

Table of Contents

Preface

Chapter 1: Sensors Designing

Using an EeonTex Conductive Stretchable Elastic Fibre for Hand Action Recognition G. Abdul-Hussain, W. Holderbaum, T. Theodoridis, G. Wei, H. El-Hussieny and J.A. Ferriz-Papi	3
Computer Vision-Based Algorithms for Recognition of Construction and Demolition Waste Materials T. Zbiral and V. Nežerka	11
Feasibility Study on Alternative Sensors for Acoustic Emission Damage Detection in Composite Structures N. Ghadarah, D. Ayre and J. Hurley	19
Coating Glass Fibre Yarn with Conductive Materials for Real-Time Structure Sensing K. Alblalaid, S.A. Alghamdi, A. Alburayt, A. Alharbi, S. Aldoichi, A. Alwahid, M. Abuobaid, S. Alkhibari, K. Khormi, I. Almuzini, K.S. Almutairi and I.M. Alarifi	25

Chapter 2: Thermal Engineering

Construction, Evaluation, and Performance of a Water Condensation Test Unit P. Nanou, J. Konstantaras, A. Zarkadoulas, P.K. Pandis, N. Vourdas and V.N. Stathopoulos	35
A Comparative Study of Active, Passive, and Hybrid Thermal Management Systems for Li-Ion Batteries: Performance Analysis M.K. Mahek, M. Alkhedher, M. Ramadan, M.A. Abdelkareem and A.G. Olabi	45

Chapter 3: Circular Economy and Waste Management

IWAYS - Recycling of Heat, Water and Material across Multiple Sectors: Ceramic, Chemical and Steel Industry L. Montorsi, M. Venturelli, B. Delpech and H. Jouhara	55
New Technologies for New Materials and Products from Construction and Demolition Waste J.A. Ferriz-Papi, Y. Wang, A. Arevalillo Roman and J. Valentin	65
Experimental Study on the Use of Selected Rejuvenators, Crumb Rubber and Plastic Waste for Asphalt Mixture Containing 50% Reclaimed Asphalt M. Belhaj, P. Vackova and J. Valentin	73