Dr. Christy Morrissey. His research is interdisciplinary in scope, and he currently focuses on an investigation of neonicotinoid seed treatment use and its potential effects on beneficial insects, specifically diverse native pollinator communities. Previously, his doctoral research and associated publications examined the fate and transport of neonicotinoids in agricultural wetlands of Canada’s Prairie Pothole Region. He is a three-time recipient of the Saskatchewan Innovation and Opportunity Scholarship for recognition of his research in a University-designated signature-area of freshwater resource conservation. Dr. Main has broad interests in ecology, environmental planning, and environmental science (including anthropogenic stressors) and is specifically interested in the fate, transport, and effects of chemicals and pollutants on ecosystems at a range of scales. Prior to receiving his PhD, Anson earned an MLA in Landscape Architecture (University of Toronto) and a BA from the University of Alberta.


Dr. Ana María Vélez received her PhD in Entomology from the University of Nebraska-Lincoln in 2013 under the direction of Dr. Blair Siegfried. Dr. Vélez has also received an MS in Entomology from the National University of Colombia and a BS in Biology from Pontificia Universidad Javeriana in Colombia. She is currently a Research Assistant Professor at the University of Nebraska-Lincoln and recently she accepted an Assistant Professor position at the same institution. Dr. Vélez’s research addresses the mode of action, resistance evolution, and potential effects on non-target arthropods of biotechnology crops, specifically Bt crops and RNA interference (RNAi). Her research on Bt resistance involves monitoring resistance in the European corn borer and characterizing resistance in different insects to improve resistance management strategies. Her RNAi research includes the understanding of the mode of action of RNAi in the western corn rootworm, identification and characterization of RNAi targets for the western corn rootworm, and risk assessment of RNAi. In addition, she teaches the undergraduate class Toxins in the Environment and will be teaching the graduate level class Insect Toxicology in the upcoming fall semester.

TUESDAY, Commonwealth Hall A1 1:55 – 206. NEW INVESTIGATOR AWARD FINALIST. RNAi for western corn rootworm management. A. Velez, E. Fishilevich, K.E. Narva, B. Siegfried
Growing a healthier world, one harvest at a time.

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.

Learn more at www.cropscience.bayer.us.

Follow us @Bayer4CropsUS
Congratulations to all our travel grant winners!

**ORAL PRESENTATIONS**

Alison Franklin, Reusing wastewater in agriculture: Groundwater quality, plant uptake, and antibiotic resistance? Penn State, Jack Watson. AGRO 117

Shiyao Jiang, Mosquitocidal activity and mode of action of the isoxazoline fluralaner, University of Florida at Gainesville, Jeff Bloomquist. AGRO 211

Rachel Mullen, Analysis of plant uptake and effects of pharmaceuticals using liquid chromatography tandem mass spectrometry, University of New York at Buffalo, Diana Aga. AGRO 200

Jaben Richards, Mechanisms of pyrethroid degradation on urban surfaces. University of California, Riverside, Jay Gan. AGRO 169

Parichehr Saranjampour, Water solubility and n-octanol/water partition coefficient measurements of pesticides, in freshwater and seawater, Louisiana State University, Kevin Armbrust. AGRO 266

**POSTER PRESENTATIONS**

Nita Gabriela Chavez Soria, Mass Spectral identification of biomarkers of exposure to silver nanoparticles in corn roots, University of New York at Buffalo, Diana Aga. AGRO 227

Zachary Cryder, Effects of pesticide application methods on urban runoff of fipronil and its degradation products, University of California, Riverside, Jay Gan. AGRO 143

Corey Griffith, Probing the metabolomic impacts of chloroacetanilide herbicides on earthworm coelomic fluid University of California, Riverside, Cynthia K. Larive. AGRO 229

Ping He, Mass spectrometry based method for measuring vitellogenin in fish as biomarker of exposure to endocrine disrupting chemicals, University of New York at Buffalo, Diana Aga. AGRO 233

James Klimavicz, Monoterpenoid derivatives as biorational mosquito repellents, Iowa State University, Joel Coats. AGRO 159

Nicholas Larson, Behavioral actions of heterocyclic amines on honey bees, Virginia Tech, Troy Anderson. AGRO 149

Eryn Matich, Characterization of value-added biochemicals using mass spectrometry-based metabolomics in a non-model microalga, University of New York at Buffalo, G. Ekin Atilla-Gokcumen. AGRO 226

Edmund Norris, Exploring the relationship between PaOA1 receptor modulation and the insecticidal character of monoterpenoids. Iowa State University, Joel Coats. AGRO 160

Scott O’Neal, Cardiac regulation of viral infection in a model social insect, Virginia Tech, Troy Anderson. AGRO 158

Anuj Ranjan, Investigating the role of Trp86 residue of human acetylcholinesterase in interaction with organophosphate by docking, site-directed mutagenic and molecular modeling approach, Amity University, India, Tanu Jindal. AGRO 231

Adrian Romero, Improving continuous monitoring of VOC’s emissions from alternative fertilizers. University of Maryland, Alba Torrents. AGRO 134

Akash Sadaria, Molar distribution and correlation between fipronil and its degradates in wastewater and biosolids of eight California wastewater treatment plants, Arizona State University, Rolf Halden. AGRO 243

Vamshi Krishna Reddy Sammeta, Herbicide binding in plant acetyl-CoA carboxylase by homology modeling, MD simulation, and docking. University of Massachusetts at Dartmouth, Donald Boerth. AGRO 239

Emily N Vebrosky, Photodegradation of 2,6-dichloro-4-nitroaniline (DCNA) in freshwater and saltwater, Louisiana State University, Kevin Armbrust. AGRO 139

Jennifer Williams, In-hive herbicide exposure elicits oxidative stress response in honey bees, Virginia Tech, Troy Anderson. AGRO 150

Qi Yao, Assessing the effectiveness of vegetative environmental buffers in mitigating air pollutant emissions from poultry houses, University of Maryland, Alba Torrents. AGRO 135

The AGRO Division is grateful for the sustained support of the AGRO Education Awards
All Graduate Students & Post-Docs

You Are Cordially Invited To Attend

AGRO Graduate Student & Post-Doc 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 22, from Monday 11:45 AM – 1:00 PM

Loews Philadelphia Hotel, Lescaze

RESERVATIONS ARE REQUIRED
CONTACT: PAUL REIBACH (preibach@smithers.com) or TROY ANDERSON (anderst@vt.edu)

Reservations made after July 31 are on a space available basis.

THE FOOD IS FREE!

---

Golden Pacific Laboratories

Now we have even more sensitivity to your most challenging analytical needs With the Sciex Triple Quad™ 6500+

Service and expertise - consistently applied to ensure the success of your analytical projects

www.gplabs.com • (559) 275-9091
CALL FOR APPLICANTS
AGRO DIVISION
2017 NEW INVESTIGATOR AWARD
Sponsored by Dow AgroSciences

2017 Fall ACS National Meeting in Washington DC

The AGRO Division seeks nominations for the New Investigator Award (NIA) to be awarded at the ACS meeting in Washington, DC, in August 2017. 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 2017, applications will be considered from scientists who have obtained their doctorates no earlier than the year 2012.

- A panel consisting of at least three AGRO members will choose up to three finalists based on their extended abstracts, 1-page curriculum 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 at 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 254th ACS National Meeting in Washington DC.

Deadline:
The extended abstract, curriculum vitae, and letter(s) must be received by the New Investigator Award (NIA) Coordinator no later than March 1, 2017.

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
We’re always thinking ahead to tomorrow’s challenges. Let us help you address yours.

Waterborne Environmental is a leading environmental risk assessment company that leverages expertise in field studies and data collection, environmental modeling, geospatial analysis and data technology, ecotoxicology and toxicology to assist clients with complex challenges. Our team of seasoned, senior-level scientists and engineers are committed to caring for our environment while providing services of the highest integrity.

waterborne-env.com
info@waterborne-env.com
+1.703.777.0005
CALL FOR APPLICANTS
AGRO DIVISION 2017 EDUCATION AWARD
Sponsored by Bayer CropScience

UNDERGRADUATE & GRADUATE STUDENT RESEARCH
Travel Support for Student Posters and Senior Grad Student Oral Presentations

2017 Fall ACS National Meeting in Washington DC

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 2017 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 254th ACS Fall National Meeting, which will be held in August 2017 in Washington, DC. 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. Please contact the organizers to determine if you are eligible before submitting an abstract. AGRO members will be available to provide constructive critiques.

To apply, students should submit the following no later than March 1, 2017:

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 award.

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
California Department of Food and Agriculture
Sacramento, CA 95814
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 2017.

Special thanks to our sponsor for their generous contribution!
Global Regulatory and Environmental Strategies

REGULATORY CONSULTING SERVICES
Crop Protection, Biocides/Antimicrobials, Animal Health, Industrial Chemicals, Human Pharmaceuticals, Chemicals, Consumer Products

- USA and EU Regulatory Affairs
- EPA / State Pesticide Registration
- Study Monitoring / Contract Research Management
- REACH Chemical Safety Assessments & Reports
- Toxicology / Ecotoxicology Consultation
- Endangered Species Analysis
- Ecological Risk Assessment
- Exposure Modeling and Spatial Analysis
- Geospatial Technologies
- Litigation Support
- Endocrine Disruptor (EDSP) Support

USA HEADQUARTERS
7501 Bridgeport Way West
Lakewood, WA 98499
Tel: 253 473 9007

EUROPEAN HEADQUARTERS
Pentlands Science Park, Penicuik
Nr. Edinburgh, EH26 0PZ, UK
Tel: +44 (0) 131 445 6080

E-mail: info@complianceservices.com
www.complianceservices.com

Providing innovative approaches to solving regulatory and environmental challenges

Eco-Champion Awards Winner 2010
AGROW Awards Finalist 2010 - 2015
AGROW Awards Highly Commended 2012 2013 2014
Best Supporting Role

Serving Industry Since 1988
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 Philadelphia meeting. Symposia encompass 10 of the 15 technical topics for which AGRO actively programs, and they are listed to in the next column. Over 320 abstracts have been categorized into 27 oral symposia, which have been distributed into five concurrent sessions Sunday through Thursday. Our poster session received a total of 60 abstracts which at this meeting will be on display in a spotlight fashion on Monday and Tuesday afternoons only (1-5 PM) with coffee and tea. With such a full program, we encourage you to come early and stay late.

Steven Lehotay, the New Investigator Award coordinator, will oversee the last part of the competition in which three finalists will give oral presentations of their work. Marja Koivunen and Diana Aga have again organized our Education Awards. This year, five senior grad students will give oral presentations, and 16 students will join the poster sessions on Monday and Tuesday. 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 morning with a three-session symposium Ion Channels and G-Protein Coupled Receptors honoring Dr. Yoshihisa Ozoe with the ACS International Award for Research in Agrochemicals, sponsored by DuPont Crop Protection. The AGRO Innovation Award goes to Dr. Tom Stevenson, who will give a lecture Tuesday afternoon in the symposium Synthesis and Chemistry of Agrochemicals (in Memory of Dr. Thomas Bretschneider). Dr. Dan Kunkle is the winner of IUPAC Harmonization Award, and he will deliver a lecture Wednesday morning in the symposium Who Should Regulate Pesticides in Our Food?

AGRO is the co-sponsor of this year’s Kenneth A. Spencer Award for Outstanding Achievement in Agricultural and Food Chemistry, sponsored by AGFD. This year’s award goes to Dr. Agnes Rimando. AGRO is also a co-sponsor of this year’s USDA-ARS Sterling B. Hendricks Memorial Lectureship, sponsored by AGFD and honoring Dr. May Berenbaum. Both will present lectures on Tuesday morning in the AGFD program.

AGRO’s diverse scientific interest representing Chemistry of the People, by the People, for the People has resulted in a growing number of symposia interacting with scientists across ACS divisions and other scientific societies. At Philadelphia, 23 of our 27 symposia are co-sponsored by at least one of six ACS divisions (ENVR, ANYL, AGFD, TOXI, ETHC, and COMP). AGRO is also co-sponsoring ten 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 fulfilling experience interacting with old friends and making new colleagues.

See you in Philadelphia!

AGRO SYMPOSIA BY TOPIC

Advances in Residue, Analytical and Metabolism Chemistry
- Advances in Agrochemical Metabolism and Metabolomics
- Advances in Residues Analysis of Bee Relevant Matrices: Analytical Methods and Sampling Techniques
- Emerging Mass Spectrometry Trends in Support of Agricultural Research and Development
- Extraction Efficiency-Bridging between Metabolism Studies and Residue Analytical Methods
- Innovative Approaches in Designing Agrochemical Metabolism Studies
- Novel Analytical Methods for Analysis of Emerging Contaminants of Concern: Advances and Challenges

Agrochemical Toxicology
- Advances and Challenges of Controlling Arthropod Pests. Early Career Scientist Symposium
- Innovations in Agrochemical Mode of Action Studies and the Impact of Global Human Health Requirements
- Ion Channels and G-Protein Coupled Receptors: Honoring Dr. Yoshihisa Ozoe, ACS International Award for Research in Agrochemicals

Discovery and Synthesis of Bioactive Compounds
- Synthesis and Chemistry of Agrochemicals - Symposium in Memory of Dr. Thomas Bretschneider

Ecosystem and Human Health/Exposure & Risk Assessment
- Good Laboratory Practices for Agrochemical Professionals
- Agrochemicals and Pollinators-Current Science and Risk Assessment Approaches
- Computational Chemistry and Toxicology in Chemical Discovery and Assessment (QSARs)
- Innovations in Human Health Exposure & Risk Assessment

Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals
- Fate and Metabolism of Agrochemicals. Early Career Scientist Symposium
- Environmental Fate, Transport and Modeling of Agriculturally-related Chemicals
- Environmental Study Design: Current/Emerging Guidelines
- Increasing the Value of Water Monitoring Data for Pesticide Fate and Effects Evaluations
- Neonicotinoid Insecticides: Use, Fate, and Effects
- Subsurface Fate of Pesticides
- Terrestrial Field Dissipation Studies: Use, Fate, and Effects
- Terrestrial Field Dissipation Studies: Current Reg Guidance, Study Design, Utility of Data in Exposure & Risk

Human and Animal Health Protection
- Controlling Zika Virus Mosquitoes

Natural Products
- Natural Products as Biorational Pesticides in Agriculture

Regulatory Harmonization and MRLs
- Who Should Regulate Pesticides in Our Food?

Technological Advances in Agricultural Science
- Glyphosate: Current Status and Future Prospects

Urban Agriculture
- Environmental Risk Assessment of Down-the-Drain Chemicals
AGRO Program Committee
Standing Programming and Champions
Scott Jackson, 2017 Program Committee Chair

Additional Volunteers Needed for Washington, DC 2017
Contact: scott.jackson@basf.com

Advances in Agrochemical Residues, Analytical and Metabolism Chemistry, and Metabolomics
Kevin Armbrust, armbrust@msci.msstate.edu
Steve Lehotay, steven.lehotay@ars.usda.gov
Michael Krolski, mike.krolski@bayer.com
Rod Bennet, rodney.bennett@criticalpathservices.com
Chad Wujciak, chad.e.wujciak@monsanto.com
Teresa Wehner, t.a.wehner@att.net

Air Quality and Agriculture
Laura McConnell, laura.mcconnell@bayer.com
Jim Seiber, jnseiber@ucdavis.edu
Amrith Gunasekaram, amrith.gunasekara@cdph.ca.gov
Scott Yates, scott.yates@ars.usda.gov

Agrochemical Toxicology and Mode of Action
John Clark, jclark@vasci.umass.edu
Tom Sparks, tcsparcks@dow.com
Dave Soderlund, dms6@cornell.edu

Bioenergy, Bioproducts, and Biochars: Advances in Production and Use
Ashli Brown, abrown@bch.msstate.edu
Cathleen Hapeman, cathleen.hapeman@ars.usda.gov

Biorationale Pesticides, Natural Products, Pheromones, and Chemical Signaling in Agriculture
Steve Duke, stephen.duke@ars.usda.gov
Joel Coats, jcoats@iastate.edu
Marja Koivunen, mkoivunen@gmail.com

Development of Value-added Products from Agricultural Crops and Byproducts
Jim Seiber, jnseiber@ucdavis.edu

Technological Advances and Applications in Agricultural Science (e.g., Nanotechnology, Genetically-modified Organisms, and Biocontrol Agents)
John Clark, jclark@vasci.umass.edu
Daniel Goldstein, daniel.a.goldstein@monsanto.com

Bioterrorism: Pesticide and Other Agrochemicals
Jay Gan, jgan@ucr.edu
Teresa Wehner, t.a.wehner@att.net

Ecosystem and Human Health/Exposure and Risk Assessment
Bob Krieger, bob.krieger@ucr.edu
Curt Lunchick, curt.lunchick@bayer.com
Dan Stout, stout.dan@epa.gov

Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals
Tom Potter, tom.potter@ars.usda.gov
Pam Rice, pamela.rice@ars.usda.gov
Jay Gan, jgan@ucr.edu

Formulations and Application
Erdal Ozkan, ozkan.2@osu.edu

Human and Animal Health Protection: Vector Control, Veterinary Pharmaceutical, Antimicrobial and Worker Protection Products
George Cobb, george.cobb@tiehh.ttu.edu
Jay Gan, jgan@ucr.edu
Teresa Wehner, t.a.wehner@att.net

Regulatory Harmonization and MRLs
Ken Racke, kracke@dow.com
Philip Brindle, philip.brindle@basf.com
Heidi Irrig, heidi.irrig@syngenta.com

Urban Agriculture: Turf, Ornamentals, Household Products, nm-and Water-Re-Use
John Clark, jclark@vasci.umass.edu

Additional Symposia at most National Meetings
• Awards and Tributes
• Protection of Agricultural Productivity, Public Health and the Environment – General Session
• Special Topics
Strong programming and long-term planning are critical components to the continued success of AGRO. Last year, Program Chair Pamela Rice and the Program Committee put together an outstanding scientific program for the 250th ACS National Meeting and Exposition in Boston, MA. This year, Program Chair Jay Gan has another excellent program on tap for the 252nd ACS National Meeting to be held in Philadelphia, Pennsylvania, August of 2016, with about 27 platform symposia and two posters sessions.

As you are hopefully aware, the 2017 254th American Chemical Society National Meeting and Exposition meeting will be in Washington, DC. The theme will be Chemistry's Impact on the Global Economy. Let us continue our momentum and history of strong programming through brainstorming and preparation of symposia topics for the 2017 meeting.

As an individual or as part of a team, organizing and chairing a symposium is rewarding, career-building, and a great-networking experience. 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 2017 Washington, DC meeting and even the 2018 meeting to be held in Boston.

You can submit your programming ideas before, during, or after the Philadelphia meeting to scott.jackson@basf.com. If you are attending the Philadelphia meeting, you can also submit your ideas at the AGRO table, and plan to attend the Program Planning Meeting (Blues and Brews) in Philadelphia. We look forward to hearing from you!

---

Plan to attend
AGRO Program Brainstorming
and
Blues & Brews
Happy Hour

Tuesday, August 23
5:15 – 7:00 PM
Loews Philadelphia Hotel, Regency Ballroom A

✉ 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!
## Programming & Outreach Activities 2016 – 2019

<table>
<thead>
<tr>
<th>Activity/Event</th>
<th>Leaders/Champions</th>
<th>Status</th>
<th>Actions Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRO Lunch and Learn Webinar Series</td>
<td>Laura McConnell</td>
<td>• Recordings of all previous webinars available free on the AGRO website</td>
<td>• Contact Laura McConnell or Julie Eble</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Proposals for 2016-2017 webinars are being accepted</td>
<td></td>
</tr>
<tr>
<td>VI Latin American Congress on Pesticide Residues (LAPRW) 2017 May 14-17, 2017 San José, Costa Rica</td>
<td>Elizabeth Carazo Steve Lehotay</td>
<td>• See <a href="https://laprw2017.fundacionucr.ac.cr">https://laprw2017.fundacionucr.ac.cr</a></td>
<td>• Check website in November 2016 for update</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Topics have been selected</td>
<td></td>
</tr>
<tr>
<td>53rd North American Chemical Residue Workshop July 16-19, 2017 St. Pete Beach, Florida</td>
<td>Steve Lehotay</td>
<td>• Program to be released in February 2017</td>
<td>• Submit abstracts for oral presentations by April 15, 2017</td>
</tr>
<tr>
<td>254th ACS National Meeting August 20-24, 2017 Washington, DC</td>
<td>Scott Jackson</td>
<td>• Blues and Brews in Philadelphia to brainstorm ideas for symposia</td>
<td>• Volunteers and champions NEEDED!!</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Symposia proposals due November 15, 2016</td>
</tr>
<tr>
<td>256th ACS National Meeting August 19-23, 2018 Boston, Massachusetts</td>
<td>Julie Eble</td>
<td>• Watch the eNewsletter for planning session information at the Philadelphia and Washington, DC meetings</td>
<td>• Volunteers and champions NEEDED!!</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Symposia proposals due November 15, 2017</td>
</tr>
<tr>
<td>258th ACS National Meeting August 25-29, 2019 San Diego, California</td>
<td>2019 Program Chair</td>
<td>• Watch the eNewsletter for planning session information at Washington, DC and Boston meetings</td>
<td>• Volunteers and champions NEEDED!!</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Symposia proposals due November 15, 2018</td>
</tr>
</tbody>
</table>
AGRO provides free and open access to webinar recordings on our website to encourage use by educators, regulators, policy-makers and researchers.

Recordings from 50 scientists are now available on the AGRO website. In the 2015-2016 season, topics ranged from insecticide discovery to advances in measuring pyrethroids, weed resistance, seed treatment, chemical ecology, 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!

Future ACS National Meetings

253rd ACS National Meeting & Exposition
April 2-6, 2017, San Francisco, California
Advanced Materials, Technologies, Systems and Processes

254th ACS National Meeting & Exposition
August 20-24, 2017, Washington, DC
Chemistry’s Impact on the Global Economy

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

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

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

259th ACS National Meeting & Exposition
March 22-26, 2020, Philadelphia, Pennsylvania

260th ACS National Meeting & Exposition
August 23-27, 2020, San Francisco, California

261st ACS National Meeting & Exposition
March 21-25, 2021, San Antonio, Texas

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

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
6º CONGRESO LATINOAMERICANO DE RESIDUOS DE PLAGUICIDAS

6th LATIN AMERICAN PESTICIDE RESIDUE WORKSHOP

Date/Fecha
14 - 17 MAY/MAYO

Contact us/Contáctenos: (506)25118211
info.laprw2017@fundacionucr.ac.cr
http://laprw2017.fundacionucr.ac.cr
Symposium Call for Papers:

Finding Solutions to Environmental Challenges in Agriculture

Sponsored by

ACS Division of Agrochemicals (AGRO)
ACS Division of Environmental Chemistry (ENVR)

Ending hunger, achieving food security and improved nutrition while promoting sustainable agriculture is one of the Sustainable Development Goals recently established by the United Nations. For centuries, humans have faced continuous challenges in producing adequate food and nutrients.

Technological advances including more effective and efficient production tools and insect and disease-resistant plant varieties have drastically increased the productivity of farmers. However, more intensive agricultural production creates new challenges of protecting natural resources and ecosystem health.

In order to maintain adequate agriculture production sustainably, we need to address the issues, some of them already at the limits of environmental boundaries. Increasing population, limited water and land resources, unpredictable and changing weather patterns resulting from climate change, and emerging disease and insect infestations are challenges to be resolved.

This symposium aims to create a multidisciplinary platform to communicate recent experimental or theoretical research work related to the possible solutions and impacts for current and future environmental challenges in agriculture.

Topics related to the challenges targeted in this symposium include, but are not limited to, water resources, climate change, pollinator concerns, endangered species, herbicide and insecticide-resistance management, sustainable solutions, crop production products, genetic modified organisms (GMOs), and population growth.

Organizers:

Jiafang Wang, Ecotoxicologist, BASF Corporation, Research Triangle Park, NC, jiafan.wang@basf.com

Laura McConnell, Senior Scientist, Bayer CropScience, Research Triangle Park, NC, laura.mcconnell@bayer.com

Abstracts are due August 15, 2016

Sermacs2016.org
July 16-19, 2017
Trade Winds Island Grand
St. Pete Beach, Florida USA

JOIN US!

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

**Expected Submission Deadlines:**
Oral presentations: April 15; Poster presentations: June 1
Manuscripts related to the meeting may be considered for publication in a special section of *Journal of Agricultural and Food Chemistry*

[www.nacrw.org](http://www.nacrw.org)

*Sponsored by FLAG Works, Inc., a non-profit organization which has an agreement with ACS (via the AGRO Division) to help plan and to coordinate this event.*
AGRO Division Officers, Councilors, and Executive Committee

AGRO DIVISION OFFICERS

Division Chair
Pamela J. Rice
612-624-9210
pamela.rice@ars.usda.gov

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

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

Secretary
Sharon K. Papiernik
605-693-5201
sharon.papiernik@ars.usda.gov

Treasurer
Del A. Koch
573-777-6003
kochd@abclabs.com

COUNCILORS

Rodney Bennett, rodney.bennett@criticalpathservices.com
Jeanette Van Emon, vanemon.jeanette@epa.gov
Aldos Barefoot, Alternate
Kevin Armbrust, Alternate

EXECUTIVE COMMITTEE MEMBERS

2014 – 2016
John Beck, john.beck@ars.usda.gov
Cheryl Cleveland, cheryl.cleveland@basf.com
Ke Dong, dongk@cns.msu.edu
Marja Koivunen, mekoivunen@gmail.com
Amy Ritter, rittera@waterborne-env.com

2015 – 2017
Julie Eble, julie.eble@criticalpathservices.com
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
Carmen Tiu, tcarmen@dow.com

AGRO Division Past Chairs

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

AWARDS COMMITTEE
James Seiber, Chair, 530-752-1465
jseiber@ucdavis.edu
MEMBERS: John Casida, Janice Chambers, John Marshall
Clark, Joel Coats, Steve Duke, Bruce Hamnnock, 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, rodney.bennett@criticalpathservices.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
Nancy Ragsdale – Pesticide Outlook Liaison
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

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.uidsa.gov

2016 NOMINATING COMMITTEE
Cathleen Hapeman, Chair, 301-504-6451
cathleen.hapeman@ars.usda.gov
Steve Duke, 662-915-1036
stephen.duke@ars.usda.gov
John Clark, 413-545-1052
jclark@vasci.umass.edu

PROGRAMMING COMMITTEE (see p. 50 for listing)
Scott Jackson, Chair, 919-547-2349
scott.jackson@basf.com

Webinar SubCommittee
Julie Eble, Co-Chair, 484.431.6978
julie.eble@eblegroup.com
Laura McConnell, Co-Chair, 919-549-2012
laura.mcconnell@bayer.com
MEMBERS: John Clark, Steve Duke, Cody Howard

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, 2016 Co-Chair, 662-325-3428
abrown@mscl.msstate.edu
Julie Eble, Co-Chair, 484.431.6978
julie.eble@eblegroup.com
Laura McConnell, Advisor, 919-549-2012
laura.mcconnell@bayer.com
MEMBERS: This Committee has been reconstituted and is
preparing for the Strategic Planning Meeting in October 2016.
AGRO Division Conference Call
Friday, January 22, 2016
1:00-3:00 PM ET

Minutes

Sharon Papiernik, Secretary

ATTENDANCE
Officers: Pam Rice, Chair, Jay Gan, Program Chair; Cathleen Hapeman, Past Chair; Del Koch, Treasurer; Sharon Papiernik, Secretary; Al Barefoot, Alt Councilors
Executive Committee Members (EC): John Beck, Charles Cantrell, Cheryl Cleveland, Ke Dong, Julie Eble, Heidi Irrig, Lacey Jenson, Marja Koivunen, Mike Krolski, Leah Riter, Tom Stephenson, Daniel Swale, Carmen Tiu
Committee Chairs: Diana Aga, Joel Coats, Steve Lehotay, Laura McConnell, Ken Racke, Jim Seiber

Welcome and Roll Call – Pam Rice

NEW BUSINESS
1. Philadelphia Programming – Jay Gan
So far, 29 symposia + 2 award symposia are planned, 4 fewer than in Boston. Next Monday is deadline to submit final list of sessions to ACS. Abstract submission will open next week and close in March. Organizers: notify potential speakers, etc. Call for papers has been given to Cathleen to publicize via PICOGRAM and to Laura to post on AGRO website. Very strong programming in fate and transport, analytical methods, toxicology, mode of action. A few areas have no programming. Thanks to everyone for contributions and help in organizing program. Jay will send a reminder to session organizers about money, etc.

2. Strategic Planning Committee – Ashli Brown Johnson/Julie Eble
Recommending that strategic planning session be held in Sept-Oct 2016. Targeting 12 people for a weekend session. Will be polling all members with help from ACS, so everyone will have input on strategy process ahead of time. Estimated cost $18-20K. Proposing to hold at ACS offices in Washington. Ashli Brown Johnson is planning to submit an IPG proposal to support the session. Will need a letter of support from Pam Rice for the IPG grant; would appreciate some reviewers (Cathleen Hapeman volunteered). MOTION: Strategic planning co-chairs organize the strategic planning session in Sept-Oct 2016 with approx. 12 attendees at a cost of $18-20K with attendees to be determined by Rice and Gan as past and current Chair.

Discussion: Brown Johnson and Eble will assist in determining potential attendees. Will have a professional moderator. All travel expenses will be covered; no out-of-pocket expenses are expected from attendees. Strategic planning sessions are very valuable and AGRO members are encouraged to participate if asked. Try to get a diversity of AGRO members. May need alternates or plan for 15 to get 12 on-site. Motion passed.

UPDATE ON ACTION ITEMS FROM BOSTON GOVERNANCE MEETING
1. Report on National Historic Chemical Landmark Ceremony: Phytochrome Discovery – Cathleen Hapeman
EC had approved $3K for travel, but Rice could not attend so only spent $2K. Steve Duke attended and reported to Hapeman that it was a very nice ceremony.

2. Update on Co-sponsored Meetings
  International Activities committee requested co-sponsorship for this workshop. Vote by e-mail committed AGRO to sponsorship at $3K level. Racke will request a brief update from IUPAC rep John Unsworth and will report back to EC.
• Pacifichem 2015 (Dec. 2015) – Pam Rice for John Johnston
  AGRO sponsored 3 symposia at Pacifichem; all were very successful. Slight glitch because of China changing their visa process. Qing Li found replacement speakers for open slots; otherwise Q&A sessions were extended. Johnston recommends that AGRO support Pacifichem 2020 and that we roll Pan Pacific support into Pacifichem.
  • ECYART/AGRO lectureship – John Johnston/Keith Solomon
No updates available from organizers.

3. Guidelines for Complimentary Registration: Report from Sub-committee
Have tightened up guidance for AGRO symposium organizers to be consistent with ACS guidelines.

Discussion: Make the guidance more generic (use Program Chair instead of someone’s name, etc.). Have a template available to update each year. Some references are to wrong individual (i.e., Rice instead of Gan) in current draft. May be able to use symposium funds for travel support for ACS-eligible people, such as airfare or lodging, but complimentary registration should not be offered unless it is consistent with these guidelines. Gan and/or Penney Patton will send finalized guidance to symposium organizers. Suggestion for section #2 concerning what AGRO funding should be used for sponsored speaker support: add the items that AGRO funding should not be used for. Clarify that plans for sponsor-provided funds should be approved by program chair. Language approved in Feb 2015 teleconference will be added to item #3 concerning solicitation of funds. Intent is that the award sessions or sponsored special sessions should have flexibility to provide refreshments.

4. Nominations for AGRO Fellow: Vice-Chair ensures 2 nominations each year – Scott Jackson
Two nominations for AGRO Fellow are being prepared. Seiber will communicate with Scott Jackson as Vice Chair to ensure that two nominations are completed and submitted.

5. Innovative Project Grants (IPG)
• Follow up on current IPG – Daniel Swale/Lacey Jensen (5 min), Steve Lehotay (5 min)
Symposium in Boston was standing room only; focused on encouraging early career scientists. Mix of international and domestic speakers on toxicology/mode of action. This was a 2-year project; funds for Philly meeting will support 2 symposia.
• Steve Lehotay reported that $2K is remaining in membership enhancement IPG. Papiernik reminded EC of discussion at Boston governance meeting; Past chair, Treasurer, Councilors, Lehotay were empowered to act. No action has been taken.

Discussion: could use funds to improve website, create static display, or expand AGRO’s social media presence. Because this project needs to be closed before the next IPG proposal is submitted, and the money cannot be spent in time, Hapeman moved and Lehotay seconded.

MOTION: That this project be closed. Lehotay and Bennett will write a letter to DAC specifying that the goals of the IPG have been met and requesting that the remaining funds be applied to a future grant. Motion passed.

• 2016 IPG proposal(s): Feb 1st deadline for spring session Discussed earlier for strategic planning session

6. Implementation of changes in student awards: report from sub-committee (5 min)
Guidance from Boston business meeting will be implemented for Philly meeting. New in 2016: 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. Please contact the organizers to determine if you are eligible before submitting an abstract. AGRO members will be available to provide constructive critiques.

CONTINUING BUSINESS
OFFICER/COUNCILOR REPORTS
1. Secretary’s Report – Sharon Papiernik
Since the Boston meeting: AGRO Division officers were certified; voted by e-mail on AGRO sponsorship of IUPAC risk assessment workshop; the AGRO rep for the ACS Leadership Conference was determined off-line to be Amy Ritter. To be due before end of March: IPG progress reports are due Jan 1 or ASAP, certainly by Feb. 1; Administrative and Financial reports will be due in February; New Investigator Award nominations will be solicited by NIA coordinator; Councilors will attend Spring ACS meeting; draft program for fall 2016 meeting will be announced; dues information will be due to ACS.

2. Treasurer’s Report – Del Koch
IUPAC meeting was complicated for taxes; requested extension and recently submitted. Financial report will be due in February. AGRO only sends 1099 for individuals who billed AGRO for services; not for awards. May want to include award winners in the future. Financial committee will evaluate. Koch has been working with McConnell and Jackson to invoice sponsors and some money is coming in for 2016.

3. Councilor’s Report – Jeanette Van Emon/Rod Bennett
Councilors request AGRO’s best practices that DAC would like to highlight, particularly those that provide value to members. Will be discussed after Leadership Conference.

COMMITTEE REPORTS
1. Awards – Jim Seiber
Ozoe is recipient of 2016 International Award. 4 nominations for 2017 International Award and 3 for 2016 Innovation Award; those are being evaluated with a voting deadline of Jan 31, 2016. Congratulations to Rod Bennett and John Johnston for receiving 2015 ACS Fellow. Consider nominating a worthy colleague for 2016 ACS Fellow. We may submit up to 4 nominations; they must be submitted through Division Chair. Hapeman is working on one nomination. Committee is voting on Monday on Sterling B. Hendricks Award. Spencer Award voting is underway now. Rice nominated Cheryl Cleveland and John Beck to serve on selection committee for JAFIC best paper award. John Johnston, Leah Riter, and Steve Lehotay are among the nominated authors.

MOTION to add new members to the Awards Committee: Keith Wing, Jeanette Van Emon, and Rene Feyereisen (all recent awardees). Term to begin after the current round of voting. Motion passed.

2. Communications – Catheleen Hapeman
e-Newsletter should be released next week and will include Philadelphia call for papers. PICORAGM should go to press next week. Website is being kept up-to-date by McConnell. Ads for the spring PICORAGM are down more than 50% from last spring. Not a huge concern; ads are typically much more numerous in the fall issue.

3. Development (Public Relations) – Scott Jackson
No report.

4. Early Career Scientist (Education) – Diana Aga/Marja Koivunen
Last year had 22 awardees. If same trends as last year, expect 5-6 in oral presentations in Philadelphia. Only posters will be eligible for best poster award.

5. Finance – Joel Coats
Lots of volatility in long-term fund balances. 2016 budget will be developed once all IUPAC details are settled.

6. International Activities – Ken Racke/Jay Gan (other than covered in Action Items from Boston)
Publications from IUPAC are coming out. For future discussion: what role will AGRO play in next IUPAC Congress in Brazil? Racke and McConnell will report back from IUPAC planning meetings. Instead of PanPacific, plan is to make 2020 Pacifichem our major focus for international conferences; will be happening in next 12-18 months.

7. Membership – Steve Lehotay
Currently at 1935 members; about 700 more than before IUPAC. Expect membership to go down now that IUPAC-associated members completed their first year.

8. Strategic Planning (Long Range Planning) – Ashli Brown Johnson/Julie Eble (covered in New Business)
Nothing further.

9. Webmaster – Laura McConnell
Will update awards after PICORAGM is published. New graphic for Philadelphia meeting. Webinar page has been reformatted. Any feedback should be sent to McConnell. IUPAC 2014 page is kept up with publications as they are published. Anyone interested in helping with website or Twitter account, etc. should contact McConnell. Suggest to link to JAFIC from AGRO website.
Councillor Report for the 251st National Meeting & Exposition
San Diego
Spring 2016

Jeanette M. Van Emon and Rodney Bennett, Councilors

Greetings from your AGRO Councillors!
We hope to meet many of you at the Philadelphia meeting. Please feel free to bring up any issues that we can research and forward to the appropriate ACS staff. In addition to the overall Councillor duties we have been active on a few targeted projects.

We have both been active in getting the Divisions more prominence on the ACS webpage. Currently, the Division header is lost “down among the weeds” at the bottom of the webpage. This makes it difficult for members to find information on Divisions they may be interested in joining. Hopefully, these changes will soon be evident.

By now, AGRO should have received feedback on its annual report. We both help review the annual reports from across all of the 32 ACS Divisions. From this bird’s eye view of all the Divisions, we can definitely say that AGRO is among the best!

The San Diego Meeting venue attracted a large audience of 8398 attendees, 5979 students, 1094 exhibitors, and 856 guests and expo only attendees for a total meeting attendance of 16,327.

The following is a summary of key actions of the ACS Council meeting held March 16, 2016, at the ACS meeting in San Diego.

Candidates for President-Elect, 2017
- The Committee on Nominations and Elections presented to the Council the following nominees for selection as candidates for President-Elect, 2017: Peter K. Dorhout, Thomas R. Gilbert, C. Bradley Moore, and Gregory H. Robinson. By electronic ballot, the Council selected Peter K. Dorhout and Thomas R. Gilbert as candidates for 2017 President-Elect. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall National Election.

Candidates for Districts II and IV
- George M. Bodner and Christina C. Bodurow were selected as District II candidates; and Rigoberto Hernandez and Larry K. Krannich as District IV candidates for election to the ACS Board of Directors for the 2017-2019 term. Ballots will be distributed on September 29, 2016 to all ACS members in District II and District IV.

Candidates for Directors-at-Large
- Joseph A. Heppert, Kristin M. Ombarg, Dorothy J. Phillips, and Kathleen M. Schulz are the candidates for Directors-at-Large for 2017-2019 terms. The election of two Directors-at-Large from among those candidates and any selected via petition will be conducted in the fall. Ballots will be distributed to the Council on September 29, 2016.

Election Reform
- The Vote 20/20 Task Force, has been established for examining all aspects of nominations and elections for ACS national offices, and for designing an enhanced process to be in place by the year 2020. The committee welcomes ideas from all members as to how nominations and elections should be handled. As a committee member you can send your comments to Jeanette (vanemon.jeanette@epa.gov).

Divisional Activities Committee (DAC)
- DAC has initiated multiple new programs for support of the ACS divisions.
- A pilot program for selected divisions (AGRO is one of the selected divisions) will focus on supporting and training of membership chairs to ensure the benefits of the division are easily visible to current and potential members. The program is designed to allow ACS staff to fully support each division in advertising and distribution of information through multiple venues.
- Another important pilot program (AGRO is one of the selected divisions) is focused on the Business Model aspects of each ACS division. What Business Model is currently being used? How can the model be enhanced/improved to ensure a viable future and growth for the division? ACS has many resources that are available. Please contact Rod Bennett (Chair-DAC, rodbennettDAC@gmail.com) for further information.

2017 Member Dues
- The Council voted to set the member dues for 2016 at the fully escalated rate of $166. This rate is established pursuant to an inflation-adjustment formula in the ACS Constitution and Bylaws. Sorry there is not much that can be done about this increase due to the formula in the ACS Constitution and Bylaws.

Academic Professional Guidelines
- The Council approved revised Academic Professional Guidelines that apply to members of the academic community who maintain teaching and research labs. These guidelines address safety issues and the quality of buildings and equipment and the responsibilities of departments and their administration.
Budget and Finance

- In 2015, ACS generated a Net from Operations of $16.6 million, which was $3.2 million favorable to budget. Total revenues were $511.7 million. Year-end expenses were $495.1 million, which was $3.1 million or 0.6% favorable to budget. The Society’s financial position strengthened in 2015, with Unrestricted Net Assets (reserves), increasing from $144.7 million on 12/31/2014 to $163.3 million at year-end 2015, due in-part to the continued emphasis on the Society’s expense management. The ACS has received more than $3.2M in new gifts and pledges for the year ending 2015. More information can be found at www.acs.org, click ‘About ACS’, then ‘ACS Financial Information’.

Membership

- As of 12/31/2015, the ACS membership was nearly 157,000, which is 0.96% less than on the same date in 2014. The number of new members who joined in 2015 is 25,000. The Society’s overall retention rate is 84%. The number of international members has increased to 26,022 which is 965 higher than in December 2014. The international growth rate is 3.85%.
- In addition to new international chapters in South Korea, Malaysia, and South Africa in 2014, the ACS Board in 2015 approved new chapters in Australia, Brazil, India, Nigeria, Peru, Taiwan, and the United Arab Emirates—bringing the total number of international chapters to 16. Continued efforts in coordination with the ACS Education Division are underway to support the establishment of International Student Chapters where International Chapters exist, to leverage the activities and guidance of International Chapters.
- The warming of relations between the U.S. and Cuba provided the opportunity for an historic meeting and in depth discussions between ACS and the Cuban Chemical Society [CCS] at QUIMICUBA 2015 (October 13-16, 2015).

Contact the Board

- The ACS Board of Directors is elected by and acts in the best interests of you, the members of our Society. You can contact them with your concerns, ideas, and suggestions at secretary@acs.org.

Miscellaneous

- A summit for Chief Technical Officers (CTO) from USA and EU chemical science companies will convene in September 2016 to explore ways to increase further ACS value to chemists in industry.
- CAS (Chemical Abstracts Service) has had its strongest revenue growth in several years. The New SciFinder® release is scheduled for the middle of 2016. Look for the many new features that will be available. ACS publications continue to be the most-cited and most-respected publications for new science in all the related chemistry fields, with a #1 impact factor and total citations in six core chemistry areas.
- The ACS Board of Directors voted to include revisions enhancing the ACS Core Values statement “Passion for chemistry and the global chemistry enterprise” in the broadest sense.” The global challenges we face can only be addressed by working in concert with scientists around the world and across disciplines.
- The ACS Presidential Task Force on Addressing Workforce Needs through Industry/Two-Year College Partnerships is finalizing its report. The report articulates a series of recommendations focused on engagement with industry and program promotion, policy opportunities, and knowledge sharing. To advance the recommendations to better meet the workforce needs of the chemical industry, the Implementation Task Force began its work in February.

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 arrears.

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 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-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. The 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 ballotting 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 ballotting 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.
In Memory of Dr. Richard Allen

It is with deep sadness that we announce the passing of Dr. Richard Allen, Director of the Valent U.S.A. Corporation Technical Center for analytical chemistry, toxicology and formulations.

Richard was a highly skilled and accomplished scientist in the field of agrochemical research and development. He was also a constant colleague and friend to the many of us who had the pleasure of working with him over his 30 year career, which spanned three countries and multiple organizations, including Schering UK, AgrEvo, Aventis CropScience, Bayer CropScience, and finally, Valent U.S.A. Corporation.

Richard was known to many as an expert in the field of environmental fate and agrochemical safety assessment, contributing both thoughtful leadership and an extensive body of research to our organizations and the many industry working groups in which he participated.

Above all, Richard was a man of passion and principle, who championed the characterization and understanding of the environmental fate of crop protection chemistry. He inspired us all with equal parts candor and compassion, and will forever be remembered for his contributions to modern agriculture.

Richard is survived by his wife and their two daughters. Funeral services were held at the Rock Bible Church in Pleasanton, California, on Saturday, March 26. In lieu of flowers, the Church requested that donations be made to assist the family trust.

Please join me in honoring the memory of our colleague and friend, Richard Allen.

Andy Lee
President and CEO
Valent U.S.A. Corporation
Valent BioSciences Corporation
DIVISION BUSINESS AND PLANNING

AGRO Business Meeting
Sunday 5:00 – 9:00 PM
Loews Philadelphia Hotel, Regency Ballroom A
AGRO Members welcome

Program Planning – Blues and Brews
Tuesday 5:15 – 7:00 PM
Loews Philadelphia Hotel, Regency Ballroom A
Beverages are FREE
Members welcome but bring your ideas; see page 43

SOCIAL EVENTS

Graduate Student Luncheon
Monday 11:45 AM – 1:00 PM
Loews Philadelphia Hotel, Lescaze
Reservations required; see page 36
Sterling B. Hendricks Award Lecture Reception
Tuesday following the 11:00 AM lecture
Pennsylvania Convention Center Room 110B

AGRO Awards Social
Wednesday 6:00 – 8:00 PM
Loews Philadelphia Hotel, Regency Ballroom B
Members/Speakers/Guests welcome

AGRO POSTERS AND COFFEE
- AGRO will have poster sessions on Monday and Tuesday from 1:00 – 5:00 PM in the Regency Ballroom B.
- All AGRO posters are expected to be up by 1 PM
- Presenters are expected to stand by their posters from 3:00 PM – 5:00 PM
- Coffee and tea on these afternoons will be served in the poster room.

SUNDAY MORNING

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

Section A
Commonwealth Hall A1

8:25 Introductory Remarks.

8:30 – 1. Fundamentals of EPA good laboratory practices. P.M. Maldonado, C. Lee
8:55 – 2. Fundamentals of EPA good laboratory practices. C. Lee, P.M. Maldonado

9:20 – 3. EPA GLP inspection program: Interpretation, enforcement, and case studies. M. Lehr

9:45 – 4. Quality systems approach to implementing good laboratory practice in the analytical lab. R. Wedlich

10:10 Intermission.

10:30 – 5. Principals of data recording and best practices in documentation of good laboratory practices (GLPs) studies for the agrochemical professional. K.B. Watson


12:10 Concluding Remarks.

Terrestrial Field Dissipation Studies: Current Regulatory Guidance, Study Design & Utility of Data in Exposure & Risk Characterization
Cosponsored by ENVR
Financially supported by Arcadis and Valent
R. Allen, Organizer
A. Newcombe, R. L. Warren, Organizers, Presiding

Section B
Commonwealth Hall A2

8:25 Introductory Remarks.


8:55 – 10. Terrestrial field dissipation studies under the new OECD guidance: An industry view from Europe. D. Schaefer

9:20 – 11. Terrestrial field dissipation studies: Best practices and lessons learned from the field. T. Case, J. White

9:45 – 12. Our experience with cropped plot field dissipation studies. A.K. Sharma

10:10 Intermission.


10:20 – 15. Maximizing use of data from terrestrial field dissipation studies conducted in North America and Europe via the ENASGIPS Ecoregion Crosswalk tool. 
V. Houck, B. Chu, R. Gangaraju, M. Shamim

11:45 – 16. ENASGIPS – Implications of user’s choices. C. Hoogeweg, N. Guth, M.E. Sebasky

12:10 Concluding Remarks.

Innovative Approaches in Designing Agrochemical Metabolism Studies
Cosponsored by ENVR
J. Afzal, M. A. Jalal, Organizers, Presiding

Section C
Regency Ballroom C1

8:50 Introductory Remarks.


9:20 – 18. Study design for successful metabolite identification: Considerations for isotope labeling. J. LaMar, T. Fleischmann, G. Quistad


10:10 Intermission.


10:55 – 21. Application of capillary electrophoresis for the separation and analysis of C-14 labeled highly polar photolytic degradation products. D. Safarpour

11:20 Discussion.

Natural Products as Biorational Pesticides in Agriculture
C. Stuhl, R. Vannette, Organizers
J. J. Beck, Organizer, Presiding

Section D
Regency Ballroom C2

8:25 Introductory Remarks.

8:30 – 22. Volatile organic compounds defend plants against insect herbivory. J.H. Tumlinson

8:55 – 23. Identification of an aggregation pheromone from the small hive beetle, Aethina tumida (Coleoptera: Nitidulidae). C. Stuhl


9:45 – 25. Exposure to a putative insect pheromone enhances the anti-herbivore defenses of its host plant. A. Helms, C. De Moraes, M. Mescher, J. Tooker

10:10 Intermission.


10:55 – 27. Re-investigation into the use of sesquiterpene lactones to limit damage caused by sunflower insect pests. J. Prasifka, O. Spring, B. Hulke, M. Foley


11:45 Concluding Remarks.

Emerging Mass Spectrometry Trends in Support of Agricultural Research & Development
Cosponsored by ANYL
J. Balcer, P. Reibach, Organizers, Presiding

Section E
Commonwealth Hall D

8:50 Introductory Remarks.


9:45 – 31. Making the most of the information in accurate mass spectrometric data. J.A. Ferguson, P. Reibach

10:10 Intermission.

10:30 – 32. Revealing the chemical basis of organoleptic properties of a Cabernet Sauvignon wine using global LC and GC/QTOF workflows. S.A. Baumann, S.E. Ebeler, K. Tandon

10:55 – 33. Isolation and analysis of botryodiplodin in soybean plants by liquid chromatography coupled to mass spectroscopy. A.N. Meredith, T. Wilkerson, T. Allen, M. Green, A. Brown


ENVIR Division
Nanotechnology for Sustainable Agriculture & Food Systems
Cosponsored by AGRO and CEI
P. Demokritou, J. C. White, OrganizersG. Lowry, N. B. Saleh, Organizers, Presiding

Section B
Loews Philadelphia Hotel – Washington A

8:15 Introductory Remarks.


8:50 – ENVR 10. Engineered Water Nanostructures (EWNS): A chemical free, nanotechnology based antimicrobial platform for inactivation of foodborne microorganisms across the farm-to-fork continuum. P. Demokritou, G. Pyrgiotakis


10:05 Intermission.

10:20 – ENVR 13. Applications of cerium oxide nanoparticles for plant salt stress enhancement in agriculture. X. Ma, L. Rossi


**SUNDAY AFTERNOON**

**Advances in Residues Analysis of Bee Relevant Matrices: Analytical Methods & Sampling Techniques**

_Cosponsored by AGFD and ENVR_

Y. Ding, T. Gould, Organizers

M. Saha, Organizer, Presiding

**Section A**

_Regency Ballroom C1_

1:00 Introductory Remarks.

1:05 - 35. Improvements in pollen/nectar sampling and analysis techniques to support regulatory submissions. J.T. Gesell, J.A. Barnekow


2:20 – 38. Analysis of pesticide residues in pollens and nectars from plants at ornamental nurseries and bee-collected pollen at those nurseries. B.D. Eitzer, R.S. Cowles, K.A. Stoner

2:45 Intermission.


3:30 – 40. Residue method for the determination of neonicotinoid insecticides and their metabolites in nectar, pollen, flower and leaves by LC-ESI-MS/MS. S. Perez, Y. Park, R. Perez, E. O’Melia, B. Rathman

3:55 – 41. Determination of neo-nicotinoid insecticide residues in bee-feeding matrices of soybean, a low-pollen producing crop. T.F. Moate, B. Lange, F. Rice

4:20 – 42. High-throughput determination of neonicotinoid insecticides in pollen and nectar using liquid chromatography with tandem mass spectrometry detection. J. Warnick

4:45 Concluding Remarks.

**Increasing the Value of Water Monitoring Data for Pesticide Fate & Effects Evaluations**

_Cosponsored by ENVR and TOXI_

Financially supported by Intrinsik

R. F. Bohaty, L. H. Nowell, Organizers

A. C. Barefoot, Organizer, Presiding

**Section B**

_Commonwealth A2_

1:25 Introductory Remarks.


2:45 Intermission.


3:30 – 47. Bifenthrin causes trophic cascades in aquatic food webs and alters subsidies to terrestrial food webs. T. Schmidt, H.A. Rogers, M.L. Hladik, B. Mahler, P.C. Van Metre


4:45 Discussion.

**Extraction Efficiency-Bridging between Metabolism Studies & Residue Analytical Methods**

_Cosponsored by AGFD and ENVR_

X. Zhou, Organizer

M. Saha, Organizer, Presiding

**Section C**

_Commonwealth Hall A1_

1:00 Introductory Remarks.

1:05 – 50. Radiovalidation of Oryzalin and Bensulfuron-methyl analytical methods using QuEChERS in various matrices. A.D. Budgeon Jr, S. LaMonaca

1:30 – 51. Demonstrating extraction efficiency of residue analysis methods. S. Penketh, S. Brewin


2:45 Intermission.


4:45 Concluding Remarks.

Natural Products as Biorational Pesticides in Agriculture
J. J. Beck, R. Vannette, Organizers
C. Stuhl, Organizer, Presiding

Section D
Regency Ballroom C2

1:25 Introductory Remarks.

1:30 – 58. Exploitation of fungal volatile organic compounds (VOCs) in agriculture. S. Lee, J.W. Bennett


2:20 – 60. Effects of exogenous application of methyl jasmonate on foliar volatile emission in citrus and its effect on aggregation behavior of Asian citrus psyllid (Diaphorina citri), vector of Huanglongbing pathogens. J. Patt

2:45 Intermission.


3:55 – 63. Preparation and characterization of degradable nanocapsules that release pesticides for an extended period of time. S. Kim


4:45 Concluding Remarks.

Glyphosate: Current Status & Future Prospects
Cosponsored by AGFD and ENVR
Financially supported by Solomon Decisions, Inc.
S. O. Duke, K. Solomon, Organizers, Presiding

Section E
Commonwealth Hall D

1:25 Introductory Remarks.

1:30 – 65. History and current status of glyphosate. S.O. Duke

1:55 – 66. Rise and future of glyphosate and glyphosate-resistant crops. J. Green

2:20 – 67. Economics of HT crops and glyphosate resistance. S.J. Wechsler

2:45 – Intermission.


3:30 – 69. Interactions of glyphosate use with farm characteristics and cropping patterns in central Europe. H. Steinmann


ACS International Award for Research in Agrochemicals

Ion Channels & G-Protein Coupled Receptors
Symposium Honoring Dr. Yoshihisa Ozoe
Financially supported by DuPont Crop Protection
J. R. Coats, A. D. Gross, Organizers, Presiding

Section A
Commonwealth Hall D

8:25 Introductory Remarks.

8:30 Award Presentation.

8:40 – 71. Award Address: Ligand-gated chloride channels and phenolamine GPCRs as important targets of pest control chemicals. Y. Ozoe

9:20 – 72. Pharmacology, signaling and physiology of insect biogenic amine receptors. J. Huang

9:45 – 73. New mode-of-action chemistries for vector control: Small molecule inhibitors of arthropod GPCRs. C.A. Hill

10:10 Intermission.


10:55 – 75. G protein-coupled receptors involved in vitellogenin uptake into the oocytes. S.R. Palli, H. Bai
11:20 – 76. Octopamine and tyramine receptors as targets for naturally occurring terpenoids. A.D. Gross, K. Temeyer, J.R. Bloomquist, A.A. Perez De Leon, M. Kimber, J.R. Coats

11:45 Concluding Remarks.

Increasing the Value of Water Monitoring Data for Pesticide Fate & Effects Evaluations
Cosponsored by ENVR and TOXI
Financially supported by Intrinsik
A. C. Barefoot, L. H. Nowell, Organizers
R. F. Bohaty, Organizer, Presiding

Section B
Commonwealth Hall A1

9:15 Introductory Remarks.

9:20 – 77. Leveraging ambient and focused monitoring data to refine regulatory modeling exposure estimates. N.J. Snyder, A.C. Barefoot, K. Jones

9:45 – 78. Interpretation of residue data from a groundwater monitoring study in Europe to define environmental safe use. D. Wallace, J. van de Veen, A. Newcombe, P. Kott, P. Sweeney, P. Hendley

10:10 Intermission.


11:45 – 82. Evaluating the effectiveness of streamside vegetation as a mitigation technique to reduce aerially applied pesticide loading to streams. M.M. Bischof, J. Hancock, M. Drennan, K. McLain, T. Coffey, J. Demory, G. Tuttle, G. Bahr, A. Nickelson

Novel Analytical Methods for Analysis of Emerging Contaminants of Concern: Advances & Challenges
Cosponsored by ANYL and ENVR
L. Dodgen, Y. Sapozhnikova, Organizers, Presiding

Section C
Commonwealth Hall A2

9:15 Introductory Remarks.

9:20 – 83. Novel aquatic passive sampler technology for time-weighted-average continuous measurement of neonicotinoid and other current-use insecticides in environmental waters. C.S. Wong

9:45 – 84. GCxGC-TOFMS comparison of PDMS stir bar sorptive extraction and liquid-liquid extraction for the determination of emerging contaminants in wastewater. K.A. Murrell, E. Pfannkoch, F.L. Dorman

10:10 Intermission.


11:20 – 87. Recent advances in sample preparation and GC&LC-MS/MS analysis of organic contaminants and pesticides in food of animal origin. Y. Sapozhnikova, L. Han, S.J. Lehotay

11:45 – 88. Automated instrument-top sample preparation for high-throughput analysis of chemical residues in foods. L. Han, S.J. Lehotay, Y. Sapozhnikova

Neonicotinoid Insecticides: Use, Fate & Effects
Cosponsored by ENVR
M. L. Hladik, X. Lu, Organizers, Presiding

Section D
Commonwealth Hall B

9:15 Introductory Remarks.

9:20 – 89. Sources of imidacloprid in urban aquatic environments. K.D. Moran

9:45 – 90. Neonicotinoid insecticides in agricultural and urban impacted U.S. streams. M.L. Hladik

10:10 Intermission.


Glyphosate: Current Status & Future Prospects
Cosponsored by AGFD and ENVR
Financially supported by Solomon Decisions, Inc.
S. O. Duke, K. Solomon, Organizers, Presiding

Section E
Regency Ballroom A

9:15 Introductory Remarks.

9:20 – 95. Overview of glyphosate resistance worldwide. I. Heap


10:10 Intermission.

10:55 – 98. Effects of glyphosate on plant disease. R. Hammerschmidt


11:45 – 100. Effects of glyphosate on mineral nutrition of glyphosate-resistant soybean and maize. K.N. Reddy, S.O. Duke, J.V. Cizdziel

ENVR Division
Advances & Challenges in Food-Energy-Water Nexus
Cosponsored by AGRO and CEI
S. Ahuja, S. Chae, D. Dionysiou, Y. Lin, Organizers
I. Chowdhury, Organizer, Presiding

Section F
Loews Philadelphia Hotel – Congress A

8:00 Introductory Remarks.

8:05 – ENVR 180. Managing challenges of the food-energy-water nexus. S. Ahuja


8:55 – ENVR 182. Integrated energy-water planning in the eastern interconnection. K. Quinter, V.C. Tidwell, E. Carraway, D. Ladner

9:20 – ENVR 183. Food, energy water nexus, complicated by global climate and the need for new technology. J.W. Finley

9:45 Intermission.

10:00 – ENVR 184. Multi-objective optimization model for minimizing cost and environmental impact in shale gas water and wastewater management. T.V. Bartholomew, M.S. Mauter


10:50 – ENVR 186. Unexpected ion-exchange reactivity of nanometric scheelite: Applications in food, energy, and water sectors. A.W. Apblett, C.K. Perkins

11:15 – ENVR 187. Impact of cerium oxide nanoparticles on plant water use efficiency at different environmental conditions. X. Ma

11:40 Concluding Remarks.

Synthetic Biology & Genetically Modified Organisms Evolution or Revolution? Policy Challenges & Opportunities in the Biotechnology Golden Age
Cosponsored by AGFD, AGRO, CEI, and COMSCE
C. W. Avery, Organizer
S. H. DeLuca, Organizer, Presiding

Section H
Loews Philadelphia Hotel – Congress C

8:00 Introductory Remarks.


8:25 – ENVR 194. Pros and cons of the first 20 years of GMO cotton production. K. Edmisten


9:05 – ENVR 196. Starting a dialog about GMOs with non-majors through three editions of Chemistry in Context. J.P. Ellis


9:45 Intermission.


10:35 – ENVR 199. First things first: What is a GMO? A. Massey

10:55 – ENVR 200. Legal and regulatory implications of genetic engineering for the chemical community. L.L. Bergeson

11:15 – ENVR 201. Genetically engineered governance: Why international governance systems need their DNA engineered to keep pace with genomic technologies. T. Kuiken

MINDAY AFTERNOON
Ion Channels & G-Protein Coupled Receptors: Dr. Yoshihisa Ozoe, ACS International Award for Research in Agrochemicals
Financially supported by DuPont Crop Protection
J. R. Coats, A. D. Gross, Organizers, Presiding

Section A
Commonwealth Hall D

1:25 Introductory Remarks.


2:20 – 103. Investigation into the use of neurolemma-injected oocytes in determining age-related difference in the action of insecticides on native ion channels. J.M. Clark


3:10 Intermission.


3:55 – 106. Inhibitory chloride channels as targets for γ-BHC and its analogs. K. Tanaka


4:45 Concluding Remarks.
Increasing the Value of Water Monitoring Data for Pesticide Fate & Effects Evaluations
Cosponsored by ENVR and TOXI
Financially supported by Intrinsik
L. H. Nowell, Organizer, Presiding

Section B
Commonwealth Hall A1

1:25 Introductory Remarks.


2:20 – 110. Trends observed from a long term collaborative surface water monitoring program for thionocarb to manage water quality in the Sacramento River. C.A. Green, R.R. Charlton, R. Fiorevoed, E. Callman


3:10 Intermission.


4:45 Discussion.

Neonicotinoid Insecticides: Use, Fate & Effects
Cosponsored by ENVR
M. L. Hladik, X. Lu, Organizers, Presiding

Section D
Commonwealth Hall B

1:25 Introductory Remarks.

1:30 – 122. Neonicotinoids viewed from a computational chemistry perspective: Conformations, interaction sites and binding to a 3D model of insect nACHR. J. Le Questel, Z. Alamiddine, J. Graton


2:45 – 125. Biological response of earthworm, Eisenia fetida, to five neonicotinoid insecticides. K. Wang

3:10 Intermission.


Glyphosate: Current Status & Future Prospects
Cosponsored by AGFD and ENVR
Financially supported by Solomon Decisions, Inc.
S. O. Duke, K. Solomon, Organizers, Presiding

Section E
Regency Ballroom A

1:50 Introductory Remarks.


2:45 – 130. Glyphosate residues in food and feed: Dietary exposure and risk assessment. M.S. Bleeke

3:10 Intermission.
3:30 – 131. Glyphosate and AMPA long-term monitoring data trends for surface water and groundwater in the USA. T.L. Negley, V. Houck, A. Schaffer, M.A. Thomas, M.S. Bleeke


4:20 Discussion.

Posters & Coffee
1:00 PM – 5:00 PM

J. Gan, J. Richards, Organizers

Regency Ballroom B

All posters will be posted by 1:00 PM. Presenters are expected to stand by their posters from 3:00 PM – 5:00 PM.

* Student Travel Award

Environmental Fate & Modeling of Agriculturally-Related Chemicals
Cosponsored by ENVR

133. Analysis of the nitrogen stabilizer compound, Nitrapyrin, and its degrade in agriculturally-impacted surface water. E. Woodward, M.L. Hladik, D.W. Kolpin

134. Improving continuous monitoring of VOC’s emissions from alternative fertilizers. A. Romero, L.L. McConnell, C.J. Hapeman, M. Ramirez, A. Torrents


137. Influence of EPA’s newer groundwater model (PRZM-GW) on drinking water exposure assessment. Q. Ma, R. Reiss, M. Schochen

138. Development of conceptual models for estimating aquatic exposure from the use of pesticides on rice using the pesticide flooded application model. K.E. White, M. Biscoe, M. Fry, J. Hetrick, G. Orrick, C. Peck, M. Ruhman, A. Shelby, N. Thurman, D. Young, P. Villanueva

139. Photodegradation of 2,6-dichloro-4-nitroaniline (DCNA) in freshwater and saltwater. E. Vebrosky, K.L. Armbrust

140. Monitoring approaches to provide temporal and spatial context to residential pesticide occurrence in the American river. G.E. Goodwin, S.L. Clark, G. Mitchell, S.H. Jackson, C. Harbport, P. Hendley

141. Theoretical prediction for plant uptake of pesticide from soil. J. Hwang, S. Lee, M. Kang, S. Lee, J. Kim

142. Mitigating the off-site transport of plant protection products with runoff from golf course turf: Evaluation of management practices and turfgrass variety. P.J. Rice, B.P. Horgan, J. Hamlin

143. Effects of pesticide application methods on urban runoff of fipronil and its degradation products. L. Greenberg, Z.M. Ryder, J. Gan

144. Environmental fate of 14C-niclosamide in laboratory sediment-water systems under aerobic and anaerobic conditions. B. Clark, L. Hall, P.M. Sarff, T. Hubert, R. Lambe

145. Comparison of detection techniques for distribution of [14C] residues by HPLC. K. Ahn, J. LaMar, T. Fleischmann, D. Dohn

146. Evaluation of counting efficiency and matrix effects from crop and animal tissues on C14 using ultra performance liquid chromatography and microplate solid scintillation counting. X. Zhou, E.N. Mirgon, K. Lynn, M. Ma, M. Hastings, S. Linder

147. Investigating the mechanism of picolinic acids sorption to soils. Y. Ding, M. Ma, K. Lynn, S. Linder

Pollinators: Agrochemicals, Behavior & Disease
Cosponsored by AGFD, ENVR, and TOXI

148. Transcriptome profiles of Tropilaelaps mercedesae parasitizing honey bees. S. Lee


151. Comparative study of the detoxification of the pesticide inert n-methyl-2-pyridolone in Apis mellifera adults and larvae. J. Fine, C.A. Mullin

152. Toxicological risks of agrochemical spray adjuvants and other inactive ingredients to bees. C.A. Mullin, J. Fine, R. Reynolds, M.T. Frazier

153. Establishment of pre-harvest residue limit (PHRL) of fungicide pyraclostrobin and insecticide thiacioplad on mandarin during cultivation. K. Hwang, J. Moon

Protection of Agricultural Productivity, Public Health & the Environment


155. Use of colorants in pesticide formulations. V. Shing

156. Discovery and optimization of 1,3-diaryl-substituted heterocycles as novel insecticides. T. Pahutski, O.K. Ahmad, G.P. Lahm, J.D. Barry, D. Cordova

157. Cloning and functional characterization of inward rectifying potassium (Kir) channels from arthropod salivary glands. Z. Li, D. Swale

158. Cardiac regulation of viral infection in a model social insect. S. O’Neal, D. Swale, J.R. Bloomquist, T.D. Anderson


160. Exploring the relationship between PaO1 receptor modulation and the insecticidal character of monoterpoids. E. Norris, A.D. Gross, M. Kimber, L. Bartholomay, J.R. Coats
ENVR Division
Advances & Challenges in Food-Energy-Water Nexus
Cosponsored by AGRO and CEI
S. Ahuja, I. Chowdhury, D. D. Dionysiou, Y. Lin, Organizers
S. Chae, Organizer, Presiding

Section F
Loews Philadelphia Hotel - Congress A

1:30 Introductory Remarks.


2:00 – ENVR 244. Advances and challenges in recycling of high strength organic waste and wastewater for clean water and energy. S. Chae


2:50 – ENVR 246. Identifying data gaps in understanding feasibility of reuse of nanoparticles-containing wastewater in aquaculture. A. Kumar, P. Gurian, A. Anandan, D. Singh, B. Sundaram

3:15 Intermission.


3:55 – ENVR 248. Trace element allocation across air pollution control devices in coal fired power plants. X. Sun, D. Gingerich, I. Azevedo, M.S. Mauter


4:45 Concluding Remarks.

Synthetic Biology & Genetically Modified Organisms
The Debate: What Role Should We Play in the Biotechnology Era?
Cosponsored by AGFD, AGRO, CEI, and COMSCI
S. H. DeLuca, Organizer
C. W. Avery, Organizer, Presiding

Section H
Loews Philadelphia Hotel – Congress C


2:20 Concluding Remarks.

2:25 Intermission.

2:35 Introductory Remarks.

2:40 Panel Discussion: What Roles Should We Play in the Biotechnology Era?

3:55 Concluding Remarks.

Sci-Mix
J. Gan, P. J. Rice, Organizers

Section A
Pennsylvania Convention Center – Halls D/E

8:00 - 10:00

133-139, 141, 143-146, 150-151, 155, 157-160. See previous listings.

225-227, 229, 233, 236, 238-244, 250, 252, 254, 361. See subsequent listings.

TUESDAY MORNING

Ion Channels & G-Protein Coupled Receptors: Dr. Yoshihisa Ozoe, ACS International Award for Research in Agrochemicals
Finanically supported by DuPont Crop Protection
J. R. Coats, A. D. Gross, Organizers, Presiding

Section A
Commonwealth Hall D

8:10 Introductory Remarks.

8:15 – 162. Molecular mechanisms of action of DDT and pyrethroid insecticides. K. Dong


9:30 – 165. Modulators of insect nicotinic acetylcholine receptors with special reference to flupyradifurone. R. Nauen, P. Jeschke

9:55 Intermission.

10:15 – 166. RNA A-to-I editing: A mechanism that broadens the pharmacological properties of the mosquito GABA receptor. J. Taylor-Wells, I. Bermudez, A.K. Jones

10:40 – 167. Insect ligand-gated ion channels as targets for insecticides. K. Matsuda


11:30 Concluding Remarks.

Fate & Metabolism of Agrochemicals: Early Career Scientist Symposium
F. Jia, M. Ma, Organizers
Y. Ding, S. Grant, Organizers, Presiding

Section B
Regency Ballroom C1

8:35 Introductory Remarks.

8:40 – 169. TRAVEL AWARD GRAD STUDENT PRESENTATION. Mechanisms of pyrethroid degradation on urban surfaces. J. Richards, J. Gan
9:05 – 170. Assessing the effects of urbanization on the environment with soil legacy and current-use insecticides: A case study in the Pearl River Delta, China. L. Bao, Y. Wei, E. Zeng
9:30 – 171. Environmental degradation of imazosulfuron. C. Rering, R.S. Tjeerdema
9:55 Intermission.
10:15 – 172. Transformation of atrazine, 2,4-D, and 2,4,5-T on simulated leaf surfaces. L. Su, N. Dai
11:05 – 174. Community multi-scale air quality (CMAQ) modeling effort for pesticide emissions. T. Lane, A. Sumner, J. Arnold, S. Grant

Advances in Agricultural Biotechnology: Interpretation & Correlation of ELISA & LC-MS/MS for Protein Quantitation
Cosponsored by ANYL
L. Buchholz, R. Hill, N. Houston, Organizers
J. E. Eble, Organizer, Presiding

Section C
Commonwealth Hall C

8:10 Introductory Remarks.
8:15 – 175. Regulatory perspectives on protein detection for agricultural biotechnology. G. Shan
9:30 – 178. ELISA validation and correlation to mass spectrometry. K. Kouba
9:55 Intermission.
10:15 – 179. Targeted protein quantification by LC-MS/MS: Applications in the agricultural biotechnology. T.X. Hu
11:05 Panel Discussion.

Agrochemicals & Pollinators: Current Science & Risk Assessment Approaches
Cosponsored by AGFD, ENVR, and TOXI
G. Hancock, M. A. Maks, J. R. Purdy, Organizers
J. Purdy, Presiding

Section D
Commonwealth Hall C

8:35 Introductory Remarks.
9:05 – 182. Current advancements for evaluating the risk of agrochemicals to developing bees. D.R. Schmehl
9:55 Intermission.
11:05 Concluding Remarks.

Cannabis & Agrochemicals: Analytical, Environmental & Regulatory Challenges
Cosponsored by AGFD
J. A. Kowalski, G. C. Miller, L. A. Royer, Organizers
K. L. Armbrust, Organizer, Presiding

Section E
Commonwealth Hall E

8:10 Introductory Remarks.
8:15 186. EPA perspectives on pesticides and cannabis. N. Zinn
8:40 187. Responsible cultivation policy: Preserving personal cultivation rights while regulating commercial cultivation as agriculture. K. Nevedal, J. Marcu, S. Sherer
9:05 188. Regulation of agrochemicals use on medical marijuana in Nevada. G.C. Miller
9:30 189. Regulation of agrochemical use on medical/recreational marijuana in Oregon. R. Cuchetto
9:55 Intermission.
10:15 190. Navigating the pesticide related regulatory landscape with respect to individual state legal cannabis cultivation in the US. P. Reibach
11:05 192. Agricultural considerations in cannabis husbandry: Food, fiber & farmacy. E. Russo
11:30 Concluding Remarks.

AGFD Division
Chemistry, Safety & Technology of GMO Foods
Sponsored by AGFD, Cospnsored by AGRO, CEI, COMSCI, and ENVR
J. W. Finley, L. Jackson, J. N. Seiber, Organizers, Presiding

Section B
Pennsylvania Convention Center – Room 113B

8:00 Introductory Remarks.
8:05 – AGFD 164. Traditional plant breeding vs molecular plant breeding. W. Parrott
8:35 – AGFD 165. Biotechnology innovations and solutions for sustainable agriculture. D.J. Williams
9:35 Intermission.
Kenneth A. Spencer Award
Outstanding Achievement in
Agricultural & Food Chemistry

Food Components for Cardiovascular & Brain Health
Symposium Honoring Dr. Agnes Rimando

Cosponsored by AGRO
Financially supported by the ACS Kansas City Section
E. Hellmuth, A. M. Rimando, Organizers
M. Appell, Presiding

Section A
Pennsylvania Convention Center – Room 111B

8:00 Introductory Remarks.

8:10 – AGFD 158. Pterostilbene in blueberries and PPARα
activation. A.M. Rimando

8:40 – AGFD 159. Physiological effects of pterostilbene and
blueberries in animal models of obesity. W.H. Yokoyama,
D. Shao, H. Kim, A.M. Rimando

9:10 – AGFD 160. Berry bioactives: the health benefits of
color. B. Burton-Freeman

9:40 Intermission.

9:55 – AGFD 161. Effects of blueberries on cognition and
neuroplasticity. A. Carey, A.M. Rovnak, K.R. Gildawie,
D.R. Fisher, B. Shukitt-Hale

10:25 – AGFD 162. Phytochemicals against oxidative stress
and inflammatory responses in microglial cells. G. Sun

10:55 – AGFD 163. Quest for indirect modulators of the
endocannabinoid system from natural products. A. El-Alfy,
E.A. Abourashed

USDA-ARS Sterling B. Hendricks
Memorial Lectureship

Dr. May R. Berenbaum

Cosponsored by AGRO
Financially supported by USDA-Agricultural Research Service
K. Kaplan, M. H. Tunick, Organizers, Presiding

Pennsylvania Convention Center – Room 110B

11:00 Introductory Remarks.

11:05 – AGFD 177. How to eat a plant: phytochemical
detoxification in bees vs. butterflies. M.R. Berenbaum

11:55 Concluding Remarks.

ENVR Division
Combined Biological-Chemical Reactions for
Contaminant Transformation

Sponsored by ENVR, Cosponsored by AGRO
E. J. Bouwer, K. T. Finneran, Organizers, Presiding

Section H
Loews Philadelphia Hotel – Congress C

8:00 Introductory Remarks.

8:05 – ENVR 323. Mechanism and applications of black
carbon-mediated microbial contaminant
transformation. Y. Yu, J.M. Saquing, P.T. Imhoff, P. Chiu

8:25 – ENVR 324. Heavy metal remediation via biologically
driven calcium carbonate precipitation. E. Lauchnor,
N. Zambare, R. Gerlach

8:45 – ENVR 325. Microbial response to antimony
contamination in severely antimony-contaminated
environments and bioremediation thereof by an
onsite field-scale bioreactor. W. Sun, V. Krumins,
E. Xiao, Y. Dong, T. Xiao

9:05 – ENVR 326. Effect of phospholipid coating on pyrite
oxidation and bacterial communities under
simulated acid mine drainage (AMD) conditions. B.
Van Aken, D.R. Strongin, A. Pierre Louis, H. Yu, S.
Shumlas, M. Schoonen

9:25 – ENVR 327. Sustainable technologies for mine
influenced water treatment in different water
chemistry. S.R. Al-Abed, P. Pinto, J. McKernan

9:45 Intermission.

10:00 – ENVR 328. Biofilm covered activated carbon
particles enhance bioremediation of polychlorinated
biphenyl (PCBs) in sediment. B.V. Kjellerup, S.J.
Edwards, A.L. Prieto

10:20 – ENVR 329. Transformation of carbon tetrachloride
and chloroform by tetrachloroethene and
trichloroethene respiring anaerobic mixed cultures.
K. Vickstrom, M.F. Azizian, L. Semprini

10:40 – ENVR 330. Enhanced microbial sulfate removal
and recovery through a novel electrode-integrated
bioreactor. C.L. Chun, S.N. Constantine, A.C.
Schumann, D.S. Jones

11:00 – ENVR 331. Electrically conductive particles
supporting direct interspecies electron transfer in
anaerobic microbial communities. Q. Cheng, C.
Murray, D.F. Call

11:20 – ENVR 332. Microbial reductive dechlorination of
selected PCB tracker pair congeners in the Hudson
and Grasse River sediment microcosms without
nutrients amendment. Y. Xu
Synthesis & Chemistry of Agrochemicals: Symposium in Memory of Dr. Thomas Bretschneider
Financially supported by BASF
T. M. Stevenson, Organizer
J. F. Bereznak, A. Davulcu, Presiding
Section A
Commonwealth Hall D

1:50 Introductory Remarks.

AGRO Award for Innovation in Chemistry of Agriculture

Dr. Thomas M. Stevenson

1:55 – 193. Pharmacophore modifications for the discovery and optimization of biologically active molecules.

Financially supported by BASF


3:10 Intermission.


3:55 – 196. Cyclopropyl carboxamides: A breakthrough in SDHi fungicides. C. Dubost


Fate & Metabolism of Agrochemicals: Early Career Scientist Symposium

Y. Ding, S. Grant, M. Ma, Organizers
F. Jia, Organizer, Presiding
M. Ma, Presiding

Section B
Regency Ballroom C1

1:25 Introductory Remarks.

1:30 – 198. Aqueous and soil fate of benzobicyclon and benzobicyclon hydrolysate under simulated California rice field conditions. K. Williams, R.S. Tjeerema

1:55 – 199. Exposure and risk assessment of pyrethroid insecticides in aquatic system. H. Li, J. You


3:10 Intermission.


3:55 – 203. Glyphosate extraction by different solvents and techniques from two agricultural soils. J.M. Gonzalez

4:20 – 204. Nature of the residue study with Rinskor™ applied to rice. J.A. Taylor, S.L. Rotondaro, Y. Adelfinskaya

4:45 Concluding Remarks.

Advances & Challenges of Controlling Arthropod Pests: Early Career Scientist Symposium

A. D. Gross, A. Nuss, Organizers, Presiding

Section C
Commonwealth Hall A1

1:25 Introductory Remarks.

1:30 – 205. NEW INVESTIGATOR AWARD FINALIST. Are muscarinic acetylcholine receptors the target of a new pyrazole oxime insecticide? A.D. Gross, P.R. Carlier, S. Jiang, B. Sun, F. Tong, M.M. Totrov, J.R. Bloomquist

1:55 – 206. NEW INVESTIGATOR AWARD FINALIST. RNAi for western corn rootworm management. A. Velez, E. Fishilevich, K.E. Narva, B. Siegfried

2:20 – 207. Through the looking glass: an opinion of pest management in an academic, government and industry setting. M. Tarver

2:45 – 208. Peptide neurohormone receptors as insecticide targets. A. Nuss

3:10 Intermission.


5:10 Concluding Remarks.

Agrochemicals & Pollinators: Current Science & Risk Assessment Approaches
Cosponsored by AGFD, ENVR, and TOXI
G. Hancock, J. R. Purdy, Organizers
M. A. Maks, Organizer, Presiding

Section D
Commonwealth Hall C

1:50 Introductory Remarks.

1:55 – 213. Analysis of multiple neonicotinoids in small samples of honeybees combined with QuantiGene® virology. M.E. Wyrebek, J.R. Purdy

2:45 – 215. Managing risks of pesticides to bees. T. Moriarty

3:10 Intermission.


4:20 Panel Discussion.

4:55 Concluding Remarks.

Cannabis & Agrochemicals: Analytical, Environmental & Regulatory Challenges

Cosponsored by AGFD

K. L. Armbrust, G. C. Miller, L. A. Royer, Organizers
J. A. Kowalski, Organizer, Presiding

Section E
Commonwealth Hall B

1:25 Introductory Remarks.

1:30 – 218. Challenges of pesticide testing for privately owned cannabis testing facilities in Colorado. J. Brzezicki

1:55 – 219. What’s the catch? A comprehensive approach to testing cannabis for health and safety. A.M. Anterola

2:20 – 220. Development of triazole fungicide resistance in powdery mildew disease of cannabis. F. Conrad

2:45 – 221. Challenges for multi-residue pesticide analysis in cannabis; extraction and cleanup strategies for LC-MS and GC-MS analysis. C.J. Hudalla, L. Almeida, M.S. Young, K. Tran

3:10 Intermission.

3:30 – 222. Quantitation of pesticide residues in cannabis by LC-MS-MS with modified QuEChERS extraction. J. Dahl, J.A. Kowalski, D. Laine, G. Fagras

3:55 – 223. Endemic pesticide use in Cannabis: Getting growers, labs, and regulators aligned through scalable and novel flash chromatographic remediation methodology. A.C. Martinez, R.B. Murphy, M. Rubinsky, A. Conn

4:20 – 224. Possible sources of discrepancy in interlaboratory reporting of THCA concentration in cannabis plant. S. Sguera

4:45 Discussion.

Posters & Coffee
1:00 PM – 5:00 PM

J. Gan, J. Richards, Organizers

Regency Ballroom B

All posters will be posted by 1:00 PM. Presenters are expected to stand by their posters from 3:00 PM – 5:00 PM.

* Student Travel Award

Advances in Metabolism, Metabolomics & Mass Spectrometry

225. Chiral and isotope analyses for assessing the degradation and metabolism of fipronil in the sediment. Q. Zhang, J. Gan


228. In Vitro Metabolism of [14C]-Benalaxyl in Hepatocytes of Rats, Dogs and Humans. G.C. Nallani

*229. Probing the metabolomic impacts of chloroacetanilide herbicides on earthworm coelomic fluid. C.M. Griffith, C.K. Larive

230. Radiovalidation of QuEChERS based on LC-MS/MS and LSC analysis. S. LaMonaca

*231. Investigating the role of Trp86 residue of human acetylcholinesterase in interaction with organophosphate by docking, site directed mutagenic and molecular modeling approach. T. Jindal, A. Ranjan, K. Gulati

232. Accurate mass in agrochemical analysis. Understanding when to use ppm and when to use Da to express mass accuracy. J.A. Ferguson, P. Reibach


235. Detection of ractopamine in sheep urine after exposure to trace levels of dietary ractopamine. W.L. Shelver, A.A. Marx, A.M. McGarvey, D.J. Smith

236. Adapting new techniques and instrumentaton to improve the monitoring of > 150 veterinary drugs including aminoglycosides in food animal tissues. S.J. Lehotay, A. Lightfield

Cannabis & Agrochemicals: Analytical, Environmental & Regulatory Challenges
Cosponsored by AGFD

238. Detecting pesticides in the cannabis plant: Complications and interferences. S. Sguera

*239. Herbicide binding in plant acetyl-CoA carboxylase by homology modeling, MD simulation, and docking. V. Sammeta, D.W. Boerth

Environmental Risk Assessment of Down-the-Drain Chemicals


Environmental Study Design: Current & Emerging Guidelines

244. Novel study design for the performance of an aerobic flooded soil study utilizing natural sunlight and controlled temperature. J. Allan, P.M. Sarff, M. Tunink

245. Outdoor water sediment study – Adding effects of sunlight to aquatic system exposure assessment. C.M. Hirata, C.J. Anderson, A. Abernethy

246. Experimental design of high tier aged sorption studies for pesticides. H. Wang, B. Blakeslee, K. Lynn, S. Linder

247. Determination of the plant uptake factor for Oxathiapiprolin (DuPont™ Zorvec™) soil metabolites in tomato, potato and lettuce. C.J. Hatzenbeler, P. Ravi, G. Suresh, S. Ayyappan, S. S.

248. Accurate determination of adsorption values for low adsorbing compounds. F. Donaldson, R.L. Warren

249. Comparison of photodegradation of selected agrichemicals on moist and dry soils. C. Fang

Glyphosate: Current Status & Future Prospects

250. Survey of glyphosate in domestic and imported beer and wine. F.M. Rubio, Z. Hutchinson, T. Glaze, J. Lance

251. Practical implementation techniques for reliable and selective determination of glyphosate and AMPA in milk and urine using LC-MS/MS. P.K. Jensen, L. Riter, C.E. Wujcik, M.K. McGuire, M.A. McGuire

252. Phosphate fertilizer impacts on glyphosate sorption by soil under different pH conditions. S. Munira, A. Farenhorst, D. Flaten, C. Grant

Increasing the Value of Water Monitoring Data for Pesticide Fate & Effects Evaluations
Cosponsored by ENVR and TOXI


AGFD Division

Kenneth A. Spencer Award for Outstanding Achievement in Agricultural & Food Chemistry
Anticancer Food Components: Functional Food Polymers, Food Flavor & Odor Chemistry & Processing-Induced Food Toxicants
Cosponsored by AGRO
E. Hellmuth, A. M. Rimando, Organizers
M. Appell, Presiding

Section A
Pennsylvania Convention Center – Room 111B

1:00 Introductory Remarks.

1:05 – AGFD 178. Dietary pterostilbene is a novel chemopreventive and therapeutic agent in prostate cancer: Pre-clinical studies. A. Levenson

1:35 – AGFD 179. Topical pterostilbene prevents UV-B-mediated skin damage. R. Dellinger

2:05 – AGFD 180. Health benefits of natural tocopherol mixtures. N. Suh

2:35 Intermission.


3:20 – AGFD 182. Fifty years of smelling sulfur: From the chemistry of garlic to the molecular basis for olfaction. E. Block


4:20 – AGFD 184. Chemical mechanisms for 3-MCPD ester formation. L.L. Yu

Chemistry, Safety & Technology of GMO Foods
Cosponsored by AGRO, CEI‡, COMSCI and ENVR
J. W. Finley, L. Jackson, J. N. Seiber, Organizers, Presiding

Section B
Pennsylvania Convention Center – Room 113B

1:00 – AGFD 185. GMO crops may contribute to decline of monarch butterfly populations. J.N. Seiber

1:30 – AGFD 186. Impressive progress, opportunities, and obstacles in the use of genetically engineered trees. S.H. Strauss

2:00 – AGFD 187. Progress on transgenic approaches to solving citrus greening disease. M. Dutt, J.W. Gasser

2:30 Intermission.

3:15 – AGFD 189. Transgenic and gene edited animals for use in agriculture: Where are we now? **J.D. Murray**


4:15 Concluding Remarks.

**WEDNESDAY MORNING**

### Synthesis & Chemistry of Agrochemicals: Symposium in Memory of Dr. Thomas Bretschneider

*Financially supported by BASF*

**T. M. Stevenson**, Organizer, Presiding

**J. K. Long**, Presiding

#### Section A

Regency Ballroom A

#### 8:50 Introductory Remarks.

**8:55 – 255.** Cyclic ketoenol insecticides: Retrospective consideration and prospects. **P. Jeschke**, R. Fischer, R. Nauen

**9:20 – 256.** Organism dependent binding of pesticides to Acetyl-CoA carboxylase. **G. Lange**, R. Fischer, J. Freigang, B. Laber, S. Lehr


10:10 Intermission.

**10:30 – 258.** Pyrimidinones and related carbonyl containing heterocycles as 4-hydroxyphenylpyruvate dioxygenase (HPPD) herbicides. **A.D. Satterfield**


#### Environmental Fate, Transport & Modeling of Agriculturally-Related Chemicals

*Cosponsored by ENVR*

*Financially supported by NovaSource/TKI and Stone Environmental*

**Z. Tang**, Organizer

**S. H. Jackson**, Organizer, Presiding

#### Section B

Regency Ballroom C1

**8:25 Introductory Remarks.**

**8:30 – 261.** High frequency monitoring of pesticides and water quality in PEI, Canada. **J.R. Purdy**

**8:55 – 262.** Placing EPA Tier II scenarios into national context in terms of runoff-erosion vulnerability after pyrethroid applications to agriculture. **C.M. Holmes**, D.A. Desmarteau, P. Hendley, J. Amos, M.J. Cheplick, A.M. Ritter


10:10 Intermission.

**10:30 – 265.** Flow-through experiments and algae population modelling as supporting tools within the pesticide risk assessment - results of case studies. **D. Weber**, G. Weyman, D. Schaefer, A. Wais

**10:55 – 266. TRAVEL AWARD GRAD STUDENT PRESENTATION.** Water solubility and n-octanol/water partition coefficient measurements of pesticides, in freshwater and seawater. **P. Saranjampour**, E. Vebrosky, E. Wall, K.L. Armbrust


Who Should Regulate Pesticides in Our Food?

*Cosponsored by AGFD and ETHC*

*Financially supported by Dow AgroSciences and Golden Pacific Laboratories*

**H. B. Irrig**, C. Tiu, Organizers

**P. A. Brindle**, Organizer, Presiding

#### Section C

Commonwealth Hall D

**8:25 Introductory Remarks.**

2016 IUPAC International Award for Advances in Harmonized Approaches to Crop Protection Chemistry

**Dr. Daniel L. Hunkel**

**8:30 – 269.** Harmonized approaches to crop protection for minor uses: Past, present, and future.

*Financially supported by Dow AgroSciences*

**9:20 – 270.** Evidence-based Initiatives for MRL alignment. **P. Chan**

**9:45 – 271.** Pesticides registration in Ghana. **J.A. Pwamang**

10:10 Intermission.

**10:30 – 272.** Establishing toxicological end-points for human risk assessment: challenges and opportunities. **A. Moretto**


11:20 – 274. Farm to table: Pesticide residues in food and risk assessment. **J. Cowins**
11:45 – 275. Consumers’ expectations of pesticide residues in our food. P.A. Brindle

12:10 Concluding Remarks.

Computational Chemistry & Toxicology in Chemical Discovery & Assessment (QSARs)
COSPONSORED BY COMP, ENVR, AND TOXI
Financially supported by Simulations Plus
M. Barrett, S. Z. Cohen, Organizers, Presiding

Section D
Commonwealth Hall B

8:50 Introductory Remarks.

8:55 – 276. QSARs and computational chemistry in environmental risk assessment: Overview and historical perspective. S.Z. Cohen, J.D. Walker


10:10 Intermission.


10:55 – 280. Use of computational chemistry & toxicology tools and models for estimating exposures under the Toxics Substances Control Act. N. Orentas

Controlling Zika Vector Mosquitoes
K. R. Chauhan, Organizer, Presiding

Section E
Commonwealth Hall B

8:50 Introductory Remarks.


10:10 Intermission.

10:30 – 284. Aedes aegypti adult control using aerially applied Dibrom Concentrate (naled). C.A. Silcox, P. Connelly


11:20 Discussion.

AGFD Division
Chemistry, Safety & Technology of GMO Foods
Sponsored by AGFD, Co-sponsored by AGRO, CEI, COMSCI, and ENVR
J. W. Finley, L. Jackson, J. N. Seiber, Organizers, Presiding

Section B
Pennsylvania Convention Center – Room 111B

8:00 Introductory Remarks.


9:35 Intermission.


10:50 – AGFD 219. It is about safety. V.C. Knauf

ENVR Division
Microbial & Molecular Tools to Determine the Fate & Biotransformation of Emerging Contaminants
Sponsored by ENVR, Co-sponsored by AGRO
U. Tezel, Organizer
B. Z. Haznedaroğlu, S. G. Pavlostathis, Organizers, Presiding

Section F
Loews Philadelphia Hotel – Congress A

8:00 Introductory Remarks.

8:05 – ENVR 442. Combining high throughput omics tools with targeted DNA, RNA and protein quantification techniques to model respiration rates of specific organohalide contaminants by Dehalococcoides strains. R. Richardson, G.L. Heavner, C. Mansfeldt, A. Rowe, J.J. Werner

8:50 – ENVR 443. Biomarkers for validating 1,4-dioxane biodegradation in contaminated groundwater. P. Gedalanga, S. Zhang, Y. Xiao, S. Mahendra

9:15 – ENVR 444. Catabolic biomarkers for sensitive and fast quantification of 1,4-dioxane biodegradation activities at impacted aquifers. M. Li, Y. Liu, Y. He, Y. Yang, J. Mathieu, P.J. Alvarez

9:40 Intermission.

10:00 – ENVR 445. Understanding the metabolism of 4-OH-2’,5’-dichlorobiphenyl by the model plant Arabidopsis thaliana using whole-genome expression microarrays. B. Van Aken, S. Subramanian


WEDNESDAY AFTERNOON

Synthesis & Chemistry of Agrochemicals: Symposium in Memory of Dr. Thomas Bretschneider
Financially supported by BASF
T. M. Stevenson, Organizer, Presiding
A. Satterfield, Presiding

Section A
Regency Ballroom C2

1:25 Introductory Remarks.

1:30 – 286. Synthesis and oomycete fungicidal activity of a new family of inhibitors targeting an oxysterol binding protein. M. Pouliot


2:20 – 288. SAR investigations into N-azinyl-N'-thiophenyl ureas as insecticides. T.K. Trullinger, T. Johnson, R. Hunter


3:10 Intermission.

3:30 – 290. Discovery and initial optimization of mesoionic pyrido[1,2a]pyrimidinones as a novel class of insecticides. W. Zhang, C.W. Holyoke, K.A. Hughes, Y. Bethel


Environmental Fate, Transport & Modeling of Agriculturally-Related Chemicals
Cosponsored by ENV R
Financially supported by NovaSource/TKI and Stone Environmental
S. H. Jackson, Organizer
Z. Tang, Organizer, Presiding

Section B
Regency Ballroom A

1:25 Introductory Remarks.


2:45 – 296. Examination of PRZM5.0 storm rainfall depth and distribution algorithms compared to current U.S. storm trends. T.L. Estes, K.L. Armbrust

3:30 – 297. Direct and indirect air modeling based on dicamba field studies. S.H. Jackson

3:55 – 298. AERMOD modeling for treatment period of sulfuryl fluoride residential structural fumigation. J. Tao

4:20 – 299. Modeling agricultural spray drift using a coupled CALPUFF-AGDISP model. C. DesAutels, Q. Ma, J. Popovic


5:10 Discussion.

Who Should Regulate Pesticides in Our Food?
Cosponsored by AGFD and ETHC
Financially supported by Dow AgroSciences and Golden Pacific Laboratories
P. A. Brindle, C. Tiu, Organizers
H. B. Irrig, Organizer, Presiding

Section C
Commonwealth Hall D

1:25 Introductory Remarks.

1:30 – 301. Regulatory harmonization: Is it possible? L. Rossi


2:45 – 304. Market place considerations: The importance of harmonized MRLs. D.A. Botts

3:10 Intermission.

3:30 – 305. Plant protection products regulations in the EU - an overview. M. Richter
3:55 – 306. Purpose and aim of the new maximum residue limit (MRL) regulation in Mexico. J. Ramirez

4:20 – 307. Opportunities to mitigate trade uncertainties related to MRLs. W.A. Kerr, M. Yeung

4:45 – 308. Weighing benefits versus risk of pesticides in addressing food needs. H.B. Irrig

5:10 Concluding Remarks.

Computational Chemistry & Toxicology in Chemical Discovery & Assessment (QSARs)
Cosponsored by COMP, ENVR, and TOXI
Financially supported by Simulations Plus
M. Barrett, S. Z. Cohen, Organizers, Presiding

Section D
Commonwealth Hall A1

1:50 Introductory Remarks.


2:20 – 310. QSAR in the evaluation of toxicity and environmental fate of novel explosives, propellants, and pyrotechnics. W.S. Eck


3:10 Intermission.

3:30 – 312. Coupling metabolite predictions to pesticide toxicity in silico. R.D. Clark, M.S. Lawless


Controlling Zika Vector Mosquitoes
K. R. Chauhan, Organizer, Presiding

Section E
Commonwealth Hall B

1:25 Introductory Remarks.

1:30 – 315. Toxicity of the natural insecticide matrine to Aedes aegypti, Drosophila melanogaster and Periplaneta americana. Y. Li, J.R. Bloomquist


2:45 Panel Discussion.

3:10 Intermission.


3:55 – 319. Proven vector control methods to reduce the risk of dengue: Lessons for Zika. S. Krause

4:20 Panel Discussion.

AGFD Division
Chemistry, Safety & Technology of GMO Foods
Sponsored by AGFD, Cosponsored by AGRO, CEI, COMSCI, and ENVR
J. N. Seiber, Organizer
J. W. Finley, L. Jackson, Organizers, Presiding

Section B
Pennsylvania Convention Center – Room 111B

1:00 – AGFD 242. Unintended effects associated with GM crops are both expected and low risk. R. Herman, W. Parrott

1:30 – AGFD 243. Assessing the risks of resistance evolution for transgenic crops for insect control: Capitalizing on successes and learning from mistakes. B. Siegfried

2:00 – AGFD 244. FDA’s safety evaluation of foods from genetically engineered plants. R.I. Merker

2:30 Intermission.

2:45 – AGFD 245. Intellectual property issues of GMO food crops. A. Coates

3:15 – AGFD 246. Communication of GMO issues to non-technical audiences. J. Finley

3:45 Concluding Remarks.

ENVR Division
Microbial & Molecular Tools to Determine the Fate & Biotransformation of Emerging Contaminants
Sponsored by ENVR, Cosponsored by AGRO
B. Z. Haznedaroglu, S. G. Pavlostathis, Organizers
U. Tezel, Organizer, Presiding

Section F
Loews Philadelphia Hotel – Congress A


2:15 – ENVR 511. Biotransformation and inhibitory effect of furanic and phenolic compounds in the anode of a microbial electrolysis cell (MEC). X. Zeng, M.A. Collins, A. Borole, S.G. Pavlostathis

2:40 – ENVR 512. Microbial transformation of tetracycline and sulfonamide antibiotics. X. Li, Y. Leng, R. Levine, Y. Zhang, J. Bao, D.D. Snow, L. Durso

3:05 Intermission.


3:50 – ENVR 514. Effects of residual antibiotics in groundwater on survival and pathogenicity of Salmonella. B.Z. Haznedaroglu, S.L. Walker

4:15 Concluding Remarks.
ENVR Division Poster Session

6:00 - 8:00
Section I
Pennsylvania Convention Center - Hall D

Advances & Challenges in Food-Energy-Water Nexus
Sponsored by ENVR, Cosponsored by AGRO and CEI
S. Ahuja, S. Chae, I. Chowdhury, D. D. Dionysiou, Y. Lin, Organizers

ENVR 532. Interaction forces between microalgae cells and membrane surface based on XDLVO theory in algae harvesting using axial vibration membrane. F. Zhao, Y. Zhang, H. Chu, X. Zhou


ENVR 535. Water quality and public health: Role of wastewater. T. Tonesayi, S. Tonesayi


Advances in Understanding Antibiotics, Antibiotic Resistance Genes & Antibiotic-Resistant Bacteria in Engineered & Natural Environments
Sponsored by ENVR, Cosponsored by AGRO
K. Chu, C. Huang, J. McLain, Organizers

ENVR 539. Photocatalysis of triclosan and triclocarban by tetrapod zinc oxide and nitrogen-doped reduced graphene oxide. M. Hwangbo, B.S. Abada, Y. Shao, K. Chu


ENVR 543. Photolytic fate of poultry antibiotics in agricultural wastewater. K. Mangalgiri, L.M. Blaney

ENVR 544. Identification of fluoroquinolone antibiotics and resistant bacteria in Indian sewage treatment plants. J. K, P. Sihag, P. Jaroliya, P. Mandal, S. Sarkar


Combined Biological-Chemical Reactions for Contaminant Transformation
Sponsored by ENVR, Cosponsored by AGRO
E. J. Bouwer, K. T. Finneran, Organizers


ENVR 590. Effect of surface treatment on GAC as an electron acceptor in microbial transformation reactions. A.M. Redwan, K. Millerick

ENVR 591. Extracellular iron reduction by the Gram-positive fermenter Clostridium beijerinckii. J.K. Choi, N. Yee

ENVR 592. Analysis of polychlorinated biphenyls in effluent discharged from a wastewater treatment plant during dry and wet weather periods. B.V. Kjellerup, R. Jing, E. Wilson, S. Fusi, A. Chan

Nanotechnology for Sustainable Agriculture & Food Systems
Sponsored by ENVR, Cosponsored by AGRO and CEI
P. Demokritou, G. Lowry, N. B. Saleh, J. C. White, Organizers

ENVR 710. Kinetic studies of ceria nanocrystals for catalytic dephosphorylation. M. Manto, C. Wang

Occurrence, Behavior & Remediation of Mixed Organic Pollution in Soil & Sediment
Sponsored by ENVR, Cosponsored by AGRO
X. Li, J. J. Pignatello, B. Xing, L. Zhu, Organizers

ENVR 713. Levels and distributions of organophosphorus pesticides in agricultural soils from the Yangtze River Delta of China. J. Sun, L. Pan, X. Li, L. Zhu

ENVR 714. Contamination and risk assessment of DDTs in agricultural soils from the Yangtze River Delta of China. J. Sun, L. Pan, X. Li, L. Zhu

ENVR 715. Atrazine contamination in agricultural soils from the Yangtze River Delta of China and associated health risks. J. Sun, D. Tsang, L. Pan, L. Zhu, X. Li


ENVR 717. Occurrence and distribution of pharmaceutical compounds in the vadose zone of a wastewater irrigated field in Northern China. L. Ma, G. Li

ENVR 718. Photochemistry of dissolved black carbon released from biochar. H. Fu, X. Qu, D. Zhu

ENVR 719. Selective sorption removal of phenanthrene by resins from anionic and nonionic surfactant solutions. K. Yang, Y. Zeng, C. Zhou
**THURSDAY MORNING**

**Environmental Risk Assessment of Down-the-Drain Chemicals**
*Cospersoned by ENVR*
K. Malekani, M. T. Shamim, Organizers
C. M. Holmes, J. Weeks, Organizers, Presiding

Section A
Commonwealth Hall A1

**8:50 Introductory Remarks.**


**9:45 – 322.** Pesticides and POTWs: Opportunities and challenges. **P. Ghuman**

**10:10 Intermission.**

**10:30 – 323.** Wastewater discharge risk assessments: Importance and improvement opportunities. **K.D. Moran**, M. LaBella, K. North

**10:55 – 324.** Recurring U.S. national wastewater treatment plant survey and the Human Health Observatory at Arizona State University. A. Venkatesan, J. Steele, **R.U. Halden**

**11:20 – 325.** Occurrence and mass balances of neonicotinoid and phenylpyrazole insecticides during conventional wastewater treatment. **A.M. Sadaria**, S.D. Supowit, R. Halden

**Subsurface Fate of Pesticides**
*Cospersoned by ENVR*
M. Barrett, Y. Ding, X. Huang, A. M. Ritter, Organizers, Presiding

Section B
Commonwealth Hall A2

**8:25 Introductory Remarks.**


**9:45 – 329.** Predicting pesticide biphasic soil concentration decline under field conditions: Model-data comparison. **D. Mao**, W. Chen, M.J. Cheplick

**10:10 Intermission.**


**10:55 – 331.** Comparison of modeling approaches in estimating total toxic residues (TTR) of pesticide in ground water. **X. Huang**, A.C. Barefoot

**11:20 – 332.** HYDRUS 2/3D applied to modeling transport of agrochemicals in drip irrigation scenarios. **P. Sharma**

**11:45 Concluding Remarks.**

**Who Should Regulate Pesticides in Our Food?**
*Cospersoned by AGFD and ETHC*
Financially supported by Dow AgroSciences and Golden Pacific Laboratories
P. A. Brindle, H. B. Irrig, Organizers
C. Tiu, Organizer, Presiding

Section C
Commonwealth Hall B

**8:25 Introductory Remarks.**

**8:30 – 333.** Why investing in international regulations and standards matters. **J.F. Sandahl**, C. Peterson

**8:55 – 334.** Business of MRLs: A food and beverage industry perspective. **R.W. Williams**

**9:20 – 335.** Addressing food waste in the world with pesticides. **H.B. Irrig**

**9:45 – 336.** Retailers’ secondary standards: What they are and why they exist. **J. Maloney**

**10:10 Intermission.**

**10:30 – 337.** Strategies to meet export maximum residue limits for Michigan apples and cherries. **J. Wise**, A. VanWoerkom

**10:55 – 338.** Contemporary MRL issues for California specialty crops: things that make you go hmm? **S.S. Walse**

**11:20 – 339.** Monitoring pesticide residues at the federal level. **S. Abubeker**

**11:45 Concluding Remarks.**

**Innovations in Human Health Exposure & Risk Assessment**
*Cospersoned by ENVR and TOXI*
M. Dellarco, Organizer
C. Terry, Organizer, Presiding

Section D
Commonwealth Hall D

**8:25 Introductory Remarks.**

**8:30 – 340.** Use of PBPK models in risk assessment of agrochemicals. **A. Lowit**, Y. Tan, E. Holman

**8:55 – 341.** Utilising in vitro to in vivo extrapolation and PBPK modeling demonstrates how a better understanding of human systemic exposure can establish margins of systemic exposure and be used to refine agrochemical risk assessments. **A.J. Stevens**, S.J. Whalley, H. Burt, A. Hofstra


**9:45 – 343.** Features and application of the ILSI/HESI RISK21 exposure framework. **M. Dellarco**

**10:10 Intermission.**


11:45 – 347. EPA’s Exposure Forecasting (ExpoCast) Project. J. Wambaugh

**Innovations in Agrochemical Mode of Action Studies & the Impact of Global Human Health Requirements**

J. LaRocca, Organizer, Presiding

Section E

Commonwealth Hall C

**8:25 Introductory Remarks.**


10:10 Intermission.

10:30 – 352. Use of toxicokinetics to improve the current extended one-generation reproductive toxicity (EOGRT) study design. S. Saghir, M.A. Dorato


**ENV Division**

**Advances in Understanding Antibiotics, Antibiotic Resistance Genes & Antibiotic-Resistant Bacteria in Engineered & Natural Environments**

Sponsored by ENVR, Cosponsored by AGRO

K. Chu, C. Huang, J. McLain, Organizers, Presiding

Section B

Loews Philadelphia Hotel – Washington A

8:30 Introductory Remarks.


9:35 – ENV 743. Fate, transport, and management of antibiotics and antibiotic resistance genes in the agroecosystem. X. Li, S. Bartelt-Hunt, D.D. Snow, J. Gilley


10:35 Intermission.

10:50 – ENV 746. Microbial control with polyvalent phages is significantly enhanced by competitive exclusion by pre-exposed phage-production hosts. P. Yu, J. Mathieu, Y. Yang, P.J. Alvarez


11:30 – ENV 748. Estrogen-induced antibiotic resistance. O. Conroy-Ben


12:10 Concluding Remarks.

**Occurrence, Behavior & Remediation of Mixed Organic Pollution in Soil & Sediment**

Sponsored by ENVR, Cosponsored by AGRO

X. Li, B. Xing, L. Zhu, Organizers, Presiding

Section D

Loews Philadelphia Hotel – Washington B

8:00 – ENV 758. Mitigation and remediation of organic contaminated soils. F. Li, C. Wang, J. Sun, L. Pan, L. Zhu

8:30 – ENV 759. Biodegradation of 1,4-dioxane in chlorinated solvent mixtures. S. Zhang, P. Gedalanga, S. Mahendra

8:50 – ENV 760. Black carbon facilitated dechlorination of DDT and its metabolites in the presence of sulfides. K. Ding, W. Xu

9:10 – ENV 761. Enhanced photodegradation of atrazine in the presence of montmorillonite clay and indole-3-acetic acid. C. Gu

9:30 – ENV 762. Oxidation of benzo[a]pyrene by laccase of *Trametes versicolor* in soil enhanced bound-residue formation and alleviated disturbance to soil bacterial community. J. Zeng, Q. Zhu, Y. Wu, X. Lin

9:50 – ENV 763. Adhesion of *Shewanella oneidensis* MR-1 to goethite and its impact on the transformation of enrofloxacin. W. Yan, C. Jing

10:10 Intermission.


11:00 – ENVR 766. Impacts of polycyclic aromatic hydrocarbons (PAHs) emitted by coking industry base on cabbages from neighboring vegetable plots in Shanxi province, north of China. G. Xiong, Y. Zhang, Y. Duan, C. Cai, X. Wang, J. Li, S. Tao, W. Liu

11:20 – ENVR 767. Hexachlorobutadiene (HCBD) in pumpkin seedlings after hydroponic exposure. X. Hou, J. Liu, G. Jiang

11:40 – ENVR 768. Foliar uptake: An important pathway for the accumulation of Hexabromocyclododecanes in plant leaves. H. Zhu, H. Sun, Y. Yao, X. Ren, F. Wang

Bioanalytical Tools for Chemicals of Emerging Concern in the Environment
R. Marfil-Vega, L. A. Weinrich, Organizers, Presiding

Section E
Loews Philadelphia Hotel – Washington C

8:00 Introductory Remarks.

8:05 – ENVR 769. Metachromatic interactions of a dye probe and compounds associated with membrane fouling. X. Xie, G. Korshin

8:25 – ENVR 770. Detection of sartans, related compounds and TPs in real-world aqueous environmental samples using fragment ion search and HRMS. D. Barcelo, B. Zonja, M. Lopez de Alda

8:45 – ENVR 771. Stable isotope probing for active acidophilic methanotrophs capable of degrading trichloroethylene. Y. Shao, P. Hatzinger, S. Streger, K. Chu

9:05 Intermission.


9:40 – ENVR 773. Dioxin-like potencies and concentrations of AhR-active compounds in sediments of Meiliang Bay, Tai Lake, China determined by in vitro bioassay and instrumental analysis. Y. Xu


10:20 Intermission.


11:35 Concluding Remarks.

THURSDAY AFTERNOON

Environmental Risk Assessment of Down-the-Drain Chemicals
Cosponsored by ENVR
C. M. Holmes, K. Malekani, J. Weeks, Organizers
M. T. Shamim, Organizer, Presiding
K. Malekani, Presiding

Section A
Commonwealth Hall A1

1:15 Introductory Remarks.


2:10 – 357. Modeling the sustainability of using treated water containing active pharmaceutical ingredients for reuse in irrigation applications. T.L. Negley, C. Hassinger, J.J. Ryan, D.S. Finan


3:00 Discussion.

Environmental Study Design: Current & Emerging Guidelines
Cosponsored by ENVR
H. Adusumilli, H. Wang, Organizers, Presiding

Section B
Commonwealth Hall A2

1:15 Introductory Remarks.


2:35 – 362. Aerobic mineralization in surface water: Study design, challenges and regulatory issues. J.K. Nag


3:50 Concluding Remarks.
**Who Should Regulate Pesticides in Our Food?**
Cospersoned by AGFD and ETC
Financially supported by Dow AgroSciences and Golden Pacific Laboratories
P. A. Brindle, H. B. Irrig, Organizers
C. Tiu, Organizer, Presiding

Section C
Commonwealth Hall B
1:15 Introductory Remarks.
1:20 – ENVR 735. FDA pesticide monitoring program. **C. Liang**
1:45 – ENVR 736. Digest of dietary exposure methodologies in support of global MRLs. **C.B. Cleveland**
2:35 – ENVR 738. Comparing Pesticide Data Program (PDP) and registrant-generated residue data. **A.Z. Szarka**
3:00 – ENVR 739. Harmonizing pesticide assessments to allow for free and open trade. **C. Tiu**
3:25 Concluding Remarks.

**Advances in Agrochemical Metabolism & Metabolomics**
Cospersoned by ANYL and ENVR
J. R. Gilbert, Q. X. Li, J. N. Seiber, Organizers
C. M. Griffith, K. Raiston-Hooper, Organizers, Presiding

Section E
Commonwealth Hall C
1:15 Introductory Remarks.
1:45 – ENVR 731. Integration of metabolomics and other OMICS approaches to elucidate cytotoxicity of agrochemicals: 2,4-D case study. **J. Adamec**, C. Boone, R. Grove
2:35 – ENVR 733. GC-TOF-MS based root exudates metabolomics revealed defense mechanism of cucumber plant to nano-Cu. **L. Zhao**
3:00 – ENVR 734. Dual- and single-retention behaviors of solutes in linear programmed temperature gas chromatography. L. Wu, X. Duan, C. Liu, G. Zhang, Q.X. Li
3:25 Concluding Remarks.

**ENVR Division**
Advances in Understanding Antibiotics, Antibiotic Resistance Genes & Antibiotic-Resistant Bacteria in Engineered & Natural Environments
Cospersoned by ENVR, Cospersoned by AGRO
K. Chu, C. Huang, J. McLain, Organizers, Presiding

Section B
Loews Philadelphia Hotel – Washington A
1:15 Introductory Remarks.
3:00 Intermission.
3:35 – ENVR 793. Kinetics and mechanism of sulfamethoxazole degradation by UV, UV/H2O2, and UV/persulfate (PDS) and influence of bicarbonate. **Y. Yang**, G. Liu, X. Li, W. Liu, J. Jiang, J. Ma
3:55 – ENVR 794. Structure-dependent reduction mechanisms of isoxazoles by aqueous Fe†n-tiron complex. **Y. Chen**
4:15 – ENVR 795. Copper and silver vanquishing of hospital acquired “superbugs”: An economical solution to a major public health problem. **J.R. Ellis**
4:35 Concluding Remarks.

**Occurrence, Behavior & Remediation of Mixed Organic Pollution in Soil & Sediment**
Cospersoned by ENVR, Cospersoned by AGRO
B. Xing, L. Zhu, Organizers
X. Li, Organizer, Presiding

Section D
Loews Philadelphia Hotel – Washington B
1:35 – ENVR 806. Molecular fractionation of dissolved organic matter induced by adsorption on soil minerals and soil inorganic components. J. Lv, **S. Zhang**, Z. Huang, L. Luo
2:35 – ENVR 809. Adsorption, mobility, and bioaccessibility of PBDEs: Roles of heavy metals, natural organic matter, and fertilizers. X. Zhu, X. Yang, **D. Tsang**
2:55 Intermission.


3:45 – ENVR 812. Phthalate ester contamination in facility agriculture and cumulative health risk assessment. J. Gao

4:05 Discussion.

AUTHOR INDEX

Abada, B.S. ENVR 539
Abernethy, A. 245
Aboourashed, E.A. AGFD 163
Abrell, L.M. ENVR 510
Abubeker, S. 339
Achermann, S. ENVR 446
Acosta Amado, R. 154
Adamec, J. 371
Adams, M.E. 101
Adelfinskaya, Y. 29
Adelfinskaya, Y. 204
Adelman, Z. 212
Adusumilli, H. 363
Afzal, J. 17
Aga, D.S. 85
Aga, D.S. 200
Aga, D.S. 226
Aga, D.S. 227
Aga, D.S. 233
Ahmad, O.K. 156
Ahn, K. 145
Ahuja, S. ENVR 180
Al-Abed, S.R. ENVR 327
Alamiddine, Z. 122
Alamiddine, Z. 278
Alborn, H.T. 26
Aldworth, J. 113
Aldworth, J. 114
Aldworth, J. 254
Alfieri, J. 135
Allan, J. 244
Allan, J. 359
Allen, C. 123
Allen, D. 346
Allen, R. 19
Allen, R. 20
Allen, R. 39
Allen, R. 52
Allen, R. 91
Allen, R. 358
Allen, T. 33
Azizian, M.F. ENVR 329
Bachmann, B.O. AGFD 218
Bae, B. 237
Baghaie, S. ENVR 536
Bahr, G. 82
Bai, H. 75
Bai, J. 282
Bao, J. ENVR 512
Bao, L. 170
Barcelo, D. ENVR 770
Barefoot, A.C. 77
Barefoot, A.C. 331
Barclow, T.W. 6
Barnekow, J.A. 35
Barrett, M. 326
Barry, J.D. 156
Bartels, M. 342
Bartelt-Hunt, S. ENVR 743
Bartelt-Hunt, S. ENVR 787
Bartholomay, L ENVR 160
Bartholomew, T.V. ENVR 184
Basu, S. 212
Bathula, Y. AGFD 188
Baumann, S.A. 32
Beck, J.J. 61
Beck, J.J. 64
Becke, S.W. ENVR 742
Becnel, J.J. 316
Beedle, E.C. 318
Behrer, A.P. ENVR 247
Bell, S. 346
Benner, E.A. 102
Benner, E.A. 291
Bennett, J.W. 58
Benvenuto, M.A. ENVR 536
Berenbaum, M.R. AGFD 177
Berezkaj, J.F. 194
Berezkaj, J.F. 195
Bergeson, L.L. ENVR 200
Bergman, E. ENVR 245
Bermudez, I. 166
Berner, U.R. 149
Bernal, U.R. 211
Bernal, U.R. 316
Bhattacharjee, A. ENVR 747
Bhonoah, Y. 257
Biancalani, G. 37
Bisaha, J.J. 195
Bischof, M.M. 82
Bisoc, M. 112
Bisoc, M. 138
Bitter, J. 52
Blackman, A.E. 159
Blakeslee, B. 246
Blaney, L.M. ENVR 543
Blanford, W. ENVR 589
Bleeeke, M.S. 130
Bleeeke, M.S. 131
Block, A. 61
Block, E. AGFD 182
Blooomquist, J.R. 76
Bloomquist, J.R. 104
Bloomquist, J.R. 105
Bloomquist, J.R. 149
Bloomquist, J.R. 158
Bloomquist, J.R. 205
Bloomquist, J.R. 211
Bloomquist, J.R. 315
Bloomquist, J.R. 317
Boerth, D.W. 239
Bohazy, R.F. 43
Bohazy, R.F. 112
Bohazy, R.F. 173
Bondarenko, S.V. 39
Bonheyo, G. ENVR 259
Boone, C. 371
Borole, A. ENVR 511
Botts, D.A. 304
Bounary-Mills, K.L. 59
<table>
<thead>
<tr>
<th>Authors</th>
<th>Page</th>
<th>Reference</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kowalski, J.A.</td>
<td>222</td>
<td>Lee, D.</td>
<td>ENVR 749</td>
</tr>
<tr>
<td>Kramer, J.</td>
<td>44</td>
<td>Lee, J.W.</td>
<td>ENVR 533</td>
</tr>
<tr>
<td>Krause, S.</td>
<td>319</td>
<td>Lee, S.</td>
<td>58</td>
</tr>
<tr>
<td>Krieger, K.</td>
<td>44</td>
<td>Lee, S.</td>
<td>141</td>
</tr>
<tr>
<td>Kroetsch, D.</td>
<td>9</td>
<td>Lee, S.</td>
<td>141</td>
</tr>
<tr>
<td>Krolski, M.E.</td>
<td>318</td>
<td>Lee, S.</td>
<td>148</td>
</tr>
<tr>
<td>Krumins, V.</td>
<td>ENVR 325</td>
<td>Lee, W.</td>
<td>279</td>
</tr>
<tr>
<td>Krzmarzick, M.</td>
<td>ENVR 510</td>
<td>LeFevre, G.H.</td>
<td>94</td>
</tr>
<tr>
<td>Kuchnicki, T.</td>
<td>9</td>
<td>LeFevre, G.H.</td>
<td>372</td>
</tr>
<tr>
<td>Kuiken, T.</td>
<td>ENVR 201</td>
<td>LeFevre, G.H.</td>
<td>ENVR 185</td>
</tr>
<tr>
<td>Kumar, A.</td>
<td>ENVR 246</td>
<td>Lehmann, D.</td>
<td>181</td>
</tr>
<tr>
<td>Kunkel, D.</td>
<td>269</td>
<td>Lehner, B.</td>
<td>356</td>
</tr>
<tr>
<td>Kurbis, G.</td>
<td>302</td>
<td>Lehotay, S.J.</td>
<td>86</td>
</tr>
<tr>
<td>Kurtz, R.W.</td>
<td>ENVR 193</td>
<td>Lehotay, S.J.</td>
<td>87</td>
</tr>
<tr>
<td>KWAN, J.</td>
<td>ENVR 542</td>
<td>Lehotay, S.J.</td>
<td>88</td>
</tr>
<tr>
<td>LaBella, M.</td>
<td>323</td>
<td>Lehotay, S.J.</td>
<td>236</td>
</tr>
<tr>
<td>Labor, B.</td>
<td>256</td>
<td>Lehr, M.</td>
<td>3</td>
</tr>
<tr>
<td>Ladner, D.</td>
<td>ENVR 182</td>
<td>Lehr, S.</td>
<td>256</td>
</tr>
<tr>
<td>Lahm, G.P.</td>
<td>102</td>
<td>Leighty, R.M.</td>
<td>291</td>
</tr>
<tr>
<td>Lahm, G.P.</td>
<td>156</td>
<td>Lemaux, P.G.</td>
<td>AGFD 168</td>
</tr>
<tr>
<td>Lahm, G.P.</td>
<td>291</td>
<td>Leng, Y.</td>
<td>ENVR 512</td>
</tr>
<tr>
<td>Laine, D.</td>
<td>222</td>
<td>Lenz, M.F.</td>
<td>361</td>
</tr>
<tr>
<td>Lal, R.</td>
<td>264</td>
<td>LEUNG, H.</td>
<td>ENVR 542</td>
</tr>
<tr>
<td>LaMar, J.</td>
<td>18</td>
<td>Levenson, A.</td>
<td>AGFD 178</td>
</tr>
<tr>
<td>LaMar, J.</td>
<td>145</td>
<td>Levine, R.</td>
<td>ENVR 512</td>
</tr>
<tr>
<td>Lambe, R.</td>
<td>144</td>
<td>Li, F.</td>
<td>197</td>
</tr>
<tr>
<td>Lambert, W.T.</td>
<td>289</td>
<td>Li, F.</td>
<td>ENVR 758</td>
</tr>
<tr>
<td>LaMonaca, S.</td>
<td>50</td>
<td>Li, G.</td>
<td>ENVR 717</td>
</tr>
<tr>
<td>LaMonaca, S.</td>
<td>230</td>
<td>Li, H.</td>
<td>34</td>
</tr>
<tr>
<td>Lamshoef, M.</td>
<td>363</td>
<td>Li, H.</td>
<td>135</td>
</tr>
<tr>
<td>Lance, J.</td>
<td>250</td>
<td>Li, H.</td>
<td>199</td>
</tr>
<tr>
<td>Lane, T.</td>
<td>174</td>
<td>Li, H.</td>
<td>201</td>
</tr>
<tr>
<td>Lange, B.</td>
<td>41</td>
<td>Li, H.</td>
<td>ENVR 545</td>
</tr>
<tr>
<td>Lange, G.</td>
<td>256</td>
<td>Li, H.</td>
<td>ENVR 789</td>
</tr>
<tr>
<td>Langford, M.</td>
<td>257</td>
<td>Li, H.</td>
<td>ENVR 790</td>
</tr>
<tr>
<td>LaPara, T.</td>
<td>ENVR 742</td>
<td>Li, H.</td>
<td>ENVR 805</td>
</tr>
<tr>
<td>LaPara, T.</td>
<td>ENVR 744</td>
<td>Li, J.</td>
<td>ENVR 766</td>
</tr>
<tr>
<td>LaPara, T.</td>
<td>ENVR 791</td>
<td>Li, M.</td>
<td>ENVR 444</td>
</tr>
<tr>
<td>Larive, C.K.</td>
<td>229</td>
<td>Li, Q.</td>
<td>ENVR 764</td>
</tr>
<tr>
<td>Larson, N.R.</td>
<td>149</td>
<td>Li, Q.X.</td>
<td>374</td>
</tr>
<tr>
<td>Lauchnor, E.</td>
<td>ENVR 324</td>
<td>Li, X.</td>
<td>ENVR 512</td>
</tr>
<tr>
<td>Lawless, M.S.</td>
<td>312</td>
<td>Li, X.</td>
<td>ENVR 713</td>
</tr>
<tr>
<td>Lawrence, T.</td>
<td>36</td>
<td>Li, X.</td>
<td>ENVR 714</td>
</tr>
<tr>
<td>Le Questel, J.</td>
<td>122</td>
<td>Li, X.</td>
<td>ENVR 715</td>
</tr>
<tr>
<td>Le Questel, J.</td>
<td>278</td>
<td>Li, X.</td>
<td>ENVR 743</td>
</tr>
<tr>
<td>Le Vezouet, R.</td>
<td>74</td>
<td>Li, X.</td>
<td>ENVR 787</td>
</tr>
<tr>
<td>Leah, L.</td>
<td>154</td>
<td>Li, X.</td>
<td>ENVR 810</td>
</tr>
<tr>
<td>Lee, A.S.</td>
<td>101</td>
<td>Li, Y.</td>
<td>315</td>
</tr>
<tr>
<td>Lee, C.</td>
<td>1</td>
<td>Li, Y.</td>
<td>ENVR 764</td>
</tr>
<tr>
<td>Lee, C.</td>
<td>2</td>
<td>Li, Z.</td>
<td>157</td>
</tr>
<tr>
<td>Liang, C.</td>
<td>365</td>
<td>Maaza, M.</td>
<td>ENVR 16</td>
</tr>
<tr>
<td>Liao, C.</td>
<td>48</td>
<td>Madary, M.</td>
<td>55</td>
</tr>
<tr>
<td>Liber, K.</td>
<td>93</td>
<td>Madeira, C.L.</td>
<td>ENVR 510</td>
</tr>
<tr>
<td>Liberato, C.E.</td>
<td>194</td>
<td>Mahaffey, M.J.</td>
<td>194</td>
</tr>
<tr>
<td>Liberato, C.E.</td>
<td>195</td>
<td>Mahar, R.B.</td>
<td>ENVR 747</td>
</tr>
<tr>
<td>Lightfield, A.</td>
<td>236</td>
<td>Mahendra, S.</td>
<td>ENVR 443</td>
</tr>
<tr>
<td>Limbrick, E.M.</td>
<td>AGFD 218</td>
<td>Mahendra, S.</td>
<td>ENVR 448</td>
</tr>
<tr>
<td>Limmer, M.</td>
<td>ENVR 249</td>
<td>Mahendra, S.</td>
<td>ENVR 759</td>
</tr>
<tr>
<td>Lin, D.</td>
<td>ENVR 808</td>
<td>Mahler, B.</td>
<td>46</td>
</tr>
<tr>
<td>Lin, X.</td>
<td>ENVR 762</td>
<td>Mahler, B.</td>
<td>47</td>
</tr>
<tr>
<td>Linder, S.</td>
<td>146</td>
<td>Main, A.R.</td>
<td>93</td>
</tr>
<tr>
<td>Linder, S.</td>
<td>147</td>
<td>Malayappan, B.</td>
<td>176</td>
</tr>
<tr>
<td>Linder, S.</td>
<td>246</td>
<td>Maldonado, P.M.</td>
<td>1</td>
</tr>
<tr>
<td>Lipsky, A.</td>
<td>372</td>
<td>Maldonado, P.M.</td>
<td>2</td>
</tr>
<tr>
<td>Liu, C.</td>
<td>201</td>
<td>Malekani, K.</td>
<td>216</td>
</tr>
<tr>
<td>Liu, C.</td>
<td>374</td>
<td>Malekani, K.</td>
<td>361</td>
</tr>
<tr>
<td>Liu, G.</td>
<td>ENVR 793</td>
<td>Malekani, K.</td>
<td>363</td>
</tr>
<tr>
<td>Liu, J.</td>
<td>ENVR 767</td>
<td>Maloney, J.</td>
<td>336</td>
</tr>
<tr>
<td>Liu, W.</td>
<td>ENVR 766</td>
<td>Mandal, P.</td>
<td>ENVR 544</td>
</tr>
<tr>
<td>Liu, W.</td>
<td>ENVR 793</td>
<td>Mangaligiri, K.</td>
<td>ENVR 543</td>
</tr>
<tr>
<td>Liu, Y.</td>
<td>ENVR 444</td>
<td>Manibusan, M.K.</td>
<td>354</td>
</tr>
<tr>
<td>Loiseleur, O.</td>
<td>292</td>
<td>Mansfeldt, C.</td>
<td>ENVR 442</td>
</tr>
<tr>
<td>London, B.</td>
<td>74</td>
<td>Mansfeldt, C.</td>
<td>ENVR 446</td>
</tr>
<tr>
<td>Long, J.K.</td>
<td>194</td>
<td>Manto, M.</td>
<td>ENVR 15</td>
</tr>
<tr>
<td>Lopez de Alda, M.</td>
<td>ENVR 770</td>
<td>Manto, M.</td>
<td>ENVR 710</td>
</tr>
<tr>
<td>Lowitt, A.</td>
<td>340</td>
<td>Mao, D.</td>
<td>328</td>
</tr>
<tr>
<td>Lowry, G.</td>
<td>ENVR 14</td>
<td>Mao, D.</td>
<td>329</td>
</tr>
<tr>
<td>Lu, X.</td>
<td>92</td>
<td>Marcu, J.</td>
<td>187</td>
</tr>
<tr>
<td>Lu, X.</td>
<td>ENVR 793</td>
<td>Marek, L.</td>
<td>128</td>
</tr>
<tr>
<td>Luo, L.</td>
<td>ENVR 806</td>
<td>Marmo, G.</td>
<td>37</td>
</tr>
<tr>
<td>Luthy, R.G.</td>
<td>372</td>
<td>Marrs, C.</td>
<td>ENVR 792</td>
</tr>
<tr>
<td>Luthy, R.G.</td>
<td>ENVR 185</td>
<td>Martin, S.H.</td>
<td>370</td>
</tr>
<tr>
<td>Luttrell, R.</td>
<td>123</td>
<td>Martinez, A.C.</td>
<td>223</td>
</tr>
<tr>
<td>Ly, J.</td>
<td>ENVR 806</td>
<td>Marx, A.A.</td>
<td>235</td>
</tr>
<tr>
<td>Lynch, D.</td>
<td>311</td>
<td>Mason, P.</td>
<td>321</td>
</tr>
<tr>
<td>Lynn, K.</td>
<td>146</td>
<td>Massey, A.</td>
<td>9</td>
</tr>
<tr>
<td>Lynn, K.</td>
<td>147</td>
<td>Massey, A.</td>
<td>ENVR 199</td>
</tr>
<tr>
<td>Lythgoe, C.</td>
<td>9</td>
<td>Mastradone, P.</td>
<td>79</td>
</tr>
<tr>
<td>Ma, J.</td>
<td>ENVR 793</td>
<td>Mathews, D.</td>
<td>AGFD 188</td>
</tr>
<tr>
<td>Ma, L.</td>
<td>ENVR 717</td>
<td>Mathieu, J.</td>
<td>ENVR 444</td>
</tr>
<tr>
<td>Ma, M.</td>
<td>29</td>
<td>Mathieu, J.</td>
<td>ENVR 746</td>
</tr>
<tr>
<td>Ma, M.</td>
<td>146</td>
<td>Matic, E.</td>
<td>226</td>
</tr>
<tr>
<td>Ma, M.</td>
<td>147</td>
<td>Matic, E.</td>
<td>233</td>
</tr>
<tr>
<td>Ma, Q.</td>
<td>137</td>
<td>Matsuda, K.</td>
<td>167</td>
</tr>
<tr>
<td>Ma, Q.</td>
<td>299</td>
<td>Maurer, J.J.</td>
<td>20</td>
</tr>
<tr>
<td>Ma, Q.</td>
<td>361</td>
<td>Mauter, M.S.</td>
<td>ENVR 181</td>
</tr>
<tr>
<td>Ma, X.</td>
<td>ENVR 13</td>
<td>Mauter, M.S.</td>
<td>ENVR 184</td>
</tr>
<tr>
<td>Ma, X.</td>
<td>ENVR 187</td>
<td>Mauter, M.S.</td>
<td>ENVR 247</td>
</tr>
<tr>
<td>Maxon, M.</td>
<td>ENVR 198</td>
<td>Maxon, M.</td>
<td>ENVR 198</td>
</tr>
</tbody>
</table>
AGRO DIVISION
Chemistry for and from Agriculture
www.agrodiv.org

EMAIL NEWSLETTER
AGRO publishes a monthly email newsletter designed to keep members informed about what is happening in our Division. Content will include calls for papers, announcements, awards opportunities, information on elections, career opportunities, new AGRO publications and other timely announcements. Previous issues can be found on the AGRO website.

If you are not currently receiving the newsletter, you can sign up on our webpage, www.agrodiv.org, by clicking on the button that says “Subscribe to our Newsletter.”

Members can submit items to be included by the last Tuesday of the month to:

Yelena Sapozhnikova, PhD
USDA-ARS
215-233-6655
yelena.sapozhnikova@ars.usda.gov

You may unsubscribe at any time.

Each issue has an opt-out link where members can remove their email address from the list.

The AGRO email newsletter is open to all professionals who have an interest in agrochemicals and the AGRO Division. You do not have to be a division member to subscribe.

SUPPORT YOUR DIVISION!

ADVERTISE IN THE PICOGRAM

The PICOGRAM is published twice a year and is an important communications instrument of AGRO. It is mailed to nearly 1200 division members in the Spring and distributed to meeting attendees and mailed to members not attending in the Fall (~ 1500 distributed).

<table>
<thead>
<tr>
<th>Ad costs</th>
<th>Full Page x 22.9 cm</th>
<th>$500</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.5” x 11”</td>
<td></td>
</tr>
<tr>
<td>Half Page</td>
<td>16.5 cm x 11.4 cm</td>
<td>$300</td>
</tr>
<tr>
<td></td>
<td>8.5” x 5.5”</td>
<td></td>
</tr>
</tbody>
</table>

Advertisers should submit their ad in grayscale format for the printed version. Full page advertisers may also submit a color ad for use in the on-line version.

Full page ads must be submitted as press quality resolution in grayscale, pdf format. Submission of a color version is optional. Print bleed is not needed on the grayscale or color versions.

Half-page ads should be submitted as .tiff or .jpg at press quality resolution in grayscale. Microsoft Office files in Word, Powerpoint, or Publisher may be submitted, but all images in the file must be high resolution grayscale.

Deadlines:
Spring Edition - December 1
Fall Edition - June 1

Submit ad copy via email to:

Laura L. McConnell, PhD
Bayer CropScience
919-549-2012
laura.mcconnell@bayer.com

Previous issues may be viewed on the AGRO website.
AGRO Division Membership Application
Chemistry for and from Agriculture
www.agrodiv.org

Please email or FAX this form to the American Chemical Society at service@acs.org or 614-447-3671. Email applications with credit card will be processed within 24 to 48 hours. For questions on your membership status, please call ACS at 800-333-9511.

ACS Member # (if applicable) ___________________ Today’s Date: __________________

Name: _____________________________________________________________________

Employer/Affiliation:__________________________________________________________

Address: ___________________________________________________________________

___________________________________________________________________________

City, State, Zip: ______________________________________________________________

Country, Postal Code: _________________________________________________________

Telephone: ______________________________________________

E-mail: ________________________________________________________________

Membership Categories (check one):

- **ACS member** $12 (add AGRO membership to existing ACS membership)
- **National Affiliate ACS member** $14 (add AGRO membership to existing National Affiliate ACS membership)
- **Student ACS member** $5 (Add AGRO membership to existing ACS student membership)
- **Non-ACS member** $14 (AGRO membership only, no ACS membership)

Please check one:

Bill Me  Cash  Check  Visa/Master Card  American Express

Name on Card: __________________________________________________________________

Card number: __________________________________________________________________

Expiration date: ______________________

CVV: __________________
Dr. Aldos Barefoot is a Senior Technical Fellow with DuPont Crop Protection in Newark, Delaware. He has over 34 years of experience sponsoring and supervising environmental fate and modeling projects that meet data requirements for registration, providing project leadership and support to business and registration managers and developing the organizational capabilities in environmental assessments necessary for use of DuPont products worldwide.

Al earned a BS from Davidson College in 1974 and MA and PhD. degrees from Dartmouth College in 1978 and 1981, respectively. He began his career in research in physical organic chemistry with Felix Carroll at Davidson and continued his organic chemistry education with David Lemal at Dartmouth. After taking a position with DuPont as a process chemist, he developed an interest in analytical chemistry and completed his doctoral research in environmental analytical chemistry with James Hornig.

After returning to DuPont, Al served in several process analytical chemistry roles before accepting the opportunity to work in the environmental fate and metabolism of agricultural chemicals. He conducted research projects to develop data for regulatory submissions and prepared responses to regulatory reviews of environmental fate studies and exposure modeling for registration of new and existing products. During his career he designed and led environmental fate and exposure modeling programs that provided the basis for decisions on registration and use of new and well-established products in US, Japan, Europe, Central America and Australia. He actively participated in and led industry work groups formed to meet data requirements for environmental fate studies, and he represented DuPont in task forces on spray drift and pyrethroid insecticides. He has directed responses to US EPA evaluations of drinking water contributions to dietary risk assessments for insecticide products requiring close cooperation with registration, risk assessors, EPA product managers and environmental modelers. Throughout his career he has consulted with internal and external stakeholders to insure that goals for research and data development programs met both regulatory and DuPont stewardship objectives.

Al has been active in a number of CropLife America technical committees dealing with environmental fate data requirements for product registrations, spray drift issues, and environmental risk assessments and endangered species evaluations. He has been recognized for his leadership within CropLife America through several awards acknowledging his work with field dissipation study, spray drift management, and endangered species committees. His service to the industry includes participation in the Western Plant Health Association on the Water Quality Committee.

Al has applied his knowledge of environmental fate studies and environmental risk assessments to the Spray Drift Task Force Technical Committee where he participated in concluding technical activities of the task force and supported the initiation and development of EPA’s Drift Reduction Technology program. As part of the Pyrethroid Working Group technical committee, he developed and coordinated a research program on the degradation and distribution of pyrethroid insecticides in Publically Operated Treatment Works (POTWs) in California.

Al has been a member of ACS since 1975 and became active in AGRO in the mid-90’s. He was DuPont’s representative for 20 years in its sponsorship of the International Award for Research in Agrochemicals. He has participated in AGRO as an organizer of symposia, Secretary of the Division, member of the Executive Committee, and Chair. He participated in AGRO’s strategic planning workshops in 2006 and 2011. He has organized ten symposia on various topics including terrestrial field dissipation, biodiversity, ecological risk assessment and surface water quality. As the Co-organizer of the 4th Pan-Pacific Conference, he was able to work with AGRO officers and members to implement key parts of the AGRO strategic vision – increased interaction with other professional societies on an international level and a change to programming to one ACS National Meeting per year. AGRO’s continued to develop international connections through successful collaboration with the Pesticide Science Society of Japan, IUPAC and Beijing Pesticide Society in the 5th Pan Pacific Pesticide Conference. Al served as a member of the IUPAC Congress organizing committee and chair of the Human and Ecosystem Risk Assessment topic area. Al was elected a Fellow of the Agrochemicals Division in 2014 and continues to serve AGRO as an Alternate Councilor.

Thank you, Al, for your outstanding service to ACS!

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.
# Shuttle Service Schedule

## Hours of Operation

**Sunday, August 21**
- 7:00 AM - 10:00 AM: 15 minute service
- 10:00 AM - 4:00 PM: 30 minute service
- 4:00 PM - 7:00 PM: 15 minute service
- 7:00 PM - 11:00 PM: 30 minute service

**Monday, August 22**
- 7:00 AM - 10:00 AM: 15 minute service
- 10:00 AM - 4:00 PM: 30 minute service
- 4:00 PM - 11:00 PM: 15 minute service

**Tuesday, August 23**
- 7:00 AM - 10:00 AM: 15 minute service
- 10:00 AM - 4:00 PM: 30 minute service
- 4:00 PM - 11:00 PM: 15 minute service

**Wednesday, August 24**
- 6:30 AM - 11:00 PM: 30 minute service

**Thursday, August 25**
- 7:00 AM - 6:00 PM: 60 minute service

---

**Shuttle Service Schedule**

**August 21 - 25, 2016 | Philadelphia, PA**

**252nd ACS National Meeting & Exposition**

**HOTELS**

- **1.** DoubleTree by Hilton Hotel Philadelphia Center City
- **2.** Embassy Suites Philadelphia Center City
- **3.** Four Points by Sheraton Philadelphia City Center
- **4.** Hampton Inn Center City Philadelphia
- **5.** Hilton Garden Inn Philadelphia Center City
- **6.** Holiday Inn Express Midtown
- **7.** Home2 Suites by Hilton Philadelphia Convention Center
- **8.** Hyatt at The Bellevue
- **9.** Loews Philadelphia Hotel
- **10.** Philadelphia Downtown Courtyard by Marriott
- **11.** Philadelphia Marriott Downtown
- **12.** Residence Inn Philadelphia City Center
- **13.** Sheraton Philadelphia Downtown Hotel
- **14.** Sofitel Philadelphia
- **15.** Sonesta Philadelphia Downtown
- **16.** The Franklin Hotel at Independence Park (formerly Omni Independence Park)
- **17.** The Logan Philadelphia (formerly Four Seasons)
- **18.** The Warwick Hotel Rittenhouse Square (formerly Radisson Blu Warwick)
- **19.** Westin Philadelphia
- **20.** Wyndham Philadelphia Historic District

**Shuttles**

- **1.** Main Entrance - Broad St
- **2.** Main Entrance - 18th Street
- **3.** Walk to Pennsylvania Convention Center
- **4.** Walk to Sofitel - 17th & Sansom St
- **5.** Walk to Sofitel - 17th & Sansom St
- **6.** Walk to Sofitel - 17th & Sansom St
- **7.** Walk to Sofitel - 17th & Sansom St
- **8.** Walk to Sofitel - 17th & Sansom St
- **9.** Walk to Sofitel - 17th & Sansom St
- **10.** Walk to Sofitel - 17th & Sansom St
- **11.** Walk to Sofitel - 17th & Sansom St
- **12.** Walk to Sofitel - 17th & Sansom St
- **13.** Walk to Sofitel - 17th & Sansom St
- **14.** Walk to Sofitel - 17th & Sansom St
- **15.** Walk to Sofitel - 17th & Sansom St
- **16.** Walk to Sofitel - 17th & Sansom St
- **17.** Walk to Sofitel - 17th & Sansom St
- **18.** Walk to Sofitel - 17th & Sansom St
- **19.** Walk to Sofitel - 17th & Sansom St
- **20.** Walk to Sofitel - 17th & Sansom St
- **21.** Walk to Sofitel - 17th & Sansom St
- **22.** Walk to Sofitel - 17th & Sansom St

**Route 1**

- **1.** DoubleTree by Hilton Hotel Philadelphia Center City
- **2.** Embassy Suites Philadelphia Center City
- **3.** Four Points by Sheraton Philadelphia City Center
- **4.** Hampton Inn Center City Philadelphia
- **5.** Hilton Garden Inn Philadelphia Center City
- **6.** Holiday Inn Express Midtown
- **7.** Home2 Suites by Hilton Philadelphia Convention Center
- **8.** Hyatt at The Bellevue
- **9.** Loews Philadelphia Hotel
- **10.** Philadelphia Downtown Courtyard by Marriott
- **11.** Philadelphia Marriott Downtown
- **12.** Residence Inn Philadelphia City Center
- **13.** Sheraton Philadelphia Downtown Hotel
- **14.** Sofitel Philadelphia
- **15.** Sonesta Philadelphia Downtown
- **16.** The Franklin Hotel at Independence Park (formerly Omni Independence Park)
- **17.** The Logan Philadelphia (formerly Four Seasons)
- **18.** The Warwick Hotel Rittenhouse Square (formerly Radisson Blu Warwick)
- **19.** Westin Philadelphia
- **20.** Wyndham Philadelphia Historic District

**Route 2**

- **11.** Philadelphia Downtown Courtyard by Marriott
- **12.** Philadelphia Marriott Downtown
- **13.** Residence Inn Philadelphia City Center
- **14.** Sheraton Philadelphia Downtown Hotel
- **15.** Sofitel Philadelphia
- **16.** Sonesta Philadelphia Downtown
- **17.** The Franklin Hotel at Independence Park (formerly Omni Independence Park)
- **18.** The Logan Philadelphia (formerly Four Seasons)
- **19.** The Warwick Hotel Rittenhouse Square (formerly Radisson Blu Warwick)
- **20.** Westin Philadelphia
- **21.** Wyndham Philadelphia Historic District

**Route 3**

- **18.** The Logan Philadelphia (formerly Four Seasons)
- **19.** The Ritz-Carlton, Philadelphia
- **20.** The Warwick Hotel Rittenhouse Square (formerly Radisson Blu Warwick)
- **21.** Westin Philadelphia
- **22.** Wyndham Philadelphia Historic District

**Route 4**

- **17.** The Franklin Hotel at Independence Park (formerly Omni Independence Park)

**Legend**

- **Route 1**
- **Route 2**
- **Route 3**
- **Route 4**
- **Walk to Convention Center**
- **Boarding Location**

**For all shuttle inquiries and wheelchair assistance, please call:**

1-800-523-4046

Scan to download this schedule onto your phone or device.

Shuttles are operated by Transportation Management Services. Carbon Neutral Shuttles
PICOGRAM V. 90
and Program

Cathleen J. Hapeman, Editor
USDA-ARS
10300 Baltimore Avenue
B-001, Rm 221, BARC-West
Beltville, Maryland 20705

301-504-6451
cathleen.hapeman@ars.usda.gov
www.agrodiv.org