ISSN 2332-1091

Volume 13 Number 6 2025

Civil Engineering and Architecture

http://www.hrpub.org

Horizon Research Publishing,USA

Civil Engineering and Architecture

Civil Engineering and Architecture is an international peer-reviewed journal that publishes original and high-quality research papers in all areas of civil engineering and architecture. As an important academic exchange platform, scientists and researchers can know the most up-to-date academic trends and seek valuable primary sources for reference. The subject areas include, but are not limited to the following fields: architectural drawing, architectural style, architectural theory, biomechanics, architectural design, coastal engineering, building materials and technology, smart built environment, earthquake engineering, geotechnical engineering, bridge engineering, municipal or urban engineering, organic architecture, sociology of architecture, structural engineering, surveying, transportation engineering, history of civil engineering.

General Inquires

Publish with HRPUB, learn about our policies, submission guidelines etc.
Email: editor@hrpub.org
Tel: +1-626-626-7940

Subscriptions (Electronic Version Only)

Journal Title: Civil Engineering and Architecture
Journal's Homepage: http://www.hrpub.org/journals/jour_info.php?id=48
Publisher: Horizon Research Publishing Co.,Ltd
Publication Frequency: bimonthly
Electronic Version: freely online available at http://www.hrpub.org/journals/jour_info.php?id=48

Online Submission

Manuscripts should be submitted by Online Manuscript Tracking System (http://www.hrpub.org/submission.php).
If you are experiencing difficulties during the submission process, please feel free to contact the editor at submission@hrpub.org.

Copyright

Authors retains all copyright interest or it is retained by other copyright holder, as appropriate and agrees that the manuscript remains permanently open access in HRPUB 's site under the terms of the Creative Commons Attribution International License (CC-BY or CC-BY-NC). HRPUB shall have the right to use and archive the content for the purpose of creating a record and may reformat or paraphrase to benefit the display of the record.

Creative Commons Attribution License (CC-BY or CC-BY-NC)

All articles published by HRPUB will be distributed under the terms and conditions of the Creative Commons Attribution License (CC-BY or CC-BY-NC). So anyone is allowed to copy, distribute, and transmit the article on condition that the original article and source is correctly cited.

Open Access

Open access is the practice of providing unrestricted access to peer-reviewed academic journal articles via the internet. It is also increasingly being provided to scholarly monographs and book chapters. All original research papers published by HRPUB are available freely and permanently accessible online immediately after publication. Readers are free to copy and distribute the contribution under creative commons attribution-non commercial licence. Authors can benefit from the open access publication model a lot from the following aspects:

- High Availability and High Visibility-free and unlimited accessibility of the publication over the internet without any restrictions;
- Rigorous peer review of research papers----Fast, high-quality double blind peer review;
- Faster publication with less cost----Papers published on the internet without any subscription charge;
- Higher Citation----open access publications are more frequently cited.

Civil Engineering and Architecture

Editor-in-Chief

Prof. Jorge M. Tavares Ribeiro	School of Architecture, University of Lisbon, Portugal

Honorary Editor-in-Chief

Dr. Masa Noguchi	University of Melbourne, Australia

Deputy Editor-in-Chief

Prof. Salvatore Leonardi	Department of Civil Engineering and Architecture, University of Catania - Via Santa Sofia, 64 95125 – Catania, Italy
Dr. Michael Phiri	School of Architecture, The University of Sheffield, UK
Dr. Jackson Kong	Division of Building Science and Technology, College of Science and Engineering, City University of Hong Kong, China
Dr. Lar. Rohayah Che Amat	Department of Science, Management & Design, UTM Razak Faculty of Technology and Informatics, UTM Kuala Lumpur, Malaysia

Members of Editorial Board

Dr. Liyaning (Maggie) Tang	School of Architecture and Built Environment, University of Newcastle, Australia
Prof. Aldo Renato Daniele Accardi	University of Palermo, Italy
Prof. Muhammad Saleem	College of Engineering, University of Dammam, Saudi Arabia
Prof. Aloke Kumar Datta	Department of Civil Engineering, National Institute of Technology, India
Prof. Behzad Sodagar	School of Architecture and Design, College of Arts, University of Lincoln, UK
Prof. Rosa Maria Vitrano	Department of Architecture, University of Palermo, Italy
Prof. Antonio Formisano	Department of Structures for Engineering and Architecture, School of Polytechnic and Basic Sciences, University of Naples "Federico II", Italy
Prof. SALVATORE ANTONIO BIANCARDO	Department of Civil, Architectural and Environmental Engineering (DICEA), School of Polytechnic and Basic Sciences, University of Naples Federico II, Italy
Prof. Maurizio Nicolella	Department of Civil, Architectural and Environmental Engineering, University of Naples Federico II, Italy
Prof. Giuseppe Lacidogna	Department of Structural, Geotechnical and Building Engineering (DISEG), Polytechnic University of Turin, Turin, Italy
Prof. Stefano Dal Pont	Laboratory 3SR, Université Grenoble Alpes (UGA), France
Prof. Mario Grosso	Independent Researcher, Italy
Prof. H. Murat Celik	Department of City and Regional Planning, Istanbul Technical University, Turkey
Prof. Luigi Alini	Department of Civil Engineering and Architecture, University of Catania, Italy
Prof. Hakim S. Abdelgader	Department of Civil Engineering, Faculty of Engineering, University of Tripoli, Libya
Prof. Jacob Oludoye Oluwoye	Department of Community and Regional Planning, Alabama A&M University, USA
Prof. Ahmed Senouci	Department of Construction Management, University of Houston, USA
Prof. Khuplianlam Tungnung	Interac Kansai & South Central Co., Ltd., Japan
Prof. Rosario Montuori	Department of Civil Engineering (DICIV), University of Salerno, Italy
Dr. Santina Di Salvo	Department of Architecture, University of Palermo, Italy
Dr. Hongyuan Liu	School of Engineering, University of Tasmania, Australia
Dr. Amira Elnokaly	School of Architecture, University of Lincoln, UK

Dr. Damian Beben	Department of Geodesy and Geotechnics, Faculty of Civil Engineering, Opole University of Technology, Poland
Dr. Ying Wang	Deakin University, Australia
Dr. Daniela Jurasova	Department of Civil Engineering and Urban Planning, University of Zilina, Slovakia
Dr. Petros Christou	Department of Civil Engineering, Frederick University, Cyprus
Dr. Lee Pugalis	Northumbria University, UK
Dr. Maurizio Francesco Errigo	Faculty of Engineering and Architecture, Kore University of Enna, Italy
Dr. Luisa Maria Calabrese	Delft University of Technology, Netherlands
Dr. Alessandro De Masi	University of Trento, Italy
Dr. Mohammad Sharif Zami	Department of Architecture, College of Environmental Design (CED), King Fahd University of Petroleum & Minerals (KFUPM), Saudi Arabia
Dr. Eglė Navickienė	Faculty of Architecture, Vilnius Gediminas Technical University, Lithuania
Dr. Natalija Lepkova	Department of Construction Economics and Property Management, Faculty of Civil Engineering, Vilnius Gediminas Technical University, Lithuania
Dr. Cristiana Cellucci	Department of Architecture, "G.D'Annunzio" University, Pescara, Italy
Dr. Natalia Distefano	Department of Civil Engineering and Architecture, University of Catania - Via Santa Sofia, 64 95125 – Catania, Italy
Dr. Pappalardo Giuseppina	Department of Civil Engineering & Architecture, University of Catania, Italy
Dr. Paolo Castaldo	Department of Structural, Building and Geotechnical Engineering, Polytechnic University of Turin, Italy
Dr. Alessio Cascardi	Institute for Construction Technologies, Italy
Dr. Mário Rui Tiago Arruda	Higher Technical Institute, Universidade de Lisboa, Portugal
Dr. Maria G. Augeri	Department of Enterprise Engineering, Tor Vergata University of Rome, Italy
Assoc. Prof.Antonio Brencich	Department of Civil, Environmental and Architectural Engineering, University of Genoa, Italy
Assoc. Prof. Silvia Brunoro	Department of Architecture, University of Ferrara, Italy
Assoc. Prof. Vittorio Nicolosi	Department of Enterprise Engineering “Mario Lucertini”, University of Rome “Tor Vergata”, Italy
Prof. Ing. Juraj Králik	Department of Structural Mechanics, Faculty of Civil Engineering, Slovak University of Technology in Bratislava, Slovakia
Assoc. Prof. Baris Sevim	Department of Civil Engineering, Yıldız Technical University, Turkey

ISSN 2332-1091

Table of Contents

Civil Engineering and Architecture

Volume 13 Number 6 2025

Analytical and Finite Element Characterisation of a Randomly Reinforced Recyclable Composite for Reinforcing Aged Concrete Slabs
(https://www.doi.org/10.13189/cea.2025.130601)
Sofiene Helaili, Yosra Zaouali, Moez Chafra 4099

Assessment of Concrete Compressive Strength with Polyacrylonitrile and Basalt Fibers
(https://www.doi.org/10.13189/cea.2025.130602)
Camille D. Barrera, Neswyn Xavier C. Ching, Chammi Hazel M. Yap, Christ John L. Marcos, Dante L. Silva, Edgar M. Adina 4112

Structural Analysis of the *Uma Lulik Kapitan Afaia* in Baricafa Village, Timor-Leste, Using the Load and Resistance Factor Design (LRFD) Method
(https://www.doi.org/10.13189/cea.2025.130603)
Julio dos Santos, Kahar Sunoko, Purwanto Setyo Nugroho 4121

Advancing Sustainability in the Built Environment: A Bibliometric Review of Building Envelope Retrofitting on Energy Efficiency and Climate Adaptation
(https://www.doi.org/10.13189/cea.2025.130604)
Rim Meziani, Joshima V. M. 4134

Architectural Design Restoration for the Reconstruction of Heritage Buildings: Case Study of the Chieu Kinh Dien Temple, Hue Imperial City, Vietnam
(https://www.doi.org/10.13189/cea.2025.130605)
An Vinh Le, Phuc Ngoc Nguyen 4148

PID Controlled Semi-Active Device for FPS Isolated Structure
(https://www.doi.org/10.13189/cea.2025.130606)
B. Durga Prasad Baliga, Jagadeesha Pai B., I. Thirunavukkarasu 4156

Multi-Criteria Evaluation of Recreational Potential in Post-Industrial Landscapes: A Case Study of the Prydniprovsk Region
(https://www.doi.org/10.13189/cea.2025.130607)
Iryna Merylova 4179

Predicting Maintenance Demand through Material Selection Criteria: Evidence from the Oman Construction Industry
(https://www.doi.org/10.13189/cea.2025.130608)
Peter Oluwole Akadiri 4194

Heavy Rainfall Risk Management Policy: Effectiveness and Challenges from a Systematic Review
(https://www.doi.org/10.13189/cea.2025.130609)
Lisbeth Roxana Becerra Saguma, Andres Enrique Recalde Gracey, Pedro Otoniel Morales Salazar, Angel Miguel Acosta Dávila 4207

Multi-Objective Optimization of Alkali-Activated Concrete Using Fly Ash and GGBFS through Desirability Function Analysis
(https://www.doi.org/10.13189/cea.2025.130610)
M. V. S. S. Sastri, K. Rajani Kumar, K. Jagannadha Rao, S. Vijaya Kumar 4220

Proposal for the Identification of Rigid and Flexible Diaphragms in Reinforced Concrete Structures
(https://www.doi.org/10.13189/cea.2025.130611)
Pedro Alonso Macuri Chachayma, Jair Sebastian Mendoza Cortez, Adriana Sheyla Romero Espinoza, Manuel Ismael Laurencio Luna 4233

Innovative AI Approaches for Concrete Strength Prediction: Towards Sustainable Buildings
(https://www.doi.org/10.13189/cea.2025.130612)
Areen Arabiat, Muneera Altayeb, Tariq Alkhrissat 4254

Preserving Collective Memory through Architectural Transformation: Integrating Soekarno's Mentalite into Museum Design at Banceuy Prison Historic Site
(https://www.doi.org/10.13189/cea.2025.130613)
Gilang Pratomo, Rahadhian P. Herwindo, Anindhita N. Sunartio 4266

Developing an Objective Assessment Tool for Determining Site Compatibility with Feng Shui Principles: A Comparative Analytical Study on Residential Buildings
(https://www.doi.org/10.13189/cea.2025.130614)
Mona Hassan Soliman, Rabab Salah Mohamed, Hanan Moanis Abdellatif 4286

Multidimensional Analysis of Urban Growth and Informal Consolidation in the Santa Rosa de Lima Settlement, Peruvian Andes, Huancayo, Peru (1985–2025)
(https://www.doi.org/10.13189/cea.2025.130615)
Janis D'anna Arévalo Torres, Viviana Maribel Arauco Bejarano, Nicolle Abril Parraga Mori, Juan Elias Otárola Santivañez 4307

Evaluating Urban Surface Materials: Albedo Optimization and Shading for Pedestrian Thermal Comfort in Hot-Arid Environments
(https://www.doi.org/10.13189/cea.2025.130616)
Mayar Ghoniem, Amgad Fahmy, Tarek M. Kamel 4331

Development of Green Technologies in Construction and Their Impact on the Sustainability of Urban Infrastructure
(https://www.doi.org/10.13189/cea.2025.130617)
Arta Hoti, Nargiz Zakirova, Daniela Nedeva, Serhii Pavlovskyi, Maciej Knapik 4353

Eco-Efficient Stabilization of Fine-Grained Soils Using *Eucalyptus globulus* Leaves to Improve Strength and Bearing Capacity
(https://www.doi.org/10.13189/cea.2025.130618)
Betty Condori, Jhonel Orihuela, William Caisahuana 4367

Nurturing Minds: Biophilic Campus Design for Comfort and Stress Reduction at Nizwa University
(https://www.doi.org/10.13189/cea.2025.130619)
Adi Abdullah Al Farei, Nasreen Kauser Dummi Shabbir, Halima Salim Al Bimani, Atheer Khalfan Al Hussaini, Saba Salim Al Sariri, Mohamed Faisal Al-Kazee.....4376

Finite Element Analysis of Isolated Composite Joints: Validation against Experimental Data
(https://www.doi.org/10.13189/cea.2025.130620)
Bashir Saleh.....4393

Optimizing Construction Safety for Segmental Bridges: ANSYS-Based Simulation Assessment of Stress-Strain Behavior under Critical Construction Stage
(https://www.doi.org/10.13189/cea.2025.130621)
N. J. Jain, S. Sangita Mishra, Shrikant Charhate.....4401

The Continuity of the Historic Corridor in Bandung, Indonesia: The Relationship between Public Spaces and Urban Frontages
(https://www.doi.org/10.13189/cea.2025.130622)
Husna Izzati, Dwita Hadi Rahmi, Syam Rachma Marcillia.....4419

Effect of Coconut Fiber and Wood Chips on the Physical, Mechanical, and Durability Properties of M21 Concrete
(https://www.doi.org/10.13189/cea.2025.130623)
Samame Arce Cesar Enrique, Tucto Sernaque Jose Luis, Muñoz Perez Socrates Pedro, Juan Martin Garcia Chumacero, Ana Paula Bernal Izquierdo, Carlos Eduardo Ramos Brast, Luigi Italo Villena Zapata, Miguel Ernesto Rodríguez Núñez, Marlon Robert Cubas Armas, Esther Teodora Eugenio Pachas 4433

Experimental Investigation of Bond Strength of Concrete with Glass Fiber Reinforced Polymer Bar under Static Loading Condition Using Pull-out Testing
(https://www.doi.org/10.13189/cea.2025.130624)
Ariane T. Lacson, Darren Russel D. Tanay, Pia Abigail P. Torres, Gilford B. Estores.....4450

Symbolic Architecture at Sin Ming Hui Candra Naya Chinese Heritage in West Jakarta, Indonesia
(https://www.doi.org/10.13189/cea.2025.130625)
Frysa Wiriantari, Ngakan Ketut Acwin Dwijendra, Arya Bagus Mahadwijati Wijaatmaja, I Made Agus Mahendra.....4462

Static Wind Analysis vs. Wind Tunnel Insights: Understanding the Aerodynamic Behavior of a Tensed Parabolic Structure
(https://www.doi.org/10.13189/cea.2025.130626)
Joseph Lenin Adama Arroyo, Carlos Javier Huaman Albino, Nelfa Estrella Ayuque Almidon, Juan Gabriel Benito Zuñiga.....4473

A Bibliometric Analysis of Research Trends in Achieving Zero-Energy Residential Buildings
(https://www.doi.org/10.13189/cea.2025.130627)
Ahmed M. El-Sayed, Mustafa Abd El-Hafeez, Marwa Nossier, Shaimaa R. Nosier.....4486

Sustainable Solutions: Advanced Analytics for Green Buildings Performance Using Machine Learning Models
(https://www.doi.org/10.13189/cea.2025.130628)
Salam AL Kasassbeh, Amani Abdallah Assolie, Dareen Qashmar, Mai Aljaberi.....4508

Assessing the Performance of HEC-RAS 2D for Flash Flood Simulation in Mountainous Rural Eco-Tourism Area of Kampung Melangkap, Malaysia
(https://www.doi.org/10.13189/cea.2025.130629)
Rosdianah Ramli, Janice Lynn Ayog, Ejria Saleh, Mohammad Radzif Taharin.....4534

An Architectural Design Guideline for Pain Hyperacusis Patients: Silent House Typology
(https://www.doi.org/10.13189/cea.2025.130630)
Onurcan Çakır 4546

Torsional Behavior of Reinforced Concrete High-Rise Structure with Diverse Shear Wall Resisting Systems under Seismic Loading
(https://www.doi.org/10.13189/cea.2025.130631)
Sandeep G. S., Arun Kumar Y. M., Vaibhav Sundareshan, Poornachandra Pandit, Prashik Sarkate 4559

Improving Thai Ethnic Residential Spaces to Develop Sustainable Community-Based Tourism: A Case Study of the Northwest Region of Vietnam
(https://www.doi.org/10.13189/cea.2025.130632)
Thi Nguyen Dinh, Bao Tran Quoc, Dung Tran Quang, Mai Quang Khai 4570

Sustainable Development of Minority Ethnic Housing Spaces: A Community Perspective from the Tay People in Tuyen Quang
(https://www.doi.org/10.13189/cea.2025.130633)
Vu Thi Huong Lan, Nguyen Dinh Thi, Dang Viet Long, Nguyen Ngoc Huong, Nguyen Viet Tung, Nguyen Hoai Thu.....4589

Modeling the Impact of Green Infrastructure and Wind Flow on Heavy Traffic-Related $PM_{2.5}$ Dispersion in New Cairo-Government Housing Areas
(https://www.doi.org/10.13189/cea.2025.130634)
Shaimaa Ahmed Omar Mansour, Alaa Mohamed Shams Eldein Eleshy, Ahmed El-Tantawy El-Maidawy.....4613

Strengthening the City Identity by Reviving the Forgotten In-Between Spaces
(https://www.doi.org/10.13189/cea.2025.130635)
S. M. Amin Mostafavi Mousavi, Ebru Erdönmez Dinçer 4640

Sustainable Housing Construction Scenarios for Greenhouse Gas Mitigation, Huancayo 2024
(https://www.doi.org/10.13189/cea.2025.130636)
Jorge Luis Poma García, Mary Yoana Chumbe Roman, Emely Vilcapoma Adriano, Augusto Elias García Corzo, Miguel Ángel Vidal Valladolid 4656

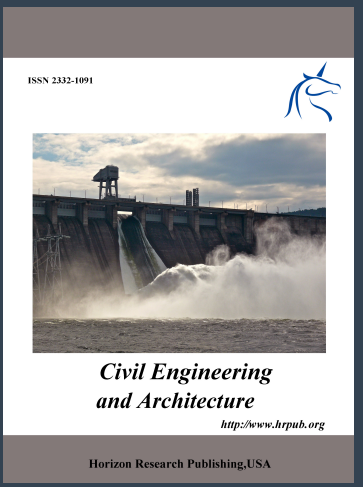
Influence of Organic Wax on SBS-Modified Asphalt Mixtures: Stability, Flow, and Mechanical Properties
(https://www.doi.org/10.13189/cea.2025.130637)
Víctor Peña Dueñas, Janet Yéssica Andía Arias, Rosali Ramos Rojas, Nelfa Estrella Ayuque Almidon, Fernando Anacleto Boza Ccora, Aron Jhonatan Aliaga Contreras, Carlos Javier Huamán Albino, Juan Gabriel Benito Zuñiga, Luis Gerardo Becerra Infantas.....4672

Enhancing Wayfinding in Chennai Metro: Insights from Passenger Feedback
(https://www.doi.org/10.13189/cea.2025.130638)
K. Vaidyanathan, G. Yogapriya 4687

Civil Engineering and Architecture

Call for Papers

Civil Engineering and Architecture is an international peer-reviewed journal that publishes original and high-quality research papers in all areas of civil engineering and architecture. As an important academic exchange platform, scientists and researchers can know the most up-to-date academic trends and seek valuable primary sources for reference.



Aims & Scope

- Architectural Drawing
- Architectural Style
- Architectural Theory
- Biomechanics
- Architectural Design
- Coastal Engineering
- Building Materials and Technology
- Smart Built Environment
- Earthquake Engineering
- Geotechnical Engineering
- Bridge Engineering
- Municipal Or Urban Engineering
- Organic Architecture
- Sociology of Architecture
- Structural Engineering
- Surveying
- Transportation Engineering
- History of Civil Engineering

Manuscripts Submission

Manuscripts to be considered for publication have to be submitted by Online Manuscript Tracking System(http://www.hrpub.org/submission.php). If you are experiencing difficulties during the submission process, please feel free to contact the editor at submission@hrpub.org.

Submit your paper at http://www.hrpub.org/journals/jour_submitmanuscript.php?id=48

Available Online http://www.hrpub.org/journals/jour_info.php?id=48

Contact Us

Horizon Research Publishing
2880 ZANKER RD STE 203
SAN JOSE,CA 95134
USA
Email: editor@hrpub.org

Submit your paper at http://www.hrpub.org/journals/jour_submitmanuscript.php?id=48

Available Online http://www.hrpub.org/journals/jour_info.php?id=48

Horizon Research Publishing http://www.hrpub.org