ASABE AIM – NEW ORLEANS
July 18-21, 2027

TECHNICAL SESSION SCHEDULE

Below, are the expected guest, panel, and hybrid technical sessions that will be scheduled at AIM 2027. A complete list of technical sessions will be published once the submission portal has closed and authors have been notified in mid-March. Submitted presentations are what create the session topics that will be discussed at AIM. Submit through January 13 to shape what AIM 2027 will become.

This list is subject to change. Updated on November 18, 2026.

YPC Career Panel

Technical Community: ASABE Special Interest
Session Type: Panel
Description: The career panel will center around a variety of career options including academia, government, and industry that students and young professionals may consider when entering the job market.
Session Organizer: Tuyi Olowoyeye, tuyi.olowoyeye@ag.tamu.edu
Co-Sponsoring Community:

Silvopasture and Grazing Technologies-HYBRID

Technical Community: ASE - Applied Science & Engineering
Session Type: Hybrid
Description: Overlap between forest engineering and animal production systems with invited speakers to present on development of livestock use in forest biomass management, remote technologies for tracking and management of grazing, grazing on national forest leases, stock water management systems, and similar topics.
Session Organizer: Suzanne Leonard, smleonard7@gmail.com
Co-Sponsoring Community: PAFS - Plant, Animal, & Facility Systems

Regional Silviculture Processes and Products-HYBRID

Technical Community: ASE - Applied Science & Engineering
Session Type: Hybrid
Description: Types of forestry and wood-based products from different regions of the U.S. with invited speakers to present on regionally important tree species and recent developments in the local forestry industry.
Session Organizer: Carolyn Jones, carolyn.jones@usda.gov
Co-Sponsoring Community: ES - Energy Systems

Circularity in Practice: Applied Bioeconomy Solutions-PANEL

Technical Community: CBSI - Circular Bioecomony Systems Institute
Session Type: Panel
Description: This session highlights the real-world deployment, integration, and scaling of circular bioeconomy systems. Industry leaders, agricultural networks, and applied researchers will share case studies detailing how resource recovery, waste valorization, and bio-based systems operate in production environments.

Speakers will address the practical realities of implementation, such as navigating feedstock variability, supply chain integration, regulatory frameworks, and economic payback. Following the presentation of applied case studies, a moderated panel discussion will explore the key friction points and operational strategies necessary to translate circular bioeconomy concepts into resilient, commercially viable solutions.

Session Organizer: Alicia Modenbach, alicia.modenbach@uky.edu
Co-Sponsoring Community:

Foster Collaboration on Current Ag-Engineering Trends in Korea & the U.S.-HYBRID

Technical Community: E-2050 - Global Engagement
Session Type: Hybrid
Description: This session aims to explore current technological trends in agricultural and biological engineering while identifying career opportunities in both the U.S. and Korea. It is designed to foster collaboration between agricultural and biological engineers in the U.S. and Korea, as well as promote international partnerships between Korean and other countries.
Session Organizer: Anjin Chang, changanj@msu.edu
Co-Sponsoring Community: E-2050 - Global Engagement

AOCABFE Exchange Forum: AI-Driven Research and Technology Transfer-GUEST

Technical Community: E-2050 - Global Engagement
Session Type: Guest Speaker
Description: This session recognizes the academic and research achievements of its members and supports ABE researchers through invited talks and Q&A sessions on AI-driven research, collaboration, career development, technology transfer, and entrepreneurship.
Session Organizer: Lirong Xiang, lxiang@cornell.edu
Co-Sponsoring Community: ASE - Applied Science & Engineering

Beyond the Code: Ethical Reasoning for 21st-Century Engineering with AI-PANEL

Technical Community: EOPD - Education, Outreach, & Professional Development
Session Type: Panel
Description: What happens when technology moves faster than our ethical guideposts? An invited ethicist will open this interactive session with practical frameworks for thinking through the difficult questions raised by emerging technologies. An engineer and engineering educator will then join the conversation, bringing perspectives from practice and education. Together with participants, they will explore how engineers can move beyond simply following a code to asking harder questions about what we can do, what we should do, and who might be affected.
Session Organizer: Deepak Keshwani, deepak.keshwani@usu.edu
Co-Sponsoring Community: ASABE Special Interest; ESH

Translating Innovative Instruction into Scholarship-PANEL

Technical Community: EOPD - Education, Outreach, & Professional Development
Session Type: Panel
Description: A panel discussion exploring how innovative instructional practices can be transformed into meaningful research and scholarly work, including identifying research questions, evaluating instructional innovations, and disseminating findings.
Session Organizer: Dawn Dechand, dechand@msu.edu
Co-Sponsoring Community:

Strengthened Feedback Loops: Needs - Applied Research – Extension-HYBRID

Technical Community: EOPD - Education, Outreach, & Professional Development
Session Type: Hybrid

Description: This session will explore how research findings can be translated into effective Extension programs and how Extension activities can generate new research questions. Particular attention will be given to identifying public and stakeholder needs, converting those needs into applied research priorities, and using Extension outcomes to guide future investigations.

Session Organizer: Rick Stowell, rstowell2@unl.edu

Co-Sponsoring Community:

Celebrating Excellence in Extension: Insights from Blue Ribbon Award-Winning Extension Professionals-GUEST

Technical Community: EOPD - Education, Outreach, & Professional Development

Session Type: Guest Speaker

Description: The ASABE Educational Aids Blue Ribbon Award has three categories:

(1) Publications (Short, Medium, Long, and Series),

(2) Electronic (Design or Decision Tools, Stand-Alone Electronic Media, Ongoing Communications, and Websites), and

(3) High-Impact Extension Methods.

This invited session will feature recipients of the award across these categories. These recognized leaders have demonstrated outstanding contributions to outreach, education, engagement, and community impact in the field of agricultural and biological engineering. Their presentations will provide an opportunity for students and early-career Extension faculty to learn about different approaches and strategies for developing and conducting Extension programs, evaluating program outcomes, and expanding impacts from local to regional scales.

Session Organizer: Asmita Murumkar, murumkar.1@osu.edu

Co-Sponsoring Community:

Integrated Energy and Hydrogen Systems-HYBRID

Technical Community: ES - Energy Systems

Session Type: Hybrid

Description: This session will focus on the integration of renewable power and hydrogen production systems.

Session Organizer: Jaya Tumuluru, jayashankar.tumuluru@usda.gov

Co-Sponsoring Community: ASE - Applied Science & Engineering

Ag Machinery Visibility, Human Presence Detection, and Emerging Safety Challenges-HYBRID

Technical Community: ESH - Ergonomics, Safety & Health

Session Type: Hybrid

Description: This session explores the evolving landscape of agricultural machinery safety with a focus on visibility, human-presence detection, and the shifting patterns of injury risk across modern farm operations. As machinery grows larger, more autonomous, and more frequently operated in mixed-traffic environments, the ability to detect people, enhance operator awareness, and prevent roadway conflicts has become central to injury prevention.

Session Organizer: Salah Issa, salah01@illinois.edu

Co-Sponsoring Community: MS - Machinery Systems

Product Liability and the Role of Engineering in Resolving Civil Matters-HYBRID

Technical Community: ESH - Ergonomics, Safety & Health

Session Type: Hybrid

Description: This session examines how engineering principles, design practices, and technical analysis shape the resolution of product-liability disputes in civil law. When injuries or failures occur, engineers play a critical role in determining whether a product met accepted design standards, whether hazards were reasonably foreseeable, and how warnings, guarding, or alternative designs might have influenced the outcome.

Session Organizer: Salah Issa, salah01@illinois.edu

Co-Sponsoring Community: MS - Machinery Systems

Simulation and AI-aided Analysis, Design, and Optimization-HYBRID

Technical Community: ITSC - Information Technology, Sensors & Control Systems

Session Type: Hybrid

Description: This session focuses on the appropriate use of computational methods to gain insights to problems in agricultural and biological engineering. Submissions are welcome from any topic but should be methods-focused as opposed to topic-focused.

Session Organizer: Haruka Tomobe, tomobeharuka@mail.saitama-u.ac.jp

Co-Sponsoring Community: ASE - Applied Science & Engineering

Digital Twins, DEM, CFD, and other Computational Methods in Agriculture-HYBRID

Technical Community: ITSC - Information Technology, Sensors & Control Systems

Session Type: Hybrid

Description: This session focuses on the appropriate use of computational methods such as computational fluid dynamics (CFD), discrete-element modeling (DEM), digital twins, and other computationally-focused research. Submissions from any topic are welcomed but should focus on computational methodology.

Session Organizer: Chris Choi, cchoi22@wisc.edu

Co-Sponsoring Community: ASE - Applied Science & Engineering

Science and Practice of Ecological Engineering-GUEST

Technical Community: NRES - Natural Resources & Environmental Systems

Session Type: Guest Speaker

Description: Ecological engineering integrates ecological principles with engineering design to develop sustainable solutions that support both human and natural systems. This session aims to bring together researchers, practitioners, policymakers, and industry professionals to explore how ecological engineering science can inform practical, scalable solutions that address contemporary environmental challenges while enhancing ecosystem function and human well-being.

Session Organizer: David Blersch, dmb0040@auburn.edu

Co-Sponsoring Community: CBSI - Circular Bioecomony Systems Institute

Wetland and Stream Creation and Restoration: Successes & Challenges-HYBRID

Technical Community: NRES - Natural Resources & Environmental Systems

Session Type: Hybrid

Description: As communities invest in restoring wetlands and stream systems to improve stability, water quality, enhance habitat, reduce flooding, and build resilience, valuable lessons are continuously uncovered from projects of all sizes and settings. This session brings together restoration and design professionals with academics from across the country to connect real-world experiences, successes, challenges, and innovative solutions. Presentations from this session will contribute to enhancing planning, design, permitting, construction, and long-term monitoring of projects.

Session Organizer: Kira Hansen, kira.hansen@kimley-horn.com
Co-Sponsoring Community:

Developments and applications of the Water - Energy - Food - Health Nexus-HYBRID

Technical Community: NRES - Natural Resources & Environmental Systems
Session Type: Hybrid
Description: The session includes a combination of invited and contributed talks. It addresses framing, modeling and applications of the water-energy-food-health nexus. Regional and thematic applications are welcome addressing various scales of regional and national as well as food, water, energy and health systems.
Session Organizer: Rabi Mohtar, mohtar@tamu.edu
Co-Sponsoring Community:

Bridging Research and Extension in Natural Resources and Environmental Systems-HYBRID

Technical Community: NRES - Natural Resources & Environmental Systems
Session Type: Hybrid
Description: Research and Extension are two critical pillars of the land-grant mission, alongside education. While both play pivotal roles in advancing societal well-being, conference presentations in natural resources and environmental systems often highlight research findings without explicitly connecting them to translational applications and Extension. Although research is ultimately intended to generate societal benefits, discussing research primarily within the research community without demonstrating how findings are translated into practice can make research appear disconnected from the communities it is intended to serve. Extension provides an important bridge between research and stakeholders by translating research findings into evidence-based applications. At the same time, Extension specialists and agents work directly with stakeholders and can identify emerging needs that inform research priorities, creating an iterative relationship between research and practice.

We propose a HYBRID session that will serve as a springboard to bring the research and Extension communities together to demonstrate how research can generate tangible impacts through Extension. The session will feature integrated Research and Extension presentations that connect research objectives, findings, and Extension applications, and illustrate how stakeholder needs and Extension activities can inform research iteratively. We also envision developing a collection of articles based on the session to further highlight the interconnected roles of research and Extension and share examples of how these two pillars can work together to enhance the translation and impact of research.
Session Organizer: Debabrata Sahoo, dsahoo@clemson.edu
Co-Sponsoring Community: EOPD - Education, Outreach, & Professional Development

Advancing Hydrologic and Water Quality Modeling Best Practices-HYBRID

Technical Community: NRES - Natural Resources & Environmental Systems
Session Type: Hybrid
Description: This session will explore emerging approaches and best practices for the calibration, validation, and evaluation of hydrologic and water quality models. Presentations will highlight advances in model performance evaluation, uncertainty analysis, data use, reproducibility, and communication of model results. The session will help identify opportunities to modernize guidance provided in ASABE EP621 and inform its upcoming revision.
Session Organizer: Becca Muenich, rlogsdo@uark.edu
Co-Sponsoring Community:

Next-Generation Irrigation: Remote Sensing, AI, and Smart Water Management-HYBRID

Technical Community: NRES - Natural Resources & Environmental Systems

Session Type: Hybrid

Description: Advances in remote sensing, artificial intelligence, field sensing, and data-driven modeling are creating new opportunities to improve irrigation management and agricultural water-use efficiency. This session will highlight emerging approaches that integrate satellite and UAS observations, in-situ sensors, evapotranspiration measurements, crop and soil-water models, machine learning, and decision-support tools for precision irrigation. Presentations may address irrigation scheduling, crop water-use estimation, water-stress detection, sensor integration, automation, variable-rate irrigation, digital agriculture, and operational decision support. Particular emphasis will be placed on methods that translate multi-source data into practical irrigation decisions at field and farm scales. The session will bring together researchers, engineers, and practitioners to discuss recent advances, implementation challenges, validation needs, and opportunities for developing scalable and robust smart irrigation systems under increasing water scarcity and climate variability.

Session Organizer: Srinivasa Rao Peddinti, speddinti@ucdavsi.edu

Co-Sponsoring Community:

Applications of PYFAO56 for Improved Water use Computation and Irrigation Scheduling-GUEST

Technical Community: NRES - Natural Resources & Environmental Systems

Session Type: Guest Speaker

Description: The session will feature presentations on the use of pyfao56 for improved water management, focusing on activities of US irrigation extension specialists and researchers. We anticipate 4-5 invited speakers.

Session Organizer: Kelly Thorp, kelly.thorp@usda.gov

Co-Sponsoring Community:

Two-Source Energy Balance (TSEB) Model: Applications in Agriculture and Water Resources-HYBRID

Technical Community: NRES - Natural Resources & Environmental Systems

Session Type: Hybrid

Description: This session aims to unite the growing community of researchers and practitioners using the Two-Source Energy Balance (TSEB) model. Contributions are invited on novel methodologies, operational applications, and case studies leveraging ground-based, airborne, and satellite observations to estimate energy fluxes, evapotranspiration, and plant water stress across diverse landscapes, cropping systems, and management conditions. The session will foster discussion on recent advances, implementation challenges, and emerging opportunities for TSEB applications. (3 guest speakers, depending on the amount of time allocated to the session)

Session Organizer: Alfonso Torres-Rua, alfonso.torres@usu.edu

Co-Sponsoring Community:

Irrigation and Agricultural Water Management in the Lower Mississippi River Basin and Southeast-HYBRID

Technical Community: NRES - Natural Resources & Environmental Systems

Session Type: Hybrid

Description: Irrigated agriculture is expanding and evolving across the Lower Mississippi River Basin and the Southeast, driven by increasingly variable rainfall, production risk management, crop diversification, and advances in irrigation technology. At the same time, the region faces important questions about groundwater and surface-water availability, irrigation-system performance, drainage and water-quality interactions, energy use, farm profitability,

and resilience to droughts and extreme rainfall. This session will highlight research, engineering applications, and producer-focused innovations relevant to irrigation development and management in the region. Topics may include trends in irrigated acreage; groundwater and surface-water resources; on-farm storage, tailwater recovery, and managed aquifer recharge; irrigation scheduling and sensor-based decision support; precision irrigation and automation; center pivots, subsurface drip, and furrow-irrigation improvements; drainage-water management; conservation practices; nutrient and sediment reduction; and the economic and policy conditions shaping adoption. Contributions that connect irrigation to whole-farm water management, including drainage, water quality, and climate resilience, are especially encouraged.

Session Organizer: Kendall DeJonge, kendall.dejonge@usda.gov
Co-Sponsoring Community:

NRES Distinguished Lecture Series-GUEST

Technical Community: NRES - Natural Resources & Environmental Systems
Session Type: Guest Speaker
Description:
Session Organizer: Tiffany Messer, Tiffany.Messer@uky.edu
Co-Sponsoring Community:

NextGen Watershed Management Synergies-HYBRID

Technical Community: NRES - Natural Resources & Environmental Systems
Session Type: Hybrid
Description: NextGen Watershed Management Synergies explores how emerging technologies, interdisciplinary science, and collaborative decision-making can transform the way watersheds are monitored, modeled, restored, and managed. The session will highlight integrated approaches that connect field observations, remote sensing, sensor networks, hydrologic and water-quality models, artificial intelligence, digital decision-support tools, and conservation practices to address complex watershed challenges. Contributions are encouraged that demonstrate how these tools can improve understanding of water quantity and quality, nutrient and sediment transport, climate and land-use impacts, agricultural water management, flood and drought resilience, and ecosystem health. The session also welcomes studies that bridge research and practice through stakeholder engagement, adaptive management, and scalable solutions. Particular emphasis will be placed on synergies across disciplines, datasets, technologies, and communities that move watershed science beyond isolated analyses toward coordinated, actionable, and resilient management strategies.

Session Organizer: Sushant Mehan, sushantmehan@gmail.com
Co-Sponsoring Community: ASABE Special Interest

Remote Estimation of Evapotranspiration in Natural and Agricultural Ecosystems-HYBRID

Technical Community: NRES - Natural Resources & Environmental Systems
Session Type: Hybrid
Description: Accurate estimation of evapotranspiration (ET) is essential for understanding hydrologic cycle and land-atmosphere interactions in both the natural and agricultural ecosystems. With a changing climate and growing pressure on water resources, ET estimation and mapping over broad spatial and temporal scales—validated with ground measurements and accompanied by uncertainty assessments—has become a rapidly growing area of applied research. Remotely sensed ET data offers significant potential to support datadriven approaches for sustainable water management, especially in regions where in-situ

ET observations are scarce or unavailable. Recent advances in high-resolution spatial and temporal datasets such as remotely sensed ET products like LandSat, MODIS ET, Open-ET, and ECOSTRESS ET, and ground ET data from AMERIFLUX sites present new opportunities to enhance ET model parameterization and predictions. Other advancements in image processing, such as image fusion, GeoAI supported geospatial model development, along with machine learning algorithms for modeling ET and its components will be critical for developing effective strategies to address emerging challenges in water resource management in the context of changing climate and land use.
We invite technical abstracts to this session focused but not limited to the above topic on applications/limitations of remote sensing approaches for estimating ET and its partitioned components and validation, where possible, and prediction uncertainties.
Session Organizer: Devendra Amatya, devendra.m.amatya@usda.gov
Co-Sponsoring Community:

R.S. Gates Memorial Lecture Series-GUEST

Technical Community: PAFS - Plant, Animal, & Facility Systems
Session Type: Guest Speaker
Description: Throughout his distinguished 40-year career as an agricultural engineer, Richard S. Gates, PhD, PE, ASABE Fellow, and recipient of the Henry Giese Structures and Environment Award, made an indelible impact. His pioneering work and innovative contributions significantly advanced plant and animal production systems engineering, leaving a profound legacy within the PAFS community. This memorial session honors Dr. Gates' life, career, and service by celebrating the contributions of others who continue to innovate and advance our profession.
Session Organizer: Hanwook Chung, hwchung@iastate.edu
Co-Sponsoring Community: ASABE Special Interest

Meeting Quality Challenges in the Export Channels of U.S. Corn, Soybeans, Rice, and Bioproducts-GUEST

Technical Community: PRS - Processing Systems
Session Type: Guest Speaker
Description: U.S. corn, soybeans, rice and bioproducts (including DDGS and SBM) face stiff competition especially from Brazil and Argentina in the global marketplace. For example, importing countries often buy U.S. corn as a last resort due in part to concerns over real and perceived quality issues such as high BCFM, fines and starch dust levels. Quality challenges also include consistency of coproduct nutrition value, head rice yield, and protein values in soybeans. Together with inconsistent U.S. tariff policies, rising transportation costs viz-a-viz Brazil and Argentina, and China's official government policy to become independent of U.S. soybean imports, U.S. exports of corn, soybeans, rice and bioproducts face serious quality and policy challenges in their respective export channels. Global food security and strong demand for animal source protein will continue to depend on the productivity of the American heartland. However, market preference for U.S. commodities in the near term will need to overcome real and perceived quality concerns especially with respect to handling, storage, and utilization for food, feed, and bioproducts. Invited industry and government experts will outline these concerns, present initiatives to counter the challenges, and together with session participants explore how engineers, technologists and scientists can contribute to solutions.
Session Organizer: Dirk Maier, dmaier@iastate.edu
Co-Sponsoring Community: PRS - Processing Systems

Advancing Poultry Processing through Robotics, Artificial Intelligence, and Intelligent Automation-GUEST

Technical Community: PRS - Processing Systems

Session Type: Guest Speaker

Description: The poultry industry is facing increasing pressure to improve productivity, enhance food safety, address workforce shortages, and maintain resilience in a rapidly evolving manufacturing environment. Emerging technologies such as robotics, artificial intelligence, machine vision, biosensing, and virtual reality offer unprecedented opportunities to transform poultry processing operations. The USDA-NIFA funded Center for Scalable and Intelligent Automation in Poultry Processing (CSIAPP) was established to develop intelligent, scalable automation solutions that enhance processing efficiency, food safety, and workforce sustainability while supporting industry adoption of advanced technologies.

This invited session will bring together leading researchers and collaborators involved in CSIAPP and related initiatives to showcase advances in robotic deboning, mobile robotic food safety monitoring, intelligent imaging systems for foreign material detection, virtual reality-enabled workforce development, and the social dimensions of introducing automation into food manufacturing systems. Speakers will highlight both technical innovations and practical implementation considerations that are shaping the future of poultry processing. The session will conclude with a panel discussion focused on industry adoption, future research needs, and opportunities for collaboration among academia, industry, and government stakeholders.

This session will be of interest to researchers, engineers, technology developers, poultry processors, and industry leaders working at the intersection of automation, food engineering, artificial intelligence, food safety, and manufacturing systems.

Session Organizer: Shubham Panigrahi, shubhampanigrahi69@gmail.com

Co-Sponsoring Community: PAFS - Plant, Animal, & Facility Systems