

MOSTAFA ALANI, Ph.D.

Visiting Associate Professor of Architecture
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EDUCATION

- Ph.D. Planning, Design, and the Built Environment | College of Architecture, Arts, & Humanities, Clemson University | Clemson, South Carolina, United States 2018 (Fully Funded Scholarship)
Dissertation title: "Computational Investigation of the Morphological Design Dimensions of Historic Hexagonal-Based Islamic Geometric Patterns"
Chair: Michael Kleiss, Ph.D.; Associate Professor of Architecture, Department of Architecture
- M.Sc. Building Technology | School of Housing, Building, and Planning, University of Science | Penang, Malaysia, 2009
- B.Sc. Architecture Engineering | Department of Architecture, University of Technology | Baghdad, Iraq, 2006

Certificate Programs:

- 2015 Digital Ecology Certificate | College of Architecture, Arts, & Humanities, Clemson University | Clemson, South Carolina

TEACHING _ EXPERIENCE

- 2018-2021 **Tuskegee University, US | Visiting Associate Professor** Fall 2023-Present
Adjunct Assistant Professor Fall 2020-Fall 2021
Visiting Assistant Professor Fall 2018-Spring 2019
Architecture Design Studio (Arch.0201) | Fall 2023
Theory of Architecture (ARCH.0423) | Fall 2023
Architecture Design Studio (Arch.0201) | Fall 2021
Theory of Architecture (ARCH.0423) | Fall 2021
Advanced Computing, Special Design Problems (ARCH.0363) | Spring 2021
Theory of Architecture (ARCH.0423) | Fall 2020
Architecture Design Studio (ARCH.0302) | Spring 2019
Computer Applications (ARCH.0345) | Spring 2019
Special Design Problems (ARCH.0363) | Spring 2019
Architecture Studio (ARCH.0401) | Fall 2018
Digital Manufacturing, Special Design Problems (ARCH.0363) | Fall 2018
- 2021-2022 **Al-Iraqia University, IQ | Lecturer (Assistant Professor)**
Engineering Drawing II | Spring 2023
Engineering Drawing I | Fall 2022
Engineering Drawing II | Spring 2022
Engineering Drawing I | Fall 2021
- 2022 **Hamad Bin Khalifa University, QA | Adjunct Assistant Professor**
Urban Interventions in Historic Islamic Cities (IAA 641) | Spring 2023
Globalization, Cities and Urban Policies (IAAU 636) | Fall 2022
Contemporary Cities for Muslim Societies (IAAU 635) | Fall 2022

- 2019-2021 **Al-Mustansiriya University, IQ | Lecturer (Assistant Professor)**
 Architecture Design Studio IV (ARG.0202) | Spring 2021
 Architecture Design Studio III (ARG.0201) | Fall 2020
 Architecture Design Studio II (ARG.0102) | Spring 2020
 Architecture Design Studio I (ARG.0101) | Fall 2019
- 2017-2018 **Kennesaw State University, US | Part-Time Assistant Professor**
 Architecture Studio IV (ARCH.2004) | Spring 2018
 Design Communication (ARCH.1241) | Spring 2018
 Focus Design Studio, Dynamic Environments (ARCH.5015) | Fall 2017
- 2016 **Clemson University, US | Graduate Teaching Assistant**
 Design Science (ARCH.8790) | Spring 2016
 Creative Inquiry | Spring 2016

GRADUATE _ ADVISING / EXAMINER

- 2022 External Examiner, “The Role of Cultural Sustainability in Shaping the Future of a Muslim City (The case of Eminonu Neighborhood in Al-Fatih, Istanbul).” Banan Alkilani | Master Degree | Islamic Art, Architecture & Urbanism | College of Islamic Studies | Hamad Bin Khalifa University.
- 2022 External Examiner, “The Architecture of Traditional Urban Settlements in Oman: Ha rat al-Aqar, Ha rat al- Yemen and Harat As-Saybani..” Fatima H. Al Habsi | Master Degree | Islamic Art, Architecture & Urbanism | College of Islamic Studies | Hamad Bin Khalifa University.
- 2020-2021 Supervisor, “A Real-Time Morphing Facade Based on Crowdsensing and Air-quality Monitoring for Intelligent Breathing Building,” Esraa Mughidh | Chair: Bilal Al-Kaseem, Mostafa Alani | Master Degree | Aliraqia University.
- 2021 External Examiner, “Towards A Low-Income Housing Strategy In The Spirit Of Islam: The Case Of Lahore, Pakistan.” Ghulam Fiaz | Master Degree | Islamic Art, Architecture & Urbanism | College of Islamic Studies | Hamad Bin Khalifa University.
- 2021 External Examiner, “Reviving the Concept Of Caravanserai: A Critical Study For The Adaptive Design Of An Indigenous Boutique Hotel In The North District Of Qatar.” Shaikha Al-Mannai | Master Degree | Islamic Art, Architecture & Urbanism | College of Islamic Studies | Hamad Bin Khalifa University.

PUBLICATIONS

Peer-reviewed Journals (Scopus Indexed):

- 2023 **“Contextualized Computations: Multi-Objective Optimization Approach for Designing Contextually Responsive Building Envelopes.”** Open House International (Scopus Cite Score 1.5). Mostafa Alani, Akel Kahera (forthcoming).
- 2021 **“The Re-Establishment of Mosul’s City Fabric: An Approach to Computational Hybridization.”** International Journal of Architectural Research (Scopus Cite Score 2.1) Mostafa Alani, Akel Kahera.
- 2018 **“Algorithmic investigation of the actual and virtual design space of historic hexagonal based Islamic patterns.”** International Journal of Architectural Computing (Scopus Cite Score 1.3). Mostafa Alani.

Conference Proceedings (Scopus Indexed):

- 2022 **“Dynamic Environmental Plugins: Programmable Artifacts Reactive to Socio-Environmental Conditions”** 24th International Conference on Human-Computer Interaction. Mostafa Alani, Michael Kleiss, Muwafaq Shyaa Alwan, and Sida Dai.
- 2020 **“Responsive Origami: A Modular Approach to Fabricate Dynamic Surfaces Reactive to Socio-Environmental Conditions”** 22nd International Conference on Human-Computer Interaction (proceedings published in Lecture Notes in Computer Science, Scopus Cite Score 1.9). Mostafa Alani, Michael C. Kleiss, Arash Soleimani.

- 2019 **“reTESSELLATE: Modular Dynamic Surfaces Reactive to Socio-Environmental Conditions.”** 21st International Conference on Human-Computer Interaction (proceedings published in Lecture Notes in Computer Science, Scopus Cite Score 1.9). Mostafa Alani, Arash Soleimani.
- 2018 **“The Reconfigurable Wall System: Designing an Interactive, Responsive Structure Reactive to Socio-Environmental Conditions.”** 20th Human-computer Interaction (HCI) Conference, 2018 (proceedings published in Lecture Notes in Computer Science, Scopus Cite Score 1.9). Mostafa Alani, Arash Soleimani, Anthony Bah, Adam Leicht, Salman Sajwani, Evan Murray.
- 2015 **“A Parametric Description for Metamorphosis of Islamic Geometric Patterns.”** Emerging Experience in Past, Present, and Future of Digital Architecture: The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) conference. Mostafa Alani, Carlos Barrios.

Indexed Conference Proceedings:

- 2022 **“Beyond Flat Surfaces: Parametric Derivations of Historical Islamic Geometric Designs.”** The International Conference of the Arab Society for Computer-Aided Architectural Design (ASCAAD). Mostafa Alani. Sema Alacam.
- 2022 **“Reinforcement Learning-Based Generative Design Methodology for Kinetic Facade.”** Post-Carbon, the 27th International Conference of the Association for Computer-Aided Architectural Design Research in Asia. Sida Dai, Michael Kleiss, Mostafa Alani, Nyoman Pebryani.
- 2021 **“Performatively Shaped, Traditionally Inspired Contemporary Houses: The Case of Courtyard Houses in Baghdad”** Design Computation Input/Output Conference. Mostafa Alani, Zuhair Nassar.
- 2021 **“Fill in the Blanks: Deep Convolutional Generative Adversarial Network to Investigate the Virtual Design Space of Historical Islamic Patterns.”** The International Conference of the Arab Society for Computer-Aided Architectural Design (ASCAAD). Mostafa Alani. Bilal Al-Kaseem.
- 2018 **“Heritage at Stake: Computational Design Processes for Rescuing Mosul’s Architectural Identity.”** Technopolitics. XXII International Conference of the Iberoamerican Society of Digital Graphics (SIGraDi). Mostafa Alani.
- 2018 **“Chronological Examination of the Morphology of Hexagonal Based Islamic Geometric Patterns.”** Virtual + Actual: Process and Product of Design. Design Communication Association. Mostafa Alani, Michael Kleiss and Joseph Choma
- 2016 **“Morphological Code of Historical Geometric Patterns: The Digital Age of Islamic Architecture.”** Parametricism and Materialism: The International Conference of the Arab Society for Computer-Aided Architectural Design (ASCAAD). Mostafa Alani.
- 2015 **“Parametric analysis in Islamic geometric designs.”** The next city - New technologies and the future of the built environment. 16th International Conference CAAD Futures 2015. Carlos Barrios. Mostafa Alani.
- 2015 **“A Parametric Metamorphosis of Islamic Geometric Patterns: The Extraction of New from Traditional.”** Future of Architectural Research: Architectural Research Centers Consortium (ARCC) conference. Mostafa Alani, Carlos Barrios.

Posters:

- 2017 **“Fabricating the Metamorphosis of Islamic Pattern,”** Architecture of Complexity: design, systems, society and environment: Architectural Research Centers Consortium (ARCC) conference. Mostafa Alani, Brian Leounis, Carlos Barrios.
- 2017 **“Investigating the virtual-actual design space of historical Islamic Patterns,”** Tasmeem Doha 2017. Mostafa Alani, Carlos Barrios.
- 2016 **“Computational Exploration of Islamic Geometric Patterns,”** Seventh International Conference on Design Computing and Cognition (DCC16). Mostafa Alani.

P R E S E N T A T I O N S

- 2023 **“Designing with Intelligence: AI, Data, and Context in Architecture.”** | “Technical developments and architecture sciences” scientific workshop | Department of Architecture | University of Diyala.

- 2022 **“Contextualized Computations: Pedagogy, Practice, and the Question of Identity”** | “Digital Architecture: Opportunities and Challenges” scientific workshop | Department of Architecture | University of Baghdad.
- 2022 **“Beyond Flat Surfaces: Parametric Derivations of Historical Islamic Geometric Designs”** | The International Conference of the Arab Society for Computer-Aided Architectural Design | Faculty of Architecture - Design and Built Environment | Beirut Arab University | Virtual Conference.
- 2022 **“Computational Heritage: Explore the Abstract Design Space of Islamic Architecture”** | Colloquium Series | Planning, Design, and Built Environment | Clemson University.
- 2022 **“Computational Heritage: Lessons & Opportunities”** | Creative Arabs 2.0 | DigitalFUTURES.
- 2022 **“Digital Design & Fabrication: Experiments in Design Studio”** | Symposium on Advances in Digital Technologies and its Applications in Design and Architecture | Iraqi Engineers Union | Baghdad, Iraq.
- 2021 **“Dynamic Tessellations: Exploring the Abstract Design Space of Islamic Geometric Patterns”** | Resilience in Digital Heritage symposium | Kadir Has University | Istanbul, Turkey.
- 2021 **“Fill in the Blanks: Deep Convolutional Generative Adversarial Network to Investigate the Virtual Design Space of Historical Islamic Patterns”** | The International Conference of the Arab Society for Computer-Aided Architectural Design | Department of Architecture | American University in Cairo | Virtual Conference.
- 2020 **“Computations, Geometric Patterns, & Islamic Architecture”** | Morphology Design Studio | School of Architecture | Clemson University | Virtual Lecture.
- 2020 **“Responsive Origami”** | Human-Computer Interaction (HCI) conference | Virtual Conference | Mostafa Alani, Michael Kleiss.
- 2020 **“Digital Sketching: An Online Approach to Conduct an Architectural Design Studio”** | Virtual Workshop Series | Aliraqia University | Virtual Lecture.
- 2019 **“Digitals in Architecture”** | Career Expo | Robert R. Taylor School of Architecture and Construction Science | Tuskegee University | Tuskegee, AL.
- 2018 **“Chronological Examination of the Morphology of Hexagonal Based Islamic Geometric Patterns”** | Design Communication Association conference | Cornell University | Ithaca, NY.
- 2018 **“Architecture & Robotics”** | Symposium for Part-time, Adjunct, and Contingent Educators (SPACE) | Kennesaw State University | Atlanta, GA.
- 2017 **“Dynamic Environments”** | Focus studio presentation | Architecture Department, Kennesaw State University | Marietta, GA.
- 2015 **“Morphing the Islamic Geometric Patterns”** | Graduate Student Forum | Design and Computation Group, Architecture Department, MIT | Boston, MA.
- 2015 **“A Parametric Metamorphosis of Islamic Geometric Patterns: The Extraction of New from Traditional”** | Architectural Research Centers Consortium conference | Chicago, IL | Mostafa Alani, Carlos Barrios.

WORKSHOPS

- 2022 Evolutionary Computations in Architecture | **DigitalFUTURES** Workshops | Mostafa Alani, Zuhair Nassar.
- 2022 Code, Design, Optimize, Experience | **Iraqi Engineers Union** | Baghdad, Iraq | Mostafa Alani, Zuhair Nassar.
- 2019 Digital Thinking in Architecture | Undergraduate Student Leadership in Architecture (ULead) Forum | **Tuskegee University** | Tuskegee, AL.
- 2019 Preview Architecture & Construction Sci. at Tuskegee (Computer Applications in Architecture) | Undergraduate Student Leadership in Architecture (PACT) | **Tuskegee University** | Tuskegee, AL.

AWARDS

- 2023 Technical Creativity award, Job Day Festival, Baghdad Governate.

- 2017 Rifat Chadirji Prize: Mosul's Housing competition, Tamayouz Excellence Award (honorable mentions).
- 2016 Graduate Research and Discovery Symposium, College of Architecture, Arts, and Humanities, Clemson University (1st place award).
- 2016 Research Assistant, College of Architecture, Arts, and Humanities, Clemson, SC (Manufacturing the second generation of a robotic kit for children).
- 2015 Graduate Student Research Program Award, College of Architecture, Arts, and Humanities, Clemson University.
- 2013 The Higher committee for education development in Iraq (HCED), Office of the Iraqi Prime Minister (Scholarship).
- 2011 Affordable housing competition, Ministry of Housing and Construction, Iraq. Mostafa Alani, Mohamad Ahmad (4th prize winner).
- 2010 Baghdad Entrance competition, Baghdad Governorate (1st prize winner).

E X H I B I T I O N S & S H O W C A S E

- 2018 Tech Showcase, Digital Building Symposium (research & students' works) | Digital Building Laboratory, Georgia Tech | Atlanta, GA.
- 2017 Focus Studio Exhibition (students' works) | Architecture Department, Kennesaw State University | Marietta, GA.

A C A D E M I C _ S E R V I C E S

- 2018-2021 **Tuskegee University, US**
 Co-developed the curriculum for the BA in Design Degree Program with Dr. Carla Bell, Summer 2019-2021.
 Created a new elective course for Advanced Computing Processes, Spring 2021.
 Technology Committee, planning and coordination for the school of architecture technology needs, Co-Chairs: Dr. Mostafa Alani & Ghosh Dastider 2021.
 Created a new elective course for the Digital Fabrication Processes, Fall 2018.
 Co-created a new industry sponsored elective in collaboration with Dr. Carla Bell, Spring 2019.
 Faculty Senate, The Robert R. Taylor School of Architecture and Construction Science, Tuskegee University, 2018-2019.
 Special Development Initiative, Process to build an Institutional Recognition Wall, Tuskegee University, 2018.
- 2019-Present **Aliraqia University, IQ**
 Graduate Studies Program Coordinator 2020-2021
 Graduate Examination Committee 2020-2021
 Department Committee, Civil Engineering Department -2021
 Undergraduate Examination Committee -2019-2020

Additional Academic Service

- Panelist | 3rd World CAAD Ph.D. Workshop | Faculty of Architecture, CEPT University, Ahmedabad, India –2022
- Moderator of the Artificial intelligence Session | 10th International Conference of the Arab Society for Computations in Architecture, Art, and Design | Department of Architecture, Beirut Arab University –2022
- Conference Organizing Committee Member for the 10th International Conference of the Arab Society for Computations in Architecture, Art, and Design (Hybrid Spaces of the Metaverse) | Beirut Arab University –2022
- Moderator of the Contemporary and Near Future Smart Environments Session | Human-Computer Interaction Conference | Virtual –2022

ASCAAD Board of Directors | Arab Society for Computer Aided Architectural Design 2020-present
Panelist | 2nd World CAAD Ph.D. Workshop | Faculty of Architecture and Urbanism, Federal University of Juiz de Fora (UFJF), Brazil.
Moderator of the Computational design Session | The 39th eCAADe conference | Faculty of Technical Sciences, University of Novi Sad, Serbia –2021.
Moderator of the Architectonic Languages Session | 9th International Conference of the Arab Society for Computations in Architecture, Art, and Design | Department of Architecture, American University of Cairo –2021
Panelist | 1st World CAAD Ph.D. Workshop | Department of Architecture, Istanbul Technical University –2020
Jury, Vertical Charrette Competition | Department of Architecture, Kennesaw State University – 2017
Selection committee, TEDx Clemson University 2016 Organizing Committee | Clemson University – 2016
Ph.D. Students Senate | Planning, Design, and the Built Environment Senator, Clemson University 2015-2016

Journal Review:

Peer Reviewer, Journal of Mathematics and the Arts, Taylor & Francis Group –2023
Peer Reviewer, Architectural Engineering and Design Management, Taylor & Francis Group –2023
Peer reviewer, Architectural Science Review, Taylor & Francis Group –2022
Peer reviewer, International Journal of Architectural Computing, SAGE Journals –2019, 2022
Peer reviewer, Open House International, Emerald Publishing –2021
Peer reviewer, Journal of Cultural Heritage, Elsevier Journals –2016

Conference Review:

Reviewer, the 28th International Conference of the Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) –2023
Reviewer, Arab Society for Computer Aided Architectural Design (ASCAAD) –2022
Reviewer, the 27th International Conference of the Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) –2022
Reviewer, Arab Society for Computer Aided Architectural Design (ASCAAD) –2021
Reviewer, 1st International Conference on Emerging Technology Trends in Internet of Things and Computing –2021
Reviewer, the 26th International Conference of the Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) –2020
Reviewer, The Thirteenth International Conference on Advances in Computer-Human Interactions (ACHI 2020) - Valencia, Spain –2020

Guest Critic:

Bowling Green State University, USA
Kennesaw State University, USA
American University in Cairo, Egypt
Clemson University, USA
Tuskegee University, USA
University of Baghdad, Iraq

P R O F E S S I O N A L _ E X P E R I E N C E

2021-present	Architect, Design Lead consultant Consultant Engineering office, Iraqi Engineers Union Baghdad, Iraq.
2021-2022	Director Consultant Engineering office, Aliraqia University Baghdad, Iraq.
2019-present	Architect/Board Member Consultant Engineering office, Aliraqia University Baghdad, Iraq.
2021	Committee Member, Wilcox E Renovation Project Tuskegee University Tuskegee, USA

2019 Architect | Department of Constructions and Projects, Aliraqia University | Baghdad, Iraq.
 2012-2013 Supervisor of Projects Division | Engineering Department, Aliraqia University | Baghdad, Iraq.
 Providing professional and technical guidance to divisions in the engineering department and supervising projects' design, including the Al-Iraqia University campus in Al-Tarmia designed by Mimar Group, UAE.
 2011-2012 Architect | Engineering Department, Aliraqia University | Baghdad, Iraq. Design and supervision of projects on university campuses, including the Presidential Building in Al-Iraqia University, Sab'a Abkar campus and President's Office, Al-Iraqia University, Al-A'damia campus.
 2011 Architect | Netaq, LLC | Baghdad, Iraq.
 Renovation of Rasheed Theater; responsibilities included details and shop drawings.
 2010-2011 Architect | Shams Altam'er Construction Company | Baghdad, Iraq. Projects included: Exemplary School in Baghdad, Women's Cultural Center, post office buildings, and residential (private/low-rise).
 2009-2010 Architect | Global Construction Solutions | Iraq Providing technical guidance regarding standards and practices for architectural designs, building components, component installations, building construction, and landscaping.

Freelance Architect | Design of residential and commercial buildings in several provinces in Iraq. Design tasks including designing floor plans, details, facades and the supervision of the construction processes for new buildings as well as renovations and construction expansion — 2011-present

S E R V I C E & P R O F E S S I O N A L _ O U T R E A C H

2021-present AIA's Iraq Country Representative | American Institute of Architects.
 2018 Lunching the AIA Middle East Chapter in Baghdad (Event organizer) | AIA Middle East Chapter.

L I C E N S I N G & C R E D E N T I A L S

2016-present LEED Green Associate, US Green Building Council, Cert. ID 11092083-GREEN-ASSOCIATE.
 2016-present AIA Intl. Assoc., American Institute of Architects, Member # 38601686.
 2006-present Licensed Architect in Iraq, Iraqi Engineers Union, Registration # 121350.

C O M P E T E N C I E S

3D Modeling & Photo Realistic Visualization:
 Rhinoceros, 3Ds Max, SketchUp, Vray, Maxwell, Lumion, Twinmotion
 Drafting & BIM:
 AutoCAD and Revit
 Postproduction & Digital Media:
 Photoshop, InDesign, Final Cut Pro, Motion, Affinity Photos, Affinity Publisher
 Scripting & Computational Design:
 Processing Programming Language, Grasshopper
 Digital Manufacturing:
 3D Printing, CNC, and Laser Cutter

L A N G U A G E S

English, fluent
 Arabic, native