

# JARS

Journal of Architectural/Planning Research and Studies | Volume 16 Issue 1. 2019

## 16(1). 2019

วารสารวิจัยและสาระสถาปัตยกรรม/การผังเมือง ปีที่ 16 ฉบับที่ 1. 2562

**JOURNAL OF ARCHITECTURAL/PLANNING RESEARCH AND STUDIES (JARS) | VOLUME 16 ISSUE 1. 2019**

Copyright © 2019 by

Faculty of Architecture and Planning, Thammasat University,  
Rangsit Campus

Klong Luang, Pathumthani 12121, Thailand

Tel: 66-2-986-9606 Fax: 66-2-986-8067

<http://www.tds.tu.ac.th/jars> and

<https://www.tci-thaijo.org/index.php/jars>

E-mail: JARS@ap.tu.ac.th

JARS Published bi-annually:

Issue 1: January - June

Issue 2: July - December

ISSN 1905-2022

Print and Bound at

Thammasat Printing House, Pathumthani 12121, Thailand

Tel: 66-2-564-3111 Fax: 66-2-564-3119

Statements or facts and opinions appeared in JARS are made on the responsibility of the author alone and do not imply the endorsement of the publisher.

All researches and studies are available online at <http://www.tds.tu.ac.th/jars> and  
<https://www.tci-thaijo.org/index.php/jars>

# Editorial Board

**Executive Honorable Advisors:**

Professor Vimolsiddhi Horayangkura, Ph.D.  
Associate Professor Nipan Vichiennai, Ph.D.  
Associate Professor Chalermwat Tantasavasdi  
Associate Professor Pawinee Iamtrakul, Ph.D.  
Associate Professor Santirak Prasertsuk  
Assistant Professor Daranee Jareemit, Ph.D.

Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand

**Editor-in-Chief:**

Assistant Professor Pattamon Selanon, Ph.D.

Faculty of Architecture and Planning, Thammasat University, Thailand

**Editorial Board:**

Professor Bill Hillie  
Associate Professor Dr. Bundit Limmeechokchai

The Bartlett School of Graduate Studies, University College London, UK  
Sirindhorn International Institute of Technology (SIIT), Thammasat University, Thailand

Associate Professor Chattri Prakitnonthakan  
Professor Ivo Martinac, Ph.D.

Faculty of Architecture, Silpakorn University, Thailand  
School of Architecture and the Built Environment KTH Royal Institute of Technology, Sweden

Professor Jelena Srebric, Ph.D.

Department of Mechanical Engineering. The University of Maryland, College Park, MD, USA

Associate Professor Jiying Liu, PhD.,  
Professor Kamthorn Kulachol  
Professor Peter G. Rowe  
Professor Mike Jenks, Ph.D.  
Professor Pichai Taneerananon, Ph.D.  
Professor Siriwan Silapacharanan, Ph.D.  
Assistant Professor Rawiwan Oranratmanee, Ph.D.  
Associate Professor Vira Inpuntung, Ph.D.  
Francis Duffy, Ph.D.  
Moon Keun Kim, PhD.,  
Torwong Chenvidyakarn, Ph.D.  
Associate Professor Awiroot Srisutapan  
Assistant Professor Archan Boonyanan, Ph.D.  
Assistant Professor Boonanan Natakun, Ph.D.  
Assistant Professor Chaiwat Riratanaphong, Ph.D.  
Assistant Professor Choomket Sawangjaroen, Ph.D.  
Assistant Professor Jaturong Pokharatsiri, Ph.D.  
Assistant Professor Manat Srivanit, Ph.D.  
Assistant Professor Siwaporn Klinmalai, Ph.D.  
Assistant Professor Suwadee Thongsukplang  
Hansasooksin, Ph.D.

School of Thermal Engineering, Shandong Jianzhu University, China  
Faculty of Architecture, Kasetsart University, Thailand  
Graduate School of Design, Harvard University, USA  
School of Architecture, Oxford Brookes University, UK  
Department of Civil Engineering, Prince of Songkla University, Thailand  
Faculty of Architecture, Chulalongkorn University, Thailand  
Faculty of Architecture, Chiang Mai University, Thailand  
Faculty of Architecture, Silpakorn University, Thailand  
DEGW, London Visiting Professor, Massachusetts Institute of Technology, USA  
Department of Architecture, Xi'an Jiaotong-Liverpool University, China  
SC Asset Corporation Plc., Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand  
Faculty of Architecture and Planning, Thammasat University, Thailand

**Copy Editor:**

Apinya Hemawannagoon

Faculty of Architecture and Planning, Thammasat University, Thailand

**Graphic Designer:**

Panudda Rodsattru

Faculty of Architecture and Planning, Thammasat University, Thailand

**Editorial Secretary:**

Apinya Hemawannagoon

Faculty of Architecture and Planning, Thammasat University, Thailand

# Editorial Message

It is with great pleasure and honor to welcome you to this inaugural Volume 16 (1) issue of the Journal of Architectural / Planning Research and Studies (JARS), a scholarly journal published by Faculty of Architecture and Planning, Thammasat University. JARS strives to be an advanced research and studies journal, which dedicates to fields of Architecture, Interior Architecture, Landscape Architecture, Urban Design and Planning, Real Estate Management, and Design Related Issues. With double-blinded peer review, JARS is able to open up a constructive platform to improve the quality and competitiveness of the manuscripts providing the readers with keen perspectives on the topic of interest.

In this issue, the journal begins with the article review of “the 18th Century Aesthetics and Their Associations with Landscape Architecture and Environmental Art.” Followings are 10 articles as subsequent listed topics:

- Roles of Public Spaces in the Development of Thammasat University Rangsit Campus 2034;
- The Eco-efficiency Model for Outdoor Environmental Design of the Mixed- use Real Estate Development in Bangkok, Thailand;
- A Framework for Design Thinking Outside the Design Profession: An Analysis of Design Thinking Implementations;
- Guideline for Investment in Building Enclosure Retrofit to Improve Home Energy Efficiency Based on Thailand Energy and Environmental Assessment Method;
- Evaluation of Energy Savings by Retrofitting of the Building Envelope of Air-conditioned Row House;
- Indoor Environmental Quality in a Classroom: Faculty of Architecture, Chiang Mai University;
- The Prospect of Urban Geometry Impact on Urban Heat Island: A Case Study of Bangkok;
- The Study of Collaborative Structure of Pre-world Heritage Management; Case Study Chiang Mai, Thailand.

In addition, the book, “Beyond Bending: Reimagining Compression Shells (2017)” written by the Block Research Group (BRG) including Philippe Block, Tom Van Mele, Matthias Rippmann, and Noelle Paulson, was also reviewed in this issue.

I would like to take this opportunity to express our sincere gratitude to all the reviewers for their careful reading of our manuscripts and their acute comments and suggestions. Additionally, I would like to thank all authors for having chosen JARS to disseminate their research over the years. Furthermore, I am grateful to our current editorial board members for their ongoing commitment to the standards to which the journal aspires.

JARS will continue to inform specific areas of the built-environment and design related issues. I sincerely hope that JARS shall be chosen and accessed by both submitters and readers, for the insightful and stimulating platform that will lead the way to unprecedented future.



Assistant Professor Pattamon SELANON, Ph.D.  
Editor-in-Chief

# Contents

- 1 บทความปริทัศน์: แนวคิดทางสุนทรียศาสตร์ในศตวรรษที่ 18 และความสัมพันธ์กับภูมิสถาปัตยกรรมและศิลปะเพื่อสิ่งแวดล้อม  
Article Review: The 18<sup>th</sup> Century Aesthetics and Their Associations with Landscape Architecture and Environmental Art  
Pattamon Selanon, Hansa Srilertchaipanij and Maimuna Saleh-Bala
- 15 บทบาทพื้นที่สาธารณะในการพัฒนามหาวิทยาลัยธรรมศาสตร์ ศูนย์รังสิต พ.ศ. 2577  
Roles of Public Spaces in the Development of Thammasat University Rangsit Campus 2034  
Pornthip Kimnuan and Pranisa Boonkham
- 35 แบบจำลองประสิทธิภาพเชิงนิเวศเศรษฐกิจสำหรับการออกแบบสภาพแวดล้อมภายนอกของโครงการอสังหาริมทรัพย์แบบผสมผสานการใช้งานในกรุงเทพมหานคร ประเทศไทย  
The Eco-efficiency Model for Outdoor Environmental Design of the Mixed-use Real Estate Development in Bangkok, Thailand  
Jittapat Choruegwiwat, Sarigga Pongsuwan, Napol Kieatkongmanee, Damrongsak Rinchumphu, Manat Srivanit and Choo Yit Yang
- 45 กรอบการคิดเชิงออกแบบนอกขอบเขตวิชาชีพด้านการออกแบบ: การวิเคราะห์การนำการคิดเชิงออกแบบไปปฏิบัติ  
A Framework for Design Thinking Outside the Design Profession: An Analysis of Design Thinking Implementations  
Kallaya Tantiyaswasdikul
- 69 แนวทางการลงทุนปรับปรุงเปลือกอาคารบ้านประหยัดพลังงานตามเกณฑ์ประเมินพลังงาน TEEAM  
Guideline for Investment in Building Enclosure Retrofit to Improve Home Energy Efficiency Based on Thailand Energy and Environmental Assessment Method  
Jaruwan Sukseeda and Daranee Jareemit
- 83 การประเมินการประหยัดพลังงานจากการปรับปรุงกรอบอาคารของบ้านแถวปรับอากาศ  
Evaluation of Energy Savings by Retrofitting of the Building Envelope of Air-conditioned Row House  
Sudaporn Sudprasert
- 93 คุณภาพของสภาพแวดล้อมภายในห้องเรียน: คณะสถาปัตยกรรมศาสตร์ มหาวิทยาลัยเชียงใหม่  
Indoor Environmental Quality in a Classroom: Faculty of Architecture, Chiang Mai University  
Sumavalee Chindapol
- 107 การคาดการณ์ผลกระทบของเรขาคณิตของเมืองต่อปรากฏการณ์เกาะความร้อนเมือง: กรณีศึกษากรุงเทพมหานคร  
The Prospect of Urban Geometry Impact on Urban Heat Island: A Case Study of Bangkok  
Parin Buddee and Sirimas Hengrasmee
- 125 การศึกษาโครงสร้างความร่วมมือในการจัดการก่อนการเป็นเมืองมรดกโลก กรณีศึกษา เชียงใหม่ ประเทศไทย  
The Study of Collaborative Structure of Pre-world Heritage Management; Case Study Chiang Mai, Thailand  
Piyadech Arkarapoti Wong
- Book Review:**
- 139 Beyond Bending: Reimagining Compression Shells  
Samustapon Tanapant

