

learn roles
BUSTUC universiti
sains Malaysia
sustainable 2013 differences
design
engineering
submission
work flexibility
career
manufacturing
discussion
project
information
management
network
knowledge
requirements
experience
education
engagement image
solving
BUILDING research
SCHOOL of
Housing
building &
planning
challenged
further tasks
solution
exam
single respond
individual
contract
Technology
opportunity
computer

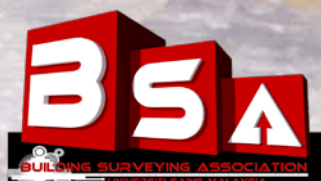
PROCEEDINGS OF THE BUILDING SURVEYING AND TECHNOLOGY UNDERGRADUATE CONFERENCE 2013

"Honouring The Past, Treasuring The Present, Shaping The Future"

Editors:

Md Azree Othuman Mydin

Abdul Naser Abdul Ghani



e ISBN 978-967-394-153-7

PROCEEDINGS OF THE BUILDING SURVEYING AND TECHNOLOGY UNDERGRADUATE CONFERENCE 2013



"Honouring the Past, Treasuring the Present, Shaping the Future"

May 31st – June 2nd 2013

De Baron Hotel, Langkawi, Malaysia

Editors

Md Azree Othuman Mydin
Abdul Naser Abdul Ghani

Organized by



School of Housing, Building and Planning, Universiti Sains Malaysia, 11800, Penang, Malaysia

Supported by



Building Surveying Division, Royal Institution of Surveyors Malaysia

PROCEEDINGS OF THE BUILDING SURVEYING AND TECHNOLOGY UNDERGRADUATE CONFERENCE 2013

ORGANIZING COMMITTEE

ADVISOR

Assoc. Prof. Dr. Aldrin Abdullah

CHAIRMAN

Sr Dr. Md Azree Othuman Mydin

SECRETARY

Ir. Dr. Abdul Naser Abdul Ghani

COMMITTEE

Dr. Ahmad Hilmy Abdul Hamid
Dr. Hanizam Awang
Dr. Noor Faisal Abas
Dr. Amin Akhavan Tabassi
Dr. Faizal Baharum

SCIENTIFIC COMMITTEE

Prof. Ir. Dr. Mahyuddin Ramli
Assoc. Prof. Ir. Nik Fuaad Nik Abllah
Assoc. Prof. Ir. Dr. Abdul Naser Abdul Ghani
Assoc. Prof. Dr. Mohd Rodzi Ismail
Dr. Ahmad Hilmy Abdul Hamid
Ir. Dr. Mohd Zaid Yusof
Dr. Mohd Zailan Suleiman
Dr. Noor Faisal Abas
Dr. Norizal Md Noordin
Sr Dr. Md Azree Othuman Mydin
Dr. Hanizam Awang
Dr. Amin Akhavan Tabassi
Dr. Norhidayah Md Ulang
Dr. Faizal Baharum
Dr. Mariati Taib
Dr. Cheah Chee Ban

CONFERENCE STAFF

Khairil Aizad Senin
Masyatul Husna Othman
Khaw Yen Yen

EDITORS

Sr Dr. Md Azree Othuman Mydin
Ir. Dr. Abdul Naser Abdul Ghani

Published by:

School of Housing, Building and Planning, Universiti Sains Malaysia, 11800, Penang, Malaysia

© School of Housing, Building and Planning, Universiti Sains Malaysia

Proceedings of The Building Surveying and Technology Undergraduate Conference 2013

First Edition 2013

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the express permission of the School of Housing, Building and Planning, Universiti Sains Malaysia. Within Malaysia, exceptions are allowed in respect of any fair dealing for the purposes of research or private study, or criticism or review, as permitted under the Copyright, Designs and Patents Act, 1988, or in the case of reprographic reproduction in accordance with the licenses issued by the Copyright Licensing Agency.

Enquiries concerning reproduction outside these terms and in other countries should be sent to the School of Housing, Building and Planning at the address above. All registered trademarks are hereby acknowledged and the publisher makes no claim to these trademarks.

The School of Housing, Building and Planning and the Secretariat of the Building Surveying and Technology Undergraduate Conference 2013 would like to thank the contributors to this undergraduate conference for waiving their moral rights to any or part of the complete work and for their support of the generous aims of the organisation and the conference.

Every effort has been made by the editors, publishers and printers of these proceedings to see that no inaccurate data, opinion, or statement appears in the proceedings, and the data and opinions appearing in the articles herein are the responsibility of the author(s). Accordingly, the publishers, printers, editors and the Secretariat of the Building Surveying and Technology Undergraduate Conference 2013 accept no liability whatsoever for the consequences of such inaccurate or misleading data, opinion or statement. Users are responsible for the correct application of the information in this publication.

Concordance with the Proceedings of The Building Surveying and Technology Undergraduate Conference 2013 does not in itself confer any immunity from legal obligations.

Proceedings Editor's Foreword

Welcome to the Building Surveying and Technology Undergraduate Conference 2013 (BUSTUC2013).

BUSTUC2013 is the first conference of this kind in which undergraduate students majoring in Building Surveying and Building Technology come forward with a conference paper and present their research findings in this specialized conference.

Students undergo no less than fifteen weeks of training in carrying out scientific research and simultaneously choosing their research topics for actual research. Under the guidance of course lecturers and individual research supervisors the undergraduate students embarked on what can be considered their maiden voyage into scientific research activities. This conference event is the manifestation of the effort by not only the students but also their respective supervisors in order to ensure the training and supervision does not go to waste. The conference papers are published according to international and standardized format and for most of the students this will be their first publication to be remembered long into their future.

We look forward to work again with all the respected supervisors and their future students; and to carry on the publication annually. We hope, this effort will ensure all graduating students are equipped with the fundamental of scientific research and publication techniques.

We would also like to extend our heartfelt appreciation to the contributors of these Proceedings and the presenters at the Building Surveying and Technology Undergraduate Conference 2013 making the event a convention of thought-provoking, innovative ideas and memorable one.

CONTENTS

CODE	RESEARCH TITLE	PAGE
KN1	EXPERIMENTAL RESEARCH METHODS IN BUILT ENVIRONMENT <i>Abdul Naser Abdul Ghani</i>	1 - 5
BT001	PERFORMANCE ASSESSMENT OF MAINTENANCE PRACTICES IN GOVERNMENT OFFICE BUILDINGS: THE CASE STUDY OF PARCEL E, PUTRAJAYA. <i>Awg Ismailludin Awg Husaini and Amin Akhavan Tabassi</i>	6 - 13
BS002	FIRE RISK ASSESSMENT OF HERITAGE BUILDINGS IN PENANG : CASE STUDY ON ANCESTRAL TEMPLE <i>Khaw Yen Yen and Md Azree Othuman Mydin</i>	14 - 21
BS003	EVALUATION OF MAINTENANCE PRACTICES ON SCHOOL BUILDINGS IN TERENGGANU AND KEDAH, MALAYSIA <i>Rossamsurifaiza Mohd Ropi and Amin Akhavan Tabassi</i>	22 - 27
BT004	A COMPARATIVE STUDY OF INDUSTRIALISED BUILDING SYSTEM (IBS) AND TRADITIONAL CONSTRUCTION METHOD <i>Agnes Fiona Phius and Md Azree Othuman Mydin</i>	28 - 36
BT005	PULL OUT STRENGTH OF SCREWS IN LIGHTWEIGHT FOAMED CONCRETE <i>Zulkhairi Matori and Norizal Md Noordin</i>	37 - 42
BT006	PRELIMINARY INVESTIGATION OF FIRE SAFETY AWARENESS AND MANAGEMENT IN A MALL <i>Nurulain Abdul Rahim and Mariati Taib</i>	43 - 49
BT007	EFFECTS OF AIR-CONDITIONING PERFORMANCE ON THE OCCUPANT SATISFACTION AT OFFICE BUILDING IN KEDAH <i>Muhd Shahril Nizam Ismail and Faizal Baharum</i>	50 - 58
BT008	CAUSES OF CONSTRUCTION PROJECT DELAY IN MALAYSIAN PRIVATE HOUSING: DEVELOPERS POINT OF VIEW <i>Nurbasirah Mohamed Alias and Md Azree Othuman Mydin</i>	59 - 66
BT009	PERCEPTION OF LOCAL CONTRACTORS TOWARDS IBS RISK IN MALAYSIA <i>Fazilah Razak and Hanizam Awang</i>	67 - 72
BS010	ASSESSMENT OF THERMAL COMFORT OF HOSTEL CAFETERIA AT USM MAIN CAMPUS <i>Muhammad Khairil Aizad Senin and Mohd Rodzi Ismail</i>	73 - 77
BS011	APPRAISAL FOR THE BUILDING MAINTENANCE SYSTEM AFFECTS THE SATISFACTION, SAFETY AND HEALTH OF THE OCCUPANT - CASE STUDY AT HOSPITAL PULAU PINANG, GEORGE TOWN <i>Mohd Aizad Bin Abdullah and Faizal Baharum</i>	78 - 84
BT012	THE WORKERS' AWARENESS ON USING THE PERSONAL PROTECTIVE EQUIPMENT (PPE) ON CONSTRUCTION SITE IN PENANG <i>Nurul Shazana Salim and Norhidayah Md Ulang</i>	85 - 91
BT013	A CASE STUDY OF TIMBER DEFECT OF MALAY HOUSE IN USM USING NON-DESTRUCTIVE TESTS <i>Nor Halimahton Saadiah Mohamad and Mohd Zaid Yusof</i>	92 - 97
BT014	ASSESSMENT OF FIRE PROTECTION SYSTEM IN STUDENT ACCOMMODATION AT UNIVERSITI SAINS MALAYSIA (USM) MAIN CAMPUS <i>Ismawati Ismail and Mariati Taib</i>	98 - 104
BT015	EFFECT OF SPECIMEN SHAPE AND SIZE ON THE COMPRESSIVE STRENGTH OF FOAMED CONCRETE <i>Mohd Azri Safuan Sudin and Mahyuddin Ramli</i>	105 - 110
BS016	CONTRIBUTION FACTORS TO BUILDING DEFECTS AND FAILURES IN SCHOOL BUILDING: CASE STUDY IN KEDAH <i>Tan Sin Wen and Md Azree Othuman Mydin</i>	111 - 120

BT017	EFFECT OF FLOOD WATER DIFFUSER TO REDUCE THE VELOCITY OF WATER FLOW <i>Nursriafitah Kasnon and Abdul Naser Abdul Ghani</i>	121 - 124
BT018	BARRIER IN IMPLEMENTATION OF PASSIVE COOLING IN MALAYSIA <i>Khairiz Izman Hasni and Faizal Baharum</i>	125 - 128
BS019	RELATIONSHIP BETWEEN QUALITY OF BUILDING MAINTENANCE SYSTEM AND OCCUPANT SATISFACTION FOR OFFICE BUILDING – CASE STUDY IN PENANG, KUALA LUMPUR, JOHOR AND KEDAH <i>Masyatul Husna Othman</i>	129 - 134
BS020	CONTRACTORS' ATTITUDE TOWARDS ENHANCING SAFETY PERFORMANCE OF CONSTRUCTION FIRMS IN PENANG <i>Sioe Ming Sing and Norhidayah Md Ulang</i>	135 - 140
BT021	THE USE OF PAPER MILL SLUDGE AS PARTIAL CEMENT REPLACEMENT IN CONCRETE <i>Abdul Mujibulrahman Md Nazar and Noor Faisal Abas</i>	141 - 146
BS022	THE ASSESSMENT OF BUILDING DEFECTS ON LOW COST HOUSING IN KEDAH: CASE STUDY AT TAMAN BANDAR PERDANA, SUNGAI PETANI <i>Nurul Nadia Omar Bakri and Mohd Zailan Suleiman</i>	147 - 152
BT023	SAFETY ASPECT ON PRECAST CONCRETE INSTALLATION <i>Siti Norninashakhila Yashrri and Hanizam Awang</i>	153 - 159
BT024	THE DEVELOPMENT OF A NOVEL CEMENTLESS CONCRETE BLOCKS USING BIOMASS ASHES AS THE PRIMARY BINDER <i>Noor Shazzea Ahmad Nordin and Cheah Chee Ban</i>	160 - 166
BT025	ASSESSMENT OF THERMAL COMFORT LEVEL IN LECTURE HALLS AT USM MAIN CAMPUS <i>Rahimah bt Lunchi @ Mohd Fauzee and Mohd Rodzi Ismail</i>	167 - 173
BT026	EFFECT OF STEEL FIBRE IN THE MECHANICAL AND DURABILITY PROPERTIES OF STEEL FIBER HIGH STRENGTH CONCRETE (SFHSC) SUBJECTED TO NORMAL AND HYGROTHERMAL CURING <i>Gobi Velayutham and Cheah Chee Ban</i>	174 – 180
BT027	THE FEASIBILITY STUDY OF BIOGAS IN MALAYSIA - 25KW MINI BIOGAS POWER PLANT 1ST IN MALAYSIA <i>Nurshuhada Ghazali and Nik Fuaad Nik Abllah</i>	181 - 185
BS028	THE ADAPTIVE RE-USE OF HERITAGE BUILDINGS TO GALLERY IN GEORGETOWN, PENANG: CASE STUDY ON RUMAH TEH BUNGA AND FORT CORNWALLIS <i>Marhamah Abdul Hadi and Nor Faisal Abas</i>	186 - 192
BT029	ISSUES AND CHALLENGES WITH SKILLED COMPONENTS INSTALLER IN INDUSTRIALIZED BUILDING SYSTEM (IBS) CONSTRUCTION IN MALAYSIA <i>Nurul Rezuana Buyung and Abdul Naser Abdul Ghani</i>	193 - 197