

Table of Contents

Preface and Organizing Committee

Chapter 1: Building Materials, Structures and Technologies in Construction

The Feasibility Research on Producing Lightweight Aggregates Made from the Waste Stone Sludge C.H. Huang and C.H. Ho	3
Seismic Behaviour of Precast Reinforced Concrete Beam-Column Connections: A Literature Review P. Poluraju and G. Appa Rao	9
Effect of Bracing Elements on Mechanics and Shear Strength of Exterior Beam-Column Joints in Moment Resisting Frames G. Appa Rao and S. Kanaka Durga	15
Performance of RC Deep Beams with Different Combinations of Web Reinforcement R.J. Leon and G. Appa Rao	21
Impact Analysis on Construction Control of Pre-Camber for Long-Span Continuous Rigid Frame Bridge in Winter Intermission Y.X. Yang, Y. Hong and C. Qiao	27
Analysis on the Bearing Capacity of Old Highway Bridge in Heavy Hilly Areas Y.X. Yang and C. Qiao	31
Modeling Elastic Stability of a Pressed Box Girder Flange M. Djelosevic, I. Tanackov, M. Kostelac, V. Gajic and J. Tepic	35
Particle Swarm Optimization Method for Optimal Prioritization of Pavement Sections for Maintenance and Rehabilitation Activities J.R. Chang	43
Compressive and Tensile Strength of Artificially Cemented Dune Sand O.F. Santos, J.P. da Silva Costa and F.M. Gomes Lopes	51

Chapter 2: Materials Engineering and Technologies

Studies on Hydrolysis of P-Nitrophenyl Picolinate by Unsymmetrical Bis-Schiff Base Manganese Complexes with Aza-Crown Ether or Morpholino Pendants X. Zheng, J.Z. Li, S.T. Huang, Z.Z. Yang and W. Hu	65
Modeling Constructional Parameters of a Solid Oxide Fuel Cell by Using an Artificial Neural Network J. Milewski and K. Świrski	69
An Experimental Investigation on Polypyrrole Films Electro-Polymerized under a High Transverse Electric Field D.M.G. Preethichandra	77
Synthesized and Characterization of Cu₂ZnSnS₄ (CZTS) Thin Films Deposited by Electrodeposition Method E.M. Mkawi, K. Ibrahim, M.K.M. Ali, M.A. Farrukh and A. Salhin Mohamed	85
Determination of Deformation Characteristics of C38ML Microalloyed Steel D. Michal, K. Tomas and K. Pavel	91
Ion Exchange Synthesis and Luminescence Properties of Rodlike Phosphors ZnMoO₄:Eu³⁺ for White LEDs Q.N. Jia, S. Ren, G.W. Yuan and L. Wang	97
Optimization of Capacitor Copper Plate for Dielectric Heating to Eliminate Insect K. Ratniyomchai, S. Santalunai, T. Thosdeekoraphat and C. Thongsopa	101
Preparation and Luminescent Properties of Na₂Sr(MoO₄)₂: Eu³⁺, Gd³⁺ Red Phosphors S. Ren and G. Wa	107

Chapter 3: Applied Solutions in Medicine and Biology

Redesigning Manual Wheelchair for Disabled Children Using Anthropometry Data and Biomechanical Analysis	
S. Susmartini, R.D. Astuti, T. Mustikasari and C.N. Rosyidi	115
Design and Deployment of Hospital Digital Ward	
Z.D. Huang, L.L. Song, X.Q. Guo and F. Xiao	121
Grey Discrete Time Systems for Biological Population Dynamic Analysis	
L.J. Liao, S.H. Mao and M.Y. Gao	127
The Study and Implementation of Virtual Endoscopy Based on VTK 3D Surface Rendering	
X.Q. Lu, C.L. Wang, Y. Gu and D.Z. Jia	135
The Network Teaching Platform Construction of Medical Microbiology	
X.L. Wang, Y.T. Zhong, S.X. Xie and W.P. Zhang	141