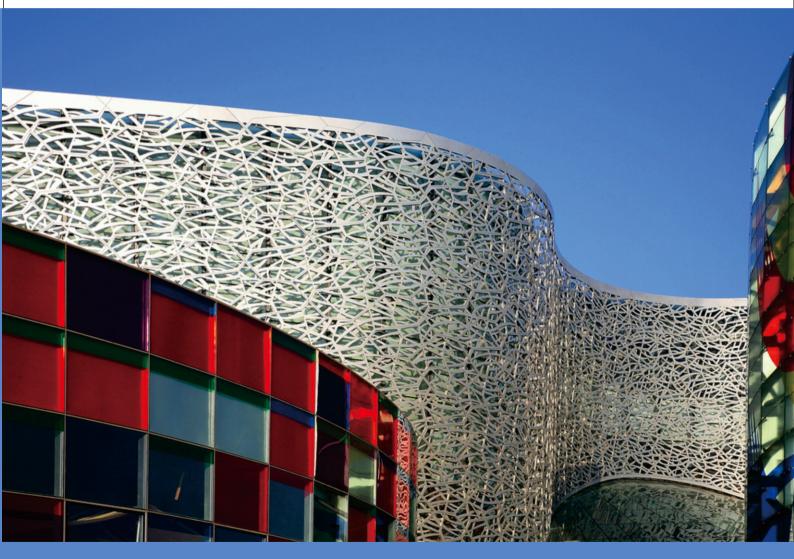


# Journal of Building Construction and Planning Research





www.scirp.org/journal/jbcpr

# **Journal Editorial Board**

## ISSN Print: 2328-4889 ISSN Online: 2328-4897

## http://www.scirp.org/journal/jbcpr

#### Editor-in-Chief

Dr. Gwang-Hee Kim

Kyonggi University, South Korea

## **Associate Editor-in-Chief**

Dr. Yoonseok Shin

Kyonggi University, South Korea

# **Regional Editors**

Prof. Sudhirkumar V. Barai Dr. Ayman Batisha Dr. Chi-Kwan Chau Dr. Tsuyoshi Kigawa Prof. Sunkuk Kim Dr. SangHyun Lee Dr. Milan Radosavljevic Dr. Llewellyn Tang Dr. Jian Zuo

## **Editorial Board**

Dr. Joonsuk Ahn Dr. Yong Han Ahn Dr. Sung-Hoon An Dr. Antonio Bilotta Prof. Robert Cerny Dr. Carlos Chastre Dr. Ali Cheshmehzangi Dr. Hunhee Cho Dr. Kyuman Cho Dr. Youngjun Cho Dr. Hee-Bok Choi Dr. Kunhee Choi Prof. Jui-Sheng Chou Dr. Sutapa Das Dr. Jae-Weon Jeong Dr. Jin-Kyu Joo Dr. Seok-Jin Kang Dr. Youngcheol Kang Prof. Chang Sung Kim Dr. Jae-Yeob Kim Prof. Jin-Wook Kim Dr. Tae-Hui Kim Dr. Dan Koo Dr. Hyung-Sook Lee Dr. Ung-Kyun Lee Dr. Pin-Chao Liao Dr. Sang-Tae No Dr. Kenneth S. Park Dr. U-Yeol Park Dr. Boong Yeol Ryoo Prof. Deok Seok Seo Dr. Kyung Wook Seo Dr. Minho Seo Dr. Kiyoung Son Dr. Sung Joon Suk Dr. Johnny Kwok Wai Wong Dr. Bo Xia Dr. Liang Xia Prof. Keun-Hyeok Yang

Indian Institute of Technology Kharagpur, India Cairo University, Egypt The Hong Kong Polytechnic University, China Wakayama University, Japan Kyung Hee University, South Korea University of Michigan, USA University of Michigan, USA University of Nottigham (China Campus), China University of South Australia, Australia

Kyonggi University, South Korea Western Carolina University, USA Daegu University, South Korea University of Naples Federico II, Italy Czech Technical University in Prague, Czech Republic NOVA University of Lisbon, Portugal University of Nottingham, China Korea University, South Korea Chosun University, South Korea Cardiff University, UK Jeju National University, South Korea Texas A&M University, USA National Taiwan University of Science and Technology, Chinese Taipei Indian Institute of Technology Kharagpur, India Hanyang University, South Korea Kyonggi University, South Korea Gyeongsang National University, South Korea Florida International University, USA Hyupsung University, South Korea Korea National University of Transportation, South Korea Seoul National University of Science & Technology, South Korea Mokpo National University, South Korea Indiana University-Purdue University Indianapolis, USA Gachon University, South Korea Kwandong University, South Korea Tsinghua University, China Korea National University of Transportation, South Korea Massey University, New Zealand Andong National University, South Korea Texas A&M University, USA Halla University, South Korea Kyonggi University, South Korea Korea Research Institute of Human Settlements, South Korea University of Ulsan, South Korea Western Carolina University, USA The Hong Kong Polytechnic University, China Queensland University of Technology, Australia University of Nottingham, China Kyonggi University, South Korea



Volume 4

Number 3

September 2016

# **Table of Contents**

# 

# Journal of Building Construction and Planning Research (JBCPR) Journal Information

#### SUBSCRIPTIONS

The *Journal of Building Construction and Planning Research* (Online at Scientific Research Publishing, <u>www.SciRP.org</u>) is published quarterly by Scientific Research Publishing, Inc., USA.

#### Subscription rates:

Print: \$39 per issue. To subscribe, please contact Journals Subscriptions Department, E-mail: <u>sub@scirp.org</u>

#### SERVICES

Advertisements Advertisement Sales Department, E-mail: <u>service@scirp.org</u>

#### Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA. E-mail: <u>sub@scirp.org</u>

#### COPYRIGHT

#### Copyright and reuse rights for the front matter of the journal:

Copyright © 2016 by Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY). http://creativecommons.org/licenses/by/4.0/

#### Copyright for individual papers of the journal:

Copyright © 2016 by author(s) and Scientific Research Publishing Inc.

#### Reuse rights for individual papers:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

#### Disclaimer of liability

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

#### **PRODUCTION INFORMATION**

For manuscripts that have been accepted for publication, please contact: E-mail: <u>jbcpr@scirp.org</u>

# Call for Papers



# Journal of Building Construction and Planning Research

ISSN: 2328-4889 (Print) ISSN: 2328-4897 (Online) http://www.scirp.org/journal/jbcpr

Journal of Building Construction and Planning Research (JBCPR) is an open access, scholarly peer reviewed and refereed journal published in electronic form as well as print form. The JBCPR publishes original research, state-of-the-art review articles, discussion papers, innovative industrial application, insightful case studies, and book reviews from experts in the field of building construction and planning. The extensive knowledge, experimental findings, and practical information produced by the journal have become significant resources for innovations in building construction and planning. The journal aims to promote technical and scientific advances in building construction and planning among academia, professionals, consultants and students by stimulating research, encouraging academic exchange and enhancing professional development. The editors welcome high-quality contributions from all over the world.

# Subject Coverage

Topics of interest include, but are not limited to the following:

- Applications of Computer Models, Techniques, and Equipment
- Building Conservation
- Building Design and Operation
- Building Heritage
- Building Maintenance and Repairs
- Building Planning
- Building Remodeling
- Building Systems & Components
- Construction Management
- Construction Materials
- Construction Methods
- Construction Safety
- Crime Prevention through Environment Design
- Education Relate to Building Construction and Planning
- Emerging Building Technology and Materials
- Energy Consumption & CO<sub>2</sub> Emissions of Materials

& Construction Methods

- Environmental Engineering of Buildings
- Environmental Pollution in Buildings
- Green Building Design & Technology
- High-Rise Building Design and Construction
- History of Construction and Architectural Engineering
- HVAC System for Building
- Landscape Planning and Design for Building
- Passive House Design and Construction
- Performance of Buildings
- Project Management
- Recycling of Building Materials
- Specification for Building Construction
- Sustainable Development of Building
- Urban Planning and Development
- Urban Renewal
- Other Fields Related to Building Construction and Planning

We are also interested in: 1) Short Reports: 2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book Reviews: Comments and critiques.

# Website and E-Mail

http://www.scirp.org/journal/jbcpr

E-mail: jbcpr@scirp.org

## What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

# What is Open Access?

rt and Design Revie

Advances in

Advances in Biological

Chemistry

Entomology

**Applied Mathematics** 

Engineering

uitit e

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



Soft

Website: http://www.scirp.org Subscription: sub@scirp.org Advertisement: service@scirp.org