JST: ENGINEERING AND TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT



March 2023 Volume 33 Issue 1

GENERAL GUIDELINES

- 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.

No. 1, Dai Co Viet Str., Hai Ba Trung District, Hanoi, Vietnam Tel: (+84 24) 3623.0949 | email: jst@hust.edu.vn | website: https://jst.hust.edu.vn



Journal of Science and Technology

Engineering and Technology for Sustainable Development

Volume 33, Issue 1, March 2023

Deputy Editor-in-Chief

Prof. Dr. Dinh Van Phong Hanoi University of Science and Technology 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

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

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.	Rapid Identification of the Geographical Origin of Black Pepper in Vietnam Using Near-Infrared Spectroscopy and Chemometrics				
	Le Tuan Phuc ^{1*} , Tran Thi Thanh Hoa ¹ , Cung Thi To Quynh ¹ , Nguyen Hoang Dzung ² , Pham Ngoc Hung ¹ ¹ Ha Noi University of Science and Technology, Ha Noi, Vietnam ² Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam				
2.	Improvement of Detergency Properties and Anti-Microbial Action of Biosoaps Using Saponin-Rich Extract and A-Bisabolol Essential Oil	9			
	Nguyen Van-Anh, Nguyen Thi Thom, Hoang Huu Hiep, Cao Hong Ha* Ha Noi University of Science and Technology, Ha Noi, Vietnam				
3.	Effects of Synthesis Methods on the Characteristics of Material Sr3Y1.95Ge3O12: 0.05Eu3+ (SYGO: Eu3+) for White LED Phosphors Applications	18			
	Nguyen Mai Cao Hoang Phuong Lan, Nguyen Duc Trung Kien, Cao Xuan Thang*, Dao Xuan Viet				
	Ha Noi University of Science and Technology, Ha Noi, Vietnam				
4.	Ion Transport in the Return Flow Ion-Concentration-Polarization System	26			
	Dung T. Nguyen, Khai H. Nguyen, Van-Sang Pham* Hanoi University of Science and Technology, Ha Noi, Vietnam				
5.	Theoretical Computational of Electronic and Transport Properties and Optical Conductivity of Monolayer NiS ₂ under Mechanical Strain	34			
	Nguyen Hoang Linh ¹ , Tran The Quang ^{2*} , Nguyen Minh Son ¹ , To Toan Thang ¹ , Vuong Van Thanh ¹ , Do Van Truong ¹ ¹ Hanoi University of Science and Technology, Ha Noi, Vietnam ² Thai Binh University, Thai Binh, Vietnam				
6.	Design and Simulation of Magnetorheological Brake Supporting Downhill Van Truck	42			
	Quang-Tuan Hoang ^{1,2*} , Huu-Dieu Bui ¹ , Thanh-Tung Tran ¹ ¹ Hanoi University of Science and Technology, Ha Noi, Vietnam ² Ha Noi University of Industry, Ha Noi, Vietnam				
7.	Effect of Dimples/Protrusion Concavity on Heat Transfer Performance of Rotating Channel	50			
	Cong-Truong Dinh*, Minh-Sang Le, Khanh-Duy Cong Do, Duy-Hung Chung Hanoi University of Science and Technology, Ha Noi, Vietnam				
8.	Introduction of 3D Printing Technology for Fashion Design in Vietnam				
	Nguyen Thi Thanh Hue ^{1*} , Nguyen Thi Thu Hang ² ¹ Fashion Department, Hanoi Industrial Textile Garment University, Ha Noi, Vietnam ² Training Department, Hanoi Industrial Textile Garment University, Ha Noi, Vietnam				