

International Conference on Advanced Materials Science and Civil Engineering (AMSCE 2017)

Advances in Engineering Research Volume 70

Phuket, Thailand
21-22 April 2017

Editors:

Owen Paterson

ISBN: 978-1-5108-4069-0

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© (2017) by Atlantis Press
All rights reserved.
<http://www.atlantis-press.com/php/pub.php?publication=amsce-17>
Printed by Curran Associates, Inc. (2017)

For permission requests, please contact the publisher:

Atlantis Press
Amsterdam / Paris

Email: contact@atlantis-press.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

SESSION 1: ADVANCED MATERIALS AND MECHANICAL ENGINEERING

DETERMINATION OF THE SCENARIOS FOR THE FUTURE OF MATERIALS TECHNOLOGY	1
<i>Astelio Silvera Sarmiento, Luis Fernando Garces Giraldo, Jovany SepElveda-Aguirre</i>	
AN EFFECTIVE MODULUS PREDICTIVE METHOD OF POSS REINFORCED RESIN MATRIX COMPOSITES	5
<i>Huazhen Wei, Danyong Wang, Juncong Liu, Yiwei Chen, Shuhu Li</i>	
A PERFORMANCE TESTING PLATFORM OF ECG ELECTRODES BASED ON MILLIPORE FILMS	9
<i>Jinzhong Song, Hao Liu, Ming Wei, Jinsong Li</i>	
RESEARCH ON HIGH TEMPERATURE STRESS- STRAIN BEHAVIOR OF POWER TRANSMISSION AND TRANSFORMATION COPPER CONDUCTOR BY GLEEBLE THERMAL SIMULATION	13
<i>Haoyang Du, Dongyun Shi, Shuangnan Zhang, Xin Wang, Linghui Zhuang, Shu Tian</i>	
N-FOLD DARBOUX TRANSFORMATION FOR A GENERALIZED VARIABLE-COEFFICIENT COUPLED HIROTA-MAXWELL-BLOCH SYSTEM	17
<i>Yushan Xue, Jing Chen</i>	
ANALYSIS OF INFLUENCING FACTORS OF MAGNETIC FLUX LEAKAGE TESTING METAL TANK BOTTOM BASED ON FINITE ELEMENT METHOD	20
<i>Longgang Li, Rui Duan, Wen Liu, Yaning Zhang</i>	
EXPERIMENT OF PREPARED ZINC POWDER FROM HOT-DIP GALVANIZING ZINC DROSS	24
<i>Xunhua Yuan, Qifu Zhang</i>	
EFFECTS OF ANNEALING PARAMETERS ON THE MICROSTRUCTURE OF GALVANNEALED COATING ON DP590 STEEL	27
<i>Feng Huang, Yu Chen, Lin Hua, Fang Fang, Zhou Wang, Zhili Hu</i>	
SOLIDIFICATION BEHAVIOR AND MICROSTRUCTURE ANALYSIS OF A COLD WORKING DIE STEEL PREPARED BY VACUUM ARC MELTING	31
<i>Kai Fang, Feng Huang, Jianxin Zhou, Xinwang Liu, Qingyan Xu, Xunpeng Qin</i>	
SIMULATION ANALYSIS OF THE IMPACT OF UNBALANCED THREE-PHASE LOAD ON DISTRIBUTION TRANSFORMER'S OUTLET VOLTAGE	37
<i>Zeyang Tang, Li Wan, Kan Cao, Yuze Rao, Junhui Xin, Kunpeng Zhou</i>	
STUDY ON THE INFLUENCE OF THE NATIONAL DEEP-SEA CENTER ENGINEERING ON HYDRODYNAMICS BY NUMERICAL MODEL	41
<i>Xing Wang, Ying Liu, Xiren Jiang, Wenpeng Song, Baolei Li</i>	
STUDY ON TECHNICAL PERFORMANCE OF COMPOSITE MODIFIED WIDE TEMPERATURE FIELD ASPHALT MIXTURE	48
<i>Jingxiang Yuan</i>	
EMBEDDED CHILDREN PAINTING MACHINE BASED ON IMAGE PROCESSING	53
<i>Jinxiang Zeng, Kerong Gai</i>	
DESIGN AND ANALYSIS OF AUTOMOBILE COMPOSITE MUFFLER MODEL	56
<i>Dongwei Wang</i>	
FLEXIBLE MANUFACTURING TECHNOLOGY FOR CHILDREN'S CUSTOMIZED FURNITURE	60
<i>Linqi Zhao, Xianqing Xiong, Shuman Zhu, Yuyu Wu, Mengnan Yu, Yu Di</i>	
ANALYSIS OF THE PANTOGRAPH AERODYNAMIC LOADS UNDER CROSSWIND	65
<i>Yanzhe Han, Qingquan Gao, Jikun Ma, Meng Zhao, Yanhong Xi</i>	
RESEARCH ON MOTION STABILITY OF HIGH-SPEED TRAINS UNDER CROSS-WIND EFFECT	70
<i>Yuming Yang, Xiangning Wang, Yingzheng Zhao, Jun Mao, Yanhong Xi</i>	

SESSION 2: CONSTRUCTION MATERIALS AND ENVIRONMENT SCIENCE

CELLULOSE INSULATION FOR USE AS BUILDING INSULATION IN KOREA	75
<i>Young Cheol Kwon, David W. Yarbrough</i>	
TEST STUDY ON BEHAVIOR OF RC BEAM TO CONCRETE FILLED STEEL TUBULAR COLUMN JOINTS	80
<i>Qin Chen, Lijun Liang</i>	

STUDY ON BEARING CAPACITY OF PILE FOUNDATION BASED ON HIGH STRAIN MEASURED CURVE FITTING METHOD	84
<i>Guosheng Zhong, Zihang Huang</i>	
RELIABILITY-BASED DESIGN OPTIMIZATION OF RC FRAMES BASED ON THE RBDO-KRIGING METHOD	89
<i>Guitao Chen, Demin Wei</i>	
PREMATURE FAILURE ON LOW-GRADE R. C. BEAMS REINFORCED WITH BONDED STEEL PLATE	94
<i>Wensheng Li, Zhili Qian</i>	
ANALYSIS OF THE KEY TECHNOLOGIES IN ROOF WATERPROOF DESIGN AND CONSTRUCTION OF HIGH RISE BUILDING	98
<i>Xianggang Kong</i>	
SENSITIVITY ANALYSIS OF SNOW LOAD DISTRIBUTION TO SINGLE-LAYER CYLINDRICAL SHELL STRUCTURES	102
<i>Junlin Wang, Hua Guo, Tengfei Ma, Shuli Zhao, Jianheng Sun</i>	
STUDY ON TRIAXIAL COMPRESSION CREEP TEST AND NUMERICAL SIMULATION OF JURASSIC SANDSTONE IN NORTHERN SHAANXI	107
<i>Zhipei Zhang, Qi Men, Yi Cheng</i>	
EFFECT OF SHALE INHIBITORS ON THE PARTICLE SIZE DISTRIBUTION OF BENTONITE IN AQUEOUS SUSPENSIONS	111
<i>Yandong Yang, Kesheng Rong, Cheng Ye, Liyun Xue, Gui Wang</i>	
EXPERIMENTAL STUDY OF CHEMICAL COMPOSITION OF HANGZHOU SOFT CLAY	116
<i>Jieqing Huang, Xingwang Liu, Guoqiang Cao</i>	
LITERATURE REVIEW OF OUTDOOR PHYSICAL ENVIRONMENT DESIGN OF GREEN CAMPUS	119
<i>Chongjie Wang, Jie Li, Hongmei Yin, Tao Fang, Qiang Chen</i>	
AN OVERVIEW ON RESOURCE UTILIZATION OF SEWAGE SLUDGE	123
<i>Bifan He</i>	

SESSION 3: MATERIALS AND TRANSPORTATION, CIVIL ENGINEERING

TECHNOLOGICAL TOOLS FOR THE IMPROVEMENT OF THE MASS TRANSPORT SYSTEM (MTS) IN THE CARIBBEAN REGION OF COLOMBIA	128
<i>Hugo Hernandez Palma, Andres Porto Solano, Mariangelica Pineda Carreno, Maribel Molina Correa, Cecilia Correa de Molina</i>	
MODELING DEMAND FOR AIR CARGO IN THE COLOMBIAN CONTEXT	132
<i>Miguel Figueroa Loaiza, Roberto Porto Solano, Ricardo Simancas, Victor Higuera Ojito</i>	
MULTI-OBJECTIVE SIGNAL TIMING MODEL OF SINGLE INTERSECTION BASED ON GENETIC ALGORITHM	138
<i>Zhuoqun Wang, Yufei Hou, Qin Luo, Min Yan, Yiming Zhang</i>	
QUANTILE REGRESSION ANALYSIS ON SHORT-TERM MEASURED DATA OF GRAVITY-ARCH DAM BASED ON POD	142
<i>Weihua Fang, Yunping Chen, Hui Zhang, Lin Li</i>	
A COOPERATION AND COMPETITION MODEL FOR RISK MANAGEMENT OF A TWO-STAGE SUPPLY CHAIN	150
<i>Lina Xu, Zhiqing Meng, Hongjian Yu</i>	
A SEDIMENTARY ANALYSIS OF THE CRETACEOUS DELTA SANDBODIES IN THE KUQA RIVER-KELASU RIVER AREA, NORTHERN TARIM BASIN, XINJIANG, NORTHWESTERN CHINA	156
<i>Hongwei Kuang, Guangchun Jin, Yongqing Liu</i>	
RESEARCH ON THE DEBRIS FLOW HAZARDS AFTER THE WENCHUAN EARTHQUAKE IN BAYI GULLY, LONGCHI, DUJIANGYAN, SICHUAN PROVINCE, CHINA	166
<i>Yu Ma, Caixia Li</i>	
THE STUDY ON EARTH PRESSURE AGAINST RETAINING WALL CONSIDERING DISPLACEMENT	171
<i>Haidong Kuai, Wei Li, Kunyong Zhang, Yingbo Ai</i>	
CONSTRUCTION OF EARLY WARNING SYSTEM FOR URBAN SUBWAY POLICE EQUIPMENT BASED ON MOBILE PHONE	175
<i>Liang Hu, Hongmei Yu, Jin Wen, Jiangqing Liu</i>	
RESEARCH ON PUBLIC SATISFACTION INDEX MODEL OF URBAN MANAGEMENT INFORMATIZATION	178
<i>Liang Hu, Jin Wen, Hongmei Yu, Yuchi Zhu, Ying Du</i>	
STUDY ON CO-DISTRIBUTION SYSTEM FOR AGRICULTURAL PRODUCTS WITHIN BEIJING CITY	181
<i>Xiaohui Yan</i>	
Author Index	