

Table of Contents

Preface

Chapter 1: Biobased and Naturally Derived Materials

Innovative Bioplastic-Lead Composites for Radiation Dose Reduction in Femur Examinations: Optimizing Portrait and Diagonal Detector Positions Through Image and Anatomical Analysis	
A.F. Septiano, M. Beni, T. Kurnianto, I. Maulana and M. Rizky	3
Effects of Catalyst Loading and Reaction Temperature on the Production of Hydroxymethylfurfural (HMF) from Brewers' Spent Grain (BSG) Hydrolysate	
I.D.F. Tabañag, S.E.P. Lim, R.G.B. Mangubat and A.C.P. Son	19
Advances and Trends in the Development of Organic-Based Composite Materials with Polymeric Matrices	
Y.P. Ortega, J. Flórez Páez and D. Lozano Rivera	47
Kraft Pulping of Mango Seed Husk: Lignin Yield Optimization and Potential Resin Application	
I.D.F. Tabañag, L.M.K.N. Camay, R.C. Pepito and C.R. Reguya	61
Effects of the Packaging Material and Storage Time on the Controlled Release of the Volatile Compounds in Lemongrass and Cinnamon in Cinnamal Tea Bags	
B. Permatasari, E. Cahyono, M. Alauhdin, F.W. Mahatmanti, A.M. Zaky, S. Aisyah and T. Handayani	91
Analysis of Functional Groups in 3D Printing Filaments Made from Biocomposite Polymer and OPEFB Natural Fiber	
A. Kritinawati, I. Irmansyah, S. Nikmatin and G.S. Suryadi	99

Chapter 2: Wastewater Treatment and Water Purification, Waste Recycling

Green Synthesis of Azolla Pinnata Extract Nanoparticles for Nickel Removal from Industrial Wastewater: An Optimization Study	
A.J. Mohammed, F.M. Yusuff and J.M. Salman	107
Physical Characteristics and Oil Sorption Behavior of Fibers Derived from Oil Palm Empty Fruit Bunch Spikelets	
A. Hasyyati Sahda, R. Rahmadi, A. Kurniawan and S. Nikmatin	119
Review of Potential Waste Recycling Materials in Microbial-Induced Calcite Precipitation Technology	
H.J. Khadim, L.S. Raheem and A. Muhmmed	127
Utilization of Magnetic Charcoal from Oil Palm Shells in Reducing Free Fatty Acids (ALB) of Used Cooking Oil as a Pretreatment for Biodiesel Production	
E. Siregar, K. Anwar and Y. Sinambela	141
Proposal for Alternative Recycled Plastic Formwork System for Tie Columns and Tie Beams	
B. Pineda, M. Canales and A.S. Rodriguez	149
Analysis of Muara Angke Well Water Quality before and after Filtering with Sedimentation Technique	
S. Ardiani, H.D. Rahmayanti, N. Akmalia, L. Nulhakim and I. Zulkarnain	159
Sustainable Removal of Heavy Metals from Aqueous Solutions Using Untreated Cellulose from Office Paper Waste Based on the Circular Economy Approach	
M.S. Abdulamir, M.M. Ali, J.M. Salman, M.A. Mohammed, S. Al-Anssari, T.A. Abdullah, O.I. Abdullah and A.M. Jaffar	169
Manufacture and Recycle Environmental Waste Materials to Eliminate Soil Salinity	
A.K. Al-Jwaid, A.S. Al-Chalabi and J.A. Mohammed	179

The Ability of Indigenous Bacterial Isolates and their Biosurfactants to Treat the Oily Sludge in the South Refineries Company, Basrah, Iraq

E.A. Al-Imara, Z.A. Madan, A. Alabresm, S.M. Salih, S.M. Al-Shatty and A.A. Al-Salhi

191