Construction Materials and Computer Engineering II

Selected, peer reviewed papers from the 2013 2nd International Conference on Sustainable Construction Materials and Computer Engineering (ICSCMCE 2013)

Applied Mechanics and Materials Volume 343

Singapore 1 – 2 June 2013

Editors:

W. Hu

ISBN: 978-1-62993-343-6

ISSN: 1660-9336

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2013) by Trans Tech Publications Ltd. All rights reserved.

Printed by Curran Associates, Inc. (2013)

For permission requests, please contact Trans Tech Publications Ltd. at the address below.

Trans Tech Publications Ltd. Laubisrutisr 24 CH-8712 Stafa-Zuerich Switzerland

Fax: +41 (44) 922 10 33 Fax: +1 (603) 632-5611

e-mail: sales@ttp.net

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2634

Email: curran@proceedings.com Web: www.proceedings.com

Table of Contents

Preface and Organizing Committee

Chapter 1: Building Materials, Structures and Technologies in Construction

The reasibility Research on Froducing 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	9
P. Poluraju and G. Appa Rao Effect of Bracing Elements on Mechanics and Shear Strength of Exterior Beam-Column	9
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. dos 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	69
Transverse Electric Field D.M.G. Preethichandra	77
Synthesized and Characterization of Cu ₂ ZnSnS ₄ (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 ZnMoO ₄ :Eu ³⁺ for White LEDs	
Ion Exchange Synthesis and Luminescence Properties of Rodlike Phosphors ZnMoO ₄ :Eu ³⁺ for White LEDs Q.N. Jia, S. Ren, G.W. Yuan and L. Wang	97
Ion Exchange Synthesis and Luminescence Properties of Rodlike Phosphors ZnMoO ₄ :Eu ³⁺ for White LEDs	97 101

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