

# Ali Ghazvinian, Ph.D.

Curriculum Vitae – Fall 2025

Assistant Professor of Architecture - Advanced Building Technology  
Huckabee College of Architecture - Texas Tech University – ARCH 610

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## Education

- Ph.D. in Architecture

**Penn State University** – 2018-2023

Thesis Title: Form – Matter – Performance; Mycelium-based Composites for Architecture

Thesis Advisor: Benay Gürsoy

– **Awardee of Alumni Association Dissertation Award**

- M.S. of Architecture (Architectural Technology – Bionics)

**University of Tehran** – 2015-2018

Thesis Title: Form variety assessment in high-rise buildings regarding the governing lateral load

Thesis Advisors: Mahmoud Golabchi, Matin Alaghmandan

- B.S. of Civil Engineering

**University of Tehran** – 2010-2015

## Awards, Grants, and Honors

- **The Texas Tech University Parents Association Hemphill Wells New Professor Excellence in Teaching Award** | 2025
- **The Working Group 21 (Advanced Manufacturing and Materials) Innovative Lightweight Structures Competition** | 2024

Second Place: PARchitecture: A Lightweight Structure from Reclaimed Golf Clubs

With: J. Cardenas, C. Maggard, M. Moya, M. Regier & T. Ghiyasi

- **The Hispanic-Serving Institutes Fellowship** | Faculty Fellow | 2024
- **The Pennsylvania State University Alumni Association Dissertation Award** | 2023
- **The College of Arts and Architecture Sustainability Graduate Student Award** | 2023
- **SOM Foundation Research Prize** | Co-Principal Investigator | 2022

MycoKnit: Cultivating Mycelium-based Composites on Knitted Textiles for Large-Scale Biodegradable Architectural Structures

With: F. Davis, B. Gursoy, A. West, J. Pecchia & F. Oghazian

- **AIA Upjohn Research Initiative** | Collaborator | 2022

Fungal Biomaterials for Sustainable Architectural Acoustics

With: B. Gursoy, J. Pecchia, Dr. N. Brown, N. Walter, & A. Mohseni

- **Stuckeman School DEI Fellowship** | Diversity, Equity, and Inclusion Fellow | 2022

Stuckeman School at Penn State University DEI Fellow for 2022

- **A&A Sustainability Teaching Fellow** | College of Arts and Architecture Sustainability Teaching Fellow | 2022
- **Department of Architecture Service Award** | Department of Architecture Student Service Award | 2022
- **AIA Upjohn Research Initiative** | Co-Principal Investigator | 2021

From Waste to Biodegradable Structures with Local Fungal Species

With: B. Gursoy, J. Pecchia, A. Mohseni & N. Walter

- **E4C Fellowship** | Research Fellow – Habitat Sector | 2021
- **Pohland Fellowship** | Primary Investigator | 2021

Design and Fabrication of Large-Scale Architectural Prototypes with Mycelium-based Composites: A Biodegradable and Structural Alternative for Temporary Constructions

- **IEE at Penn State Seed Grant** | Ph.D. Student Collaborator | 2020

Mycelium-based bio-composites in architecture: A biodegradable and renewable alternative to construction

With: B. Gursoy, F. Rajabipour & J. Pecchia

- **SCDC Interdisciplinary Faculty Research Grant** | Ph.D. Student Collaborator | 2019

Mycelium-based bio-composites in architecture: A biodegradable and renewable alternative to construction

With: B. Gursoy, F. Rajabipour & J. Pecchia

- **Collaborative Design Research Center at Penn State Grant** | Ph.D. Student Collaborator | 2019

Designing for shape-change: Smart and bio-smart materials in architectural skins and structures

With: B. Gursoy, J. Duarte, C. Randall, C. Bull, M. Demirel & E. Vazquez

## Graduate Student Advising

- **Ph.D. Advisor: Tahmures Ghiyasi** | Land use, Planning, Management, and Design | Texas Tech University | Since 2023
- **Ph.D. Advisor: Skylar Perez** | Land use, Planning, Management, and Design | Texas Tech University | Since 2024
- **Ph.D. Committee Member: Banan Alzoubi** | Land use, Planning, Management, and Design | Texas Tech University | Since 2023
- **M.S. in Architecture Co-chair: Rouzbeh Ayazi** | Historic Preservation | Texas Tech University | 2023-25
- **M.S. in Architecture Committee Member: Seyed Damoun Pezeshki** | Historic Preservation | Texas Tech University | Since 2024
- **M.S. in Architecture Committee Member: Sepehr Vaez Afshar** | Historic Preservation | Texas Tech University | 2023-24
- **M.S. in Architecture Committee Member: Sarvin Eshaghi** | Historic Preservation | Texas Tech University | 2023-24

## Publication

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- Journal Paper

Ghiyasi, T., & **Ghazvinian A.** | From Tool to Teammate; A Systematic Review on Human-Robot Collaboration in Architectural Fabrication | Journal of Architectural Intelligence (*under revision*) | 2025

**Ghazvinian A.** | Controlling the Uncontrollable | Hyphen Journal | 2024

**Ghazvinian A.** Khalilbeigi A., Motaghi E. & Gursoy B. | The Design and Fabrication of MycoCreate: Spatial Structures Built with Load-Bearing Mycelium-Based Components | Journal of IASS | 2022

**Ghazvinian A.** & Gursoy B. | Basics of Building with Mycelium-Based Bio-Composites: A Review of Built Projects and Related Material Research | Journal of Green Building | 2022

**Ghazvinian A.** & Gursoy B. | Mycelium-based Composite Graded Materials: Assessing the Effects of Time and Substrate Mixture on Mechanical Properties | Biomimetics | 2022

Modanloo B., **Ghazvinian A.**, Matini M. & Andaroodi E. | Tilted Arch; Implementation of Additive Manufacturing and Bio-welding of Mycelium-based Composites | Biomimetics | 2021

- Book Chapter

**Ghazvinian A.** | Designing Mycelium; Beta | Designing Mycelium (*in press*) | 2026

**Ghazvinian A.** & Gursoy B. | Challenges and Advantages of Building with Mycelium-Based Composites: A Review of Growth Factors that Affect the Material Properties | Fungal Biopolymers and Biocomposites, Prospects and Avenues | 2022

- Conference Proceeding

Ghiyasi T., and **Ghazvinian A.** | A Study of the Impact of Geometrical Optimization on Bearing Lateral Forces in Diagrid Structures | ARCC 2025 | College Park, MD

Cardenas Serrano J., Maggard C., Moya M., Regier M., Ghiyasi T., and **Ghazvinian A.** | Innovative Reclamation and Design: A Lightweight Structure from Reclaimed Golf Clubs | IASS 2024 | Zurich, Switzerland

**Ghazvinian A.**, Khalilbeigi A., Motaghi E. & Gursoy B. | A Computational Framework for the Design and Fabrication of Spatial Structures with Mycelium-based Composites | IASS 2020-21 | Surrey, Wales, UK

Khalilbeigi A., Motaghi E., **Ghazvinian A.** & Kalantari S. | Con-Create; A geometrical approach to mitigate the use of high-tech machinery in irregular concrete structures | ACADIA 2020 | Virtual

Motaghi E., Khalilbeigi A., **Ghazvinian A.**, Salimzadeh S. & Azari K.T. | Low-tech geometry-based node design for spatial structures | ASA 2020 | Auckland, New Zealand

**Ghazvinian A.**, Farrokhsiar P., Vieira F., Pecchia J.A. & Gursoy B. | Mycelium-based bio-composites for architecture: Assessing the effect of cultivation parameters on compressive strength | eCAADe/SIGraDi 2019 | Porto, Portugal

- Symposia

**Ghazvinian A.** | A sustainable alternative to architectural materials: Mycelium-based bio-composites | Divergence in Architectural Research Symposium 2020 | Atlanta, GA

- Poster

**Ghazvinian A.** | Conversion of mycelium-based bio-composites to the architectural context; How to eliminate construction waste | AEI Conference 2021 | Denver, CO

**Ghazvinian A.**, Farrokhsiar P. & Gursoy B. | Mycelium-based bio-composites in architecture | Community Bio Summit 3.0 | Cambridge, MA

## Peer Review Contribution

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Canadian Journal of Civil Engineering | Canadian Science Publishing | Reviewer | 2025

Resources, Conservation and Recycling Journal | Science Direct | Reviewer | 2025

Association for Computer Aided Design in Architecture (ACADIA) | Reviewer | 2025

Advances in Architectural Geometry (AAG) | Reviewer | 2025

Journal of Architectural Engineering | ASCE | Reviewer | 2023-25

Computer-Aided Architectural Design Research in Asia (CAADRIA) | Reviewer | 2023-25

Journal of Green Building | College Publishing | Reviewer | 2021-25

Emergent Materials | Springer Nature | Reviewer | 2024

Case Studies in the Environment | University of California Press | Reviewer | 2024

Divergence in Architectural Research Symposium (Georgia Institute of Technology) | Reviewer | 2023-24

Scientific Reports | Nature | Reviewer | 2022

Cellulose | Nature | Reviewer | 2022

Clean Technologies | Multidisciplinary Digital Publishing Institute (MDPI) | Reviewer | 2022

Processes | Multidisciplinary Digital Publishing Institute (MDPI) | Reviewer | 2022

Sustainability | Multidisciplinary Digital Publishing Institute (MDPI) | Reviewer | 2022

Circular Economy and Sustainability | Springer Nature | Reviewer | 2021

Biomimetics | Multidisciplinary Digital Publishing Institute (MDPI) | Reviewer | 2021

## Invited/Peer Reviewed Lectures

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**Toward a Symbiotic Life** | College of Arts and Architecture Sustainability Symposium | Penn State University | 04-09-26  
**Moderator: Biomaterials in the AEC Industry** | Circle Expo | University of Tehran | 11-15-25  
**Play/Learn/Teach** | ACADIA 2024 Ideation Labs | (Peer Reviewed) | 11-16-24  
**Culinary and Architecture; Why do we (RE)search?** | AIAS Fall Lecture | Huckabee College of Architecture | 10-18-24  
**Sym(bio)sis** | Iran First Mycelium Symposium | University of Tehran | 08-04-24  
**Culinary and Architecture; Why do we (RE)search?** | Isfahan Art University | 02-18-23  
**Learning Architecture from Fungi** | World Fungus Day | 10-02-23  
**Learning from Uncertainty in Making** | Tarbiat Moddares University | 04-14-23  
**Lessons from a Directed Research Studio** | with: Benay Gursoy, Felecia Davis, and Farzaneh Oghazain | Machine Knit Community | 03-23-23  
**Teaching un-CERTAIN-ty** | Sustainability Teaching Roundtable Series at A&A Sustainability at Penn State University | 11-01-22  
**Mycelium-based Structures** | School of Fine Arts University of Tehran | 05-07-22  
**MycoKnit; Mycelium and Knitted Textile Interrelation** | ARCINTEX Network | 04-07-22  
**Research, Design, and Fabrication with Mycelium-based Composites** | College of Architecture and Construction Management at Kennesaw State University | 03-02-22  
**Mycelium: Biodegradable Structural Agents** | School of Architecture at Portland State University | 02-03-22  
**Mycelium-based Composites as an Alternative Construction Material** | Microbiome Center at Penn State University | 09-03-21  
**Mycelium Structures 101** | Mycology for Architecture at Hub for Biotechnology in the Built Environment (HBBE) | 08-19-21

## Teaching Experience

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**Instructor** | Technology I – MATTER | ARCH2351 | Texas Tech University | 2023-25  
**Instructor** | Technology II – GRAVITY | ARCH2355 | Texas Tech University | 2024-25  
**Instructor** | Architectural Design Studio V | ARCH3601 | Texas Tech University | 2024-25  
**Instructor** | Processes in Architectural Geometry – FLOW | Elective Course | ARCH4341 | Texas Tech University | 2025  
**Instructor** | Advanced Architectural Technologies: Topics – Lightweight Innovative Structures | ARCH5334 | Texas Tech University | 2025  
**Instructor** | Contemporary Issues in Architecture; What's the Matter? | ARCH3314 | Texas Tech University | 2023  
**Instructor** | Architectural Structural Systems | AE422 | Penn State University | 2023  
**(co)Instructor** | Design Research Studio | ARCH431, ARCH536 | Penn State University | 2022  
**(co)Instructor** | Computational Design Workshop | DIGITALFUTURES One Planet 2022 | 2022  
**Teaching Assistant** | Design Research Studio | ARCH431, ARCH536 | Penn State University | 2021  
**(co)Instructor** | Architectural Design Analysis | ARCH441, ARCH442 | Penn State University | 2019-21  
**Teaching Assistant** | Basic Design and Research | ARCH 130 | Penn State University | 2020  
**Teaching Assistant** | Visual Communications II | ARCH122 | Penn State University | 2019  
**Teaching Assistant** | Introductory Structural Systems | University of Tehran | 2014-18  
**Teaching Assistant** | Concrete Structures for Architecture | University of Tehran | 2016-18  
**Teaching Assistant** | Interdisciplinary Studio for Architectural Engineering | University of Tehran | 2018  
**Teaching Assistant** | Interdisciplinary Studio for Architectural Engineering | Pars University | 2018  
**Tutor** | Digital Technologies (Software and Fabrication) | University of Tehran | 2018

## Service

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**Penn State Architecture Alumni Group** | Board of Directors | Penn State University | 2025-28  
**Studio Hacks** | Faculty Advisor | Texas Tech University | 2024-26  
**American Society of Civil Engineers** | Faculty Advisor | Texas Tech University (Student Chapter) | 2024-26  
**Persian Student Association** | Faculty Advisor | Texas Tech University | 2024-26  
**Grade Appeal Committee** | Faculty Member | Texas Tech University Huckabee College of Architecture | 2024-26  
**HCoA Facilities Committee** | Faculty Member | Texas Tech University Huckabee College of Architecture | 2025-26  
**Undergraduate Research Taskforce** | Member | Texas Tech University | 2024-25  
**International Peer Review Committee of Computer-Aided Architectural Design Research in Asia** | Member | CAADRIA | 2023-25  
**Divergence in Architectural Research Symposium Scientific Committee** | Member | 2023-24  
**Search Committee for the Stuckeman School Director** | Student Chair | Penn State University | 2022-23  
**Graduate Affairs Committee** | Student Chair | Penn State University | 2021-23  
**Graduate Research and Innovative Design** | Secretary | Penn State University | 2021-22  
**Graduate Research and Innovative Design** | President | Penn State University | 2020-21  
**Iranian Student Association** | Secretary | Penn State University | 2020-21  
**Iranian Student Association** | Vice President | Penn State University | 2019-20  
**Center of Excellence in Architectural Technologies** | Student Chair | University of Tehran | 2015-18  
**Scientific Association of Civil Engineering Students** | Vice President | University of Tehran | 2012-15