

---

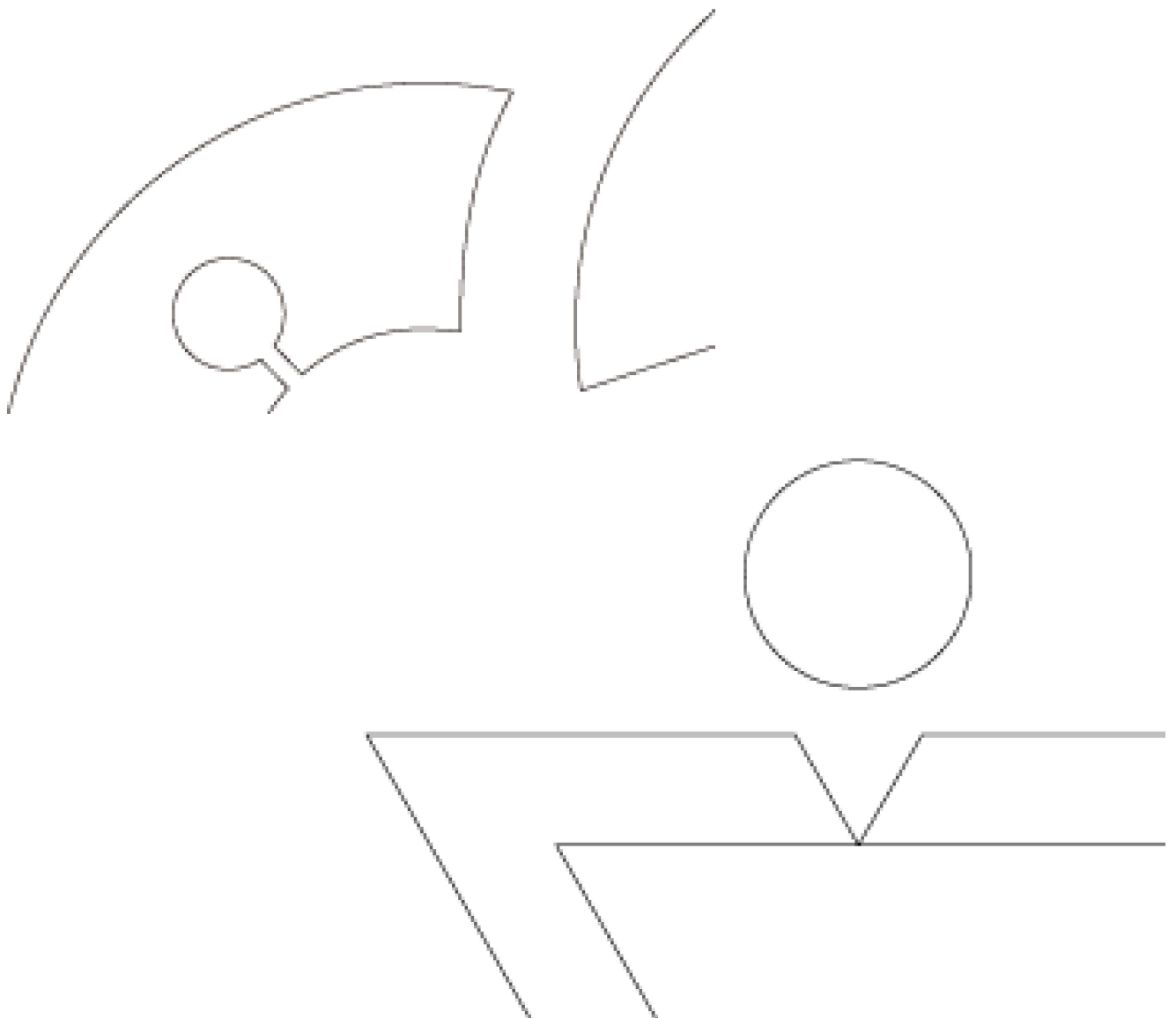
# EVERGREEN

**Volume.11**

Issue.01 March 2024

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, Manoj Kumar

**Secretary**

Mieko Inoue

**Editor-in-Chief Emeritus**

Bidyut Baran Saha

**Editorial Board**

Akira Harata, Aya Hagishima, Kazuhide Ito, Ji Hwan Jeong, Normah MOHD-GHAZALI, Patrice Estellé

**Evergreen – Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy**  
**Volume 11 Issue 1 (March 2024)**

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](http://www.tj.kyushu-u.ac.jp/leading/en/c_publication/evergreen.php)

E-mail: [evergreen@ga.kyushu-u.ac.jp](mailto:evergreen@ga.kyushu-u.ac.jp)

Copyright: 2024 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 11, Issue 01, March 2024

---

### CONTENTS

Maha Abdallah Alshareef <b>Visualization for the Transformation of Saudi Universities to Green Human Resource Management</b>	1
Neha Yadav, Dhanalekshmi Gopinathan <b>Graph Based Analytics and Review of Knowledge Graph Field by Using Two Decade Data- Finding Paradigms and Opportunities</b>	15
Irhan Febijanto, Soen Steven, Nadirah, Hismiati Bahua, Ahmad Shoiful, Dian P. Dewanti, I P. Angga Kristyawan, Khalda A. Haris, Manis Yuliani, Muhammad Hanif, Muhammad H. Robbani, Naufal R. Yusuf, Prihartanto, Priska Alfatri, Reba A. Pratama, Wahyu Purwanta, Wiharja, Rudi Nugroho, Satria K. Ramadhan <b>Municipal Solid Waste (MSW) Reduction through Incineration for Electricity Purposes and Its Environmental Performance: A Case Study in Bantargebang, West Java, Indonesia</b>	32
Kurmankul T. Abayeva, Gaukhar M. Rakhimzhanova, Gulnar Myrzabayeva, Elmira Zhilkibayeva, Aigerim Beisekeyeva <b>The Relevance of Sustainable Development of Forest Resource Reproduction in Kazakhstan</b>	46
Akbota Aitimbetova, Akmaral Batyrkhanova, Raziya Isayeva, Zhangeldi Kurganbekovv <b>The Impact of Urbanization on the Environment in Shymkent: Dynamics of Solid Waste</b>	56
Ayagoz Suyunova, Gulnaz Kozhagulova, Akan Suiin <b>Comparative Analysis of Marine Fish for the Content of Pollutants in the Eurasian Region</b>	71
Uun Yanuhar, Heru Suryanto, Gunanti Mahasri, Nico Rahman Caesar <b>Cloning and Characterization of Protein Fraction Specific of <i>Chlorella vulgaris</i> Endemic East Java</b>	82
Purwono Purwono, H. Hadiyanto, Mochamad Arief Budihardjo <b>Harvesting of <i>Dunaliella Salina</i> at Low Concentrations using Spiral Electrocoagulation (SEC)</b>	95
Rubiantin Mesha Nauli Tambunan, Santoso Soekirno, N. Nasruddin, Nining Betawati Prihantini <b>Effect of Audible Sound Exposure on the Growth and Lipid Content of <i>Chlorella</i> DPK-01 Cultivated in Photobioreactor System Using Different Growth Media</b>	106

Arfiana, Era Restu Finalis, Ilhamsyah Noor, Endro Wahyu Tjahjono, Agus Mulyono, Hadi Suratno, Hens Saputra, Muhammad Dikdik Gumelar, Aditya Eka Mulyono, Mahendra Anggaravidya <b>Application of Controlled Release Fertilizer (CRF) in Supporting the Growth and Productivity of SS Sakato Shallot</b>	116
Abish Torgayev, Nazgul Torgayeva, Aibek Alip <b>Air Pollution from CHPP-2 in Almaty and Its Health Impact</b>	127
Laili Mardiana, Arinto Yudi Ponco Wardoyo, Masruroh, Hari Arief Dharmawan <b>The Effect of Humidity Levels on Carbon Dioxide Gas Concentration Measurement Using a Titanium Dioxide-Coated Quartz Crystal Microbalance</b>	137
Yukti Prasad, Surinder Deswal <b>A Comprehensive Carbon Footprint Assessment Using Integration of GHG Protocol and LCA: A Case Study of an Engineering Institute in India</b>	143
Shailendra Singh Chauhan, Kanika Lamba, Diwakar Yagyasen <b>Methods of Implementation in an Electric Vehicle Conversion and Vehicle Controller: A Review</b>	156
M.K.Jangid, Sumit Sharma, Ved Prakash Meena, Ved Prakash Arya, S.S. Sharma <b>Impact of Annealing and Hydrogenation on the Optical Characteristics of ZnSe/Mn and ZnSe/Co DMS Thin Films Prepared via Thermal Evaporation Method</b>	178
Jibril Maulana, Heru Suryanto, Aminnudin, J. S. Binoj <b>Addition of Graphene on the Bacterial Cellulose Nanocomposite Membrane with Copper Oxide Reinforcementof</b>	186
Sekar Tri Wulan Amelia, Tantular Nurtono, Heru Setyawan, W. Widiyastuti <b>Two-step Heating Effect of Hydrochar-MnO<sub>2</sub> Formation and Their Electrochemical Performances</b>	195
Mahmoud Z. Basyouni, Mohammed F. Radwan, Mohamed E. Abdu, Andrew M. Spring <b>Synthesis, Characterization, and Optical Properties of Carbazole-Functionalized Poly (norbornene-dicarboximide) by ROMP</b>	207
Arailym Nurtayeva, Omirbek Baisbay, Raziya Issayeva, Aigerim Iztleuova, Zhangeldi Kurganbekov <b>Investigation of Production Wastes Upon Roasting Mechanically Activated Phosphorite and Utilisation of Fluorine Compounds</b>	214
A. AbdelKader, E.A. Dawi, A. Haj Ismail <b>Exploring the Topological Correlations within Two-Dimensional Foam Structures</b>	225
Nitin Mukesh Mathur, Yashpal, Bhanu Pratap <b>Ascertaining Tribological Properties of PLA Matrix Composites Reinforced with SCB/CF Fiber with ANOVA and Regression Analysis</b>	234
Subhas Chandra Moi, Rajeev Ranjan <b>Analysis of Chips Geometry and Parametric Optimization using Grey Relational Analysis (GRA) in Hot Turning of AISI 202</b>	242

Koleola Ebenezer Ojaomo, Syahrullail Samion, Mohd Zamri Mohd Yusop <b>Nano-bio-Lubricant as a Sustainable Trend in Tribology towards Environmental Stability: Opportunities and Challenges</b>	253
Manoj Kumar Chaudhary, Akash Shrivastava, Sandeep S. Kore, RajuSing D. Rathod, Nikhil R. Kadam, K. B. Gavali <b>Development and Testing of a High Performance Airfoil for Application in Small Horizontal Axis Wind Turbine Blades</b>	275
Basem Abotaleb, Mohamed. M. Takeyeldein, Omar Huzayyin, Basman Elhadidi <b>Impact of Negative Camber for Performance of Vertical Axis Wind Turbine</b>	286
Sachin Sharm,Rajesh Maithani <b>A Computational Study on Thermal and Sustainability Analysis of Solar Air Heater with S and Airfoil Tabulators</b>	295
Boonsin Nadondu, Arawan Chanpahol, Saksirichai Srisawad, Suwimon Thiakthum <b>Improving Forklift Efficiency by ECRS Techniques: a Case Study in a Logistics Company</b>	306
Vandana, Kuldeep Kumar Yogi, Satya Prakash Yadav <b>Chicken Diseases Detection and Classification Based on Fecal Images Using EfficientNetB7 Model</b>	314
Pinky Yadav, Indu Kashyap, Bhoopesh Singh Bhati <b>Impact of Double Negation through Majority Voting of Machine Learning Algorithms</b>	331
Kuldeep Singh, Pushpa Singh,Anuj Kumar, Vishwajit Walde <b>IoT-Enabled CVM Design &amp; Architecture for E-Waste Management: A Solution towards Environmental Sustainability</b>	343
Aminuddin, Nurry Widya Hesty, Nina Konitat Supriatna Kholid AkhmadArief Heru Kuncoro, Vetri Nurliyanti, Mugia Bayu Rahardja, Sumarsono Sudarto, Wiwid Mulyadi, Primaldi Anugrah Utama <b>Promoting Wind Energy by Robust Wind Speed Forecasting Using Machine Learning Algorithms Optimization</b>	354
Eny Kusriani, Muhammad Idrus Alhamid, Dwi Aprillia Wulandari, Mufiid Fatkhurrahman, Ensan Waatriah E.S. Shahrin, Nurulizzatul Ningsheh M. Shahri, Anwar Usman, Agus Budi Prasetyo, Muhammad Sufyan, Arif Rahman, Khoirina Dwi Nugrahaningtyas, Sri JuariSantosa <b>Simultaneous Adsorption of Multicomponent Lanthanide Ions on Pectin Encapsulated Zeolite A★</b>	371
Fong Mun Oon, Linda Agun, Mohd Fadthul Ikmal Misnal,Muhamad Nor Firdaus Zainal, Norizah Redzuan, Norhayati Binti Ahmad <b>Effect of Cold Plasma Voltage and Treatment Duration on the Microstructure and Hydrophilicity of Mushroom Grain Spawn★</b>	379

Muhammad Hilmi Ibrahim, Mohd Fairus Mohd Yasin, Muhamad Zulfan Allif Mohamad Pauzi, Norikhwan Hamzah, Mohd Zamri Mohd Yusop, Mohd 'Azizir-Rahim Mukri, Nasrat Hannah Shudin, Mohd Hanafi Ani, Mohd Shukur Zainol Abidin <b>Transient Size Analysis of Carbon Nanotube Synthesized in Diffusion Flame Environment★</b>	386
Nur Shamimi Amirah Md Sunhazim, Ummi Aqila Norhaidi, Natrah Kamaruzaman, Ummikalsom Abidin <b>Characterization of the Porous Medias' Fluid Flow for Self-powered Micropump ★</b>	394
Samuel Adinoyi Ayo, Normah Mohd-Ghazali <b>Numerical Simulation of the Interference Effects to Outdoor Air Flow and Ventilation around Adjacent Building Arrays★</b>	402
Adzueen Nordin, Didi Asmara Salim, Mohamad Asyraf Othoman, Mohd Zulhairi Zulkipli, Shahrul Nahar Omar Kamal <b>Analysis of Chilled Water Turbine Inlet Air Cooling Model for Enhancement of Turbine Performance★</b>	417
Salman Muradi, Shazwin Mat Taib, Norasikin Saman, Nurfarhain Mohamed Rusli, Nurul Nazleatul Najiha Mohd Nazif <b>Survey and Review of Refrigerant Leakage Sources and Solutions in Malaysian Refrigeration and Air Conditioning (RAC) Systems★</b>	423
Rifki Rahman Nur Ikhsan, Jangkung Raharjo, Basuki Rahmat <b>Vectorized Lambda Iteration Method for Swift Economic Dispatch Analysis◆</b>	435
Amalia Suzianti, Sarah Malemta Peranganing, Safira Nurul Fathia <b>Strategic Design to Increase Consumer Purchase Intentions for Sustainable Fashion Products Using Theory of Planned Behavior◆</b>	448
Myrna Ariati Mochtar, Wahyuaji Narottama Putra <b>Effect of Austenitizing Temperature and Holding Time on Microstructure, Hardness, and Retained Austenite Amount of HSLA Steel as Automotive Components Material◆</b>	462
Moch. Syaiful Anwar, Myrna Ariati Mochtar, Efendi Mabruhi, Eddy S. Siradj <b>Study of Creep Resistance on the High Chrome Heat Resistant Steel for Component Steam Boiler Power Generation◆</b>	470
Didik Kusmayadi, Andyka Kusuma, IGW Samsi Gunarta <b>An Analysis on E-Scooter Preference for the First and Last Mile Trip in Tourist Area◆</b>	481
Moh Khairul Imam Assidiqqi, Radon Dhelika <b>Design of a Rotary-Based Feeding System for Improving the Performance of Eddy Current Separator◆</b>	493

Sheila Tobing, Kenneth Timothy, Rainer L. Surjadi Aria4, Arka Soewono <b>Experimental Study on the Effect of Pitching Angle on Tandem NACA 0030 and NACA 4412 Airfoils</b> ◆	..... 501
Isti Surjandari, Harvey P. Gunawijaya, Angella Natalia Ghea Puspita <b>Topic-Based Segmentation in Email Marketing</b> ◆	..... 508
Dodi Sudiana, Chandra Halim Nuruddin, Mia Rizkinia, Diyanatul Husna <b>Forensic Analysis of WhatsApp Disappearing Message on Unrooted Android Using Mobile Device Forensics Methodology NIST SP 800-101r1</b> ◆	..... 516
Catur Apriono, Herry Tony Andhyka, Fitri Yuli Zulkifli <b>Effects of Polarization and Different Tissue on Terahertz Cancer Imaging</b> ◆	..... 525
Dodi Sudiana, Jamilatun Nisa, Mia Rizkinia, Ratih Dewanti Dimiyati, Nanin Anggraini, Indra Riyanto, Anton Satria Prabuwo, Josaphat Tetuko Sri Sumantyo <b>Monitoring the Distribution of Mangrove Area using Synthetic Aperture Radar (SAR) and Optic Remote Sensing Data Fusion based on Deep Learning in Kotabaru Regency, Indonesia</b> ◆	..... 536
Novandra Rhezza Pratama, Rifqi Fauzan <b>Digital Technology Adaptation Strategy Formulation for Television Media Company in Indonesia Using SWOT-Fuzzy AHP-TOPSIS</b> ◆	..... 547

◆ Selected papers from the 18<sup>th</sup> International Conference on Quality in Research, 2023 (QIR2023)

★ Selected papers from the 7<sup>th</sup> International Conference on Saving Energy for Refrigeration and Air-Conditioning (ICSERA)