



Editorial

Advancing Agricultural Proteomics through Regional Collaboration in Asia and Oceania

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1. Introduction

The Asia–Oceania region represents one of the most dynamic frontiers in global agriculture, where rapid economic growth, population increase, and environmental pressures converge to challenge food production and sustainability. In response to these challenges, agricultural proteomics has emerged as a transformative approach for elucidating the molecular mechanisms that govern crop resilience, productivity, and nutritional quality [1,2].

Recognizing the strategic importance of proteomics for regional food security, the Asia Oceania Agricultural Proteome Organization (AOAPO) was founded in 2010 and formally launched at the Second International Symposium on Frontiers in Agricultural Proteome Research (FAPR), held in Tsukuba, Japan, in November 2010. Since its establishment, AOAPO has connected researchers across the region engaged in diverse fields of agricultural proteomics, including crop, food, insect, microbial, and animal systems, under a shared mission to strengthen scientific collaboration and promote the application of proteomic technologies to sustainable agriculture. More information about AOAPO can be found on its website “<https://theaoapo.wixsite.com/aoapo> (13 November 2025)”.

The Third International Symposium on Frontiers in Agricultural Proteome Research, held again in Tsukuba from 8–10 November 2011, represented an early milestone in AOAPO’s development. Organized by the National Institute of Crop Science of Japan and co-sponsored by the OECD Co-operative Research Programme on Biological Resource Management for Sustainable Agricultural Systems and the Journal of Proteome Research, the meeting featured the second AOAPO Council Meeting, where Setsuko Komatsu was elected as the first President-Elect, alongside Paul Haynes and Ghasem Hosseini Salekdeh, who were appointed as Vice President and Secretary General, respectively.

Over the years, AOAPO has expanded its scope and influence through international symposia, hands-on workshops, and collaborative research initiatives that translate proteomic discoveries into real-world agricultural solutions. Past AOAPO congresses have been held across the region, including Malaysia in 2017, China in 2018 and 2024, Australia in 2019, and Singapore in 2023, reflecting the organization’s commitment to fostering regional engagement and knowledge exchange. AOAPO’s mission encompasses promoting knowledge exchange and technical expertise in agricultural proteomics, providing scientific guidance to governmental and non-governmental organizations, disseminating information on ongoing programs and projects, and fostering collaboration with international proteomics societies and related organizations.

In October 2025, AOAPO co-organized the Joint 12th Asia Oceania Human Proteome Organization (AOHUPO), 8th AOAPO, and 3rd π -HuB Global Summit, held in conjunction with the 13th Chinese Human Proteome Organization (CNHUPO) Congress in Guangzhou, China (11–14 October 2025) (www.aohupo2025.com). This joint congress brought together scientists from across Asia, Oceania, and the global



proteomics community to share advances in cutting-edge technologies, multi-omics integration, and data-driven approaches to address pressing agricultural challenges. Within the agricultural proteomics track, sessions highlighted innovations in plant and animal proteomics, food safety and quality, environmental proteomics, and translational applications. AOAPO members presented innovative research connecting proteomic insights to crop stress tolerance, yield enhancement, and sustainable production systems, emphasizing the growing importance of open data, shared infrastructure, and regional cooperation.

At this historic meeting, AOAPO elected new leadership to guide its next phase. Pingfang Yang of Hubei University in China assumed the role of President, supported by Vice Presidents Qingsong Lin of the National University of Singapore and Paul A. Haynes of Macquarie University, Australia. Boon Chin Tan of the University of Malaya, Malaysia, was appointed Secretary General, while Setsuko Komatsu (Fukui University of Technology, Japan) will serve as Honorary President, providing guidance and continuity from her previous leadership role. Together, this leadership team reaffirms AOAPO's commitment to advancing agricultural proteomics across Asia and Oceania, empowering young scientists, promoting open science initiatives, and strengthening global partnerships.

By linking molecular discoveries to practical agricultural applications, AOAPO continues to demonstrate how proteomics can contribute to sustainable food systems and environmental resilience. The success of the 2025 Guangzhou joint congress marks both a milestone in this journey and a promise for the future, one built on innovation, collaboration, and shared scientific purpose.

Author Contributions

P.Y., S.K., P.A.H., Q.L. and B.C.T. wrote the manuscript, with all authors commenting and critically revising previous versions of the manuscript. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

The authors declare no conflict of interest.

Use of AI and AI-Assisted Technologies

No AI tools were utilized for this paper.

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