ISSN: 3026-5428

Proceedings Book

International Conference on Biology Education, Natural Science, and Technology (INCOBEST)

"Emerging Issues on Natural Science, Environment, and Its Learning Innovation"

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FACULTY OF TEACHER TRAINING AND EDUCATION
UNIVERSITAS MUHAMMADIYAH SURAKARTA
2023

ISSN 3026-5428

Proceedings Book of
International Conference on Biology Education, Natural Science, and Technology (INCOBEST) 2023
Emerging Issues on Natural Science, Environment, and Its Learning Innovation

Surakarta, October 25th, 2023

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FOREWORD

Alhamdulillah, with all gratitude for the presence of Allah SWT, who has bestowed His grace, guidance, and inayah so that the Biology Education Study Program, Faculty of Teaching Training and Education (FKIP), Universitas Muhammadiyah Surakarta (UMS) can organize **International Conference on Biology Education, Natural Science, and Technology (INCOBEST) 2023**. The conference with the theme "Emerging Issues on Natural Science, Environment, and Its Learning Innovation" is a manifestation of concern and dedication to the enhancement of research and education quality in Indonesia. Educators (teachers and lecturers) must be aware of strategic issues in the fields of science, environment, and learning innovation in order to adapt and advance their knowledge.

This conference aims to achieve the implementation of the Tri Dharma of Higher Education, encompassing education, research, and community service, and to realize academic freedom by introducing the Biology Education Study Program FKIP UMS as a part of the Institute of Education Personnel, that is capable of collaborating with various educational and non-educational agencies.

The activities of this International Conference have been made possible by the assistance of an array of parties. Thus, on this occasion, appreciation is extended to:

1. Dean of FKIP UMS
2. All committees of INCOBEST 2023.
3. Reviewer team, both internal and external.
4. Participants and speakers.
5. Other parties that cannot be mentioned one by one.

Finally, we hope this International Conference will benefit all parties and improve education in Indonesia.

Surakarta, October 25th 2023

Committee

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FOREWORD

INTRODUCTION

Science and the environment are ever-changing. The world is experiencing one of the most rapid advancements in science and technology. The world has numerous innovations and advancements in various disciplines, including industry, information, and telecommunications, high technology in space, robot technology, and biotechnology and molecular advances. In the era of globalization, where science and technology are one of the indicators of a nation's progress in facing global competition, almost every nation in the world has raced to develop every aspect of their life based on science and technology as a result of the development and progress in these various fields.

John Naisbitt and Patricia Aburdene, in the book 'Megatrends 2000', predicted that one of the 21st-century megatrends is the shift from physical models and metaphors to biological models and metaphors to help us understand today's dilemmas and opportunities. The prediction of John Naisbitt and Patricia Aburdene is realistic. Isn't it that before entering the 21st century, advances in biology have been felt up to the extraordinary advances in modern biology? He continued, we will prepare further on the threshold of a significant era: Biotechnology. In the era of the 21st century, biotechnology, as previously predicted, will be as important as computers. Biotechnology will be booming; at least the first directions of biotechnology that have been developed are in the fields of agriculture and animal husbandry, the food industry, to the clothing and health industries. Biotechnology companies are racing with new drug discovery and development to reach more than 300 drug products and 200 vaccines for diseases worldwide, including cancer, Alzheimer's, heart disease, AIDS, arthritis, and various infectious diseases in developing countries.

The genetic manipulation of plants and animals is another biotechnology development that is advancing rapidly at present. Transgenic vegetation can be produced through genetic engineering. This is an innovation in the development of high-yielding, disease-resistant, and postharvest storage-resistant plants of superior quality.

The accelerated advancement of science and technology has an effect on education. In order to actualize the expectation that education will produce graduates who can compete in the workforce, numerous innovations must be developed. Curriculum modifications at various levels, including elementary, secondary, and tertiary education, seek to equip graduates with life-applicable skills.

The preparation of the Indonesian National Qualifications Framework, a competency alignment framework that can juxtapose, equalize, and integrate between the fields of education and job training as well as work experience in the context of providing recognition of work competence by the structure of work in various sectors, enables the alignment of graduates at various levels of education in Indonesia so that they can compete globally. Regarding Indonesia's national education and training system, the framework is a manifestation of the quality and identity of the Indonesian nation.

Educators (teachers and lecturers), as well as researchers and observers in these disciplines, must be aware of current issues in science, the environment, and learning innovation in order to adapt and continually expand their knowledge. Following the most recent developments in their field is hoped to be a catalyst for improving the quality of research and education in Indonesia.

In response to the extremely rapid development of science, the environment, and learning innovations, the Biology Education Study Program FKIP UMS has scheduled the first **International Conference on Biology Education, Natural Science, and Technology (INCOBEST) 2023 as the continuation of the previous** National Education and

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Science Seminar (SNPBS) VII 2022 as a form of concern and commitment to the improvement of the quality of research and education in Indonesia. This is the first International Conference to continue SNPBS, which was implemented successfully between 2016 and 2022.

COMMITTEE COMPOSITION OF 1ST INCOBEST 2023

Person in charge of activities	:	Chief of Biology Education Department, Faculty Of Teacher Training And Education UMS (Putri Agustina, S.Pd, M.Pd)
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