

## CONTACT INFORMATION

**Arash Soleimani, Ph.D., Assoc. AIA**

Assistant Professor

College of Architecture + Construction Management  
Department of Architecture  
Kennesaw State University  
Marietta, GA 30060, USA

eml. [arash.soleimani@kennesaw.edu](mailto:arash.soleimani@kennesaw.edu) | tel. [270.559.2820](tel:270.559.2820)

## KEY WORDS

**Key words defining my interests, experiences, and ambition**

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

## 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:

*CyberPLAYce: A Cyber-Physical-Spatial Learning Environment Promoting Children's Computational Thinking*

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:

*Responsive and Interactive Environments in Museums: Managing Responsiveness & Interactivity within Museums & Exhibitions in a New Fashion*

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:

*The House of Photography: An Architectural Space of Learning, Experiencing and Viewing Photography*

## AWARDS & CERTIFICATES

- 2018-19 **AIA Innovation Grant**  
 Aim: To design and develop an architectural intervention in the city of Clarkston, GA. "A Refuge for Refugees" which showcases the fairy tale story of the Clarkston Community through an architectural design.  
 Award: \$5,000.00  
 Sponsor: Architecture Foundation of Georgia, AIA Georgia  
 Research Team: Arash Soleimani, Giovanni Loreto, Zamila Karimi
- 2018 **Seed Grant: Faculty Research Award**  
 Aim: Awarded to initiate Design Analytics Lab [DAL]  
 Role: Director  
 Award: \$30,000.00  
 Sponsor: Department of Architecture, Kennesaw State University, Marietta GA, 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
- 2017 **Certificate of Online Course Facilitation**  
 Kennesaw State University, Kennesaw 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**  
 Awarded the 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
- 2012-15 **Clemson University Graduate Assistantship**  
 Award: \$19,800.00 + Tuition Waiver p.a.  
 Clemson University, Clemson SC, USA
- 2009-10 **University of Nottingham Masters Scholarship**  
 Award: £5,000.00 p.a.  
 University of Nottingham, Nottingham, UK

## 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 & Videos

- 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: 2.65)
- 2019 Alani, A. & Soleimani, A., "**reTessellate: Modular Dynamic Surfaces Reactive to Socio-Environmental Conditions.**" *Proceedings of the 21<sup>st</sup> International Conference on Human-Computer Interaction* (Orlando, July 26-31). *HCII'19, Human-Computer Interaction*, Springer International Publishing, (in press).

**PUBLICATIONS**  
(continued)

- 2018 Ayers, C., Soleimani, A. & Loreto, G., "**Non-rigid Formwork Systems with Optimized Concrete Mixtures.**", *ACI Convention Fall* (Las Vegas, October 14-19). *ACI'18, American Concrete Institute*, (Archived Poster).
- 2018 Alani, A., 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 20<sup>th</sup> International Conference on Human-Computer Interaction* (Las Vegas, July 15-20). *HCII'18, Human-Computer Interaction*, LNCS 10921, Springer International 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 ABS'17, the International Conference on Advanced Building Skins*, Bern, Switzerland, 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 IDC'16, the ACM Conference on Interaction Design and Children*, Manchester, UK, 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 17<sup>th</sup> International Conference on Human-Computer Interaction* (Los Angeles, August 2-7). *HCII'15, Human-Computer Interaction*, LNCS 9192, Springer International 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 IDC'15, the ACM Conference on Interaction Design and Children*, Boston, MA, United States, (Doctoral Consortium).
- 2014 Soleimani, A., Green, K. E., Walker, I. D., Gardner-McCune, C. & Herro, D. C., "**CyberPLAYce - A Play Space of Creative, Intelligent Tools Promoting Personal and Computational Expression for Early Learners.**" *Proceedings of DIS'14, the ACM Conference on Designing Interactive Systems*, Vancouver, BC, Canada, pp. 191-194, (Doctoral Consortium – only nine students were accepted to the DC program amongst the entire participants worldwide, and the conference organizers covered the entire fees and expenses for the nine participants).
- 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 CHI'14, the ACM Conference on Human Factors in Computing Systems*, Toronto, Ontario, Canada, 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 IDC'13, the ACM Conference on Interaction Design and Children*, New York, United States, 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 'Wind Towers' thesis project was selected to be published at *the Council on Tall Buildings and Urban Habitat Website, CTBUH'10*, Chicago, IL, United States, (Thesis Competition).

## TEACHING

- 2016-present **Assistant Professor** (tenure-track) | Coordinator of Environmental Technologies  
**Kennesaw State University Dept. of Architecture**, Marietta GA, USA
- UG *ARCH 2003–Architecture Studio III (program: MARTA Train Station)*  
Architectural analysis and design problems with a focus on ideal tectonic concepts, connections and structures.
- UG *ARCH 2004–Architecture Studio IV (program: Studio + Gallery)*  
Architectural analysis and design problems with a focus on material constructions and making.
- UG *ARCH 3011–Architecture Studio V (program: Environmental Research Center)*  
Exploring conceptual architectural thinking with a focus on the integration of environmental systems and building technologies.
- UG *ARCH 2311–Environmental Tech I: Systems Selection, Materials & Methods*  
Investigating physical and structural properties of building materials.
- UG *ARCH 3314–Environmental Tech III: Lighting, Electrical & Acoustics*  
Exploring environmental design strategies with a focus on natural and artificial lighting, electrical systems and building acoustical design.
- UG *ARCH 4490–Computational Methods: Generative-Analytical Tools*  
Investigating techniques for integrating environmental performance analysis and design of buildings through a parametric approach.
- 2015-16 **Visiting Lecturer** | Coordinator of Computational Methods + Practice  
**UNC-Charlotte School of Architecture**, Charlotte NC, USA
- UG *ARCH 2101–Comprehensive Studio III (program: Performing Arts Center)*  
Architectural analysis and design problems with a focus on ideal tectonic concepts, ordering systems, and context.
- UG *ARCH 4102–Topical Studio (program: Museum of Interactive Technology)*  
Exploring and learning ways of making buildings more responsive, adaptable, dynamic, and engaging through the use of both traditional and contemporary digital technologies.
- UG + G *ARCH 4604 | 5604–Computational Methods*  
Understanding and learning the potential of computation and computational design through explorations with generative scripting and parametric tools, and focusing on the role of computation as part of one's design process.
  - Rhino | Grasshopper, Kangaroo, Karamba, Firefly, Archsim + DIVA, Ladybug + Honeybee, LunchBox
  - Nurbs Modeling | Mesh Modeling | Surface Modeling
  - Advanced Digital Fabrication Techniques | CNC milling, 3D printing, Laser cutting
  - Material study and exploring design thinking through fabrication
- G *ARCH 6603–Architectural Representation II*  
Learning and practicing different methods and media to prioritize elements, sequence operations, and focus attention to shape design solutions and communicate ideas through the development of physical & digital elements.
- 2012-15 **Lecturer** (teaching assistantship)  
**Clemson University School of Architecture**, Clemson SC, USA
- UG *ARCH 101–Introduction to Architecture*

**TEACHING**  
(continued)

- Introducing principles of architectural design including formal composition, visual communication, oral presentation, and computer literacy.
- UG *ARCH 151–Architecture Communication I*  
Focusing on the ability of understanding and applying the standard conventions of various graphic techniques ranging from analogue to digital.
- UG *ARCH 252–Architecture Communication II* (program: Marketplace + Branch Library)  
Architectural analysis and design problems with a focus on understanding site and the context of architecture.
- UG + G *ARCH 401–Architecture Portfolio*  
Cultivating graphic communication skills and development of a cohesive design identity through a suite of portfolios.
- UG *ARCH 452–Synthesis Studio* (program: Theater Campus)  
Exploring design opportunities through research, precedent studies, site mapping/analysis, programming and conceptual development.
- G *ARCH 868–Architectural Robotics* (co-taught with Keith Green + Ian Walker)  
Understanding, developing and testing robotic systems for the built and natural environments with collaboration among teams of Ph.D., M.S. and M.Arch. students from *Architecture* and *Computer Engineering*.

2013-14 **Instructor**  
**Clemson University School of Architecture**, Clemson SC, USA  
*EUREKA Program*  
Supervised six *EUREKA* students who were accepted to Clemson Univ.'s *Calhoun Honors College* for a 5-week project during summers. Students were supervised to design interactive learning environments for children.

2010-12 **Mentor**  
**University of Nottingham Department of Architecture and Built Environment**, Nottingham, UK  
Supervised and mentored several undergraduate architecture students with learning disabilities to complete their studies. Moreover, offered several workshops on *Digital Communication Skills*, teaching various computer programs e.g. AutoCAD, 3DsMax, ArchiCAD and Adobe Suite.

**THESIS SUPERVISION**

- 2016-present **KSU Department of Architecture** | B.Arch.  
Karen Rios • *Resurrecting a Fallen Angel: architecture against pollution*  
• Selected thesis for attendance in 2019's *CriticalMASS Graduate Research Symposium* at the UNC-Charlotte School of Architecture.  
Christian Aguilar • *Social Inclusion through Art*  
Zimulus Nixon • *Compelling Interactions: architecture that drives communication*  
Wenying Wu • *Translating Fictions through Shanshui Paintings*  
Chelsey 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*
- 2015-16 **UNCC School of Architecture** | M.Arch. II  
Philip Broszkiewicz • *Reimagining the Eastern Bloc[k]: modernizing mass housing through parametrics*  
Jason Hudson • *An Adaptable Algorithm: designing means for computationally-driven adaptability in high-rise development*  
Jacqueline Stewart • *Facelifting: redefining federal buildings through a façade overhaul*

**LECTURES & WORKSHOPS**

- 2019 **Perspectives on Global Issues: Global Citizenship in Changing Times**  
EAO'19: *the European Academy of Otzenhausen*, Germany  
Selected as part of Kennesaw State University's *Faculty Professional Development Program* to represent the KSU College of Architecture and Construction Management at the EAO Workshop.
- 2014 **Evaluating Children's Interactive Products**  
CHI'14: *the ACM Conference on Human Factors in Computing Systems*  
Toronto, Ontario, Canada  
Attended lecture on design methodology, input techniques, and end user programming guiding the design of interactive products for children.
- 2007 **Form Study and Construction of Free-style Forms**  
Tehran University School of Architecture, Tehran, Iran  
Completed specialized training workshop of *Form Study and Construction of Free-style Forms with Space Structures*.

**INDUSTRY EXPERIENCE**

- 2010-12 **Rushcliffe Solar**  
West Bridgford, Nottingham, UK  
Position: Researcher
  - Provided householders with the advice of costs and payback to fit photovoltaic roofs.
  - Worked with Rushcliffe Borough Council and Energy Saving Trust providing appraisal and estimation service for public buildings.
- 2010 **Rushcliffe Play Forum and Resource Center**  
Keyworth, Nottingham, UK  
Position: Internship
  - Designed an Art Center for making and exhibiting art crafts made by recycled and scrap materials for children.
- 2009-11 **New Art Exchange (NAE)**  
Nottingham, UK  
Position: Interior Designer
  - Curated an Iranian Contemporary Art and Culture Exhibition
- 2006-09 **Shahr-o-Khaneh Consulting Planners, Architects & Engineers**  
Mirza Koochek Khan Blvd., Isfahan, Iran  
Position: Architectural Designer
  - Extension of Zayanderoud Recreational & Cultural Village, Isfahan, Iran
  - Sheikh Bahaie University, Science Department, Isfahan, Iran
  - Rehabilitation and reconstruction of Doolab District, Tehran, Iran

**PROFESSIONAL MEMBERSHIPS**

- 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)**

**SERVICE**

- 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, organized 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), the 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.
- 2016-2019 **Co-chair**, Lecture, Exhibition and Symposium Committee, Department of Architecture, Kennesaw State University, Marietta GA, USA.
- 2016-2018 **Steering Committee Member**, Future City Competition, a cross-curricular educational program that gives middle school students the opportunity to learn engineering design process and build *21<sup>st</sup> century skills*, Georgia, USA.
- 2016-2018 **Associate Member**, Graduate Faculty of the University of North Carolina at Charlotte NC, USA.
- 2016 **Peer Reviewer**, IDC'16 Papers and Notes, the *ACM Conference on Interaction Design and Children*, Manchester, UK.
- 2014 **Peer Reviewer**, DIS'14 Doctoral Consortium, the *ACM Conference on Designing Interactive Systems*, Vancouver BC, Canada.
- 2010-12 **Lead Examination Invigilator**, University of Nottingham, 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.