

# Table of Contents

## Preface

## Chapter 1: Technologies of Materials Processing

<b>Recent Advances in Machining of Composite Materials by Electrical Discharge Machine</b> D. Kumar and R.K. Porwal	3
<b>Study the Effect of Fluxes on Weld Penetration during Activated TIG Welding of SS304</b> V. Sancheti, D. Patel and N. Ghetiya	21
<b>Role and Effect of Friction Stir Welding Tool pin Profiles on Tensile Characteristics of Dissimilar Al6061-Al2014 Welded Joints</b> B.K.B. Nadikudi	29
<b>Experimental Investigation for Minimization of Casting Defects Using Taguchi Method</b> A.P. Edlabadkar, S.S. Chaudhari and C. Mankar	35

## Chapter 2: Biomedical Materials

<b>Extraction and Characterization of Chitosan from Eco-Green <i>Hermetia Illucens</i> for Application in Dentistry</b> I. Artilia, Z.Y. Dewi, W. Shofiani, W.N. Auli and N. Ahmad	45
<b>Surface Modification of Ti-Nb Alloy in Alkaline Solution to Enhance Bioactivity</b> N.A.A. Basry, Z. Hussain, K.A. Shariff, A.L. Anis and W. Darham	51
<b>Analysis of Novel Schiff Base-Fe Complexes Against Breast Cancer Cells' Viability</b> N.N.T. Sisin, M. Algethami, A.S. Assran and W.N. Rahman	59
<b>Synthesis of Silver Nanoparticles in <i>Psidium Guajava</i> (Guava) Leaf Extract for Antibacterial Textiles</b> S.M.V. Abrenio and M.D.L. Balela	69
<b>The Effect of Niobium Addition on Properties of Titanium-Based Alloy Fabricated via Mechanical Alloying</b> S.N.H.M. Rodzi and Z. Hussain	77

## Chapter 3: Microelectronics and Photovoltaics

<b>Effects of Oxygen Partial Pressure on the Electronic Properties and Chemical State of MgO/SiO<sub>2</sub>/Si(100) Thin Films</b> Y.R. Denny, M. Siswahyu, S. Hamaguchi, R. Alfanz, E. Permata, L.D. Assaat, S.D. Ramdani, A. Trenggono, T.A. Maulana and S.S. Lee	85
<b>Analysis of the Heat Treatment Effect of CsPbBr<sub>3</sub> Photoanode on the Photoelectrochemical Performance: Preliminary Results</b> A.F. Prakoso, M.C.E. Maheswari, S. Sutarsis and A.D. Pramata	91
<b>HF Compatibility Study on KrF and I-Line System Resist</b> S. Chen, C. Lim and V. Chai	99

## Chapter 4: Hydrogen Production

<b>Enhancement of Hydrogen Production by Aluminum Corrosion Using HCl and Promoted by NaOH Solution</b> F.R. Maulana, A.S. Ningrum, W. Handayani, C.A.N. Ain, M. Taufiqulkhakim and D.D. Rianti	107
<b>Hydrogen Generation from Waste Aluminum Foil AA 1235 Promoted by Sodium Aluminate in Sodium Hydroxide Solutions</b> N. Fadhillah, F.R. Maulana, R.A. Wahyuono, M. Raditya and D.D. Rianti	113