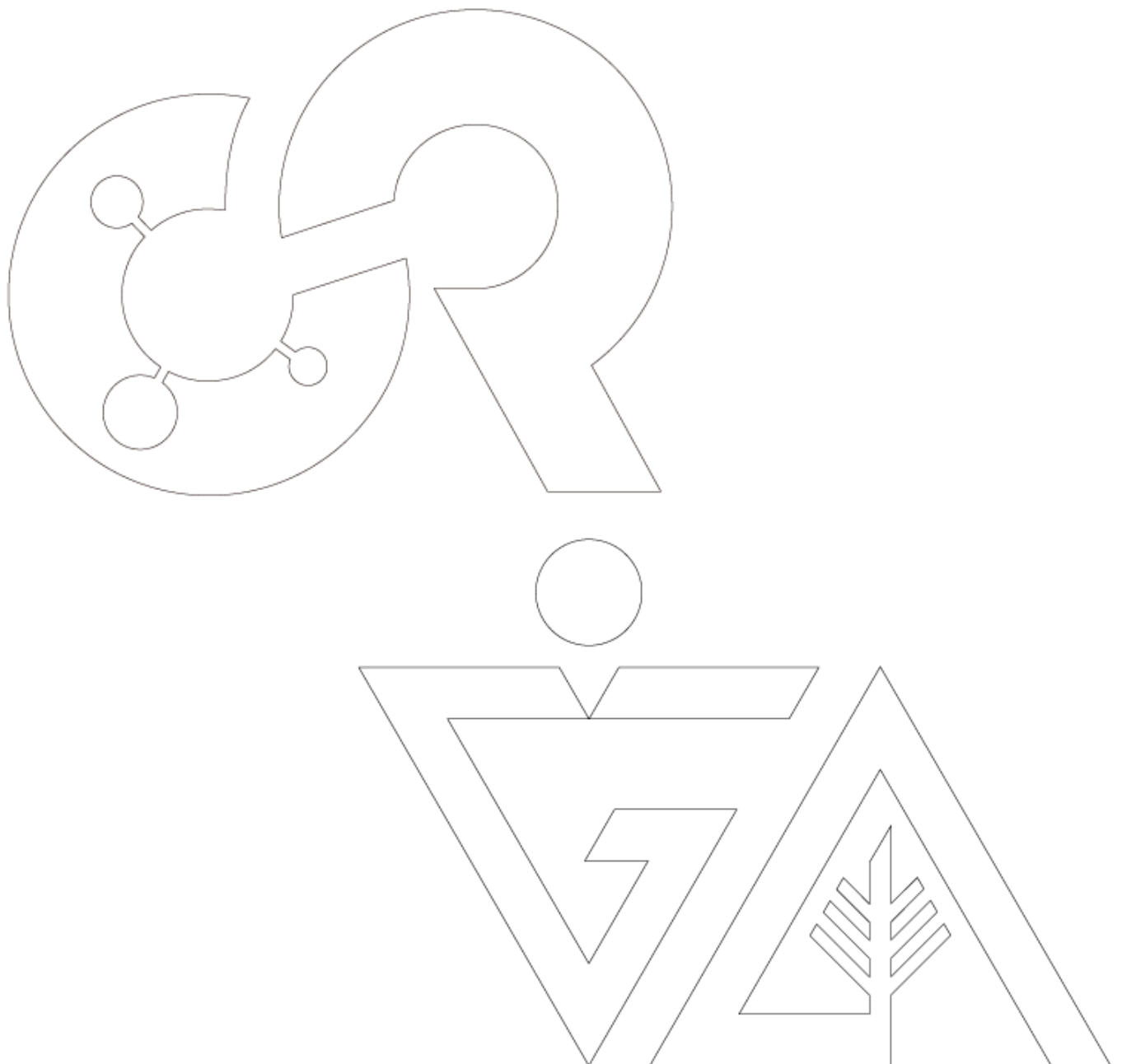

EVERGREEN

Volume.08

Issue.01 March 2021

Joint Journal of
Novel Carbon Resource Sciences & Green Asia Strategy



Editorial Board for
Evergreen – Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy

Editor-in-Chief

Jun Tanimoto

Executive Editor

Kyaw Thu

Subject Editors

Andrew Mark Spring, Osama Eljamal, Hiroshi Furuno, Michitaka Ohtaki, Jin Miyawaki
Kiichi Hamamoto, Naoji Yamamoto

Regional Editors

Nasruddin, Agung Tri Wijayanta, Muhammad Sultan

Secretary

Mieko Inoue

Honorary Advisor

Bidyut Baran Saha

Editorial Board

Akira Harata, Aya Hagishima, Kazuhide Ito, Seigi Mizuno

Evergreen – Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy
Volume 8 Issue 1 (March 2021)

Published by
Transdisciplinary Research and Education Center for Green Technologies, Kyushu University
6-1 Kasuga-koen, Kasuga, Fukuoka 816-8580 Japan
Tel: +81-92-583-7823
Fax: +81-92-583-8909
Journal Website: http://www.tj.kyushu-u.ac.jp/leading/en/c_publication/evergreen.php
E-mail: evergreen@ga.kyushu-u.ac.jp

Copyright: 2020 by
Transdisciplinary Research and Education Center for Green Technologies, Kyushu University
All rights reserved. ISSN: 2189-0420 (Print) ISSN: 2432-5953 (Online)

Evergreen

Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy

Volume 08, Issue 01, March 2021

CONTENTS

Achmad T. Nugraha, Gunawan Prayitno, Abdul W. Hasyim, Fauzan Roziqin Social Capital, Collective Action, and the Development of Agritourism for Sustainable Agriculture in Rural Indonesia	1
Anchal Mishra, Mandvi Singh Influence of Technology in Learning Macro Skills of English in a Multicultural Classroom: A Case Study of Students' Perception	13
Syafrudin, Mochamad Arief Budihardjo, Nany Yuliasuti, Bimastyaji Surya Ramadan Assessment of Greenhouse Gases Emission from Integrated Solid Waste Management in Semarang City, Central Java, Indonesia	23
Gunasekaran Prabakaran, Dhandapani Vaithyanathan, Harish Kumar Fuzzy Decision Support System for the Outbreak of COVID-19 and Improving the People Livelihood	36
Gaurav Gupta, R. K. Tyagi, S. K. Rajput A Statistical Analysis of Sputtering Parameters on Superconducting Properties of Niobium Thin Film	44
Ashish Kumar Srivastava, Manish Maurya, Ambuj Saxena, Nagendra Kumar Maurya, Shashi Prakash Dwivedi Statistical Optimization by Response Surface Methodology of Process Parameters During the CNC Turning Operation of Hybrid Metal Matrix Composite	51
Muhamad Allan Serunting, Okky Fajar Tri Maryana, Erga Syafitri, Solina Balqis, Elsa Windiastuti Green Synthesis Silver Nanoparticles (AgNPs) Using Lamtoro Pods Extract (<i>Leucaena leucocephala</i>) and Their Potential for Mercury Ion Detection	63
Nurwidiana Nurwidiana, Bertha Maya Sopha, Adhika Widyaparaga Modelling Photovoltaic System Adoption for Households: A Systematic Literature Review ★	69
Anisa Raditya Nurohmah, Cornelius Satria Yudha, Mintarsih Rahmawati, Shofirul Sholikhatun Nisa, Arif Jumari, Hendri Widiyandari, and Agus Purwanto Structural and Electrochemical Analysis of Iron Doping in $\text{LiNi}_{0.6-x}\text{Mn}_{0.2}\text{Co}_{0.2}\text{Fe}_x\text{O}_2$ battery ★	82

G M Luciana, M K Wisyaldin, Henry Pariaman, Muhammad Hisjam Anomaly Detection Using LSTM-Autoencoder to Predict Coal Pulverizer Condition on Coal-Fired Power Plant ★	..... 89
Hoedi Prasetyo On-Grid Photovoltaic System Power Monitoring Based on Open Source and Low-Cost Internet of Things Platform ★	..... 98
A A A Putri, S Hartini, R Purwaningsih Sustainable Value Stream Mapping Design to Improve Sustainability Performance of Animal Feed Production Process ★	..... 107
Adam. K, M. A. Wahid On the Effects of Tangential Air Inlets Distribution Configurations to the Combustion Characteristics of a Direct Injection Liquid Fueled Swirl Flameless Combustor (SFC). ♦	..... 117
Mohammad Nurizat Rahman, Mazlan Abdul Wahid, Mohd Fairus Mohd Yasin, Ummikalsom Abidin, Muhammad Amri Mazlan Predictive Numerical Analysis on the Mixing Characteristics in a Rotating Detonation Engine (RDE) ♦	..... 123
Muhammad Nazmi Hadi Roslan, Nor Atiqah Zolpakar, Normah Mohd-Ghazali, and Fatimah Al-Zahrah Mohd Saat Analysis of 3D Printed Stack in Thermoacoustic Cooling ♦	..... 131
H. S. Shamsuddin, U. Abidin, H. Abd-Zaidan, N. Mohd-Ghazali Effect of Wall Resistance on the Total Thermal Resistance of a Stacked Microchannel Heat Sink ♦	..... 138
N.Y. Yahya, J.X. Chan, N. Ngadi Biosorption of Chromium (VI) Ions using Sustainable Eggshell Impregnated Pandanus amaryllifolius Roxb. Biosorbent ♦	..... 146
N.Z. Zaini, N.B Kamaruzaman, U. Abidin Magnetic Microbeads Trapping using Microfluidic and Permanent Magnet System ♦	..... 156
N. Olleh, N.A. Husain, H.M. Kamar, N.B. Kamsah, M. Idrus Alhamid Outlets Airflow Velocity Enhancement of an Automotive HVAC Duct ♦	..... 163
Hieifarith Suffri Shamsuddin, Lee Wei Tong, Normah Mohd-Ghazali, Patrice Estellé, Thierry Maré, and Maziah Mohamad Nanofluid-Cooled Microchannel Heat Sink with Carbon Nanotube ♦	..... 170
Muhammad Amri Mazlan, Mohd Fairus Mohd Yasin, Aminuddin Saat, Mazlan Abdul Wahid, Ahmad Dairobi Ghazali, Mohammad Nurizat Rahman Initiation Characteristics of Rotating Supersonic Combustion Engine ♦	..... 177

A. Dairobi G., M. A. Wahid, M. A. Mazlan, M. H. Azeman Early Assessment of Asymmetric Vortex Small Rotating Detonation Engine ♦	..... 182
Aiman.Y. M.Firdaus, M.N. Musa, S. Syahrullail The Effectiveness of Jet Impingement Cooling System on Various Flat Plate Surface ♦	..... 187
Hiroshi Eshima, Naoki Ikegaya, Takuya Yasumasu, Aya Hagishima, Jun Tanimoto Estimation Method for Mass Transfer Coefficient Distribution using Near-Infrared Spectroscopy ♦	..... 193
Yang Changru, Nobuo Takata, Kyaw Thu, Takahiko Miyazaki How Lubricant Plays a Role in the Heat Pump System ♦	..... 198
Mojtaba Purjam, Kyaw Thu, Takahiko Miyazaki Thermodynamic Feasibility Evaluation of a Novel Low-temperature Ejector-based Trans-critical R744 Refrigeration Cycle ♦	..... 204
Uthpala Perera, Nobuo Takata, Takahiko Miyazaki, Yukihiro Higashi and Kyaw Thu The Exergy Investigation of a Mechanical Vapor Compression Chiller for Cooling Using R410a ♦	..... 213
Ahmad Alfani Farizi, Hyunjin Lee, Hwataik Han Thermal Performance of Alternating-Current Heat Recovery Ventilator in Partially Wet Conditions ♦	..... 221
Solli Murtyas, Aya Hagishima, Kusumaningdyah N.H Observed Diverse Indoor Thermal Environments of Low-cost Dwellings Located in a <i>Kampung</i> District ♦	..... 229
Y.T. Abirham, K. Thu, T. Miyazaki, and N. Takata Comparative Study of Thermal Water Pumping Cycles ♦	..... 239
Chairunnisa, K. Thu, T. Miyazaki, K. Nakabayashi, J. Miyawaki, A. T. Wijayanta, F. Rahmawati Highly Microporous Activated Carbon from Acorn Nutshells and its Performance in Water Vapor Adsorption ♦	..... 249

- ★ International Conference on Industrial, Mechanical, Electrical, and Chemical Engineering (ICIMECE) 2020
- ♦ International Meeting on Advances in Thermofluids (IMAT2019)