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Editor's Preface

It is my pleasure to launch this volume of the AJI books series. The content of this volume is a record from the international workshop named "New Challenges in Constructed Wetlands for Sustainable Wastewater Treatment: Intensification Strategies Based on Asian Experiences" that was held in July 2023, hosted by the Asia-Japan Research Institute (AJI), Ritsumeikan University.

As urbanization, pollution, and the negative impacts of climate change increase, demand for more sustainable wastewater treatment technologies intensifies. Constructed wetlands (CWs) have been used as an alternative to conventional technologies with many advantages, such as low cost, low energy, and simple operation. However, the efficiency of CWs exhibits a large variability, depending on their properties and design. To achieve a high treatment performance, it is necessary to employ effective strategies in the improvement of pollutant decontamination. In this workshop, eight speakers from Asian countries provided an overview of using CWs in wastewater management and the current development of CW strategies and techniques for enhanced sustainable wastewater treatment. Some case studies were presented, and the overall treatment performance of those innovative systems and their shortcomings were discussed. After the workshop, all the researchers promised to promote international academic research-sharing platforms and strengthen collaboration in the future.

The workshop served as an exceptional platform for young researchers to exchange ideas and cultivate lasting academic connections. Notably, it attracted undergraduate and graduate students from esteemed institutions such as Ritsumeikan University, Osaka University, Vietnam Japan University, and Vietnam National University, alongside several researchers from international companies. This broad participation

underscores a profound interest in leveraging green technology for sustainable water treatment. Following the workshop, we received much positive feedback from attendees. Their support, encouragement, and recognition are powerful sources of motivation for researchers, fueling their passion and commitment to advancing knowledge and making meaningful contributions to their research fields.

The workshop surpassed my expectations, a feat made possible by the dedication, hard work, and collaboration of many individuals. I extend my deep appreciation to the Asia-Japan Research Institute for providing us with this invaluable opportunity through its policy of fostering a new generation of young researchers. Particularly, I am indebted to Professor Yasushi Kosugi, Director of the Asia-Japan Research Institute, whose unwavering support has been instrumental in propelling my scientific endeavors forward. I am also grateful to Professor Satoshi Soda, my supervisor, for his invaluable guidance in planning and selecting the topic of this workshop. I am immensely appreciative of Professor Anthony Brewer's unwavering assistance and guidance as my special advisor. His dedication to organizing the concept paper workshop, communicating with participants, and ensuring the excellence of our materials has been invaluable.

Gratitude is also extended to the eight outstanding speakers, whose expertise and insights enriched the workshop program and inspired all attendees. Their valuable contributions played a crucial role in creating a stimulating and intellectually rewarding experience for everyone involved.

Furthermore, I would like to express my sincere appreciation to AJI's members for their enthusiastic support in organizing and executing the workshop, and to all participants whose active engagement and support fostered a vibrant atmosphere conducive to fruitful discussions.

Finally, I am hopeful that this pulbication will foster an academic

network among researchers and make a substantial contribution to the wastewater treatment sector, particularly in developing countries reliant on simple, effective, and affordable technologies.

Thi Thuong NGUYEN

5. Dr. Thi Thuong NGUYEN

Chapter 5. Constructed Wetlands Planted with Iris for Mine Drainage Treatment: Effects of Domestic Wastewater Feeding on the Removal of Multiple Heavy Metals

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