

# Table of Contents

## Preface

## Chapter 1: Thin Films and Coatings

<b>Self-Healing and Anti-Corrosive Bio-Inspired Coatings for Al-Si-Cu Die-Cast Alloys in Automotive Manufacturing</b> I. Widarmadi, A.D. Anggono and A. Yulianto	3
<b>Enhancement of Surface Plasmon Resonance in Bimetallic Thin Films</b> K.R. Resmi and M.M. Karakkadan	11
<b>Impact of Embedded System-Based Automatic Spin Coating Machine in the Growth of Pure Zinc Oxide and Magnesium Doped Zinc Oxide Thin Films for LPG Gas Sensing Application</b> V. Jagadeesan and K.C. Aravind	19
<b>Effect of UV Lamp Distance on Cracking Defects in the UV Coating Process: An Experimental Study</b> R.B.S. Wulung and N.O. Prastiwi	33
<b>Optimization of Precursor Volume and its Impact on the Characterization of Copper Oxide Thin Films Deposited by Nebulizer Spray Pyrolysis Technique</b> V. Jagadeesan and J.C. Babu	41

## Chapter 2: Composites

<b>Influence of Carbon Nanotube (CNT) Addition and Post-Baking Process on the Mechanical and Electrical Properties of Carbon-Copper Composites</b> F.S. Mohamed Fadzil, K.M. Hyie, N.C. Maideen, N.A.M. Fohimi, N.S. Abdullah and M.A. Abd Mutalib	53
<b>The Effects of Fiber Orientation on the Failure Behavior and Natural Frequencies of Graphite Epoxy and E-Glass Epoxy Composite Laminates under Uniaxial Loads</b> M.B. Mali, M.A. Mohd Rodzi, M.A. Irfa'i, N.H. Quang and J. Mahmud	63
<b>Failure Behavior and Natural Frequencies in Cantilever Hybrid Kevlar/Glass Epoxy Plate with Various Angle-Ply Configurations</b> S. Amani Suhaime, A. Fikhri Azmadi, M.S. Amri, L. Nurahmi and M.N.A. bin Ab Patar	73
<b>Characterization and Decolorization of Modified Guar Gum/Biochar Hydrogel Composite</b> S.S. Suradi, S.M.E. Supilati Raheman, N.F. Abdul Nasir, N.I.N. Nik Musfarizan, N.J.A. Ibrahim and M.K. Nizam Bin Mohd Zuhan	85
<b>AuNPs-Decorated Tungsten Disulfide Nanostructured Hybrid System as SERS for Biomolecule Sensing</b> S. Ghopry	91
<b>Phase Evolution and Structural Characterization of Lanthanum-Substituted Sodium Lead Phosphate Ceramics Synthesized at 830°C</b> R.A. Mohammed and M.A.B. Abdul Jabar	97