

# **2nd International Conference on Civil Engineering and Architecture (ICCEA 2019)**

IOP Conference Series: Materials Science and Engineering  
Volume 690

Seoul, South Korea  
21 - 23 September 2019

ISBN: 978-1-7138-0982-1  
ISSN: 1757-8981

**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.**

This work is licensed under a Creative Commons Attribution 3.0 International Licence.  
Licence details: <http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2020)

For permission requests, please contact the Institute of Physics  
at the address below.

Institute of Physics  
Dirac House, Temple Back  
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481  
Fax: 44 1 17 920 0979

[techtracking@iop.org](mailto:techtracking@iop.org)

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

## **BUILDING MATERIALS**

UTILIZATION OF RECYCLED CONCRETE AGGREGATE FOR HIGH PERFORMANCE ALKALI ACTIVATED CONCRETE: TOWARDS A SUSTAINABLE BUILDING SOLUTION.....	1
<i>C L Hwang, MD Yehualaw, D H Vo</i>	
ASSESSMENT OF BENDING REINFORCED CONCRETE BEAMS CRACK RESISTANCE .....	6
<i>Zh S Nuguzhinov, Zh B Bakirov, A Yu Kurokhtin, O Khabidolda, A Nuguzhinova</i>	
A REVIEW ON THE SEISMIC PERFORMANCE OF ASSEMBLED STEEL FRAME- PRECAST CONCRETE FACADE PANELS.....	12
<i>Weiyu Wang, Zhenbao Li, Wenjing Wang, Zhiwu Li, Hui Wang</i>	
ASSESSMENT ON THE EFFECT OF POLYETHYLENE TEREPHTHALATE AND LOW- DENSITY POLYETHYLENE PLASTIC WASTE AS AN ADDITIVE IN BITUMINOUS PAVING MIXES .....	21
<i>F D Santos, Mam Taguba, A R Alzona</i>	
BEHAVIOUR OF THE UNDRAINED SHEAR STRENGTH OF SOFT CLAY REINFORCED WITH NATURAL FIBRE .....	26
<i>N Suffri, M Jeludin, S Rahim</i>	

## **WATER SUPPLY AND SEWERAGE & ENVIRONMENTAL ENGINEERING**

EFFECT OF STREET CANYON CONFIGURATIONS AND ORIENTATIONS ON URBAN WIND VELOCITY IN BANGKOK SUBURB AREAS .....	31
<i>D Jareemit, M Srivanit</i>	
TRADITIONAL SETTLEMENT MORPHOLOGY FROM THE PERSPECTIVE OF THERMODYNAMIC ARCHITECTURE THEORY: TAKING TWO VILLAGES IN THE IBERIAN PENINSULA AS EXAMPLES.....	36
<i>Meiting He</i>	
JAKARTA GROUNDWATER BASIN RECHARGE - DISCHARGE BOUNDARY AREA MAP: A PRELIMINARY STUDY.....	42
<i>Horas Yosua, Herr Soeryantono, Dwinanti Rika Marthanty</i>	
WASTE MANAGEMENT SYSTEM OF BADUNG RIVER IN BALI BASED ON COMMUNITY BEHAVIOUR.....	48
<i>Igai Mas Pertiwi, W S Kristinayanti, W Sudiasa, K W, ayani</i>	
THERMODYNAMIC PROTOTYPE RESEARCH OF VERNACULAR ARCHITECTURE BASED ON CLIMATE ADAPTION .....	55
<i>Simin Tao, Huanyan Chen</i>	

## **ARCHITECTURAL DESIGN AND RENOVATION**

A STUDY OF ARCHITECTURAL DESIGN OF THAI TEMPLES INFLUENCED BY THAI AND MON ETHNICS IN SAM-KHOK DISTRICT .....	60
<i>M.L. Varodom Suksawasdi</i>	

THE ORIGIN AND DEVELOPMENT OF BOXES IN SPORTS ARCHITECTURE .....	65
<i>Qiuju Mao, Siwen Guo, Dawei Lin</i>	
ADAPTATION OF APARTMENTS TO SMALL HOTELS: THE CASE OF NAKHON SI THAMMARAT THAILAND .....	70
<i>Chaiwat Riratanaphong, Chutima Kaewchan</i>	
RESEARCH ON EVALUATION INDEX OF ENERGY EFFICIENCY DESIGN OF MULTI- LEVEL SPORTS COMPLEX BASED ON SYNERGISTIC EFFECT .....	76
<i>Siwen Guo, Qiuju Mao, Jiamin Zou</i>	
ANALYZING ORGANIZATION-TO-PROJECT INTERFACES IN THE INTEGRATION MANAGEMENT OF ENGINEERING PROJECTS .....	81
<i>Jialu Yu, Qing Yang, Na Yang</i>	
RESHAPING DORMITORY BY MODULAR STEEL STRUCTURE.....	87
<i>Yu Luo, Dongwei Cheng, Hang Yu</i>	
RESEARCH ON BODY AND ARCHITECTURE .....	93
<i>Linxue Li, Qi Zhang, Meiting He</i>	

### **URBAN INFRASTRUCTURE CONSTRUCTION AND DEVELOPMENT**

DEATH AND REBIRTH: REGIONAL RENEWAL AND DEVELOPMENT OF INDUSTRIAL ARCHITECTURE HERITAGES IN SHANGHAI.....	98
<i>Yuda Lu, Yan Zhao, Yue Shi</i>	
EVALUATION OF THE RELATIONSHIP BETWEEN THE TRANSIT RIDERSHIP AND ACCESSIBILITY VARIABLES: A CASE STUDY OF THE BANGKOK METRO STATIONS .....	104
<i>Khin Thiri Kyaw Nyunt, Natachai Wongchavalidkul</i>	
VALIDATION OF BRIDGE SCOUR HEC RAS MODEL USING PROPAGATION ERROR ANALYSIS .....	109
<i>Billy, Dwinanti R Marthanty, Jessica Sjah</i>	
A MULTISTAGE FUZZY COMPREHENSIVE EVALUATION MODEL BASED ON AHP FOR CONSTRUCTION ENTERPRISES THROUGH VALUE CHAIN ANALYSIS .....	115
<i>Daoyi Guo</i>	
THE RULES IN RECONNECTING THE CITY FABRICS: A MORPHOLOGICAL STUDY OF THE REGENERATION CASE .....	122
<i>Y. Zhai</i>	
GAP ACCEPTANCE FOR YANGON URBAN AND SUBURBAN INTERSECTIONS .....	127
<i>Kyaw Nyein Nyein San, Siradol Siridhara</i>	
INTERIOR LIVING SPACE PREFERENCES IN THE EARLY HOUSING CAREER OF LOW- INCOME PEOPLE IN DKI JAKARTA, INDONESIA.....	132
<i>Antony Sihombing, Coriesta Dian Sulistiani, Rossa Turpuk Gabe, Cut Sannas Saskia, Chotib</i>	

### **Author Index**