PICOGRAM V. 95

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TABLE OF CONTENTS

AGRO Strategic Plan

AGRO Vision Statement

Fostering sustainable agriculture and
protecting public health through chemistry

AGRO Mission Statement

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

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

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

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

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

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

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

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

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

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

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

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

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

From the Chair's Desk

Julie Eble

Greetings to all my AGRO colleagues! As we launch into the new year, I'm pleased to report back on our many accomplishments all of which are grounded in our vision to *Foster sustainable agriculture and protect public health through chemistry* and our mission to *Bring together a worldwide community of scientists and stakeholders to advance knowledge and promote innovative solutions for the protection of agricultural productivity, public health, and the environment*. (See more on our Strategic Goals on p. 2.)

Our Volunteer Members. All that we accomplish is due to the talented and generous scientists in our division. Our symposia and committees keep us moving into the future by selfless volunteers who contribute their time, energy and knowledge. I am excited to see new names on our volunteers list. For those who want to help out on a small task or a large one, keep checking the AGRO website at www.agrodiv.org. Our Communications Team is **redesigning our website** which will include a page for volunteers. In the meantime, feel free to write to me at julie.eble@agrodiv.org.

National Meetings. The 256th National ACS Meeting in Boston is now in our rear-view mirror. At the suggestion of ACS, we tried a new format in Boston where four of our five current sessions were co-located in one ballroom and headsets were used to listen in to the speakers. One major benefit to the format is that, for the Boston venue, we could locate in the convention center and our poster session was held immediately outside that ballroom so that no one needed to trek from hotel to hotel to catch this vital part of our programming. I am pleased to say that in a recent survey of our members, 83% of those who responded were either very or somewhat satisfied with the new format. Each annual meeting venue is unique and each program chair will make their format decision based on issues with that venue, but I personally hope we see this new format used wherever feasible.

In addition, Cheryl Cleveland launched our new **Vendor Interface Program** which proved to be a successful activity connecting AGRO-focused vendors more directly to programming and AGRO members. We also ended the meeting at noon on Thursday with the **Your AGRO Mixer** where members chatted with AGRO officers over light refreshments – a nice ending to a busy week.

But enough about past meetings. Program Chair, **Cheryl Cleveland** has been busily working on the **258th National ACS Meeting** to be held in San Diego on August 25 – 29, 2019 with the theme of *Chemistry in Water*. I am very excited by the fascinating symposia that are proposed. See pages 20 – 69 for more information.

Student Travel and New Investigator Awards. Are you an undergraduate, grad student, post-doc, or early career scientist or a mentor to someone fitting this description? AGRO offers special programs to financially support and recognize new investigators and students at the national meetings. Application forms and deadlines for the New Investigator Award and Education Award for Student Travel can be found under the Special Programs link on the website and on pages 16 and 17.

In addition, planning for the **260th National ACS Meeting in San Francisco** on August 23 – 27, 2020 is already underway. This meeting is not to be missed since we will celebrate the 50th anniversary of our AGRO Division. Volunteers are still needed which we announce soon.

Webinars. This year's AGRO webinar series is being chaired by Clair Terry. Clair and her team have pulled together another year of strong programming. If you've missed any, check out the webinar series archive of recordings on our website at www.agrodiv.org.

IUPAC 2019. On May 19 -24, IUPACS will hold its 14th International Congress of Crop Protection Chemicals in Ghent, Belgium. Excellent science is presented at this meeting which is only held once every four years. This year's Congress is no exception as numerous AGRO members are chairing sessions on fate, exposure and risk assessment, and stewardship in the 21st century. See page 74 and the website (www.iupac2019.be) for more information.

AGRO Governance. AGRO continues to be in sound financial health due to excellent support from our patrons, strong programming that maintains our revenue from ACS, special grants, and earnings from investments. We thank our many sponsors and patrons, and we urge our members to check out the sponsors tab on our webpage. We encourage any organization who want to join in assisting AGRO to contact Carmen Tiu by clicking her name on the Sponsorship Tab.

AGRO Fellows. Do you know someone who should be an AGRO Fellow? Please check out the Award tab on the website and p. 5 The deadline for 2019 in March 31.

Elections. Are you interested in serving AGRO in a more formal way? The nominations committee of Scott Jackson, Jay Gan and Pam Rice are currently seeking candidates to run for the 2020 Vice-Chair and for Executive Committee Members. Please contact the committee before May 15. It is a most rewarding experience.

Staying Informed. Check out what AGRO has to offer at our website www.agrodiv.org for the most up-to-date information on AGRO's activities and list of sponsors. You can access archives of our eNewsletter and *PICOGRAM* and learn about membership, award opportunities, and more. Sign up for the AGRO e-Newsletter to stay abreast of our current news.

Vice-Chair John Beck Resigns. Just before we went to press, I reluctantly accepted the resignation of John Beck as Vice-Chair effective February 14. John did this so that he can take care of some unexpected issues that require his full attention. He has expressed his deep appreciation for the support and understanding of the AGRO Division Executive Committee and Officers during this difficult time. We wish him the best and offer our most sincere support. The Executive Committee will be meeting shortly to appoint a new Vice-Chair to finish John's term. Watch the enewsletter for continuing developments.

ACS Fellows from the AGRO Division

2009	Glenn Fuller	2014	Kevin Hicks	2016	Aldos C. Barefoot
2010	James N. Seiber		Laura L. McConnell	2017	Stephen O. Duke
2011	John W. Finley		Kenneth D. Racke	2018	Cathleen J. Hapeman
	N. Bushan Mandava	2015	Rodney Bennett		
2012	Jeanette M. Van Emon		John J. Johnston		

AGRO Division Fellows

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

AGRO Awards Committee Report

Jim Seiber, Chair

Vincent Salgado, a Principal Scientist at BASF Corporation in Research Triangle Park, North Carolina, is the recipient of the 2019 ACS International Award for Research in Agrochemicals, which is sponsored by Corteva Agriscience, Agriculture Division of DowDuPont. He will receive this award for his research to understand insecticide modes of action. The award will be presented at a symposium organized by Michael David and Keith Wing at the 258th National ACS Meeting in San Diego. The winner of the 2019 AGRO Award for Innovation in Chemistry of Agriculture will be announced in March. Nominations for the 2020 International Award for Research in Agrochemicals and the 2019 AGRO Award for Innovation in Chemistry of Agriculture are being sought. The nomination criteria for these awards can be found on pages 7 and 9, respectively.

The winner of USDA-ARS Sterling Hendricks Memorial Lectureship will be announced in March 2019. This year the lectureship will be hosted by AGRO and co-sponsored by AGFD. The 2019 Kenneth A. Spencer Award will be announced in March as well. Nominations for the 2020 awards are now being accepted (pp. 11 and 13).

The Awards Committee is accepting new award nominations for the AGRO Division Fellow Award (see below). AGRO nominations for the ACS Fellow must be submitted through the Division Chair. The deadlines each year are March 31 for the AGRO Fellow Award and April 1 for the ACS Fellow Award.

The AGRO and AGFD Divisions with the *Journal of Agricultural and Food Chemistry* (*JAFC*) will sponsor two lectureships for outstanding papers published in *JAFC*. This year's winners for papers published in 2018 will be announced in early spring, both of whom will present lectures at the ACS National Meeting in San Diego. The call for nominations of papers published in 2018 will be solicited from AGRO and AGFD members and from the public through the *JAFC* website beginning in late Fall 2019 (p. 15).

The 2018 winner of the AGRO New Investigator Award was **Liu Yang,** post-doctoral research scientist with Jeffrey Bloomquist at University of Florida. She is investigating the behavioral and toxicity effects and the electrophysiology mode of action of insecticides and repellents. This award is presented to scientists who have obtained a doctoral degree within the past five years and are actively conducting academic, industrial, consulting, or regulatory studies of interest to AGRO. Beginning in 2019, this award will be sponsored by Valent. Applications for the 2019 New Investigator Award are currently being accepted (p. 16).

AGRO has also established an endowment fund in collaboration with Bayer US LLC, Crop Science Division to promote an understanding of the role of chemistry in agriculture for students. The 2018 1st, 2nd, and 3rd place winners were **Edwin Murenzi** (University of Massachusetts, Amherst; John Clark), **Shiyao Jiang** (University of Florida; Jeffrey Bloomquist), and **Mary Grace Guardian** (University at Buffalo, The State University of New York; Diana Aga), respectively. Applications for the Student Travel Awards are now being accepted (p. 17). Please note that Sasha Kweskin is the new coordinator of this award. We thank Steve Lehotay for his many years of shepherding this award and actively seeking nominees. Cheers to you Steve!

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

Call for Nominations
AGRO Division Fellow Award

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

Criteria shall be –

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

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

Submit nominations electronically to:

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

Past Awardees of the ACS International Award For Research in Agrochemicals

1969 John E. Casida, University of California, Berkley
1970 Richard D. O'Brien, Cornell University, Ithaca, New York
1971 Robert L. Metcalf, University of Illinois, Champaign-Urbana
1972 Ralph L. Wain, Wye College, University of London, England
1973 Hubert Martin, British Crop Protection Council, London, England
1974 T. Roy Fukuto, University of California-Riverside
1975 Michael Elliot, Rothamsted Experimental Station, Harpenden, England
1976 Morton Beroza, USDA-ARS (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
1992 Bruce Hammock, University of California-Davis
1993 Morifuso Eto, Kyushu University, Fukoka, Japan
1994 Toshio Fujita, Kyoto University, Japan
1995 Mohyee Eldefrawi, University of Maryland, Baltimore
Koji Nakanishi, Columbia University, New York, New York
1996 Günther Voss, Ciba, Basel, Switzerland
Klaus Naumann, Bayer AG, Leverkusen, Germany
1997 Fritz Führ, Institute of Chemistry and Dynamic, Jülich, Germany
Izuru Yamamoto, University of Tokyo, Japan
1998 George Levitt, DuPont, Wilmington, Delaware
Leslie Crombie, University of Nottingham, England
1999 Don Baker, Zeneca, Richmond, California
James Seiber, University of Nevada, Reno
2000 George P. Georghiou, University of California, Riverside
Herbert B. Scher, Zeneca, Richmond, California
2001 Donald Crosby, University of California, Davis
Ralph Mumma, Pennsylvania State University, University Park
2002 Keith Solomon, University of Guelph, Canada
Marinus Los, American Cyanamid, Princeton, New Jersey
2003 Bob Hollingworth, Michigan State University, East Lansing
Hideo Ohkawa, Kobe University, Japan
2004 Stephen Duke, USDA-ARS, Oxford, Mississippi
John M. Clark, University of Massachusetts, Amherst
2005 Robert Krieger, University of California, Riverside
Janice E. Chambers, Mississippi State University, Starkville
2006 Joel Coats, Iowa State University, Ames
Isamu Yamaguchi, Agricultural Chemicals Inspection Station, Tokyo, Japan
2007 Gerald T. Brooks, University of Sussex (retired), Brighton, United Kingdom
Fredrick J. Perlak, Monsanto, St. Louis, Missouri
2008 David M. Soderlund, Cornell University, Ithaca, New York
2009 R. Donald Wauchope, USDA-ARS (retired), Tifton, Georgia
2010 Shinzo Kagabu, Gifu University, Gifu, Japan
2011 George P. Lahm, DuPont Crop Science, Newark, Delaware
2012 Thomas C. Sparks, Dow AgroSciences, Indianapolis, Indiana
2013 René Feyereisen, National Institute of Agronomic Research (INRA), France
2014 Ralf Nauen, Bayer CropScience, Monheim, Germany
2015 Keith D. Wing, formerly of Rohm and Haas and DuPont Crop Protection, Wilmington, Delaware
2016 Yoshihisa Ozoe, Shimane University, Japan
2017 Jeffrey Bloomquist, University of Florida, Gainesville
2018 Stephen Powles, University of Western Australia
2019 Vincent L. Salgado, BASF, Research Triangle Park, North Carolina

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

2021 Fall ACS National Meeting in Atlanta, Georgia USA

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

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

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

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 2021 Fall National ACS Meeting in honor of the awardee.

Special thanks to our sponsor for their generous contribution!

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

2020 Fall ACS National Meeting in San Francisco, California

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

The Nomination email will include the following:

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

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

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

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

The Awardee will be given the opportunity to present his/her work in a special lecture at the 260th National ACS Meeting in August 2020 in San Francisco, California.

SPECIAL THANKS TO OUR SPONSOR FOR THEIR GENEROUS CONTRIBUTION!

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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
2017 Qing X. Li, Universtiy of Hawai'i, Mānoa, Hawai'i
2018 Vincent L. Salgado, BASF, Research Triangle Park, North Carolina

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CALL FOR NOMINATIONS

2020 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 2020 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 **December 31, 2019**.

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

Nominees will be outstanding senior scientists in industry, university, consulting, or government positions. *Current ARS employees are not eligible.* The Award will be presented at the 260th American Chemical Society National Meeting held in 2020 in San Francisco, California, prior to the lecture. Giving a presentation is a requirement of the honor.

Nominations for the Agricultural Research Service Sterling B. Hendricks Memorial Lectureship Award are accepted each year beginning in October.

The **Nomination Package** includes:

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

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

PAST STERLING B. HENDRICKS MEMORIAL LECTURESHIP AWARD WINNERS

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

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- Endangered Species Assessment and Strategic Support
- Environmental Fate and Transport Modeling
- International Regulatory Affairs / Registration Support for Crop Protection / Biocide / Antimicrobial Products
- EPA / State Pesticide and Biopesticide Registration
- EU REACH Regulation / Chemical Safety Assessments and Reports (CSA / CSR)
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Call for Nominations

2020 Kenneth A. Spencer Award

Sponsored by ACS Kansas City Section

The Kansas City Section of the American Chemical Society is soliciting nominations for the 2020 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://kcacs.sites.acs.org/spencerawardapplication.htm

Submit nominations to Jon Tally
via email or request for a Dropbox, jonftally@gmail.com

Or via USPS:
Jon Tally
808 SW Lake Pines Drive
Lee's Summit, MO 64082

Past Kenneth A. Spencer Award Winners

1955	Ralph M. Hixon, Iowa State University
1956	Conrad A. Elvehjem, University of Wisconsin
1957	William C. Rose, University of Wisconsin
1958	E.V. McCollum, Johns Hopkins University
1959	Karl Folkers, Merck, Sharpe & Dohme Res. Labs.
1960	C.H. Bailey, University of Minnesota
1961	H.L. Haller, USDA-Agricultural Research Service
1962	A.K. Balls, USDA-Agricultural Research Service
1963	C.C. King, Rockefeller Foundation
1964	Daniel Swern, Temple University
1965	Aaron M. Altschul, USDA-Agricultural Research Service
1966	Robert L. Metcalf University of California, Riverside
1967	Melville L. Wolfrom, The Ohio State University
1968	Herbert E. Carter, University of Illinois
1969	Edwin T. Mertz, Purdue University
1970	Lyle D. Goodhue, Phillips Petroleum Company
1971	William J. Darby, Vanderbilt University
1972	Emil M. Mrak, University of California, Davis
1973	Esmond E. Snell, University of California, Berkeley
1974	Roy L. Whistler, Purdue University
1975	Thomas H. Jukes, University of California, Berkeley
1976	E. Irvine Liener, University of Minnesota
1977	N. Edward Tolbert, Michigan State University
1978	John E. Casida, University of California, Berkley
1979	Charles W. Gehrke, University of Missouri, Columbia
1980	George K. Davis, University of Florida, Gainesville
1981	John Speziale, Monsanto Agricultural Products Co.
1982	Howard Bachrach, USDA-Agricultural Research Service
1983	Peter Albersheim, University of Colorado
1984	Richard H. Hageman, University of Illinois
1985	Bruce N. Ames, University of California, Berkeley
1986	John M. Bremner, Iowa State University
1987	Hector F. DeLuca, University of Wisconsin, Madison
1988	Boyd L. O'Dell, University of Missouri, Columbia
1989	Robert H. Burris, University of Wisconsin
1990	John E. Kinsella, University of California, Davis
1991	George Levitt, DuPont Experimental Station
1992	Clarence A. Ryan, Jr., Washington State University
1993	Bruce Hammock, University of California, Davis
1994	William S. Bowers, University of Arizona
1995	Robert T. Fraley, Ceregen, A Unit of Monsanto Co.
1996	James N. BeMiller, Purdue University
1997	William M. Doane, USDA-Agricultural Research Service
1998	Mendel Friedman USDA-Agricultural Research Service
1999	James A. Sikorski, Monsanto Co.
2000	Wendell L. Roelofs, Cornell University
2001	James Tumlinson USDA-Agricultural Research Service
2002	Daniel W. Armstrong, Iowa State University
2003	Eric Block, University at Albany, State Univ. New York
2004	Steven D. Aust, Utah State University
2005	Don R. Baker, Berkeley Discovery Inc.
2006	Russell Molyneux, USDA-Agricultural Research Service
2007	David A. Schooley, University of Nevada, Reno
2008	Ron G. Buttery, USDA-Agricultural Research Service
2009	George P. Lahm, DuPont Crop Protection
2010	Clive A. Henrick, Trece, Inc.
2011	Michael W. Pariza, University of Wisconsin, Madison
2012	James N. Seiber, University of California, Davis
2013	Attila Pavlath, USDA-Agricultural Research Service, ret.
2014	Ronald Horst, USDA-Agricultural Research Service, ret.
2015	Thomas Selby, DuPont Crop Protection
2016	Agnes Rimando, USDA-Agricultural Research Service
2016	Bruce German, University of California, Davis
2018	Thomas M. Stevenson, FMC, Wilmington, Delaware

JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

CALL FOR NOMINATIONS

2020 RESEARCH ARTICLE OF THE YEAR AWARD LECTURESHIP AWARDS

Sponsored by The Journal of Agricultural and Food Chemistry

Co-sponsored by AGFD & AGRO Divisions

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

Two papers will be awarded, one from each category, for an outstanding article published in 2019 (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 2020 ACS National Meeting in San Francisco, California

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 2020, and the award will be presented at the Fall 2020 ACS National Meeting held in August in San Francisco, California.

Send your nominations to
jafcaward@acs.org

Deadline for nominations
December 31, 2019

CALL FOR APPLICANTS
AGRO DIVISION
2019 NEW INVESTIGATOR AWARD
Sponsored by Valent

2019 Fall ACS National Meeting in San Diego, California

The AGRO Division seeks nominations for the New Investigator Award (NIA) to be awarded at the ACS meeting in San Diego, California in August 2019. 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 2019, applications will be considered from ***scientists who have obtained their doctorates no earlier than the year 2014.***
- A panel consisting of at least three AGRO members will chose up to three finalists based on their extended abstracts, 1-page *curricula vitae,* and letter(s) of recommendation.
- ***Each finalist will receive up to $1275 for travel and meeting expenses.***
- Each finalist will deliver an oral presentation (which will be judged by the panel) in one of the AGRO Program symposia. The winner, who will receive a plaque, will be chosen after all finalists have presented their papers.

To Apply for the New Investigator Award:

1. Submit a **2500-character abstract** to a symposium in the AGRO Division using the ACS Meeting Abstracts Programming System (*http://maps.acs.org/).*
2. Submit an **extended abstract (maximum 2 pages) describing the candidate's research/studies** to the NIA Coordinator. Include the impact (or potential impact) of the results as it pertains to issues of concern to AGRO.
3. Submit a 1-page ***curriculum vitae***.
4. Submit at least **one letter of recommendation** from a current supervisory scientist (*e.g.*, post-doctoral mentor, a business manager, departmental chair).
5. Deliver an oral presentation in an appropriate symposium at the 258th ACS National Meeting in San Diego, California.

Deadline:
The extended abstract, *curriculum vitae*, and letter(s) must be received by the New Investigator Award (NIA) Coordinator no later than **March 20, 2019**.

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

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

CALL FOR APPLICANTS
AGRO DIVISION 2019 EDUCATION TRAVEL AWARDS
Sponsored by Bayer US LLC, Crop Science Division

UNDERGRADUATE & GRADUATE STUDENT RESEARCH

Travel Support for Student Posters and Senior Grad Student Oral Presentations

2019 Fall ACS National Meeting in San Diego, California

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 2019 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 258th ACS Fall National Meeting, which will be held in August 2019 in San Diego, California. Students should submit their abstracts in the symposium of their choice. First, Second, and Third place winners in the poster competition will receive an additional cash award.

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

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

To apply, students should submit the following no later than March 20, 2019:

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

   After completing step #1 above, forward the ACS email indicating the abstract number and stating that abstract was successfully submitted to:
   posters@agrodiv.org
   Only abstracts submitted to symposia organized by the AGRO Division will be eligible for the travel awards.

2. A two-page extended abstract giving more detail of the research/presentation. For a sample extended abstract, visit *http://www.agrodiv.org/graduate-students/.*

3. A short letter of nomination from the faculty advisor that verifies current enrollment of the student.

   SUBMIT items 2 and 3 and a copy of the ACS email as **a SINGLE pdf file to our posters email address** below with the abstract number in the email subject line.
   posters@agrodiv.org
   NOTE: Files sent directly to the coordinators will not be accepted.

For more information, please contact the co-organizers:

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

Diana Aga
University of Buffalo, Chemistry Department, NSC 611
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 2019.

Special thanks to our sponsor for their generous contribution!

Vendor's Interface Program

Brainstorming at
Blues and Brews

Vendor Interface Program (VIP)
A 2018 AGRO Event

Cheryl Cleveland

At the 256th ACS National Meeting in Boston, the AGRO Division held its inaugural Vendor's Interface Program (VIP) Event on Tuesday evening. Fifteen vendors participated by purchasing tables, and more than 100 AGRO members attended. The goals were: to allow participating vendors a localized space for customized business messaging for AGRO members within the larger ACS meeting, to provide the AGRO Division with an alternate fund-raising format for corporate sponsors, and to offer hors d'oeuvres prior to the Blues and Brews event while leveraging the same event space.

In August 2019, at the 258th ACS National Meeting in San Diego, California, the AGRO Division will build on our experiences from Boston. We envision spots for between 15 and 25 vendors/sponsors to be filled on a first come-first served basis. Each vendor will have a table with multiple seats to meet-and-greet the membership and to display promotional materials. Delicious hors d'oeuvres worked well in 2018 as a link between the VIP session and the Blues and Brews event. Our goal is to model most of the 2019 VIP after the initial event, but we anticipate that the room set-up will be modified to give better access to the food and vendors alike and provide better traffic flow for guests in the room.

Andy Newcombe has agreed to help organize the event this year. If you are a vendor interested in purchasing a table, please contact **Andy Newcombe** andy.newcombe@arcadis.com or **Cheryl Cleveland** cheryl.cleveland@basf.com for further details.

A huge thank you goes to the 15 companies who purchased table spaces, providing the delicious food and good conversations. And kudos to the AGRO membership for the good attendance and support of our sponsors.

Notes from the Program Chair

Cheryl Cleveland
cheryl.cleveland@basf.com

AGRO Division planning is well underway for 258th National ACS Meeting to be held August 25 to 29, 2019, in San Diego, California. The first phase is to provide ACS with the AGRO proposed symposia, and this was completed in early December. I am grateful to all the AGRO members who have agreed to co-organize symposia for the upcoming National Meeting. Close to 150 AGRO members have volunteered to organize over 45 symposia. It was especially gratifying to pair several first-time volunteers with seasoned organizers for the planned sessions.

The second phase is underway as we submit abstracts through the ACS MAPS system to populate the planned symposia. A list of the symposia is on the next page, followed by the individual calls for papers for you to find the perfect spot for your contribution (oral or poster). We have a wide range of topics and many with nominal co-sponsorship partnerships for a wide group of other ACS divisions. Session engagement from all sectors across academia, government, and private sector/industry is a clear asset to our AGRO division members. **Abstracts are due March 20, 2019**. Feel free to contact me for further details.

The National Meeting Theme in San Diego is *Chemistry and Water* with subtopics of *1) People and Water, 2) Land, and 3) Water's Effect on Chemistry*. This theme is a rich area for AGRO, and there are several special AGRO division symposia planned, including sessions on flooded agriculture, watershed modelling, water scarcity, vegetative buffer strips, and water quality risk assessment topics. Special ACS-wide events that connect to this theme are being planned as well. A tour of a desalination plant is scheduled for Monday; the sign-up will be available in the special events section of meeting registration. Also, for the meeting, ACS is partnering with the organization *Chemists Without Borders*; a line item for donations will be available during registration. Chemist without Borders focuses on solving humanitarian problems through chemistry. They are a good fit for this water-focused meeting as one of their key goals is providing clean water through water purification technologies.

AGRO will also be hosting two **Early Career Symposia** in August: *Plant-Insect-Microbe Communications in Agriculture Part 1*, organized by Nurhayat Tabanca, Paul E. Kendra and Jerome Niogret, and *Challenges and Opportunities Facing Early Career Scientists*, organized by Sara Whiting and Xiao Zhou. Malek Kalumbu serves as an advisor to these sessions.

Awards. The AGRO Division has a deep tradition of recognition for the significant achievements of our colleagues in agrochemical research. This year in San Diego, the ACS International Award for Research in Agrochemicals is to be awarded to Vincent Salgado in a symposium organized by Michael David and Keith Wing. Oral invited sessions are being planned for the recipients of the AGRO Innovation Award, the Sterling B. Hendricks Memorial Lectureship Award, and for the Kenneth A. Spencer Award.

50th Celebration Planning. ACS AGRO will celebrate its 50th anniversary in San Francisco in 2020. Planning for a special celebration dinner, special symposia, and other events are underway in 2019. Please contact me if you would like to volunteer.

AGRO Programming Support. Finally, we continue to rely on the expertise of Peney Patton (ppatton@agrodiv.org), Program Secretariat for AGRO, CELL, and ENVR. Thank you, Peney, for all your help during this 2018-2019 planning cycle!

******* PLEASE NOTE *******

All abstracts must be 2500 characters or less
and must be submitted on-line

http://maps.acs.org

DEADLINE: March 20, 2019

List of AGRO Symposia by Topic Area
258th ACS National Meeting and Exposition
August 25 – 29, 2019, San Diego, California, USA
Chemistry of Water

Each year, in addition to our traditional award/tribute symposia, the AGRO Division programs specific symposia in most, but not all, of our standing programming areas. Presentations for those standing program areas not included in listed symposia will be grouped in AGRO's general poster session.

Advances in Agrochemical Residue, Analytical and Metabolism Chemistry, and Metabolomics
- Advances in Analytical Technologies Supporting Environmental Fate, Metabolism, and Residue Analysis
- Agrochemical Residue and Metabolism Chemistry
- Development of Residue Analytical Methods: Regulatory Trends and Phases from Metabolism to Residue Analysis
- Metabolomics and Metabolite Identification in Agricultural Research
- Transfer of Analytical Methods: The Good, The Bad, and The Ugly

Agricultural Biotechnology
- CRISPR/Gene Editing and RNAi – Utilization for Enhanced Crop Production

Agrochemical Toxicology and Mode of Action
- 2019 ACS International Award for Research in Agrochemicals: Advances in the Physiology and Biochemistry of Insect Control
- Development of Novel Vector Control Technologies
- New Herbicides and Their Modes of Action

Air Quality and Agriculture
- Advances in Spray Drift Deposition Characterization and Measurement
- Simulating Fumigant Transport and Emissions: The Evolving Role of Modeling in California Regulations
- Unmanned Aerial Vehicles (aka Drones): Pesticide Spraying and Other Agricultural Applications

Biorationale Pesticides, Natural Products, Pheromones, and Chemical Signaling in Agriculture
- Plant-Insect-Microbe Communications in Agriculture
  PART 1: EARLY CAREER SCIENTIST SYMPOSIUM
  PART 2: GENERAL SESSION

Communication
- Interpreting, Communicating, and Managing Risk in the FIFRA/ESA Regulatory Setting
- Successes, Failures, and Lessons Learned in Agrochemical Exposure and Risk Assessment Communication

Discovery and Synthesis of Bioactive Compounds
- High Throughput Approaches to Support Pesticide Discovery and Development
- Process Research and Development in Crop Protection

Ecosystem Exposure and Ecological Risk Assessment
- Innovative Approaches to Managing the Interface Between Pesticide Use and Non-target Species Habitat Protection
- Characterizing the Nature of Biphasic Sorption and Implications for Water Quality Risk Assessment
- Distributed and Spatially-explicit Exposure Modeling: Advances, Techniques, and Frameworks
- Higher Tier Exposure Modeling in Groundwater within the Regulatory Framework
- Incorporating the Benefits of Vegetative Filter Strips into Risk Assessment and Risk Management of Pesticides
- Off-target Transport of Field Applied Agricultural Chemicals: Study Designs, Monitoring, Modeling, and Risk Assessment
- To Infinity and Beyond: The Dangers of Hyperconservative Exposure Modeling in Risk Assessment

Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals
- Agrochemicals and Water: Advances in Prevention, Monitoring, and Treatment
- Creative Thinking in Designing Efate Studies and Data Analysis to Meet Agrochemical Regulatory Challenges
- Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals
- Flooded Agriculture: Field Studies and Modeling
- Next Generation Watershed Modeling of Agrochemicals
- Novel Applications of Mathematics, Statistics, and Modeling to Agrochemical Problems
- Sink or Swim: Chemical Mobility at the Water-Sediment Interface

Formulations, Process Chemistry, and Application Technology
- Analytical Methodologies for Process Chemistry and Formulation Research
- Formulating Complex Agrochemical Mixtures
- Surfactant and Colloid Science Applied to Formulations

Human Exposure, Health, and Risk Management
- Advances in Exposure Modeling for Human Health Assessments

Pesticides, Pollinators, and Non-target Arthropods
- Pollinators in Agroecosystems: Current Science Issues and Risk Assessment Approaches

Regulations, Harmonization, and MRLs
- Analytical, Environmental and Regulatory Challenges with Legalized Cannabis
- Breaking Chemistry Barriers to Feed the World
- Legal Challenges and Landmark Lawsuits in Agrochemicals
- Linking Risk to Regulatory, Stewardship, and Agriculture Production Outcomes: A Paradigm Shift
- To GLP or Not? How Tos for the AGRO Professional

Technological Advances and Applications in Ag Science
- Biostimulants in Agriculture: Chemistry and Regulatory Aspects
- What Does Nanotechnology Have to Do with Agriculture?

Special Topics
- Challenges and Opportunities Facing Early Career Scientists: EARLY CAREER SCIENTIST SYMPOSIUM
- Pest Management Economics: Present and Future Considerations
- Water Scarcity: Challenges for Agriculture

General Session
- Protection of Agricultural Productivity, Public Health, and the Environment

Awards Co-sponsored with AGFD and Others
- USDA-ARS Sterling Hendricks Memorial Lectureship Award
- ACS Kansas City Division Kenneth A. Spencer Award
- Journal of Agriculture and Food Chemistry Article of the Year Award

Call for Papers

258th ACS National Meeting & Exposition

August 25 – 29, 2019

San Diego, California, USA

2019 ACS International Award for Research in Agrochemicals: Advances in the Physiology and Biochemistry of Insect Control

Purpose of Symposium

This symposium is in honor of Dr. Vincent Salgado, recipient of the 2019 ACS International Award for Research in Agrochemicals.

The presentations will focus on current research on the mechanisms of action of and resistance to insecticides, particularly those acting on the nervous system.

The symposium is critical to understanding how insecticides are used and managed, especially in regard to maximizing efficacy, nontarget safety, and resistance management. It would be of interest to AGRO researchers, regulators, and administrators following insecticide molecular mode of action, and may also be of interest to AGFD, BIOL, and MEDI members of ACS.

Suggested Topics

- Mode of action of neuroactive insecticides
- Mode of action of insect repellents
- Influence of insecticide mode of action / chemistry / biochemistry on insecticide resistance
- Recent advances in the understanding of insect physiology as it relates to insecticide activity

For further information, please contact the organizers

Michael David, BASF, 919-547-2014, michael.david@basf.com
Keith Wing, Keith D. Wing Consulting, 302-740-6683, kdw85@verizon.net

Submit abstracts of 2500 characters or less to
http://maps.acs.org
January 24 – March 20, 2019

Call for Papers

258th ACS National Meeting & Exposition

August 25 – 29, 2019

San Diego, California, USA

Advances in Analytical Technologies Supporting Environmental Fate, Metabolism, and Residue Analysis

Purpose of Symposium

Characterizing the residue levels of a crop protection molecule and its metabolites in different environmental, crop, and animal matrices is essential and required during the registration process. Some newer crop protection actives are larger, with multiple functional groups and rings, and a fair number of these actives contain one or more chiral centers, which leads to increased complexity of the metabolites produced. Therefore, the qualitative and quantitative analysis of these crop protection molecules and their metabolites from various matrices becomes even more challenging. Hence, innovations in analytical tools and technologies are essential to enable researchers to accomplish these tasks efficiently.

This symposium will provide a platform to communicate and discuss cutting edge analytical technologies to enable higher throughput, more sensitive, and highly specific sample analysis from challenging matrices in E-fate, metabolism, and residue studies. Other ACS divisions that may benefit from this symposium are ANYL and ENVR.

Suggested Topics

- Analysis of samples from challenging matrices: *e.g.*, compost, pollen and nectar, crop/animal tissues, etc.
- Advances in extraction techniques and Non-Extractable Residue (NER) characterization
- Advances in chromatography and sample clean-up techniques
- Application of recent advances in mass spectrometry tools for quantitative analysis
- Cutting-edge sample preparation and mass spectrometry technologies for metabolite identification
- Tools enabling faster method development
- Application of post-acquisition data mining techniques for metabolite identification
- Implications of advances on registration decisions

For further information, contact the organizers

Krishna Kuppannan, Corteva Agriscience, 317-337-5985, kkuppannan@dow.com
Mingming Ma, Corteva Agriscience, 317-337-3500, mma3@dow.com
Yang Yuan, FMC, 302-451-5939, Yang.Yuan@fmc.com

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January 24 – March 20, 2019

Call for Papers

258th ACS National Meeting & Exposition

August 25 – 29, 2019

San Diego, California, USA

Advances in Exposure Modeling for Human Health Assessments

Purpose of Symposium

Understanding and informing decision-makers about the potential risks of pesticides to human health is of utmost importance to risk assessments. The complexity and diversity of real-world pesticide exposures require effective approaches to determine whether a compound presents potential risks to human health.

This symposium will bring together new knowledge on various components of human health and exposure assessments, including pesticide exposure modeling, risk characterization, refinements, and mitigation, as well as information on newly available or refined datasets. This symposium will improve knowledge and identify research needs on these critically important topics.

Presentations describing original research, novel risk assessments approaches, and cases studies which address these and related topics are encouraged. The symposium will provide a platform for interaction and discussion between academic researchers, industry professionals, and regulators involved in conducting human health and risk assessments. Besides AGRO, this session will be of interest to TOXI members of ACS.

Suggested Topics

- Higher tier drinking water modeling
- Incorporating drinking water monitoring data in dietary risk assessments
- New generation tools for aggregate and cumulative risk assessments (*e.g.*, CARES-NG, SHEDS, etc.)
- Assessing risk from multiple stressors
- Case studies for higher tier exposure refinements
- Exposures and risk assessment of GMOs
- Data availability from biomonitoring and epidemiology studies
- Dietary exposures of inerts
- Implications of Digital Ag on human exposure
- RISK21 and EXPOCAST initiatives

For further information, contact the organizers

Arpad Z. Szarka, Syngenta Crop Protection LLC, 336-632-7481, arpad.szarka@syngenta.com
Cheryl B. Cleveland, BASF Corporation, 919-547-2407, cheryl.cleveland@basf.com

Submit abstracts of 2500 characters or less to
http://maps.acs.org
January 24 – March 20, 2019

Call for Papers

258th ACS National Meeting & Exposition

August 25 – 29, 2019

San Diego, California, USA

Advances in Spray Drift Deposition Characterization and Measurement

Purpose of Symposium

This symposium is intended to facilitate dialogue among scientists in agricultural and environmental related fields to examine:

a) Factors that influence the nature and magnitude of off-target spray drift of pesticide products
b) Estimation and/or measurement of airborne and ground-surface spray drift deposition via predictive modeling, field monitoring, or wind tunnel measurements
c) Development and testing of drift reduction technologies (DRTs), such as equipment, spray material property modifiers, and spray delivery assistance
d) Landscape features influencing spray drift

The symposium will provide a forum for interactions among academic, industry, and regulatory experts. It will enhance understanding of spray drift and related phenomena that may present a risk to agricultural workers, bystanders, and the environment, as well as stimulating progress toward reducing drift exposure without adversely impacting the agricultural enterprise. This symposium is open for collaboration with other divisions such as ENVR and ANYL.

Suggested Topics

- New or improved techniques for measuring or monitoring spray drift (bioassays, sensors, etc.) and field-scale exposure and effects spray drift evaluation methodologies
- Vegetative canopy spray drift capture efficiency
- Biologic/genetic surrogates as a metric for quantifying spray drift deposition
- Improved standards for generating and/or harmonizing spray drift data
- Advances in predictive modeling of spray drift
- Improvements in analytical as well as statistical and regression curve-fitting issues related to spray drift data generation
- Advances in drift reduction technologies (DRTs) and influence of equipment, spray material, meteorological or landscape features on spray drift transport
- Regulatory developments related to spray drift and its consideration in environmental assessment
- Spatial extrapolation of spray drift deposition for exposure characterization and risk assessment
- Advantages and limitations of measurement/study scale to address assumptions in current regulatory framework

For further information, contact the organizers

Daniel Perkins, Waterborne Environmental, 703-777-0005, perkinsd@waterborne-env.com
Greg Goodwin, Waterborne Environmental, 703-777-0005, goodwing@waterborne-env.com
Jeff Perine, Syngenta Crop Protection, 336-632-2374, *jeff.perine@syngenta.com*
Greg Kruger, University Nebraska-Lincoln, 308-696-6715 *greg.kruger@unl.edu*

Submit abstracts of 2500 characters or less to
http://maps.acs.org
January 24 – March 20, 2019

Call for Papers

258th ACS National Meeting & Exposition

August 25 – 29, 2019

San Diego, California, USA

Agrochemical Residue and Metabolism Chemistry

Purpose of Symposium

The Autumn 2019 Agrochemical Residue and Metabolism Chemistry Symposium will be a great opportunity to develop professional relationships with and learn from colleagues working in the area of agrochemical residue and metabolism chemistry. These studies provide a critical foundation for registering and monitoring the use of agrochemicals in the U.S. and throughout the world. The interaction of new and traditional agrochemicals with target and non-target species and the environment will be included. Other ACS divisions including ENVR, AGFD, and ANYL can also benefit from this symposium.

Suggested Topics

- Absorption, distribution, metabolism, and excretion (ADME) of agrochemicals (herbicides, insecticides, fertilizers, pheromones, livestock drugs, etc.) in target or non-target species
- Innovative study design/analyses/modeling to address emerging national or international regulatory requirements or unique compound-specific questions
- Alignment/disparity of agrochemical residue definitions and associated implications for trade, human health, etc.
- Non-intrusive monitoring approaches to estimate agrochemical residues in food animals prior to harvest
- Field agrochemical residue studies and associated implications for exposure and/or determination of regulatory tolerances (maximum allowable residue levels)
- Field or processing-facility adaptable residue determination or screening approaches
- Novel techniques, equipment, supplies, and/or data analyses to improve analysis speed, method limits of detection, sample throughput, and identification will also be considered

For further information, contact the organizers

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Agrochemicals and Water: Advances in Prevention, Monitoring, and Treatment

Purpose of Symposium

Reducing the environmental impact of agrochemical water contamination is a topic with broad appeal, from public, regulatory agencies to university researchers. This symposium will focus on recent advances in order to present how different facets of chemistry work in tandem to help prevent or reduce environmental issues due to agrochemical use. Presentations should focus on prevention, monitoring, or treatment techniques that have the potential to reduce water contamination.

Prevention can be determined through environmental fate testing which determines rate of degradation and ensuing degradants. The data from such tests influences the application and use to decrease likelihood of contamination through ground and surface water. Monitoring and detection advances allow for cheaper and faster water monitoring, even allowing for the ability to monitor wet dispersion of agrochemicals by fog. With advances in instrumentation come advances in detection limits, allowing contamination to be found and treated earlier. Advances in filtration and use of phytoremediation can help with treatment of water sources.

Presentations should focus on the longitudinal or cross-disciplinary aspects of these techniques and technologies. Members of both AGRO and ENVR divisions will benefit from participation.

Suggested Topics

- Integration of new scientific techniques into published governmental methods
- Advances in building environmental fate experimental models to more accurately reflect agrochemical behavior in natural water
- Sampling techniques and cost improvement for monitoring water systems in impoverished areas
- Analyzing the behavior of agrochemicals and their possible spread by natural weather dispersion patterns
- Studies on phytoremediation use and suitability for treating water with agrochemical contamination
- Addressing EU requirements on the effect of water treatment processes on the residues in water when abstracted for drinking water

For further information, contact the organizers

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Analytical, Environmental and Regulatory Challenges with Legalized Cannabis

Purpose of Symposium

The goal of this session is two-fold: (1) to initiate a discussion on the analytical, environmental, and regulatory challenges associated with agrochemicals in the legal cannabis industry, and (2) to address challenges associated with management operations in the face of conflicting state and federal laws.

Cannabis production and sale are legal in a limited number of states but are still prohibited under federal law. The contrasting laws introduce additional challenges regarding the use and application of agrochemicals, cannabis production byproducts, water consumption, and waste discharges within the boundaries of the Clean Water Act (CWA), the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Federal Food, Drug and Cosmetic Act (FFDCA), and other federally legislated rules and regulations. The presenters in this session will share their thoughts and research on the following (and/or related) topics as they relate to the legal production of cannabis.

Suggested Topics

- Dissipation rates of pesticides on crops grown indoors, compared to outdoors
- Analytical methods for determining pesticides in cannabis
- Analytical considerations to assess cannabis product quality and consumer label compliance
- Metals and other contaminant/adulterant determinations in cannabis
- Policy related issues for pesticide use on cannabis
- Policy issues for use of cannabis production byproducts in food and animal feed.
- State perspectives – medical and recreational use of cannabis and pesticides
- Potential federal policy needs in a future nationally legalized cannabis world
- Studies on hemp and pesticide use
- Hemp – research to support the re-establishment of industrial hemp production
- Water consumption in cannabis production and the Clean Water Act
- Waste and waste water discharges
- State and Federal Regulations that govern the use of agrochemicals, water use, and waste discharge

For further information, contact the organizers

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Analytical Methodologies for Process Chemistry and Formulation Research

Purpose of Symposium

This symposium will focus on the application of advanced analytical tools to support active ingredient process chemistry research and formulation development for agricultural products. Speakers are encouraged to share how separations, mass spectrometry, spectroscopy, and/or elemental analyses have been effectively utilized to solve complex problems. The purpose is to highlight the value and impact of analytical science on the research and development of new or existing agricultural active ingredients and formulations. Representatives from industry and academia are invited to share their experiences and perspectives.

Other ACS divisions which may benefit from this symposium are ANYL, ENVR, and AGFD.

Suggested Topics

- Separations method development supporting active ingredient process chemistry or formulations research
- Novel approaches towards development of methods for separating chiral ag molecules
- Isolation and identification of process chemistry impurities
- Development of multi-active ingredient methods
- Applications of mass spectrometry, spectroscopy, or elemental analyses to solve complex problems
- Analyses of co-formulants supporting formulations research
- Online spectroscopy techniques for process research, development, and manufacturing

For further information, contact the organizers

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Biostimulants in Agriculture: Chemistry and Regulatory Aspects

Purpose of Symposium

Plant Biostimulants, as defined by European Biostimulants Industry Council (EBIC), are products that "contain substance(s) and/or micro-organisms whose function when applied to plants or the rhizosphere is to stimulate natural processes to enhance/benefit nutrient uptake, nutrient efficiency, tolerance to abiotic stresses, and crop quality." Biostimulant products represent different chemistries based on their origin, such as seaweed, protein hydrolysates, humic substances, and microbials. The number and use of Biostimulants is growing rapidly as part of sustainability and IPM programs and hence, agrochemical companies have begun to invest significantly in this section of the agrochemical industry. The global Biostimulant market is estimated to be around $5 billion by 2025. However, the regulatory requirements for Biostimulants are not yet well-defined.

The aim of this symposium is to provide the first introduction of Biostimulant chemistry and regulatory aspects to the AGRO audience. It will present up-to-date information on the current research on the chemistry, mode of action, and the signaling pathways that lead to improved stress tolerance, nutrient uptake, and crop yield quantity and quality, as well as on the latest developments in the regulatory framework for Biostimulants. Besides AGRO, this session will be of interest to AGFD, BIOL, and ENVR members of ACS.

Suggested Topics

- Chemistry of Plant Biostimulants: seaweed, protein hydrolysates, humic substances, microbials, and small molecules
- Analytical methods for Biostimulants
- Modes of action of Plant Biostimulants
- Plant signaling pathways and physiological processes relevant to Biostimulants
- Biostimulants in abiotic stress tolerance
- Biostimulants in improved plant nutrient uptake and use efficiency
- Biostimulants in improved quantity and quality of crop yield
- Regulation of Biostimulants
- Future of Biostimulants

For further information, contact the organizers

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Breaking Chemistry Barriers to Feed the World

Purpose of Symposium

The challenge of growing food and moving it around the world is more difficult today than ever before. Chemical tools are essential to making the best use of the land and growing crops as efficiently as possible to meet the food demand for an increasing population. However, U.S. growers face more and more challenges to trade based on the chemicals they use to combat disease and pest pressures. While there are many solutions, often these require government to government engagement and public understanding of risk and chemistry.

Suggested Topics

- Impact of chemical re-evaluations on the use of safe pesticides
- Crop grouping efforts to make trade easier for growers around the world
- Navigating World Trade Organization activities to promote science-based trade
- Combating pest pressures with antibiotics, biocides and new chemistries
- Changing landscape of Codex and impact on the world
- Combating fear of chemistry in the public arena
- The complex world of growing and trading food; issues farmers face today
- Chemical solutions to minimizing food loss

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Challenges and Opportunities Facing Early Career Scientists: EARLY CAREER SCIENTIST SYMPOSIUM

Purpose of Symposium

Innovations and improvements often are a result of overcoming challenges. This symposium can be a platform for early career scientists (or those fresh to a science career) to explain a challenge they have faced and the achievements they have accomplished.

Emerging scientists want to get involved in sharing and collaboration with fellow scientists, but they often do not know how or do not have the resources. The goal of this symposium is to provide a platform for early career scientists to give presentations to their peers and serve as a platform to foster future collaborations. In order to attract and retain younger members, it is important to engage those who might not otherwise have the opportunity. Presentations and resulting discussions can guide, inspire, and encourage early career scientists on future career developments. Other ACS divisions that my benefit from this symposium are BIOL, ENVR, AGFD, and ANYL.

Suggested Topics

- Early career scientists (5 years or less) from industry, government, or academia are invited to submit their research and/or career development journey
- Presentations could include challenges they have faced and how they overcame these challenges, learnings from a project they worked on, or an idea they are working on
- Early career scientists who won an award, overcame a big obstacle, or achieved a significant milestone are encouraged to share their stories of success
- Unique values early career scientists can bring to the organization
- Share examples where you brought a new technique/methodology from your former area of expertise to the area to help solve a problem

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Characterizing the Nature of Biphasic Sorption and Implications for Water Quality Risk Assessment

Purpose of Symposium

Many pesticides and other chemicals exhibit an environmental behavior known as biphasic sorption. In this phenomenon, the chemical experiences an initial relatively rapid sorption to soil or sediments, followed by a significantly slower sorption phase. Analogous behavior is observed with desorption. This sorption pattern has two implications for risk assessment: (1) it affects the concentration of chemical that partitions into the aqueous phase that is available for biodegradation, runoff, and leaching; and (2) chemicals that exhibit this behavior bind tightly to soil in the second phase, which has the dual effect of increasing the chemical's persistence potential, but removes it from the phase that could lead to leaching and runoff. In addition, there are frequently analytical chemistry issues associated with quantifying the portion of chemical that is bound tightly in the second phase.

There is no uniform agreement on the approaches to quantifying the overall processes and the relevance of including the second phase in risk assessments among U.S. and European regulators. This proposed session will provide an open forum where research progress and ideas can be shared. This symposium is potentially of interest to the ENVR Division, due to the fact that many PNAs/PAHs demonstrate biphasic behavior.

Suggested Topics

- Mechanistic elucidation and quantification of biphasic sorption in soil and sediments
- Experimental approaches to characterize biphasic sorption under varying environmental conditions
- Biphasic behavior in field dissipation studies
- Modeling the kinetics of biphasic sorption
- Impact of biphasic sorption on degradation, leaching, and runoff
- Impact of biphasic sorption on bioavailability
- Reducing uncertainty in regulatory model predictions
- When is a chemical considered to be irreversibly bound?
- Analytical chemistry challenges

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Creative Thinking in Designing Efate Studies and Data Analysis to Meet Agrochemical Regulatory Challenges

Purpose of Symposium

Environmental Fate (Efate) studies generate input parameters (DT50, Koc, etc.) used in regulatory models (*e.g.*, MACRO/PEARL/PELMO (in EU) and PRZM/PWC (in U.S.)). As a result, how a study is designed and how the data is analyzed could have profound impact on the resulting exposure values and the registerability of a molecule. While most regulatory Efate studies supporting registration are conducted according to guidelines, there is some flexibility on how a study is conducted while still in compliance with the guidance, such as evaluating degradation in the water sediment under irradiated conditions, extractions using microwave supercritical fluids, use of particle-amended pelagic water and diffusive light in OECD 309 study (Aerobic Mineralisation in Surface Water – Simulation Biodegradation Test), and combining aged sorption and soil degradation test, just to name a few.

This symposium will be of great interest to scientists from industry, governmental agencies, and academia. The goal is to share the learnings and improve study designs to support regulatory submissions of a molecule. In addition, through creative data analysis, some of the Efate issues, such as high non-extractable residue (NER), pH or Clay depended sorption, can be addressed in the context of environmental risk assessment. This symposium will be of interest to both AGRO and ENVR division members.

Suggested Topics

- Modeling as a tool to address NER
- Microwave supercritical fluid extractions
- pH and Clay dependent soil sorption in GW modeling
- Soil rate of degradation studies dosed with cold material
- Irradiated water-sediment studies
- Pelagic vs. amended/diffusive light OECD 309 study
- Photolysis in moist and dry soils
- Combing aged sorption with soil degradation

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CRISPR/Gene Editing and RNAi: Utilization for Enhanced Crop Production

Purpose of Symposium

CRISPR and other gene editing technologies, as well as RNA interference (RNAi), are now powerful tools that provide unique opportunities in agriculture. Those technologies utilize the sequence specificity of RNA to edit specific genes, entire genomes, or regulate the expression of specific genes to achieve desired agronomical or nutritional benefits. This symposium will provide a platform for communication about Gene Editing and RNAi in agriculture – applications, opportunities, and challenges. Government, academic, and industry researchers are encouraged to share the unique perspectives from their sector, or highlight outcomes of collaborations or working groups. Besides AGRO, this session will be of interest to AGFD and BIOL members of ACS.

Suggested Topics

- CRISPR/Gene editing and RNAi applications, including enhanced food nutrition and production, pest control and crop protection, and other applications
- Regulatory strategies for registration and stewardship of RNAi or gene editing products such as global harmonization and regulatory implications
- New opportunities and challenges
- Analytical challenges and solutions including sample integrity, sample preparation, qualitative and quantitative analysis, and GLP compliance
- Communication of new technologies to the public, including managing perception and education

For further information, contact the organizers

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Development of Novel Vector Control Technologies

Purpose of Symposium

The existing threat along with the recent encroachment of disease pathogens vectored by arthropods highlights and increases the need to continually search for new chemistry, mode of action, and technology that are desperately needed for vector control. Control of arthropod vectors is continually hampered by the development of insecticide/acaricide resistance to currently used chemistry; therefore, the need for cheap and effective novel chemical means for vector control is more important than ever. This symposium will highlight some of the most prominent research currently exploring novel control techniques for insects and arthropods of medical and veterinary health importance.

Contributors will discuss the importance of characterizing biochemical targets and pest biology for the development of repellents, insecticides, and novel technologies aimed at controlling future vector populations. The goal of this symposium is to bring together experts in the field of vector control and insecticide development in order to bolster collaboration and future research projects.

Suggested Topics

- Repellents and semiochemicals
- Vector-host interactions
- Overcoming insecticide resistance
- Bringing new products to market
- Novel control technologies
- Biochemical targets of future insecticides
- Biopesticides to control vectors
- Mode of action studies

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Development of Residue Analytical Methods: Regulatory Trends and Phases from Metabolism to Residue Analysis

Purpose of Symposium

The intent of this symposium is to share practical and innovative approaches for the development of analytical methods for residue analysis. Global regulatory requirements for analytical methods used in both consumer safety and environmental fate studies have changed drastically over the last ten years. Consequently, development of analytical methods has become more challenging due to lower limits of quantitation (*i.e.*, 25 ppt water method), and various complex matrices (*i.e.*, tea, hops, bee, sediment, surface water, etc.). The analytes included in the residue analytical method are mainly derived from ^{14}C metabolism studies. Therefore, a key element for any residue analytical method is an extraction procedure which can adequately extract all bioavailable and relevant residues found in the ^{14}C metabolism studies. This symposium will focus on recent advances in analytical method development focusing on extractability, novel sample clean-ups, and innovative analytical technologies for residue analysis.

Representatives from industry, academia, and government are invited to share their perspectives on analytical method development for residue analysis. Other ACS divisions which may benefit from this symposium are ANYL, ENVR, and AGFD.

Suggested Topics

- Challenging analytical methods (unusual matrices, unique molecular properties of analytes, multiplexed methods); successes and failures
- Analytical methods for global use
- Method automation for routine residue analysis (bee, crop, soil and water matrices)
- Homogenization and sampling techniques
- Streamlining method development (crop grouping approaches in extractability evaluation)
- Application of innovative tools and advanced instrumentations in metabolism and residue sample analysis (examples: use of robotics for high through-put, high resolution mass spectrometry; SelexIon; use of modifier gases; SFC).
- Instrument utilization for data generation or enforcement
- Extractability testing using ^{14}C and cold reference substance
- Multi-residue methods for residue analysis meeting global requirements

For further information, contact the organizers

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Distributed and Spatially-explicit Exposure Modeling: Advances, Techniques, and Frameworks

Purpose of Symposium

The purpose of this symposium is to create collaborative engagement between industry, government, academia, and non-profit groups toward advancing the state of the science of distributed and spatially-explicit exposure modeling of pesticides and other agriculturally-relevant chemicals. Chemical exposure characterization is a function of temporal and spatial scale, requiring potentially complex techniques and numerical approaches (both empirical and process-based) to keep up with emerging, new data sets and technology. Chemical exposure characterization is an ongoing challenge and merits focus to ensure that best-available data, data analysis, and numerical methods are being incorporated into environmental and human health pesticide risk assessment.

Members of both the AGRO and COMP divisions may benefit from this symposium.

Suggested Topics

- Case studies or applications that demonstrate benefits and limitations of numerical simulation complexity
- Sensitivity of varying temporal and spatial scales in estimating chemical exposure
- Advances in field-scale, farm-scale, and watershed-scale numerical simulations to estimate chemical exposure
- Emerging technology that leads to distributed data and information used in numerical simulations of chemical fate and transport at any scale
- The role of distributed, spatially-explicit exposure/chemical modeling in risk assessment (ecological or human health)
- Emerging data and information that advances application or increases certainty of exposure estimates from distributed, spatially-explicit numerical simulations
- Advances in model platforms, versions, or methodologies that decrease uncertainty in chemical exposure estimates

For further information, contact the organizers

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

Purpose of Symposium

Effective risk assessment of pesticides requires detailed measurement and or prediction of their environmental fate in target use regions. This symposium will improve knowledge and identify research needs on this critically important topic. Results are expected to improve the accuracy and confidence in pesticide exposure/risk assessments and in the process, facilitate harmonization of pesticide registration globally. Spatial and temporal variability, fate process coupling and interaction, conservation practice implementation, and changing climates may also add substantial variability to pesticide fate assessments. Presentations describing original research, cases studies, and literature review which address these and related topics are encouraged. Scientists and regulators engaged in all aspects of pesticide exposure assessment, modeling, and fate evaluation will benefit by active participation.

Suggested Topics

- Relating laboratory and field fate measurements
- Conduct and interpretation of environmental monitoring
- Regulatory relevance of modeling, monitoring, and environmental fate measurements
- Use of modeling vs. monitoring
- Advances in modeling of the environment
- Policy implications of modeling, monitoring, or environmental fate
- Improving model accuracy
- Establishing model calibration and validation criteria
- Coupling fate processes and models
- Assessing climate change impact
- Spray/application technology

For further information, contact the organizers

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Flooded Agriculture: Field Studies and Modeling

Purpose of Symposium

This symposium looks to advance the state of ecological and drinking water exposure to crop protection chemicals related to flooded agriculture (*e.g.*, rice and cranberries). Flooded agriculture presents different challenges to pesticide risk assessors and registrants than dryland crops when flood waters are discharged from treated fields. The symposium will include design of field studies and how to use these data to better parameterize the models or to compare observed concentrations with model generated concentrations.

The symposium should be of interest to scientists, risk assessors, modelers, and fate experts from academia, industry, and government agencies involved in designing field studies, modeling and model development, risk assessment, and stewardship. This symposium is open for collaboration with other divisions such as ENVR.

Suggested Topics

- Field study design (mass balance)
- Strengths and weaknesses of regulatory models and scenarios
- Comparison of monitoring data with modeling
- Impact of agronomic practices in reducing pesticide releases (*e.g.*, water management, dry seeding vs. wet seeding)
- Integrated pest management
- Ecological benefits of flooded agriculture to wildlife
- Challenges associated with flooded crops

For further information, contact the organizers

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Formulating Complex Agrochemical Mixtures

Purpose of Symposium

Delivering value and convenience to growers has necessitated development of complex formulations. Development has shifted from single active ingredients in single phase systems to multiple actives and/or microbial/biological products in multi-phasic systems. This symposium will explore the methods, materials, and innovations that have been made to make these products commercially viable.

Participants in this symposium will have the opportunity to gain insights into the challenging formulation science of traditional chemical active ingredients as well as microbial/biological solutions and even the viability of premixes between them. A better understanding should also be developed of how formulations and methods can improve the seed treatment processes, and how these factors can improve product performance. This will also include how novel delivery systems and sustainability can factor into features of formulation development.

The target audience for this symposium is anyone from industry and academia working in the agrochemical development space and interested in physical-chemical properties associated with formulation science.

Suggested Topics

- Formulating multi-active ingredient premixes
- Advances in delivery system technology – nanotechnology, controlled or triggered release
- Advances in additives and adjuvants to improve performance or mitigate adverse effects – off-site movement control, increased/longer activity, improved handling
- Formulations that enable complex mixtures or compatibilize small molecule and biological mixtures
- Formulating to optimize seed treatment processing/performance – seed treatment powder/liquid formulations, materials that improve coating and/or robustness
- Formulations/materials that potentiate microbial, biological, and/or sprayable RNAi activity

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High Throughput Approaches to Support Pesticide Discovery and Development

Purpose of Symposium

The purpose of this symposium is to discuss recent advances in developing high throughput (HTP) methodologies for supporting discovery and development of new agrochemical products. The faster a new chemical entity can be eliminated or selected for higher tier testing, the resources may be appropriately deployed to molecules with a higher probability of success. With advancements in lab automation, dramatic increases in throughput can be achieved such as processes that can handle hundreds to thousands of compounds or samples weekly. These HTP assays can vary across disciplines including evaluating physical properties, assessing ecotoxicity and mammalian toxicity, determining soil degradation and binding, and analytical method development. Scientists interested in efficiency gains through implementing automated platforms will particularly benefit from the discussions of a variety of approaches to develop and validate high throughput assays. This symposium would be of interest to regulators and pesticide industry scientists. It may also be of interest for CROs and vendors of automation platforms.

Suggested Topics

- HTP assays developed in ecotoxicology, mammalian toxicology, environmental fate, residue analysis, and physical properties
- Implementation of automation platforms in sample dosing, extraction, and analysis
- Validation procedure for HTP assays
- Accuracy of HTP assays to predict endpoints from the higher tier studies
- Issues and challenges with developing HTP assays
- Novel technologies that could be used for HTP
- Data mining for leveraging results, QSAR generation
- Acceptability of HTP data
- Consideration of matrix and miniaturization procedures

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Higher Tier Exposure Modeling in Groundwater within the Regulatory Framework

Purpose of Symposium

Exposure modeling for assessing concentrations in groundwater plays a critical role in pesticide registration processes worldwide. Tiered approaches are commonly used to predict groundwater concentration of a pesticide to demonstrate a safe use of a product. Examples of lower tiers are use of inputs from lab/field (DT50, Koc) with regulatory models (*e.g.*, MACRO/PEARL/PELMO (in EU) and PRZM/PWC (in US)). However, overly conservative estimations are often obtained at tier 1.

Higher tier assessments are usually more complex but can generate more realistic concentrations in groundwater. Some of the developing higher tier options are i) inverse modeling to derive kinetic (aged) sorption parameters in lab/field studies, ii) geospatial modeling/GIS, iii) higher tier leaching experiments, *e.g.*, column/lysimeter studies, and iv) groundwater monitoring/2D reactive transport modeling etc.

This symposium is of great interest to scientists from industry, governmental agencies, and academia, with backgrounds in efate/modeling, risk assessment, field application, regulatory affairs, etc. Higher tier approaches, strategies, and findings regarding risk assessment in groundwater will be presented. The goal is to understand the trend and acceptability of higher tier modeling across different regulatory agencies around the world. Findings shared in the symposium are expected to improve knowledge and confidence in modelling approaches.

Suggested Topics

- Time dependent sorption
- GIS and geospatial modeling
- Inverse modeling of field studies to determine non-equilibrium input parameters
- Metabolite (applied as parent) field dissipation studies
- Groundwater monitoring
- Column/Lysimeter studies
- Higher tiers in regulatory decisions

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Incorporating the Benefits of Vegetative Filter Strips into Risk Assessment and Risk Management of Pesticides

Purpose of Symposium

Vegetative filter strips (VFS) is a broad term encompassing a wide variety of edge-of-field practices involving the use of planted or natural vegetation. VFS are widely used by producers to mitigate runoff and erosion from production areas. They have also been adopted as a runoff pollution control strategy in urban and transportation settings. VFS effectiveness for mitigating nutrient runoff and soil erosion is well accepted by conservation experts. A growing body of literature has shown that VFS can be also effective at mitigating pesticide runoff. Currently the contributions of VFS are not considered in the standard pesticide exposure assessment scenarios utilized by U.S. EPA.

A small multi-stakeholder workshop on this topic was held in December 2018 as part of the North Carolina State University Center of Excellence for Regulatory Science in Agriculture. The purpose of this ACS AGRO symposium is to provide a report on outcomes from the workshop and to provide an opportunity for a larger group of researchers and other stakeholders to present and discuss their work on this topic. This symposium will bring together experts to explore the state-of-the-knowledge with respect to function, benefits, and modeling tools to simulate realistically VFS efficiencies at a field and watershed scale. Availability of data on the use and management of VFS in conservation programs will also be explored. Furthermore, information on the economic and agronomic realities of using VFS under different cropping practices will be included.

Suggested Topics

- Research on VFS function and effectiveness
- Utilizing VFS modeling tools for quantitative mitigation within pesticide risk assessments
- Leveraging conservation programs
- Understanding agronomic and economic realities of VFS and other conservation practice implementation
- Spatial suitability analysis of VFS implementation
- Optimum design and placement of VFS and other conservation practices for water quality protection

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Innovative Approaches to Managing the Interface between Pesticide Use and Non-target Species Habitat Protection

Purpose of Symposium

Conservation actions and best management practices have been and are continuing to be installed and adopted that directly benefit species and provide numerous other environmental benefits, such as controlling soil erosion and protecting water bodies. Advances in technology have provided opportunities to develop innovative ways to identify sensitive areas needing protection, reduce unintended pesticide exposure, optimize land use and production, and implement activities that serve to minimize and avoid potential pesticide exposure to sensitive species and habitats. It is important for FIFRA and ESA decision makers and risk assessors to understand the current activities that are being implemented to protect sensitive species and their habitats. The purpose of this symposium is to explore the wide variety of ways that landowners, pesticide registrants and users, regulatory and wildlife management agencies, and conservation organizations use innovation and technology to protect sensitive species and enhance habitat.

Pesticide registrants, pesticide users, regulatory and wildlife management agency staff, and conservation-based organizations that attend the AGRO and ENVR sessions of the ACS meeting will have an interest in the program and should find it educational.

Suggested Topics

- Pesticide application technologies designed to reduce the potential for exposure to sensitive species
- Precision agriculture and land management
- Spatial analysis techniques to identify species habitats and reduce potential exposure
- Stewardship and conservation programs using innovation to aid species recovery
- Adoption of new technologies in best management practices
- Using technology to improve multi-stakeholder communication about sensitive species
- Data management tools for decision-making and optimizing conservation
- Innovative strategies for watershed management
- Using technology to develop realistic mitigation options

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Interpreting, Communicating, and Managing Risk in the FIFRA/ESA Regulatory Setting

Purpose of Symposium

Approaches to risk assessment, risk communication, and risk management are dissimilar from a regulatory standpoint when the FIFRA and ESA collide as they do in pesticide registration decisions made by EPA, and those made in the ESA consultation process on them. Many attempts to develop a process, risk assessment approach, overarching policy, or joint FIFRA/ESA regulation over the years since ESA was enacted have not reduced this interface to one that is manageable. Resolution lies both in agreement on scientific method and regulatory endpoints and well as a clear context for communicating what "risk" is probable versus risk which is possible but extremely unlikely.

The underlying question is how a national pesticide assessment process under FIFRA – that is federal level – can be efficiently executed under ESA where consultation is typically local and interactive. Is the solution focusing the national assessment on a prioritized set of species? Would efficiency increase by improved methods incorporating the probability of risk? Do the agencies need to communicate risk to each other – and the public – differently?

Pesticide registrants, users, regulatory and wildlife management agencies, and NGOs attending AGRO and ENVR sessions will have an interest in the program.

Suggested Topics

- Stakeholder engagement
- Risk assessment documentation
- Suggestions for risk assessment improvements
- Employment and improvement of datasets
- Applying improved datasets
- Linking endpoints to protection goals
- Spatial aquatic modeling
- Plant assessment methods
- Mitigation approaches

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Legal Challenges and Landmark Lawsuits in Agrochemicals

Purpose of Symposium

As a follow-up to the symposium in Boston on the Legal Aspects of Agriculture, Agrochemicals and Agribusiness, there is continued interest in expanding the scope of study on past legal challenges, current litigation, and future implications for legal challenges and landmark lawsuits in the agrochemical area. Agrochemical products have continued to evolve in modes of action and application technology. In addition to continually striving to improve the efficacy of the products for their targets, there is increased efforts to ensure improved safety. The need to manage these two efforts in a cost effective and efficient manner must be balanced and harmonized with regulations globally.

This symposium will explore the legal challenges that have been seen in the past as well as anticipated in the future. Both scientific and legal perspectives will be offered.

The topics covered in this symposium will be of interest to a diverse group of scientists as well as to the non-scientists. Manufacturers, legal entities, advocacy groups, regulatory, R&D, agricultural producers and consultants will find topics of insight and interest. Other ACS Divisions that will have interest in these topics include, but are not limited to, AGFD, CHAL, and ENVR divisions.

Suggested Topics

- Pathways for bringing new agrochemicals to market
- Legal hurdles to introducing new agrochemical products to the market
- Setting MRLs and Import/Export Issues – including hazard cut-offs
- What challenges lie ahead for the USA/Canada/Mexico Agreements [Where are we in relationship to NAFTA?]
- Differences in Global Legal Issues
- Support and challenges from trade associations
- What changes in strategy and legal issues and regulations have impacted industry, government, and academia?
- Existing and new challenges for the home and garden agrochemical products
- Mergers and Global Legal Issues
- Chemical trespass

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Linking Risk to Regulatory, Stewardship, and Agriculture Production Outcomes: A Paradigm Shift

Purpose of Symposium

There is an opportunity to improve the environmental risk assessment process through collaborative, creative, and scientific leadership. Current environmental risk assessment and agricultural crop protection chemical regulatory review processes appear stalled in a mutually-induced logjam. We will explore the potential synergies available when we shift the paradigm to shared regulatory, stewardship, and agriculture production goals.

How does an applicant engage pro-actively with multiple regulatory authorities? What approaches have succeeded in other industries? What is the cost of continuing the current trajectory? How do we find agreement on adverse impacts?

This session integrates scientific assessment, policy implementation, resource stewardship, and financial investment considerations to support leaders in finding new ways forward to achieve shared outcomes. We can apply our risk assessment and information management expertise in new ways, partnered with industry stewardship priorities and applied knowledge combined with a pro-active applicant approach to shift the dominant paradigm.

Suggested Topics

- Stories of collaboration from the Endangered Species Act (ESA) consultation and international species regulatory processes
- Quantifying species and habitats for the purpose of offsetting impacts
- When litigation is not the first line of defense: identifying shared outcomes to facilitate effective conservation regulation
- How to make decisions today based on the “best available information” of ecologically complex and incomplete data
- Fostering productive relationships with third party interests in environmental regulatory processes
- An investigation of costs: lawsuits, logjams, and the social and environmental outcomes
- In search of different outcomes: linking industry stewardship to regulatory commitments
- Determining actual impacts to quantify the ESA “Likely to Adversely Affect” determination
- Group discussion

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Metabolomics and Metabolite Identification in Agricultural Research

Purpose of Symposium

Metabolite identification is a major component of agricultural research and development, and metabolomics has recently emerged as a topic of interest due to advances in NMR and mass spectrometry instrumentation and informatics processing. Advances in metabolomic technology and analytical tools have been leveraged for metabolite identification and structure elucidation in defining the metabolic pathways of an active ingredient in plant, animal, and environmental systems. With the wide adoption of metabolomics technology, metabolomics in agriculture have covered a wide range of applications from early product discovery and development to registration, as well as food and environmental safety. The purpose of this symposium is to create a forum for scientists from industry, academia and government agencies to share their latest research, strategies, and innovations for both metabolomics and metabolite identification in agriculture.

Suggested Topics

- The use of isotopic labeling of agrochemicals to assist in xenobiotic and endogenous metabolite identification
- Opportunities and challenges of metabolomics in agricultural research and development
- Novel user-oriented software and agriculture-specific database for metabolomic analysis
- Novel/advanced metabolomic workflows for agricultural applications, including crop development, plant-pathogen interactions, and discovery/detection of pesticides/fungicides/herbicides
- Analytical challenges and solutions including sample integrity, sample preparation, qualitative and quantitative analysis, and GLP compliance
- Advanced software applications for metabolite identification and structural elucidation
- Multidimensional LC-MS
- MS imaging in agricultural R&D
- Application in EU comparative *in-vitro* metabolism studies

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New Herbicides and Their Modes of Action

Purpose of Symposium

A herbicide with a truly new mode of action has not been introduced into the marketplace for more than 30 years. Rapidly evolving weed resistance to herbicides with almost all existing modes of action has exacerbated the need for herbicides with new modes of action. The pesticide industry has increased its research in new herbicide discovery to meet this need. In the past few years, there have been numerous studies published on new modes of action and new approaches to discovery of new modes of action of herbicides. New herbicides with old modes of action to which there is no cross resistance are being designed. This symposium will bring together public and industry scientists working in this area. We hope that new discovery strategies will be discussed in depth with an outcome that will help industry discover and develop much needed new herbicides.

Suggested Topics

- Discovery of new herbicides
- New herbicide modes of action
- Mode of action aspects of herbicide resistance management
- New approaches to herbicide mode of action discovery
- New findings about old herbicide modes of action
- Regulatory aspects of herbicide modes of action
- Genomic-based approaches to herbicide mode of action discovery

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Next Generation Watershed Modeling of Agrochemicals

Purpose of Symposium

Numerous models have been developed over the last decades to simulate the fate of agrochemical products at the watershed scale. In this symposium, we plan to bring together the latest approaches and challenges in watershed modeling to support risk assessments, monitoring site selection, stewardship, decision making, and agricultural best management practices. Presentations describing current approaches and/or challenges, case studies, original research, and literature review which address these and related topics are encouraged.

This symposium may be of interest to members of both AGRO and ENVR divisions.

Suggested Topics

- National-scale watershed modeling
- Vulnerability ranking assessment at watershed scale
- Modeling approaches, challenges and performance
- Integrating modeling and monitoring
- Modeling and analysis to support risk assessment, stewardship, and/or decision making
- Development of spatially driven modeling tools
- Advances in available spatial data relevant to modeling
- Policy implications of modeling, monitoring, or environmental fate programs

For further information, contact the organizers

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August 25 – 29, 2019

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Novel Applications of Mathematics, Statistics, and Modeling to Agrochemical Problems

Purpose of Symposium

Recent advances in both modelling and technology highlight the importance of mathematics, statistics, and computer modeling in solving problems in agrochemical research and in technology. Mathematics, statistics, and computer modeling have provided fascinating new insights and approaches to agriculture.

The purpose of this symposium is to provide a forum for academic researchers, industry scientists, and regulators to discuss novel applications of applied mathematics, statistics, and modeling to problems in agrochemical development, registration, and use, and to present recent advances in application technology.

This symposium will be of interest to both AGRO and COMP division members.

Suggested Topics

- Robotic pest control application technology
- Pesticide off-target drift and volatility
- Pest population dynamics (novel model developments, onset of weed and insect resistance, etc.)
- Quantitative approaches for bioavailability (respective to both environmental metabolism and ecotoxicology)
- Statistical modeling of monitoring data and novel analytics
- Model calibration and improved predictability with monitoring data
- Improvement in dose-response modeling (*e.g.*, SSD)
- Novel approaches for spatial and temporal vulnerability assessments
- Statistics for data quality assessment, experimental design and data analysis.

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Off-target Transport of Field Applied Agricultural Chemicals: Study Designs, Monitoring, Modelling, and Risk Assessment

Purpose of Symposium

Emerging technologies and increased scrutiny of off-target transport of applied agricultural chemicals require adaptation of innovative and creative approaches to meet changing regulatory and stewardship requirements. The purpose of this symposium is to leverage our understanding of off-target transport of agricultural chemicals (including pesticides, veterinary medicines/nutrients), discuss study designs and best practices for existing and emerging guideline studies, and identify methods to incorporate available data and modelling approaches into risk assessment and regulatory decision making.

The symposium should be of interest to scientists, risk assessors, modelers, and fate experts from academia, industry, and government agencies involved in designing laboratory and field studies, modelling and model development, risk assessment, stewardship, and database management. This symposium is open for collaboration with other divisions such as ENVR and ANYL.

Suggested Topics

- Designs to capture mass balance or movement of field applied pesticides/manure/fertilizers
- Differentiation of off-target sources and impact on receiving waterbodies, sensitive crops, or endangered species
- Leveraging available monitoring data to help inform regulatory decision making
- Reconciling model predictions with monitoring data
- Higher-tier field study designs and model development for assessing exposure
- Product stewardship and/or realistic farming practices to mitigate off-target transport

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Pest Management Economics: Present and Future Considerations

Purpose of Symposium

Growers face a variety of production decisions from when to plant a crop to how to treat a specific pest. The most direct pest management decisions focus on whether, when, and how to manage pests, considering production constraints, such as capital and labor limitations. Implementing pest management is complicated by pest resistance and regulatory uncertainty. Understanding the economic impact of regulatory decisions and use restrictions is vital to preserving and increasing productivity levels in U.S. agriculture. There are technological and conservation options that may help to overcome constraints and limit impacts from uncertainty, such as precision agriculture and integrated pest management plans. This symposium will address 1) the direct economic consequences on growers and consumers of decisions made as part of FIFRA and ESA process, and 2) current and future economic considerations of pest management decisions from the perspective of crop production, public health concerns, and invasive species management.

Pesticide registrants, pesticide users, regulatory and wildlife management agency staff, and conservation-based organizations that attend the AGRO and ENVR sessions of the ACS meeting will have an interest in the program and should find it educational.

Suggested Topics

- Role of economics in FIFRA and ESA process
- Short- and long-term costs and benefits of mitigation, conservation options, and/or integrated management plans
- Pesticides and other pest management options as risk management tools for growers
- Costs and benefits of invasive species management
- Risks associated with pesticide resistance
- Economic impact of reduced mosquito control
- Adoption and economic impact of precision agriculture
- Economic thresholds

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Plant-Insect-Microbe Communications in Agriculture
PART 1: EARLY CAREER SCIENTIST SYMPOSIUM

Purpose of Symposium

Chemical signals play an important role in communication among plants, insects, and microorganisms, including bacteria and fungi. Although there has been steady research on this subject over the last two decades, a better understanding of ecological functions and applications in pest management strategies is needed for many new discoveries. Therefore, research focused on a wide range of complex chemical interactions between organisms is still critical.

This special section will highlight the research of **graduate students, post-doctoral fellows, and early career scientists.** Participants are encouraged to share their latest research results, challenges, and novel experimental approaches for studying ecological interactions and agriculturally-related issues. The forum will also provide an opportunity to strengthen professional networks among young scientists and senior mentors. Chemical ecologists, chemists, entomologists, biologists, plant physiologists, and plants pathologists will benefit from the presentations. This symposium welcomes participants from other ACS divisions such as AGFD, ANYL, BIOL, BIOT, and ENVR.

Suggested Topics

- Impact of chemical cues and signaling processes
- New or improved analytical tools for collection and analysis of chemical signals
- Plant-insect-microbe communication in agricultural ecosystems
- The functional role of semiochemicals in ecology
- Development of synthetic blends or formulations as insect monitoring tools
- Use of chemical signals for mitigation of invasive pests
- New futuristic technologies for pest control
- Behavioral and electrophysiological responses of pests to host and non-host plant odors
- Chemical signals between insect pests and symbiotic fungi
- Plant defenses against insect attack or microbial infection
- New products from bench to market

For further information, contact the organizers

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Plant-Insect-Microbe Communications in Agriculture
PART 2: GENERAL SESSION

Purpose of Symposium

Chemical signals play an important role in communication among plants, insects, and microorganisms, including bacteria and fungi. Although there has been steady research on this subject over the last two decades, a better understanding of ecological functions and applications in pest management strategies is needed for many new discoveries. Therefore, research focused on a wide range of complex chemical interactions between organisms is still critical.

This symposium will highlight the role and importance of semiochemicals in ecological interactions and agriculturally-related issues. Talks will focus on the use of volatile organic compounds for communication among plants, insects, and microbes. The forum will also provide an opportunity to strengthen professional networks for a multidisciplinary group of national and international scientists to solve complex ecological problems. Chemical ecologists, chemists, entomologists, engineers, biologists, microbiologists, plant physiologists, and plants pathologists will benefit from the presentations. This symposium welcomes participants from other ACS divisions, such as AGFD, ANYL, BIOL, BIOT, and ENVR.

Suggested Topics

- Impact of chemical cues and signaling processes
- New or improved analytical tools for collection and analysis of chemical signals
- Plant-insect-microbe communication in agricultural ecosystems
- The functional role of semiochemicals in ecology
- Development of synthetic blends or formulations as insect monitoring tools
- Use of chemical signals for mitigation of invasive pests
- New futuristic technologies for pest control
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- Chemical signals between insect pests and symbiotic fungi
- Plant defenses against insect attack or microbial infection
- New products from bench to market

For further information, contact the organizers

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Pollinators in Agroecosystems: Current Science Issues and Risk Assessment Approaches

Purpose of Symposium

Pollinators, both managed (*e.g.*, honey bees, *Apis mellifera*, bumble bees, *Bombus* spp., mason bees, *Osmia s*pp) and feral, play a critical role in the production of many economically important crops and in sustaining natural ecosystems. However, for some pollinator species, a variety of factors (*e.g.*, pests, pathogens, pesticides, reduction in suitable forage, inconsistent bee management practices) may be adversely influencing their ability to thrive, and the public remains concerned that agrichemicals may be affecting insect pollinators. Regulatory agencies are working with researchers in industry, academia, and government to improve both testing and risk assessment for potential non-target impacts of agrichemicals. Interpreting these studies in the context of other factors affecting pollinator health is important for ensuring effective assessment and/or mitigation of the potential of agrichemical exposure to result in adverse effects on pollinators.

This symposium will provide a forum for academic researchers, industry scientists, and regulators to discuss novel research and recent advances in pollinator risk assessment and test method development for agricultural chemicals. This includes consideration of laboratory testing, field testing, exposure modeling, analytical challenges, data requirements, and harmonization across international regulatory authorities, and the refinement of risk assessments, including the increased use of population and disease modeling.

Suggested Topics

- Development of laboratory tests to assess acute and chronic effects at different bee life stages
- Semi-field and field study design and challenges (effects, exposure)
- Analytical challenges for residues in different hive matrices
- Risk assessment approaches used by global regulatory agencies, and harmonization efforts for evaluating risk to pollinators
- Model development to simulate pest and pesticide exposure and effects on bees
- Leveraging existing data to enhance predictive tools and reduce testing burden
- Effects of surfactants and adjuvants
- Population model development/status
- Challenges of extrapolating relationships of toxicity to bee health in the field
- Impacts of pollinator risk assessments for product registration
- Non-*Apis* pollinator testing and risk assessment advances
- Off crop exposure and indirect effects of agrochemicals (active ingredient and formulation) to pollinators (*e.g.*, effects on the quality and diversity of habitat/forage)
- Factors affecting systemicity in plants and exposure for insect pollinators
- The role of surrogacy in exposure and toxicity testing and risk assessment

For further information, contact the organizers

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August 25 – 29, 2019

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Process Research and Development in Crop Protection

Purpose of Symposium

To address the food security needs of the growing world population, modern agriculture must continually develop technologies that increase production. Process chemists in the crop protection industry have additional challenges beyond those required for pharmaceutical industry. Crop protection process chemists must develop processes to deliver much larger volumes of active ingredient, typically in the range of hundreds of metric tons per year, that meet much lower cost targets. This symposium will serve as a platform for crop protection process scientists to share their innovative solutions to these challenges. At this symposium, the audience will hear detailed presentations and case studies from crop protection organizations around the world. The latest issues relating to synthetic route design, development, and optimization in the crop protection industry will be discussed. Although the focus of this symposium is process research and development in crop protection, the content will be beneficial to process chemists in other industries and organic chemists in general.

Suggested Topics

The suggested topics for this symposium are, but not limited to, the following:

- Route scoping and selection for the synthesis of crop protection products
- Process development toward crop protection products
- Impurity identification and control in the development of crop protection products
- Application of Process Analytical Technology (PAT) in the process development of crop protection products
- Application of continuous flow technology in the development of crop protection products
- Safety considerations, practices, and safety hazards evaluation and mitigation in process research and development
- Sustainability in process research and development
- Collaboration to drive technology innovation and process development
- Case studies of large-scale production and manufacture of crop protection related products

For further information, contact the organizers

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Protection of Agricultural Productivity, Public Health, and the Environment (General Session)

Purpose of Symposium

The AGRO Division currently has programs in a number of topic areas, but not all topics are developed into a technical symposium at every meeting.

The General Session therefore allows our members and other scientists to submit papers even though a specific symposium topic is not offered.

This year, only poster presentations are possible; every attempt will be made to group papers into "mini-symposia" within this session.

Suggested Topics

- Advances in Agrochemical Residue, Analytical and Metabolism Chemistry, and Metabolomics
- Agricultural Biotechnology
- Agriculture in Urban and Peri-urban Environments: Food Production, Structural Protection, Turf and Ornamentals, Water Reuse, and Down-the-Drain Chemistries
- Agrochemical Toxicology and Mode of Action
- Air Quality and Agriculture
- Bioenergy, Bioproducts, and Biochars: Advances in Production and Use
- Biorationale Pesticides, Natural Products, Pheromones, and Chemical Signaling in Agriculture
- Communication
- Developments in Integrated Pest Management and Resistance Management
- Discovery and Synthesis of Bioactive Compounds
- Ecosystem Exposure and Ecological Risk Assessment
- Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals
- Formulations and Application Technology
- Human and Animal Health Protection: Vector Control, Veterinary Pharmaceutical, Antimicrobial and Worker Protection Products
- Human Exposure, Health, and Risk Assessment
- Non-Food/Feed Production and Uses of Ag Commodities and Byproducts
- Regulations, Harmonization, and MRLs
- Technological Advances and Applications in Agricultural Science (*e.g.*, Nanotechnology, Genetically-modified Organisms, and Biocontrol Agents)

For further information, contact the organizer

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258th ACS National Meeting & Exposition

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Simulating Fumigant Transport and Emissions: The Evolving Role of Modeling in California Regulations

Purpose of Symposium

The symposium will focus on the evolving role of computer modeling that is used to develop fumigant regulation measures in California. The goal of this symposium is to facilitate dialogue among scientists in the agricultural and environmental fields regarding computer simulation of the transport and emission of fumigants from agricultural and commodity fumigations. The symposium will cover the following areas of research:

a) Factors influencing fumigant emissions from the soil profile and subsequent downwind transport;
b) Computer modeling techniques to estimate fumigant flux from the soil profile or commodity fumigations;
c) Computer modeling techniques to simulate downwind transport of fumigants;
d) Recent developments and improvements in computer models and their implications for fumigant simulation;
e) Using computer models to inform regulatory issues/challenges.

The symposium will provide a platform for interaction between academia, industry, applicators, and regulators. The symposium aims to stimulate the continued development of computer modeling used to regulate fumigant transport and emissions by using California as an example. This symposium is open for collaboration with other divisions such as ENVR and ANYL.

Suggested Topics

- Modeling of fumigant soil transport and emissions under various conditions
- Advancements in computer modeling techniques to simulate fumigant concentrations in the air
- Validation of computer models against field data
- Evaluating transport of heavier-than-air gases
- Computer modeling used as part of regulation development
- The importance of environmental conditions in fumigant flux and transport

For further information, contact the organizers

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258th ACS National Meeting & Exposition

August 25 – 29, 2019

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Sink or Swim: Chemical Mobility at the Water-Sediment Interface

Purpose of Symposium

Chemical interaction between water and sediment can have pronounced influence in aquatic toxicology. The varying compositions of bed sediments combined with hydrodynamic and biological perturbations have created challenges in predicting the partitioning of chemicals at the water-sediment interface in natural waters.

Laboratory studies conducted to understand the partitioning between water and sediment do not always provide data necessary for understanding the kinetics of sorption, chemical degradation outside of whole water-sediment system, or the rate of movement across the water-sediment interface.

This symposium should be of interest to researchers in universities, regulatory agencies, and private industry involved in assessing the exposure, effects, and risks of chemicals in the environment.

Suggested Topics

- Mechanistic elucidation of the water-sediment interface and active sediment zone
- Chemical exposure and effects to sediment dwelling organisms
- Deterministic and empirical approaches for modeling chemical partitioning between the water and sediment interface
- Suitability of traditional adsorption-desorption studies and aerobic and anaerobic aquatic metabolism studies in parameterizing fate and transport models
- Study design and challenges encountered with guideline water/sediment fate and transportation studies. Kinetics and mechanisms of chemical reactions at water/sediment interface
- The effect of water/sediment characteristics on chemical mobility
- Regulatory trends regarding chemical mobility in aquatic systems
- Reducing uncertainty in model predictions with custom laboratory and field studies
- Communicating uncertainty to risk assessors and the public

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Successes, Failures, and Lessons Learned in Agrochemical Exposure and Risk Assessment Communication

Purpose of Symposium

Agrochemical exposure and risk assessment are complicated and difficult to communicate. Failures to identify and communicate risk can originate from anywhere in the risk assessment process, adversely affecting the ability to make the best possible regulatory decisions. Challenges continue with regard to effective outside communication of the risks to the public and non-scientists. We must learn to connect with those with other views, be good listeners, and, when needed, overcome misinformation that may not truly reflect the available scientific results.

Stakeholder and public questions to address include:

- Is exposure to a pesticide or other agrochemical safe and acceptable at any level?
- Can regulatory efforts to eliminate or reduce exposure to one chemical result in increased exposure and risk from other sources?
- How do we deal with uncertainty and justify assumptions made to provide “appropriately conservative” risk assessments?
- What do we need to improve risk assessments, and how do we develop a path forward based upon these needs?
- How do I know this won’t harm me?
- Why should I trust you – aren’t you biased?

Believing that we can best learn from past experiences, including both successful and unsuccessful ones, this symposium aims to provide a platform for presenting and discussing instructive case histories and strategies to improve risk assessment and risk communication. This symposium will be of interest to AGRO and CINF division members alike.

Suggested Topics

- Causes and solutions to over- and under-estimation of risk
- Solutions to the limitations in the use of modeling and environmental monitoring data in risk assessments
- Identifying and reducing uncertainties affecting exposure and risk
- Interdisciplinary and inter-organization risk assessment and communication
- Finding the way to efficient and effective risk mitigation
- Identifying and overcoming psychological and social barriers to risk communication
- Effectively communicating risk outside the scientific community, including the possible differences between estimated and actual exposure and risk
- Sources of misunderstanding of risk (*e.g.*, distinction between correlation and causation, significance of the risk in perspective with other stressors)
- Improving assessments by developing a contextual understanding of how the chemical being evaluated contributes to the overall risk to humans, other affected organisms, and to the ecosystem
- High-level overview of commonly misrepresented topics in agrochemical risk assessments
- Scientific skepticism and the skeptics movement – How scientists can identify and help counter pseudoscientific claims in a manner that will continue the conversation instead of shutting it down
- Case studies on GMOs, organic pesticide exposure, and residues in food are encouraged

For further information, contact the organizers

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Surfactant and Colloid Science Applied to Formulations

Purpose of Symposium

This symposium covers industry and academia advancements on formulation solutions through surface and colloidal chemistry as well as application technologies.

The target audience for this symposium is anyone from industry and academia interested in physical-chemical properties associated with formulation development science and advances in its application technology.

Participants in this symposium will have the opportunity to gain insights into the challenging formulation science of traditional chemical active ingredients (agrochemical, medicine, etc.) as well as microbial/biological solutions and even the viability of premixes between them.

We will explore how sustainability could influence novel delivery systems and end user product performance as well as application technologies and methods to optimize them.

This may be of interest to both AGRO and COLL division members of ACS.

Suggested Topics

- Formulating complex multi-active ingredient products
- Advances in additives and adjuvants to improve performance or mitigate adverse effects
- Advances in delivery system technology, *i.e.*, nanotechnology, controlled or triggered release, etc.
- Formulations that render small molecule and biological mixtures compatible
- Formulations/materials that potentiate microbial, biological, and/or sprayable RNAi activity
- Offsite drift reduction through management of formulation physical-chemical properties and application technologies, *i.e.*, application equipment, nozzle design, etc.
- Formulating to optimize coating treatment processing/performance, *i.e.*, seed treatment, powder/liquid coatings, etc.
- Precision and customize delivery, *i.e.*, sensor development, real time monitoring of applications, variable rate application

For further information, contact the organizers

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January 24 – March 20, 2019

Call for Papers
258th ACS National Meeting & Exposition
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To GLP or Not? How-Tos for the AGRO Professional

Purpose of Symposium

Good Laboratory Practices (GLPs) are a set of quality principles based upon the law under 40 CFR Part 160 that provide a framework within which laboratory and field studies are planned, performed, monitored, recorded, reported, and archived. GLPs help assure regulatory agencies that the data submitted are a true reflection of the results obtained during the study and can therefore be relied upon when making risk or safety assessments. Other standards may be followed, but how do you know which to follow?

The purpose of this symposium is to provide guidance for ensuring the quality and integrity of data submitted to the regulatory agencies. Participants in this symposium will gain understanding of how GLPs impact the conduct of their studies, learn about common agency findings and how to avoid them, and get an overview of the current regulatory outlook.

The target audience includes anyone that is interested in working on studies that support applications for research or marketing permits for pesticide products regulated by the EPA, Quality Assurance/Quality Control professionals, and those new to the GLP environment. Divisions that may be interested in attending this symposium include AGRO, AGFD, and ENVR.

This symposium will be held in conjunction with the EPA-GLP Specialty Section of the Society of Quality Assurance (SQA)

Suggested Topics

- Why to GLP or not to GLP, and training for Study Directors and Test Facility Management
- GLP training for a better understanding of 40 CFR Part 160 – guidelines, roles, and responsibilities
- US EPA regulatory professional (invited)
- EPA GLP Inspection Program: interpretation, enforcement, and case studies
- Conduct of EPA agricultural field trials
- Effective management of multi-site studies
- Regulatory submissions of pesticide data in the U.S. and worldwide (EPA vs. OECD)
- EPA updates and GLP advisories
- Conduct of method validations and independent lab verifications
- Development of standard operating procedures to meet GLPs
- Good documentation practices, data quality, and data integrity
- Best practices for use of electronic systems for the capture of field data

For further information, contact the organizers

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Call for Papers

258th ACS National Meeting & Exposition

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To Infinity and Beyond: The Dangers of Hyperconservative Exposure Modeling in Risk Assessment

Purpose of Symposium

This symposium is intended to highlight the impacts of hyper-conservative exposure estimates that are not checked against reality. With few exceptions, the vast majority of ecological risk assessments, including those conducted by the U.S. EPA, overestimate exposure and risks of contaminants to aquatic biota and wildlife. That would be expected in screening-level assessments where the goal is to identify potential risk scenarios that require additional risk refinement. However, refined risk assessments are also often guilty of grossly overestimating risk, even when all other lines of evidence point to a contrary conclusion. For example, in the recently released organophosphate (OP) biological evaluations (BE) for threatened and endangered species in the United States, 97% of listed species were deemed likely to be adversely affected by malathion and chlorpyrifos. Routinely overestimating exposure and risk has a number of consequences including reduced scientific credibility of the assessment process, an inability to target resources to where they are most required to address environmental issues, needless elimination of important tools for farmers, more lawsuits, and others. This symposium should attract risk assessment and legal, policy, and regulatory practitioners that are concerned about the proper translation of scientific evidence into regulatory actions.

Suggested Topics

- How best to make decisions in the face of uncertainty
- Examples of where hyperconservative exposure and risk assessments led to poor regulatory decisions
- Refined methods for estimating exposure and risk
- Case studies demonstrating how refined methods improve decision-making
- Weight-of-evidence assessments to make best use of all available information
- Consequences of over- (or under-) estimating exposure and risk for regulatory agencies, the regulated community, and other stakeholders

For further information, contact the organizers

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Transfer of Analytical Methods: The Good, The Bad, and The Ugly

Purpose of Symposium

Major organizations in the agrochemical industry such as agrochemical registrants and contract research organizations have been combining or reorganizing over the last several years. Concurrently, there has been an increasing request to refine human and environmental risk assessments with higher tiered residue assessments. To enable seamless business function, many companies are transferring analytical methods across sites or to other companies, such as CROs, to support global functions during this dynamic time.

However, sophisticated analytical methods to meet global regulatory guideline requirements increase the challenge of successful analytical method transfer. Therefore, efficient and reliable approaches to transfer analytical methods are needed to meet the increased demands in this area.

This symposium will provide a platform to communicate and discuss emerging trends, strategy development and effective execution of analytical method transfers to enable registration and stewardship of agrochemical products. Other ACS divisions that may benefit from this symposium are ANYL and ENVR.

Suggested Topics

- Examples of successful development, validation, and transfer of analytical methods (*i.e.*, crop/animal residue, soil/water residue, ecotoxicology) between laboratories (*i.e.*, different global sites within the same company, transfers to CROs)
- Examples of transfer of methods that are functional for production scale use and comply with global guidelines (*e.g.*, EPA, OECD, SANCO, ANVISA)
- Writing clear methods without omissions to delineate nuances and details to minimize the need for institutional knowledge to successfully execute a method
- Characterization and improvement of method ruggedness (*i.e.*, suppression effects, storage stability of standards with freeze/thaw cycles)
- Inter and Intra laboratory variation tolerance criteria (retention time shifts; signal to noise ratio criteria) where no round-robin evaluations have been performed
- Necessity of modifying methods post transfer (*i.e.*, use of equivalent equipment, chromatographic changes)
- Effective communication and support models (*i.e.*, hand-offs, expectation setting) to ensure best results
- How government labs use methods from a registration package

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258th ACS National Meeting & Exposition

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

Purpose of Symposium

This symposium is intended to facilitate dialogue among scientists in agriculture-related fields to examine the opportunities and challenges associated with the use of unmanned aerial vehicles (UAVs, aka drones) in agriculture. Presentations related to pesticide spraying or spreading, pollination, field scouting, and related topics are encouraged.

The symposium will provide a forum for interactions among academic, industry, and government experts. It will enhance understanding of UAV spraying and related activities that may have implications for agriculture and related industries, public interest, and the environment, as well as stimulating progress toward developing this new technology on a sustainable path. This symposium may be of interest to other divisions such as ENVR and ANYL.

Suggested Topics

- Development of UAV technology for use in agriculture, including integration of spraying module in UAV design
- UAV spraying – evaluation of in-field performance, off-target drift, operator exposure, etc.
- Scouting and remote sensing facilitated by drones
- Unconventional uses of UAVs in agriculture (*e.g.*, pollination, non-liquid applications, etc.)
- Evaluation of different UAV design factors affecting performance in the field
- Model development for evaluating UAV performance
- Regulatory aspects, including permitting, labeling risk assessment, and consideration of drift-reducing technology
- Addressing challenges associated with payload/power constraints and ultra-low volume spraying
- Socio-economic factors, including challenges and opportunities (labor, public support, etc.)
- Development of best management practices for drone use

For further information, contact the organizers

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Call for Papers
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Water Scarcity: Challenges for Agriculture

Purpose of Symposium

"Water scarcity is one of the greatest challenges of the twenty-first century." FAO 2017

Agriculture is both a source and a victim of water scarcity. Currently half of the world's population is living in areas that experience water scarcity for at least one month a year; about 70% of global water withdrawals are already allocated to agriculture and livestock production; and a third of the world's groundwater systems are already in distress. What will happen with a growing food demand and competition for water availability from other sectors and urban areas? How can we contribute to tackling one of the biggest challenges (water stress) of this century?

This symposium aims at presenting opportunities for new technologies, innovative agricultural practices, and policies that can mitigate the impact of water scarcity on food security and food safety. In addition to new technological solutions and conservation efforts, we invite communications on water policy, economics, sustainability programs, and agronomic practices that could contribute to protect this precious resource. Whether the focus is on supply, recycling technologies, water management, or demand reduction, contributions from different fields of research are welcomed.

There is an urgent need to address water scarcity by delivering integrated solutions to prevent food crisis, water supply disruptions and population migration. This program will be of interest to AGRO, ENVR, and AGFD members.

Suggested Topics

- Water scarcity and its societal impact, with a focus on food production and food security
- Technologies to reduce water use in agriculture: micro-irrigation, hydroponics, GMO crops, integrated landscape approaches, soil management
- Water quality, conservation, and recycling in agriculture
- Agronomic practices and crop selection in areas affected by water stress
- Policy making to tackle water scarcity: how today's policy can deliver a better tomorrow
- Chemigation; integrated technologies for water conservation
- Sustainability program goals and metrics of water conservation

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What Does Nanotechnology Have to Do with Agriculture?

Purpose of Symposium

Nanotechnology has been widely used in fields such as pharmaceutical, food, cosmetic, and adhesives/coatings. In these areas, it enables the tailoring of structures of materials at extremely small scales to achieve specific properties, enhancing the materials science toolkit. The farmer and consumer need smarter products with lower upfront costs, and the planet urgently needs more environmentally friendly routes.

The use of nanomaterials in agriculture is the subject of intense research and development. The encouraging results of application of various nanomaterials in agriculture have inspired further utilization of this technology. Most nanomaterials used in agriculture for plant growth and protection have received a lot of attention and concern related to toxicity. Caution and regulation, therefore, are needed during application in the field. The exciting situation has galvanized the search for more efficient and eco-friendly alternatives. Analytical, sensors, biotechnology, and regulatory investigations are still in early phase assessment with many potential benefits.

Suggested Topics

- Pesticide formulations – novel material efficiency, cost reduction, stability, and application
- Fertility formulations – enhanced mobility, controlled release, and bio-availability
- Analytical Tools – nanosensors, tools
- Biotechnology – targeted editing or genetic engineering
- Regulatory – environment and biosafety

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January 24 – March 20, 2019

AGRO Strategic Programming Committee

Standing Programming and Champions

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- Joe Wisk, joseph.wisk@basf.com
- Daniel Schmehl, daniel.schmehl@bayer.com

Regulations, Harmonization, and MRLs
- Heidi Irrig, heidi.irrig@syngenta.com
- Ken Racke, kracke@dow.com
- Nakia Smith, nakia.smith@syngenta.com
- Carmen Tiu, tcarmen@dow.com

Technological Advances and Applications in Agricultural Science (e.g., Nanotechnology and Biocontrol Agents)
- Danny Brown, dmbrown@landolakes.com
- Tao Geng, tao.geng@monsanto.com
- Jeff Hughes, jeffrey.a.hughes@monsanto.com
- Rai Kookana, Rai.Kookana@csiro.au
- Mingming Ma, mma3@dow.com

ADDITIONAL SYMPOSIA AT MOST NATIONAL MEETINGS
- **Awards and Tributes**
- **Protection of Agricultural Productivity, Public Health and the Environment – General Session**
- **Special Topics**

AGRO Future Programming

AGRO Strategic Programming Committee. The Programming Committee, which is led by the Vice-Chair, provides a forum for discussion of multi-year programming based on the standing topics of proven interest and using the topic champions to support symposium planning. It also seeks to partner through programming with other ACS Divisions and other national and international partners.

One key activity of the Programming Committee is to maintain and update the Topic List and Topic Champions.
Topic Champions are needed to:

a) serve as a general resource and as an expert in their given area,
b) identify timely symposia topics, and
c) support specific symposia through identification of and/or mentoring of co-organizers.

During this time of the year, the Programming Committee is tasked with supporting the Program Chair **Cheryl Cleveland** for the 258th ACS National Meeting to be held in San Diego, California, August of 2019, with well over 45 potential symposia. Please consider active participation through submitted talks and posters; abstract submission in ACS MAPS for AGRO submissions closes March 20, 2019.

AGRO Division 50th Anniversary! Looking beyond the 2019 ACS National Meeting in San Diego, the big news for 2020 is going to be the 50th Anniversary of the AGRO Division. The 260th ACS National Meeting in San Francisco will provide a perfect backdrop for celebrating 50 years of great symposia, wonderful research, and a network of amazing colleagues.

The early stages of planning have started, and it is never too late to get in on the planning of events to be held at the San Francisco National Meeting. Be a part of a special AGRO event. Volunteer to help plan or host an event, chair or participate in a sub-committee, or organize a symposium. Some of the events being considered include:

a special celebration dinner for AGRO members,
a slide show to be presented during the dinner and the meeting, and
a history of AGRO symposium.

Volunteers. Enough cannot be said of the incredible group of volunteers that help make our topics and symposia such a success year after year. It is this commitment and passion of volunteers that make AGRO such a great division of ACS. Help continue this success by volunteering to help with symposia and/or with meeting logistics. If you have a great symposium or programming idea for AGRO, please share it with any of the officers.

Future ACS National Meetings

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

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

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

260th ACS National Meeting & Exposition
August 16-20, 2020, San Francisco, California
Chemistry from Bench to Market

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

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

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

Thinking about organizing a symposium for a National Meeting?

AGRO SUPPORTS SYMPOSIUM ORGANIZERS

- Assistance with developing a symposium summary and Call for Papers
- Help with identifying co-organizers
- Some funding to help with travel and/or non-member registrations

7 EASY STEPS FOR ORGANIZING A SYMPOSIUM

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

2018 - 2019 Lunch and Learn Webinar Series

AGRO provides free and open access to webinar recordings on our website to encourage use by educators, regulators, policy-makers and researchers. Recordings from over 50 scientists are now available on the AGRO website. Topics range from insecticide discovery to advances in measuring pyrethroids, weed resistance, seed treatment, chemical ecology, protecting pollinators, and natural products.

Webinar topics are selected and organized by the AGRO Webinar Committee made up of government, academic, and industry scientists. Topics can be proposed at any time to the chair, Claire Terry (cterry@dow.com) or other committee members John Clark (U Mass), Steven Duke (USDA-ARS), Laura McConnell (Bayer), and Paul Reisbach (Smithers Viscient).

Special Thanks to our Sponsor for their Generous Contribution!

EAG LABORATORIES | WE KNOW HOW™

Upcoming Webinars

March 13, 2019 – **Laura McConnell**, Bayer US LLC
Incorporating the Benefits of Vegetative Filter Strips into Risk Assessment and Risk Management of Pesticides
Presenters included:
Bob Lerch, USDA-ARS
Rafael Munoz-Carpena, University of Florida
Jane Tang, Bayer US LLC
USEPA Representative

April 10, 2019 – **Todd Gaines**, Colorado State University

May 8, 2019 – **Carl Winter**, University of California, Davis
Communicating Pesticide Food Safety Risks

June 12, 2019 – **Adam Wong**, Institute of Food and Agricultural Sciences, University of Florida

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Programming and Outreach Activities 2019 – 2020

Activity/Event	Leaders/ Champions	Status	Actions Required
2018 -2019 AGRO Lunch and Learn Webinar Series	Claire Terry	• Planning is underway • Proposals for webinars are being accepted • Sponsored by	• **Watch for enewletter announcements**
14th IUPAC International Congress of Crop Protection Chemistry May 19 – 24, 2019 Ghent, Belgium www.iupac2019.be	Pieter Spanoghe pieter.spanoghe@ugent.be	• Call for papers to be released late 2018	• Check official website and sign-up for IUPAC 2019 News
56th North American Chemical Residue Workshop July 21 – 24, 2019 Naples, Florida www.nacrw.org	Steve Lehotay	• Program to be released in February 2019 • Co-Sponsored by AGRO	Submit abstracts for oral presentations by April 15, 2019, and poster presentations by June 1
258th ACS National Meeting August 25 – 29, 2019 San Diego, California	Cheryl Cleveland	• Planning underway • Symposia proposals due November 15, 2018	• **Volunteers and champions NEEDED!!** • Attend Blues and Brews in Boston
260th ACS National Meeting August 23 – 27, 2020 San Francisco, California	TBD	• Watch the AGRO eNewsletter for planning session information at the Boston and San Diego meetings • 50th Anniversary of AGRO!	• Volunteers, champions, and ideas NEEDED!!

LAPRW Brazil 2019

Food and Environment

7TH LATIN AMERICAN PESTICIDE RESIDUE WORKSHOP

May 5th to 8th, 2019

Foz do Iguazu - PR, Brazil

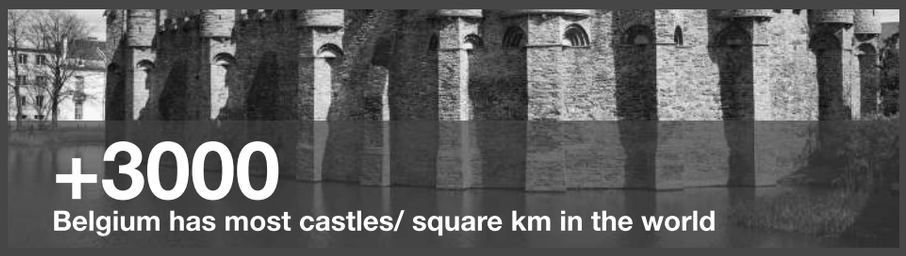
contato@laprw2019.com.br

WWW.LAPRW2019.COM.BR

IUPAC 2019 GHENT

CROP PROTECTION CHEMISTRY

CROP PROTECTION: EDUCATION OF THE FUTURE GENERATION



+3000
Belgium has most castles/ square km in the world

620
bars

350
presentations

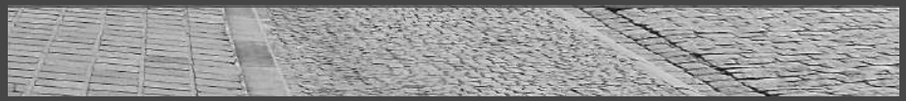
650
posters

<1
hour by train to visit Bruges, Brussels or Antwerp

10
scientific themes in crop protection

iupac2019.be

1500
delegates from 51 different countries



1.300.000
visitors during Ghent Festival

50
global partner organizations

The International Union of Pure and Applied Chemistry (IUPAC) will celebrate its Centenary throughout 2019

Participate in the Celebration!

- **Periodic Table of Younger Chemists**
  Nominate a young chemist who embodies the mission and core values of IUPAC. Nominations to open in February 2018

- **Periodic Table Challenge**
  Test your knowledge of the elements and compete with chemists around the globe. Launches in January 2019

- **Global Women's Breakfast**
  Join in a global networking event on a single day in 2019

- **Essential Tools**
  Learn more about the essential tools for chemists that have been developed by IUPAC volunteers

- **Plan Your Own Event**
  Register your event on the IUPAC100 calendar

Check out www.iupac.org/100 for more details

Tell us your IUPAC story on Twitter @IUPAC
or on Facebook #IUPAC100

!

July 21-24, 2019

Naples Grande Beach Resort

Naples, 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

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

2018 AGRO Division Officers

Division Chair
Julie Eble
484-431-6978
julie.eble@eblegroup.com
julie.eble@agrodiv.org

Program Chair
Cheryl Cleveland
919-547-2407
cheryl.cleveland@basf.com

Vice Chair
VACANT

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

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

Councilors

2018 – 2020
Rodney Bennett, rodbennettdac@gmail.com
Jeanette Van Emon, jmvanemon@gmail.com
Kevin Armbrust, Alternate, armbrust@lsu.edu
Stephen Duke, Alternate, stephen.duke@ars.usda.gov

Executive Committee Members

2017 – 2019
Michelle Hladik, mhladik@usgs.gov
Qing Li, qingl@hawaii.edu
Kalumbu Malekani, kmalekani@smithers.com
Paul Reibach, preibach@smithers.com
Amy Ritter, rittera@waterborne-env.com

2018 – 2020
Aaron Gross, adgross@vt.edu
Leah Riter, leah.s.riter@monsanto.com
Yelena Sapozhnikova, yelena.sapozhnikova@ars.usda.gov
Daniel Swale, dswale@agcenter.lsu.edu
Tianbo Xu, tianbo.xu@bayer.com

2019 – 2021
Heidi Irrig, heidi.irrig@syngenta.com
Mike Krolski, mike.krolski@bayer.com
Caitlin Rering, caitlin.rering@ars.usda.gov
Sara Whiting, swhiting@eag.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 Middelem
1975	Henry F. Enos
1976	Julius J. Menn
1977	James P. Minyard
1978	Gerald G. Still
1979	S.K. Bandal
1980	Jack R. Plimmer
1981	Marguerite L. Leng
1982	Gino J. Marco
1983	G. Wayne Ivie
1984	Robert M. Hollingworth
1985	John Harvey, Jr.
1986	Henry J. Dishburger
1987	James N. Seiber
1988	Paul A. Hedin
1989	Gustave K. Kohn
1990	Willa Garner
1991	Guy Paulson
1992	Joel Coats
1993	Larry Ballantine
1994	Nancy N. Ragsdale
1995	Don Baker
1996	Barry Cross
1997	Willis Wheeler
1998	Judd O. Nelson
1999	Richard Honeycutt
2000	Ann T. Lemley
2001	Jeffery Jenkins
2002	Terry D. Spittler
2003	Jeanette Van Emon
2004	Rodney Bennett
2005	Allan Felsot
2006	R. Donald Wauchope
2007	Laura L. McConnell
2008	John J. Johnston
2009	Kevin L. Armbrust
2010	Ellen L. Arthur
2011	Kenneth D. Racke
2012	Aldos C. Barefoot
2013	John M. Clark
2014	Stephen O. Duke
2015	Cathleen J. Hapeman
2016	Pamela J. Rice
2017	Jay Gan
2018	Scott Jackson

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 & Election Committee

Purpose: The Nominating Committee develops a slate of qualified candidates for the elected Division offices that need to be filled for the following calendar year.
Composition: The Nominating Committee Chair is the Immediate Past Chair; other members are traditionally the past two Chairs.

** Programming Committee

Purpose: The purpose of the Programming Committee is to plan, develop, and implement the Division's technical program.
Composition: The Programming Committee Chair is the Division Vice-Chair; the Division Program Chair is a committee member. The Committee Chair nominates as many members as necessary to ensure that the Division's programming requirements are met.

** Social Committee

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

Strategic Planning Committee

Purpose: This Committee will assist the Executive Committee in development and implementation of the Division's strategic plan.
Composition: The Strategic Planning Committee Chair is appointed and confirmed by the Executive Committee. The Committee Chair appoints eight or more members.

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

AGRO Division Committees

Awards Committee

James Seiber, Chair, 530-752-1141, jnseiber@ucdavis.edu
MEMBERS: John Casida, Janice Chambers, John Marshall Clark, Joel Coats, Steve Duke, Bruce Hammock, Ernest Hodgson, Robert Hollingworth, Ralph Mumma, Hideo Ohkawa, Sharon Papiernik, Nancy Ragsdale, Will Ridley, David Soderlund, Don Wauchope, Izuru Yamamoto, Scott Yates

Bylaws Committee

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

Communications Committee

Cathleen Hapeman, Chair, *PICOGRAM* Editor
301-504-6451, cathleen.hapeman@ars.usda.gov
Jeff Jenkins, Public Relations
541-737-5993, jeffrey.jenkins@oregonstate.edu
Laura McConnell, 919-549-2012, laura.mcconnell@bayer.com
Sharon Papiernik, Awards Coordinator
605-693-5201, sharon.papiernik@ars.usda.gov
Leah Riter, Social Media Coordinator
636-737-9331, leah.riter@bayer.com
Yelena Sapozhnikova, eNewsletter Coordinator
215-233-6655, yelena.sapozhnikova@ars.usda.gov

Development Committee

Carmen Tiu, Co-Chair, 317-337-4941, tcarmen@dow.com
James Foster, 925-948-2930, james.foster@valent.com
Scott Jackson, 919-740-4299, sjackson@knoellusa.com
Del Koch, Ex Officio/Treasurer, 660-248-1911
dkoch@agrodiv.org
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
Sasha Kweskin, New Investigator Award Coordinator
sasha.kweskin@bayer.com
MEMBERS: Troy Anderson, David Barnekow, John Clark, Joel Coats, Jay Gan, Vincent Hebert, Steven Lehotay Ann Lemley, Glenn Miller, Paul Reibach

Finance Committee

Joel Coats, Chair, 515-294-4776, jcoats@iastate.edu
Del Koch, Ex Officio/Treasurer, 660-248-1911
dkoch@agrodiv.org
MEMBERS: Kevin Armbrust, Al Barefoot, Barry Cross, Scott Jackson, Ken 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, Chris Peterson, Amy Ritter, Jim Seiber, Keith Solomon, John Unsworth

Membership Committee

Leah Riter, Chair, 636-737-9331, leah.riter@bayer.com
MEMBERS: Steven Lehotay, Daniel Swale

2019 Nominating Committee

Scott Jackson, Chair, 919-740-4299, sjackson@knoellusa.com
Jay Gan, Chair, 951-827-2712, jgan@ucr.edu
Pamela Rice, 612-624-9210, pamela.rice@ars.usda.gov

Programming Committee (see p. 70)

Vacant, Chair

Webinar SubCommittee

Claire Terry, Chair, 317-337-3493, cterry@dow.com
MEMBERS: John Clark, Steve Duke, Laura McConnell, Paul Reibach

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@fmc.com

Strategic Planning Committee

To be reconstituted based on new plan

AGRO Division Combined Governance Meeting
Sunday, August 19, 2019, 5 PM
Boston Convention Center
Room 207

Minutes

Sharon Papiernik, Secretary; Leah Riter, Recorder

ATTENDANCE

Officers; Scott Jackson, Chair; Julie Eble, Program Chair; Cheryl Cleveland, Vice Chair; Sharon Papiernik, Secretary; Del Koch, Treasurer; Rodney Bennett, Jeanette Van Emon, Councilors; Steve Duke, Alt. Councilor

Executive Committee Members (EC): John Beck, Aaron Gross, Michelle Hladik, Heidi Irrig, Qing Li, Mike Krolski, Kalumbu Malekani, Paul Reibach, Leah Riter, Amy Ritter, Tom Stevenson, Carmen Tui

Committee Chairs: Diana Aga, Joel Coats, James Foster, Cathleen Hapeman, Marja Koivunen, Ken Racke, Jim Seiber

Guests and Committee Members: Peney Patton, Secretariat, Dena Barrett, Caleb Corona, Maura Hall, Dennis Hattermann, Thomas Hofmann, John Johnston, James Klimavicz, Sasha Kweskin, Ann Lemley, Ray McAllister, Laura McConnell, Edmund Norris, Caitlin Rering, Pamela Rice, Patricia Rice, Martin Ruebelt, Thomas Sparks, Colin Wong

1. **Introductions and Welcome** – *Scott Jackson*
2. **Program/Programming Chairs** –Julie Eble and Cheryl Cleveland

a. Boston Programming – *Julie Eble* (est time 5 min)

- The Division received 395 submissions divided into 44 sessions; 92 were posters. The Division eliminated the Thursday afternoon session and will be closing with a "Your AGRO" reception to receive feedback on AGRO operations, programming, and other topics.
- The Vendor Interface Program (VIP) is being launched this year.
- Letters of appreciation will be sent to supervisors of session organizers.
- AGRO was approached by ACS to consider publishing highlights of AGRO programming as part of an ACS symposium series.
- AGRO was required to use a new format this year for the oral platform: Up to 5 concurrent sessions were held in the same open ballroom, with tunable headsets so that the audience could hear only the speaker of interest.
- The program chair encouraged attendees to sign up to staff the AGRO welcome table, and noted that there is an AGRO membership application in the Picogram that could be used by those interested in joining.

b. San Diego Programming – *Cheryl Cleveland* (est time 5 min)

- The theme for the San Diego meeting is Chemistry and Water. AGRO programming should fit the theme well. Bring ideas to Blues and Brews.

3. **JAFC Update** – *Thomas Hofmann*

a. The journal's impact factor is up to 3.4, which is strong; early career scientists often consider this a key determinant in deciding where to submit their work. The journal received about 6800 submissions in the past year, 65% of them from East Asia and the Pacific. The acceptance rate was 22%.

b. The journal is seeking to open its scope to include more emerging areas such as nanotechnology. They are receiving more papers in these areas. Many new research fields demonstrate no differentiation between chemistry and biology, and the journal welcomes contributions in these fields.

c. Hofmann encouraged us, and asked us to encourage our peers, to submit work to JAC. Their papers are cited >100,000 times per year. The quality of papers is excellent, as demonstrated by sustained citations over many years.

d. The journal received 106 submissions for viewpoints and perspectives articles and accepted 100 of them. Mini-reviews are perspectives papers are often more highly-cited than original research articles. Hofmann noted that some topics (he used the example of CRISPRs) might be ripe for more thorough analysis in the context of agrochemicals. Conference papers/collections are considered by the journal.

e. Hofmann announced that Dr. Cathleen Hapeman of the AGRO Division was named as a new Associate Editor of JAFC.

f. Hofmann welcomed comments about better partnering between AGRO and JAFC. He especially welcomed discussion on better supporting early career scientists.

4. **Elections –** *Jay Gan*

In 2018 voting, John Beck was elected Vice Chair; Treasurer: Del Koch; Secretary - Sharon Papiernik; Executive Committee members-at-large: Heidi Irrig, Mike Krolski, Caitlin Rering, Carmen Tiu, Sara Whiting, and Daniel Swale

5. **Treasurer's Report –** *Del Koch*

See summary in on-line version

6. **Councilor's Report –** *Jeanette Van Emon and Rod Bennett*

a. Jeanette Van Emon reported on the Meetings and Expositions Committee. For the Boston meeting, there were 12, 842 pre-registrations, 10,543 papers accepted, and 1158 half-day sessions. AGRO experienced a new pod layout for oral sessions, and SciMix had a new layout as well. There is a proposal to increase the number of posters. At the Atlanta national meeting (Fall 2012), ACS may try poster sessions when there are no concurrent oral sessions. There is an effort to include on the hotel selection website, information on where Division programming will be held to facilitate decisions regarding lodging. There will be no overall program book for national meetings after 2019.

b. Rodney Bennett reported that international chapters are requesting a change in the ACS bylaws to better define their status and funding. DAC is trying to simplify rules to changes can be made in a shorter amount of time. In a discussion of eight change factors (change in workforce; migration of workforce; new technology impact on meetings/virtual meetings…), Bennett pointed out that AGRO has been in the forefront on outreach to early career members and those

who do not attend national meetings. AGRO and other Divisions have a more prominent presence on the ACD website. The number of ACS members who are also members of at least one Division has increased.

c. The new ACS president, Bonnie Charpentier, is hosting a breakfast for programming chairs. There is a new emphasis on marketing Divisions. ACS membership is stable and finances are sound. Membership dues are a small fraction of total income. Journals being in money and communicate science.

7. Secretary's Report – *Sharon Papiernik*

a. The Division had 3 teleconferences since our last face-to-face meeting: in December, February, and May. Minutes were distributed and published in the Picogram.

b. Regular business was conducted: election results were certified; annual administrative report was prepared and submitted.

c. IPG: John Johnston and Heidi Irrig finished up their project; John Clark and Daniel Swale were awarded a new grant. Both will provide details later in the meeting.

d. The MPPG rep was changed from Ashli Brown-Johnson (representing the Strategic Planning committee) to the Vice Chair Cheryl Cleveland (incoming Program Chair) to ensure that programming is well-aligned with MPPG goals – this is more important with the change in the Division allocation structure.

e. Several new efforts for AGRO were rolled out in 2018. Rod Bennett recorded an excellent video for our Division that was posted on the ACS website. Cheryl Cleveland led the organization of a new VIP event. We are exploring a celebration of our 50th anniversary. Details on new events will be provided later in the meeting. They are an indication of the energy of our Division members, and show that the Division is vibrant and well positioned for the future.

8. Bylaws Update – *Rod Bennett*

Rodney Bennett is migrating the AGRO bylaws to the new template. Proposed changes include clarifying the definition of affiliate members, allowing affiliate members to vote, instituting 2-year terms for Secretary and Treasurer. There are some questions about auditing: the finance committee will make a recommendation about the structure and process for auditing.

ACTION: Sharon Papiernik will send the proposed bylaws to the EC for review before voting.

9. Awards Committee – Jim Seiber

The Division is pleased to announce the following award winners: Stephen Powles, 2018 ACS International Award for Research in Agrochemicals; Vincent Salgado, 2018 AGRO Award for Innovation in Chemistry of Agriculture; Thomas Stevenson, 2018 Kenneth A. Spencer Award; James Seiber, 2018 USDA-ARS Sterling B. Hendricks Memorial Lectureship; Cathleen Hapeman, 2018 ACS Fellow; Baldwyn Torto and Satoshi Tsuzuki, JAFC 2018 Research Articles of the Year Lectureship Awards; George Lahm, ACS Industrial Chemistry Award; Leslie Rault, Scott O'Neal and Liu Yang, Finalists for 2018 new Investigator Awards.

ACTION: The sponsorship for the New Investigator Award should move to another sponsor? Referred to Development Committee?

10. Strategic Planning – *Julie Eble and Ashli Brown Johnson (Ashli not attending)*

Goal 1 – Outreach – *Steve Duke*

AGRO has liaisons with 25 organizations to increase interactions with AGRO, for example, in programming. They are looking for a liaison in phytopathology. Paul Reibach will be taking over for Steve Duke as Liaison Committee chair.

ACTION: Looking for 1-2 members to work on Goal 1 of the Strategic Plan.

Goal 2 – Membership – *Leah Riter*

The new member letter was approved by ACS. AGRO membership is +5 compared to before the San Francisco IUPAC meeting. The number of international members is increasing. Current membership stands at 1221.

Goal 3 – Programming – *Julie Eble*

The programming champions are very active in guiding the program chair and in planning programs that extend beyond the term of the Program Chair. There is no need to update the standing programming topics. Hot topics being addressed at the 2018 meeting include legal aspects of new chemistries, chemistry and xenophobia in the news. Looking for more hot topics for the 2019 meeting – bring ideas to Blues and Brews.

11. VIP Event Overview – *Cheryl Cleveland*

The inaugural event includes 15 vendors. The goal was to engage vendors who cannot be gold sponsors of AGRO. The event will include face-to-face networking with service providers. The Spring Picogram will recognize vendors. John Beck will help with VIP in 2019. [Post-meeting note: John Beck will be leading the 50th anniversary planning for the San Francisco meeting. A new lead for 2019 VIP will be sought.]

12. IPG Updates – *John Johnston, Heidi Irrig, Daniel Swale*

John Johnston reported on the IPG project he and Heidi Irrig completed on the interplay between federal agencies involved in pesticide risk/benefit analysis. The target was policy makers (including Congressional staff), scientists, and students. The session was held in Washington, DC and included speakers from EPA, IR-4, FSIS, AMS, FDA, and FAS. Only 2 Congressional staffers attended, so Johnston and Irrig put together a 45-minute seminar at the House office building that was attended by 40 staffers. The final report can be the IPG poster that will be presented at SciMix. Feedback from the EC: We should explore other topics and do something similar. Johnston acknowledged that they received lots of help from the ACS Government Affairs office.

13. Finance Committee – *Joel Coats*

a. The AGRO investment portfolio is still very solid. As of the end of the last quarter, our Educational Trust Fund has $473,000 in it; almost all of that was originally realized through our hosting of the very successful 1994 IUPAC Congress of Pesticide Chemistry in Washington, DC. Our Spectrum Income Fund has $178,000 in it. These investment assets total $653,000. Before the 2008 recession, the total value was $580,000, but as of the end of 2008, its value was $415,000.

b. The Educational Trust Fund is managed by J.P. Morgan; 80% of it is in stocks (large caps, index funds, and global equities); the other 20% is in cash and fixed income instruments, mostly bonds. The growth of this fund from the end of 2008 through 2017 was 77%. c. The Spectrum

Income Fund is manage. .d by T. Rowe Price. That investment instrument provided us an increase of 42% increase in value from late 2008 through 2017.

c. Financial review – *Julie Eble*

- Since the San Francisco IUPAC meeting, the contribution income has dropped, membership has declined, and the value of assets has increased, even with 3% being transferred annually to support AGRO operations. Conclusion: AGRO is healthy and stable. AGRO would be operating in the red if it weren't for our investment income. Depending on our tolerance for risk, we could use AGRO investment funds to increase AGRO income in the longer term.
- The subcommittee recommends we name an assistant treasurer to ensure continuity and to provide a back-up. They wrote a position description and are looking for a volunteer.
- Discussion on whether AGRO should increase Division dues: doing so would not make much difference in the overall financial picture; little income is from dues. Most income is from ACS from meetings. It might be more effective to encourage other sponsors and find opportunities for sponsorship. Should there be a finance chaser (from the Development Committee) for each meeting? The Committee is always reaching out but it is difficult to provide information on what a sponsor will receive for their contribution.

14. Communications – *Cathleen Hapeman*

a. *PICOGRAM* and Webmaster – *Cathleen Hapeman*, *Laura McConnell*

a. The website needs a major update soon. Would like to hire a paid content editor. McConnell does not have time to update the website as often as it should be.
MOTION: AGRO should hire Ms. Klemens on an hourly basis to update the AGRO website up to 100 hours/year. Her work would be responsible to requests by officers and EC members to add content. Passed.

b. Logo for AGRO's 50th anniversary: Hapeman was approved to ask a graphics designer for a quote for a logo, web templates, etc. The logo should include the ACS logo.

b. Social media – *Leah Riter*
Nothing to report.

15. Development (Public Relations) – *Carmen Tiu, James Foster*
A letter requesting sponsorship was sent out to new potential sponsors. AGRO received almost $59K from sponsorships this year, up from last year.

16. Early Career Scientist (Education) – *Diana Aga, Marja Koivunen*
22 students were selected for travel awards. One could not come so there are only 21 awards this year @ $840 each. Their posters will be displayed at SciMix and at the AGRO poster session on Wednesday. Laura McConnell is pursuing having Bayer renew their sponsorship commitment. The chairs expressed their appreciation to the poster judges, and noted that they are always looking for volunteer judges.

17. International Activities Committee– *Ken Racke, Jay Gan*

a. The chairs requested money to publicize AGRO at IUPAC. Additional options are to apply for a $2K grant from the International Activities section of ACS or apply for an IPG.
MOTION: The International Activities chairs should reserve a booth for AGRO at the Belgium IUPAC meeting at a cost of $2500 Euros. Passed.

b. 15 AGRO-related symposia were proposed for the Pacifichem meeting. Notification will be sent next week regarding which proposals were selected.

18. Membership Committee – *Leah Riter*
Reported earlier as part of the Strategic Plan agenda item.

19. Social Committee – *Jeff Jenkins, Jessica Malin*
Not present.

20. AGRO's 50th Anniversary celebration planning – *Cheryl Cleveland*
Anniversary is in 2020. A small group will meet after Blues and Brews to start the planning process. More volunteers will be needed to implement the plan.

21. Comments from Attendees

a. In 2018, symposium organizers were given $700 for each session (used to be $500). This was increased by the EC for one year only.
MOTION: AGRO should fund each half-day session at $700 for the 2019 national meeting. Passed.

b. Laura McConnell presented information on a workshop on vegetative filter strips to be held at NC State and sponsored by Bayer and NC State. The workshop is in support of the Center of Excellence in Regulatory Science at NC State. Content could become the topic of an AGRO webinar.
MOTION: AGRO should sponsor the above-mentioned workshop on vegetative filter strips at $1000 to support speaker travel. Passed.

22. Transfer of chair, recognition of outgoing chair

AGRO Conference Call

November 9, 2018

12:00 PM – 1:30 PM CST

Minutes

Sharon Papiernik, Secretary

ATTENDANCE

Officers: Julie Eble, Program Chair; Cheryl Cleveland, Vice-Chair; John Beck, Vice-Chair elect; Jay Gan, Past-Chair; Del Koch, Treasurer; Sharon Papiernik, Secretary; Rodney Bennett, Jeanette Van Emon, Councilors

Executive Committee Members (EC): Aaron Gross, Michelle Hladik, Heidi Irrig, Qing Li, Kalumbu Malekani, Paul Reibach, Yelena Sapozhnikova

Committee Chairs and Members: Cathleen Hapeman, Laura McConnell

1. Proposed Changes to Bylaws – *Rod Bennett*
There were changes to the ACS bulletin that should be included in AGRO bylaws. Bennett will be sending draft bylaws to the Executive Committee within the next couple of weeks. Members will be invited to provide input on the revisions. Eventually, the modified version will be sent to ACS Bylaws Committee, then to ACS for approval.

2. Update on Programming – *Cheryl Cleveland*
AGRO 's deadline for submitting symposium proposals is November 15; ACS deadline for initial symposia planning is Dec 3rd. Cleveland has received 14 submissions at this point (Nov 9); there is not much overlap between sessions.

She is sure of another ~12 proposals based on on-going communications. There is a remainder of 20+ ideas discussed at the Boston Blues and Brews that may form some additions but how many is unclear. She requested an e-mail blast to remind AGRO members about the deadline (sent the afternoon of November 9). There are only a few proposals on environmental fate and nothing definite on pollinators (but one is promised). Cleveland has paired several mentors and co-organizers to make the task more approachable for inexperienced symposium organizers. She has been in contact with MPPG regarding water theme but right now there are no sessions relating to water; post meeting has continued to follow up.

3. **Changes to Sponsorships –** *Carmen Tiu*
Previously, Dow and DuPont sponsored one award each. Mergers and acquisitions will change some sponsorships: Corteva will keep International Award; New Investigator Award will be sponsored by Valent. Typically, Bayer sponsored student travel grants and would like to continue. The graduate student lunch was sponsored by Monsanto, but may move to FMC sponsorship.
4. **Brand and Website Refresh Quote** – *Cathleen Hapeman*
The current AGRO website is adequate today but won't take us into the future. The website was designed by the company that designed the existing AGRO logo and Picogram layout. Hapeman presented quotes from Brand3 for website design and development for $8500. The logo refresh (AGRO and 50th anniversary logos) is $3000; website design is $2500 with no site development. Skydev quote is $3200 for website development.
MOTION; Accept quotes presented from Brand3 for logo refresh ($3000) and website design ($2500); and accept quote from SkyDev for website development ($3200). Total commitment is $8700. Passed.
Bennett, Eble, and Ritter will be on sub-committee to evaluate designs; logos will be reviewed by the Executive Committee before they are adopted.
5. **VIP Event** – *Cheryl Cleveland*
2019 leadership: Cleveland has a framework in place but it would take some continued energy to identify vendors from the west coast as well as returning vendors and to work with them to solidify 2019 VIP. Interested parties should contact Eble. Volunteers for Assistant Treasurer and VIP coordinator will be solicited via e-newsletter.
6. **Highlights Book** – *Julie Eble*
ACS asked Divisions if they wished to have their own book of highlights from the Boston meeting; this is another version of the ACS Symposium Series. AGRO highlights from contributing papers are being chosen and volunteers were solicited to serve as editors. ACS has been working with 4 editors and editors will be sending information to people in their symposia. The highlights book is expected to include individual papers; some are being expanded into chapters.
7. **Post-Boston Survey** – *Julie Eble*
Julie Eble, Cheryl Cleveland, and John Beck prepared a survey re: multi-theater format, VIP, topics of interest, interest in 50th anniversary. AGRO members should expect to receive the survey from ACS on Monday. Post-meeting note: the survey was issued on Monday, November 12.
8. **Transition of Liaison** – *Julie Eble*
The liaison role transitioned from Steve Duke to Paul Reibach, but no further progress to report.
9. **Trends in Symposia Attendance** – *Cathleen Hapeman*
Overall, the AGRO program is strong and we have high-interest topic areas. However, the average attendance per oral session is declining. The more sessions we have, the lower attendance at each. Average attendance is ~50. This should be taken into consideration in program planning: Perhaps 5 concurrent sessions provide a diverse program with good attendance at each session. The proportion of oral to poster presentations is decreasing. Van Emon reported on behalf of ACS M&E that posters will be emphasized more to maximize space use. Hapeman will review with programming committee to strategize. The venue has a large effect on AGRO attendance, and California venues are typically well-attended. AGRO is doing well at smoothing out attendance across the days of the convention.
10. **50th Anniversary** – *Cheryl Cleveland, John Beck*

a. The initial anniversary meeting provided good brainstorming in Boston. Decision was made that this year, Beck will lead 50th anniversary planning and Cleveland will focus on scientific programming. Cleveland will lead implementation of 50th anniversary celebration next year.
b. Ideas are for a celebration dinner; special AGRO 50th logo; slideshow during meeting; Casida symposium; CA researcher symposium; special crops sessions; visual timelines; reference to AGRO history in programming; displays, etc. of history of crops and crop yields, ag equipment, analytical equipment, what will things look like 50 years from now. Other ideas are welcome; looking to engage a larger group of volunteers. Planning to honor former AGRO chairs, award winners, etc. at dinner. HIST Division can help with contacting historians and journalists.
c. Consider a tour of California agriculture similar to the one offered after the San Francisco IUPAC meeting managed by contractor (Laurie Berger).
d. Looking for volunteers; perhaps will place a synopsis of volunteer opportunities on the website. Recommendation to solicit volunteers via e-newsletter; can direct people from newsletter to website; can embed a mini-survey in the e-newsletter. People who need volunteers should send a couple-sentence summary to Yelena. The website should have a description of the whole 50th anniversary event and a list of volunteers needed. Beck will prepare. Sieber expressed interest in assisting on California agriculture. Jeanette Van Emon will help with this topic and maybe the dinner. Rod will support in some area.
e. Will initially be polling AGRO members through the post-Boston survey, perhaps through the e-newsletter and on the website.

11. **Financial**

a. Symposium payments are still going out. Some session organizers perhaps weren't clear on AGRO's commitment. AGRO has traditionally covered international wire transfer fees but now that will be passed along to recipient. (Otherwise they can accept a check and cash it onsite.) Koch needs to take a payment from the JP Morgan fund to cover payments for the ACS meeting.
b. Bennett has determined that an audit is not required, and ACS insurance will cover our bonding.

12. **Nominations are being sought for ARGO Fellow** (send names to John Beck) **and Innovation Award**.
    - *Editor's note:* The AGRO Fellow award names should be sent to Julie Eble… NOT John Beck.

13. ****Post-Conference Call Business:** *Latin American Pesticide Residue Workshop 2019 poster prizes*
AGRO has been sponsoring two $500 poster awards for the Latin American Pesticide Residue Workshop for several years. In return, AGRO gets listed among sponsors on the website, an ad in the program book, and positive public relations among the participants. Several AGRO members have participated in the meeting since the first one in 2007, and many Latin Americans joined AGRO as affiliate members who would not have known about AGRO otherwise. The meeting is held every other year, and the 7th LAPRW which will be held in Brazil: http://www.laprw2019.com.br/
MOTION: AGRO will commit $1,000 to be allotted for AGRO sponsorship of two poster awards at LAPRW 2019. Passed.

Councilor Report for the 256th National Meeting & Exposition Boston, Massachusetts August 2018

Jeanette M. Van Emon and Rodney Bennett, Councilors

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

ACTIONS OF COUNCIL

Committees of Council

- The Council elected Ella L. Davis, Lissa A. Dulany, Lisa Houston, and Martin D. Rudd for three-year terms (2019-2021), and Will E. Lynch for a one-year term (2019) on the Council Policy Committee (CPC).
- The Council elected Allison Aldridge, Christopher J. Bannochie, Mary K. Engelman, Silvia Ronco, and Frankie K. Wood-Black for three-year terms (2019-2021) on the Committee on Nominations and Elections (N&E).
- The Council elected Rodney M. Bennett, Jacqueline A. Erickson, Judith M. Iriarte-Gross, Donivan R. Porterfield, and Carolyn Ribes for three-year terms (2019-2021) on the Committee on Committees (ConC).

Amendments to ACS Bylaws (subject to approval by the ACS Board of Directors)

- A recommendation by the Committee on Membership Affairs was approved by Council on International Chemical Sciences Chapters resulting in an amendment to Bylaw XI, Section 3. Affiliations of SOCIETY Local Sections or Divisions shall become effective upon authorization by their governing body, approval by their respective Council committees governing Local Sections and Divisions, and by confirmation by the Council Committee on Constitution and Bylaws acting for the Council, that the provisions of Section 1 of this Bylaw are met.
- A recommendation by the Committee on Membership Affairs that Council approve the Petition on Affiliation with Other Technical Organizations to amend Bylaw IX, Section 4 accordingly to state: "An International Chemical Sciences Chapter may assess its members local Chapter dues to be expended for its own purposes in harmony with the objects of the SOCIETY."
- On the recommendation of the Committee on Committees, and the concurrence of the Council Policy Committee, Council approved the continuation of the Committee on Chemical Safety.

Special Discussion

President Dorhout led a discussion on the role ACS should play in preventing sexual harassment in the sciences. He highlighted several recent articles, workshops and studies that have called attention to the issue, notably a symposium, "Science of Sexual Harassment" organized during the 2018 ACS National Meeting in New Orleans by the Women Chemists Committee and C & E News; and an NAS, Engineering, and Medicine consensus study report: "Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine" (2018). He directed attention to existing ACS codes and initiatives to address sexual harassment and offered items for discussion and possible action including:

1. More signs at National Meetings regarding ACS policies and supporting information;
2. Trained volunteers at national meetings for reporting sexual harassment; and
3. A webinar on preventing sexual harassment.

The ACS Volunteer/National Meeting Attendee Conduct Policy can be found online at [http://www.acs.org/content/acs/en/about/governance/councilors.html].

Committee Report Highlights

Budget and Finance: The Society's 2018 Projection calls for a Net from Operations of $31.8 million. This is $1.3 million favorable to the Approved Budget. Total revenues are projected to be $565.1 million, which is $5.7 million or 1.0% favorable to the Budget. Total expenses are projected at $553.3 million, which is $4.4 million or 0.8% unfavorable to the Budget. The ACS Board approved funding the ACS Festival Series for inclusion in the 2019 Proposed Budget and the 2020-2021 Forecast Budgets. The Society is expected to end the year in compliance with Board-established financial guidelines. Additional information can be found at www.acs.org, at the bottom of the page, click 'About ACS', then 'Financial'.

Membership Affairs: The theme of the 256th ACS National Meeting was "Nanoscience, Nanotechnology, and Beyond." The total number of attendees was 14,235. As of August 21, 2018, ACS had 149,584 members, which is a decline of only eight-tenths of one percent from the over 150,000 members in 2017. This year-to-date figure represents an increase of over 1,200 members when compared to the last two years.

ACTIONS OF THE BOARD OF DIRECTOR

The Board approved:

- The Society's nominees for the 2019 Perkin Medal and the 2019 National Science Board Public Service Award.
- The appointments and reappointments of several editors-in-chief for ACS journals. (The appointments appeared in C&EN.).
- An advance member registration fee of only $490 for national meetings held in 2019 (i.e., the current advance member registration fee escalated to account for inflation only).

- To reauthorize a program funding request for the Chemistry Festival program; and to allocate on a pro-rated basis to qualifiedcACS Divisions **any net revenues accrued** to the Society from the 2020 and future International Chemical Congresses of the Pacific Basin Societies (Pacifichem).

In addition:

- The Board liaison to the Committee on Corporation Associates presented a proposed committee Future State Operating Model and considered options for committee member terms and appointment processes. The Board expressed support for the value of industry to ACS and acknowledged Corporation Associates as being positioned within the Society to represent the voice of industry to the Board and ACS.
- The Board's Society Programs global liaison offered an update on efforts to strengthen the global presence of Society programs to better serve our international members and the global chemistry enterprise. Efforts are underway to clarify the current state of international activities, products, and services; to clarify the challenges associated with globalization of existing domestic activities; and to offer recommendations for moving forward. Next steps include interviewing key stakeholders, reviewing past efforts, and exploiting existing market research with a view toward developing a strategic plan, activities, and timelines for Board consideration.
- The Board liaison to the Leadership Advisory Board (LAB) provided an update on initial efforts geared towards the development of a next-generation ACS Leadership Program. A task force has been charged with investigating the state of the art in leadership development, assessing the future needs of the Society, its individual members and their employers, and then proposing in 2019, a detailed strategic vision for the next-generation ACS leadership program focused on 2030 and beyond.

EXECUTIVE DIRECTOR AND CEO REPORT

The Executive Director and CEO discussed: Passion for Chemistry and Diversity and Inclusion as **core values** of the Society. There has been initial success with current initiatives to address and reverse the decline in membership. The Board heard reports on the activities of Chemical Abstracts Service (CAS), the ACS Publications Division, the Office of the Secretary and General Counsel, and Human Resources.

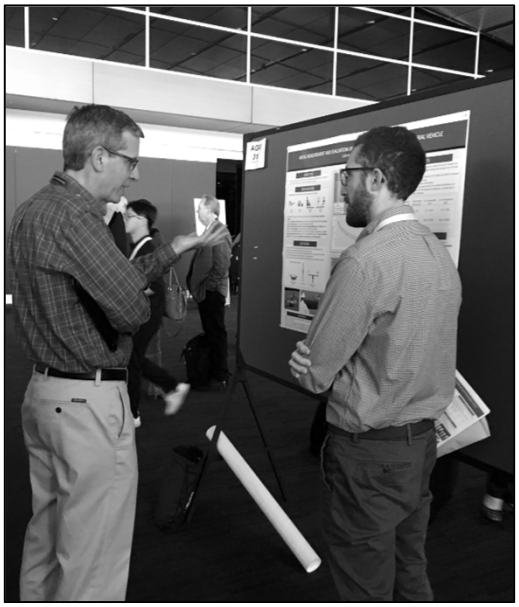
HIGHLIGHTS OF COMMITTEE REPORTS

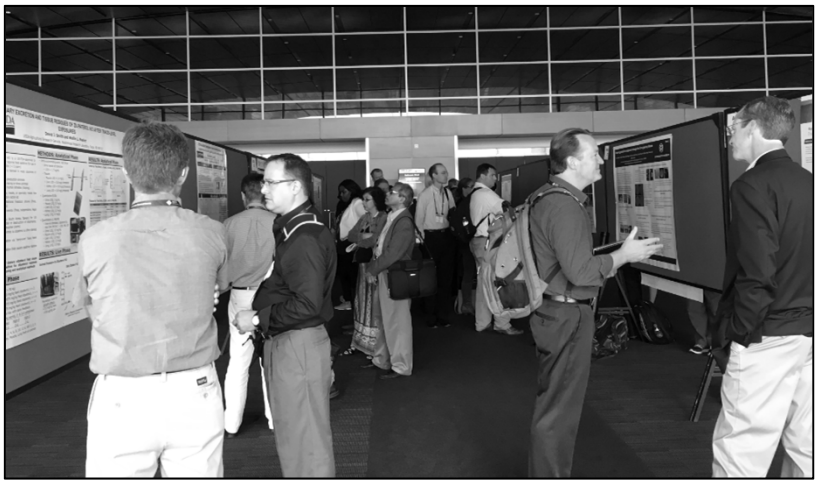
Committee on Meetings and Expositions (M&E): Topics of discussion centered on potential changes in the national meeting format designed to reduce the meeting footprint; enhance the meeting experience of attendees; and increase attendance at poster sessions. Many of these ideas will be initiated at the Fall 2021 Atlanta national meeting. To address attendance at poster sessions a joint committee was formed.

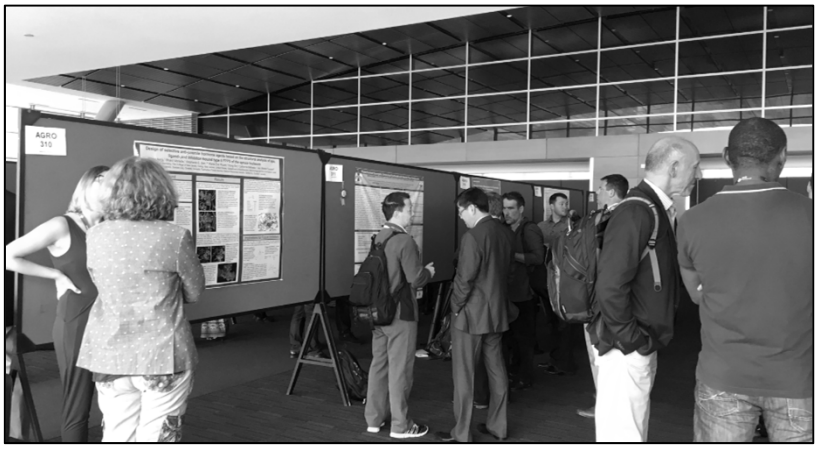
Joint Committee: Overall ACS National Meetings have seen a decline in attendance at posters sessions. This also includes Sci-Mix which has been declining over the last two years. Feedback from poster presenters is that they are not getting a lot of interactions at poster sessions, especially with leaders in their field of research. ACS has created a poster task force. The task force has members from the DAC, M&E Committee, and YCC and is tasked with developing ways to enhance the poster sessions for both presenters and viewers. The task force is asking for feedback from poster stakeholders via a survey.

Committee on Divisional Activities (DAC)

- The proposal made to Council for changing the dues funding to divisions was recommitted to DAC for further consideration at the New Orleans Council meeting. At this meeting, the DAC agreed to maintain the current formula as it collects data regarding division participation at ACS regional and international meetings.
- DAC wants to enhance collaboration between divisions and attract new science topics and audiences to the national meeting. It is developing a concept - Convergence Research Communities - to achieve these goals. DAC will share more details on this initiative with divisions.
- On Monday night, DAC repeated "Division Row", designed to help divisions engage with the younger chemists who predominate at Sci-Mix. While 16 divisions participated, DAC strongly encourages all divisions to participate in Division Row, as it provides unmatched access to the young chemists who represent future membership.
- The DAC committee voted to fund eleven Innovative Project Grants (IPG) totaling $73,000. DAC will consider another set of IPG proposals next spring. The deadline for that round of submissions is February 1, 2019.
- The percentage of new ACS members who joined at least one division has risen from 35% to 42%. Two major programs from ACS have made a significant positive impact on membership: ACS is promoting divisions on the website and with personal calls and letters to potential members; and ACS now allows new members to obtain up to three complimentary, one-year division memberships.
- DAC awarded ChemLuminary Awards to: The Divisions of Small Chemical Businesses, Professional Relations, and Polymer Chemistry.





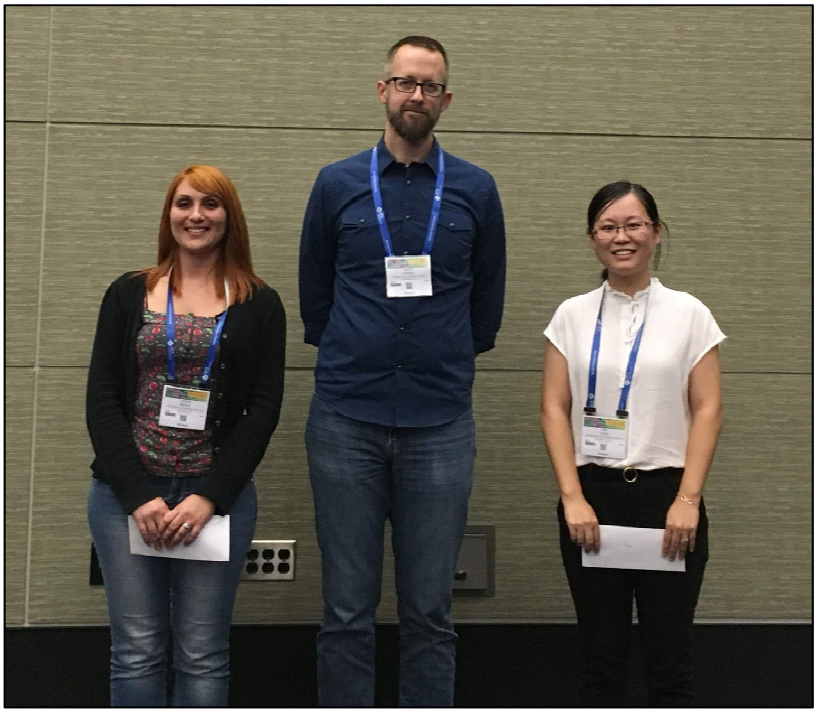


Scenes from Boston

Student Travel Awardees

ABOVE (in alphabetical order): Luisa Angeles, Rui Chen, Caleb Corona, Christopher Fellows, Marcelo Figueiredo, Mary Grace Guardian, Maura Hall, Shiyao Jiang, James Klimavicz, Anita Kuepper, Zhilin Li, Edwin Murenzi, Kayla Naas, Edmund Norris, Emily Shea, Leticia Smith, Alexander Soohoo-Hui, Lei Su, Jennifer Williams, Rebecca Wombacher, and Zijiang Yang

RIGHT: Marja Koivunen (Coordinator), **Shiyao Jiang** (Second Place), **Edwin Murenzi** (First Place), **Mary Grace Guardian** (Third Place), and Diana Aga (Coordinator)



New Investigator Award (NIA) Finalists

LEFT: Leslie Rault, Scott O'Neal, and Liu Yang (winner)

PICOGRAM V. 95

Call for Papers

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