

# Overview of the X International Conference on Advanced Agritechnologies, Environmental Engineering and Sustainable Development (AGRITECH-X 2024)

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**Abstract.** The Volume presents the proceedings of the 10th Anniversary International Conference on Advanced Agritechnologies, Environmental Engineering and Sustainable Development – AGRITECH-X-2024, held in Termez, Uzbekistan on April 29-30, 2024. This milestone event brought together leading experts in the fields of high-tech geochemical, geological, geophysical, and information technologies in agriculture; energy, oil, and gas engineering; environmental management and engineering; mining and soil processing technologies; biodiversity research and conservation methods for sustainable development; the influence of food production on the environment and sustainable systems of food technologies; agroforestry, environmental safety, green technologies, and natural resources. The conference featured a diverse representation of more than 400 participants from over 10 countries. The proceedings of AGRITECH-X 2024 are poised to have a profound impact on the agricultural technology sector, driving innovation and sustainability in the years to come. The future outlook for the Scientific Conference AGRITECH is bright, with ongoing innovation and investment driving growth and adoption.

The Volume contains Proceedings of the 10<sup>th</sup> Anniversary International Conference on Advanced Agritechnologies, Environmental Engineering and Sustainable Development – AGRITECH-X-2024 which was held in Termez, Uzbekistan on 29-30 April 2024.

The purpose of the Conference was to exchange the experience of leading experts in the field of high-tech geochemical, geological, geophysical and information technologies in agriculture; energy, oil and gas engineering; environmental management and engineering, mining and soil processing technologies, as well as in modern areas of biodiversity research and methods for its conservation for sustainable development; the influence of food production on the environment and sustainable systems of food technologies; agroforestry, environmental safety, green technologies and natural resources.

The Program Committee included prominent professors and scientists from the China, Serbia, Uzbekistan, Republic of Kazakhstan, Belarus, Azerbaijan, Kyrgyz Republic, Russia, Vietnam and Bulgaria.

The AGRITECH-X 2024 conference was a significant milestone, marking its 10th year of bringing together agricultural technology experts, innovators, and stakeholders from around the world. This year's event attracted a record-breaking attendance, with over 400 participants from more than 10 countries, including Uzbekistan, Russia, Tajikistan, China, Belarus, Kazakhstan, Iran, Nigeria, South Korea, Bulgaria, Vietnam, Afghanistan, Bangladesh.

The AGRITECH-X 2024 conference was held over the course of 3 full days, offering both in-person and virtual participation opportunities. Attendees had the option to join the event physically or connect via the Zoom platform, ensuring a truly global and accessible experience. The Conference was organised in 10 main sections: Agritechnologies, Agritech Engineering, Policy and Law for Sustainable Environmental Health; Innovative Development of Sustainable Systems of Agrarian-and-Food Production; Information Technologies, Automation Engineering and Digitization of Agriculture; Environmental Engineering, Mining and Soil Treatment Technology; Environmental Safety, Risk Assessment and Management in Oil and Gas Industry; Green Technologies, Climate Change and Environmental Pollution; Chemical, Ecological, Oil-and-Gas Engineering and Natural Resources; Agricultural Mechanization, Civil Engineering and Energetics; Biodiversity and Ecosystem Stability for Sustaining the Natural Area.

The diverse representation at AGRITECH-X 2024 underscores the conference's role as a premier platform for international collaboration and knowledge sharing in the agricultural technology sector. Participants from across the globe convened to discuss the latest advancements, share best practices, and explore innovative solutions to address the pressing challenges facing the industry.

Through a series of keynote speeches, panel discussions, and interactive workshops, the conference provided a dynamic and engaging environment for attendees to network, learn, and explore new opportunities for collaboration and growth.

The AGRITECH-X 2024 conference invited participants to present their research papers in the conference proceedings. Each submitted manuscript underwent an independent peer review process, ensuring the highest standards of scientific quality. The Organizing Committee would like to extend its gratitude to the esteemed reviewers from Russia, China, Belarus, Serbia, the Republic of Kazakhstan, Turkey, and Uzbekistan for their valuable time and insightful comments. These reviews played a crucial role in enhancing the scientific quality of the presented papers, which will be beneficial for academic, scientific, and agri-industrial partners.

A total of over 500 reports were submitted to the Organizing Committee of the conference. Each paper was rigorously reviewed by conference committee members and international reviewers. The reviewers demonstrated exceptional vigilance and strictness in evaluating the scientific quality of the submitted papers, ensuring that only the most outstanding contributions were selected for inclusion.

The acceptance rate for the conference was 36.2%. To ensure the integrity of the published papers, all submissions were checked for plagiarism using iThenticate and double-checked by the Guest Editor before acceptance. This rigorous process ensured that only original and high-quality research papers were included in this 10<sup>th</sup> edition of the conference proceedings.

The papers were selected based on their quality, relevance to the conference scope, and the results of their presentation at the conference session. After the review process, 181 papers were selected for inclusion in this Volume, showcasing the best of the latest research and innovations in the agricultural technology and environmental sector.

The Volume presents scientific papers in 8 main sections: Agritechnologies and Agritech Engineering for Sustainable Environmental Health; Innovative Development of Sustainable Systems of Agrarian-and-Food Production; Information Technologies, Automation Engineering and Digitization of Agriculture; Green Technologies, Climate Change and Environmental Safety and Pollution; Chemical, Ecological, Oil-and-Gas Engineering and Natural Resources; Agricultural Mechanization, Civil Engineering and Energetics; Biodiversity, Agroforestry and Ecosystem Stability for Sustaining the Natural Area; Environmental Engineering, Mining and Soil Treatment Technology.

The Innovation Scientific Consulting Center (Uzbekistan) sponsored the Conference.

On behalf of the conference committee and organizers, we would like to thank all the authors who contributed to this Volume as well as to the reviewers, speakers and all the conference participants for their support to AGRITECH-X-2024.

The proceedings of AGRITECH-X 2024 are poised to have a profound impact on the agricultural technology sector, driving innovation and sustainability in the years to come. The future outlook for the Scientific Conference AGRITECH is bright, with ongoing innovation and investment driving growth and adoption. The proceedings of AGRITECH-X 2024 will continue to shape the sector, ensuring a more sustainable, efficient, and productive agricultural industry for years to come.