

Muhammad Hassan

Associate Professor
US-Pakistan Center for Advanced Studies in Energy

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About

Dr. Muhammad Hassan is working as Associate Professor in the US-Pakistan Center for Advanced Studies in Energy. Dr. Muhammad Hassan has a PhD in Bioenvironmental & Energy Engineering. Dr. Muhammad Hassan has published 97 research articles & conference papers having a citation count of 2734, carried out 5 projects and filed 2 intellectual property.

Qualifications

PhD in Bioenvironmental & Energy Engineering Nanjing Agricultural University , China	2014 - 2017
MS in Bioenvironmental & Energy Engineering Nanjing Agricultural University , China	2013 - 2014
B.Sc (Hon) in Energy Systems Engineering University of Agriculture Faisalabad , Pakistan	2007 - 2011

Experience

Associate Professor US-Pakistan Center for Advanced Studies in Energy	2024- Present
Associate Professor US-Pakistan Center for Advanced Studies in Energy	2022 - 2024
Assistant Professor US-Pakistan Center for Advanced Studies in Energy	2019 - 2022
Assistant Professor US-Pakistan Center for Advanced Studies in Energy	2018 - 2019
Assistant Professor US-Pakistan Center for Advanced Studies in Energy	2017 - 2018
Assistant Executive Engineer University of Agricultural Faisalabad , University of Agricultural Faisalabad	2012 - 2013

Awards

Young Scientist by CSC Young distinguished scientist award is provided by Chinese scholarship council is the highest rank award provided to young PhD scholars for their notable contribution and publication to highest rank peer reviewed journals.	2016
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Professional Memberships

PEC	Since 2011
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Research Projects

National Projects

Adsorptive recovery of phosphate from eutrophic water using biowaste derived carbonaceous material and its feasibility in fertilizer use	2022
Funding Agency: NUST	
Amount: PKR 1,000,000.00	
Status: Completed	
Bench-Scale Demonstration of an Integrated Waste-to-Energy Process for Municipal Solid Waste Management: A Step Toward Circular Bio-economy	2022
Funding Agency: HEC	
Amount: PKR 11,000,000.00	
Status: Approved_inprocess	
Demonstration of Technical Feasibility, Cluster Development and Commercial Viability of Modern Biomass Energy Conversion Technologies in Pakistan.	2019
Funding Agency: UNIDO	
Amount: PKR 11,200,000.00	
Status: Completed	
Designing and Fabrication of Semi-Continuous Stirring Tank Reactors to Evaluate and Optimize the Anaerobic Co-Digestion of Poultry Manure	2017
Funding Agency: USAID	
Amount: PKR 3,000,000.00	
Status: Completed	
Methane enhancement by treatment of rice husk co-digested with cow manure	2017
Funding Agency: HEC	
Amount: PKR 500,000.00	
Status: Completed	

International Projects

Research Articles

An integrated evaluation framework for evaluating renewable-based building sector implementation in remote/off-grid areas with varying climatic zones	2025
Rida Maryam Syed Ali Abbas Kazmi Muhammad Hassan Mustafa Anwar	
Energy and Buildings , Volume:341, Article Number 115803	
Impact Factor: 6.600 Quartile: 1	
DOI: https://doi.org/10.1016/j.enbuild.2025.115803	
Socio-Economic Analysis for Adoption of Smart Metering System in SAARC Region: Current Challenges and Future Perspectives	2025
Muhammad Hassan Syyed Ahmad Ali Shah Mustafa Anwar Muhammad Yousif Abdul Haseeb Tariq Syed Ali Abbas Kazmi Zain Khalid	
Sustainability , Volume 17(15), Article Number 6786	
Impact Factor: 3.300 Quartile: 2	
DOI: https://doi.org/10.3390/su17156786	
Advanced characterization of hemp biomass pyrolysis: Bioenergy recovery and environmental implications	2025
Rashid Minhas Asif Hussain Hajirah Kanwal Muhammad Hassan Arslan Khan Syed Sheraz Daoood Israf Ud din Ali Bahadar	
Sustainable Chemistry and Pharmacy , Volume 45, Article Number 101989	
Impact Factor: 5.500 Quartile: 1 Citations: 1	
DOI: https://doi.org/10.1016/j.scp.2025.101989	
Application of Portable Near-Infrared Spectroscopy for Quantitative Prediction of Protein Content in Torreya grandis Kernels Under Different States	2025
Yuqi Gu Haosheng Zhong Jianhua Wu Kaixuan Li Yu Huang Huimin Fang Muhammad Hassan Lijian Yao Chao Zhao	
Foods , Article Number 14(11), Article Number 1847	
Impact Factor: 4.700 Quartile: 1	
DOI: https://doi.org/10.3390/foods14111847	
Photo- and electrocatalytic hydrogen production from dye-degraded wastewater using samarium-doped ceria as a catalyst	2025

<p><i>Hijab Haider Hira Azeem Asif Hussain Muhammad Hassan Rabia Liaquat Ali Bahadar Muhammed Ali S.A. Mustafa Anwar</i> <i>International Journal of Hydrogen Energy</i>, Volume:111, Pages:606-622</p> <p>Impact Factor: 8.100 Quartile: 1 Citations: 4 DOI: https://doi.org/10.1016/j.ijhydene.2025.02.188</p>	
<p>Reinforcement of smart campus grid infrastructure for sustainable energy management in buildings across horizon 2030</p> <p><i>Mahnoor Abbasi Syed Ali Abbas Kazmi Muhammad Zubair Iftikhar Mustafa Anwar Muhammad Hassan Thamer A.H. Alghamdi Mohammed Alenezi</i> <i>Results in Engineering</i>, Volume:25, Article Number:104300, Pages:30</p> <p>Impact Factor: 6 Quartile: 1 Citations: 2 DOI: https://doi.org/10.1016/j.rineng.2025.104300</p>	2025
<p>Influences of Granular Activated Carbon on Methane Production Performance of Cow Manure and Corn Straw in Semi-continuous Stirring Tank Reactor: Organic Loading Rate Optimization and Economic Considerations</p> <p><i>Muhammad Aamir Muhammad Hassan</i> <i>Waste and Biomass Valorization</i>, Pages 1-13</p> <p>Impact Factor: 2.600 Quartile: 3 DOI: https://doi.org/10.1007/s12649-025-02983-0</p>	2025
<p>Techno-economic and composite performance assessment of fuel cell-based hybrid energy systems for green hydrogen production and heat recovery</p> <p><i>Abdul haseeb Tariq Mustafa Anwar Syed Ali Abbas Kazmi Muhammad Hassan Ali Bahadar</i> <i>International Journal of Hydrogen Energy</i>, Volume:104, Pages:444-462</p> <p>Impact Factor: 8.100 Quartile: 1 Citations: 22 DOI: https://doi.org/10.1016/j.ijhydene.2024.04.018</p>	2025
<p>Effect of dental ceramic coating on thermal, mechanical, and dielectric properties of glass fiber-reinforced wave transparent composite</p> <p><i>Muhammad Qasim Muhammad talha Shabbir Tayyab Hussain Imran Haider Muhammad Hassan Mustafa Anwar</i> <i>Journal of Materials Science: Materials in Electronics</i>, Volume:36, Issue:6, Article Number 391</p> <p>Impact Factor: 2.800 Quartile: 2 DOI: https://doi.org/10.1007/s10854-025-14388-9</p>	2025
<p>Co-Pyrolysis of Almond Shells and Polyurethane: Pyrolytic Products Distributions, Parametric Influences Through Machine Learning, Economic Feasibility and Contributions Towards Circular Economy</p> <p><i>Muhammad Aamir Muhammad Hassan</i> <i>Waste and Biomass Valorization</i>, Pages:13</p> <p>Impact Factor: 2.6 Quartile: 3 DOI: https://doi.org/10.1007/s12649-025-02921-0</p>	2025
<p>Techno-economic analysis of green hydrogen production from wind and solar along CPEC special economic zones in Pakistan</p> <p><i>Joshi Laila Mustafa Anwar Muhammad Hassan Syed Ali Abbas Kazmi Rizwan Ali Muhammed Ali S.A. Muhammad Zeeshan Rafique</i> <i>International Journal of Hydrogen Energy</i>, Volume 96, Pages 811-828</p> <p>Impact Factor: 8.100 Quartile: 1 Citations: 8 DOI: https://doi.org/10.1016/j.ijhydene.2024.11.140</p>	2024
<p>Socio-economic benefits and policy implications of generating sustainable energy from municipal solid waste in Pakistan</p> <p><i>Waqas Ahmad Muhammad Hassan Shah Fahad Bin Masud Muhammad Saad Amjad Fatin Samara Zeshan Mustafa Anwar Muhammad Zeeshan Rafique</i> <i>Tahir Nawaz</i> <i>Energy and Climate Change</i>, Volume 5, Article Number 100124</p> <p>Impact Factor: 5.800 Quartile: 2 Citations: 8 DOI: https://doi.org/10.1016/j.egycc.2023.100124</p>	2024
<p>Thermokinetic investigation of Polyethylene Terephthalate (PET) plastic over biomass fly ash (BFA) catalyst using pyrolysis process through non-isothermal thermogravimetric analysis</p> <p><i>Ali Raza Waqar Ul Habib Khan Asif Hussain Khoja Arslan Khan Muhammad Hassan Rabia Liaquat Majid Ali Israf Ud Din Abdulaziz Al-Anazi</i> <i>Sustainable Chemistry and Pharmacy</i>, Volume: 42, Article Number: 101856, Pages:15</p> <p>Impact Factor: 5.5 Quartile: 1 Citations: 2 DOI: https://doi.org/10.1016/j.scp.2024.101856</p>	2024
<p>Grade Classification of Camellia Seed Oil Based on Hyperspectral Imaging Technology</p>	2024

<p><i>Yuqi Gu Jianhua Wu Yijun Guo Sheng Hu Kaixuan Li Yuqian Shang Liwei Bao Muhammad Hassan Chao Zhao</i> <i>Foods</i> , Volume 13(20), Article Number 3331</p> <p>Impact Factor: 4.700 Quartile: 1 Citations: 2</p> <p>DOI: https://doi.org/ 10.3390/foods13203331</p>	
<p>Quantitative Prediction of Acid Value of Camellia Seed Oil Based on Hyperspectral Imaging Technology Fusing Spectral and Image Features</p> <p><i>Yuqi Gu Lifang Shi Jianhua Wu Sheng Hu Yuqian Shang Muhammad Hassan Chao Zhao</i> <i>Foods</i> , Volume 13(20), Article Number 3249</p> <p>Impact Factor: 4.700 Quartile: 1 Citations: 6</p> <p>DOI: https://doi.org/ 10.3390/foods13203249</p>	2024
<p>Colimoxin influences on the anaerobic co-digestion performance of chicken manure and wheat straw: volatile fatty acids generation and utilization trends and regression modelling</p> <p><i>Muhammad Aamir Muhammad Hassan</i> <i>Environment, Development and Sustainability</i> , Pages 1-20</p> <p>Impact Factor: 4.700 Quartile: 2 Citations: 2</p> <p>DOI: https://doi.org/10.1007/s10668-024-05375-x</p>	2024
<p>Techno-economic and performance assessment of a hybrid fuel cell-based combined heat and power system for dairy industry</p> <p><i>Kashif Najeel Abdul Haseeb Tariq Muhammad Hassan Mustafa Anwar Ali Bahadar Syed Ali Abbas Kazmi Muhammad Yousif</i> <i>Environment Development and Sustainability</i> , Pages 1-29</p> <p>Impact Factor: 4.700 Quartile: 2 Citations: 3</p> <p>DOI: https://doi.org/10.1007/s10668-024-05044-z</p>	2024
<p>Techno-economic and environmental analysis of renewable energy integration in irrigation systems: A comparative study of standalone and grid-connected PV/diesel generator systems in Khyber Pakhtunkhwa</p> <p><i>Sheharyar Khattak Muhammad Yousif Shabieh Ul Hassan Muhammad Hassan Thamer A.H. Alghamdi</i> <i>Heliyon</i> , Volume 10, Issue 10, Article Number e31025</p> <p>Impact Factor: 3.400 Quartile: 1 Citations: 18</p> <p>DOI: https://doi.org/10.1016/j.heliyon.2024.e31025</p>	2024
<p>Current and future implications of bitcoin mining on energy and climate change</p> <p><i>Muhammad Yousaf Bukhari Dr Abeera Ayaz Ansari Dr Muhammad Yousif Dr Muhammad Hassan Usama Hassan</i> <i>MRS Energy and Sustainability</i> , Pages: 14</p> <p>Impact Factor: 3.300 Quartile: 3 Citations: 5</p> <p>DOI: 10.1557/s43581-024-00084-4</p>	2024
<p>Synergistic production of fuels from co-pyrolysis of lignite coal and waste plastic</p> <p><i>Asif Khan Dr Naseem Iqbal Dr. Tayyaba Noor Dr. Muhammad Hassan Dr. Javaid Akhter</i> <i>Journal of the Energy Institute</i> , Volume 113, Article Number: 101527</p> <p>Impact Factor: 5.7 Quartile: 2 Citations: 7</p> <p>DOI: 10.1016/j.joei.2024.101527</p>	2024
<p>Synergistic transformation: Kinetic and thermodynamic evaluation of co-pyrolysis for low-rank bituminous coal and polyurethane foam waste</p> <p><i>Zaid Mohammad Banyhani Waqar Ul Habib Khan Hala H. Abd El-Gawad Dr. Mustafa Anwar Dr. Asif Hussain Khoja Dr. Muhammad Hassan Dr. Rabia Liaquat Zeinhom M. El-Bahy</i> <i>Process Safety and Environmental Protection</i> , Volume 184, Pages 907-921</p> <p>Impact Factor: 7.8 Quartile: 1 Citations: 12</p> <p>DOI: 10.1016/j.psep.2024.01.041</p>	2024
<p>Energy, economic and environmental (3E) analyses of solar photovoltaic and fuel cell based hybrid energy system for a developing country: a worldwide approach to sustainable energy</p> <p><i>Maham Fazal Abdul Kashif Janjua Mustafa Anwar Muhammad Hassan Sehar Shakir Ali Bahadar</i> <i>Environment, Development and Sustainability</i> , Pages 1-28</p> <p>Impact Factor: 4.9 Quartile: 2 Citations: 4</p> <p>DOI: https://doi.org/10.1007/s10668-024-04677-4</p>	2024
<p>Thermodynamic analysis of different modes of a multigeneration SOFC-CCHP system with freshwater production and LNG cold energy utilization</p> <p><i>Muhammad Uzair Azhar Mustafa Anwar Uneeb Masood Khan Muhammad Hassan Muhammed Ali S.A. Adeel Waqas Mahendra Rao Somalu Dr. Faisal Alreshedi</i></p>	2023

<p><i>Energy Conversion and Management</i> , Volume 297, Article Number 117730</p> <p>Impact Factor: 10.4 Quartile: 1 Citations: 25</p> <p>DOI: https://doi.org/10.1016/j.enconman.2023.117730</p>		
<p>Efficient removal of hexavalent chromium Cr (VI) using magnesium-iron layered double hydroxide supported on orange peel (Mg-Fe LDH@OPP): A synthetic experimental and mechanism studies</p> <p><i>Waleed Usmani Muhammad Ali Inam Rashid Iftikhar Iqra Irfan Rabia Adnan Muhammad Bilal Khan Niazi Rizwan Khan Muhammad Hassan</i></p> <p><i>Journal of Water Process Engineering</i> , Volume 55, Article Number: 104233</p> <p>Impact Factor: 7 Quartile: 1 Citations: 14</p> <p>DOI: 10.1016/j.jwpe.2023.104233</p>		2023
<p>A Sustainable Way to Determine the Water Content in <i>Torreya grandis</i> Kernels Based on Near-Infrared Spectroscopy</p> <p><i>Jiankai Xiang Yu Huang Shihao Guan Yuqian Shang Liwei Bao Xiaojie Yan Muhammad Hassan Lijun Xu Chao Zhao</i></p> <p><i>Sustainability</i> , Volume 15(16), Article Number 12423</p> <p>Impact Factor: 3.9 Quartile: 2 Citations: 9</p> <p>DOI: https://doi.org/10.3390/su151612423</p>		2023
<p>Enhancement in anaerobic biogas conversion by visible light photocatalytic Pre-treatment of rice husk with indium vanadate decorated titanium dioxide nanocomposite</p> <p><i>Jamshaid Rashid Muhammad Hassan M. A. Barakat Ming Xu Talha Tufail Bhati Rajeev Kumar</i></p> <p><i>Fuel</i> , Volume 346, Article Number 128289</p> <p>Impact Factor: 8.035 Quartile: 1 Citations: 10</p> <p>DOI: https://doi.org/10.1016/j.fuel.2023.128289</p>		2023
<p>Site suitability for solar and wind energy in developing countries using combination of GIS- AHP; a case study of Pakistan</p> <p><i>Muhammad Ali Raza Muhammad Yousif Muhammad Hassan Muhammad Numan Syed Ali Abbas Kazmi</i></p> <p><i>Renewable Energy</i> , Volume 206, Pages 180-191</p> <p>Impact Factor: 8.634 Quartile: 1 Citations: 66</p> <p>DOI: https://doi.org/10.1016/j.renene.2023.02.010</p>		2023
<p>Physiochemical characteristics and methane yield of pretreated rice straw, canola straw, and banana plant substrate with buffalo dung by anaerobic co-digestion: sustainable future for Pakistan</p> <p><i>Altaf Alam Noonari Muhammad Hassan Rasool Bux Mahar</i></p> <p><i>Biomass Conversion and Biorefinery</i> , Pages 1-23</p> <p>Impact Factor: 4.050 Quartile: 2 Citations: 2</p> <p>DOI: https://doi.org/10.1007/s13399-023-03802-z</p>		2023
<p>Techno-economic analysis of PV systems installed by using innovative strategies for smart sustainable agriculture farms</p> <p><i>Yahya Aziz Abdul Kashif Janjua Muhammad Hassan Mustafa Anwar Saira Kamwal Muhammad Yousif</i></p> <p><i>Environment, Development and Sustainability</i> , Pages 1-22</p> <p>Impact Factor: 4.080 Quartile: 2 Citations: 15</p> <p>DOI: https://doi.org/10.1007/s10668-023-02919-5</p>		2023
<p>Mussel shell based CaO nano-catalyst doped with praseodymium to enhance biodiesel production from castor oil</p> <p><i>Sana Gohar Khan Muhammad Hassan Mustafa Anwar Zeshan Uneeb Masood Khan Chao Zhao</i></p> <p><i>Fuel</i> , Volume 330, Article Number 125480</p> <p>Impact Factor: 8.035 Quartile: 1 Citations: 40</p> <p>DOI: https://doi.org/10.1016/j.fuel.2022.125480</p>		2022
<p>Technical and Economic Evaluation of a 50 MW Solar Power Plant in Quetta †</p> <p><i>Gohram Khan Dr. Muhammad Hassan Dr. Mustafa Anwar Dr. Adeel Waqas Dr. Sehar Shakir Jamsheed Sajid</i></p> <p><i>Engineering Proceedings</i> , Volume:20, Issue:1, Article Number: 46</p> <p>Impact Factor: N/A Citations: 2</p> <p>DOI: 10.3390/engproc2022020046</p>		2022
<p>Operation of microalgal horizontal twin layer system for treatment of real wastewater and production of lipids</p> <p><i>Sahar Saleem Zeshan Rashid Iftikhar Muhammad Arshad Muhammad Zeeshan Ali Khan Muhammad Hassan</i></p> <p><i>Journal of Water Process Engineering</i> , Volume 48, Article Number 102932</p> <p>Impact Factor: 7.340 Quartile: 1 Citations: 5</p> <p>DOI: 10.1016/j.jwpe.2022.102932</p>		2022

Investigating the characterisation, kinetic mechanism, and thermodynamic behaviour of coal-biomass blends in co-pyrolysis process <i>Hamad Gohar Asif Hussain Khoja Abeera Ayaz Ansari Salman Raza Naqvi Rabia Liaquat Muhammad Hassan Khalil Hasni Umair Yaqoob Qazi Imtiaz Ali</i> <i>Process Safety and Environmental Protection</i> , Volume 163, Pages 645-658 Impact Factor: 6.158 Quartile: 1 Citations: 52 DOI: 10.1016/j.psep.2022.05.063	2022
Challenges and Applications of Graph Signal Processing <i>Muhammad Yousif Muhammad Yasin Mohsin Sohaib Tahir Chaudhary Muhammad Hassan Muhammad Abdul Manan Khan Waqas Ahmad Wattoo</i> <i>International Journal of Electrical Engineering & Emerging Technology (IJEET)</i> , Volume 5(1), Pages 08-15 Impact Factor: N/A DOI: http://www.ijeet.com/index.php/ijeet/article/view/105	2022
Proximate and elemental analysis of solid recovered fuel, its comparison with existing fossil fuels in terms of physical characteristics and economic benefits <i>Waqas Ahmad Muhammad Hassan Zeshan Shah Fahad Bin Masud Saira Kamwal Ram Sarup Singh Mustafa Anwar Esmaeil Mehryar Chao Zhao</i> <i>Bioresource Technology Reports</i> , Volume 18, Article Number 101049 Impact Factor: 0 Citations: 10 DOI: https://doi.org/10.1016/j.biteb.2022.101049	2022
Praseodymium-doped Sr₂TiFeO_{6-δ} double perovskite as a bi-functional electrocatalyst for hydrogen production through water splitting <i>Qassam Sarmad Uneeb Masood Khan Mutawara Mahmood Baig Muhammad Hassan Faaz Ahmed Butt Asif Hussain Rabia Liaquat Zuhair Subhani Khan Mustafa Anwar Muhammed Ali S.A.</i> <i>Journal of Environmental Chemical Engineering</i> , Volume 10, Issue 3, Article Number 107609 Impact Factor: 5.909 Quartile: 1 Citations: 38 DOI: 10.1016/j.jece.2022.107609	2022
Co-digestion of chicken manure with goose manure and thermo-oxidative-treated wheat straw in CSTR: co-digestion synergistics and OLR optimization through kinetic modeling <i>Muhammad Hassan Mustafa Anwar Ram Sarup Singh Chao Zhao Esmaeil Mehryar</i> <i>Biomass Conversion and Biorefinery</i> , Pages 1-12 Impact Factor: 4.987 Quartile: 1 Citations: 7 DOI: https://doi.org/10.1007/s13399-022-02757-x	2022
Environmental Impact Assessments of the Renewable Energy Technologies Adaptation <i>Abdul Basit Muhammad Hassan Saira Kamwal Mustafa Anwar Syed Ali Abbas Kazmi Abeera Ayaz Ansari</i> <i>Pakistan Journal of Engineering and Technology</i> , Volume 5, Number 2, Pages 100-103 Impact Factor: N/A DOI: 2664-2042, ISSN (e): 2664-2050	2022
Methane enhancement by the co-digestion of thermochemical alkali solubilized rice husk and cow manure: Lignocellulosics decomposition perspectives <i>Muhammad Hassan Shah Fahad Bin Masud Mustafa Anwar Chao Zhao Ram Sarup Singh Esmaeil Mehryar</i> <i>Biomass Conversion and Biorefinery</i> , Pages 1-13 Impact Factor: 4.987 Quartile: 1 Citations: 9 DOI: https://doi.org/10.1007/s13399-022-02310-w	2022
Combined oxidization and liquid ammonia pretreatment of bamboo of various ages and species for maximizing fermentable sugar release <i>Jiajun Lu Mingyang Cheng Chao Zhao Qianjun Shao Muhammad Hassan</i> <i>Bioresource Technology</i> , Volume 343, Article Number 126085 Impact Factor: 11.4 Quartile: 1 Citations: 17 DOI: https://doi.org/10.1016/j.biortech.2021.126085	2022
Effect of ZnO nanostructures on the performance of dye sensitized solar cells <i>Ahad Hussain Javed Nadia Shahzad Muhammad Abdullah Khan Muniba Ayub Naseem Iqbal Muhammad Hassan Naveed Hussain Muhammad Imran Rameel Muhammad Imran Shahzad</i> <i>Solar Energy</i> , Volume 230, Pages 492-500 Impact Factor: 7.188 Quartile: 2 Citations: 41 DOI: https://doi.org/10.1016/j.solener.2021.10.045	2021
Methane Refinement by Iron Oxide, Packed Column Water Scrubbing, and Activated Charcoal Scrubbing Techniques <i>Shah Fahad Bin Masud Muhammad Hassan Faaz Ahmed Butt Ram Sarup Singh Asif Hussain Khoja Mustafa Anwar Waqas Ahmad</i>	2021

Waste and Biomass Valorization , Pages 1-13 Impact Factor: 3.703 Quartile: 2 Citations: 6 DOI: https://doi.org/10.1007/s12649-021-01629-1	
Synthesis of cobalt loaded double perovskite Sr₂TiFeO_{6-δ} (STF) as a stable catalyst for enhanced hydrogen production via methane decomposition <i>Uneeb Masood Khan Qassam Sarmad Mustafa Anwar Asif Hussain Khoja Muhammed Ali S.A. Zuhair S. Khan Muhammad Hassan Sehar Shakir International Journal of Energy Research</i> , Volume 45, Issue 14, Pages 20073-20088 Impact Factor: 4.672 Quartile: 1 Citations: 9 DOI: http://dx.doi.org/10.1002/er.7084	2021
Design, sizing and economic feasibility of a hybrid PV/diesel/battery based water pumping system for farmland <i>Muhammad Zeeshan Abid Muhammad Yousif Saleem Ullah Muhammad Hassan International Journal of Green Energy</i> , Pages 1-24 Impact Factor: 2.459 Quartile: 2 Citations: 21 DOI: https://doi.org/10.1080/15435075.2021.1954007	2021
Techno-economic modeling of biomass gasification plants for small industries in Pakistan <i>Muhammad Ali Qamar Adeel Javed Rabia Liaquat Muhammad Hassan Biomass Conversion and Biorefinery</i> , Pages 1-11 Impact Factor: 4.050 Quartile: 2 Citations: 3 DOI: https://doi.org/10.1007/s13399-021-01767-5	2021
Performance Analysis of TiO₂-Modified Co/MgAl₂O₄ Catalyst for Dry Reforming of Methane in a Fixed Bed Reactor for Syngas (H₂, CO) Production <i>Arslan Mazhar Asif Hussain Khoja Abul Kalam Azad Faisal Mushtaq Salman Raza Naqvi Sehar Shakir Muhammad Hassan Rabia Liaquat Mustafa Anwar Energies</i> , Volume 14(11), Article Number 3347 Impact Factor: 3.004 Quartile: 3 Citations: 24 DOI: https://doi.org/10.3390/en14113347	2021
Multiple (TEES)-Criteria-Based Sustainable Planning Approach for Mesh-Configured Distribution Mechanisms across Multiple Load Growth Horizons <i>Syed Ali Abbas Kazmi Usama Ameer Khan Waleed Ahmad Muhammad Hassan Fahim Ahmed Ibupoto Syed Basit Ali Bukhari Sajid Ali M. Mahad Malik Dong Ryeol Shin Energies</i> , Volume 14(11), Article Number 3128 Impact Factor: 3.252 Quartile: 3 Citations: 6 DOI: https://doi.org/10.3390/en14113128	2021
Enhancing biogas production through co-digestion and thermal pretreatment of wheat straw and sunflower meal <i>Asad Ayub Rajput Zeshan Muhammad Hassan Renewable Energy</i> , Volume 168, Pages 1-10 Impact Factor: 8.634 Quartile: 1 Citations: 39 DOI: https://doi.org/10.1016/j.renene.2020.11.149	2021
Current challenges and innovative developments in pretreatment of lignocellulosic residues for biofuel production: A review <i>Bilal Beig Muhammad Riaz Salman Raza Naqvi Muhammad Hassan Zhifeng Zheng Keikhosro Karimi Arivalagan Pugazhendhi A.E. Atabani Nguyen Thuy Lan Chi Fuel</i> , Volume 287, Article Number 119670 Impact Factor: 6.609 Quartile: 1 Citations: 189 DOI: https://doi.org/10.1016/j.fuel.2020.119670	2021
Biomass ash characterization, fusion analysis and its application in catalytic decomposition of methane <i>Muhammad Assad Munawar Asif Hussain Khoja Muhammad Hassan Rabia Liaquat Salman Raza Naqvi Muhammad Taqi Mehran Ali Abdullallah Faisal Saleem Fuel</i> , Volume 285, Article Number 119107 Impact Factor: 6.609 Quartile: 1 Citations: 68 DOI: 10.1016/j.fuel.2020.119107	2021
Enhanced methane generation and biodegradation efficiencies of goose manure by thermal-sonication pretreatment and organic loading management in CSTR <i>Muhammad Hassan Chao Zhao Ding Weimin Chao Zhao Ding Weimin</i>	2020

Energy , Volume 198, Article Number 117370

Impact Factor: 7.147 | **Quartile:** 1 | **Citations:** 20

DOI: <https://doi.org/10.1016/j.energy.2020.117370>

Evolution of the Lignin Chemical Structure during the Bioethanol Production Process and Its Inhibition to Enzymatic Hydrolysis

2020

Chao Zhao Xianliang Qiao Qianjun Shao Zhongqing Ma Chao Zhao Xianliang Qiao Qianjun Shao Muhammad Hassan Zhongqing Ma
Energy Fuels , Volume 34(5), Pages 5938–5947

Impact Factor: 3.605 | **Quartile:** 2 | **Citations:** 131

DOI: <https://doi.org/10.1021/acs.energyfuels.0c00293>

Evolution of Lignin Chemical Structure during Bioethanol Production Process and Its Inhibition to Enzymatic Hydrolysis

2020

Chao Zhao Xianliang Qiao Qianjun Shao Zhongqing Ma Muhammad Hassan
Energy & Fuels , Volume 34, Issue 5, Pages 5938–5947

Impact Factor: 3.605 | **Quartile:** 2 | **Citations:** 131

DOI: DOI: 10.1021/acs.energyfuels.0c00293

Synergistic effect of hydrogen peroxide and ammonia on lignin

2020

Chao Zhao Xianliang Qiao Qianjun Shao Zhongqing Ma Lijian Yao Chao Zhao Xianliang Qiao Qianjun Shao Muhammad Hassan Zhongqing Ma Lijian Yao
Industrial Crops and Products , Volume 146, Article Number 112177

Impact Factor: 5.645 | **Quartile:** 1 | **Citations:** 115

DOI: <https://doi.org/10.1016/j.indcrop.2020.112177>

Effect of Buried Straw Layer Coupled with Fertigation on Florescence and Yield Parameters of Chinese Cabbage Under Greenhouse Environment

2020

Ghulam Rasool Xiangping Gou Zhenchang Wang Muhammad Hassan Muhammad Aleem Qaiser Javaid Sheng Chen Ghulam Rasool Xiangping Gou
Zhenchang Wang Muhammad Aleem Qaiser Javaid Sheng Chen
Journal of Soil Science and Plant Nutrition , Pages 1-12

Impact Factor: 3.872 | **Quartile:** 2 | **Citations:** 15

DOI: <https://doi.org/10.1007/s42729-019-00149-1>

Methane enhancement by the co-digestion of soybean straw and farm wastewater under different thermo-chemical pretreatments

2020

Jiading Xiong Muhammad Hassan Wang Wenxin Ding Weimin
Renewable Energy , Volume 145, Pages 116–123

Impact Factor: 8.001 | **Quartile:** 1 | **Citations:** 28

DOI: <https://doi.org/10.1016/j.renene.2019.05.102>

Determination of moisture content in corn stover silage using near infrared spectroscopy

2019

Chao Zhao Qianjun Shao Zidong Yang Xiaofeng Xu Maoqun Zhang Xuefen Zhang Muhammad Hassan
International Journal of Agricultural and Biological Engineering , Volume 12(6), Pages 143-148

Impact Factor: 1.731 | **Quartile:** 2 | **Citations:** 72

DOI: 10.25165/j.ijabe.20191206.4914

Enhancement Methane Generation by Co-Digestion of Cow Dung and Grass (*Cynodon dactylon*) with Activated Sludge

2019

Fiaz Ahmad Sajid Maqbool Zahid Mehmood Khan Muhammad Hassan Baijing Qui Jing Ma Tahir Jameel
BioResources , Volume: 14, Issue: 3, Pages: 6822-6836

Impact Factor: 1.409 | **Quartile:** 2 | **Citations:** 3

DOI: 10.15376/biores.14.3.6822-6836

Structural Characterization of Corn Stover Lignin after Hydrogen Peroxide Presoaking Prior to Ammonia Fiber Expansion Pretreatment

2018

Xianliang Qiao Chao Zhao Qianjun Shao Muhammad Hassan
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Impact Factor: 3.021 | **Quartile:** 2 | **Citations:** 134

DOI: 10.1021/acs.energyfuels.8b00951

Ultrasound assisted alkaline pre-treatment of sugarcane filter mud for performance enhancement in biogas production

2018

Zahir Talha Abdelbagi Hamid Dong Guo Muhammad Hassan Cedric Okinda Weimin Ding Esmaeil Mehryar
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Impact Factor: 1.349 | **Quartile:** 2 | **Citations:** 11

DOI: 10.25165/j.ijabe.20181101.3441

Modeling and multi-response optimization for anaerobic co-digestion of oil refinery wastewater and chicken manure using by artificial neural network and the Taguchi method <i>Esmail Mehryar Weimin Ding Abbas Hemmat Muhammad Hassan Zahir Talha Jalal Kafashan Hongying Huang</i> <i>BioMed Research International</i> , Article Number: 2036737 Impact Factor: 2.583 Quartile: 2 Citations: 11 DOI: https://doi.org/10.1155/2017/2036737	2017
Methane enhancement through co-digestion of chicken manure and oxidative cleaved wheat straw: stability performance and kinetic modeling perspectives <i>Muhammad Hassan Muhammad Umar Weimin Ding Esmail Mehryar Chao Zhao</i> <i>Energy</i> , Volume: 141, Pages: 2314-2320 Impact Factor: 4.968 Quartile: 1 Citations: 61 DOI: 10.1016/j.energy.2017.11.110	2017
Anaerobic co-digestion of oil refinery wastewater and chicken manure to produce biogas, and kinetic parameters determination in batch reactors <i>M. Hassan E. Mehryar Ding W, A. Hemmat J.H. Bi H.Y. Huang J. Kafashan</i> <i>Agronomy Research</i> , NULL Impact Factor: 0 Citations: 12 DOI: 10.15159/AR.17.072	2017
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Methane Enhancement through Sequential Thermochemical and Sonication Pretreatment for Corn Stover with Anaerobic Sludge <i>Muhammad Hassan Muhammad Umar Tursun Mamat Furqan Muhayodin Zahir Talha Esmail Mehryar Fiaz Ahmad Weimin Ding Chao Zhao</i> <i>Energy & Fuels</i> , Volume: 31, Issue: 6, Pages: 6145-6153 Impact Factor: 3.024 Quartile: 2 Citations: 15 DOI: 10.1021/acs.energyfuels.7b00478	2017
Tool path optimal design for slow tool servo turning of complex optical surfaces <i>Xu Chen Min Kang Xingsheng Wang Muhammad Hassan Jun Yang</i> <i>Proceedings of the Institution of Mechanical Engineers Part B-Journal of Engineering Manufacture</i> , Volume: 231, Issue: 5, Pages: 825-837 Impact Factor: 1.445 Quartile: 3 Citations: 15 DOI: 10.1177/0954405416654192	2017
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Alkaline Pretreatment of Sugarcane Bagasse and Filter Mud Co-digested to Improve bio-methane Production <i>Zahir Talha Ding W, Esmail Mehryar Muhammad Hassan Jinhua Bi</i> <i>BioMed Research International</i> , Article Number: 8650597, Pages 1-10	2016

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Conference Proceedings

- Operation of Inclined Porous Substrate Bioreactor for Wastewater Treatment Using Microalgae and Sustainable Biodiesel-Lipid Production** 2021
Sahar Saleem Zeshan Rashid Ittikhar Muhammad Arshad Muhammad Hassan
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- Biomass pelletizing: Characterization of cow dung assisted solid recovered bio-fuel from agricultural waste** 2021
Hamza Sohail Muhammad Hassan Mustafa Anwar Shah Fahad Bin Masud Waqas Ahmad
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Citations: N/A
DOI: 978-0-7381-1148-3/21
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Waqas Ahmad Muhammad Hassan Tahir Nawaz Muhammad Ashfaq Muhammad Assad Khan
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Book Chapters

- Fungi as potent bioresource for biofuel production** 2024
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Editorial Activities

Bioresource Technology Reviewed Papers for Journals Impact Factor: 9.70	2024
Heliyon Reviewed Papers for Journals Impact Factor: 3.4	2024
Water Reviewed Papers for Journals Impact Factor: 3.0	2024
Water Reviewed Papers for Journals Impact Factor: 3.0	2024
Waste and Biomass Valorization Reviewed Papers for Journals Impact Factor: 2.6	2024
Bioresource Technology Reviewed Papers for Journals Impact Factor: 9.70	2024
Wate Reviewed Papers for Journals Impact Factor: 3.0	2024
Water Reviewed Papers for Journals Impact Factor: 3.0	2024
Environment, Development and Sustainability Reviewed Papers for Journals Impact Factor: 4.70	2024
Water Reviewed Papers for Journals Impact Factor: 3.0	2024
Water Reviewed Papers for Journals Impact Factor: 3.0	2024
Polymers Reviewed Papers for Journals Impact Factor: 4.70	2024
Environmental Progress & Sustainable Energy Reviewed Papers for Journals Impact Factor: 2.1	2023
Resources Reviewed Papers for Journals Impact Factor: 3.60	2023
Resources Reviewed Papers for Journals Impact Factor: 3.6	2023
Processes Reviewed Papers for Journals Impact Factor: 2.80	2023
Membranes Reviewed Papers for Journals Impact Factor: 3.09	2023

Sustainability	2023
Reviewed Papers for Journals	
Impact Factor: 3.889	
Water	2023
Reviewed Papers for Journals	
Impact Factor: 2.06	
Sustainability	2023
Reviewed Papers for Journals	
Impact Factor: 3.89	
Sustainability	2023
Reviewed Papers for Journals	
Impact Factor: 3.89	
Environmental Progress & Sustainable Energy	2023
Reviewed Papers for Journals	
Impact Factor: 2.8	
Agronomy Research	2023
Reviewed Papers for Journals	
Impact Factor: 0	
Biomass Conversion and Biorefinery	2023
Reviewed Papers for Journals	
Impact Factor: 4.98	
International Journal of Energy Research	2023
Reviewed Papers for Journals	
Impact Factor: 4.6	
Applied Sciences	2023
Reviewed Papers for Journals	
Impact Factor: 2.7	
Water	2023
Reviewed Papers for Journals	
Impact Factor: 3.53	
Catalysts	2022
Reviewed Papers for Journals	
Impact Factor: 4.50	
Sustainability	2022
Reviewed Papers for Journals	
Impact Factor: 3.889	
Processes	2022
Reviewed Papers for Journals	
Impact Factor: 2.75	
Frontiers in Bioengineering and Biotechnology	2022
Edited Journal Issue / Proceeding / Book	
Impact Factor: 5.89	
Biomass Conversion and Biorefinery	2022
Reviewed Papers for Journals	
Impact Factor: 4.050	
International journal of plant and soil sciences	2022
Reviewed Papers for Journals	
Impact Factor: NA	
Journal of Membrane Science	2022
Reviewed Papers for Journals	
Impact Factor: 10.530	
Biomass Conversion and Biorefinery	2022
Reviewed Papers for Journals	
Impact Factor: 4.050	

Sustainability	2022
Reviewed Papers for Journals	
Impact Factor: 3.889	
International journal of plant and soil sciences	2022
Reviewed Papers for Journals	
Impact Factor: NA	
International journal of plant and soil science	2021
Reviewed Papers for Journals	
Impact Factor: NA	
Environmental Science and Pollution Research	2021
Reviewed Papers for Journals	
Impact Factor: 5.19	
International Energy Journal	2021
Reviewed Papers for Journals	
Impact Factor: NA	
Edited Journal Issue / Proceeding / Book	2021
Impact Factor: 5.89	
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Reviewed Papers for Journals	2020
Reviewed Papers for Journals	2020
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Reviewed Papers for Journals	2020
Impact Factor: -	
Reviewed Papers for Journals	2020
Impact Factor: -	
Reviewed Papers for Journals	2019
Impact Factor: 3.021	
Reviewed Papers for Journals	2018
Impact Factor: -	
Reviewed Papers for Journals	2018
Impact Factor: 1.126	

Intellectual Property

Copyrights

Patents

Industrial Designs

Packed column water scrubbing with H2S and activated charcoal scrubber Status: Filed	2021
Continuous stirring tank reactor with heat exchangers Status: Filed	2021

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