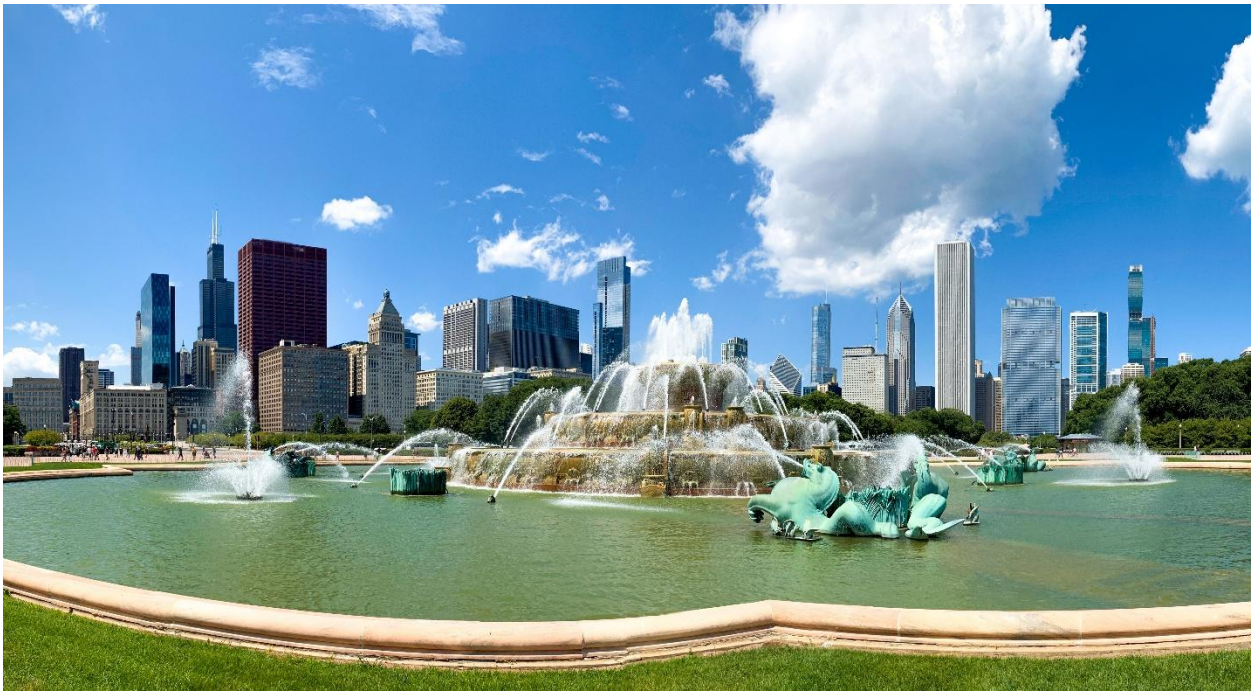
Call for Papers

American Chemical Society
AGRO Division
August 23-27, 2026
Chicago, IL



Call for Papers

ACS Fall 2026 Meeting

August 23 – 27, 2026

Chicago, Illinois, USA

150 Years of Feeding the World through Chemistry: Agrochemical Accomplishments and Lessons Learned

Purpose of Symposium

This symposium is part of the celebration of the 150th anniversary of ACS and focuses on the history of and future of feeding the world through chemistry. Research accomplishments throughout the world regarding agriculturally related chemicals and the individuals instrumental in these accomplishments will be celebrated with attention to lessons learned and a look to the future. These presentations are aimed at anyone interested in understanding the historical accomplishments related to chemical use in all aspects of the process of feeding the world. A perspective will be gained on lessons learned from successes and failures in the application of agrochemistry in diverse food production situations across the globe along with insights and priority goals for the future. International, regional, and cultural issues in food production will be discussed.

This symposium is invitation only and will be a joint session with the AGFD and HIST divisions.

Suggested Topics

Historical developments, milestones, and prospects of:

- Fertilizers, pesticides (including biologicals), plant and animal protection substances
- Technologies in application science
- Diverse commercial products sourced from agriculture
- Balancing environmental protection and agrichemical usage to support a healthy population in a healthy world
- Knowledge of environmental fate of agrichemicals to apply to risk assessment and benefits analysis
- Giants of agrichemical science over the years and implications of their work

For further information, contact the organizers

Dena Barrett (AGRO), ACS Agrochemicals Division, dbarrett@agrodiv.org
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January 5 – March 30, 2026

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150 Years of Agrochemical Accomplishments and Looking to a Bright Future

Purpose of Symposium

This symposium is part of the celebration of the 150th anniversary of ACS and focuses on the history of and future of agrochemical research. Research accomplishments regarding agriculturally related chemicals and the individuals instrumental in these accomplishments will be celebrated with attention to lessons learned and a look to the future. These presentations are aimed at anyone interested in understanding the historical accomplishments related to chemical use in all aspects of the process of feeding the world. A perspective will be gained on lessons learned from successes and failures in the application of agrochemistry in diverse food production situations along with insights and priority goals for the future.

Submissions are encouraged from early- to late-career scientists interested in capturing historical achievements of research on agriculturally related chemicals and identifying promising areas for new research and development. Contributors are encouraged to include an emphasis on how to sustainably feed the world and simultaneously promote human and environmental health.

Many of these presentations may be of interest to AGFD, ENVR, and HIST Divisions.

Suggested Topics

Historical developments, milestones, and prospects of:

- Fertilizers, pesticides (including biologicals), plant, and animal protection substances
- Technologies in application science
- Diverse commercial products sourced from agriculture
- Balancing environmental protection and agrichemical usage to support a healthy population in a healthy world
- Knowledge of environmental fate of agrichemicals to apply to risk assessment and benefits analysis
- Giants of agrichemical science over the years and implications of their work

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AGRO International Award for Research in Agrochemicals: Symposium in Honor of Dr. Camilla Corsi

Purpose of Symposium

This symposium is in honor of Dr. Camilla Corsi, recipient of the 2026 ACS International Award for Research in Agrochemicals for her outstanding contributions to crop protection research and development.

Dr. Camilla Corsi has proven herself to be a distinguished scientist and a forward-thinking, inspiring industry leader, whose influence has had a longstanding impact on crop protection sciences. Among her many diverse achievements, including championing new initiatives to abiotic stress management and soil health research, the contributions to the research and development of the blockbuster active ingredients in ADEPIDYN®, PLINAZOLIN®, TYMIRIUM®, and ELESTAL® stand out.

We invite researchers, scientists and managers interested in crop protection research and development to participate in this symposium. Furthermore, scientists interested in medicinal chemistry (MEDI), organic synthesis (ORGN) and computational chemistry (COMP) may benefit from this symposium as well.

Suggested Topics

- Future trends, challenges and opportunities in crop protection R&D
- Modern R&D strategies for sustainable crop protection
- Discovery, synthesis, modelling and structure activity relationships (SAR) of new chemistries or chemotypes targeting insect, nematode, disease and weed control
- New developments in biologicals and biostimulants
- Natural products as a source of inspiration for crop protection research
- Emerging technologies for crop protection such as peptides, RNAi biocontrols, living organisms, etc.
- Novel insights and solutions for resistance management
- New approaches for sustainable crop protection product manufacturing
- New approaches to the discovery of agrochemicals for sustainable crop protection of the future
- Newest computational methods to support the discovery of novel pesticides
- Analytical detection and characterization of agrochemical residues and metabolites
- Advances in formulation science and precision application technologies
- Application of AI, machine learning and data science
- Academic and industrial partnerships

For further information, contact the organizers

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Advancing Sustainable Control of Medical, Veterinary, and Agricultural Vectors Through Emerging Technologies

Purpose of Symposium

Rapid environmental change, expanding agricultural pressures, globalization, and the encroachment of human activity into new ecological zones are accelerating the spread and impact of a broad range of medical, veterinary, and agricultural vectors. At the same time, increasing insecticide resistance is undermining the effectiveness of many cornerstone interventions. To confront these complex challenges, innovative approaches that integrate new technologies, big data analytics, and AI-driven decision tools are urgently needed. This symposium will showcase cutting-edge research, development, and field deployment of chemical, biological/genetic, and digital tools designed to sustainably manage diverse pests. Presentations will explore novel control technologies that develop from cutting edge research in chemical development. We will also highlight current approaches that utilize AI/machine learning to advance the state of pest control.

Suggested Topics

- Novel chemical control tools
- Spatial repellents and spatial deterrents
- Biological control, gene-based or genetic strategies
- Novel approaches to insecticide-resistance management
- Repurposing chemistries for new vector or pest control systems
- Artificial intelligence/machine learning strategies
- Field application/validation of novel tools and strategies
- Sensor systems, automated trapping, and smart surveillance networks

For further information, contact the organizers

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Applications of Machine Learning and Large Language Models in Pesticide Safety Assessments

Purpose of Symposium

Pesticide exposure risk assessments have historically relied upon physical process-based models to quantify how ranges of environmental variables and anthropogenic factors impact pesticide fate and transport and resulting risk to non-target organisms. Machine learning (ML) models are a rapidly expanding approach to evaluating complex relationships between predictor variables and outcomes in environmental science applications. This has been driven by both the growing availability of large-volume spatial/temporal environmental datasets and more accessible computational resources needed to develop these models. Experimental ML models are now being developed to address a range of subjects relevant to pesticide exposure risk assessments and have the potential to increase both efficiency and accuracy of these assessments in the future.

This symposium will provide an important forum to share and discuss the latest research and applications of ML models in pesticide exposure and risk assessment science, including the potential for practical applications in the pesticide registration process. Scientists with interest and experience in ML model development for environmental applications, in addition to pesticide exposure and risk assessment, are encouraged to participate.

Suggested Topics

- Development of ML models to predict pesticide exposure from runoff, leaching, spray drift, and volatilization processes
- Comparing ML modeling performance across different ML methods
- Incorporating spatial data in ML model development and applications
- Comparing ML model performance and efficiency to physical process-based models
- Integrating physical process-based and ML models to improve pesticide exposure and risk assessment predictions
- Development of AI agents and/or use of LLMs to aid visualization and integration of pesticide exposure data to support regulatory risk assessment and mitigation
- Development of ML-based non-target species effects models
- Identifying barriers and advantages to ML model adoption in the pesticide registration process
- Application of ML approaches for validation or uncertainty quantification to meet regulatory acceptance standards
- Development of ML models for dietary and residential exposure assessment

For further information, contact the organizers

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Artificial Intelligence for Improved Risk Assessment and Registration Efficiency

Purpose of Symposium

Artificial intelligence (AI) and machine learning (ML) are transforming how we innovate, analyze, and make decisions across industries, including agriculture. Today, AI is integrated into both personal and professional spheres, with adoption accelerating rapidly across industries. From molecule discovery to regulatory strategy, AI/ML tools are reshaping how we generate insights, streamline workflows, and improve outcomes. This symposium will showcase how AI and digital technologies are advancing risk assessment and improving registration efficiency for agrochemicals and biotechnology products. It will highlight applications across the product lifecycle—from discovery to post-registration—emphasizing how AI/ML can accelerate innovation, optimize study design, and support regulatory decision-making.

Key outcomes include strategies for accelerating innovation through AI-powered insights, leveraging predictive AI/ML tools to optimize study planning, and streamlining regulatory processes through automation and machine-readable templates. We will also discuss best practices and guardrails to enable innovation while ensuring safety and compliance.

The symposium invites participation from scientists and regulators from government agencies, experts from the agricultural and technology sectors, and researchers from academic institutions. Members from other ACS Divisions—such as CINF, AGFD, and ENVR—are also welcomed to join.

Suggested Topics

- **Accelerating Discovery**: Examples of AI/ML-powered insights driving breakthroughs in agrochemical and biotech discovery (e.g. target-driven discovery, in silico molecule design, and genomic prediction models)
- **Smart Study Design**: Predictive AI/ML tools optimizing study planning, minimizing redundant experiments, and enabling faster, science-based decisions.
- **Data Standardization and Governance**: Initiatives to harmonize data formats and report templates, improving searchability, interoperability and machine readability.
- **Knowledge Extraction**: Case studies that demonstrate how AI/ML-enabled classification, summarization, or codification of complex data can support data-driven regulatory decision-making.
- **Document Automation**: Case studies showcasing AI/ML-assisted creation of high-quality regulatory documents (e.g., study protocols, technical reports, summaries).
- **Decision Support**: Applications of AI/ML for extracting insights from regulatory documents, guidelines, literature, and real-world data to inform strategic choices.
- **Reliable and Ethical Deployment**: Guardrails and best practices for scientifically rigorous, ethical, secure, and accountable use of AI/ML in agricultural contexts.

For further information, contact the organizers

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Leah Riter, Bayer CropScience, 314-452-3771, leah.riter@bayer.com
Invited EPA co-organizer, TBD

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Call for Papers

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Approaches to Pest Management from Small Companies

Purpose of Symposium

Due to consolidation over the past few decades, the majority of pesticide discovery is now concentrated in only a few large companies that remain largely focused on traditional pesticide discovery approaches. Pests are rapidly evolving resistance to many of the currently available pesticides, and pesticides with new modes of action are badly needed for resistance management. Numerous small companies with new approaches to and products for pest management have been started to meet the growing need for novel approaches and products for pest management. The intent of this symposium is to bring together speakers from these small companies to describe their approaches and new products.

These presentations should be of broad interest to anyone interested in the future of pest management. Those participating in this symposium will benefit from meeting and interacting with a critical mass of scientists with similar objectives from other small companies. Some of these presentations should be of interest to ENVR members.

Suggested Topics

- New microbial biopesticides
- Novel plant extracts
- Peptides as biopesticides
- PROTAC for pest management
- RNAi for pest management
- New approaches to chemical pesticide discovery
- Use of AI in pesticide discovery
- Biocontrol with genetically modified organisms
- Targeting protein/protein interactions
- Any other new technologies being developed for pest management

For further information, contact the organizers

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Call for Papers

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Early- and Mid-Career Investigator Award Symposium

Purpose of Symposium

This symposium is designed to support, engage, and recognize AGRO professionals in the early- and mid-stages of their careers. Early-career scientists are defined as individuals who are no more than 10 years from graduate school or a post-doctoral appointment, currently working in a non-academic setting, and demonstrating significant accomplishments and outstanding promise for future contributions to agricultural science. Mid-career scientists are defined as those more than 10 years beyond graduate school or post-doctoral training and are currently researchers in a non-academic environment (e.g. industry, government or non-profit laboratories) who have demonstrated sustained excellence in agricultural science. Awardees are selected by the Early-Career and Mid-Career Investigator Awards Committee from a pool of candidates nominated by their respective employers. Final approval is granted by the AGRO Executive Committee. This symposium (half- or full- day depending on the number of awardees), would be best held on Monday or Tuesday during the ACS Fall National Meeting.

Suggested Topics

- We encourage nominators to select candidates who are both excellent scientists and good communicators.
- To nominate a candidate for the Early-Career Investigator Award you would need to complete the online nomination form due February 11, 2026.
- To nominate a candidate for the Mid-Career Investigator Award you would need to complete the online nomination form due February 11, 2026.
- A single PDF will need to be submitted with documents in the following order: Nomination Letter on company letterhead, CV, and supplementary information (optional).
- Nominators must be members or affiliates of the ACS AGRO Division.

For further information, contact the organizers

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Environmental Fate, Transport, and Modeling of Agriculturally Related Chemicals

Purpose of Symposium

Accurate risk assessment of pesticides and agriculturally related chemicals depends on precise measurement and prediction of their environmental distribution and fate. Variability in spatial and temporal factors, interactions among fate processes, cultural practices, and climate change all complicate these assessments. This symposium aims to advance understanding and highlight research needs in this area, improving the regulatory value of pesticide exposure and risk evaluations.

We invite presentations of original research, case studies, and literature reviews on these and related topics. Scientists and regulators involved in pesticide exposure assessment, modeling, and fate evaluation are encouraged to participate. ACS divisions such as ANYL, ENVR, and AGFD may also benefit from participating.

Suggested Topics

- Relating laboratory and field fate measurements
- Interpretation of environmental monitoring studies
- Innovative designs for laboratory and field fate studies
- Investigating bioavailability and bound residues
- Advanced kinetic modeling of degradation pathways
- Regulatory utility of fate, monitoring, and modeling data
- Assessing the effectiveness of exposure mitigations
- Evaluating environmental exposure from precision agriculture technologies
- Elucidation of degradation or transport mechanisms
- Applying geospatial methods to fate and exposure assessments

For further information, contact the organizers

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Innovation in Crop Protection: New Active Ingredients (2023-2025)

Purpose of Symposium

This symposium will contain presentations focused on the discovery and development of agrochemical active ingredients receiving ISO names between 2023 and 2025. Presentations will focus on topics ranging from initial preparation and biological characterization to advanced formulation and process development. Discussions around the influence of global market trends and policy evolution on new product development will also be encouraged. Finally, both small-molecule and biological solutions are considered in scope for this symposium.

Professional agroscientists, academic researchers, postdocs and graduate students will benefit from learning more about the strategic perspectives and tactical approaches employed during the R&D phases of crop protection development.

Suggested Topics

Research related to new agrochemical active ingredients, including:

- Discovery phase synthesis and biological characterization.
- Mode-of-action elucidation studies.
- Formulation development.
- Process and manufacturing research.
- Regulatory characterization and derisking strategies.
- Small molecule / biological product development.
- Market trend analyses.

For further information, contact the organizer

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Peptides II: New Tools in Crop Protection

Purpose of Symposium

Historically, peptides have had a role in inducing plant immune response for indirect antimicrobial and insecticidal protection. Recently, research and commercial activity on non-plant-encoded peptides have emerged with direct antimicrobial, antifungal and insecticidal efficacy. These active ingredients have excellent environmental and toxicological profiles. The symposium will highlight some of the leading examples in this emergent field.

Suggested Topics

- Antibacterial peptides
- Antifungal peptides
- Insecticidal peptides
- Manufacturing of peptides
- Mode of action of peptides

For further information, contact

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Pesticide Science, Regulation and Global Trade: Bridging Gaps for Residue Regulatory Compliance

Purpose of Symposium

Global food trade faces increasing complexity as pesticide residue regulations and deferral policies diverge across markets, creating significant challenges for both crop protection developers, farmers, and food industry stakeholders. This symposium brings together regulatory scientists, industry professionals, and trade experts to address the practical hurdles that emerge when scientific data must satisfy diverse regulatory compliance frameworks.

Participants will explore real-world scenarios where maximum residue limits (MRLs) vary dramatically or are missing between regions. They will examine the complexities of minor use registrations and processing factors and discuss innovative tools for compliance management. The focus will be on actionable solutions from national governments, growers, and international organizations on how pesticide companies and the food industry navigate conflicting requirements while maintaining product safety and market access.

Key focus will be on leveraging existing regulatory tools, understanding the science behind MRL setting, impact of deferral policies for missing MRL, and developing strategies for efficient global compliance programs. Rather than theoretical discussions, this symposium prioritizes practical insights from professionals who daily manage these challenges.

The goal is greater collaboration between pesticide developers, farmers and food industry stakeholders, creating pathways for more efficient, science-based approaches to global residue compliance that protect both consumer safety and international trade. Other divisions that might be interested in this session: ANYL, ENVR, and AGFD.

Suggested Topics

- Divergent MRL standards and deferral policies across major trading regions and their trade impacts
- Risk-based approaches and emerging trends in MRL setting
- Bridging regulatory data requirements for global submissions
- Registration strategies and compliance solutions for niche agricultural products
- How growers select pesticides based on export market MRL requirements
- How food processing affects residue levels and regulatory compliance
- Real-world examples of managing different MRL standards and missing-MRL across markets
- Technology solutions for tracking and managing residue compliance
- Successful partnerships between regulators, industry, and growers

For further information, contact the organizers

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Precision Application of Agricultural Pesticides in the Digital Age

Purpose of Symposium

As global challenges related to societal health, environmental sustainability, and economic viability intensify, the precision application of pesticides is emerging as a crucial option in modern agriculture for farmers. This methodology, a subset of Precision Agriculture, harnesses location-specific information to optimize agricultural practices, yielding improved productivity, profitability, and sustainability while minimizing adverse effects.

Precision application encompasses a range of methods—including targeted, spot, patch, and banded treatments—as well as advanced techniques for the real-time identification of pests and crop needs, and increasingly utilizes digital approaches. The essence of these approaches is their ability to quickly recommend how to deliver the appropriate product at the optimal time, in the precise amount, and in the most effective location using data with the appropriate equipment. This strategy not only enhances the efficiency of herbicides, fungicides, and insecticides but also supports better stewardship of our environmental resources.

This symposium seeks to highlight the interdisciplinary nature of precision application, welcoming contributions that blend expertise in equipment engineering, biology, pesticide and formulation science, software and data systems, and economic analysis.

Suggested Topics

Equipment manufacturers

- Current technology overview of precision application devices and systems
- Key equipment technology criteria that determine performance outcomes of precision application systems

Economic Experts

- Obstacles, opportunities, and approaches for grower adoption and training of precision application approaches

Weed, Phytopathology, and Entomology Experts and Environmental and Human Safety Experts

- Data needs, methodology, and evaluation with respect to pesticide efficacy, off-target movement, operator exposure, etc. in precision application systems
- Data supporting societal and environmental benefits of precision application approaches

Pesticide and Formulation Manufacturers

- Considerations for chemistry and formulation research and development tailored for precision application
- Regulatory aspects including risk assessment and mitigation possibilities for incorporating precision application into policies and label language (for example the Sustainable Use Regulation and the Endangered Species Act)

Data and Information Technology Experts

- Data-driven approaches, including software and governance, supporting and linking to precision application (e.g. Farm Management Information Systems, Data Models, Digital Labels, Data Layer Integration, etc.)

For further information, contact the organizers

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Pollinator Risk Assessment Methods and Data Analysis Approaches in a Tiered Risk Assessment System

Purpose of Symposium

Two years ago, the European Food Safety Authority (EFSA) issued updated pesticide risk assessment guidance for pollinators. Other jurisdictions such as the US Environmental Protection Agency (USEPA), Canadian Pest Management Regulatory Agency (PMRA), and others are continually updating and advancing their pollinator risk assessment methods and guidance. Significant changes in the EFSA guidance include adding a distinct screening phase and separate effects and exposure tracks in the tiered risk assessment process. Test methods and models for pollinators other than honey bees are also being developed by the OECD, USEPA, and EFSA. In parallel, academic researchers have published many nonstandard methods, which have the potential to be relevant to the risk assessment process for pollinators in the future.

The purpose of this symposium is to explore evolving test methods, models, and data analysis techniques that could contribute to the pollinator risk assessment process globally. The focus will be on different life stages of honey bees, bumblebees, and solitary bee species.

Other ACS Divisions that might be interested include ANYL and ENVR.

Suggested Topics

- An overview of current data requirements, test methods, models, and the current tiered approach
- Method development initiatives by the OECD, USEPA, EFSA, and others
- Approaches to testing bee species other than honey bees and bumblebees
- Experience with existing methods including problems and solutions
- Extrapolation to untested species
- Identification of critical representative pollinator species with unique physiologies or life histories in agro-ecosystems
- Extending assessments to the landscape spatial scale

For further information, contact the organizers

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Protection of Agricultural Productivity, Public Health, and the Environment (General Oral and Poster Sessions)

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 Oral and Poster Sessions therefore allow our members and other scientists to submit papers even though a specific symposium topic is not offered.

Every attempt will be made to group papers on similar topics into “mini-symposia” within these sessions.

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
- Biorational 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
- 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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Residue Analytical and Radio-labelled Metabolism Studies: Innovations and Applications

Purpose of Symposium

Residue analytical and radio-labelled metabolism studies remain central to understanding the behavior, safety, and regulation of agrochemicals. As global expectations evolve, industry faces increasing challenges in designing scientifically rigorous and cost-effective studies. This symposium will explore innovative approaches to analytical method development and radio-labelled metabolism studies that accelerate the advancement of agrochemical products.

The conduct of regulatory studies (e.g., nature and magnitude of the residue, environmental fate with radiolabeled test items, and analytical methods for residue analysis) has become increasingly complex as global safety requirements continue to evolve for both consumer and environmental safety assessments. This symposium will foster dialogue on innovative approaches to method development, guideline interpretation, and study design that promotes high-quality, cost-effective and globally aligned research.

Representatives from industry, CROs, academia, and government are invited to share their perspectives on emerging technologies, analytical method development, validation strategies, and collaborative solutions. Other ACS divisions that may benefit from this symposium include Analytical, Environmental, and AGFD. These discussions aim to initiate dialogue across scientific and regulatory communities to ensure the next generation of residue and metabolism studies continue to meet the highest standards of quality, efficiency, and global alignment.

Suggested Topics

- Streamlining method development using automation, new technologies, workflow optimization, and digital chromatography for high-throughput analysis.
- Emerging technologies in residue analytical methods (i.e., Selex Ion, HRMS, Dart MS/MS, and FIA) to enhance sensitivity, speed, and method robustness.
- Multi-residue methods for residue analysis: advantages, limitations and regulatory considerations.
- Extraction efficiency testing for residue methods: approaches and regulatory expectations.
- Fumigants: analytical and metabolism challenges.
- Designing radiolabeled studies for global regulatory compliance: design considerations and best practices.
- Stereoisomers in metabolism studies: analytical characterization and regulatory relevance.
- Non-extractable residues (NERs): detection, characterization, and regulatory relevance.
- Uptake and translocation of crop protection products.
- Conjugates formation, identification and characterization in metabolism studies.
- Approaches to method development for challenging matrices in animal and crop metabolism studies.
- Leveraging radiolabeled studies to develop residue methods for animal feeding and crop MOR studies.
- Data integrity and traceability: strengthening scientific accountability regulatory confidence.
- Global harmonization of regulatory guidelines: alignment of OECD, EPA and EFSA expectations.

For further information, contact the organizers

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January 5 – March 30, 2026

Call for Papers

ACS Fall 2026 Meeting

August 23 – 27, 2026

Chicago, Illinois, USA

State of the Art on Formulations: Colloid & Surfactant Science for Improved Delivery Systems in Conventional and Drone Applications

Purpose of Symposium

The symposium will focus on advancing formulation science across various industries by addressing current challenges and exploring innovative solutions to enhance product performance, stability, and sustainability. Topics include the design and development of formulations for traditional chemical active ingredients and newer biological solutions, with applications spanning pharmaceuticals, crop protection, personal care, and more.

The global challenge of maximizing active ingredient efficiency while minimizing environmental footprint demands a radical transformation in delivery technology. This symposium focuses on the critical interdisciplinary bridge between fundamental surface/colloid chemistry and advanced application engineering.

We invite researchers to present works on enhancing product performance and stability, ensuring biological efficacy, achieving net-zero formulation targets, and adapting to innovative application technologies like autonomous (drone) delivery systems.

The discussion will focus on the fundamental science required to develop the next generation of highly efficient, sustainable, and adaptive delivery platforms for pharmaceuticals, crop protection, personal care, and specialized industrial processes. We strongly encourage submissions from early-career researchers, post-docs, and established industrial scientists to ensure a diverse and dynamic program.

Suggested Topics

- **Nanotechnology and Advanced Delivery Systems:** Encapsulation, polymeric micelles, lipid nanoparticles, and self-assembly mechanisms for sustained or triggered release.
- **Fundamentals of Interfacial Science:** Rheology, wetting, spreading mechanisms, and stabilization of complex multi-component emulsions and suspensions.
- **Sustainable & Green Formulation Approaches:** Bio-based surfactants, solvent reduction, non-toxic alternatives, and life cycle analysis (LCA) integration in formulation design.
- **Digitalization and Predictive Modeling:** Use of AI/ML, computational fluid dynamics (CFD), and high-throughput screening for accelerated formulation R&D.
- **Innovative Application Technologies (Autonomous Delivery):** Formulation stability under high shear, adaptation for drone and micro-dosing spray systems, and fundamental studies on droplet formation and impaction dynamics.
- **Offsite Drift Mitigation:** Strategies and chemical solutions for reducing volatility, droplet atomization control, and improving deposition efficiency.

For further information, contact the organizers

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Stereoisomers: Regulatory Strategies and Technical Advances

Purpose of Symposium

The development of safe and effective plant protection products (PPPs) has become increasingly challenging due to evolving regulatory requirements and scientific complexities. Recent guidance from EFSA addresses the risk assessments of PPP active substances that contain stereoisomers – either as components, impurities, metabolites or transformation products.

This symposium will provide a platform to discuss regulatory strategies for analytical methods, data generation and risk assessments approaches for PPP active substances, impurities and transformation products that contain stereoisomers.

In addition, the symposium will highlight analytical methods and technologies for the identification and quantification of actives, impurities, and transformation products in formulations, as well as in plant, animal, and environmental samples. Special emphasis will be placed on the techniques for the separations of stereoisomers (diastereomers and optical isomers) by chromatography or other advanced separation techniques.

This symposium will primarily benefit members of the AGRO division and may also be of interest to participants from the Analytical Chemistry (ANYL) and Environmental Chemistry (ENVR) divisions.

Suggested Topics

- Regulatory strategies for analytical methods, data generation and risk assessments of plant protection product (PPP) active substances, or impurities, or transformation products that contain stereoisomers, data generation, and assessments
- Chiral separation technologies for agrochemical actives, impurities, and transformation products
- Advances in analytical technologies for separation of stereoisomers (small molecules)
- High-throughput analysis of chiral compounds (small molecules) at trace levels
- Proposals or examples of how to conduct risk assessment of stereoisomeric residues
- Case studies where stereoisomers were evaluated

For further information, contact the organizers

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Unmanned Aerial Systems (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 in technical and regulatory areas associated with the use of unmanned aerial systems (UASs, 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 and exchange of latest developments among academic, industry, and government experts. It will enhance understanding of UAS 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 ACS divisions such as Environmental Chemistry (ENVR) and Analytical Chemistry (ANYL).

Suggested Topics

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

For further information, contact the organizers

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