GENERAL GUIDELINES

1. The Journal of Science and Technology publishes research results with novel scientific and practical values in scientific research, technological transfer and production practice. The work described must not have been published in or submitted to other scientific journals.

2. Manuscript to be submitted must be prepared according to the journal's template.

3. All manuscripts will be double blind reviewed. Authors need to ensure that their manuscripts are prepared in a way that does not give away their identity.

4. The contribution and affiliation of each author in a paper should be clarified. One author should be assigned as the corresponding author.

5. Publications of results from research projects must have permission from the funding agencies and should include conforming acknowledgment.

6. Authors are requested to submit their manuscript and follow the review progress electronically by using the online submission system on the journal’s web site.

7. The detail guidelines for authors and reviewers can be consulted on the journal’s website.
Journal of Science and Technology

Engineering and Technology for Sustainable Development

Volume 34, Issue 1, March 2024

Deputy Editor-in-Chief
Prof. Dr. Dinh Van Phong
Hanoi University of Science and Technology
Vietnam

Editorial Board
Assoc. Prof. Dr. Lai Ngoc Anh, HUST, Vietnam
Assoc. Prof. Dr. To Kim Anh, HUST, Vietnam
Assoc. Prof. Dr. Do Van Dung, HCMUTE, Vietnam
Assoc. Prof. Dr. Le Hieu Giang, HCMUTE, Vietnam
Prof. Dr. Huynh Trung Hai, HUST, Vietnam
Assoc. Prof. Dr. Vu Duy Hai, HUST, Vietnam
Assoc. Prof. Dr. Bui Anh Hoa, HUST, Vietnam
Prof. Dr. Nguyen Duc Hoa, HUST, Vietnam
Prof. Dr. Nguyen The Hung, UDN, Vietnam
Prof. Dr. Le Kim Hung, UDN, Vietnam
Dr. Nguyen Thanh Hung, HUST, Vietnam
Prof. Dr. Kozo Ishizaki, NUT, Japan
Assoc. Prof. Dr. Preechar Karin, KMITL, Thailand
Prof. Dr. Hyungsun Kim, Inha University, Korea
Prof. Dr. Jae-chun Lee, KIGAM, Korea
Prof. Dr. Tran Van Nam, UDN, Vietnam
Prof. Dr. Nguyen Thanh Nam, HCMUT, Vietnam
Assoc. Prof. Dr. Truong Quoc Phong, HUST, Vietnam
Assoc. Prof. Dr. Le Thi Kim Phung, HCMUT, Vietnam
Assoc. Prof. Dr. Le Minh Phuong, HCMUT, Vietnam
Assoc. Prof. Dr. Hoang An Quoc, HCMUTE, Vietnam
Assoc. Prof. Dr. Iman K. Reksowardojo, ITB, Indonesia
Prof. Dr. Olivier Sename, Grenoble INP, France
Prof. Dr. Le Minh Thang, HUST, Vietnam
Assoc. Prof. Dr. Nguyen Xuan Thao, HUST, Vietnam
Assoc. Prof. Dr. Hoang Trang, HCMUT, Vietnam
Prof. Dr. Vu Van Yem, HUST, Vietnam

Advisory Board
Prof. Dr. Sci. Banh Tien Long - VASE, Vietnam
Prof. Dr. Sci. Dang Vu Minh - VUSTA, Vietnam
Prof. Dr. Sci. Ho Tu Bao - JAIST, Vietnam
Prof. Dr. Sci. Bui Van Ga - UDN, Vietnam
Assoc. Prof. Dr. Dang Hoai Bac - PTIT, Vietnam
Assoc. Prof. Dr. Mai Thanh Phong - HCMUT, Vietnam
Prof. Dr. Nguyen Duc Chien - HUST, Vietnam
Assoc. Prof. Dr. Huynh Quyet Thang - HUST, Vietnam

Supported by
Hanoi University of Science and Technology
Ho Chi Minh City University of Technology
Ho Chi Minh City University of Technology and Education
Posts and Telecommunications Institute of Technology
University of Danang
## CONTENTS

1. Bioconversion of Shrimp By-Product into Carotenoids Using Pigmented Yeast *Sporidiobolus Pararoseus Q*  
   Hoang Lan Nghiem, Kim Anh To, Tuan Anh Pham*  
   Hanoi University of Science and Technology, Ha Noi, Vietnam  
   1

2. Identifying the Key Parameters in Mathematical Model to Simulate the Main Nutrients Transformation Process in Vietnamese Catfish (Pangasianodon Hypophthalmus) Ponds  
   Le Xuan Thinh¹,²*, Dang Xuan Hien¹, Tran Van Nhan¹,²  
   ¹School of Chemical and Life Science,  
   ²Hanoi University of Science and Technology, Ha Noi, Vietnam  
   9

3. Investigation of Thermal Decomposition and Thermal Oxidative Degradation of a Composite of Cellulose Nanofibers and Deproteinized Natural Rubber Grafted Methyl Methacrylate  
   Nguyen Thi Quynh, Nguyen Thi Ngoc, Le Quang Dien, Nguyen Thu Ha,  
   Tran Thi Thuy, Nguyen Ngoc Mai*  
   Hanoi University of Science and Technology, Ha Noi, Vietnam  
   19

4. Study on Influencing Factors on Properties of Injectional Compounds Based on Polyethylene and Silica from Waste Materials  
   Nguyen Pham Duy Linh, Nguyen Huy Tung*, Bui Chuong  
   Hanoi University of Science and Technology, Ha Noi, Vietnam  
   27

5. Initial Research on the 1%CuO – 6CeO₂ – 4ZrO₂ Catalysts by TPR-H₂ for the Carbon Monoxide Preferential Oxidation (CO-PROX Reaction)  
   Ta Dinh Quang¹, Vuong Thanh Huyen², Le Minh Thang*  
   ¹Hanoi University of Science and Technology, Hanoi, Vietnam  
   ²Leibniz Institute for Catalysts e.V., Rostock, Germany  
   35

6. Creation of the Route of Bamboo, a Contribution to Net Zero by 2050 in Vietnam  
   Diep Thi My Hanh¹,², Jacques Gurgand¹, Pham Bach Viet¹,  
   Nguyen Khac Dieu², Marc Pignal³, Régine Vignes Lebbe⁴  
   ¹Viet Nam National University Ho Chi Minh City, Ho Chi Minh City, Vietnam  
   ²Phu An Bamboo Village-Center Research for Natural Conservation, Binh Duong, Vietnam  
   ³Ho Chi Minh City Space Technology Application Center, Ho Chi Minh City, Vietnam  
   ⁴Institut de Systématique, Évolution, Biodiversité ISYEB - UMR 7205 (MNHN, Sorbonne Université, CNRS, EPHE, UA), France  
   43

7. Assessment Environmental and Social Impacts for the Rice Straw Utilization Technical Models to Promote Circular Economy for Rice Production in Chau Thanh District - An Giang Province  
   Nguyen Thi Kim Chi, Nguyen Van Nhan, Nguyen Thi Van Ha*  
   Ho Chi Minh City University of Natural Resources and Environment, Ho Chi Minh, Vietnam  
   52

8. A model-Based Mechatronic System Design and Integration Process  
   Giang-Nam Le*, Tra-Giang Nguyen Thi  
   Hanoi University of Science and Technology, Ha Noi, Vietnam  
   59