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…Special_Session_Abbreviation_Name… 2025

Special Session on Artificial Intelligence in Agriculture

at the **2ⁿᵈ IEEE Afro-Mediterranean Conference on Artificial Intelligence** (**2025 IEEE AMCAI**)

Valenciennes, France, October 14-16, 2025

Conference website: https://amcai-atia.tn/

Special Session Organizers

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Objectives and topics

To build a sustainable and resilient agricultural system, four priorities must be addressed at the farm level: improving farmers' day-to-day livelihoods, promoting environmental responsibility, maintaining competitiveness in the marketplace, and ensuring predictability to ensure stable yields. Meeting these challenges requires the integration of advanced technologies. In this regard, the implementation of AI in agriculture can contribute to more efficient and environmentally friendly agriculture by enabling more accurate decision-making, optimal management of resources, and forecasting market needs.

In crop management, AI-based technologies can optimize yields while minimizing the use of inputs like pesticides, herbicides, fertilizers, and water. When

integrated with IoT devices on the farm, AI algorithms analyze data from sensors monitoring soil, plant, and atmospheric conditions to provide critical insights. By leveraging machine learning, these technologies process large datasets from diverse sources, offering more accurate predictions of crop performance and resource requirements. This data-driven approach allows farmers to make more informed decisions and adapt their farming practices based on real-time information. By continuously monitoring and interpreting these variables, AI can predict trends and optimize farming strategies, ultimately improving future farming practices, increasing productivity, and reducing waste and environmental impacts.

For animal production, AI can enhance efficiency and productivity by optimizing decision-making in various aspects, from feeding to animal health monitoring. Furthermore, AI facilitates the management of complex issues such as quantitative and predictive epidemiology, to improve risk assessment and targeted interventions

For the agri-food supply chain, AI-based technology is a powerful tool that can significantly improve productivity and profitability. By optimizing stock management, reducing costs and waste, and improving customer satisfaction. AI helps streamline operations at every stage of the supply chain.

IA models can predict the optimal harvest time for crops, optimize logistics and ensure efficient resource allocation. It can also predict trends related to market prices and the agri-food sector by understanding market demand behavior.

Finally, AI can be a powerful making decisions tool for a sustainable and responsive agri-food system.

The scope of the Special_Session_Abbreviation_Name 2025 includes, but is not limited to the following topics:

- **AI for the environment :** AI to simulate climate scenarios, and optimize the use of by-products for a more sustainable agricultural system.
- **AI for crop management** : AI to improve crop management practices such as irrigation, fertilization, harvesting, and early detection of diseases to increase yields and reduce resource waste.
- **AI for animal production :** AI to optimize livestock rearing methods, improve productivity, health, and welfare of livestock, achieve sustainable and efficient management.
- **AI for Agri-food supply chain** : AI to improve food safety, streamline supply chain operations, optimize inventory management, and improve overall efficiency and responsiveness in the agri-food sector.

Important dates

Paper Submission deadline: April 15, 2025
Authors Notification: June 15, 2025
Camera Ready and Registration: July 05, 2025
Conference date: October 14-16, 2025

Program Committee (to be invited)

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Submission

All contributions should be original and not published elsewhere or intended to be published during the review period. The contributions should address research questions that relate to one of the topics listed above.

Authors are invited to submit their papers electronically in pdf format, through EasyChair at https://easychair.org/conferences/?conf=amcai2025 . All the special sessions are centralized as tracks in the same conference management system as the regular papers. Therefore, to submit a paper please activate the following link and select the track: **Special_Session_Abbreviation_Name 2025: Special Session on Name.**

Manuscripts should be prepared in 10-point font using the IEEE 8.5" x 11" two-column conference format https://www.ieee.org/conferences/publishing/templates.html

Submitted regular papers are written in English, between 6 to 8 pages (including all figures, tables, and references).

Submissions not following these guidelines may be rejected without review. Also, submissions received after the due date, exceeding the length limit, or not appropriately structured may also not be considered.

To ensure high quality, all submissions are blind peer-reviewed by at least three reviewers from the **Special_Session_Abbreviation_Name 2025 Program Committee**.

All accepted papers must be presented by one of the authors who must register for the conference and pay the fee.

All accepted and presented papers will be submitted to IEEE Xplore for inclusion.