Table of Contents

Preface

Chapter 1: Bio-Based and Biodegradable Composite Materials

Mechanical Properties and Thermal Analysis of Salago and Coir Hybrid Fiber Reinforced Epoxy Resin Composites	2
J.D. Lopena and J.C. Millare	3
Fabrication of All-Cellulose Composite from Cotton Fabric via NaOH/Urea Solvent Using Vacuum Bagging-Assisted Process P. Chumpon, P. Rattanawongkun, N. Tawichai, U. Intatha and N. Soykeabkaew	9
An Environmentally Friendly Recycled-Polyethylene Composite Reinforced by	
Diatomaceous Earth and Wood Fiber Y.F. Shih, W.L. Tsai and S. Hamdiani	15
Eco-Friendly Composites Based on Bitter Tea Oil Meal and Polylactic Acid Y.F. Shih, J.Y. Xu, N.Y. Wu, Y.T. Chiu, H.M. Yu and M.L. Tsai	21
Investigation of Mechanical Properties of Silk and Epoxy Composite Materials N.A. Akeel, V. Kumar and O.S. Zaroog	27
Biocomposites Based on Agar and Cellulose Nanofibers Prepared from Carrot Slag Y.F. Shih and W.S. Su	32
Influence of Internal Mixing Condition on Properties of Conductive Biocomposites between Poly(Lactic Acid) and Hybrid Graphene	
N. Hongsriphan, N. Thaisa, W. Yuenyong, S. Pruekchat and S. Duangsripat	38
The Development of Thermostatically Biodegradable Composite Y.F. Shih, Z.T. Chen, W.L. Lin, P.C. Chiu, C.H. Chiang and M.L. Tsai	44
Chapter 2: Mechanical Properties of Composite Structures	
Passive Morphing in Aerospace Composite Structures P. Jadhav	53
Improvement of Impact Energy Absorption of Curved Thin Chopped Tape CFRP Shell by Adding Submicron Glass Fiber into Matrix T. Ueda, K. Okubo, K. Obunai and L. Bao	59
Insertion of a Viscoelastic Layer to Reduce the Propagation of Energy by Vertical Impacts of Slamming in Planing Hull Vessels	
P. Townsend, J.C. Suárez, P. Pinilla and N. Muñoz	65
Chapter 3: Materials and Technologies of Chemical Production	
Effect of Valley Beater Refining on Tensile Properties of Molded Pulps from Rice Straws R. Prasertpong, P. Rattanawongkun, N. Tawichai, U. Intatha and N. Soykeabkaew	73
Effect of Mono- and Bilayer Coating of Nanofibrillated Cellulose, its Modification, and Shellac on Properties of Molded Pulps	70
S. Klayya, T. Chotimarnon, N. Tawichai, U. Intatha and N. Soykeabkaew	79
Investigation of Different Membrane Porosities on the Permeate Flux of Direct Contact Membrane Distillation A. Elrasheedy, M. Rabie, A.H. El Shazly, M. Bassyouni, A.A. El-Moneim and M.F. El Kady	85
Facile Fabrication of N-Slow Release Fertilizer Hydrogel Beads by Alginate-Based Composites	
S. Sangjan and W. Thongsamer	91
Preparation and Properties of Urea Slow-Release Fertilizer Hydrogel by Sodium Alginate-Gelatin Biopolymer	
W. Hnoosong, P. Rungcharoenthong and S. Sangjan	98

Chapter 4: Functional Materials

Sealant	
B. Thaweboon and S. Thaweboon	107
Zinc Oxide-Based Pseudocapacitors with Electrospun Poly(Vinylidene Fluoride)/Poly(Ionic Liquid) Nanofibers as Solid Polymer Electrolyte	
J. Patricio, E.C. Atayde Jr., M.L. Budlayan and S. Arco	112
Chapter 5: Coatings and Adhesives	
Compressive Properties of Electroless Ni-P Coating Reinforced Magnesium Alloy Foams	
S.J. Liu, Z.Q. Dong, R.Z. Cao, D. Song, J.A. Liu and X.Y. Zhu	123
Reinforcing Adhesives Using Carbon Nanotubes for the Carbon Fibre Reinforced Plastic Composite and Metal Joint	
M. Yasir and H.R. Le	129
EPDM/SBR Blends for Skim Compound of Steel Cord Conveyor Belt: Mechanical Properties, Thermal Stability and Adhesion Level	
N.T. Liem, N.P.D. Linh, N.H. Tung and B.T. Phuc	135
Chapter 6: Corrosion and Forming of Steel	
3-Dimensional Microstructure Investigation of High Temperature Corrosion of Boiler Tube	
Material A.D. Nugraha and Rasgianti	147
Analysis and Correction of Defects for Deep Drawing Process of Stainless Sink by Use of	
Finite Element Simulation B. Khuanngern and S. Suranuntchai	153
B. Khuaningeni and S. Suranuntenai	133
Chapter 7: Building Materials and Technology	
Elastic Properties of Polymer Modified Steel Fibre Reinforced High Strength Concrete P.K. Deshpande, K.K. Sangle and Y.M. Ghugal	163
The Technique of Single-Component Synchronous Grouting Allocation to Resist Floating in	
High Pressure Water-Rich Formation X.M. Han and E.B. Shen	171
Eco-Friendly Innovation of Non-Fired Ceramic Tiles from Rice Husk Ash and Recycled	
Glass Cullet P. Maingam, U. Wangrakdiskul and N. Piyarat	177
Influence of Boric Acid Additive on Physical Properties of Utilizing Wastes for Producing	
Eco-Friendly Fired Clay Tiles N. Piyarat Li, Wangrakdiskul and P. Maingam	183