

30/10/2025
SB

International Journal of Advances in Engineering Sciences and Applied Mathematics



For Circulation in India only

Special Issue: Energy-Material Nexus: Innovations, Challenges, and Sustainable Solutions
Guest Editors: Sriparna Chatterjee, Pooja Devi

International Journal of Advances in Engineering Sciences and Applied Mathematics

Volume 17, Number 2, June 2025

Special Issue: Energy-Material Nexus: Innovations, Challenges, and Sustainable Solutions

Guest Editors: Sriparna Chatterjee, Pooja Devi

CONTENTS

WiSDOM in Action: Pioneering the Future of Energy and Materials Science <i>S. Chatterjee and P. Devi</i>	67
Role of elevated CO ₂ and nutrient availability in shaping metabolic response of <i>Scenedesmus</i> sp. <i>R. Sangtani, P. Saket, D. Parida, R. Kothari and K. Bala</i>	69
The plasmon-energy nexus: from energy efficient lighting to light harvesting and more <i>S. Dutta Choudhury</i>	79
Ternary composite proton exchange membranes based on sulfonated poly(vinyl alcohol)/chitosan/cellulose nanocrystals for direct methanol fuel cells <i>P. Kumar, H.K. Bhatt, N.A. Jacob, K. Sen and P. Das</i>	106
Enhancement of solar cell efficiency through laser assisted surface texturing <i>G.P. Singh, R. Chatterjee, S.K. Sharma, K. Sahni, Deepika and N. Sardana</i>	123
Solar-driven water purification technologies <i>A. Ganeshan and N. Jha</i>	146
A review on valorization of leather solid wastes: waste to energy <i>R. Gunasekaran, V. Natesan and N.N. Fathima</i>	167
Systematic evaluation of blends of biodiesel from <i>Scenedesmus</i> sp. on diesel engine performance metrics, combustion efficiency, and emission levels <i>S. Deshmukh, R. Kumar and K. Bala</i>	180
Visible photocatalytic oxidation: a tool for sustainable environmental remediation <i>A. Sharma, I. Goyal and P. Devi</i>	188
A frontier for advancement in hydrogen generation from engineered MXenes: a mini review <i>S. Pahra, S. Sharma, P. Kohli and P. Devi</i>	201
Synergizing progress: policies and advancements at the energy-material nexus <i>C. Awasthi and P. Devi</i>	215