Table of Contents

Preface

Char	pter	1:	Str	uctura	l Metals	Proc	essing

T. Rautio, M. Jaskari and A. Järvenpää	3				
Prediction of Melt Pool Dimension, Porosity Generation and Thermal Behavior of Ti-6Al-4V during Powder Bed Fusion at Various Scan Speeds and Laser Powers N. Hassine, S. Chatti, M. Ben Slama and L. Kolsi	13				
Improvement of Safety and Reliability of SCM440 Steel with Induction Hardening G.H. Lee, J.K. Park and K.W. Nam					
Chapter 2: Functional Materials					
Thermoelectric Properties of Annealed Bilayer SnSe/PbTe and SnSe/PbSe Thin Films by Thermal Evaporation Method					
R. Tamilarasi, C. Joelin, R. Magesh, A.B. Solomon, J. Suryakanth and S. Rajesh	45				
Structural Aspects of Soft Ferromagnetic Mg-Zn Based Intermetallics Prepared by Die Casting					
S.M.N. Rokon, A.M. Nahin, M.M. Hasan and A. Sharif	55				
Chapter 3: Environmental Sustainability					
Determination of Air Pollutants Removal Efficiency by Wet Packed Scrubber System L. Hang, D. Um, A. Srean, S. Kong, P. Try, D. Chhe, C. Taing, R. Yim, M. Hata, M. Amin, W. Phairuang and M. Furuuchi	73				
Groundwater Purification Using Bio-Sand Filter Modified with Iron Oxide-Coated Sand and Activated Carbon B. Leng, M.P. Wai, L. Menh, C.I. Si and R. Heu	79				
Growth in the Worldwide Stock of E-Mobility Vehicles (by Technology and by Transport Mode) and the Worldwide Stock of Hydrogen Refueling Stations and Electric Charging Points between 2020 and 2022					
O.A. Marzouk	89				
Chapter 4: Materials and Technologies in Construction					
Development of Recurrent Neural Network Model for Bridge Effect Detection by Various Fibers Incorporated in Fiber-Reinforced Concrete					
D. Kim and S.G. Hong	99				
International Experience and Prospects for the 3D Concrete Printing Development L. Adamtsevich, A. Pustovgar and A. Adamtsevich	105				
Bond Strength of Steel Bars in Sustainable Concrete Made with Recycled Aggregates P. Saingam, A. Min, A. Ejaz and Q. Hussain	111				
Effect of Short-Term Outdoor Exposure on Fatigue Property of Japanese Cedar under Cyclic Loading H. Katogi	119				
In Situ Large Scale Direct Shear Test for Evaluating Compaction Work of Random Material: Case of Construction Failure in an Indonesia Dam A. Sahadewa	125				
Characterization and Evaluation of Asphalt Mixtures for Cycle Paths with Cellulose Fiber Obtained from Non-Toxic Sanitary Waste					
W.O.C. Tipán, A.B.C. Salazar, B.M.C. Vélez, V.L.A. Carrasco and J.A.B. García	133				

Influence of Chopped Carbon Fibers Addition with Different Curing Methods on the Mechanical Properties of Cement Mortar Performance	
S.S. Abdulhussein, S.F. Alkhafaji and R.M. Kudadad	145
Calculation and Application of Ultimate Lateral Friction Resistance of Concrete Piles under Different Soil Layer Materials J.B. Chen, Z. Jun, L.P. Wu, L. Jie, D.X. Peng, W.G. Zheng, Y.Q. Qing, Y.H. Xiong, Y. Dong and X. Wang	153
Circular Economy: Upcycling Wood Byproducts from the Azores into Building Insulation	
Material H. Daruari, A. Peixinho, A. Rocha, F. Gaspar and P. Mendonca	165
Effect of Three Surface Protectors on Surface Cracking and Discoloration of Pinus Radiata Wood, after Accelerated Aging by UV Rays and Humidity V.J. Pilco-Mamani, L.F. Cayllahua-Quispe, J.J. Chavez-Gutierrez, K. Ayala-Castro and R. Chara-Llaique	171
Chapter 5: Strength of Materials	
The Analysis of Vibration Resistance of the Shape and Braided Laminated Manufactured Structure Using Taguchi Method B.W. Huang, J.G. Tseng, J.S. Fang and I.C. Li	181
Biomechanical Effect of Bone Variables and Implant Position on Femoral Damage Mechanism in Total Hip Arthroplasty	
A. Izmin, F. Hazwani and M. Todo	187