## Preface

ICoSIA 2023 - 4<sup>th</sup> International Conference on Smart and Innovative Agriculture is an annual meeting organized by Directorate of Research Universitas Gadjah Mada (UGM), Yogyakarta, Indonesia. This year's conference was held on 10–11 October 2023. The scientific symposium program consisted of plenary sessions and parallel sessions and included the following topics: Agricultural Big Data Analysis; Agricultural Geography; Land and Environmental Management; Precision Nutrition Technology; Smart and Precision Farming; Smart Genetics Resource Management and Utilization; and Sustainable Food Production.

We are grateful for the support of the faculties in the Universitas Gadjah Mada which scientifically supported the conference from the reviewers until the editing of the papers published in the BIO Web on Conferences. The ICoSIA 2023 had about 223 attendees including the presenters and participants. Among those, the conference received 95 submitted papers and all papers were subjected to at least 2–3 reviews by experts on the related topics. For this, only 63 papers were selected for publication from eight countries: Australia, Bangladesh, Hungary, Indonesia, Japan, Philippines, South Korea, and Thailand.

We believed that during the two-day conference, we had enabled to facilitate plenty of networking opportunities and provided the participants with the opportunity to meet and interact with the leading scientists and researchers, friends as well as colleagues. We hope that this proceeding will be beneficial for the development of life science in general and biological sciences and public health in particular.

## **Editorial boards**

Dr. Mohammad Zainal Abidin, S.Pt., M.Biotech. (Universitas Gadjah Mada, Indonesia) Prof. Ts. Dr. Rosnah Shamsudin (Universiti Putra Malaysia, Malaysia) Asst.Prof. Dr. Piyapong Tongdeenok (Kasetsart University, Thailand) Dr. Shinichi Takashima Sobue (Japan Aerospace Exploration Agency, Japan) Dr. Anthony Young (The University of Queensland, Australia) Ahasanul Hoque, MD. (The World Bank, Bangladesh)