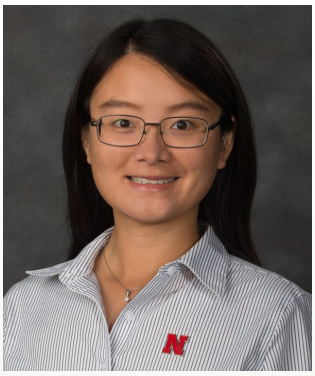
ASSOCIATION OF OVERSEAS CHINESE AGRICULTURAL, BIOLOGICAL AND FOOD ENGINEERS

VOLUME 25 ISSUE 2

JULY 11 , 2025

IMPACT

PRESIDENT'S REMARK



Greetings members of the Association of Overseas Chinese Agricultural, Biological, and Food Engineers!

Time flies! Many of you are likely preparing for or already traveling to the 2025 ASABE/CSABE Annual International Meeting, taking place next week in Toronto, Ontario, Canada. As always, AOC is excited to host a series of engaging activities at the conference.

One of the highlights is this year's legacy **China Exchange** session, scheduled for Monday afternoon from 2:30 to 5:00 PM at City Hall. We are honored to welcome an outstanding lineup of speakers:

—From China: Dean Yunkai Li (China Agricultural University) and Dean Ying Liu (Zhejiang University)

—From Canada: Dr. Ying Chen and Dr. Qiang Zhang (University of Manitoba)

—From the U.S.: Dr. Jikai Zhao (Kansas State University)

They will share their insights on international collaboration and career development pathways. We will also hold **a special tribute in memory of Professor Maohua Wang**, who passed away earlier this year. Information on memorial activities in China will be shared during the session.

Following the technical session, we invite all members to attend the **AOC Business Meeting** (5:00–6:00 PM in the same room), where our officers will share updates from the past year and welcome your ideas and feedback.

Afterward, we'll take a short 10-minute walk to a top-rated Chinese BBQ restaurant in nearby Chinatown for our annual **Awards and Social Banquet**. We'll celebrate our community by announcing student and faculty awards—and reconnecting with familiar faces and new friends alike. AOC officers have worked hard to organize these events, and we truly hope to see many of you there!

For those who are unable to attend this year's meeting due to visa or other challenges—we're thinking of you. Highlights and updates will be shared in our next issue of the IMPACT Newsletter.

In this issue, you'll also find:

Upcoming conferences in high-interest research areas across China, the U.S., and beyond

Open positions for graduate students and postdocs from our outstanding faculty

An inspiring interview with Dr. Ke Wang, Assistant Professor in Food Science at Cornell University, who shares her journey from international PhD student at UC Davis to the biopharma industry, and back to academia. Her job search tips are incredibly helpful!

We welcome your contributions—whether it's a job posting, conference announcement, or personal career story—for future issues.

All of these connections and efforts make AOC a thriving and vibrant community. It has been a true honor to serve you over the past year. I would like to extend my heartfelt thanks to the AOC Executive Board and SAC Team for their excellent work and support—and most importantly, to every AOC member. Your dedication is what keeps AOC active, impactful, and growing.

Warmest regards,

Yeyin Shi

AOC President (2024-2025)

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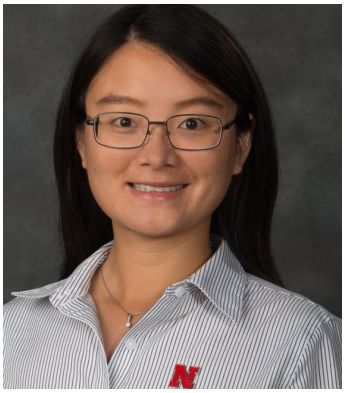
AOCABFE

AOC 2024-2025 Executive Board

CHAI, LILONG

University of Georgia

PAST-PRESIDENT



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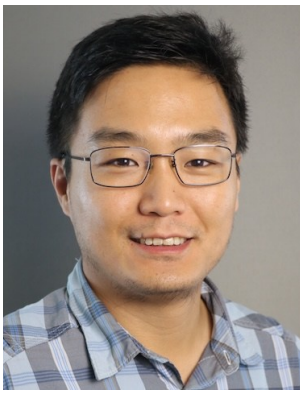

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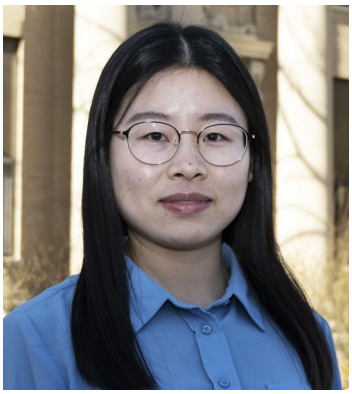
Li, Johnny (Liujun)

University of Idaho

MEMBER-AT-LARGE



LI, JIATING

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MEMBER-AT-LARGE

WANG, KE

Cornell University

MEMBER-AT-LARGE

HE, WEILONG

North Carolina State University

SAC PRESIDENT

2025 AOC Board Meeting Minutes

10:00-12:00 AM EST, May 30, 2025

Attendants: Johnny Li, Guoming Li, Lilong Chai, Weilong He, Chang Chen, Lirong Xiang, Ce Yang, Yin Bao, Yeyin Shi.

Scribed by: Lirong Xiang.

1. China Exchange (Lead: Yin Bao; Assist: Chang Chen, Yeyin Shi): Two speakers confirmed: Prof. Ying Liu (Zhejiang University) and Prof. Yunkai Li (China Agricultural University), with one presenting in Chinese and requiring translation. A memorial section will be included for Dr. Mao-hua Wang. Speaker information and session synopsis should be submitted to Jessica by June 2. Contact with Dr. Yin Chen (University of Manitoba) is also due by June 2. The finalized session agenda is due by June 30.
2. Banquet (Lead: Ce Yang; Assist: Yeyin Shi, Yin Bao, Weilong He, Wenhao, Yike): A restaurant for approximately 120 guests will be reserved. Final headcount and quote must be confirmed with Jessica by June 30.
3. Business Meeting (Lead: Yeyin Shi; Assist: Yin Bao, Ce Yang, Lirong Xiang): Topics include tax filing, China Exchange logistics, treasury update (Yu Jiang), and a hybrid format (online and in-person). Proposed time is Monday 11:00 AM or 4:00 PM. Agenda is due June 8; draft slides by June 30; final slides by July 8.
4. Awards (Leads: Johnny Li & Lilong Chai; Assist: Jiating Li, Frank Bai, Ke Wang, Weilong He): Awards will be given in five categories: Faculty, Academic Achievement, Paper, Presentation, and Leadership. Entry forms will be posted on WeChat and the AOC website by June 2. The deadline for submissions and reviewer identification is June 13. Reviews must be completed by June 27. Certificates and plaques will be ordered by June 30. Winners will be announced at the banquet. At least two reviewers will be recruited per award. A reviewer database will be built in the future.
5. SAC Support: Wenhao and Yike will assist with banquet arrangements.
6. Next Meeting: Scheduled for around June 30, 2025, likely as a brief update via WeChat or a short online meeting.

SAC 2024-2025 Executive Board

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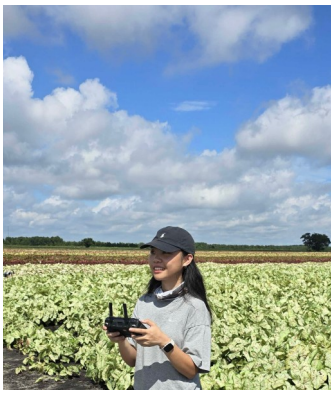
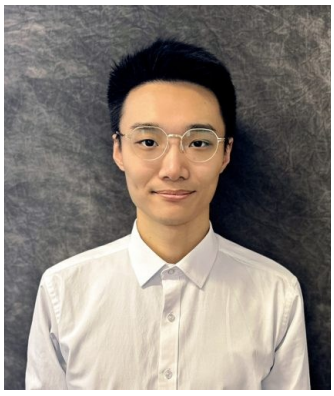


JI, LIYIKE

University of Florida

SECRETARY



LIU, XUAN

Iowa State University

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XIANG, ZHAOCHENG

University of Nebraska-Lincoln

SAC MEMBER-AT-LARGE

ZHANG, JUNXIAO

University of Nebraska-Lincoln

SAC MEMBER-AT-LARGE

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GUO, JIE

Zhejiang University

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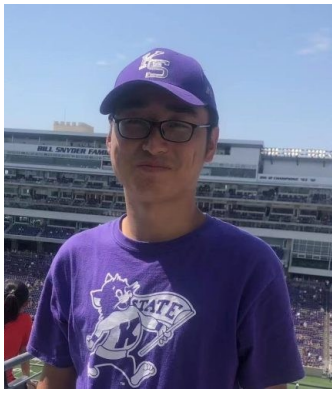

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TIAN, FENGKAI

University of Missouri

SAC MEMBER-AT-LARGE

XU, MEICAI

Michigan State University

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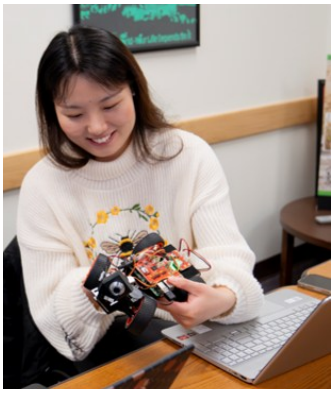
XU, JIAJUN

Michigan State University

SAC MEMBER-AT-LARGE



YANG, YANQIU

Penn State University

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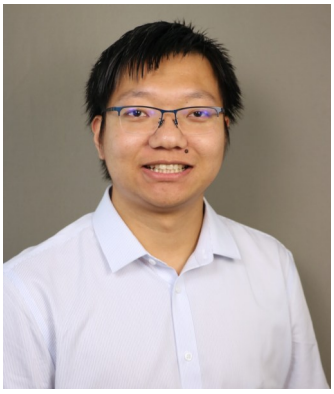

ZHANG, ZHENGHUA

North Carolina State University

SAC MEMBER-AT-LARGE

AOC Interview—Dr. Wang, KE

My name is Ke Wang, I am a research assistant professor at Food Science Department of Cornell University. Prior to this position, I have worked in biopharma industry prior to this position. I am very honored to share my experience with the AOC community.

What's your educational background and professional experience?

I came from Nanjing, the capital city of Jiangsu Province in China. I obtained my Ph.D. from UC Davis about three years ago. Then I worked as a senior scientist in biopharma industry for three years before joining Cornell as a faculty.

What inspired you to study abroad and what brought you to the current field?

My friends were the inspiration for me to study abroad. I have a close childhood friend who has been to Canada since high school. She would come back to visit me every summer and tell me about funny stories of her life there. That made me curious of people and culture in western countries. And then in college I have another friend from students' chorus club, who had similar interests of studying abroad and shared lots of resources with me. So I thought I could give it a try. And for what brought me to the current field, I'd say it's movies by Hayao Miyazaki that sparked my childhood dream of protecting the mother nature. With that, I have explored research areas where diverse approaches are applied to promote sustainability, and my interest was narrowed down to biotech-related approach. In this journey I've been very fortunate to have a wonderful graduate advisor who is also my lifelong role model.

Could you talk about some interesting facts about your research or daily life?

I love watching mystery and science fiction movies, in fact, I'd watch the same ones for many times and find it refreshing. Interstellar is my favorite of all time. And so far, I'd recommend another one: Coherence.

What is the biggest challenge you have faced in your profession?

Negativity. As a researcher who can fail many times a week, staying optimistic can be key. Negativity comes not only from oneself, but may also from others including one's colleagues, students, and even family and friends. It takes courage and tactics to overcome negativity and stay passionate long enough to enjoy the rewarding moment when the idea finally works. I think that is the biggest challenge which also helps me to enjoy the most of being a researcher.

AOC Interview—Dr. Wang, KE (page 2)

Could you provide some suggestions to oversee Chinese students/postdoc who are looking for a faculty position?

Be proactive and always plan ahead: be aware of the position requirements by checking out the descriptions in faculty search. The rule of thumb is to have an outstanding CV with good peer-reviewed publications, experience in funding acquisition, and have a vision of how your future research program will evolve to be based on your experience. And make use of the resources in your university, such as attending alumni events and make connections and learn about their experiences. And for job talk… practice more and practice with audience (such as your friends and family). When you think you are ready, start application, and apply to multiple positions. Some of my acquaintances (including myself) screwed up the very first interview for various reasons, but it always gets better for the second and the third ones, and many more. Last but not least, best of luck! And I mean it. In some cases it is true that an offer comes with a bit of luck, that the search committee happens to appreciate your niche. But even if you didn't get an offer from your last interview, don't get discouraged and start to question your capability. Always be assertive. There is a saying 'fake it till you make it', which works like a charm for almost every job interview, including faculty search.

SAC student activities

AOC seminar: AI&Digital Technology Enable Sustainable Production Agriculture

2025年2月27日美东时间7点晚的线上讲座演讲人为Jianfeng Zhou 教授，演讲主题为：AI&Digital Technology Enable Sustainable Production Agriculture。Dr. Jianfeng Zhou is an Associate Professor of Agricultural Engineering in the Division of Plant Science and Technology and Director of Digital Agriculture Research and Extension Center at the University of Missouri. Dr. Zhou received his doctoral degree from Washington State University and then undertook postdoc research associate. Dr. Zhou's research focuses on development and implementation of digital and precision agriculture technology for efficient and climate-smart crop and animal production. His research interests include development of artificial intelligence (AI)-enabled high-throughput crop phenotyping, mechanical and robotic harvesting technologies for specialty crops, smart and precision livestock farming and autonomous tractor technology. His research is supported by around $10 million from USDA NIFA, NSF, commodity groups and other funding sources. Dr. Zhou authored more than 60 journal papers and seven book chapters, and edited two books. His research also resulted in serval invention disclosures and patents. Zhou serves as Associate Editor for Frontiers in Plant Science, Journal of ASABE, and guest editor for several other journals. More information can be found at https://cafnrfaculty.missouri.edu/mupaa/, or https://darec.missouri.edu/.

Prof. Zhou, Jianfeng

Digital agriculture technology powered by artificial intelligence is transforming conventional farming practices to smart and sustainable farming system. Agricultural big data acquired from high-throughput sensing systems, such as UAV, UGV, IoT and robotic sensing systems, are adopted to discover the insights of plants and animals for precision management. The Precision & Automated Agriculture Lab (PAAL) of University of Missouri focuses on developing AI-enabled technologies for precision crop management and phenotyping, as well as precision livestock farming. In this seminar, Dr. Zhou went over the mission and on-going research projects of PAAL related to digital agriculture technology. He also shared information of Digital Agriculture Research and Extension Center, followed by Q&A.

SAC student activities

AOC seminar: Understanding the role of extension in precision livestock farming

2025年5月16日美东时间7点晚的线上讲座演讲人为Lilong Chai教授，演讲主题为：Understanding the role of extension in precision livestock farming 。Dr. Lilong Chai is an Associate Professor & Engineering Specialist in the Department of Poultry Science, College of Agricultural and Environmental Sciences at the University of Georgia (UGA). He is also an affiliate faculty/steering committee member of the UGA Institute for Integrative Precision Agriculture. His research and extension interests include climate-smart animal production, precision poultry farming, and animal health and welfare. Dr. Chai has published 280 scientific publications (90 journal articles, 140 conference papers/abstracts, and 50 extension articles), serving as PI/Co-PI on 40 grants/contracts totaling about $5 million, and receiving 20 professional awards/honors. Dr. Chai currently serves as the Coordinator/Program Chair for the Georgia Precision Poultry Farming Conference and Georgia Layer Conference, two annual extension poultry training programs at UGA; Past President of the AOCABFE; Past Chair of the ASABE-Environmental Air Quality Committee; and grant proposal reviewer/panelist for USDA-NIFA, NSF, Canada Foundation for Innovation, Canadian Poultry Research Council, Agriculture and Agri-Food Canada, Dutch Research Council, and the German Research Foundation.

Prof. Chai, Lilong

Precision livestock farming uses advanced sensors and sensing technologies for improving animal production/reproduction, animal welfare, food safety, and environmental sustainability. In this talk, Dr. Chai introduced PLF research projects (e.g., poultry health and welfare monitoring and management strategies) and extension programs for training producers with PLF technologies.

讣告｜沉痛悼念汪懋华院士

中国农业大学 2025年03月01日 06:02

解民生之多艰 育天下之英才

汪懋华院士讣告

中国共产党的优秀党员，我国著名农业工程学家、教育家，中国工程院院士，中国农业大学信息与电气工程学院教授汪懋华同志因病医治无效，于2025年2月28日22时58分在北京逝世，享年93岁。

汪懋华院士，男，汉族，1932年11月11日出生于广东兴宁，1956年6月加入中国共产党。1951-1956年就读于北京农业机械化学院，毕业后留校工作至今。期间，1958-1962年由学校选派赴莫斯科农业机械化与电气化学院留学获技术科学副博士学位；1984-1990年担任北京农业工程大学（现中国农业大学）副校长；1995年当选中国工程院院士；2007年当选国际欧亚科学院院士。

汪懋华院士始终拥护党的路线方针政策，忠诚党的教育事业，热爱祖国和人民，毕生奋斗在教书育人、科研创新第一线。他以渊博的知识、敏锐的思维和宽广的学术视野，洞悉国际农业工程学科发展前沿，为我国农业工程学科体系建设、改革与发展作出了卓越贡献。汪懋华院士科教成果丰硕，桃李满天下。

汪懋华院士是我国农业工程和农业电气化与自动化学科建设的开拓者和领导者。自80年代以来，先后担任国务院学位委员会"农经、农业机械化"和"农业工程"学科评议组召集人，中国农业工程学会理事长、荣誉理事长，中国农业机械学会名誉理事长等。汪懋华院士在国际农业工程学术界享有盛誉，先后担任FAO农业机械化专家组成员，联合国亚太农业工程与机械中心技术委员会委员，国际农业工程学会（CIGR）会士、国际农业与生物系统工程科学院创会院士，国际农业机械化发展战略俱乐部(Bologna Club)成员，亚洲理工学院教授、美国堪萨斯州立大学客座教授等，2024年获颁CIGR终身成就奖。

汪懋华院士是我国精细农业和智慧农业的开拓者与实践推动者。他主持完成的《中国工程院重大咨询项目-中国农业机械化发展战略研究》成为指导我国农业机械化发展的纲领性文件。他率先在国内创办和领导了"精细农业研究中心"、"现代精细农业系统集成研究"和"智慧农业系统集成研究"教育部重点实验室等，引领和推动我国智慧农业的前沿发展。汪懋华院士曾获得国家科技进步二等奖、北京市科技进步一等奖、神农中华农业科技奖等。

汪懋华院士的逝世是我国学术界和高等教育界的重大损失，他的科学精神、学术造诣、人格魅力和高尚品格是后辈的楷模和宝贵精神财富。

汪懋华院士遗体告别仪式定于2025年3月4日（周二）上午8时在八宝山殡仪馆东礼堂举行。参加遗体告别仪式的同志请于当日6时40分在东校区工学院东侧或西校区颐园班车处乘车前往。

汪懋华院士永远活在我们心中！

汪懋华院士治丧委员会

二〇二五年三月一日

汪懋华院士治丧委员会

主　任：钟登华 孙其信

委　员：康绍忠 钱学军 辛贤 李培景

单际国 林万龙 杜太生 田见晖 王勇

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亲爱的姥爷一路走好
外孙王嘉磊
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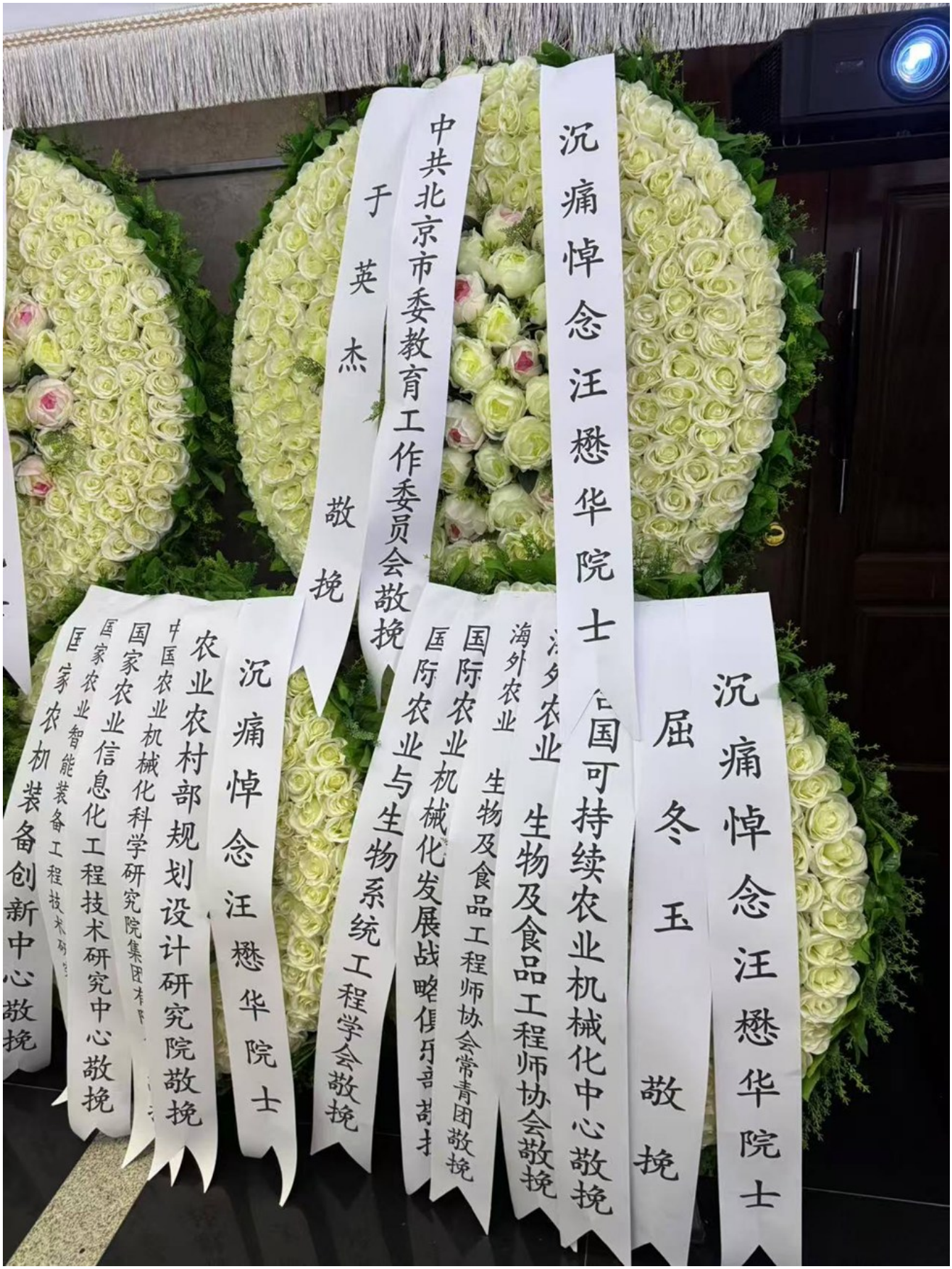
外孙女容雨丽
外孙婿何山
叩挽


沉痛悼念汪懋华院士
国可持续农业机械化中心敬挽
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屈冬玉
敬挽
生物及食品工程师协会敬挽
国际农业机械化发展战略俱乐部敬挽
中共北京市委教育工作委员会敬挽
于英杰
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农业农村部规划设计研究院敬挽
国家农业信息化工程技术研究中心敬挽
农机装备创新中心敬挽

New productive forces in agriculture highlighted

The central government has unveiled a policy blueprint calling for the development of new productive forces in the agricultural sector, a concept that includes accelerating breakthroughs in key technologies and fostering leading enterprises in agricultural science and technology.

The policy, released on Sunday as the country's "No 1 central document" for 2025, underscores the need to strengthen agricultural innovation, expand the use of artificial intelligence and advance smart farming.

As the first policy statements released by China's central authorities each year, No 1 central documents are seen as indicators of policy priorities. Since 2004, the central government has issued the No 1 document focused on agricultural and rural development for 22 consecutive years.

With reform and opening-up, as well as scientific and technological innovation, as driving forces, the country will safeguard grain security and ensure that no large-scale lapsing or relapsing into poverty occurs, the document says.

According to the document, the country will step up research efforts and application of domestically produced, advanced agricultural machinery and equipment. The country will also support the development of smart agriculture and expand the scenarios for application of AI.

Jin Wencheng, director of the Ministry of Agriculture and Rural Affairs' rural economy research center, said that developing new productive forces in the agricultural sector includes utilizing biotechnology in breeding, as well as using drone technology, AI and digital technology.

"These applications can effectively change the development of agricultural production, which is of great significance for accelerating the modernization process of agriculture," Jin said.

At the same time, the country needs to build a technology innovation system for the agricultural sector and create its own innovation platform, which can be used to promote the development of new productive forces, Jin added.

Tu Shengwei, a researcher at the National Development and Reform Commission's Institute of Macroeconomic Research, said the application of digital technology in the agricultural sector and rural areas not only brings changes to traditional production modes, but also introduces a new development model that aims to promote standardized, large-scale agricultural production.

Chinese agriculture poised for breakthroughs in new quality productive forces

A latest report projects systemic breakthroughs in China's new quality productive forces in terms of agriculture over the next decade, with grain yield per unit area expected to increase by 7.8 percent.

The China Agricultural Outlook Report (2025-2034), released at the 2025 Agricultural Outlook Conference held at the Chinese Academy of Agricultural Sciences (CAAS) in Beijing on Sunday, reviewed China's agricultural market performance in 2024 and forecast production, consumption, trade and price trends for major farm products in the course of the next decade.

The report highlighted structural optimization in China's agricultural supply during 2024 -- marked by steady modernization progress and quality development. Notable achieve-

ments included enhanced supply of green and high-quality products, with 139,000 new crop germplasm resources collected, 1.07 million livestock genetic materials preserved, and 120,000 aquatic genetic materials documented.

Agricultural technology and infrastructure continued to strengthen in 2024, contributing more than 63 percent to productivity growth, the report said. High-quality crop variety coverage exceeded 96 percent, while comprehensive mechanization reached 75.4 percent. Over 5.33 million hectares of high-standard farmland were newly developed or upgraded, bringing total coverage to 66.67 million hectares.

According to the report, China's agricultural green development has progressed significantly -- with livestock waste utilization reaching 79.4 percent, crop straw utilization exceeding 88 percent, and agricultural film recycling surpassing 80 percent.

Chinese agriculture poised for breakthroughs in new quality productive forces

The decade-long forecast predicts fundamental improvements in rural revitalization and agricultural modernization. Grain production capacity will achieve both quantitative and qualitative enhancements, with the cultivated area stabilizing at 119 million hectares by 2034.

Supported by accelerated technological advancement and promotion of high-yield, stress-resistant crop varieties, grain yield is projected to rise 7.8 percent to 6,311 kg/ha by 2034. Corn and soybean yields are expected to reach 7,350 kg/ha and 2,775 kg/ha, respectively, the report said.

It noted that rising consumer demand for premium, healthy and diversified agricultural products aligns with China's economic growth and living standard improvements.

The report also said that agricultural trade patterns will optimize through deeper global supply chain integration -- with grain imports expected to decline to 113 million tonnes by 2034. Vegetable and fruit exports are forecast to grow annually by 2.6 percent and 8.8 percent, respectively, maintaining international competitiveness.

Organized by the Agricultural Information Institute of the CAAS, the conference emphasized enhancing comprehensive production capacity to address external uncertainties. It also emphasized advancing AI and emerging technologies to strengthen monitoring systems, reaffirming commitment to building China into an agricultural powerhouse.

The event featured high-level discussions on food security, smart agriculture development, trade coordination mechanisms, and AI-powered market monitoring, reflecting current industry focus areas.

China reaffirms commitment to advancing agricultural technology

China has reaffirmed its commitment to advancing agricultural technology with the release of the latest "No. 1 central document" on Sunday, emphasizing collaborative research, technological breakthroughs, and the development of cutting-edge farming solutions.

The document highlights the role of technological innovation in optimizing production factors, fostering leading agricultural enterprises, and strengthening key research platforms, such as "Nanfan Silicon Valley," a breeding base in southern China.

"Nanfan," which literally means "breeding in the south," refers to a crop breeding practice that takes advantage of the warm winter and spring climate on Hainan Island and other southern regions of China.

The Ministry of Agriculture and Rural Affairs, the National Development and Reform Commission, and other authorities jointly published an action plan for Nanfan Scientific and Research Breeding Base in Sanya on January 31, 2024.

The plan aims for the breeding base to become a national-level hub for breeding industry innovation by 2030, offering scientific research, production, sales, scientific exchanges and achievement transfer.

The document also underscores the promotion of biological breeding, high-quality agricultural machinery, and smart agriculture, incorporating artificial intelligence (AI), data, and low-altitude technologies.

China reaffirms commitment to advancing agricultural technology

Last year, the national inventory of agricultural machinery surpassed 200 million units, with the deployment of terminal equipment using the country's BeiDou Navigation Satellite System exceeding 2.2 million units. The overall mechanization rate for crop planting, cultivation, and harvesting rose to more than 74 percent, with cultivation of the three primary staple crops now largely mechanized, China Media Group reported last December.

There is a smart farm called Fuxi Farmland in Xiong'an New Area, north China's Hebei Province. Utilizing big data and AI, engineers can manage grain planting by controlling remote unmanned machines from a control center located 20 kilometers away, while accessing real-time information about crops through a large monitoring screen.

East China's Zhejiang Province has recently issued an action plan for the development of the low-altitude economy in agricultural and rural areas, aiming to further integrate this economy to enhance agriculture. According to the plan, by 2027, the number of agricultural drones in Zhejiang will exceed 10,000, and 100 intelligent monitoring points for agricultural production will be built.

With these strategic initiatives, China is setting the stage for a more efficient, sustainable, and technologically advanced agricultural future.

Editor's View: Key Trends Shaping the European Agritech Sector In 2025

Europe's agricultural landscape is undergoing a profound transformation as cutting-edge technology, regenerative practices, and shifting regulations redefine the sector. From new methods of restoring soil fertility to advanced AI-driven solutions, here are the key trends shaping Europe's Agritech outlook.

Regenerative Agriculture Gains Ground

Regenerative agriculture has surged in popularity as concerns mount over soil deterioration, with up to 70% of European soils now considered degraded. By focusing on restoring soil health rather than simply maintaining it, regenerative practices help boost land fertility and reduce pests. Globally, around 15% of farmers have already adopted regenerative methods, reporting marked improvements in productivity and resilience.

Biotechnological Breakthroughs and Crop Resilience

Biotech innovations are revolutionising Europe's fields, enabling the development of salt-tolerant rice, water-absorbing wheat, and other climate-resilient crops through RNA modification and genetic editing. Meanwhile, specially engineered microorganisms offer a promising alternative to chemical fertilisers, reducing environmental impact and helping farmers navigate increasingly volatile growing conditions.

The Digital Leap: AI, IoT, and Robotics

Generative AI is emerging as a game-changer for farm management, giving agribusinesses real-time data analysis to optimise everything from crop rotation to irrigation. Robotics and IoT sensors further enhance efficiency by automating routine tasks and delivering up-to-the-minute information on soil composition, crop stress levels, and yield forecasts. Together, these digital tools are ushering in a more sustainable, data-driven era for European agriculture.

A Surge in Mergers and Acquisitions

As Europe's Agritech sector matures, investor confidence is fuelling a wave of mergers and acquisitions. Recent deals include KKR and Highland's major investment in smaXtech, the acquisition of Aurea Imaging by French-based Hiphen, and Groupe ISAGRI's purchase of Sencrop. Many of these transactions are driven by the push to consolidate expertise, expand technology portfolios, and respond to stricter regulatory requirements.

Regulatory Pressures and Sustainability Goals

EU policymakers are increasingly focused on promoting digitalisation and sustainable practices. Legislation such as the EU Corporate Sustainability Reporting Directive is encouraging agribusinesses to adopt greener technologies and meet heightened sustainability standards. Pressure to achieve biodiversity targets remains high, placing technology at the forefront of Europe's agricultural evolution.

From satellite-guided tractors to AI-assisted crop breeding, Europe's agribusinesses are embracing innovation at a pace never seen before. As policies tighten and investor interest swells, 2025 is shaping up to be the year that Agritech truly cements its role in ensuring both food security and environmental resilience across the continent.

THE 9 TRENDS THAT WILL SHAPE THE AGRITECH SECTOR IN 2025

After its first edition, Expo AgriTech 2024, the largest agricultural event dedicated to presenting the latest technological solutions for the sector, has compiled the 9 trends that will mark the agritech panorama this 2025. The meeting brought together 405 international experts and 7,829 agri-food industry professionals from more than 15 countries, who discussed the keys to making agriculture a more profitable and efficient business, adapted to the current climatic, social and economic context.

1. **Regenerative agriculture as a basis for the future**

Expo AgriTech 2024 has exposed the opportunities of regenerative agriculture to respond to the lack of soil health and fertility, which damages the margins of professionals and their profitability. According to figures shared at the fair, up to 70% of European soils are deteriorated and 53% of them, globally, have lost fertility. This suggests that this model will not be able to continue in the same way for the next 40 years. For this reason, regenerative agriculture is an increasingly integrated option in the sector, with 15% of farmers in the world already applying its practices. An example of this has been shown by Francesc Font, farmer and founder of The Regen Academy, who has demonstrated that, with this formula, the land he works with has increased its fertility by 10 times, has reduced pests by 20 times, has increased the use of water by 50% and has improved its quality by 20%.

- **Drought transforms the sector**

Extreme weather events, with prolonged and frequent dry spells, will also mark the years to come. Thus, if greenhouse gas emissions are not reduced, droughts could be 90% more common in July and 88% more common in August by 2080. Hence, the congress highlighted the importance of water optimization through precision irrigation and water-efficient technologies, such as digital twins, AI, blockchain and agrovoltaic energy.

THE 9 TRENDS THAT WILL SHAPE THE AGRITECH SECTOR IN 2025

- **Agriculture without farmers**

The agricultural sector in Europe is shifting from a traditional concept to prioritize the business vision, transforming the figure of the farmer. Expo AgriTech 2024 explained how large investment funds are betting on companies dedicated to crops and harvests in order to maximize their profitability. In this line, the strong regulatory pressure is causing that only business structures with a broad organizational base can meet the challenges of the agricultural activity of the moment. Thus, 2025 will see new players in the sector, requiring a business plan and a defined strategy, elements that were not previously common in agriculture.

- **Biotechnology to become more resilient**

The use of modified RNA to make plants more resilient to climate change will continue to expand. In this sense, the meeting studied genetically edited rice varieties that adjust to the salinity of the soil, which increases due to the rise in sea level in coastal areas, as in the Ebro Delta (Catalonia); or wheat plants whose root shape has been altered to absorb more water. In relation to fruit, crosses are being made artificially to make the plants more resistant, more productive and the results tastier. Another possibility provided by biotechnology is its use to produce microorganisms, whose contribution to the soil reduces the use of chemical fertilizers.

- **AI is also in agriculture**

Exponential technologies, led by artificial intelligence, are already in the agricultural industry. Therefore, Expo AgriTech 2024 has shown the capabilities of generative AI in crop prediction, comprehensive advice to the farmer and decision making in industry companies, among other functions. Despite this, according to figures shared at the fair, only about 7% of farms in Spain incorporate AI to optimize their processes, a percentage that indicates the potential for the development of this technology in agriculture in the coming years. In addition, the forum has claimed the need to promote the support of the administration so that small and medium enterprises can introduce this digital solution, and others, in their activities.

- **The field becomes robotized**

Farm robotization in Spain is at an advanced stage, although at an uneven pace. In this aspect, automation is reaching specific areas, such as harvesting or product classification, and large-scale farms, which have the economic capacity to invest in it. These factors explain why, in 2024, only 30% of farmers will incorporate advanced technologies, despite the fact that 90% indicated that they wished to do so. Some examples presented at the fair were self-guided tractors that monitor farms; articulated arms that pick fruit at the optimum moment thanks to artificial vision; quadruped robots and drones that analyze the state of the land; or androids that burn weeds using liquefied gas.

THE 9 TRENDS THAT WILL SHAPE THE AGRITECH SECTOR IN 2025

- **Agriculture, more profitable with data**

Data has become a transcendental element in the agricultural field to maximize profitability, optimize resources and ensure excellence in production. However, Expo AgriTech 2024 has also highlighted the challenges presented by its treatment, highlighting the lack of standardization, the scarcity of quality information, the difficulty of accessing open data from the administration and uncertainty on the part of professionals about the incorporation and updating of this type of solutions. With the aim of promoting data farming, the experts have advocated the dissemination of its benefits -both at an operational and profitability level-, as well as the possibilities offered by training to overcome the barriers to technological adoption.

- **The challenge of young farmers**

Agriculture, at European and national level, faces the challenge of the lack of generational replacement. The reasons include the fact that it is a sector perceived as volatile, in addition to the fact that it presents various difficulties such as the limited availability – in the rural world – of public services, conflicts arising from access to land ownership, the complexity of the bureaucracy and the high initial investments. For this reason, from the administration -from the CAP- and private initiatives are encouraging new generations to see the field as a profitable business opportunity. In this context, Expo AgriTech 2024 has addressed access to microcredits and the advantages they provide for the modernization of family farms.

【ICRAE分论坛诚邀加入】智农时代："农业机器人的创新与实践"

ASR学术研究者学会 2025年04月23日 00:03

2025年第十届机器人与自动化工程国际会议（ICRAE 2025）定于2025年11月14-16日在中国海南省海口市举办。该会由中国海南大学主办，机电工程学院承办，并得到中国农业工程学会、 中国科学院海西研究所、新加坡机器人学会、新加坡电子学会的技术支持以及机器人期刊的赞助。

会议官网：https://www.icrae.org/

主办单位：

海南大学 HAINAN UNIVERSITY

Sensors and Systems Society of Singapore

承办单位：

海南大学机电工程学院 Mechanical and Electrical Engineering College,Hainan University

农业机器人分论坛▼

— 智农时代："农业机器人的创新与实践" —

智农时代，农业机器人正引领农业生产向智能化、高效化转型。本次分论坛将全面探讨农业机器人在提升农业生产效率、优化资源配置、降低人力成本及确保农产品质量等方面的创新应用与实践成果。重点议题涵盖智能播种、精准施肥、自动化收割、农产品智能分级与包装等领域的最新技术进展。此外，还将分析农业机器人在促进农业可持续发展、保障粮食安全等方面的积极作用。本次分论坛针对农业机器人技术征集包含技术创新、系统集成方案、实地应用效果评估及相关交叉学科研究等相关的研究工作。

分论坛主席：何勇教授，浙江大学 <<<

浙江大学数字农业农村研究中心主任; 国家教学名师; 国家百千万国家级人才

何勇教授，浙江大学求是特聘教授，浙江大学数字农业农村研究中心主任、农业农村部光谱检测重点实验室主任，曾任浙江大学生物系统工程与食品科学学院院长。国家"双一流"建设学科和A+学科--农业工程学科学术带头人之一、"十二五"国家863现代农业领域"数字农业技术与装备"主题专家、863项目首席专家、国家教学名师、国家百千万国家级人才、国务院农业工程学科评议组成员兼秘书长、教育部高等学校农业工程类教学指导委员会委员、国家农村信息化示范省国家级指导专家、浙江省学位委员会学科评议组工学三组召集人,浙江省农林类专业教学指导委员会副主任委员。浙江省首届十大师德标兵、第四届浙江省十大杰出青年，荣获浙江大学永平教学贡献奖、第十一届浙江大学三育人先进个人。曾先后在日本东京大学、东京农工大学、美国伊利诺斯大学访问和担任Visiting Professor。俄罗斯工程院外籍院士、国际农业与生物系统工程科学院（iAABE）Fellow，中国农业机械学会会士，入选科睿唯安2016-2018全球高被引科学家，2020-2022年ELSEVIER中国高被引学者，入选2021"全球顶尖1万科学家排名"、入选2022年斯坦福大学发布的"全球前2%顶尖科学家榜单"。

演讲嘉宾

陈建能教授

浙江理工大学

演讲嘉宾

苑进教授

山东农业大学

演讲嘉宾

傅隆生教授

西北农林科技大学

演讲嘉宾

邹湘军教授

新疆大学

演讲嘉宾

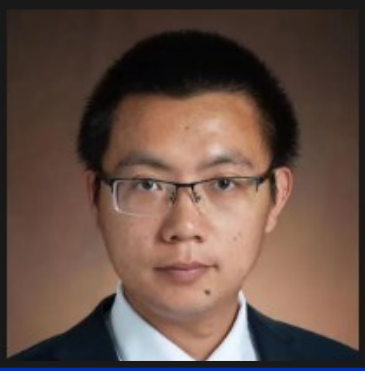
韩雄哲教授

韩国江原国立大学

演讲嘉宾

杨洲教授

华南农业大学



演讲嘉宾

张昭教授

中国农业大学

会议投稿信息▼

< 会议论文集 >

如往届会议一样，经严格的审稿之后，被录用并报告的文章，将出版到ICRAE 2025会议论文集。

往届会议出版历史信息，可访问：https://www.icrae.org/history.html

ICRAE 2024 IEEE | Ei Compendex | Scopus

ICRAE 2023 IEEE | Ei Compendex | Scopus

ICRAE 2022 IEEE | Ei Compendex | Scopus

ICRAE 2021 IEEE | Ei Compendex | Scopus

ICRAE 2020 IEEE | Ei Compendex | Scopus

ICRAE 2019 IEEE | Ei Compendex | Scopus

ICRAE 2018 IEEE | Ei Compendex | Scopus

ICRAE 2017 IEEE | Ei Compendex | Scopus

ICRAE 2016 IEEE | Ei Compendex | Scopus

2025 International Symposium On Animal Environment and Welfare

Sustainable High-quality Development in Livestock Farming

Chongqing, China•October 20–23, 2025

（First Announcement and Call for Abstracts）

A healthy environment for animals and farmers, enhanced animal health and welfare, and minimum impact on the ecosystem continue to be a critical pillar of sustainable modern food animal production agriculture. Since 2011 the International Research Center for Animal Environment and Welfare (IRCAEW) has been hosting biennial symposia that aim to exchange cutting–edge research findings, discuss present and future needs of the production enterprise, explore ways to further interdisciplinary endeavors globally, and ultimately advance the science and technology for improved animal welfare/health, production efficiency, and environmental stewardship. The 2025 International Symposium on Animal Environment and Welfare (ISAEW 2025) will be held on October 20–23, 2025 in Rongchang, Chongqing, China (http://isaew2025.aconf.org). The symposium will use a hybrid format of in-person and on-line to accommodate the attendees whose travels may be affected by various reasons. This announcement provides information regarding timeline, thematic areas, organizing committees, registration, and travel logistics.

1.Timeline:

March 31, 2025:	Deadline for abstract submission
April 25, 2025:	Notification of abstract acceptance
June 30, 2025:	Deadline for initial full paper submission
August 1, 2025:	Reviews provided to corresponding author
August 31, 2025:	Deadline for full paper to be included in the proceedings
October 20-23, :	Holding of ISAEW 2025

October 20, Monday

Onsite Registration

October 21, Tuesday

Morning: Opening ceremony; plenary sessions with invited speakers
Afternoon: Concurrent technical sessions

October 22, Wednesday

Morning: Plenary sessions with invited speakers
Afternoon: Concurrent technical sessions; Closing ceremony

2.Venue (in person):

Chongqing Academy of Animal Sciences,

No. 51, Changlong Road, Rongchang, Chongqing, China

3.Theme Areas:

I. Intensive Livestock Farming and Sustainability

1. Impact of large-scale livestock operations on environment
2. Intensive livestock farming, land use, and labor challenge and possible solutions
3. Economic analysis of livestock operations: cost of production and profitability
4. Gas and particulate emissions from livestock operations
5. Renewable energy and energy-saving practices in livestock operation
6. Water usage and water-saving practices in livestock operation

II. Livestock Housing Systems

1. Innovative livestock housing systems for sustainability
2. High-rise (multistory) housing systems
3. Digital and smart housing systems
4. Production efficiency, safety, and risk management
5. Space requirements for optimal welfare and efficiency
6. Animal product safety and traceability
7. On-farm automation

III. Precision Livestock Farming (PLF) and Animal Welfare

1. Benefits of PLF: animal welfare and health, environment, economics, and labor
2. Artificial intelligence, machine learning, data analysis, and IoT for PLF applications
3. Sensors and robotics for PLF applications
4. Smart equipment and tools: environmental control, feeding, watering, milking, behavior monitoring
5. Cybersecurity in livestock operations – challenges and solutions
6. Adoption of PLF and other technologies by farmers
7. Social and economic aspects of new technologies for livestock farming

IV. Climate Change and Livestock Production

1. Extreme weather (heat or cold waves) and its impact on livestock farming
2. Public-private partnerships toward climate-smart livestock production

V. Resource utilization of livestock and poultry waste

1. Monitoring and measurement of GHG emissions
2. Strategies and technologies for GHG emission reduction
3. Carbon market and trade: subsidy policies; emission standards; carbon trading; green loans; carbon financial products.
4. Waste reduction at sources: feed and feeding optimization; facility improvement; precision feeding; manure management
5. Waste treatment technologies: aerobic fermentation; bedding material recycling; ectopic fermentation; storage fermentation; anaerobic fermentation, fertilizer making; solid and liquid waste-based fertilizer application; integrated environmental control; centralized (regional) treatment facilities.
6. Facilities for animal waste treatment, collection, and transportation; microbial products; odour control.
7. Integration of livestock and crop farming: nutrient utilization; energy utilization

VI. Animal Heath and Disease Control

1. Emerging animal diseases
2. Disease surveillance and eradication: regulations and strategies
3. Biosafety in modern livestock operations
4. Disease transmission: mechanisms, management, and modeling
5. Managing disease outbreaks – emergency plans and responses
6. Vaccination for disease prevention

VII. Rural Revitalization and Livestock Farming

1. Positive role of livestock farming in rural revitalization
2. Social impact of livestock farming in rural communities
3. Land use planning and optimal usage of land
4. Successful models of livestock farming in revitalizing rural communities'
5. Societal and consumer aspects of livestock farming

4.Organization structure

Sponsored by:

International Research Center for Animal Environment and Welfare (IRCAEW)
Chinese Society of Agricultural Engineering (CSAE)
China Agricultural University (CAU)

Co-Sponsored by:

International Cooperation Committee of Animal Welfare (ICCAW)
Animal Waste Utilization Branch, Beijing Association of Low Carbon Agriculture

Hosted by:

Chongqing Academy of Animal Sciences (CAAS)
National Center of Technology Innovation for Pigs
Key Lab of Agricultural Engineering in Structure and Environment of Ministry of Agriculture and Rural Affairs, PRC
Key Lab of Swin Sciences of Ministry of Agriculture and Rural Affairs, PRC
Honorary Chair:
Dr. Zuohua Liu, Chief Scientist of CAAS, President of National Center of Technology Innovation for Pigs, China.

5.committee of organization

Co-chairs:

Dr. Baoming LI, Professor, China Agricultural University, China
Dr. Qiang Zhang, Professor, University of Manitoba, Canada

Vice-chairs:

Dr. Liangpeng Ge, Research Scientist and Vice President, CAAS, China
Dr. Qigui Wang, Research Scientist and Vice President, CAAS, China

Organizing Committee:

Dr. Robert Burns, Distinguished Professor, University of Tennessee, USA
Dr. Teng Teeh Lim, Professor, University of Missouri, USA
Dr. Yang Zhao, Assistant Professor, University of Tennessee, USA
Dr. Chaoyuan Wang, Professor, China Agricultural University, China
Dr. Lingjuan Wang-Li, Professor, North Carolina State University, USA
Dr. Guoqiang Zhang, Professor, University of Aarhus, Denmark
Dr. André Aarnink, Research Fellow, Wageningen University, the Netherlands
Dr. In-Bok Lee, Professor, Seoul National University of Republic of Korea, ROK
Dr. Jun Bao, Chair, International Cooperation Committee of Animal Welfare (ICCAW), China
Ms. Junxiang Yang, Research Scientist and Chair, Animal Waste Utilization Branch, BeijingAssociation of Low Carbon Agriculture, China
Dr. Weichao Zheng, Professor, China Agricultural University, China
Dr. Qiren Li, Research Scientist, CAAS, China
Ms. Qin Tang, Director, CAAS, China
Ms. Wen Liu, Professor, CAAS, China

6.Program and Proceedings Committee:

Dr. Qiang Zhang, Professor, University of Manitoba, Canada
Dr. Yang Zhao, Associate Professor, University of Tennessee, USA
Dr. Lingjuan Wang-Li, Professor, North Carolina State University, USA
Dr. Teng Teeh Lim, Professor, University of Missouri, USA.
Dr. Chaoyuan Wang, Vice Director and Professor, China Agricultural University, China
Dr.Hongming Dong, Research Scientist, Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences, China
Dr. Benhai Xiong, Research Scientist, Beijing Institute of Veterinary Sciences, Chinese Academy of Agricultural Sciences, China
Dr. Zhengxiang Shi, Professor, China Agricultural University, China
Dr. Weichao Zheng, Professor, China Agricultural University, China
Dr. Yang Wang, Associate Professor, China Agricultural University, China
Dr. Hao Wang, Associate Research Scientist, CAAS, China

7.related affairs

Abstract Submission:

The ISAEW 2025 is soliciting abstracts on the afore-listed topics. Please prepare an abstract of less than 250 words using the form contained in this announcement and submit it via the symposium website: http://isaew2025.aconf.org/.

All abstracts will be lightly reviewed, and those selected for presentation at the symposium will be provided with paper and/or poster templates for their finished work. Full-length papers will be edited and published in a symposium proceedings.

Posters should fit within a 120 cm high x 86 cm wide (47" x 34") area.

Registration: online, please visit http://isaew2025.aconf.org/

Registration Fee:

Attendee Category	Early Registration by June10, 2025	Regular Registration by August 31, 2025	On-site Registration
Overseas – Regular	USD$320	USD$360	USD$400
Domestic - Regular	¥1,800	¥2,000	¥2,200
Overseas – Students	USD$160	USD$180	USD $200
Domestic – Students	¥900	¥1,000	¥1,100

Note: 1. On-line credit card payment is currently not available, and the website will be updated once the service becomes available. Please prepare to pay cash for on-site registration.

2. Registration fee will cover symposium & meals. Lodging expenses are the responsibility of the attendees.

Hotel arrangements:

To ensure accommodation at the symposium main hotel (Rongchang Ruier Hotel), the domestic attendees should register by September 30, 2025 online.

- Rongchang Ruier Hotel (a four-star hotel) in Rongchang, No. 39 Changlong Road, Rongchang, Chongqing, China, Phone: (86)-23-46776080
- Rongchang Weiya Hotel, No. 56, Changlong Road, Rongchang, Chongqing, China Phone: (86)-23-46551111
- Rongchang Shuohaobufenshou Hotel, No. 133, Guotai Road, Rongchang, Chongqing, China Phone: (86)-23-46273333

transportation route:

Flights:

- The Chongqing Airport code is CKG; many convenient domestic flights to Chongqing are available, it takes about 2 hours from the airport to the hotel by car or bus, and 50 minutes by train (see below).
- The Chengdu-Shuangliu International Airport code is CTU, it takes about 5 hours from the airport to the hotel by car or bus, and 60 minutes by train (see below).
- The Luzhou Yunlong Airport code is LZO. It takes 40 minutes from the airport to the hotel by car or bus.

High-speed train:

- Chongqing Bei--Rongchang Bei (50minutes)
- Chongqing Xi—Rongchang Bei (40 minutes)
- Shapingba--Rongchang Bei (40minutes) ,
- Chengdu Dong--Rongchang Bei (60minutes)

Bus:

- Bus transportation is available from Chongqing to Rongchang.

8.Contact for further information or questions:

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Department of Foreign Affairs
Chongqing Academy of Animal Sciences, No. 51, Changlong Road, Rongchang, Chongqing
Cell: +86 13983637816; Fax: +86 23 46792348; Email: 1127980958@qq.com

Dr. Weichao Zheng
Department of Agricultural Structure and Bioenvironmental Engineering
China Agricultural University, Mail Box 67, Beijing 100083, China
Cell: +86 13811997928; Fax: +86 10 62736904 ; Email: weichaozheng@cau.edu.cn

2025 International Symposium On Animal Environment and Welfare

(Chongqing, China • October 20–23, 2025)

Abstract Submission Form (Due March 31, 2025)

Theme Area no. & Topic: _____

_____

Paper/Poster title: _____

_____

_____

Author names: _____

_____

Presentation Type: Oral_____Poster_____No preference_____

First author (if not Corresponding author) E-mail: _____

_____

Corresponding author E-mail (req'd): _____

_____

First Name: _____**Surname:**_____**Title:** _____

Institutional Affiliation: _____

Street Address:_____

City:_____**State/Province:**_____

Zip/Postal Code:_____**Country:**_____**Phone:**_____

Abstract (<250 words):

Submit the completed form via the symposium website: http://isaew2025.aconf.org/

中国农业工程学会

贺　信

尊敬的**阮榕生教授(Rongsheng Roger Ruan**, University of Minnesota)：

您好！欣闻您于 2025 年 2 月 11 日当选美国工程院院士，中国农业工程学会向您致以最热烈、最衷心的祝贺！这一殊荣实至名归，是您多年来辛勤耕耘与卓越成就的最好见证。同时，也向海外华人农业、生物与食品工程师协会（AOCABFE）表示祝贺！

您在担任美国明尼苏达大学生物制品与生物系统工程系教授、研究生部主任及生物精炼中心主任期间，多年来在农业、生物与食品工程、可再生能源等领域潜心研究，凭借深厚的学术造诣、严谨的治学态度、不懈的创新精神，取得了一系列具有开创性和引领性的科研成果，成为国际知名的生物及食品工程与可再生能源领域专家。尤其在微波裂解、固体废弃物微波辅助催化热解和废水微藻领域，您带领团队深耕 20 余年，研究水平国际领先。特别是在废塑料资源化方面，团队开发的催化微波辅助热解（CMAP）技术，成功将废塑料转化为单体，并回收非凝结气体用于生产三维石墨烯材料和低碳氢气，显著提高了塑料回收的经济可行性，为塑料回收行业提供了可持续解决方案。您带领团队在顶级期刊如《Science》和《Progress in Energy and Combustion Science》上发表了 600 余篇学术论文，出版 2 部专著及 30 章书籍章节，并拥有 21 项美国专利。您在微波裂解和废水微藻研究领域具有全球影响力，论文引用次数全球排名第一，h 指数达 106，i10 指数 532，总引用次数超过 4.4 万次，产生了重大的国际影响。在人才培养放也成就斐然，累计培养了 100 余名博士及硕士研究生，指

导了 150 余名博士后及工程师，其中许多人已成为大学教授或研究机构负责人，成为了行业专家，可谓桃李满园，人才辈出，成就斐然！

您的研究成果不仅在理论层面丰富了相关学科的知识体系，在国际学术界享有盛誉，还致力于科研成果的转化与应用，受邀进行了 400 余次学术报告，并担任多个政府机构及国际企业在生物工艺工程、食品工程、可再生能源和环境工程领域的顾问，推动专利技术转化应用，实现微波辅助热解技术、非热等离子体专利技术等的商业化应用。这些成果的转化应用为推动行业进步、改善人们生活发挥了巨大作用。从技术创新到转化应用，您的每一项突破都凝聚着对科学的执着追求和对社会的责任担当。此外，您在废水净化、废气回收利用、固废资源化及环境污染治理方面也取得了卓越成果，其创新研究和技术应用正在全球范围内推动可持续发展和绿色制造的变革，为可持续发展和产业化应用作出了重要贡献。因为在科学研究、人才培养、成果转化、社会服务等方面的丰硕成果与卓越成就，您先后荣获美国农业与生物工程师学会会士（2015）、美国食品技术学会会士（2019）及国际先进材料协会会士（2022）等称号，并多次获得国际学术奖项，包括国际生物加工协会 Pandey 奖、CAFS 专业成就奖和 IAAM 科学家奖等，并于 2023 年当选美国国家发明家科学院院士。此次当选美国工程院院士，是国际学术界对您学术成就的高度赞誉，更是您职业生涯的又一座光辉里程碑。这不仅是您个人的荣耀，也为我国的科研事业增添了熠熠光彩，激励着无数科研工作者奋勇前行。

再次向您表示衷心的祝贺！诚挚的感谢您一直以来对农业工程领域学科发展的关心与支持，特别感谢您为推动 AOCABFE 与我会的交流合作以及创办 IJABE 期刊作出的重要贡献。最后，希望您能继续致力于深化“两会”合作及促进农业工程的高质量发展。

祝愿您身体健康，诸事顺遂，科研事业不断迈向新的高峰！

中国农业工程学会

2025 年 2 月 22 日

MISSISSIPPI STATE UNIVERSITY
DEPARTMENT OF AGRICULTURAL AND BIOLOGICAL ENGINEERING

Fully Funded Ph.D. Opportunity in Precision Agriculture and Robotics!

Position Description

The Department of Agricultural and Biological Engineering at Mississippi State University is seeking a passionate and innovative candidate for a fully funded Ph.D. position in Precision Agriculture and Robotics! The selected student will work on cutting-edge projects involving:

- **Robotic design**: Developing advanced robotic systems, including the mechanical and electrical design of aerial and ground robots, and related systems.
- **Control and Optimization**: Designing control algorithms and optimizing multi-robot systems for efficient and collaborative performance.

About Mississippi State University (MSU)

Founded in 1878, MSU is a **Carnegie R1**: Doctoral University with Very High Research Activity and one of Mississippi's flagship institutions. MSU consistently ranks among the **Top 100** universities nationwide for research and development in science and engineering. Located in Starkville, MS—a charming, historic city with a population of about 25,000—MSU offers a vibrant academic and community environment. Starkville is conveniently situated within a two-hour drive of Memphis, Birmingham, and Jackson, and approximately four hours from New Orleans, Atlanta, and Nashville.

Who will you be working with?

The PhD student will work closely with **Drs. Dong Chen** and **J. Alex Thomasson**. **Dr. Dong Chen** is an Assistant Professor at ABE and has published over 20 papers in top journals and conferences, including COMPAG, T-TITS, RAL, TMECH, ICRA, receiving widespread recognition. **Dr. J. Alex Thomasson** is a Professor, Department Head of ABE, and Director of the Agricultural Autonomy Institute (AAI). Dr. Thomasson is renowned for his contributions to agricultural autonomy, precision agriculture, remote sensing, drones, image analysis, optoelectronic sensors, and cotton production and processing.

Qualifications

Ph.D. student applicants should have:

- A bachelor's degree or above in agricultural/biosystems engineering, or closely related field.
- Research experience in at least one of the following research topics: mechanical design, sensors, control, optimization, etc.
- Practical computer skills (e.g., Python/C++, ROS, 3D modeling software, mechanical design platforms).
- International applicants require TOEFL: 79 or IELTS: 6.5.

Application Procedures

Please reach out to Dr. Chen (chendon9@msu.edu) with your CV, your research interests, transcript, and English test scores. Make sure that the subject is "Ph.D. Position Applicant: FirstName_LastName". If your qualifications align, Dr. Chen will communicate with you in more detail!

INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

Dr. Yanqiu Yang, Assistant Professor

Department of Animal Science

Fully Funded MS/PhD Position in Precision Livestock Farming

Program: MS/PhD in Animal Science (or Biosystems Engineering by request)

Start Date: Spring or Fall 2026 (flexible)

Position Description

The **Beef AI & Robotics Network (BARN) Lab** at the University of Tennessee, Knoxville (UTK) is seeking a highly motivated **MS or PhD student** to join its research team. The lab focuses on advancing Precision Livestock Farming (PLF) through the integration of artificial intelligence (AI), robotics, and sensing technologies.

Research topics may include:

- Behavior and health monitoring of beef cattle using computer vision, wearable sensors, and machine learning
- Livestock body condition scoring and activity tracking using 3D imaging, hyperspectral imaging, and remote sensing
- Development of IoT-enabled systems, mobile platforms, and robotic solutions for smart ranch and pasture management
- Digital twin development and real-time decision-support systems for sustainable beef production

Preferred Qualifications

Applicants should have a Bachelor's or Master's degree in a relevant field such as animal science, agricultural/biosystems engineering, electrical/computer engineering, computer science, or data science.

Ideal candidates will have experience or strong interest in one or more of the following areas: machine learning, computer vision, embedded systems, IoT technologies, robotics, drone systems, hyperspectral imaging, or farm animal behavior and welfare monitoring. Proficiency in programming languages such as Python, MATLAB, or C++ is highly desirable. Strong written and oral communication skills and a **passion for interdisciplinary research** at the intersection of animal science and emerging technologies are essential.

About UTK and the BARN Lab

UTK is the state's flagship university, ranked **#52 among public** and **#109 nationally** (U.S. News & World Report, 2025). Located near the Great Smoky Mountains, UTK offers an affordable, scenic, and vibrant living environment with easy access to Nashville and Atlanta.

Beef cattle are consistently among the **top three** agricultural commodities in Tennessee, which makes UTK a strong base for livestock research. UTK has a strong interdisciplinary team working in PLF, fostering collaboration across animal science, engineering, and data science. The **BARN Lab**, led by Dr. Yanqiu Yang, develops AI-, robotics-, and sensor-based tools for PLF and collaborates with **Oak Ridge National Laboratory (ORNL)** and industry partners.

How to Apply

Interested candidates should contact **Dr. Yanqiu Yang** at yyang118@utk.edu with the subject line: "**MS or PhD Position_YourFirstName_YourLastName**." Please include the following materials in your email: (1) a one- to two-page statement of research interests and career goals, (2) a CV or resume, (3) unofficial transcripts, (4) IELTS or TOEFL test scores for international applicants, and (5) contact information for 2–3 references.

Open Research Opportunities

Postdoctoral Researcher Positions in General (multiple positions are available):

The Digital Agriculture lab (https://digitalag.bse.wisc.edu/) is recruiting a Postdoc Researcher at the University of Wisconsin-Madison. Candidates with a research focus on one of the two areas: 1) High-throughput plant phenotyping using UAV multi-sensor data (hyperspectral, RGB, lidar); 2) develop machine learning models with satellite remote sensing data (e.g., hyperspectral, multispectral, high-resolution RGB, SAR) for precision agriculture, are strongly encouraged to apply. Ideal candidates would be with PhD degree in Electrical and Computer Engineering, Computer Science, Geography, Agricultural and Biological Engineering, and or other related disciplines. Demonstrated skills in scientific writing, publications, and communication. Salary is commensurate with candidate's experience and UW-Madison provides competitive fringe benefits.

To apply, please email CV and a Cover Letter to Dr. Zhou Zhang at zzhang347@wisc.edu.

PhD Positions:

We are looking for PhD students starting through the Department of Biological Systems Engineering, at University of Wisconsin-Madison. In addition to a waiver of tuition, the Research Assistant (RA) positions also provide your monthly stipend. Candidates with research experience in machine learning/deep learning, remote sensing, precision agriculture and UAVs are highly desired. Ideal candidates would be with M.S. or Bachelor's degree in Electrical Engineering, Computer Science, Agricultural/Biological Engineering, Civil Engineering, Geography or other related disciplines. Please check the admission requirements and application procedures at https://bse.wisc.edu/graduate-studies/admissions/ (https://bse.wisc.edu/graduate-studies/admissions/)

Master and visiting students/scholars positions are also available.

English Requirements

1) For PhD. RA positions, minimum scores are TOEFL: 80; IELTS: 6.5;
2) For visiting students/scholars (e.g. funded by CSC), minimum scores are TOEFL: 65 total with the speaking no less than 17; IETLS: 6 total with no portion less than 5

If you are interested in these opportunities, please send me your updated CV including your publications and English scores at zzhang347@wisc.edu (mailto:zzhang347@wisc.edu)

WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON (https://www.wisc.edu)

Part of the Universities of Wisconsin (https://www.wisconsin.edu/)

CONTACT US

Email: zzhang347@wisc.edu (mailto:zzhang347@wisc.edu)

Website feedback, questions or accessibility issues: jwnelson@wisc.edu (mailto:jwnelson@wisc.edu) | Learn more about accessibility at UW–Madison (https://accessible.wisc.edu/).

WSU Jobs

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Search for Jobs Introduce Yourself

Assistant Professor - Smart Machine and Robotics Systems Engineering

Apply

Prosser, WA

Full time

Posted 9 Days Ago

R-13526

Online applications must be received before 11:59pm on:
July 31, 2025
If a date is not listed above, review the Applicant Instructions below for more details.

Available Title(s):
270-NN_FACULTY - Assistant Professor

Business Title:
Assistant Professor - Smart Machine and Robotics Systems Engineering

Employee Type:
Faculty

Position Term:
9 Month

Position Details:
OPPORTUNITY:
We have an opening for an Assistant Professor position to join our nationally and internationally recognized Agricultural and Automation Engineering Researchers at the Center for Precision & Automated Agricultural Systems (CPAAS). This is a tenure-track position in the Department of Biological Systems Engineering (BSE) within the College of Agricultural, Human, and Natural Resources Sciences (CAHNRS) at Washington State University (WSU). We are seeking a dynamic, motivated, and problem- solving Research Leader in Smart Machine and Robotics Systems Engineering to join an extraordinary team of engineers, scientists, educators and extension experts within the university. This 9-month tenure-track position is located on the Prosser campus of WSU's Irrigated Agriculture Research and Extension Center (IAREC) and will start on January 1, 2026, or as negotiated. The successful candidate will develop a competitive and independent agriculture industry-relevant research program and contribute to teaching, outreach and extension activities to advance the missions of CPAAS, BSE, and CAHNRS.

The successful candidate will provide statewide leadership in agricultural automation and robotics to support

About Us

WSU is Washington's land-gran university with campuses locat Everett, Pullman, Spokane, Tri-C Vancouver. Additionally, researc centers are located throughout

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Notice of Non-Discrimination

In matters of admission, emplo housing or services, or in the educational programs or activit operates, WSU does not discrin permit discrimination by any m

Read More

the agricultural industry in the region. *The candidate will establish a strong connection and collaboration with the industry, ensuring that the research contributes to, and has a positive impact on Washington agriculture.* The candidate will be expected to contribute to the training and education of graduate students. The candidate may also develop and offer undergraduate or/and graduate courses based on the needs of the department. The successful applicant will have familiarity working with different cultural and socioeconomic groups, and interest in working with a multi-disciplinary team of faculty and with people from diverse backgrounds. This position will report to the BSE Department Chair and CPAAS Director.

The Department of Biological Systems Engineering aims to discover and apply scientific and engineering principles and methods to the processes of our natural world and provide advanced graduate education to engineering professionals. BSE has an annual research expenditure of about $7.5 million, with about 115 peer-reviewed publications produced each year, and an average faculty research expenditure of $417,000. The number of graduate students range from 60-75 in a given year. Nine of our faculty members are among the 60 most cited researchers at WSU. The four emphasis areas are Agricultural Automation Engineering, Food Engineering, Bioenergy and Bioproducts Engineering, and Land, Air, Water Resources & Environmental Engineering. Agricultural Automation Engineers work to provide engineering solutions to crop production problems in agriculture. From seed to table, our researchers collaborate with the growers, harvesters, food processors and supporting industries to develop new technologies for the economic growth and sustainability of agriculture.

The Center for Precision & Automated Agricultural Systems (CPAAS) on the WSU Prosser campus offers a trans-disciplinary framework for precision/smart agriculture and automation efforts at WSU. CPAAS is housed in a 25,000 sq. ft. building with offices and laboratories, including a machinery systems lab, a robotics and electronics lab, a remote sensing and decision support lab, and a computer vision and automation lab. The building also includes CNC machining, a lathe, a shop space with 5-ton crane to move prototypes across the fabrication area, and a class/meeting room equipped with tele- and video-communication facilities. In 2024, CPAAS established a two-acre apple orchard for technology demonstration, validation and industry engagement. The CPAAS facilities provide the capability to design, fabricate, and test integrated robotic, automated, and precision agriculture related equipment systems. The candidate will have laboratory equipment and research space available at CPAAS.

Washington State's 15 million acres of farmland produce 300 different crops. The state's diverse geography and mesoclimates create an endless variety of growing regions, from the moist hillsides and valleys on the west side of the state to the fertile, rolling plains of eastern Washington. Washington ranks first in the nation for production of apples, blueberries, hops, pears, spearmint oil and sweet cherries, and second in apricots, asparagus, grapes, potatoes and raspberries.

RESPONSIBILITIES:
The successful candidate will establish an extramurally funded, nationally recognized program in Smart Machine and Robotics Systems Engineering, to address the needs of the agricultural industry. The program will focus on developing smart, automated, and autonomous agricultural machinery technologies for efficient production management in various crops, especially the perennial, irrigated specialty crops. These smart systems should work in all-weather scenarios, often collaboratively, and should address key labor constraints, machine efficiency, and operational challenges faced by existing systems, and by industry stakeholders during crop production management as well as during harvest. The research program should be developed in collaboration with the industry stakeholders to address the agricultural needs of the region. The stakeholder education efforts should focus on translating technology developed by our own program (CPAAS), as well as that developed by private industry, to the grower stakeholders through the developed research program, extension and outreach activities, and cooperation with our Extension programs.

The candidate should have a background in mechanical engineering and/or mechatronics, and experience in developing AI driven robotic technologies/solutions for use in agriculture. The candidate will write grant proposals to secure extramural funds from state, regional and national sources, private foundations, and/or companies. The candidate may be expected to develop and teach undergraduate and/or graduate courses based on the needs of the department. The candidate will advise graduate students and disseminate research results in peer-reviewed scientific journals and at scientific conferences and stakeholder meetings. Other expectations include student mentoring, and service to the center, university, college and department and

professional organizations.

Required Qualifications:

- Earned Ph.D. in Agricultural Engineering, Mechanical Engineering, Robotics, or closely related field at the time of the hire.
- Demonstrated knowledge in mechanical engineering, mechatronics, or robotic technologies/solutions.

Preferred Qualifications:

- Demonstrated research experience and excellence in mechanical engineering, mechatronics, or AI driven robotic technologies/solutions for use in agriculture.
- Demonstrated ability to communicate effectively with technical and nontechnical audiences in oral and written forms.
- Record of competitive grant success and project management commensurate with career level.
- Knowledge of state-of-the-art technologies applicable to agriculture.
- Experience or expressed interest in working with dryland and irrigated agriculture systems.
- Demonstrated post-doctoral or industry experience.
- Strong interpersonal communication skills and ability to work with diverse audiences and stakeholders.
- Record of active participation in academic and/or professional organizations.

Additional Information:
Area/College: College of Agricultural, Human, and Natural Resources Sciences (CAHNRS)
Department Name: Biological Systems Engineering (BSE)
About Department: https://bsyse.wsu.edu/
Location: CPASS, IAREC, Prosser, WA

Annual Salary: $80,000 - $90,000; (9-month appointment); Competitive and commensurate with qualifications and experience. In accordance with RCW 49.58.110, the above salary reflects the full salary range for this position. Individual placement within the range is based on the candidate's current experience, education, skills, and abilities related to the position.

Benefits: WSU offers a comprehensive benefits package which includes paid sick and vacation leave; paid holidays; medical, dental, life and disability insurance package for employees and dependents; retirement; deferred compensation and optional supplemental retirement accounts. For a more detailed summary of benefits offered by WSU for Faculty please review the summary of benefits for WSU Faculty and Total Compensation

Overtime Eligibility: This position is not eligible for overtime.

This is a permanent tenure track position.

Background Check: This position has been designated by the department to require a background check because it requires access to children or vulnerable adults as defined by RCW 74.34, engages in law enforcement, requires security clearance, interacts with WSU students in a counseling or advising capacity, has access to personal identifying and/or financial information, unsupervised access to university buildings/property, or other business-related need. A background check will not be completed until an initial determination of qualification for employment has been made.

Application Instructions: Applicants must upload the following required documents to their online application. Application materials should clearly communicate how the applicant meets all required qualifications and additional requirements.

Required Documents:
1) A letter of application that includes a statement of the applicant's qualifications, training, and experience

(max. 2 pages).
2) A statement to highlight the vision for the position (max. 2 pages).
3) A complete curriculum vitae.
4) Unofficial transcript(s) of all degree programs.
5) Names and contact information for three professional references.

Screening of Applications will begin on August 1, 2025.

All questions about the position may be directed to Dr. Sindhuja Sankaran (s.sankaran@wsu.edu).

External candidates, upload all documents in the "Application Document" section of your application.
Current WSU Employees (internal candidates), before starting your Workday application, please use these instructions to update your education and experience in your worker profile in Workday. Internal candidates, upload all documents in the "Resume/Cover Letter" section of your application.

Documents should be submitted as separate files. Applicants are encouraged to upload as a PDF, if possible.

About BSE, IAREC, CAHNRS, WSU, Prosser
THE DEPARTMENT OF BIOLOGICAL SYSTEMS ENGINEERING: Faculty, staff, and students in the Department of Biological Systems Engineering are committed to improving the long-term sustainability of agricultural systems through research, teaching, and extension. BSE offers Ph.D. and M.S. degrees in Biological and Agricultural Engineering with four areas of emphasis: Food Engineering, Bioenergy and Bioproducts Engineering, Agricultural Automation Engineering, and Land, Air, Water Resources & Environmental Engineering. BSE is part of the College of Agricultural, Human, and Natural Resource Sciences; employs 14 full-time faculty members placed at four Washington State locations- Pullman, Tri-Cities, Prosser, and Puyallup. BSE faculty manages the Center for Nonthermal Processing of Food; the Bioproducts, Science, and Engineering Laboratory; and the Center for Precision & Automated Agricultural Systems. On average about 60-75 graduate students are enrolled in PhD and MS degree programs. BSE students actively participate in Graduate Student Clubs including Food Engineering; Agricultural Automation and Engineering; American Society of Agricultural and Biological Engineering; and Biomass Engineering. For more information, visit https://bsyse.wsu.edu.

THE IRRIGATED AGRICULTURE RESEARCH AND EXTENSION CENTER: The IAREC research and extension facility is located in south central Washington, serving roughly 1.8 million acres of irrigated farmland. IAREC is ten minutes from the city of Prosser, in the middle of the Yakima Valley, one of the most agriculturally diverse regions in the U.S.A. IAREC integrates faculty members from six academic departments from the WSU College of Agricultural, Human and Natural Resource Sciences, USDA-ARS scientists and WSDA. It comprises four research farms totaling 900 acres, office, laboratory, and greenhouse space for approximately 15 permanent and 35 temporary university faculty, 60 full-time technical and administrative support staff, about 40 graduate students, and up to 200 undergraduate student interns, assistants, and temporary hourly employees. There are research and extension farms with orchards, vineyards, hops, berries and plenty of space for future endeavors. The Roza farm, only 10 minutes away from CPAAS, has DEMO Smart Orchard and Vineyard Site, heavily outfitted with state-of-the-art plant, soil and environmental sensor technology. And only steps away from the CPAAS building, a new apple orchard was recently established for technology demonstration, validation, and outreach.

THE COLLEGE OF AGRICULTURAL, HUMAN, AND NATURAL RESOURCE SCIENCES: CAHNRS at Washington State University is an expansive and diverse college that includes 13 academic units, three extension program units, four research and extension centers distributed across the state, 13 subject matter centers, and one tribal and 39 county extension offices. CAHNRS fosters disciplines that serve at the interface of scientific discovery and its application to the advancement of society and improvement of human experience. Our mission is to provide global leadership in discovering, accessing, and disseminating knowledge that contributes to producing a safe, abundant food and fiber supply; promotes the well-being of individuals, families, and communities; enhances sustainability of agricultural and economic systems; and promotes stewardship of natural resources and ecological systems. CAHNRS personnel embrace the opportunity to fulfill the university's land-grant mission by making groundbreaking research discoveries, by delivering relevant, progressive extension programs that synergistically generate outcomes that enhance the quality of life for the citizens of Washington State, as well as for people around the globe. For more information, visit http://cahnrs.wsu.edu.

WASHINGTON STATE UNIVERSITY: Founded in 1890, Washington State University is a comprehensive land-grant university with teaching, research, and extension missions, and one of two research universities in Washington State. WSU is organized into 11 academic colleges, the Honors College, and the Graduate School. It has an enrollment of more than 31,000 undergraduate and graduate students on 5 campuses (Pullman, Spokane, Tri-Cities, Vancouver, and Everett) with approximately 21,000 students located on the main campus in Pullman, WA. WSU ranks among the top 60 public research universities and is a Carnegie I, Doctoral/Research Extensive University. WSU strongly values diversity among its faculty, staff, and students, and seeks to ensure a welcoming community for all. Further information about WSU can be found at: www.wsu.edu and https://wsu.edu/about/facts.

LIFE IN PROSSER: Prosser offers a friendly, small-town atmosphere with a high quality of life and connected community. Prosser is located in the Yakima Valley with rich agricultural heritage amid modern, irrigated orchards, world-class wineries and vineyards, vegetable and animal farms. About 30 miles west of metropolitan Richland (where the WSU Tri-Cities campus is located), along the Yakima River, Prosser is in the Columbia Basin region, which produces a third of agricultural produce in Washington. The tree fruit produced in this region includes apples, sweet cherries, pears, peaches, nectarines, plums, and apricots. To learn more about the Prosser community, visit: https://cityofprosser.com/.

Washington State University encourages all qualified candidates to apply, including members of the military, veterans, and persons with disabilities. WSU employs only U.S. citizens and lawfully authorized non-U.S. citizens. All new employees must show employment eligibility verification as required by the U.S. Citizenship and Immigration Services at the time of hire.

WSU is committed to providing access and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation in the application process, contact Human Resource Services: 509-335-4521 (v), Washington State TDD Relay Service: Voice Callers: 1-800-833-6384; TDD Callers: 1-800-833-6388, 509-335-1259(f), or hrs@wsu.edu.

NOTICE OF NON-DISCRIMINATION. In matters of admission, employment, housing or services, or in the educational programs or activities it operates, WSU does not discriminate or permit discrimination by any member of its community against any individual on the basis of sex, race, color, national or ethnic origin, physical disability, mental disability, sensory disability, use of a trained service animal, age, religion, creed, genetic information, marital status, sexual orientation, gender identity, protected veteran status, honorably discharged veteran, member of the military, or immigration or citizenship status except as authorized by federal or state law, regulation, or government contract.

Inquiries about the application of federal and state laws and regulations (including inquiries regarding the application of Title IX, ADA/Section 504, and implementing regulations), as well as reports and complaints of discrimination and harassment, can be made verbally or in writing to WSU's Compliance and Civil Rights, the Department of Education's Office of Civil Rights, or both. More information, resources, and contact information are available here: https://ccr.wsu.edu/notice-of-nondiscrimination/

Time Type:
Full time

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Jiating Li

Assistant Professor
Department of Biosystems Engineering

Jiating.Li@umanitoba.ca
204-474-8429

Lab Website

Education

- 2023, PhD Agricultural and Biological Systems Engineering, University of Nebraska-Lincoln
- 2019, MSc Agricultural and Biological Systems Engineering, University of Nebraska-Lincoln
- 2017, BSc Biosystems Engineering, Zhejiang University

Biography

Jiating is originally from Southeast China and completed her undergraduate studies at Zhejiang University. In 2017, she went to the University of Nebraska-Lincoln, where she spent six years and earned her MSc in 2019 and PhD in 2023. Before joining the University of Manitoba, Jiating did a year of postdoctoral research at the University of Illinois Urbana-Champaign.

Research

Area

Precision and digital agriculture
High-throughput plant phenotyping
Agricultural automation and robotics
Physics-guided AI

Expertise

Remote and proximal sensing (unmanned aerial systems, cable-suspended phenotyping/imaging systems)
Optical imaging (RGB. multispectral, hyperspectral, thermal)
2D/3D data processing
Artificial Intelligence (convolutional neural network, LSTM, Gaussian process regression, etc.)
Physics-based model (radiative transfer model)

Research description

Jiating Li's research focuses on integrating cutting-edge digital technologies to advance Canadian crop and livestock production systems. These technologies include, but are not limited to, ground- and aerial-based automation systems, optical sensing, Internet-of-Things

(IoTs), physics-based models and artificial intelligence (AI). Her goal is to develop robust engineering solutions for real-world agricultural challenges.

Graduate Student Opportunities

Dr. Li is looking for self-motivated graduate students to join her lab. Contact her for more details.

Selected Publications

Google Scholar

Faculty and Staff
Price Faculty of Engineering

Faculty and staff
Department of Biosystems Engineering

博士生招聘｜密歇根州立大学张义麟课题组

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美国密西根州立大学化学工程与材料科学系张义麟课题组现招收两名全奖博士生，诚邀有意向者申请。入学时间为2026年春季或秋季。课题组专注研究开发高分子以及生物高分子纳米材料，用于新型纳米农药，植物基因编辑，资源回收，以及新型污染物治理。课题组将结合纳米制造，高分子化学，生物科技，植物生理，多组学，合成生物学，以及机器学习等先进技术以解决可持续农业，粮食安全，气候变化，以及环境健康等相关领域的全球性挑战。

张博士将于2026年1月加入密歇根州立大学化工材料系以及生物系统与农业工程系担任助理教授。张博士于2016年在北京航空航天大学获得环境工程本科学位，2021年在卡耐基梅隆大学获得土木与环境工程系获得博士学位，后在麻省理工学院土木与环境工程系开展了博士后研究。曾获得茅以升优秀博士论文奖，茅以升奖学金等荣誉。研究成果以第一作者身份发表于Advanced Materials, ACS Nano, Nano Letters, Environmental Science & Technology, ACS Sustainable Chemistry and Engineering等领域内顶级期刊，并申请多项国际专利。

申请标准

1. 申请人需具有或即将获得化学工程，材料科学，农业工程，环境工程等相关领域的学士学位。尤其鼓励拥有硕士研究经历的同学申请。
2. 特别欢迎在纳米科技，化学合成，植物科学，环境科学，新型污染物治理等方向有扎实背景，具有浓厚科研兴趣并能够独立思考的同学申请。

英语成绩要求：TOEFL > 80，具有硕士学位的同学可免GRE成绩

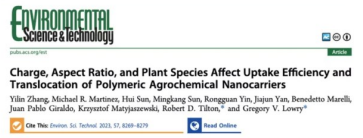
研究方向

项目一： 新型高分子纳米材料用于为植物进行药物以及生物大分子递送以实现可持续农业。

相关论文：


ADVANCED MATERIALS
Research Article | Open Access
Polymeric Nanocarriers Autonomously Cross the Plant Cell Wall and Enable Protein Delivery for Stress Sensing
Yilin Zhang, Yunteng Cao, Wenzhi Jiang, Qingquan Ma, Jinwoo Shin, Hui Sun, Jianqiao Cui, Yongsheng Chen, Juan Pablo Giraldo, Michael S. Strano, Gregory V. Lowry, Jen Sheen, Benedetto Marelli
First published: 16 August 2024 | https://doi.org/10.1002/adma.202409356 | Citations: 4

https://doi.org/10.1002/adma.202409356


Environmental Science & Technology
Charge, Aspect Ratio, and Plant Species Affect Uptake Efficiency and Translocation of Polymeric Agrochemical Nanocarriers
Yilin Zhang, Michael R. Martinez, Hui Sun, Mingkang Sun, Rongguan Yin, Jiajun Yan, Benedetto Marelli, Juan Pablo Giraldo, Krzysztof Matyjaszewski, Robert D. Tilton,* and Gregory V. Lowry*
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https://doi.org/10.1021/acs.est.3c01154


ACSNANO
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Yilin Zhang, Liye Fu, Su-ji Jeon, Jiajun Yan, Juan Pablo Giraldo, Krzysztof Matyjaszewski, Robert D. Tilton,* and Gregory V. Lowry*
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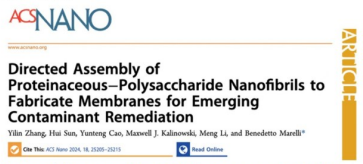
相关论文：


ACSNANO
Directed Assembly of Proteinaceous−Polysaccharide Nanofibrils to Fabricate Membranes for Emerging Contaminant Remediation
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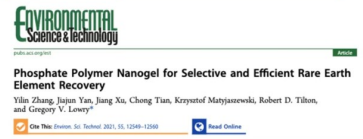
Environmental Science & Technology
Phosphate Polymer Nanogel for Selective and Efficient Rare Earth Element Recovery
Yilin Zhang, Jiajun Yan, Jiang Xu, Chong Tian, Krzysztof Matyjaszewski, Robert D. Tilton, and Gregory V. Lowry*
Cite This: Environ. Sci. Technol. 2021, 55, 12549−12560 Read Online

https://doi.org/10.1021/acs.est.1c01877

我们将提供：

1. 全额奖学金，包括学费、生活费、医疗保险，以及学术会议差旅费
2. 先进的设施设备和支持性的研究环境
3. 多学科合作和融合性研究机会，培养跨化学工程，材料科学，农业工程，植物科学，环境工程等多领域的科研技能。
4. 职业发展指导和规划，帮助学生实现职业目标

如何申请

感兴趣的学生请邮件联系张义麟博士（邮箱地址： yilinz@mit.edu ），邮件标题为 **Ph.D. Application_Your Name**。请将以下材料合并成一个pdf文件，附在邮件中。

1. 自我推荐信，请简述你的背景，研究经历和兴趣，以及职业规划目标 （1页）
2. 个人简历
3. 成绩单（非官方成绩单即可）
4. 科学写作样本（例如已发表的文章，学位论文，课程项目报告均可）
5. 三位推荐人的联系方式（包括姓名、任职单位以及邮箱地址

我们会联系符合条件者进行面试，并要求有意向的候选人通过学校研究生院提交正式申请。所有的申请人需要满足密西根州立大学研究生入学要求。材料审核立即开始，直到招满职位。

学校简介

密歇根州立大学（Michigan State University, MSU），成立于1855年，坐落于密歇根州东兰辛市，是一所世界一流的公立研究型大学。密歇根州立大学是美国大学协会成员（AAU），十大联盟成员（Big Ten），被誉为“公立常春藤”。2023年版《美国新闻与世界报道》排名将密西根州立大学置于最佳公立大学并列第28位，全美最佳大学并列第60位，同时列全球最佳大学第116位。密西根州立大学拥有美国国家超导回旋加速器实验室，比尔植物园，艾布拉姆斯天文馆，沃顿艺术表演中心，布罗德艺术博物馆，以及稀有同位素束流装置。密西根州立大学的教师和校友包括2名诺贝尔奖得主、20名罗德学者、20名马歇尔学者、18名邱吉尔学者、17名杜鲁门学者、5名米切尔学者、13名尤德尔学者、 53位戈德华特学者、215位富布赖特学者和8位普立兹奖得主。

学校坐落于East Lansing，是一个环境优美、安全指数高且生活便利的大学城。距离底特律仅1.5小时车程。

TEXAS A&M UNIVERSITY
College of Agriculture & Life Sciences

TEXAS A&M AGRILIFE | THE DALLAS CENTER

Postdoctoral Research Associate – Agricultural Robotics

The Department of Biological and Agricultural Engineering (https://baen.tamu.edu/) and Texas A&M AgriLife Research – Dallas Center (https://dallas.tamu.edu/) are seeking a highly motivated individual to join the Controlled Environment Agriculture (CEA) Engineering Lab as a Postdoctoral Research Associate. The candidate will work primarily in one of the following areas: computer vision, AI-driven automation, and/or robotics for CEA. The position is focused on the development and deployment of computer vision and intelligent robotic systems through physics-based simulation, virtual environments, and AI-enabled control, with direct applications in crop production and environmental management in controlled settings such as greenhouses and vertical farms. Responsibilities will include, but are not limited to:

- Implement AI approaches for crop sensing, growth analysis, and stress monitoring, with a strong focus on modeling and interpreting plant-environment interactions for intelligent climate control.
- Develop simulation environments and digital twins using tools such as Gazebo, NVIDIA Isaac Sim, or Unity to model the CEA environment as well as robotic perception, navigation, and manipulation tasks.
- Design and implement control policies for robotic arms and mobile platforms using reinforcement learning, classical control, and hybrid approaches with sim-to-real transfer in mind.
- Lead activities such as design, prototyping, testing, and refinement of robotic systems and automation solutions, including sensor integration and feedback control.
- Collaborate with a multidisciplinary team to design and execute research studies, perform data collection and analysis, and contribute to high-impact publications.
- Present research findings through presentations at scientific conferences and stakeholder meetings.

Required Qualifications:

- Ph.D. degree in Agricultural/Biosystems/Mechanical/Electrical Engineering or closely related fields with expertise in robotics, computer vision, and/or automation.
- Demonstrated track record of peer-reviewed publications in areas such as computer vision, robotics, automation, and/or embedded control systems, particularly with applications in agriculture or controlled environment systems.

Preferred Skills and Expertise:

- Proficiency in ROS/ROS2, Gazebo, NVIDIA Isaac Sim, or Unity for simulation and deployment.
- Experience with reinforcement learning (RL), computer vision, and sim-to-real transfer.
- Experience with robotic hardware platforms such as mobile robots, robotic arms, and embedded sensors.
- Familiarity with digital twin modeling, sensor fusion, and physics-based simulations.

Salary: Commensurate with experience

Start Date: Immediately or Fall 2025

Contact: Interested individuals should email the following to Dr. Azlan Zahid at azlan.zahid@tamu.edu
a) Cover letter detailing the candidate's qualifications and experience relevant to the position; b) Curriculum Vitae with name and contact information of three professional references; c) Unofficial transcripts.

Texas A&M AgriLife Research and Extension Center – Dallas
17360 Coit Road, Dallas, Texas 75252

Postdoctoral Research Associate

Department: Department of Agricultural & Biological Engineering at Purdue University

Location: Purdue University Campus, National Soil Erosion Laboratory, 275 S Russell St, West Lafayette, IN 47907

Position Highlights: Purdue University, Department of Agricultural & Biological Engineering, is seeking a talented candidate to fulfill a full-time postdoctoral research associate collaborating with the National Soil Erosion Laboratory, Agricultural Research Service, U.S. Department of Agriculture (USDA-ARS) and the Ohio Department of Agriculture. The successful candidate will assist in the development of a drainage risk index for phosphorus (DRIP) tool. This tool will combine soil chemical and physical properties with landscape characteristics. An extensive dataset of dissolved phosphorus concentrations will be used to develop, calibrate, and evaluate the DRIP tool.

Key Responsibilities: Under the supervision of Purdue University and USDA-ARS scientists, the candidate will:

- Organize and coordinate large water quality and soils datasets from field sites.
- Gather and organize spatial data with regard to landscapes and soils.
- Work with a modelling team and provide necessary data for model-building.
- Collaborate with team members in the development of feasible and reliable indicators for water and nutrient transport to tile drains.
- Communicate with collaborators and core facilities outside of the department and college.
- Prepare manuscripts for publication in peer-reviewed journals.

Qualifications:

- Ph.D. in Water Resources, Environmental Science, Agricultural Engineering, Soil Science, or a related field of study.
- Ability to manage large data sets.
- Basic knowledge of nutrient fate and transport processes in agroecosystems
- Familiarity with nutrient management strategies and common agronomic practices.
- Experience with, or knowledge of, tile-drainage systems.
- Effective communication and writing skills.
- GIS and coding skills preferred.

Please contact Dr. Chad Penn at chad.penn@usda.gov for additional questions.

Two Fully Funded Ph.D. Student Positions in AI and Robotics for Precision Livestock Farming

POSITION DESCRIPTION

Dr. Ramesh Bahadur Bist's Artificial Intelligence and Robotics (AIR) Lab in the Department of Biological and Agricultural Engineering at North Carolina State University has openings for **two fully funded Ph.D. positions**. Highly motivated candidates are encouraged to apply. Prospective Ph.D. students will engage in **research on artificial intelligence, robotics, machine vision, infectious disease mathematical modeling, and automation for precision livestock farming applications.** The anticipated start date is Spring 2026, Fall 2026, or Spring 2027. The minimum stipend will be $33,000/year plus tuition coverage, health insurance, and travel funding for conference attendance. The stipend is eligible for annual increases based on strong academic performance and research achievements.

QUALIFICATIONS AND REQUIRED SKILLS

- B.S. /M.S. in Agricultural Engineering, Computer Engineering, Electrical Engineering, Mechanical Engineering, or other closely related disciplines.
- Experience or interest in at least two of the following areas:
  - Robotics, control systems, or autonomous navigation.
  - Familiarity with ROS, embedded systems, or robotic simulation tools.
  - 2D/3D Computer vision, machine learning, deep learning, and AI frameworks (TensorFlow, PyTorch, OpenCV, etc.).
  - Experience in multispectral/hyperspectral imaging or LiDAR data processing is a plus.
  - Multi-scale mathematical modeling, spatial analysis and/or network analysis.
- Strong programming skills (e.g., C/C++, Python, R-studio, MATLAB).
- Strong oral and written communication skills.
- Experience in handling large datasets and running robust quantitative analysis.
- Demonstrated publication or conference presentation record.
- Knowledge of Livestock, such as poultry, swine, cattle, and other small ruminants.

HOW TO APPLY

If you are interested in these positions, please **email your CV and research statement** to Dr. Ramesh Bahadur Bist at rbbist@ncsu.edu. *Use the subject line: Prospective PhD Application – Firstname Lastname.* Please note that applicants are required to submit a full application through the graduate admissions portal. The final decision will be made by the graduate office. More information about the application and admission process can be found at https://grad.ncsu.edu/admissions/. Information about BAE department is available at https://bae.ncsu.edu/.

ABOUT NCSU

NC State University is a public land-grant research university in Raleigh, North Carolina. Together with Duke University in Durham and the University of North Carolina at Chapel Hill, it forms one of the corners of the Research Triangle. It is classified among "***R1: Doctoral Universities***—Very high research activity." In the **2024 U.S. News & World Report rankings**, NC State University ranked **#58 among Best National Universities, #25 among Best Engineering Schools**, and **#3 for Best Biological and Agricultural Engineering** Programs. Additionally, NC State is ranked **#5 globally in Computer and Electrical Engineering** according to the 2024 Shanghai Rankings. Additionally, Raleigh, NC was ranked #2 in Best Places to Live in the U.S.

2026 Spring 博士招聘| Virginia Tech Dr. Zhiwu Wang课题组

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2026 Spring Enrollment of Ph.D. Research Associates: Advanced Wastewater Treatment
Virginia Tech — Northern Virginia Campus

Position Description:
The Department of Biological Systems Engineering at Virginia Tech invites applications for Ph.D. Research Associate positions located at our Northern Virginia (NOVA) campus under Dr. Zhiwu (Drew) Wang's supervision. Successful candidates will support highly applied pilot-scale wastewater research in collaboration with regional municipal facilities, such as Upper Occoquan Service Authority, Noman M. Cole Jr. Pollution Control Plant, and H.L. Mooney Advanced Water Reclamation Facility.

Research Focus:
- Continuous-flow aerobic granular sludge
- Migrating biofilm systems
- Mainstream anammox

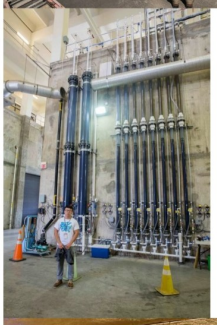
This research employs real wastewater and large pilot-scale reactors to generate practical findings, directly applicable to industry-scale implementation.

Location Advantages (Northern Virginia):
- Close proximity to Washington, D.C., offering networking opportunities with government agencies and international organizations
- International culture and cuisine, excellent K-12 education, mild climate, and safe communities
- Convenient international travel via Dulles International Airport

Position Requirements:
- B.S./M.S. in Environmental, Civil, Chemical, Biological Systems Engineering, or closely related fields
- Strong scientific writing and communication skills, evidenced through peer-reviewed publications or professional presentations
- Excellent interpersonal skills, able to coordinate among government agencies, private industry, and academic teams
- Comfort with handling real wastewater in daily lab and field settings

International B.S./M.S. Applicants:
- TOEFL ≥90 (IBT) or IELTS ≥6.5 required; GRE may be waived

Application Procedure:
Interested candidates should **email their CV to Dr. Zhiwu Wang (wzw@vt.edu)** with subject line: **"2026 NOVA PhD application".** Review will begin immediately and continue until positions are filled. Selected candidates will be interviewed virtually. More information about Dr. Wang's research and lab can be found at https://www.wang.bse.vt.edu/

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It is our publication and it is your publication. We sincerely thank each and every AOC members for their support!

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