

1. Record Nr.	UNINA9910855367503321
Autore	Emamian Sattar S
Titolo	Advances in Material Science and Engineering : Selected articles from ICMMPPE 2023, 16-Nov, Putrajaya, Malaysia / / edited by Sattar S. Emamian, Mokhtar Awang, Hussain H. Al-Kayiem
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	9789819720156 981972015X
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (162 pages)
Collana	Proceedings in Technology Transfer, , 2948-233X
Altri autori (Persone)	AwangMokhtar Al-KayiemHussain H
Disciplina	620.11
Soggetti	Materials Nanotechnology Manufactures Tribology Machinery Materials Engineering Nanoscale Design, Synthesis and Processing Machines, Tools, Processes Machinery and Machine Elements Nanoengineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Contents -- Temperature Performance of Integrated Roof Cooling System in Malaysia -- 1 Introduction -- 2 Materials and Methodology -- 2.1 Experiment Model and Set up -- 2.2 Ventilating Reflective Insulation System (VRIS) in Roof Model C -- 3 Results and Discussion -- 3.1 Fluctuation of Roof Interior Temperatures -- 3.2 Fluctuation of Differences in Roof Interior and Ambient Temperatures -- 4 Conclusion -- References -- Estimation of Femur Measurement of Malaysian Adults Using the Artificial Neural Network -- 1 Introduction -- 2 Methodology -- 3 Results and Discussion -- 4 Conclusion -- References -- Performance

Analysis of Logistics Services Companies in Malaysia Using TOPSIS Model -- 1 Introduction -- 2 Data and Methodology -- 3 Result and Discussion -- 4 Conclusion -- References -- Exploring the Global Hydroponic Cultivation System: Current and Future Perspectives -- 1 Introduction -- 1.1 Current Vegetable Production in Malaysia -- 1.2 Land (Conventional) Farming Agriculture -- 2 Methodologies -- 2.1 Global Hydroponics Cultivation System -- 3 Results and Discussions -- 3.1 Advantages of Hydroponics over the Traditional Farming Method -- 3.2 Nutrient Solution -- 3.3 Parameter Reviews in Hydroponics System -- 3.4 Current Researcher Parameter Studies -- 4 Conclusion and Recommendations -- References -- Microwave Hybrid Heating Application for Stainless Steel Joint Analysis: A Fuzzy Logic Study on Microhardness and Evaluation of Microstructural Characteristics Under Cold/Heat Processing -- 1 Introduction -- 2 Experimental Setting -- 2.1 Materials -- 2.2 Joining Method -- 2.3 Heating Mechanism -- 2.4 Metallurgical Characterizations -- 2.5 Patterned Design -- 2.6 Fuzzy Logic Design -- 3 Results and Discussions -- 3.1 The Effects of Heat Temperature on Microhardness and Microstructures in the Joint Region. 3.2 The Effects of Cold Temperature on Microhardness and Microstructures in the Joint Region -- 3.3 Observation of Fuzzy Logic Design on Microhardness -- 4 Conclusion -- References -- Comparative Analysis of Material Flow Stress in Mid-Carbon Steel (S45C) Utilizing the Zener-Hollomon Equation and Finite Element Method -- 1 Introduction -- 2 Experimental Procedure -- 2.1 Material Properties of S45C Carbon Steel -- 2.2 Hot Compressive Test -- 2.3 Material Flow Stress -- 2.4 Constitutive Analysis Using Zener-Hollomon Equation -- 2.5 Determination of Material Constants for the Zener-Hollomon Equation -- 2.6 Comparing the True Stress-Strain Curve for the Zener-Hollomon Equation -- 3 Design of Experiment -- 4 Result and Discussion -- 4.1 Forging Load -- 4.2 Dimensions of the Workpiece -- 5 Conclusion -- References -- Analytical Study of Intake Air Temperature Effect on SI Engine Performance and Emissions -- 1 Introduction -- 2 Material and Methodology -- 2.1 Modelling -- 2.2 Experimental Work -- 3 Results and Discussion -- 4 Conclusions -- References -- Characterization of the Thermophysical Properties of Paraffin-Based Nanocomposite Containing Alumina and Iron Oxide Nanoparticles -- 1 Introduction -- 2 Experimental Setup -- 2.1 Materials -- 2.2 Nano-paraffin Preparation Procedure -- 2.3 Experimental Instruments -- 2.4 Test Procedure -- 3 Results and Discussion -- 4 Conclusions -- References -- Evaluation of Dielectric Constants of PLA/PHA with 100-nm Aluminum Particles Using a Modified Paletto-Furukawa Expression -- 1 Introduction -- 1.1 Biopolymer Composites in Electronics -- 1.2 Model Development Using Paletto and Furukawa Expressions -- 2 Theoretical Evaluations Using the Proposed Modified Model -- 3 Experimental Data Analysis -- 3.1 Standard Fabrication and Testing Procedures -- 4 Results and Discussion. 4.1 Theoretical Evaluation of Dielectric Constant Using Modified Paletto-Furukawa Model -- 4.2 Comparison of Experimental and Modified Paletto-Furukawa Model -- 5 Conclusion -- References -- Numerical Analysis on Cooling Aluminum Heated Rod by Nanofluids Inside Annulus Cylindrical Region -- 1 Introduction -- 2 Mathematical Formulation -- 2.1 Equation of Mass Conservation -- 2.2 Equation of Mass Conservation -- 2.3 Fluid Region Energy Equation -- 2.4 Solid Region Energy Equation -- 2.5 Natural Convection and Buoyancy Effects -- 2.6 Boussinesq Model -- 2.7 Boundary Conditions -- 3 Results and Discussion -- 4 Conclusions -- References -- Thermal Analysis

of Wire on Tube Condenser by Exergy and Penalty Factor Methods -- 1
Introduction -- 2 Material and Methodology -- 2.1 Modelling
and Theoretical Analysis -- 2.2 Experimental Work -- 3 Results
and Discussion -- 3.1 The Penalty Factor Calculation -- 4 Conclusion
-- References -- Indoor Solar Lighting by Optical Fibers -- 1
Introduction -- 2 Methods and Materials -- 2.1 Experimental Setup --
2.2 Measurement Strategy -- 3 Results and Discussion -- 3.1 Effect
of Units' Number in the Bundle -- 3.2 Effect of Optical Fiber Length --
3.3 Bending Effect of Optical Fiber on the Illuminance Ability -- 3.4
Transmitted Light Distribution -- 4 Conclusions -- References --
Author Index.

Sommario/riassunto

This book presents the latest research advancements in the field of material science, specifically in mechanical, manufacturing, and plant engineering. It includes peer reviewed articles from the 9th International Conference on Mechanical, Manufacturing and Plant Engineering (ICMMPE 2023) held on 16th November 2023 at The Everly Hotel Putrajaya, Malaysia. The conference showcases cutting-edge research and facilitates knowledge exchange among experts in the field of material science, mechanical engineering and their applications.
