



ASCAAD
ARAB SOCIETY FOR COMPUTATION
IN ARCHITECTURE, ART, AND DESIGN

The 11th ASCAAD International Conference (C+++ : Computation, Culture, and Context)

ASCAAD 2023 Conference Program	
PRE-CONFERENCE WORKSHOPS (<i>in-person</i>)	TUESDAY, 7th November 2023
8:30 – 9:00	Registration at Venue <i>Faculty of Architecture and Design - Exhibition Hall (Ground Floor)</i>
9:00 – 9:10	Welcome by Dr. Amer Al-Jokhadar <i>(Conference Chair / Dean of the Faculty of Architecture and Design, University of Petra, Jordan)</i> Welcome by Prof. Sherif Abdelmohsen <i>(President, ASCAAD / Professor & Chair, Department of Architecture, The American University in Cairo, Egypt)</i> Welcome by Dr. Amro Yaghi and M.Arch. Yasmine Soudi <i>(Coordinators of Pre-Conference Workshops, University of Petra, Jordan)</i>
9:15 – 11:30	Workshop (#2): AI Applications in Architecture: Synthesis Automation of Buildings Envelopes Workshop Moderators: Nagy Elsayed, and Maher Aakel <i>(Politecnico di Torino, ITALY)</i> <i>Faculty of Architecture and Design- Hall 4404 (Seminar Room)</i>
11:30 – 11:50	Coffee Break - Exhibition Hall (Ground Floor)
12:00 – 14:15	Workshop (#3): Enhancing Cities' Walkability Using AI and Network Analysis (Smart Steps: Revolutionizing Pedestrian Routing with Artificial Intelligence) Workshop Moderators: Mostafa Khaled, and Ahmed Osama <i>(Ain Shams University, EGYPT)</i> <i>Faculty of Architecture and Design- Hall 4404 (Seminar Room)</i>
14:15 – 15:00	Lunch - The University Club



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ASCAAD 2023 Conference Program	
DAY ONE	WEDNESDAY, 8th November 2023
8:30	Pick-up from Hotels
9:00 – 10:00	Registration at Venue Welcoming coffee Break <i>(Reception area - University Main Halls Building)</i>
10:00 – 10:40 <i>(Amman Time)</i>	Opening Session <i>(University Main Theater)</i>
	Welcome by Dr. Amer Al-Jokhadar <i>(Conference Chair / Dean of the Faculty of Architecture and Design, University of Petra, Jordan)</i>
	Welcome by Prof. Sherif Abdelmohsen <i>(President, ASCAAD / Professor & Chair, Department of Architecture, The American University in Cairo, Egypt)</i>
	Welcome by Prof. Faisal Aburub <i>(Dean of Scientific Research and Graduate Studies, University of Petra, Jordan)</i>
	Welcome by Prof. Rami Abdel Al-Rahem <i>(President, University of Petra, Jordan)</i>
	Welcoming Video
	Honoring the Scientific and Organizing Conference Committees
10:45 – 11:00	Coffee Break <i>(Reception Area - University Main Halls Building)</i>



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11:00 – 12:05 (Amman Time)	Amman Theater	Session 1-A: Digital Heritage and Culture Chair: Dr. Fatima Mayada Al-Nammari (Jordan)	Jerusalem Theater	Session 1-B: Building Informatics and Parametrics Chair: Dr. Shatha Malhis (Jordan)
11:00 – 11:10	ID 91 (in-person) From Digital Heritage Documentation to 3D Virtual Reconstruction and Recreation for Heritage Promotion and Reinterpretation: The Case of the iHeritage Project Naif Haddad JORDAN		ID 7 (in-person) Rethinking Traditional Indonesian Roof Bamboo Frame Structures by Utilizing Parametric Tools and Automated Fabrication Techniques: A Systematic Review Ahmad Mansuri, Asterios Agkathidis, Davide Lombardi, Hanmei Chen UNITED KINGDOM	
11:10 – 11:20	ID 139 (in-person) Applying Visual Heritage Elements to Enhance Identity in Contemporary Interior Design - Case Study: The President Building at Yarmouk University Daniah Hazzam, Samar Abusaleh JORDAN		ID 125 (online) Segmented Rooftop Dataset Generation: A Simplified Approach for Harnessing Solar Power Potential Using Aerial Imagery and Point Cloud Data Dina Shata, Sara Omrani, Robin Drogemuller, Simon Denman, Ayman Wagdy AUSTRALIA	
11:20 – 11:30	ID 39 (online) Protecting, Restoring and Communicating Cultural Heritage in Lebanon: From the “Soab Project” to the Usek Museum Laura Baratin, Joseph Zaarour, Veronica Tronconi ITALY		ID 90 (online) Human-Robot Craft Transfer: Learning from Nabateans Carving Out Methods, Techniques, and Tools Omar Busbait, Dagmar Reinhardt, Anastasia Globa AUSTRALIA	
11:30 – 11:40	ID 127 (online) Assessment of User Interaction Using Photogrammetry as a Tool for Preserving Rosetta Stone Heba Gamal, Deena Elmahdy EGYPT		ID 51 (online) Reinterpreting Zellige Tiles through Ceramic 3D Printing Ali Salama, Razmig Garboushian, Yue Si, David Correa CANADA	
11:40 – 11:50	ID 69 (online) A Method Proposal for 3D Digital Modelling of Historical Ottoman Fountains Sümeyye İşbilir TURKEY		ID 89 (online) Usability of Parametric Design Plugins as a Support Tool in Urbanism and CIM Daniel Zimmermann Machado, Andrea Quadrado Mussi BRAZIL	
11:50 – 12:05		Discussion		Discussion



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12:10 – 13:25 (Amman Time)	Amman Theater	Session 2-A: Performative-Driven Design and Digital Green Chair: Dr. Saba Alnusairat (Jordan)	Jerusalem Theater	Session 2-B: Building Informatics and Parametrics Chair: Dr. Amro Yaghi (Jordan)
12:10 – 12:20	ID 137 (in-person)	Enhancing Hygromorphic Programmable Properties using Natural Local Materials: The Case of Albizia Lebbeck Trees <i>Aly Ibrahim, Sherif Abdelmohsen, Walid Omar, Sherif Ebrahim</i> EGYPT	ID 32 (online)	Use of Generative Systems to Create Semi-Public Spaces in Contemporary Neighborhood Texture <i>Doğan Kalak, Serdar Aydın, Derya Güleç Özer</i> TURKEY
12:20 – 12:30	ID 80 (in-person)	Exploring Low-Cost Sensors for Indoor Air Quality (IAQ) Monitoring: A Review of Stationary and Mobile Sensing Systems <i>Hanin Othman, Rahman Azari</i> UNITED STATES	ID 75 (online)	Artificial Intelligence (AI) and Machine Learning (ML) in Practice: A Comprehensive Investigation into the Utilization of Generative Artificial Intelligence (AI) and Machine Learning (ML) in Architectural Practice <i>Abdulrahman Aljhadali, Yasser Megahed, Julie Gwilliam</i> UNITED KINGDOM
12:30 – 12:40	ID 84 (online)	Urban Performance: Parametric Digital Process for Simulation and Analysis of Occupancy in Regional Centralities Area of Belo Horizonte <i>Marina Borges, Ana Paula Portugal, Diego Gorges</i> BRAZIL	ID 77 (online)	Advancing 3D Concrete Printing for Affordable Housing: A Shape Grammar-Based Approach to Print Spanning Roof Structures <i>Nusrat Tabassum, Jose Duarte, Shadi Nazarian</i> UNITED STATES
12:40 – 12:50	ID 70 (online)	Reinterpreting the Courtyard in Modern Indian Architecture: A Computational Study on Configurations <i>Rohan Agrawal, Rashi Karkoon</i> India	ID 81 (online)	Gravity-Driven Sand Dynamics: A Technique for Optimizing Self-Organizing Dune Sand Patterns using Pouring, Gravity and Multi-Objective Computation <i>Marcus Farr</i> UNITED ARAB EMIRATES
12:50 – 13:00	ID 67 (online)	State-of-the-art on Research and Applications of Machine Learning in Building Energy Performance Prediction <i>Birsen Yuceses, Semra Arslan Selçuk</i> TURKEY	ID 82 (online)	Reverse Engineering Construction Industry Realities: Repurposing Standardized Leftover Materials for Digital Fabrication <i>Michail Georgiou, Odysseas Georgiou, Ioulios Georgiou, Eftihis Eftimiou</i> CYPRUS



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13:00 – 13:10	ID 83 <i>(online)</i> Walkability: Digital Parametric Process for Analyzing and Evaluating Walkability Criteria in Peripheral Central Regions of Belo Horizonte <i>Marina Borges, Lucas Karantino, Diego Gorges</i> BRAZIL	
13:10 – 13:25	<i>Discussion</i>	<i>Discussion</i>
13:30 – 14:30	Lunch <i>(The University Club)</i>	
14:45 – 15:30 <i>(Amman Time)</i>	<p>Keynote Speaker: Professor Marcos Novak <i>(online)</i> Director, transLAB Professor and Chair, Media Arts and Technology Program University of California, Santa Barbara UNITED STATES</p> <p>“The Missions of Architecture: Architectural Computation, Culture, and Context in the Era of Generative AI” <i>(University Main Theater)</i></p> <p>Link for online participants: https://events.teams.microsoft.com/event/b5094f26-eba2-492d-a613-1f8fbf851e90@97e5760c-fa12-4aae-b4e4-31b43f04e79d</p> <p>Chair: Dr. Amar Bennadji (Netherlands)</p>	
15:30 – 16:00	<i>Discussion</i>	
16:00	On the Bus	



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ASCAAD 2023 Conference Program				
DAY TWO	THURSDAY, 9 th November 2023			
8:30	Pick-up from Hotels			
9:00 – 9:15	Registration at Venue Welcoming coffee Break <i>(Reception area - University Main Halls Building)</i>			
9:15 – 10:30 <i>(Amman Time)</i>	Amman Theater	Session 3-A: Smart Cities and Buildings Chair: Dr. Sema Alacam (Turkey)	Jerusalem Theater	Session 3-B: Digital Heritage and Culture Chair: Dr. Hadeer Merza (Jordan)
9:15 – 9:25	ID 141 <i>(in-person)</i> The Hierarchical Location-Allocation Model for Primary Health Care Facilities Planning: A Selected Case Study in Amman <i>Shatha Qtait</i> JORDAN		ID 71 <i>(in-person)</i> Exploring the Integration of Mid-Journey AI for Architectural Post-Occupancy Evaluation - Prioritizing Experiential Assessment: Case Study of the Egyptian Museum and National Museum of Egyptian Civilization <i>Rana Gabr</i> EGYPT	
9:25 – 9:35	ID 14 <i>(in-person)</i> Using Geographic Information Systems (GIS) to Locate Neighborhood Parks Based on their Catchment Area <i>Bahijah Natsheh</i> ROMANIA		ID 22 <i>(online)</i> A Model of Settings for Historic Preservation <i>Salim Elwazani, Pavan Kollu</i> UNITED STATES	
9:35 – 9:45	ID 93 <i>(online)</i> Evaluating Spatial Justice through the Analysis of the Relationship between House Prices and the Accessibility to Urban Infrastructures with a Big Data Approach: A Comparative Study of Beijing and Shanghai in China <i>Yiwei Ou, Xinren Zhou, Han Tu, Yinan Chen, Xibei Jia</i> NEW ZEALAND		ID 30 <i>(pre-recorded video)</i> Bodily Interactions in Cultural Heritage Focused Extended Reality Studies <i>Aysel Merve Topaloglu, Leman Figen Gul</i> TURKEY	
9:45 – 9:55	ID 52 <i>(online)</i> City Diversity: How Do Architectural Uses, Ages, and Styles Affect the Public? A Case Study in Manhattan Through Social Media Data <i>Yinan Chen, Xibei Jia, Han Tu, Yiwei Ou, Xinren Zhou</i> CHINA		ID 96 <i>(online)</i> A Deep Learning-Based Model to Estimate Architectural Elements of Classical Ottoman Period Mosques <i>Habibe Şenkal, Sema Alaçam, Orkan Zeynel Güzelci, Asena Kumsal Şen Bayram, Aras Neftçi, ,</i> TURKEY	



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9:55 – 10:05	ID 138 (online) Generating and Breaking the Radial Grid for Procedural City Layouts <i>Necmettin Sancak, Ekin Ünlü, İrfan Güneş Çatal, Sema Alaçam</i> TURKEY			
10:05 – 10:15	ID 35 (online) A Synergy of AI Observation and Design Tool: Leveraging Multifaceted AI Techniques for Encoding Human Behaviors and Stories in Space <i>Chi-Li Cheng, Takehiko Nagakura, Daniel Tsai</i> UNITED STATES			
10:15 – 10:30	<i>Discussion</i>		<i>Discussion</i>	
10:35 – 11:40 <i>(Amman Time)</i>	<i>Amman Theater</i>	Session 4-A: Digital Media and Generative Art Chair: Dr. Lama Abu Hassan (Jordan)	<i>Jerusalem Theater</i>	Session 4-B: Building Informatics and Parametrics Chair: M.Arch. Raid Essoh (Jordan)
10:35 – 10:45	ID 16 (in-person) Digital Design in Africa: A Statistical Overview of Trend and Motivation in the African Continent <i>Ahmed Hassab, Mohamed EL-Araby, Amany Salman, Mostafa Amin, Dalia Keraa, Mohamed Madbully, Mariam Ali, Marah Abdelfatah, Abeir Mahmoud</i> ESTONIA		ID 55 (in-person) Deep Architectural Floor Plan Generation: An Approach for Open-Planned Residential Spaces <i>Berfin Yıldız, Gülen Çağdaş, İbrahim Zincir</i> TURKEY	
10:45 – 10:55	ID 74 (online) Exploring the Affordances of Digitally Enhanced Interiors: The Children's Science Center in Museum Gazhane <i>Zubeyde Keskin, Ethem Gurer, Asli Fulin Calcali</i> TURKEY		ID 115 (online) The Design Process Workflow between Robotics Methodology and Artificial Intelligence Toward Optimum Digital Fabrication <i>Mazen Ragab, Mostafa Khalifa, Sahar Elarnaouty, Mona Elsafty</i> EGYPT	
10:55 – 11:05	ID 24 (online) Leveraging Landscape Architecture and Environmental Storytelling for Next-Generation Gaming Experiences: A Holistic Approach to Virtual World Design <i>Sepehr Vaez Afshar, Sarvin Eshaghi, Ikhwan Kim, Sana Vaez Afshar</i> UNITED STATES		ID 34 (online) Computational Optimization of Architectural Space Planning <i>Maria Nagy Kamal, Samir Sadek Hosny, Ayman Assem, Fatma Fathy</i> EGYPT	



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11:05 – 11:15	ID 15 (online) Fostering Cultural Heritage Awareness through Game Elements: Route Design for Mixed Reality Experience of the Yedikule Fortress <i>Leman Figen Gül, Elif Sezen Yağmur Kilimci, Derya Güleç Özer, Begüm Moraloğlu, Emirhan Çoşkun</i> TURKEY		ID 61 (online) A Systematic Review of Robotic 3D Concrete Printing <i>Meryem N. Yabanigul, Derya Güleç Özer</i> TURKEY	
11:15 – 11:25	ID 36 (online) Role-Playing Games and Narrative Architecture in Design Methods: A Systematic Review <i>Ziyue Zeng, Davide Lombardi, Theodoros Dounas</i> CHINA		ID 120 (online) A Framework Proposal for Natural Stone Processing with Robot Arm <i>Berfin Körükcü</i> TURKEY	
11:25 – 11:40	Discussion		Discussion	
11:40 – 12:00	Coffee Break (Reception Area - University Main Halls Building)			
12:00 – 12:55 (Amman Time)	<i>Amman Theater</i>	Session 5-A: Virtual Realms and Multiverse Environments Chair: Dr. Mostafa Alani (USA)	<i>Jerusalem Theater</i>	Session 5-B: Performative-Driven Design and Digital Green Chair: M.Arch. Yasmine Soudi (Jordan)
12:00 – 12:10	ID 44 (online) ColorCraft: A Mixed-Initiative System for Supporting Creativity in Coloring Visual Patterns <i>Elif Gamze Dedeler, İrem Sütçü, Simay Demirel, Halil Erhan</i> TURKEY		ID 11 (online) A Hybrid Generative Design Method for Optimizing Energy Efficiency in Complex Built Environments <i>Kun Di Shu, Ding Wen Bao, Zhuo Yuan Feng, Zhi Bang Liu</i> CHINA	
12:10 – 12:20	ID 48 (online) Beyond Physicality: Exploring the Aesthetic Relationship Between Personality and Space <i>Panagiota Pouliou, Sofia Lamda, George Palamas</i> DENMARK		ID 42 (in-person) Additive Manufacturing of Mycelium Composites for Sustainable Landscape Architecture <i>Viktória Žigmundová, Kateřina Suchánková, Antónia Stretavská, Jakub Míča, Taylor Rayne, Shota Tsikoliya</i> CZECHIA	
12:20 – 12:30	ID 134 (online) Fluency of Creative Ideas in the Digital Age: Exploring Emergent AI Influences on Design Methodology and Visual Thinking in Architectural Education <i>Huda Salman, Theodoros Dounas, Connor Clarke</i> UNITED KINGDOM		ID 97 (online) Adapting Circular Economy Concepts into Architecture Design Education through Digitalization <i>Meryem Birgül Çolakoğlu, Emirhan Kurtuluş, Burcu Kismet, Sezgi Yağçinkaya</i> TURKEY	



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12:30 – 12:40	ID 4 (online) Computer Vision and Object Tracking from Videos: Architecture Applications <i>Nabil Mohareb</i> EGYPT		ID 65 (online) A Critical Review on Research Themes and Trends in Green BIM for AEC Sector <i>Selen Öztürk Akbiyik, Şeyma Güler, Semra Arslan Selçuk</i> TURKEY	
12:40 – 12:55	Discussion		Discussion	
13:00 – 14:05 (Amman Time)	Amman Theater	Session 6-A: Virtual Realms and Multiverse Environments Chair: Dr. Aya Musmar (Jordan)	Jerusalem Theater	Session 6-B: Virtual Realms and Multiverse Environments Chairs: Dr Huda Salman (UK)
13:00 – 13:10	ID 62 (in-person) The Virtual Ways of Settling Down: Reinterpreting the Transformation of Space in Metaverse <i>Nur Sipahioğlu, Melahat Kaya Koç</i> TURKEY		ID 60 (online) Integrating AI Image Generators to First-Year Design Studio: “Invisible Cities” Reimagined with AI Subtitle <i>Abdullah Tarık Çelik, Şeyma Kurtuluş, Ecem Karabay, Salih Özdemir,</i> TURKEY	
13:10 – 13:20	ID 94 (online) Visual Approaches on Spatial Thinking: User Interface Metaphors <i>Feyza Nur Kocer Ozgun, Sema Alaçam</i> TURKEY		ID 25 (online) Comparing Design Productivity Between Physical and Virtual Reality Modeling: Protocol Analysis for the Early Design Stages <i>Can Müezzinoğlu</i> TURKEY	
13:20 – 13:30	ID 9 (online) AR + DESIGN: An Experiment in Remote Teaching and Practice using Augmented Reality for Interactive Brick-based Structure Design <i>Yang Song</i> UNITED KINGDOM		ID 78 (online) User Experience and Interaction Design in Architecture's New Media <i>Mohammad Dastmalchi, Hamid Nourbakhshi, Mohammad Ansari</i> UNITED STATES	
13:30 – 13:40	ID 105 (online) Employing Extended Reality (XR) to Expanding Narratives of Place-Making, Spatial Presence and Immersive Experience <i>Noha Essam Khamis, Yosra El Harairy</i> SAUDI ARABIA		ID 79 (online) The Role of Team Cognition in the Digital Media for Architectural Design Teams <i>Mohammad Dastmalchi, Bimal Balakrishnan, Danielle Oprean</i> UNITED STATES	
13:50 – 14:00	Discussion		Discussion	
14:00 – 15:00	Lunch (The University Club)			



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<p>15:05 – 15:50 (Amman Time)</p>	<p align="center">Keynote Speaker: Dr. Suleiman Alhadidi (online) Doctor of Design, Harvard University; Founder, Real-time Architecture LLC. UNITED STATES</p> <p align="center">“Building Tomorrow's Cities: Unleashing the Power of Smart Urban Developments and Sustainable Architecture” (University Main Theater)</p> <p>Link for online participants: https://events.teams.microsoft.com/event/b5094f26-eba2-492d-a613-1f8fbf851e90@97e5760c-fa12-4aae-b4e4-31b43f04e79d</p> <p align="center">Chair: Dr. Shatha Malhis (Jordan)</p>
<p>15:50 – 16:20</p>	<p align="center"><i>Discussion</i></p>
<p>16:20 – 16:40 (Amman Time)</p>	<p align="center">Summary of Pre-conference Workshops Workshop (#2) Moderators: Nagy Elsayed, and Maher Aakel (ITALY) Workshop (#3) Moderators: Mostafa Khaled, and Ahmed Osama (EGYPT)</p> <p align="center">(University Main Theater)</p> <p>Link for online participants: https://events.teams.microsoft.com/event/b5094f26-eba2-492d-a613-1f8fbf851e90@97e5760c-fa12-4aae-b4e4-31b43f04e79d</p>
<p>16:45 – 17:15 (Amman Time)</p>	<p align="center">Closing Session Chairs: Prof. Sherif Abdelmohsen (Egypt), and Dr. Amer Al-Jokhadar (Jordan)</p> <p align="center">(University Main Theater)</p> <p>Link for online participants: https://events.teams.microsoft.com/event/b5094f26-eba2-492d-a613-1f8fbf851e90@97e5760c-fa12-4aae-b4e4-31b43f04e79d</p> <p align="center">Conference Recommendations ASCAAD 2023 in Numbers ASCAAD 2024 Conference Messages from CAAD Sister Organizations 4th World CAAD PhD Workshop Awards (Best Papers and Best Presentations) Closing Remarks</p>
<p>17:15</p>	<p align="center">On the Bus</p>



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FRIDAY, 10th November 2023	One-day Excursion (Petra) [for participants who registered in this excursion only]
04:45	Pick-up from Hotels
08:00 – 14:30	Arriving to Petra (entry fees to the touristic site: Jordanian (1 JD), non-Jordanian (50 JD = 70 US\$)) Lunch
17:30	Arriving to Amman