

Preface

This publication brings together the collective knowledge and shared aspirations of two remarkable gatherings: the 10th International Conference on Architecture, Materials, and Construction (ICAMC 2024) and the 5th International Conference on Building Science, Technology, and Sustainability (ICBSTS 2024). Hosted at the University of Lisbon, Portugal, from October 15 to 18, 2024, these events created a space for exchange among global scholars, researchers, industry professionals, and students, all dedicated to advancing sustainable and resilient building practices.

For this edition, the papers reflecting rigorous research and pioneering work across architecture, materials science, construction technology, and sustainability were selected. Each contribution provides insight into critical advancements and reflects a shared commitment to addressing the complexities of our built environment.

More than a showcase of technical progress, ICAMC 2024 and ICBSTS 2024 fostered rich dialogues and collaborations that are essential to future-oriented solutions in our field. The diverse sessions and exchanges energized new perspectives, connecting different disciplines and approaches in response to today's pressing architectural and environmental challenges.

On behalf of the Conference Committees, we express our sincere gratitude to everyone who contributed to these events: the dedicated presenters, reviewers, participants, and organizing teams. We also acknowledge the invaluable support of our sponsors and partners, whose contributions made these gatherings possible.

It is our hope that this edition will continue to inspire and support the work of researchers, practitioners, and students, helping to build a more sustainable future rooted in shared understanding and innovative thinking.

Conference Chair

Prof. Nuno Dinis Cortiços, University of Lisbon, Portugal

Conference Committees

Conference Chair

Nuno Dinis Cortiços, University of Lisbon, Portugal

Conference Co-Chairs

Eric J. Strauss, Michigan State University, USA

Paulo Mendonça, University of Minho, Portugal

Program Chairs

Claudia Casapulla, University of Napoli Federico II, Italy

João Pedro Costa, University of Lisbon, Portugal

Carol Monticelli, Politecnico di Milano, Italy

Steering Committee Chair

José Afon, University of Lisbon, Portugal

Marina Rynkovskaya, Peoples' Friendship University of Russia (RUDN University), Russia

Organizing Committee

Carlos C. Duarte, University of Lisbon, Portugal

Diogo Basto, University of Lisbon, Portugal

Paulo Dinis, University of Lisbon, Portugal

Gianni Montagna, University of Lisbon, Portugal

Publicity Committee

Liliana Soares, Instituto Politécnico de Viana do Castelo, Portugal; Research Centre for Architecture, Urbanism and Design, Portugal

Isabelle Fortuné, LRA, ENSA du Toulouse, France

Arcan Yanik, Istanbul Technical University, Turkey

Silvia Mazzetto, Prince Sultan University, Saudi Arabia

Vladimir Simon Montoya, Universidad Continental, Perú

Shady Salem, The British University in Egypt, Egypt

Sonia Lupica Spagnolo, Politecnico di Milano, Italy

Fouad K. Kaddah, Université Saint-Joseph de Beyrouth, Lebanon

Mohammad Arif Kamal, Aligarh Muslim University, India

Silvia Mazzetto, IUAV University of Architecture in Venice, Italy

International Technical Committee

Abboudi Said, University Bourgogne Franche-Comté, UTBM, France

Abdelhakim Daoui, M'hamed Bougara University of Bumerdes, Algeria

Abderrahmane KIBBOUA, National Earthquake Engineering Research Centre C.G.S, Algeria

Abdollah Malekjafarian, University College Dublin, Ireland

Alex Victor Huamán Tacza, Universidad Continental, Peru

Ana Almerich-Chulia, Universitat Politecnica de Valencia, Spain
Andhika Sahadewa, Bandung Institute of Technology, Indonesia; Indonesian Geotechnical Institute, Indonesia
Andrea Miano, University of Naples Federico II, Italy
Anil Cherian, Strainstall Middle East, UAE
Arash Radman, University of Guilan, Iran
Arun Lukjan, Rajamangala University of Technology Srivijaya, Thailand
Ben Ammar Ben Khadda, University of Biskra, Algeria
Bolanle Deborah Ikotun, University of South Africa, South Africa
Choy Peng Ng, Universiti Pertahanan Nasional Malaysia, Malaysia
Christiono Utomo, Institut Teknologi Sepuluh Nopember, Indonesia
Dariusz Fydrych, Gdańsk University of Technology, Poland
Dejan Vasovic, University of Belgrade, Serbia
Dorota Anna Krawczyk, Bialystok University of Technology, Poland
Fahriye Hilal Halicioglu, Dokuz Eylul University, Türkiye
Faridah Hanim Khairuddin, Universiti Pertahanan Nasional Malaysia, Malaysia
Fernando Alonso Cuzziramos Gutiérrez, Universidad Católica San Pablo, Peru
Foo Wei Lee, Universiti Tunku Abdul Rahman, Malaysia
Fouad Kehila, National Earthquake Engineering Research Centre C.G.S, Algeria
Fredy Alberto Huamán Mamani, Universidad Católica San Pablo, Peru
Haryati Yaacob, Universiti Teknologi Malaysia, Malaysia
Huynh Trong-Phuoc, Can Tho University, Vietnam
Jin Qian, Tongji University, China
Katarzyna Gładyszewska-Fiedoruk, Warsaw University of Life Sciences, Poland
Katherine Wendy Toralva Garay, Continental University, Peru
Mahmoud Haggag, UAE University, UAE
Mamdoo Alwetaishi, Taif University, Saudi Arabia
Mehmet Inceoglu, Eskisehir Technical University, Turkey
Modupe Cecilia Mewomo, Durban University of Technology, South Africa
Mogrovejo Gutierrez Ruben Esau, Universidad Peruana De Ciencias Aplicadas, Peru
Mohammad Arif Kamal, Aligarh Muslim University, India
Mohammadreza Vafaei, Universiti Teknologi Malaysia, Malaysia
Mohd Saifulnizam Mohd Suhaimi, International Islamic University Malaysia, Malaysia
Morad Abdelkader, Ain Shams University, Egypt
Mudhafer H. Salman, Duhok Polytechnic University, Iraq
Muhammad Abid, Harbin Engineering University, China
Mustapha A. Umar Sa'ad, Abubakar Tafawa Balewa University, Nigeria
Muttaqin Hasan, Syiah Kuala University, Indonesia
Myzatul Aishah Kamarazaly, Taylors University Lakeside Campus, Malaysia
Nathan Fash, Roger Williams University School of Architecture, USA
Ngoc Hieu Pham, Hanoi Architectural University, Vietnam
Norhidayah Abdul Hassan, Universiti Teknologi Malaysia, Malaysia
Olga Mesa, Roger Williams University School of Architecture, USA

Panumas Saingam, King Mongkut's Institute of Technology Ladkrabang, Thailand
Paola Pérez M., Universidad Continental, Peru
Paulo Almeida, Universidade de Lisboa, Portugal
Pradeep Khanna, Netaji Subhas University of Technology, India
Raffaella Maddaluno, Lisbon School of Design - Ciaud, PT
Raja Mohammad Latif, Prince Mohammad Bin Fahd University, Saudi Arabia
Sophia C Alih, Universiti Teknologi Malaysia, Malaysia
Stephanie Katty Rios Canchumani, Universidad Continental, Universidad Continental, Peru
Suaad Ridha, Mustansiriyah University, Iraq
Syed Ishtiaq Ahmad, Bangladesh University of Engineering and Technology, Bangladesh
Tetsuya Ohmura, Tokyo City University, Japan
Theodoros Chrysanidis, International Hellenic University, Greece
Thi Hai Yen Nguyen, Industrial University of Ho Chi Minh City, Vietnam
Ting Zhang, Wuxi Taihu University, China
Uzma Khan, Rizvi College of Architecture, India
V.C. Bringas-Rodríguez, Universidad Católica San Pablo, Peru
W. Labib, Prince Sultan University, Saudi Arabia
Wan Inn Goh, Universiti Tun Hussein Onn Malaysia, Malaysia
Zhaoyang Ma, King Abdullah University of Science and Technology (KAUST), Saudi Arabia
D. O. Olukanni, Covenant University, Nigeria
Nabila Ihaddadene, M'Sila University, Algeria
Suaad Ridha, Mustansiriyah University, Iraq
Wegdan Wagdy, Alexandria University, Egypt