Tzu-Chieh Kurt Hong, PhD, MSEE

Assistant Professor
School of Architecture and Design
University of Kansas

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CURRICULUM VITAE

Tzu-Chieh Kurt Hong, PhD, MSEE

EDUCATION

Ph.D., Architecture (Design Computation), 2022
Georgia Institute of Technology, USA

Master of Science in Architecture and Design, 2015
University of Michigan, USA.

Master of Architecture, 2015
National Yang Ming Chiao Tung University, Taiwan.

Master of Science in Electronics Engineering, 2008
National Yang Ming Chiao Tung University, Taiwan.

Bachelor of Science in Electronics Engineering, 2004
National Yang Ming Chiao Tung University, Taiwan.

Appointments

A. ACADEMIC

University of Kansas | Lawrence, KS, USA
Assistant Professor; School of Architecture and Design, August 2022 - Present

Georgia Institute of Technology | Atlanta, GA, USA
PhD Instructor; School of Architecture, August 2019 – December 2021

National Yang Ming Chiao Tung University | Hsinchu, Taiwan
Lecturer; Transdisciplinary Design and Innovation Shop, June 2014 – May 2015

B. PROFESSIONAL

Wang Wei Jen Architecture (Hong Kong)
Architecture Designer, February 2014 – May 2015

Agilogic Ltd. (Taiwan)
Digital Circuit Designer, June 2009 – June 2011

Synerchip Ltd. (Taiwan)
Digital Circuit Designer, June 2008 – June 2009

RESEARCH

A. PUBLICATIONS

Peer-Reviewed Journal Articles and Conference Proceedings

1. Hong TK (2025) The Two-Window Problem and a Solution: An Alternative Programming Language for Visual Design. The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) 2025. Vol. 1, pp. 407 -416.
2. Shi Y, Luo J, Wang C, Hong TK, Lo T (2025) From Concept to Consistent Multi-View Renders: Integrating Shape Grammars with Stable Diffusion in Architectural Workflow. The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) 2025. Vol. 1, pp. 347 - 356.
3. Hong TK, Ligler H (2024) The Isovist Grammar: Automating Isovists and Isovist Fields with Visual Rules. Sociedad Iberoamericana de Gráfica Digital (SiGraDi) 2024 , (1), pp. 225 - 236.
4. Hong TK, Bhuiyan F (2024) Revisit Frei Otto: Equal-length Mesh Algorithm for 3D Surfaces. Sociedad Iberoamericana de Gráfica Digital (SiGraDi) 2024, (1), pp. 1271 - 1281.
5. Economou A, Hong TK, Newton R (2024) Shape meets Euclid: Integrating shape computation with ruler and compass procedures. Automation in Construction (AiC).
6. Hong TK, Economou A (2023) Implementation of Shape Embedding in CAD Systems. Automation in Construction (AiC). Vol 146.
7. Hong TK, Economou A (2022) What Shape Grammars Do that CAD Should: The 14 Cases of Shape Embedding. Artificial Intelligence for Engineering Design, Analysis and Manufacturing.
8. Economou A, Hong TK (2022) Back to Drawing Board: Shape Calculations in Shape Machine. Design Computing and Cognition. (DCC) eds: J. S. Gero, Springer.
9. Okhoya V, Bernal M, Economou A, Saha N, Vaivodiss R, Hong TK, Haymaker J (2022) Generative Workplace and Space Planning in Architectural Practice. International Journal of Architectural Computing.
10. Yu Y, Hong TK, Economou A, Paulino GH (2021) Rethinking Origami: A Generative Specification of Origami Patterns with Shape Grammars. Computer-Aided Design, Volume 137.
11. Hong TK, Economou A (2020) Five criteria for shape grammar interpreters. Design Computing and Cognition. (DCC) eds: J. S. Gero, Springer, 189-208.
12. Economou A, Hong TK, Ligler H, and Park J (2020) Shape Machine: A Primer in Visual Composition, J.-H. Lee (ed.), A New Perspective of Cultural DNA, KAIST Research Series, Springer Nature Singapore Pte Ltd, pp. 65-92.

Peer-Reviewed Book Chapters

13. Hong TK (2024) From Lines to Curves: Implementation of Shape Embedding for Circular Arcs and Circles in 2D CAD Systems. In: Kotsopoulos, S.D. (eds) 50-year Anniversary of Shape Grammars. Springer. (In press)
14. Economou A, Hong TK (2022) Back to Drawing Board: Shape Calculations in Shape Machine. Design Computing and Cognition. (DCC) eds: J. S. Gero, Springer.
15. Hong TK, Economou A (2020) Five criteria for shape grammar interpreters. Design Computing and Cognition. (DCC) eds: J. S. Gero, Springer, 189-208.
16. Economou A, Hong TK, Ligler H, and Park J (2020) Shape Machine: A Primer in Visual Composition, J.-H. Lee (ed.), A New Perspective of Cultural DNA, KAIST Research Series, Springer Nature Singapore Pte Ltd, pp. 65-92.

Peer-Reviewed Abstracts

17. Hong TK, Park J (2025) Alberti's Computation: Implementing Perspectival Transformation in Shape Machine. Nexus Conference 2025.
18. Oh Y, Park E, Hong TK (2022) Rasterizing the Vector: How MatrixBased Multilayer Spatial Analysis Support Behavioral Studies. 53rd Annual Conference of The Environmental Design Research Association (EDRA53).

Works in Progress

19. Hong TK, Shi Y, Xu H (forthcoming) Architecture to the Rescue: Training AI Agents for Emergency Robots Using Very-Large-Scale Architectural Plan Datasets.
20. Hong TK, Shi Y (forthcoming) Sketch Counts: A Generative AI Model for Producing High-Quality Architectural Plans from Sketches.
21. Ernst C, Hong TK (forthcoming) Food for AI: Synthesizing 71,334 Architectural Datasets for AI Training. The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) 2026.
22. Hong TK, Park J (forthcoming) Revisit Euclidean Postulates: Implementation of Basic Geometric Constructions in Shape Machine. Nexus Journal.
23. Hong TK, Park J (forthcoming) Beyond Icons: A New Approach to Customizing Computational Design Actions and Workflows. Nexus Journal.

B. SCHOLARLY PRESENTATIONS

1. "*Alberti Computation*", Nexus Conference, Vicenza Italy (Jun 2025)
2. "*The Two-Window Problem and a Solution: An Alternative Programming Language for Visual Design*". The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA). Tokyo Japan. (Mar 2025)
3. "*From Concept to Consistent Multi-View Renders: Integrating Shape Grammars with Stable Diffusion in Architectural Workflow*". The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA). Tokyo Japan. (Mar 2025)
4. "*Revisit Frei Otto*", Sociedad Iberoamericana de Gráfica Digital (SiGraDi), Spain (Nov 2024)
5. "*The Isovist Grammar*", Sociedad Iberoamericana de Gráfica Digital (SiGraDi), Spain (forthcoming, Nov 2024)
6. "*Shape Machine*", Digital Future, Tunji University, China (Summer 2023)
7. "*Back to Drawing Board*", DCC'23, USA (Fall 2023)
8. "*Shape Machine"*, Sociedad Iberoamericana de Gráfica Digital (SiGraDi), USA (Fall 2021)
9. "*Shape Machine: ⌘F + ⌘R in Visual Design*", DCC'20, USA (Fall 2020)
10. "*Five Criteria for Shape Grammar Interpreters*", DCC'20, USA (Fall 2020)
11. "*Shape Machine: A Primer in Visual Computation*", Culture DNA, KAIST University, Korea (Summer 2019)
12. "*Shape Machine*", Digital Building Lab Symposium, USA (Fall 2019)
13. "*Shape Machine: A Primer in Visual Computation*", Bio-Architecture Formosana, Taiwan (Fall 2019)
14. "*Shape Machine"*, Shape Machine Symposium, Georgia Tech, USA (Fall 2018)
15. "*Implementation of Shape Grammar Interpreter"*, Shape Machine Symposium, Georgia Tech, USA (Fall 2018)
16. "*Shape Machine in Architecture*", Host: Dr. June-Hao Hou, National Yang Ming Chiao Tung University, Taiwan (Spring 2022)
17. "*Shape Computation in Design Studies*", Host: Dr. Taysheng Jeng, National Chen Kung University, Taiwan (Summer 2021)
18. "*So Close, So Far: Shape Grammar Implementation*", Host: Dr. Ramesh Krishnamurti, Carnegie Melon University, USA (Spring 2019)
19. "*Shape Machine: Visual Rewriting System*", Host: Dr. Philip Santangelo, Emory University, USA (Fall 2019)

20. "*Shape Machine*", tvsdesign, Atlanta, USA (Fall 2019)
21. "*Smart City of Atlanta*", iPat Cohort, Georgia Tech, USA (Spring 2016)
22. "*Shapes without Names*", Concave PhD Symposium, Georgia Tech, USA (Fall 2016)
23. "*Design Computation*", Host: Dr. June-Hao Hou, National Yang Ming Chiao Tung University, Taiwan (Summer 2016)

C. PATENT

Hong, TK, A Economou, 2020. "Shape Computational Technology," US Patent Application No. 63/004,608. Filed April 3, 2020.

D. CITATIONS

Citation of "Implementation of Shape Embedding in CAD Systems" (2023)

1. Benros D, Hashemi A, Su Y (2024) A Generative Multilingual Shape Grammar for Mini and Micro-housing Design and Its Robotic Construction. In: Gero, J.S. (eds) Design Computing and Cognition'24. DCC 2024. Springer, Cham. https://doi.org/10.1007/978-3-031-71918-9_14
2. Muslimin R (2023) Experience Grammar: Creative Space Planning with Generative Graph and Shape for Early Design Stage. Buildings 13, no. 4: 869. https://doi.org/10.3390/buildings13040869
3. Shi Y, Economou A (2024) Dougong Revisited: A Parametric Specification of Chinese Bracket Design in Shape Machine. In: Gero, J.S. (eds) Design Computing and Cognition'24. DCC 2024. Springer, Cham. https://doi.org/10.1007/978-3-031-71918-9_15
4. Newton R, Economou A (2024) Redefining Line Maximization. In: Gero, J.S. (eds) Design Computing and Cognition'24. DCC 2024. Springer, Cham. https://doi.org/10.1007/978-3-031-71918-9_16

Citation of "Back to Drawing Board: Shape Calculations in Shape Machine" (2022)

5. Shi Y, Economou A (2024) Dougong Revisited: A Parametric Specification of Chinese Bracket Design in Shape Machine. In: Gero, J.S. (eds) Design Computing and Cognition'24. DCC 2024. Springer, Cham. https://doi.org/10.1007/978-3-031-71918-9_15

Citation of "What shape grammars do that CAD should: the 14 cases of shape embedding" (2022)

6. Nasiri S (2024). Auxetic Grammars: An Application of Shape Grammar Using Shape Machine to Generate Auxetic Metamaterial Geometries for Fabricating Sustainable Kinetic Panels. In: Yan, C., Chai, H., Sun, T., Yuan, P.F. (eds) Phygital Intelligence. CDRF 2023. Computational Design and Robotic Fabrication. Springer, Singapore. https://doi.org/10.1007/978-981-99-8405-3_10
7. Varghese D, Bauer R, Tamaddoni-Nezhad A (2023) Few-Shot Learning of Diagnostic Rules for Neurodegenerative Diseases Using Inductive Logic Programming. In: Bellodi, E., Lisi, F.A., Zese, R. (eds) Inductive Logic Programming. ILP 2023. Lecture Notes in Computer Science(), vol 14363. Springer, Cham. https://doi.org/10.1007/978-3-031-49299-0_8
8. Varghese D, Patel U, Krause P, Tamaddoni-Nezhad A (2023) Few-Shot Learning for Plant Disease Classification Using ILP. In: Garg, D., Narayana, V.A., Suganthan, P.N., Anguera, J., Koppula, V.K., Gupta, S.K. (eds) Advanced Computing. IACC 2022. Communications in Computer and Information Science, vol 1781. Springer, Cham. https://doi.org/10.1007/978-3-031-35641-4_26
9. Cheng Z (2023) Production Rules for the Arrangement of Osteomorphic Block. National Taiwan University of Science and Technology, Master Thesis. DOI: 10.13140/RG.2.2.26648.61445
10. Cole C et al. (2023) How Long Until We Are (Psychologically) Safe? A Longitudinal Investigation of Psychological Safety in Virtual Engineering Design Teams in Education. In:

Gero, J.S. (eds) Design Computing and Cognition'22. DCC 2022. Springer, Cham. https://doi.org/10.1007/978-3-031-20418-0_45
11. Newton R, Economou A (2024) Redefining Line Maximization. In: Gero, J.S. (eds) Design Computing and Cognition'24. DCC 2024. Springer, Cham. https://doi.org/10.1007/978-3-031-71918-9_16

Citation of *"Five Criteria for Shape Grammar Interpreters"* (2022)

12. Cheng Z (2023) Production Rules for the Arrangement of Osteomorphic Block. National Taiwan University of Science and Technology, Master Thesis. DOI: 10.13140/RG.2.2.26648.61445
13. Newton R, Economou A (2024) Redefining Line Maximization. In: Gero, J.S. (eds) Design Computing and Cognition'24. DCC 2024. Springer, Cham. https://doi.org/10.1007/978-3-031-71918-9_16
14. Cole C et al. (2023) How Long Until We Are (Psychologically) Safe? A Longitudinal Investigation of Psychological Safety in Virtual Engineering Design Teams in Education. In: Gero, J.S. (eds) Design Computing and Cognition'22. DCC 2022. Springer, Cham. https://doi.org/10.1007/978-3-031-20418-0_45
15. Ligler H (2021) Reconfiguring atrium hotels: Generating hybrid designs with visual computations in Shape Machine, Automation in Construction, Volume 132, 103923, ISSN 0926-5805, https://doi.org/10.1016/j.autcon.2021.103923.
16. Sedrez M, Li Z, Zhang J, Liu X, Ma Y, Yao J, Sun Z, Shao T, Godoi G (2022) Mapping the Challenges of Undergrad Architecture Students Applying Shape Grammar Interpreters to Generate Chinese Lattice Designs, ICERI2022 Proceedings, pp. 6519-6528.
17. Ohlhoff R (2023) Topological Graphs in Architecture. Université Libre de Bruxelles. Master Thesis. DOI: 10.13140/RG.2.2.22008.42242

Citation of "*Generative Workplace and Space Planning in Architectural Practice"* (2022)

18. Aysegul Ozlem Bayraktar Sari, Wassim Jabi (2024) Architectural spatial layout design for hospitals: A review, Journal of Building Engineering, Volume 97, 110835, ISSN 2352-7102, https://doi.org/10.1016/j.jobe.2024.110835.
19. Zhang, Li B (2024) From knowledge encoding to procedural generation for early-stage layout design: A case of linear shopping centres, Frontiers of Architectural Research, ISSN 2095-2635, https://doi.org/10.1016/j.foar.2024.07.002.
20. Ko J, Ennemoser B, Yoo W, Yan W, Clayton MJ (2023) Architectural spatial layout planning using artificial intelligence, Automation in Construction, Volume 154, 105019, ISSN 0926-5805, https://doi.org/10.1016/j.autcon.2023.105019.
21. Muslimin R (2023) Experience Grammar: Creative Space Planning with Generative Graph and Shape for Early Design Stage. Buildings 13, no. 4: 869. https://doi.org/10.3390/buildings13040869
22. Shi Y, Economou A (2024) Dougong Revisited: A Parametric Specification of Chinese Bracket Design in Shape Machine. In: Gero, J.S. (eds) Design Computing and Cognition'24. DCC 2024. Springer, Cham. https://doi.org/10.1007/978-3-031-71918-9_15
23. Bermek M, Gentry R (2024) Design Support Engine for Mass Engineered Timber Buildings. Computing in Civil Engineering. pp. 571-578. https://doi.org/10.1061/9780784485231.06
24. Allam S (2023) AI-Based Use-Pattern Generative Hybrid Spaces for Indoor and Outdoor Activities. 20th Learning and Technology Conference (L&T), Jeddah, Saudi Arabia, pp. 54-58, doi: 10.1109/LT58159.2023.10092345.

Citation of "*Rethinking Origami: A Generative Specification of Origami Patterns with Shape Grammars"* (2021).

25. Wang C, Zhang J, Liu D, Cai Y, Gu Q (2024) An AI-Powered Product Identity Form Design Method Based on Shape Grammar and Kansei Engineering: Integrating Midjourney and Grey-AHP-QFD. Applied Sciences 14, no. 17: 7444. https://doi.org/10.3390/app14177444

26. Liu Y, Zhou Y, Yang F, Li S, Wu J (2024) An improved generative design approach based on graph grammar for pattern drawing. Machine Graphics and Vision, 33(1), 3–20. https://doi.org/10.22630/MGV.2024.33.1.1
27. Cheng Z (2023) Production Rules for the Arrangement of Osteomorphic Block. National Taiwan University of Science and Technology, Master Thesis. DOI: 10.13140/RG.2.2.26648.6144
28. Takva Ç, İLERİSOY ZY (2023) Structural analysis of steel load-bearing systems using tessellation method in geometric architectural design. Sādhanā 48, 118. https://doi.org/10.1007/s12046-023-02185-1
29. Shi Y, Economou A (2024) Dougong Revisited: A Parametric Specification of Chinese Bracket Design in Shape Machine. In: Gero, J.S. (eds) Design Computing and Cognition'24. DCC 2024. Springer, Cham. https://doi.org/10.1007/978-3-031-71918-9_15
30. Tomei V, Faiella D, Cascone F, Mele E (2022) Structural grammar for design optimization of grid shell structures and diagrid tall buildings, Automation in Construction, Volume 143, 104588, ISSN 0926-5805, https://doi.org/10.1016/j.autcon.2022.104588.
31. Meloni M et al. (2022) Designing origami tessellations composed of quadrilateral meshes and degree-4 vertices for engineering applications. Automation in Construction, Volume 142, 104482, ISSN 0926-5805, https://doi.org/10.1016/j.autcon.2022.104482
32. Barros MO, Walker A, Stanković T (2022) Computational Design of an Additively Manufactured Origami-Based Hand Orthosis. Proceedings of the Design Society, 2:1231-1242. doi:10.1017/pds.2022.125
33. Iasef MR (2022) Fractal-based algorithmic design of Chinese ice-ray lattices. Frontiers of Architectural Research, Volume 11, Issue 2, pp. 324-339, ISSN 2095-2635, https://doi.org/10.1016/j.foar.2021.10.010.
34. Choi GPT (2024) Computational design of art-inspired metamaterials. *Nat Comput Sci* **4**, 549–552. https://doi.org/10.1038/s43588-024-00671-y
35. Lee M, Abu-Saleem M, Tachi T, Gattas JM (2024) A lightweight building construction system using curved-crease origami blocks. DOI: 10.13140/RG.2.2.16620.17283
36. Qu M, Ren Z, Wu J (2023) An Integrated Approach to Design and Evaluate Chinese-style Stools. Journal of Intelligent & Fuzzy Systems, vol. 45, no. 5, pp. 8297-8316. DOI: 10.3233/JIFS-232580
37. Liu Y, Zhou Y, Yang F, Sun H (2023) An enhanced grammatical approach for graph drawing. Proc. SPIE 12588, International Conference on Artificial Intelligence, Virtual Reality, and Visualization (AIVRV 2022), 1258803; https://doi.org/10.1117/12.2667201
38. Cole C et al. (2023) How Long Until We Are (Psychologically) Safe? A Longitudinal Investigation of Psychological Safety in Virtual Engineering Design Teams in Education. In: Gero, J.S. (eds) Design Computing and Cognition'22. DCC 2022. Springer, Cham. https://doi.org/10.1007/978-3-031-20418-0_45
39. Huang J, Yang N (2023) Composite compression–twist structures made by additive manufacturing for energetic absorption with controllable inner friction. Composite Structures, Volume 303, 116349, ISSN 0263-8223, https://doi.org/10.1016/j.compstruct.2022.116349.
40. Ye Q, Gu XD, Chen S (2022) Variational Level Set Method for Topology Optimization of Origami Fold Patterns. ASME. J. Mech. Des.; 144(8): 081702. https://doi.org/10.1115/1.4053925
41. Wickeler A, Sajid A, Naguib HE (2022) Triangular-based origami: Modelling and testing the parameterized design for geometrical and mechanical analysis. Thin-Walled Structures, Volume 173, 108993, ISSN 0263-8231, https://doi.org/10.1016/j.tws.2022.108993.
42. Ligler H (2021) Reconfiguring atrium hotels: Generating hybrid designs with visual computations in Shape Machine, Automation in Construction, Volume 132, 103923, ISSN 0926-5805, https://doi.org/10.1016/j.autcon.2021.103923.

Citation of "*Shape Machine: A Primer for Visual Computation"* (2021).

43. Nasiri S (2024). Auxetic Grammars: An Application of Shape Grammar Using Shape Machine to Generate Auxetic Metamaterial Geometries for Fabricating Sustainable Kinetic Panels. In: Yan, C., Chai, H., Sun, T., Yuan, P.F. (eds) Phygital Intelligence. CDRF 2023. Computational

Design and Robotic Fabrication. Springer, Singapore. https://doi.org/10.1007/978-981-99-8405-3_10
44. Wu M, Geng R, Guo Q (2024) Research on the Application of Cement Tile Patterns Based on Shape Grammar. Symmetry 16, no. 1: 31. https://doi.org/10.3390/sym16010031
45. Nasiri S, Sarvdalir AR (2024) Geometrical Origin of Generative Shape Grammars for Islamic Tectonics. Nexus Netw J 26, pp. 177–195. https://doi.org/10.1007/s00004-023-00743-y
46. Orynek S, Thomas B, McKay A (2023) Prototyping a novel visual computation framework for craft-led textile design. EKSIG 2023: Design Research Society's Experiential Knowledge Special Interest Group. At: Politecnico di Milano.
47. Stouffs R (2022) A Multi-formalism Shape Grammar Interpreter. In: Gerber, D., Pantazis, E., Bogosian, B., Nahmad, A., Miltiadis, C. (eds) Computer-Aided Architectural Design. Design Imperatives: The Future is Now. CAAD Futures 2021. Communications in Computer and Information Science, vol 1465. Springer, Singapore. https://doi.org/10.1007/978-981-19-1280-1_17
48. Kotsopoulos S (2022) Design Without Rigid Rules. In: Gero, J.S. (eds) Design Computing and Cognition'20. Springer, Cham. https://doi.org/10.1007/978-3-030-90625-2_7

D. GRANTS AND FUNDED PROJECTS

Internal Grants (funded)

1. Ultra-Light Concrete Installations, BuildEx, Kansas USA
   $4,500 (2025 Spring)
2. Faculty Travel Fund, School of Architecture and Design, University of Kansas.
   $2,380 (2024 Fall)
3. Discrete Landscape (ARCH 509: Design Build), School of Music, University of Kansas.
   $11,000 (2024 Spring)
4. Kivett Teaching Fund, School of Architecture and Design, University of Kansas.
   $6,000 (Summer 2023)
5. Shape Machine Symposium, College of Design, Georgia Institute of Technology.
   $7,000 (Fall 2018)

External Grants (funded)

6. Shape Machine, Georgia Research Alliance
   $50,000 (2020-2022)
7. Innovation Corps Site Grant, National Science Foundation
   $3,000 (2019)

E CREATIVE | PROFESSIONAL WORK

1. Bold Women Installations, Spencer Museum of Art, USA (Spring 2025)
2. Discrete Landscape (ARCH 509: Design Build), University of Kansas, USA (Spring 2024)
3. Kaleidoscope, School of Mathematics, University of Kansas, USA (Fall 2023)
4. 5-Way Surfaces, University of Kansas, USA (Spring 2023)
5. Shape Signature, Georgia Institute of Technology, USA (Fall 2020)
6. Shape Signature, Venice, Italy (Fall 2019)
7. Shape Signature, Shape Machine Symposium, Georgia Institute of Technology, USA (Fall 2018)

F. HONOURS AND AWARDS FOR RESEARCH

Architectural Research Centers Consortium (ARCC) King Medal, USA
Architectural Research Centers Consortium (ARCC) Annual Dissertation Award, USA

TEACHING

LIST OF COURSES TAUGHT

University of Kansas

Architecture Studios

ARCH509: Design Build Studio (3rd Year Studio)	Spring / 2025	13	100%
ARCH812: Optional Graduate Studio (5th Year Studio)	Spring / 2025	1	100%
ARCH999: Doctoral Dissertation	Spring / 2025	1	100%
ARCH509: Design Build Studio (3rd Year Studio)	Fall / 2024	14	100%
ARCH999: Doctoral Dissertation	Fall / 2024	1	100%
ARCH509: Design Build Studio (3rd Year Studio)	Spring / 2024	12	100%
ARCH999: Doctoral Dissertation	Spring / 2024	1	100%
ARCH108: Architecture Foundations I (1st Year Studio)	Fall / 2023	15	100%
ARCH509: Design Build Lab (3rd Year Studio)	Spring / 2023	18	50%
ARCH108: Architecture Foundations I (1st Year Studio)	Fall / 2022	14	100%

Core Courses and Electives

ARCH510: Architectural Detailing	Spring / 2025	13	100%
ARCH800: Advanced Parametric Modeling II	Summer / 2025	4	100%
ARCH600: Advanced Parametric Modeling I	Summer / 2025	16	100%
ARCH700: Directed Readings in Architecture	Spring / 2025	3	100%
ARCH799: Independent Study	Spring / 2025	1	100%
ARCH510: Architectural Detailing	Fall / 2024	14	100%
ARCH600: Advanced Parametric Modeling I	Fall / 2024	21	100%
ARCH811: Architectural Investigation I	Fall / 2024	1	100%
ARCH510: Architectural Detailing	Spring / 2024	12	100%
ARCH600: Data Visualization and Parametric Stadia Design	Spring / 2024	23	50%
ARCH600: Advanced Parametric Modeling I	Fall / 2023	15	100%
ARCH600: Computational Design	Summer / 2023	7	100%
ARCH510: Architectural Detailing	Spring / 2023	18	50%
ARCH700: Directed Readings in Architecture	Spring / 2023	1	100%
ARCH600: Advanced Parametric Modeling I	Fall / 2022	25	100%

Georgia Institute of Technology

School of Architecture

Core courses

ARCH7030: Media Modeling I - Fundamental Parametric Modeling and Digital Representation
ARCH7030: Media Modeling II - Advanced Parametric Modeling and Digital Representation

Electives

ARCH8833: Design Scripting
ARCH6508: Shape Grammar
ARCH8833: Inquiry in Design Computation

School of Interactive Computing

Electives

CS8803: Shape Machine - Visual Computing and Applications

GRADUATE & POSTGRADUATE ADVISING

Doctoral Committee Advisor/ Chair

Shawn Khokher, Architecture, Spring 2023 – Present

Doctoral Committee Member

Jonathan Rogers, Electrical Engineering and Computer Science, Fall 2024 – Present

Doctoral Comprehensive Exam Committee Member

Jonathan Rogers, Electrical Engineering and Computer Science, Fall 2024 – Present

External Member – Graduate Committees at Other Universities

Tsung-Wei Cheng, Master of Architecture, National Taiwan University of Science and Technology (Taiwan), Fall 2022

GUEST LECTURES FOR OTHER CLASSES

"*Hylography: Computational Design and Digital Fabrication*". ARCH 104: Principles of Modern Architecture; Dr. Hui Cai; KU School of Architecture and Design, USA. (Fall 2023)

"*Shape Machine: Visual Computing System*". ARCH 930: Doctoral Seminar; Dr. Keith Van De Riet; KU School of Architecture and Design, USA. (Fall 2023)

"*DrawScript: Next Programming Language*". ARCH 521: Architecture Theory - Shape Grammars; Dr. James Park; Montana State University, School of Architecture, USA. (Spring 2023)

"*Double Rounded Trip: Multidisciplinary Studies in Architecture*". Voice in Design Computing; Dr. Heather Ligler; Penn State University, School of Architecture, USA. (Spring 2023)

"*The Next Programming Language*", ARCH 6508: Shape Grammars, Dr. Athanassios Economou, Georgia Tech, USA (Fall 2021)

"*Shape Machine*", ARCH 8833: Inquiry in Design Computation, Dr. Athanassios Economou, Georgia Tech, USA (Fall 2018)

"*Shapes Without Names*", ARCH 6508: Shape Grammars class, Dr. Athanassios Economou, Georgia Tech, USA (Fall 2016)

INVITED REVIEWS (Since 2022)

2025
ARCH 609 Integrated Design; Dr. Francesco Carota, University of Kansas
ARCH 509 Design Build Studio; Prof. Nils Core, University of Kansas
ARCH 508 Material and Tectonics; Dr. Jae Chang, University of Kansas
ARCH 608 Urban Dwelling Studio; Dr. Dilshan Ossen, University of Kansas

2024
ARCH 609 Integrated Design; Prof. John Trefry, University of Kansas
ARCH 609 Integrated Design; Prof. Marianne Remboldt, University of Kansas
ARCH 209 Sustainability, Site, & Context; Dr. Hugo Sheward, University of Kansas
ARCH 509 Design Build Lab; Prof. Nils Gore, University of Kansas
ARCH 509 Design Build Lab; Dr. Keith van de Riet, University of Kansas
INDD 378 Problems in Industrial Design; Prof. Thomas Huang, University of Kansas
ARCH 608 Urban Dwelling Studio; Dr. Francesco Carota, University of Kansas
ARCH 608 Urban Dwelling Studio; Prof. Andrew Moddrell, University of Kansas
ARCH 608 Urban Dwelling Studio; Dr. Dilshan Ossen, University of Kansas
ARCH 208 Form and Function; Prof. Shannon Criss, University of Kansas
ARCH 208 Form and Function; Prof. Marianne Remboldt, University of Kansas
ARCH 253 Architecture Studio; Dr. James Park; Montana State University
CS 8803 Shape Machine; Dr. Athanassios Economou; Georgia Institute of Technology
ARC 5824 Advanced Design Studio 2; Prof. Masataka Yoshikawa; Lawrence Technological University

2023
Graduation Thesis; Student: Sadie Collins; Prof. Michael Everts; Montana State University
Graduation Thesis; Student: Conner Hasse; Prof. Zuzanna Karczewska; Montana State University
Graduation Thesis; Student: Karolina Konieczna; Prof. Andrew Vernooy; Montana State University
Graduation Thesis; Student: Charlie Hilliard; Prof. Christopher Livingston; Montana State University
ARCH 553 Architecture Studio; Prof. Steve Juroszek; Montana State University
ARCH 253 Architecture Studio; Dr. James Park; Montana State University
CS 8803 Shape Machine; Dr. Athanassios Economou; Georgia Institute of Technology
IA 209 Furniture Design; Prof. Ann Hossler; KU School of Architecture and Design
ARCH 509 Design Build Lab; Prof. Nils Gore N; KU School of Architecture and Design
ARCH 208 Form and Function; Dr. Hugo Sheward; KU School of Architecture and Design
ARCH 208 Form and Function; Prof. Dan Finnell; KU School of Architecture and Design
ARCH 608 Urban Dwelling Studio; Prof. Andrew Moddrell; KU School of Architecture and Design
ARCH 608 Urban Dwelling Studio; Prof. Eddie Tavio; KU School of Architecture and Design
ARCH 608 Urban Dwelling Studio; Shannon Criss; KU School of Architecture and Design
ARCH 602 Accelerated Design IV; Professor Thom Allen; KU School of Architecture and Design
ARCH 209 Sustainability, Site, & Context; Dr. Marie Alice L'Heureux; KU School of Architecture and Design
ARCH 209 Sustainability, Site, & Context; Prof. Shannon Criss; KU School of Architecture and Design
ARCH 609 Integrated Design; Prof. John Trefry; KU School of Architecture and Design
ARCH 609 Integrated Design; Prof. Nilou Vakil; KU School of Architecture and Design
ARCH 509 Design Build Lab; Prof. Nils Gore; KU School of Architecture and Design

2022
ARCH 508 Material and Tectonics; Dr. Kapila Silva; KU School of Architecture and Design
ARCH 208 Form and Function; Prof. Thom Allen; KU School of Architecture and Design
ARCH 108 Architectural Foundations I; Prof. Anne Patterson; KU School of Architecture and Design
ARCH 608 Urban Dwelling; Dr. Hugo Sheward; KU School of Architecture and Design

SERVICE

A. UNIVERSITY SERVICE

Committee Member, 2025 - present
University Core Curriculum Committee, University of Kansas

Review Panel, 2023 – present
Research Internal Award, University of Kansas

School Councilor, 2022 – present
Committee of Teaching Excellence, University of Kansas

B. SCHOOL SERVICE

School Councilor, 2023 – present
Association of Collegiate Schools of Architecture (ACSA)

Member of Review Panel, 2022 – present
Architecture Portfolio Review, University of Kansas

C. DEPARTMENT SERVICE

Chair, 2022 Fall – present
Technology Curriculum Committee, University of Kansas

Member, 2022 Fall – present
PhD Program Committee, University of Kansas

Co-Chair, 2023 Fall – 2024 Spring
BIM Certificate, University of Kansas

Member
Digital Curriculum Task Force, Georgia Tech

Reviewer, 2021 Fall – 2022 Spring
Committee of Presidential Undergraduate Research Award, Georgia Institute of Technology

Reviewer, 2018 Fall – 2022 Spring
Committee of Undergraduate Admission, Georgia Institute of Technology

D. PROFESSIONAL SERVICE OUTSIDE THE UNIVERSITY

Reviewer, 2025 – present
International Journal of Architectural Computing (IJAC), Sage Publication.

Member of Scientific Committee, 2024 – present
The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA).

Scientific Committee, 2022 - present
Health and Wellness Symposium, University of Kansas

Reviewer, 2022 – present
Scientific Reports, Springer Nature.

Member of Editor Board, 2022 – present

Journal of Architectural and Planning Research (JAPR).

Reviewer, 2022 – present
Journal of Architectural and Planning Research (JAPR).

Reviewer, 2022 – present
Multidisciplinary Digital Publishing Institute (MDPI).

Reviewer, 2022 – present
Sociedad Iberoamericana de Gráfica Digital (SiGraDi).

Member, 2022 – present
Scientific Committee, Sociedad Iberoamericana de Gráfica Digital (SiGraDi).

Reviewer, 2022 – present
CONCAVE Symposium, Georgia Institute of Technology.

Session Chair, Fall 2023
Computational Design and Robotic Fabrication Conference.