



Arash Soleimani, Ph.D., Assoc. AIA

Assistant Professor

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Department of Architecture
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KEY WORDS

Key words defining my interests, experiences, and ambition

Interdisciplinary, Creative Design, Computational Thinking, Human-Computer Interaction, Tangible-Physical Computing, Cyber-Physical Systems, Architectural Robotics, Responsive Environments, Usability Methods, Human Factors, Learning Sciences (CyberLearning)

MEMBERSHIPS

Since 2021	Life Member, Building Technology Educators' Society (BTES)
Since 2017	Member, Council for Quality Growth , Atlanta GA, USA
Since 2015	Associate Member, American Institute of Architects (AIA)
Since 2014	Member, Association for Computing and Machinery (ACM-SIGCHI)

EDUCATION

2015	Ph.D., Planning, Design and the Built Environment Clemson University, School of Architecture, Clemson SC, USA Certificate in Digital Ecologies earned in conjunction with the PhD above
Advisors	Keith E. Green, Ian D. Walker, Danielle C. Herro, Christina Gardner-McCune
Dissertation	<i>CyberPLAYce: A Cyber-Physical-Spatial Learning Environment Promoting Children's Computational Thinking</i>
Abstract	CyberPLAYce is a novel, interactive-computational construction kit comprised of hand-sized, magnetic modules, and construction panels that receive the modules and serve as physical building blocks for constructing cyber-physical environments imagined by children. CyberPLAYce employs four evaluation frameworks through an iterative design process including usability studies, participatory design, ethnographic observation, and formative assessment.
2010	Master of Architecture in Design University of Nottingham, Department of Architecture, Nottingham, UK
Advisor	Jonathan Hale
Thesis	<i>Responsive and Interactive Environments in Museums: Managing Responsiveness & Interactivity within Museums & Exhibitions in a New Fashion</i>
Abstract	In this thesis, the importance of interactive environments is leveraged by considering both traditional and modern technologies of interaction. The thesis examines the possibilities and challenges faced in the integration of interactive technologies in museums by considering theories and historical precedents underlying interaction design in exhibitions and museums.
2008	Bachelor of Architectural Engineering Art University of Isfahan, School of Architecture, Isfahan, Iran
Advisor	Mohammad Omoumi
Thesis	<i>The House of Photography: An Architectural Space of Learning, Experiencing, and Viewing Photography</i>

ACADEMICS

- 2016-present **Assistant Professor** (tenure-track) | Coordinator of Environmental Technologies
Kennesaw State University Dept. of Architecture, Marietta GA, USA
ARCH 2003–Architecture Studio III (program: Train Station, Home + Office)
ARCH 2004–Architecture Studio IV (program: Studio + Gallery)
ARCH 3011–Architecture Studio V (program: Environmental Research Center)
ARCH 5015–Focus Studio (program: Museum of Interactive Technology)
ARCH 2311–Environmental Tech I: Systems Selection, Materials & Methods
ARCH 3314–Environmental Tech III: Lighting, Electrical & Acoustics
 - Environmental Control Systems
 - Design and Performance with Parametric Integration
 - Advanced Luminous, Acoustical, Electrical, Thermal & Structural Analysis
 - Machine Behavior*ARCH 4895–Computational Methods: Advanced Generative-Analytical Technologies in Architecture*
- 2015-16 **Visiting Lecturer** | Coordinator of Computational Methods + Practices
UNC-Charlotte School of Architecture, Charlotte NC, USA
ARCH 2101–Comprehensive Studio III (program: Performing Arts Center)
ARCH 4102–Topical Studio (program: Museum of Interactive Technology)
ARCH 4604 & 5604–Computational Methods
 - Generative, Evolutionary, Predictive, Analytical & Physical Scripting
 - GHPython Scripting
 - Nurbs Modeling, Mesh Modeling, Surface Modeling
 - Advanced Digital Fabrication Techniques: CNC milling, 3D printing, Laser cutting
 - Material Programming: Exploring design thinking through fabrication*ARCH 6603–Architectural Representation II* (Photoshop, Rhino, Grasshopper)
- 2012-15 **Lecturer**
Clemson University School of Architecture, Clemson SC, USA
ARCH 101–Introduction to Architecture
ARCH 151–Architecture Studio I
ARCH 252–Architecture Studio II (program: Marketplace + Branch Library)
ARCH 401–Architecture Portfolio
ARCH 452–Synthesis Studio (program: Theater Campus)
ARCH 868–Architectural Robotics (co-taught with Keith E. Green + Ian Walker)

PUBLICATIONS**Book**

- 2013 Soleimani, A., "**Responsive and Interactive Environments in Museums: Managing Responsiveness and Interactivity within Museums and Exhibitions in a New Fashion**", Lambert Publishing, Deutschland, Germany.

Papers

- 2021 Soleimani, A., Karimi, Z. & Loreto, G., "**A Refuge for Refugees: An Architectural Intervention in the City of Clarkston.**" *Proceedings of the Design Communication Association: Perception to Execution* (Atlanta, October 20-23). (in-press)
- 2021 Loreto, G., Soleimani, A. & Stewart, L., "**Non-Rigid Formwork System for Sustainable Concrete Construction.**" *Proceedings of the Architectural Research Centers Consortium: Performative Environments* (Tucson, April 7-10), pp. 167-174.

- 2020 Alani, M., Kleiss, Michael C. & Soleimani, A., "**Responsive Origami: A Modular Approach to Fabricate Dynamic Surfaces Reactive to Socio-Environmental Conditions.**" *Proceedings of the International Conference on Human-Computer Interaction* (Copenhagen, July 19-24). LNCS 122203, Springer Publishing, pp. 3-12.
- 2019 Soleimani, A., "**Computational Design Thinking and Thinking Design Computing.**" *Proceedings of the Reynolds Symposium: Digital Approaches to Design Education* (Portland, October 18-19). Recipient of the *Society of Building Science Educators (SBSE)* Faculty Scholarship.
- 2019 Soleimani, A., Herro, D. C. & Green, K. E., "**CyberPLAYce – A Tangible Interactive Learning Tool Fostering Children’s Computational Thinking through Storytelling.**" *International Journal of Child-Computer Interaction*, Elsevier, 20C, pp. 9-23. (Impact factor: 3.87)
- 2019 Alani, M. & Soleimani, A., "**reTessellate: Modular Dynamic Surfaces Reactive to Socio-Environmental Conditions.**" *Proceedings of the International Conference on Human-Computer Interaction* (Orlando, July 26-31). LNCS 11587, Springer Publishing, pp. 113-123.
- 2018 Ayers, C., Soleimani, A. & Loreto, G., "**Non-rigid Formwork Systems with Optimized Concrete Mixtures.**" *American Concrete Institute Convention* (Las Vegas, October 14-19). (Archived Poster)
- 2018 Alani, M., Soleimani, A., Murray, E., Bah, A., Leicht, A. & Sajwani, S., "**The Reconfigurable Wall System: Designing a Responsive Structure Reactive to Socio-Environmental Conditions.**" *Proceedings of the International Conference on Human-Computer Interaction* (Las Vegas, July 15-20). LNCS 10922, Springer Publishing, pp. 167-177.
- 2017 Soleimani, A., Alfalih, H., Delgado, M. D., Dowd, M. C., Harkin, M., Ladefoged, C. T., Rateb, C. M. & Samaniego, J. A., "**Programming Skins: Cyber-Physical Façade Systems Reactive to Environmental Conditions.**" *Proceedings of the International Conference on Advanced Building Skins* (Bern, October 2-3), pp. 153-159.
- 2016 Soleimani, A., Green, K. E., Herro, D. C. & Walker, I. D., "**A Tangible, Story-Construction Process Employing Spatial, Computational-Thinking.**" *Proceedings of the ACM Conference on Interaction Design and Children* (Manchester, June 21-24), pp. 157-166.
- 2015 Soleimani, A., Green, K. E., Herro, D. C., Walker, I. D. & Gardner-McCune, C., "**CyberPLAYce, a Cyber-Physical-Spatial Storytelling Tool: Results from an Empirical Study with 8-10-year-old Storytellers.**" *Proceedings of the International Conference on Human-Computer Interaction* (Los Angeles, August 2-7). LNCS 9192, Springer Publishing, pp. 438-446.
- 2015 Soleimani, A., Green, K. E. & Herro, D. C., "**CyberPLAYce, a Cyber-Physical-Spatial Storytelling Tool Enhancing Children’s Spatial Computational-Thinking.**" *Proceedings of the ACM Conference on Interaction Design and Children* (Boston, 21-24). (Doctoral Consortium)
- 2014 Soleimani, A., "**CyberPLAYce - A Play Space of Creative, Intelligent Tools Promoting Personal and Computational Expression for Early Learners.**" *Proceedings of the ACM Conference on Designing Interactive Systems* (Vancouver, June 21-25), pp. 191-194. (Doctoral Consortium)
- 2014 Soleimani, A., Smith, K., Zeng, J., Green, K. E., Herro, D. C., Santiago, J., Sharma. S. Tonapi, M., Vijaykumar, A., Walker, I. D., & Garder-McCune, C., "**Learning with CyberPLAYce; a Cyber-Physical Learning Environment for Elementary Students Promoting Computational Expression.**" *Proceedings of the ACM Conference on Human Factors in*

- Computing Systems* (Toronto, April 26-May1), pp. 165-166. (Archived Video)
- 2013 Schafer, G., Green, K. E., Walker, I. D., Lewis, E., Fullerton, S., Soleimani, A., Norris, M., Fumagali, K., Zhao, J., Allport, R., Zheng, X., Gift, R. & Padmakumr, A., "**Designing the LIT KIT, an Interactive, Environmental, Cyber-Physical Artifact Enhancing Children's Picture-book Reading.**" *Proceedings of the ACM Conference on Interaction Design and Children* (New York, June 24-27), pp. 281-284.
- 2010 Soleimani, A., "**Wind Towers: design and development of tall buildings in response to unique climatic, cultural and contextual characteristics in Abu Dhabi.**" *The Council on Tall Buildings and Urban Habitat Website*, Chicago, IL, United States. (Thesis Competition)

GRANTS & AWARDS

- 2021-26 **Vertically Integrated Project (VIP)**
 Title Innovation, Design, and Sustainability in Concrete Constructions
 Role Co-Principal Investigator
 Award \$5,000.00 (first year)
 Sponsor Office of Undergrad Research, Kennesaw State University, Georgia, USA
- 2021-22 **Faculty Pilot/Seed Grant**
 Title A Cyber-physical Learning Environment Promoting Children's Spatial Thinking
 Role Principal Investigator
 Award \$14,864.00
 Sponsor Office of the Vice President for Research (OVPR), Kennesaw State University, Georgia, USA
- 2020-21 **AIA Innovation Grant**
 Title Living Surfaces: Defying Walls
 Role Principal Investigator
 Award \$4,903.17
 Sponsor Architecture Foundation of Georgia, AIA Georgia
- 2020-21 **Faculty Pilot/Seed Grant**
 Title Non-Rigid Formwork Systems in Concrete Applications
 Role Co-Principal Investigator
 Award \$11,880.00
 Sponsor Office of the Vice President for Research (OVPR), Kennesaw State University, Georgia, USA
- 2020-21 **Creative Activities & Research Experiences for Teams (CARET)**
 Title Learning with CyberPLAYce – A Cyber-physical Learning Tool Promoting Computational Thinking for Elementary Students
 Role Principal Investigator
 Award \$7,841.75
 Sponsor Office of Undergrad Research, Kennesaw State University, Georgia, USA
- 2020 **Summer Research Fellows Program**
 Award \$10,000.00
 Sponsor Office of Research, Kennesaw State University, Georgia, USA
- 2020 **Summer Online Course Design Program (SOCDP)**
 Award \$3,000.00
 Sponsor Center for Excellence in Teaching and Learning (CETL Institute)
- 2019-20 **Creative Activities & Research Experiences for Teams (CARET)**
 Title Flexible Architectural Basis Reinforcement in Concrete Structures (F.A.B.R.I.C.S.)
 Role Co-Principal Investigator
 Award \$8,000.00
 Sponsor Office of Undergrad Research, Kennesaw State University, Georgia, USA

2018-19	AIA Innovation Grant
Title	A Refuge for Refugees: An Architectural Intervention in Clarkston City
Role	Principal Investigator
Award	\$5,500.00
Sponsor	Architecture Foundation of Georgia, AIA Georgia
2018	Seed Grant: Faculty Research Award
Aim	To Initiate Design Analytics Lab [DAL]
Role	Founder and Codirector
Award	\$30,000.00
Sponsor	Department of Architecture, Kennesaw State University, Georgia, USA
Mission	DAL develops, prototypes, and evaluates cyber-physical environments cultivating interactions across systems of people, places, and things.
2017	Course (Re)Design Award
Award	\$1,250.00
Sponsor	Center for Excellence in Teaching and Learning (CETL Institute), Kennesaw State University, Kennesaw GA, USA
2012-15	Clemson University Graduate Assistantship
Award	\$19,800.00 + Tuition Waiver p.a.
Sponsor	Clemson University, Clemson SC, USA
2009-10	University of Nottingham Masters Scholarship
Award	£5,000.00 p.a.
Sponsor	University of Nottingham, Nottingham, UK

THESIS SUPERVISION

2016-present	KSU Department of Architecture B.Arch.
	Nicholas Halford–Algorithmic Morphogenesis: a biomimetic design methodology.
	Reese Zimmerman–H2Opulent: resilient architecture integrated with water.
	Asbiel Samaniego–The [Hydro-Gen] Cell: a hydroponic, regenerative, modular system for optimized vertical farming.
	<ul style="list-style-type: none"> Selected thesis for Archiprix International 2021 Selected thesis for CriticalMASS Graduate Research Symposium 2020 at UNC-Charlotte School of Architecture.
	Ana Giron–Imaginative Engagement: consolidating play and learning through the spatial design of classrooms.
	Huy Ho–Camps in Crisis: challenging the architecture for refugees.
	<ul style="list-style-type: none"> Selected thesis for presentation at the National Conference on Undergraduate Research (NCUR) 2020, Montana State University, Bozeman, Montana. Awarded first place for 3-Minute Thesis Competition in the Kennesaw State University Department of Architecture.
	Karen Rios–Resurrecting a Fallen Angel: architecture against pollution.
	<ul style="list-style-type: none"> Selected thesis for CriticalMASS Graduate Research Symposium 2019 at UNC-Charlotte School of Architecture.
	Christian Aguilar–Social Inclusion through Art.
	Zimbulus Nixon–Compelling Interactions: architecture that drives communication.
	Wenying Wu–Translating Fictions through Shanshui Paintings.
	Chelseay Frith–Breaking the Horizon: a new architectural frontier
2015-16	UNCC School of Architecture Dual M.Arch. / M.S. in Computer Science
	Jingoo Kim–Parametric Design through Tangible Interactive Tools
	Ganquan Weng–Gamification to Raise Awareness of Energy-related Tasks

LECTURES & WORKSHOPS

- 2021 **Adapting Studio/Lab Course Content for Hybrid Delivery**, SoTL Summit'21: The Scholarship of Teaching and Learning, Innovative Teaching Talks, Center for Excellence in Teaching and Learning (CETL), Kennesaw State University, Kennesaw GA, USA. (Speaker)
- 2021 **Emerging Engagement Scholars Workshop (EESW)**, ESC'21: Engagement Scholarship Consortium International Conference, Virtual Workshop, Penn State University, University Park PA, USA. (Attendee)
- 2021 **Dynamic Environments: Interactive Experiments in Architecture**, CAADRIA'21: *International Conference of the Association for Computer-Aided Architectural Design Research in Asia*, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong. (Organizer/Speaker)
- 2020 **Computational Design Thinking (CDT)**, *Thesis Talk Series*, Kennesaw State University Department of Architecture, Marietta GA, USA. (Speaker)
- 2019 **Perspectives on Global Issues: Global Citizenship in Changing Time**, EAO'19: *European Academy of Otzenhausen*, Germany. (Attendee)
- 2014 **Evaluating Children's Interactive Product**, CHI'14: *ACM Conference on Human Factors in Computing Systems*, Toronto, Canada. (Attendee)
- 2007 **Form Study and Construction of Free-style Forms**, Tehran University School of Architecture, Tehran, Iran. (Attendee)

INDUSTRY EXPERIENCE

- 2010-12 **Rushcliffe Solar**
West Bridgford, Nottingham, UK
Position: Researcher
- 2010 **Rushcliffe Play Forum and Resource Center**
Keyworth, Nottingham, UK
Position: Internship
- 2009-11 **New Art Exchange (NAE)**
Nottingham, UK
Position: Interior Designer
- 2006-09 **Shahr-o-Khaneh Consulting Planners, Architects & Engineers**
Mirza Koochek Khan Blvd., Isfahan, Iran
Position: Architectural Designer

CERTIFICATES

- 2017 **Certificate of Online Course Facilitation**
Kennesaw State University, Marietta GA, USA
- 2017 **Certificate of "Process Improvement"**
Kennesaw State University, Marietta GA, USA
- 2016 **Certificate of "Project Management"**
Kennesaw State University, Marietta GA, USA
- 2015 **Certificate of Excellence**
Certificate of Excellence in *GRADS Poster Presentation*
Clemson University, Clemson SC, USA
- 2013-15 **The Honor Society of Phi Kappa Phi**
Clemson University, Clemson SC, USA

SERVICE

- 2021-present **Committee Chair**, College of Architecture and Construction Management Diversity & Inclusion Committee, Kennesaw State University, Georgia, USA.
- 2020-present **Committee Chair**, College of Architecture and Construction Management Graphic Design Committee, Kennesaw State University, Georgia, USA.

- 2019-present **Committee Chair**, Sustainability Across the Curriculum, Department of Architecture, Kennesaw State University, Georgia, USA.
- 2017-present **Coordination Committee Member/Chair**, Department of Architecture, Kennesaw State University, Georgia, USA.
 2021-2022: Thesis Prep/Research/Design (Coordinator)
 2017-2021: Environmental Technologies (Coordinator)
 2018-2020: Accelerated Track (Member)
 2018-2019: Third Year Studio (Member)
 2018-2019: Second Year Studio (Member)
- 2017-22 **Search Committee Member/Chair**, Department of Architecture, Kennesaw State University, Georgia, USA.
 2021-22: Chair of the Department of Architecture (Chair)
 2020: Interim Chair of the Department of Architecture (Member)
 2018: Permanent Lecturer (Member)
 2017: Tenure Track Assistant Professor of Design Communication (Member)
- 2021-22 **Task Force Committee Member**, Faculty Implementation Sub-committee of the Presidential Task Force on Race, Kennesaw State University, Georgia, USA.
- 2020-22 **Diversity Liaison**, College of Architecture and Construction Management Diversity Liaison to the Office of Diversity and Inclusion (ODI), Kennesaw State University, Georgia, USA.
- Since 2021 **Editorial Manager**, Computers and Education Open, International Peer-reviewed *Journal of Computers & Education Open*, Elsevier.
- 2021 **Symposium Organizer**, "Diversity and Pluralism in Architecture and Construction Management", College of Architecture and Construction Management, Kennesaw State University, Marietta GA, USA.
- 2021 **Committee Co-Chair**, Department Faculty Council (DFC), Department of Architecture, Kennesaw State University, Georgia, USA.
- 2020-21 **Department Representative**, Department of Architecture Open House, Kennesaw State University, Georgia, USA.
- 2019-21 **Conference Organizer & Peer Reviewer**, "DCA 20/20: Perception to Execution", *Design Communication Association (DCA) Conference*, Department of Architecture, Kennesaw State University, Marietta GA, USA.
- 2018-20 **Committee Member**, Department Faculty Council (DFC), Department of Architecture, Kennesaw State University, Georgia, USA.
- 2019 **Peer Reviewer**, PhD Symposium: Divergence in Architectural Research, *International Doctorate Symposium*, School of Architecture, Georgia Institute of Technology, Atlanta GA, USA.
- 2018 **Conference Coordinator**, Year of India Conference entitled "Envisioning the Future and Understanding the Realities of India's Urban Ecologies", Department of Architecture, Kennesaw State University, Marietta GA, USA.
- Since 2018 **Committee Member**, Aga Khan Council for the Southeastern United States, organizing lectures in the area of "Diversity and Pluralism in Architecture" in collaboration with Ismaili Community, Atlanta GA, USA.
- Since 2017 **Peer Reviewer**, Architectural Science Review (ASR), International Peer-reviewed *Journal of Architectural Science, Technology and the Built Environment*, Taylor and Francis, UK.
- Since 2017 **Committee Member**, Atlanta Advisory Committee, Council for Quality Growth, Atlanta GA, USA.
- 2016-19 **Committee Chair**, Lecture, Exhibition and Symposium Committee, Department of Architecture, Kennesaw State University, Marietta GA, USA.

- 2016-18 **Steering Committee Member**, Future City Competition, a cross-curricular educational program giving middle school students the opportunity to learn engineering design process and build *21st century skills*, Georgia, USA.
- 2016-18 **Associate Member**, Graduate Faculty of the University of North Carolina at Charlotte NC, USA.
- 2016 **Peer Reviewer**, IDC'16 Papers and Notes, *ACM Conference on Interaction Design and Children*, Manchester, UK.
- 2014 **Peer Reviewer**, DIS'14 Doctoral Consortium, *ACM Conference on Designing Interactive Systems*, Vancouver BC, Canada.
- 2010-12 **Lead Examination Invigilator**, University of Nottingham, UK.
- 2006 **Research Facilitator**, research-applied project of Article 102 of Act on the third State Development Plan entitled "*Consideration of Emotional Utterance Patterns of Iranian Primary-school Students*", Isfahan, Iran.