

ISSN : 2248-9622

# International Journal of Engineering Research and Applications (IJERA)

**Editor-In-Chief**

**Prof. Manju Sharma**

## Editorial Board Members

Dr. Hadi Arabshahi, Iran	A. K. M Nazmus Sakib, Bangladesh
Dr. Eugen Axinte, Romanian	Dr. Rao, P.hd, USA
Dr. Yaduvir Singh, India	Dr. Aknuas William, Australia
Dr. Shahram Jamali, Iran	

## Associate Editorial Board members

Sukumar Senthil Kumar Universiti Sains Malaysia, School of Mathematical Sciences, Malaysia	Dr. Prasanta K Sinha Durgapur Institute of Advanced Technology & Management, Durgapur
Dr. Bensafi Abd-El-Hamid Abou Bekr Belkaid University of Tlemcen, Algeria Tamilnadu, India	Dr. A.V.Senthil Kumar Director, MCA depart, Hindustan College of Arts and Science,
Dr. Prasanta K Sinha Deputy Director, Durgapur Institute of Advanced Technology & Management, West Bengal	Dr. Suresh Prasad Singh H.O.D.(Chemical Engineering), B. I. T. Sindri, Dhanbad
Hari Mohan Pandey Middle East College of Information Technology, Under Coventry University, U.K.	Patrick Tiong Liq Yee Universiti Teknologi Malaysia, Malaysia,
Dr. V S Giridhar Akula Professor and Principal, Avanthi's Scientific Technological and Research Academy (JNTU), Hyderabad	Dr. Santosh K. Pandey Department of Information Technology Board of Studies , The Institute of Chartered Accountants of India

## Contact Details

**Ukraine Office**  
First floor, ST Street,  
Ivano-Frankivsk, 76008, Ukraine

**India Office**  
SC-89, Shastri Nagar,  
Ghaziabad, UP, India

Email: [ijera.editor@gmail.com](mailto:ijera.editor@gmail.com)  
Website: [www.ijera.com](http://www.ijera.com)



# International Journal of Engineering Research and Applications (IJERA)

**Volume 13 - Issue 1**  
**January 2023**

**Peer Reviewed Refereed Journal**



*All Papers are indexed in Index Copernicus*



# International Journal of Engineering Research and Applications (IJERA)

Volume : 13 Issue : 1 Series 2

ISSN : 2248-9622

January 2023

## Contents :

<b>Manufacture of Furfural from Sugarcane Bagasse</b>	<b>96-102</b>
<b>Zagreb Indices for the Hanging Cycle Graph <math>H_m, n</math></b>	<b>103-107</b>
<b>HVDC Transmission System Protection Using Neural Network</b>	<b>108-118</b>
<b>Role of Sciences in Sustainable Development in This Pandemic Era-"A review on innovations which helps in Pandemic/Sustainable Development"</b>	<b>119-126</b>
<b>Characterization of biochar based on sawdust and starch paste: Influence of clay on the combustion time of biocharcoals</b>	<b>127-130</b>
<b>The Power Loss in a Fiber Optical Cable</b>	<b>131-138</b>
<b>Crystallochemical properties of natural and modified clays from Maroua-Cameroon used in water treatment processes</b>	<b>139-150</b>
<b>Design and Development of Smart Reverse Vending System for Pet Bottles collections and Recycling using Design Thinking</b>	<b>151-156</b>
<b>Cloud Computing: Risk and Challenges</b>	<b>157-165</b>
<b>The impact of health and safety programs on employees' productivity. A case study of Anglo Gold Ashanti (Obuasi branch)</b>	<b>166-178</b>
<b>Investigation on the frequency analysis of bevel gear with different materials</b>	<b>179-182</b>
<b>Blacks pot Treatment of Accident-Prone Road in Narogong, Bekasi, Indonesia</b>	<b>183-189</b>