C.V.

Dr. Taro Narahara

Associate Professor
New Jersey Institute of Technology
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SUMMARY

Taro Narahara is an Associate Professor with tenure at New Jersey Institute of Technology, where he teaches architectural computing, interaction design, and game design. He has lectured widely on generative design in architecture; visualization of human behavior models; robotic fabrication; and digital design education. He has published in international journals and conferences such as Computers & Graphics, IJAC, EUROGRAPHICS, and SIGGRAPH. His research includes the application of game design to rehabilitation robotics and therapeutic gaming in collaboration with biomedical engineers. He is a licensed architect and was associated with Skidmore, Owings & Merrill and Gluckman Mayner Architects where he worked on award-winning projects such as the Mori Arts Center.

EDUCATION

2007 - 2010 **Harvard University Graduate School of Design (GSD)**
Doctor of Design
Thesis: "Self-organizing Computation: A Framework for Generative Approaches in Architectural Design"
Focus: Generative Design, Architectural Computing, and Robotic Fabrication
Advisers: Martin Bechthold, Kostas Terzidis, and Takehiko Nagakura (MIT)
Awards: Peter Rice Prize and Digital Design Prize

2005 - 2007 **Massachusetts Institute of Technology (MIT)**
Master of Science in Architecture Studies (Design and Computation)
Thesis: "The Space Re-Actor: Walking a Synthetic Man through Architectural Space"
Advisers: Takehiko Nagakura, Terry Knight, and Kostas Terzidis (GSD)

1994 - 1997 **Washington University**, Graduate School of Design, St. Louis
Master of Architecture
Adviser: Adrian Luchini

1990 - 1994 **Waseda University**, School of Science and Engineering, Tokyo, Japan
Bachelor of Science in Mathematics
Focus: Differentiable Manifolds and Twister Space.

ACADEMIC APPOINTMENTS

2016 - **New Jersey Institute of Technology (NJIT)**
Associate Professor (Tenured), College of Architecture and Design

2010 - 2016 **New Jersey Institute of Technology**
Assistant Professor (Tenure track), College of Architecture and Design
- AD490: Smart Products/ Robotics for Architects and Designers
- AD490: Computational Design and Digital Interactions
- DD375: Physical Computing Laboratory (Digital Design Studio)
- DD275: Game Design Workshop (with History of Games)

2009 - 2010 **Harvard Digital Media Workshop**
Instructor (Three-week intensive courses for 40+ graduate students)
- Processing Workshop (Web-based interactive graphic programming)
- Rhino script Workshop (Programming within the 3-D CAD application)

2010 Spring **Harvard University Graduate School of Design (GSD)**
2009 Fall Teaching Fellow (Lectured on programming and swarm intelligence in Architecture. Helped students with Robotic Fabrication using 6-axis ABB robot arms and coding.)
- GSD6.415: Construction Automation Prof. Martin Bechthold

2007 Fall - **Harvard University Graduate School of Design**
2008 Fall Research Fellow (Assisted in the research on Architectural Robotics led by Prof. Martin Bechthold. Worked on the installation of a vision system for an ABB robot arm.)

Academic Positions continued:

2007 Fall - 2009 Spring **Harvard University Graduate School of Design**
Teaching Assistant (Taught architectural computing using Processing (Java) and MEL.)

- GSD2.107: Digital Design: Algorithm and Scripts — Prof. Kostas Terzidis
- GSD2.309: Algorithmic Architecture — Prof. Kostas Terzidis

2007 Spring 2006 Fall **Massachusetts Institute of Technology**
Teaching Assistant (Organized tutorials and recitations. Taught a 3-D printing process.)

- MIT4.156: Advanced Design Studio Level III. — Prof. Shun Kanda
- MIT4.560: Geometric Modeling, — Prof. Takehiko Nagakura

HONORS AND AWARDS

2016 **Excellence in Research Award**, NJIT.
This award recognizes NJIT faculty from each college who have achieved a sustained record of contributions that has enhanced the reputation of the university. Five NJIT faculty received it in 2016.

2014 **Academy Encouragement Award,** the 7th International VR symposium, Tokyo.

2014 **Faculty Seed Grant Initiative Award**, NJIT.
Awarded for my proposal, "Exploration of Unity 3D as a Physics and Animation Engine for Therapeutic Gaming and Rehabilitation Robotics", PI: Narahara, T. and Co-PI: Foulds, R. ($10,000) (also listed in grants).

2011 **Academy Encouragement Award**, the 5th International VR symposium, Tokyo.

2010 **Academy Encouragement Award,** the 4th International VR symposium, Tokyo.

Digital Design Prize, Harvard University, GSD.
Awarded for my research titled "Self-organizing Computation". The prize is awarded annually for the most creative use of computer graphics in relation to the design professions from the Graduate School of Design.

2009 **Peter Rice Prize**, Harvard University, GSD.
Awarded for my research titled "Generative Design Strategies: Software Development." This prize was established in recognition of the ideals and principles represented by the late eminent engineer Peter Rice.

REAI Research Grant Award, Harvard University.
The Real Estate Academic Initiative (REAI) at Harvard University offers grants to support real estate and urban development research by Harvard faculty and students. The grant was awarded for my research proposal on simulation of Spontaneous Settlements.

Academy Encouragement Award, the 3rd International VR symposium, Tokyo.
Awarded for my presentation titled "Implementation of Interactive Devices for VR environment."

Penny White Prize, Harvard University, GSD.
Awarded for my research titled "Simulating Informal Settlements: Understanding Correlation between Landform, Environment, and Human Habitations in Yemen" from the Graduate School of Design.

2007 - 2009 **Doctor of Design Grant**, Harvard University, GSD.
This grant covered a portion of the tuition and Teaching Fellow work award.

2006 - 2007 **Merit-Based Full Tuition Fellowship, MIT**, School of Architecture.
Full Tuition Fellowship was awarded based on a portfolio competition among students at MIT.

2005 - 2006 **Stipend Scholarship Award, MIT**, School of Architecture.

2007 **Smart Geometry Workshop / Conference Full Scholarship** from Bentley Systems Inc.

1998 **AIA Design Excellence Award** (Unbuilt category; Design Team).
Member of the award-winning Beersheba Chapel Project team led by the design principal, Adrian Luchini at the Design Center, Sverdrup Facilities, Inc. Contributed as a project designer.

PROPOSALS AND GRANTS

Awarded:

2016 Sep. Co-PI, "MRI-Development of an Open Architecture and Scalable Exoskeleton for Research on the Restoration of Ambulation of Persons with Disabilities" PI: Foulds, R., Co-PIs: Adamovich, S., Narahara, T., Lu, L., and Wang, C., NSF: Major Research Instrumentation Program (MRI), ($225,500), 2016 – 2018.

Sep. Academic Lead, "Interactive Content Generations using UAV Photogrammetry and Gaming Technologies", PI: Michael Ehrlich, Co-PI: Judith Sheft, Entrepreneurial Lead: William Busarello, NSF I-Corps Site Mini-Grant, ($1,500), 2016 – 2017.

2015 Sep. Academic Lead, "Turning Physical into Digital: Photogrammetry-based 3-D Model Generation and Re-Materialization", PI: Michael Ehrlich, Co-PI: Judith Sheft, Entrepreneurial Lead: Amos Dudley, NSF I-Corps Site Mini-Grant, ($2,500), 2015 – 2016.

Jun. Investigator (Faculty Team), "NJIT and the Kessler Foundation Rehabilitation Engineering Research Center (RERC) on Wearable Robots" PI: Foulds, R., National Institute on Disability, Independent Living and Rehabilitation Research, Department of Health and Human Services, ($5M over 5 years), 2015 – 2020.

Mar. Co-Investigator, "Innovation and Translation Studio for Biomechatronic Devices in Neurorehabilitation", PI: Richard A. Foulds (BME), Venturewell, ($19,500), 2015 – 2017.

2014 Nov. PI, "Exploration of Unity 3D as a Physics and Animation Engine for Therapeutic Gaming and Rehabilitation Robotics", PI: Narahara, T. and Co-PI: Foulds, R., NJIT Faculty Seed Grant Initiative ($10,000), 2014-2015. (Also listed in Honors and Awards)

Jul. Investigator (Technical Faculty VIS Team member), "NJ MarketShift: A New Jersey Proposal for Community Economic Adjustment Assistance for Advanced Planning and Economic Diversification (CFDA 12.614)".
PI: Timothy V. Franklin, Co-PIs: William J. Marshall III and Donald H. Sebastian (Principal Authorizing Officer), Department of Defense (DoD) Office of Economic Adjustment, ($5.6M for 18 months), 2014-2016.

Submitted
(Not awarded):

2015 Jan. Co-PI, "Development of an Open Architecture and Scalable Exoskeleton for Research on the Restoration of Ambulation of Persons with Disabilities" PI: Foulds, R., Co-PIs: Adamovich, S., Narahara, T., NSF: Major Research Instrumentation Program (MRI), Internal Competition through College/School Deans, 2015. (A white paper selected as one of three internal proposals to be submitted to NSF by the Deans).

2013 Feb. Co-PI, "Unmasking the hidden webs of life: persuasive technology for environmental awareness"
PI: Gareth J. Russell, Co-PIs: Daniel Bunker, Andrzej Zarzycki, Blair MacIntyre, and Taro Narahara. National Science Foundation (NSF), ($249,224), 2013.

Feb. Collaborator, "Development: CREATE Cube: instrumentation to support collaborative, immersive 3D visualization in a large-scale physical space"
PI: Doug A. Bowman, Co-PIs: Ico Bukvic, Yong Cao, Benjamin Knapp, Nicholas Polys, Thomas Tucker, and Dane Webster, Collaborator: Taro Narahara. NSF: Major Research Instrumentation Program (MRI), 2013.

2012 Nov. Investigator, "Development of an open source code repository for new education in design science"
PI: Shun Watanabe, Co-PIs: Kazuhisa Iki, Naoki Kato, Makoto Osaki, Haruyuki Fujii, Ichiro Nagasaka, Shinichiro Iwata, Norihiro Kawasumi. Investigator: Taro Narahara, The Japan Society for the Promotion of Science (JSPS) Grants-in-Aid for Scientific Research, Scientific Research (B), ($240,900 (19,908,000 yen)).

PUBLICATIONS

Book Chapters:

2015 Narahara, T. **"Architecture meets Gaming and Robotics: Creating Interactive Prototypes and Digital Simulations for Architects"** in Computer-Aided Architectural Design Futures – New Technologies and the Future of the Built Environment, 16th International Conference, CAAD Futures 2015, São Paulo, Brazil, July 8-10, 2015. Selected Papers. Gabriela Celani, David M. Sperling, and Juarez M. S. Franco (Ed.), Springer Science & Business Media, 2015, pp. 474-492. (Peer-reviewed in 3 stages)

2014 Narahara, T. **"The Computer as a Tool for Creative Adaptation: Biologically Inspired Simulation for Architecture and Urban Design,"** in *Computation for Humanity—Information Technology to Advance Society* (1st edition). In Justyna Zander and Pieter Mosterman (Ed.), Boca Raton, Florida: CRC Press, Taylor & Francis Group, LLC., 2014. pp. 69-94. (www.taylorandfrancis.com/books/details/9781439883273) (Peer-reviewed in 2 stages)

2010 Narahara, T. **"Crowd Simulation and Interactive Device."** in *Programming for civil engineers for VR and structural analysis* (1st edition), Natsuka Ota (ed.). Tokyo: Nikkei Business Publications, Inc., 2010. pp 222-233. (The chapter introduces a way to connect a physical microcontroller device with a virtual reality environment using software development language, Delphi, in order to establish a real-time interaction. The example in the book shows the interaction between crowd simulation inside a VR application and a physical input device that can read user's various movements of hands.) (ec.nikkeibp.co.jp/item/books/189790.html)

2009 Narahara, T. **"The Space ReActor: Walking a Synthetic Man trough Architectural Space."** in *Computational Constructs: Architectural Design, Logic, and Theory,* Chen, S., Li, S., and Lobel, J. (Ed.), Beijing: The China Architecture and Building Press, 2010. pp 71 – 83.
(This publication is coordinated between the MIT Design and Computation Group and the Digital Architecture Group of the World Association of Chinese Architects (WACA) and is funded by WACA.)
(Peer-reviewed)

Peer-Reviewed Talks:

2015 Narahara, T., Abbruzzese, K., and Foulds, R., "*Haptic Collaboration: Biomedical Engineering Meets Digital Design"*, **SIGGRAPH 2015 Talks** (The 42nd international Conference and Exhibition on Computer Graphics and Interactive Techniques,) Los Angeles, California, August 9-13, 2015.

2014 Narahara, T., "*Exploring Board Game Design Using Digital Technologies*",
SIGGRAPH 2014 Talks (The 41st international Conference and Exhibition on Computer Graphics and Interactive Techniques) Vancouver, Canada, August 10-14, 2014.

Peer-Reviewed journal papers:

2015 Narahara, T. *Design Exploration through interactive prototypes using sensors and microcontrollers*, *Computers & Graphics: An International Journal of Systems & Applications in Computer Graphics,* Elsevier Science & Technology, vol. 50 (2015), pp. 25-35.

2010 Narahara, T. *Designing for Constant Change: An Adaptable Growth Model for Architecture*,
International Journal of Architectural Computing (IJAC), issue 01, volume 08 (2010), pp. 30-40.

Peer-Reviewed conference proceedings:

2017 Narahara, T. *Collective Construction Modeling and Machine Learning: Potential for Architectural Design,* Proceedings of the 35th association for education and research in computer aided architectural design in Europe (eCAADe) Conference, Sapienza University of Rome, Roma, Italy, September 20-22, 2017. (Peer-reviewed; Presenter & Author)

2015 Narahara, T. and Kobayashi, Y. *Crowd Mapper: Projection-based Interactive Pedestrian Agents for Collective Design in Architecture*, in Proceedings of the 33rd association for education and research in computer aided architectural design in Europe (eCAADe) Conference, The Vienna University of Technology, Vienna, Austria, September 16-18, 2015, pp. 464.

Peer-Reviewed Papers continued:

2015 Narahara, T. *A tool kit for architects to create interactive prototypes and digital simulations*, Proceedings of the 16th International Computer Aided Architectural Design Futures 2015 (CAAD Futures) Conference, Sao Paulo, Brazil, July 6-10, 2015.

2014 Narahara, T. *Teaching Interactivity: Introducing Design Students to Sensors and Microcontrollers*, EUROGRAPHICS 2014 (The 35th annual conference of the European Association for Computer Graphics,) Strasbourg, France, April 7th – 11th, 2014, pp. 25 – 32.
(Selected as a **best education paper/presentation**)

2013 Narahara, T. *A Generative Approach to Robotic Fabrication*, in Stouffs, Rudi and Sariyildiz, Sevil (Ed.), Proceedings of the 31st eCAADe Conference, TU Delft: Delft University of Technology, Delft, Holland, vol. 1, 2013, pp. 673-68.

Narahara, T. *Physical Prototypes for Interactive Building Technology*, in Dermody, J. R. and Zarzycki, A. (Ed.) Proceedings of the 4th BTES Conference, Bristol, Rhode Island, 2013. (The featured project also appeared in IJAC 2010.)

Narahara, T. *Co-evolutionary Design with Robotic Devices*, in Proceedings of The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA), National University of Singapore, Singapore, May 15–18, 2013. (The featured project also appeared in eCAADe 2013.)

2012 Narahara, T. *Self-organizing Strategy: An Adaptable Growth Model for Architecture*, ACSA 100th Annual Meeting (The Association of Collegiate Schools of Architecture): "Digital Aptitudes", March 1-4, 2012 in Boston, MA, USA (Host School: Massachusetts Institute of Technology).

2011 Narahara, T. *A Conceptual Framework for Applications of Self-Organizing Logics in Urban Design*, 2011 PUARL International Conference: "Generative Process, Patterns and the Urban Challenge", (The Portland Urban Architecture Research Laboratory), October 28-30, 2011, University of Oregon, Portland, Oregon. (The featured project also appeared in ACSA 2012.)

Narahara, T. *Generative Applications inspired by Emergent Behavior*, Proceedings of the International Symposium on Algorithmic Design for Architecture and Urban Design, ALGODE TOKYO 2011, November 13--14, 2011, Tokyo, Japan.

Narahara, T. *Beyond Quantitative Simulations: Local Control Strategy Using Architectural Components*, Proceedings of the ACADIA 2011 Regional, Parametricism (SPC), March 10-12, University of Nebraska Lincoln, Lincoln, Nebraska, USA. (The featured project also appeared in IJAC 2010.)

2010 Narahara, T. *Form, Evolution, and Agents: New Approaches in Spatial Design* (in Japanese), The 33rd Symposium on Computer Technology of Information, Systems, and Applications organized by Architectural Institute of Japan (AIJ) on December 10, Tokyo.

2009 Kobayashi, Y., Terzidis, K., Narahara, T., et al., *World8: International Working Group for New Virtual Reality Applications in Architecture*, Proceedings of the CAAD Future09 Conference, "Joining languages, cultures and visions", Montreal, Canada, June 17-19, 2009, Pages 547-556.

Narahara, T. *Bottom-up Design Inspired by Evolutionary Dynamics*, in Proceedings of eCAADe 2009: (Education and Research in Computer Aided Architectural Design in Europe), Computation: New Realm of Architectural Design, Istanbul, Turkey, September 16-19, 2009, pp.391-398.

2008 Narahara, T. *New Methodologies in Architectural Design Inspired by Self-Organization*, in Proceedings of the Association for Computer-Aided Design in Architecture (ACADIA), Silicon + Skin: Biological Processes and Computation, Minneapolis (USA) October 2008, pp.324-331.

2007 Narahara, T. *Enactment Software: Spatial Designs Using Agent-based Models*, in Proceedings of AGENT 2007: Conference on Complex Interaction and Social Emergence, Argonne National Laboratory (sponsor) and Northwestern University (host), Norris Center, Evanston, November 15-17, 2007.

Griffith, K. and Narahara, T. *Standardized Algorithms and Design Descriptions for "one-off" designs*, in Proceedings of MCPC 2007: World Conference on Mass Customization & Personalization. Massachusetts Institute of Technology (MIT), Cambridge, October 7-9, 2007.

Peer-Reviewed Papers continued:

2007 Narahara, T. *The Space Re-Actor: Walking a Synthetic Man through Architectural Space*, in Proceedings of the 25th Education and Research in Computer Aided Architectural Design in Europe (eCAADe) Conference, Frankfurt, Germany, September 26-29, 2007, pp.195-202. (The featured project also appeared in Computational Constructs)

2006 Narahara, T. and Terzidis, K. *Multiple-constraint Genetic Algorithm in Housing Design*. in Proceedings of the Association for Computer-Aided Design in Architecture (ACADIA) International Conference, Synthetic Landscapes, Digital Exchange, Louisville (USA) 12-15 October, 2006, pp. 418-425.

Narahara, T. and Terzidis, K. *Optimal Distribution of Architecture Programs with Multiple-constraint Genetic Algorithm*. In Proceedings of the International Conference, SIGRADI 2006, Post Digital, Santiago (Chile) 21-23 November, 2006, pp. 293-303.

Articles About / Mention:

2013 **AD Magazine** (05/2013): "Design Robotics – New Strategies for Material System Research" in *"Inside Smartgeometry: Expanding the Architectural Possibilities of Computational Design"* in Brady Peters and Terri Peters (Editors), AD 05/2013, John Wiley & Sons. pp. 258 – 259. (May 2013).
(Design and research work was introduced in the article with figures)

2011 **GSD Platform 4:** Narahara, T. "Self-Organizing Computation: A Framework for Generative Approaches in Architectural Design", in GSD Platform 4, Howeler, E. (Editor), New York, New York: Actor, 2011. pp. 76-78.
(Publication of Design and Research Work)

2010 **AD magazine** (04/2010): "The Return of the Future" by Martin Bechthold in "New Structuralism: Design, Engineering and Architectural Technologies" in Oxman, R. (Editor), AD 04/2010, John Wiley & Sons. pp.116 - 121. (April 2010). (Design and research work was introduced in the article with figures)

2010, 2009 **Tank Books: A View on Harvard GSD Vol 1 & Vol 2**, Tank Form Ltd. London, UK.
2009. pp.441-442. & 2010 pp.426-427. (Publication of Design and Research Work)

2008 **GSD 08 Platform**, Kubo, M. (Editor), New York, New York: Actor, 2008.
(Publication of Design and Research Work)

2005 **Publication of Museo Picasso Malaga project monograph**
Collaboration with the graphic design firm, 2X4 Inc. Worked on drawings, renderings, and layouts.

Periodicals Published:

2013 – 2014 **Articles for "Up and Coming" (vol. 99-105)**
Narahara, T., "Report on international education in architectural computing" in "Up and Coming" (Japanese architectural software magazine), Oota Natsuko (Ed.), Forum8 Publishing Co., Ltd., Tokyo.
Provided nine articles on current trends in digital design, architectural computing, and education in abroad. (Articles: quarterly; Also available in an on-line format)
vol. 107, pp. 11 - 14 (Link), vol. 106, pp. 11 - 14 (Link), vol. 105, pp. 7 - 10 (Link), vol. 104, pp. 7 - 10 (Link), vol. 103, pp. 7 - 10 (Link), vol. 102, pp. 11 - 13 (Link), vol. 100, pp. 8 - 10 (Link), vol. 99, pp. 18 - 19 (Link).

2010 **Kyoryo & Toshi Project (Bridge & Cities)**, pp. 52-54, vol. 46, No.4, 2010 (Article)
Title: "Development of a Linking System for VR and Interactive Devices".
(A summary of my talk at the VR Symposium 2010 in Tokyo)

2009 **Kyoryo & Toshi Project (Bridge & Cities)**, pp. 52-54, vol. 45, No.2, 2009 (Article)
Title: "Use of Motion Capture Files on Agent-based Models for Realistic Simulation".
(A summary of my talk at the VR Symposium 2009 in Tokyo)

2008 **Kyoryo & Toshi Project (Bridge & Cities)**, pp. 52-54, vol. 44, No.1, 2008 (Article)
Title: "Spatial Design using Agent-based Models".
(A summary of my talk at the VR Symposium 2008 in Tokyo)

Translations

2014 (Translation Supervisor for a Book) **Behaviour. Security. Culture (BeSeCu): Human behaviour in emergencies and disasters: A cross-cultural investigation**, Silke Schmidt and Edwin R. Galea, Forum8 Publishing co., ltd., Tokyo, Japan, November, 2014. (Supervised the translation of the original book from Pabst Science Publishers (ISBN: 978-3-89967-867-3) into the Japanese language with other translators in the team. Professor Edwin R. Galea at the University of Greenwich is a leading scholar in agent-based emergency egress simulations. Worked on translations and revisions in several stages.)

2001 (Translator of an Article) **A+U Magazine: Translation of the article written by Richard Gluckman, FAIA.** "Fashionable Collaborations", A+U (Architecture and Urbanism), No.375, December 2001, pp.34-39.

Internet-based Media Contribution

2013 – 2014 **Up and Coming, vol.99 – 105** are also available online. (URL: http://www.forum8.co.jp/topic/TARO0.html)

2011 **Exploring New Trends:** Information-oriented Strategy and Technologies in Civil Engineering, Construction, Transportation and Environment, June 1, 2011. Web-based magazine article about my presentation at VR symposium in 2011. (URL: http://www.wsolutionsjp.com/201106VRworld1609Narahara.html)

2000 **Spatial-Lounge,** A short essay for an A+U magazine's web-based magazine.
(URL: http://www.spatial-lounge.com ; Not available anymore)

PROFESSIONAL WORK

2000 - 2005 **Gluckman Mayner Architects (GMA).** New York, NY. (Full-time employment as an architect)

2000 – 2003 Mori Art Center. Tokyo, Japan
Project Architect from the schematic design through to the opening of the museum for design of a cable-net-shell structure entrance pavilion, 30,000 ft^2 exhibition spaces, and coordination between Japanese local architects and general construction companies (Mori Building Co. Irie-Miyake Architects, JV: Kajima & Obayasi)
(American Architecture Award, 2004; The Chicago Athenaeum, Museum of Architecture and Design, 2004)

2004 MoMA Store. New York
Project Architect for the interior design of a total 5,700 ft^2 store area and display fixtures from the schematic design to construction document phase.

2003 – 2004 Hotel Puerta de America. Madrid, Spain
Project Architect for the interior design of hotel rooms, suites, and common spaces in 14-storey-building in Madrid from schematic design to construction document phase.

2004 Museo Picasso Malaga, Madrid, Spain
Project Team. Schematic design, design development, and the publication of a monograph with 2X4 Inc.
(Institute Honor Award for Architecture, American Institute of Architects, 2006)

2004 Philadelphia Museum of Art Annex. PA
Project Team. Construction document phase.
(Grand Jury Presentation Achievement Award, Preservation Alliance for Greater Philadelphia, 2007)

2005 Robin Hood Library for P.S. 192. New York
Project Team. Construction document phase.
(Award of Excellence in Library Architecture, AIA/American Library Association (ALA), 2007)

2002 Vassar College – Kenyon Hall Renovation. Poughkeepsie, NY
Project Team. Construction document phase.

2002 Close Residence. Bridgehampton
Renovation and studio addition for the house of an artist, Chuck Close.

Professional Work continued:


Mori Art Center (GMA)


Entry Structure (GMA)


Hotel Puerta de America (GMA)

1997 – **2000** **Skidmore, Owings & Merrill LLP (SOM)**. New York, NY. (Full-time employment)

1997 – 2000 Kuwait Police Academy, Kuwait (Principal: Roger Duffy)
Design Team. Design of a total 4.5 million ft^2 campus. Master planning, schematic design, and design development phases.

2000 Woolworth Tower Renovation, NY (Principal: Roger Duffy)
Design Team. Landmark submission, schematic design, and design development phases for the renovation and addition of penthouses.

1999 Manguf Hilton Resort Hotel, Kuwait (Principal: Roger Duffy)
Design Team. Design development phase.

1998 Time Warner Center (Columbus Center,) NY (Principal: David M. Childs)
Design Team. Submission for the final phase of the competition entry.

1998 Swiss Bank, Connecticut (Principal: Mustafa Abadan)
Design Team. Design development phase.

1999 2 Broadway, NY (Principal: Roger Duffy)
Design Team. Interior renovation of the lobby and the design of the security desks.

1998 **Rafael Vinoly Architects PC, New York, NY.** (Summer Free-lance Work)

Philadelphia Concert Hall, PA. Design Team (Worked on Schematic design phase.)

The Jazz at Lincoln Center Theater, NY. Design Team (Worked on Schematic design phase.)

1997 **Adrian Luchini, Design Center, Sverdrup Facilities, Inc. St. Louis, MO.**

Beersheba Chapel, TN. Design Team.
(AIA Design Excellence Award: Unbuilt project category).

Gateway Transportation Center, St. Louis, MO. Design Team.

Costantini Museum Competition, Buenos Aires, Argentine. Design Team.

PROFESSIONAL LICENSES

2004 – **Licensed and Registered Architect** (RA) in the State of New York.

NCARB Certification (National Council of Architectural Registration Boards) **qualified**.
(Completed Intern Development Program (IDP) in 2003).

2018 – **First-Class Architect in JAPAN** (1st-class *Kenchikushi*)
(Passed the qualification exam by the Ministry of Land, Infrastructure, Transport and Tourism in 2017).

1994 – **Teacher's License,** Tokyo Metropolitan Board of Education, Japan.
Eligible for teaching mathematics at a high school in Japan.

INVITED TALKS AND CONFERENCE PRESENTATIONS

2017 Sep. **eCAADe** (the 35th association for education and research in computer aided architectural design in Europe) Sapienza University of Rome, Roma, Italy, September 20 – 22, 2017. (Peer-reviewed; Presenter & Author)

Aug. **Construction Bionics 2017**: Bio-inspired Concepts for the Built Environment, School of Civil and Environmental Engineering, Technische Universität Dresden, Germany, August 15 -23, 2017. (URL: Link) (Invited Keynote speaker & invited guest critique)

The Urban Design Committee at the Japan Institute of Architects (JIA), Tokyo, Japan, August 5, 2017. (Invited guest speaker)

2016 Nov. **The 9th International VR Symposium**, Tokyo, Japan, November 17, 2016. (Invited speaker)

Jul. **The 7th Virtual Reality (VR) Summer Workshop**, Osaka University, Japan, July 11 – July 16, 2016. *"Interfacing VR Environment with Sensors"*, (Link) (Invited speaker)

2015 Nov. **The 8th International VR Symposium**, Tokyo, Japan, November 20, 2015. (Invited speaker)

AQS (The International Symposium on Algorithmic Design), Tokyo, Japan, November 14, 2015. (Invited Keynote speaker & Panelist)

Sep. **eCAADe**, the Vienna University of Technology, Austria, September 16 – 18, 2015. (Peer-reviewed)

Aug. **SIGGRAPH 2015 Talks** (The 42th international Conference and Exhibition on Computer Graphics and Interactive Techniques), Los Angeles, California, August 9th – 13th, 2015. (Peer-reviewed)

Jul. **CAAD Futures** (the 16th International Computer Aided Architectural Design Futures 2015 Conference), Sao Paulo, Brazil, July 6-10, 2015. (Peer-reviewed)

The 6th Virtual Reality (VR) Summer Workshop, Thessaloniki, Greece, June 29 – July 3, 2015. *"Projects using photogrammetry and drone technologies"*, (Invited speaker)

Feb. **NJIT**: Third Annual Faculty Research Symposium, Campus Center, NJIT, February 23, 2015. (Selected to present; Digital poster presentation)

2014 Nov. **The 7th International VR Symposium**, sponsored by Computer Graphic Arts Society (CG-ARTS), KENTSU SHINBUNSHA, SHINKENCHIKU Co., Ltd. and International Alliance for Interoperability Japan Association (IAI), Tokyo, Japan. (November 21, 2014). (Invited Lecture)
Awarded Academy Encouragement award for the presentation.

Aug **SIGGRAPH 2014 Talks**, Vancouver, Canada, August 10th – 14th, 2014.
"Exploring Board Game Design Using Digital Technologies". (Peer-reviewed)

Apr **EUROGRAPHICS 2014** (the 35th annual conference of the European Association for Computer Graphics) *"Teaching Interactivity: Introducing Design Students to Sensors and Microcontrollers."* Strasbourg, France. April 9th, 2014 (Peer-reviewed) (Selected as a **best education paper presentation**)

Apr **NJIT: *What is the future of Gaming?*** (symposium), sponsored by National Society of Black Engineers (NSBE) NJIT Chapter, NJIT Campus Center, Newark, New Jersey, April 4, 2014 (Invited Presenter/Panelist)

Apr **Virginia Polytechnic Institute and State University**, School of Visual Arts, Collage of Architecture and Urban Studies, Blacksburg, Virginia. (April 1st, 2014)
"Visiting Artist Lecture Series". (Invited Keynote speaker)

Mar **Shenkar Collage of Engineering and Design**, Louvre Auditorium, Mitchell building, Tel Aviv, Israel, (March 23, 2014) (Invited Keynote speaker)

Feb **NJIT**: Presentation at the Meeting with Deputy Mayor Sr. Antoni Vives of Barcelona and Team, February 14, 2014 (Selected to present)

2013 Sep **eCAADe**, Delft University of Technology, Delft, The Netherlands. (September 19, 2013) *"A Generative Approach to Robotic Fabrication.*" (Peer-reviewed)

Jul **BTES** (the 4th Building Technology Educators' Society Conference,) Roger Williams University, Bristol, Rhode Island. "*Physical Prototypes for Building Technology,*" (July 13, 2013) (Peer-reviewed)

Jun **Kakogawa Higashi Senior High School**, Title: *The first step to become a member of a global society,* Fukuda, T. (Moderator), Hyogo, Japan, Kakogawa Higashi Senior High School, Hyogo, Japan, June 17, 2013 (Invited Guest lecture)

Jun **Tokyo City University**, Faculty of Urban Life Studies, Tokyo, Japan. (June 5, 2013).
(Lecture: Invited by Prof. Makoto Sei Watanabe)

Conferences / Invited Lectures continued:

2013 Apr **NJIT**: Board of Visitors Meeting, Title, "*The role of the Academy vs. the role of the Industry"*, April 17, 2013 (Selected to present)

Mar **NJIT**: **Distributed Intelligence** conference, Title: *The Computer as a Tool for Creative Adaptation,* March 6, 2013 (Selected to present)

May **CAADRIA**, National University of Singapore, Singapore, May 15, 2013 (Peer-reviewed)
"Adaptive Growth using Robotic Fabrication."

2012 May **MIT: 4.S52: Computational Design Lab:** Reinventing BIM (Lecture; Invited by Prof. Takehiko Nagakura)

Mar **ACSA 100th Annual Meeting**, Boston MA (Peer-reviewed)

Mar **NJIT: Think Pieces** (Selected as one of five faculty members to represent)

Nov **ALGODE 2011**, Tokyo, Japan (Peer-reviewed)

Nov **The 5th International VR Symposium,** Tokyo, Japan.
Awarded Academy Encouragement award for the presentation

2012 Oct **The PUARL International Conference**, Portland, OR, USA (Peer-reviewed)

2011 Mar **ACADIA 2011 Regional**, University of Nebraska Lincoln, Nebraska (Peer-reviewed)

2010 Dec **The 33rd Symposium on Computer Technology of Information, Systems, and Applications**
Organized by Architectural Institute of Japan (AIJ) on December 10, Tokyo (Guest Speaker)

Nov **The 4th International VR Symposium**, Tokyo, Japan.
Awarded Academy Encouragement award for the presentation.

Jul **Wyss Institute for Biologically Inspired Engineering,** Harvard University.
Title: "*Self-organizing Computation: A generative approach for Architectural Design"*. (Invited Lecture)

Feb **MIT: 4.564 Design Scripting** (Lecture; Invited by Prof. Takehiko Nagakura)

2009 Nov **The 3rd International VR Symposium**, Tokyo, Japan.
Awarded Academy Encouragement award for the presentation.

Nov **KEIO University,** SFC, Japan (Lecture; Invited by Prof. Yasushi Ikeda)

May **MIT**: 4.564 Design Scripting (Lecture; Invited by Prof. Takehiko Nagakura)

Feb **The MIT Design and Computation Alumni Symposium**
Recent Work, Cambridge, Boston, February 13, 2009 at MIT (Selected to present)

2008 Nov **The 2nd International VR Symposium**, Tokyo, Japan, November 19 (Invited)

Oct **ACADIA**, Silicon + Skin: Biological Processes and Computation, Minneapolis, 2008 (Peer-reviewed)

2007 Nov **The 1st International VR (Virtual Reality) Symposium**, Tokyo, Japan, November 20 (Invited)

Nov **AGENT 2007:** Conference on Complex Interaction and Social Emergence, Argonne National Laboratory (sponsor) and Northwestern University (host), Evanston (Peer-reviewed)

Oct **MCPC** (World Conference on Mass Customization & Personalization), MIT Cambridge, Oct. 7-9, 2007 (Presented with Griffith, K.; Peer-reviewed)

Sep **eCAADe,** Frankfurt, Germany (Peer-reviewed)

Aug **Architectural Institute of Japan** (AIJ), Tokyo, Japan (Invited)
Presented at Sub-committee on Design Science, Research Committee on Information Systems Technology.

2006 Nov **SIGraDi,** Post Digital, Santiago, Chile, 21-23 November 2006 (Peer-reviewed)

Oct **ACADIA**, Synthetic Landscapes Digital Exchange, Louisville, USA, 12-15 October 2006 (Peer-reviewed)

Conferences / Invited Lectures continued:

2006 May **MIT: Computational Geometry for Spatial and Design Reasoning** (Lecture; Invited by Prof. Denise Shelden) Title: "The Entry Structure: 2-way cable-net-shell structure, work from GMA."

2005 July **ARUP Japan, Tokyo** (Invited; Lecture)
Title: "The Entry Structure project", lectured on the project from Gluckman Mayner Architects (GMA).

EXHIBITIONS

2014 Apr **Dynamic Surfaces as Building Envelops**, Student Project Exhibit, International Workshop and Exhibition with Ron, R., and Vital, R. at Shenkar College of Engineering and Design, Tel Aviv, Israel. (March 23, 2014). (http://dynamicsurfaces.wix.com/dynamic-surfaces#)

2013 May **Pottery exhibition at University of Medicine and Dentistry of New Jersey (UMDNJ)**
Watts, J., Narahara, T. et al., sponsored by the Newark Museum Arts Workshop, Newark, New Jersey, (May 19 - August 25, 2014). (Exhibitor; Group exhibition led and curated by John Watts)

2013 Feb **The 5th International Exhibition on Media Art and Information Aesthetics (MAIA)**
Narahara, T., Santiago, M., and Hallowell, S. (Exhibitors),
Media+ Life: Sensorial Collaboration, hosted by the Faculty of Arts, Tokyo Polytechnic University, and Japan Society of Image Arts and Sciences (JASIAS) in Tokyo, Japan. (February 4-6, 2013) (Submissions include my project and two students' projects from my courses.) (Submitted, accepted, and included in their book)

2010 Sep **Tokyo Game Show 2010**, September 16-17, Makuhari Messe, Chiba, Japan
Exhibited an interactive device for crowd simulation in VR environment as a part of exhibition by Forum8.

2010 Jun **3D & Virtual Reality Expo (IVR)**, organized by Reed Exhibitions Japan Ltd.
Exhibited an interactive device for crowd simulation in VR environment with Forum8 co., ltd.
Tokyo International Exhibition Center (Tokyo Big Sight), Tokyo, Japan, June 23-25, 2010

2008 Mar **Harvard GSD Computational Design Exhibition**
with K. Terzidis, J. Park, and D. Rosenberg (Exhibition of individual works.)
"Kitakaze: Swarm-scape", Interactive digital design art work using a track ball.

Exhibitions of Student Work:

2016 Jul **SIGGRAPH 2016**: **Faculty Submitted Student Work Exhibit**, The SIGGRAPH Education Committee, Anaheim, CA. USA. Course works by my students, Natalia Szabla, Nathalie Carrasco, Will Busarello and Umaamha Tobias were accepted. (July 23 - July 28, 2016). (Double-curated)

2015 Aug **SIGGRAPH 2015**: **Faculty Submitted Student Work Exhibit**, The SIGGRAPH Education Committee, Los Angeles, CA. Course works by my students, Miles Johnson, Ed Lopez Jr., Kim Hastings, Ian Yunis, David Kong II, and Brenda Loja were accepted. (August 9th – 13th, 2015). (Double-curated)

2015 Jan **NASAD** (National Association of Schools of Art and Design) Exhibition:
Exhibitions of students' projects and posters of faculty work from School of Art + Design, NJIT.
(January 19 – 23, 2015)

2014 Aug **SIGGRAPH 2014**: **Faculty Submitted Student Work Exhibit**, The SIGGRAPH Education Committee, Vancouver, Canada. Course works by my students, Pamela Jablonski were accepted.
(August 10th – 14th, 2014). (Double-curated)

2013 Aug **SIGGRAPH 2013: Faculty Submitted Student Work Exhibit**, The SIGGRAPH Education Committee, Los Angeles, CA. Course works by my students, Gunning, B., Krepa, K. Lauriers, L., Mercado, K., Santiago, M., and Solano, D., were accepted. (August 5, 2012 - August 9, 2012). (Double-curated)

2012 Aug **SIGGRAPH 2012: Faculty Submitted Student Work Exhibit**, The SIGGRAPH Education Committee, Los Angeles, CA. Course works by my students, Amankona, K., Sims, B., and Padilla, E. were accepted by competition. (August 5, 2012 - August 9, 2012). (Double-curated)

2012 **Synergis Engineering Design Solution**, Online Student Showcase, course work by my students, B. Sims, was presented. (April 1, 2012). (URL: http://www.synergis.com/industries/education/student-showcase)

SERVICE

To Professional Societies:

2015 Session Chair,
CAAD Futures (the 16th International Computer Aided Architectural Design Futures 2015 Conference), Sao Paulo, Brazil, July 6-10, 2015. (Appointed)

2013 - 2017 Juror / Executive Committee Member,
Cloud Programming World Cup (CPWC), Tokyo.
Served as one of four Judging members annually since 2013. The objective of the international competition is to develop software including all-purpose software, application program, engineering software, business software, or game software, and to promote programming among students in design fields. (URL: http://cpwc.forum8.co.jp/English/) (5 times) (Appointed)

2013 – 2014 Organizing Member / the 1st and 2nd (Final) stage juror,
ALGODeQ (ALGOrithmic Design Quest: International Programming Competition for architecture, cities, and general design), Tokyo, 2014.
The international competition recognized computer programs that make outstanding contributions to algorithmic design, and outstanding works of architecture created by them. Served as one of the six final jurors selected from 16 jurors from the 1st stage. Juror comments are posted on the website (http://algodeq.org/?page=com_prof). Chair: Makoto Watanabe (TCU) sponsors: Takenaka co., ltd., (November 7, 2013 - November 3, 2014). (Appointed)

2010 – 2011 International Relationship Committee member / Session Chair,
ALGODE TOKYO (The International Symposium on Algorithmic Design for Architecture and Urban Design), Tokyo, 2011. I promoted the conference internationally and worked on the selection of keynote speakers from abroad. Chair: Yasushi Ikeda (KEIO), (URL: Link) (November 5, 2010 - November 30, 2011). (Appointed)

2009 Adviser,
Build Live Tokyo 2009 II Design Competition (using BIM Technology)
with Forum8, T. Fukuda, and K. Terzidis. Competition to design a housing complex within 48 hours using BIM Technology software. Assisted the team as an adviser. The team received the **"Engineering Award"** from the organizer, International Alliance for Interoperability Japan Association (IAI Japan). (Appointed)

2008, 2009 Organizing Member / Co-Session Chair,
The International Conference on Critical Digital, Harvard University, Cambridge, MA,
What Matter(s)?, Chair: Kostas Terzidis (GSD); (April 18-9, 2008 & April 17-19, 2009). (Appointed)

To the Community:

2015 Chair, NJIT Organizing Committee,
Greater Newark Mini Maker Faire, Newark, April 11, 2015
The Greater Newark Mini Maker Faire is a showcase of creativity and innovation in the New Jersey and surrounding communities. I worked as a coordinating chair to prepare three exhibition booths and one workshop with 30+ students and several faculty members from the School of Art + Design. The exhibits and workshop demonstrated hands-on activities using digital technologies, such as 3-D printing, augmented reality, laser scanning, photogrammetry and offered an immersive 3-D gaming experience using Oculus Rift.

2015 Workshop Instructor,
Girls Who Code, Newark, July 31, 2015
I conducted a workshop for 40 high-school female students and taught how computing, robotics, and coding can be used in design activities through a hands-on project using photogrammetry and game design tools. I also coordinated visits to robotics laboratories at Biology and Biomedical Engineering departments at NJIT. (Girls Who Code is a nonprofit organization that aims to support women in computer science. The organization runs summer programs that teach computing and programming skills to high school girls.)

To NJIT (On-Campus Activities):

2017 - Member, **Faculty Senate Committee on Faculty Rights and Responsibilities** (CFRR), NJIT.

2017 - Member, **Dean Search Committee** for the College of Architecture and Design (CoAD), NJIT.

2017 Member, **Vice Provost for Undergraduate Studies (VPUS) Search Committee**, NJIT.

2012 - Member, **Teaching, Learning, and Technology Committee**, NJIT.
Discussed on the resolutions on allocation of DL Fees, classroom instructional technology, instructional spaces support resources, the quality and accessibility of online, face-to-face, and hybrid courses, a creation of Quality Matters rubrics for them. Worked also as a member of the Research Computing Infrastructure Sub-Committee.

2015 - Faculty Judge, **The Dana Knox Student Research Showcase**, NJIT.

2012 - 2017 Founder/ Coordinator, **GameFest**. (2012, 2013, 2014, 2015, and 2016)
Founded and organized an annual November event that provides an opportunity for students to exhibit and test a series of analog games created with technology-enabled design processes. Students explore the relationship between traditional and digital games, and the use of digital fabrication in the development of physical games through the alteration of game structures. The games are created within the framework of my course, History of Games, and were tested by students and faculty in the School of Art + Design. Some results from the event was presented at the peer-reviewed talk at SIGGRAPH 2015.

2010 - Program Organizing Member / Presenter, **Global Game Jam (GGJ)** local site at NJIT.
Responsibilities included the presentation of the theme of the event at the opening lecture and supervision of students and coordination of facilities throughout the 48 hours of production time. In 2012, I contributed to the NJIT team by producing a game using C# programming language.

2016 Member, **Faculty Search Committee,** CoAD, NJIT.
I evaluated, interviewed, and assessed qualifications of candidates applying for an Industrial Design tenure-track position in the School of Art + Design.

2015 Member, **Faculty Search Committee,** CoAD, NJIT.
As a result, Gernot Riether (current director) and Adam Modesitt were hired.

2014 Chair, **Faculty Search Committee,** CoAD, NJIT.
Chaired the search for an Industrial Design tenure-track position in the School of Art + Design. I prepared the advertisement for the position, communicate with potential candidates, collect and distribute application materials to other members, and organized meetings.

2012 Member, **Faculty Search Committee,** CoAD, NJIT.
As a result, Maria Hurtado de Mendoza was hired.

2012 Member, **Faculty Search Committee,** CoAD, NJIT.
As a result, Martina Decker was hired.

2011 Member, **Faculty Search Committee,** CoAD, NJIT.
As a result, Keith Krumwiede and Jesse Lecavalier were hired.

2010 - Faculty Advisor, **Undergraduate Open House**. (4 times annually).
I organized and exhibited interactive physical computing projects from my design studio and courses using sensor technologies and microcontrollers. I answered questions from prospective students and their parents and explained about programs offered by the School of Art + Design.

MEMBERSHIPS AND AFFILIATIONS

2014 –	EUROGRAPHICS	(European Association for Computer Graphics)
2011 –	ACM SIGGRAPH	(Special Interest Group on Graphics and Interactive Techniques)
2013 –	SOAT	(State of the Art Technologies in Expression Association; **Promoter/originator**)
2013 –	eCAADe	(Education and Research in Computer Aided Architectural Design in Europe)
2012 –	CAADRIA	(The Association for Computer-Aided Architectural Design Research in Asia)
2011 –	ACADIA	(Association for Computer-Aided Design in Architecture)

RESEARCH AND DESIGN SUPERVISION

Graduate students:

Ajit Puthenputh-ussery (NJIT)	Ph.D. in Computer Science, Dissertation Committee Member *Novel Image Descriptors and Learning Methods for Image Classification Applications*	2016 -
Qingfeng Liu (NJIT)	Ph.D. in Computer Science, Dissertation Committee Member *Investigation of New Learning Methods for Visual Recognition*	2016 - 2017
Kevin Abbruzesse (NJIT)	Ph.D. in Biomedical Engineering, Dissertation Committee Member *Assessment of a Hand Exoskeleton on Proximal and Distal Training in Virtual Environments for Robot Mediated Upper Extremity Rehabilitation*	2014 - 2016
Fernando Garay (NJIT)	M.S. in Biomedical Engineering, MS Thesis Committee Member *Adaptable Virtual Reality 3-D Pinball Videogame for Interactive Upper Extremity Rehabilitation*	2014 - 2015
Andreas Wilde (TU Dresden)	M.S. in Architecture External Dissertation Committee Member *Application of Video Game Elements for Massive Urban Citizen Co-Design*	2017 -
Tarek Al-Hariri (NJIT)	M.Arch. Independent Study Co-Adviser *Architectural Installation using Physical Computing with Arduino (Not a thesis)*	2012

Undergraduate students:

Tulio Squarcio (NJIT)	B.S. in Industrial Design Independent Study Advisor *Exploration in Sensory Technology for Product Design*	2017 -
Michael Centeno (NJIT)	B.S. in Arch. Mentor for NCARB AXP hours *NCARB AXP Design Competition*	2017 -
John Ferns (NJIT)	B.Arch. Dissertation Primary Advisor *Integrating the Digital and the Physical (B.Arch. Dissertation)*	2016
William Busarello (NJIT)	B.A. in Digital Design Undergrad Research Advisor *Interactive Content Generations using UAV Photogrammetry and Gaming Technologies* (NSF I-Corps Site Mini-Grant)	2016
Amos Dudley (NJIT)	B.A. in Digital Design Undergrad Research Advisor *Turning Physical into Digital: Photogrammetry-based 3-D Model Generation and Re-Materialization* (NSF I-Corps Site Mini-Grant)	2015
Mark Sanna (NJIT)	B.A. in Digital Design Undergrad Research Advisor *Exploring the impact of virtual reality using 360 degree video* (Finalist for the Undergraduate Research and Innovation Student Seed Grant Proposal)	2015

WORKSHOPS PROPOSED OR CO-ORGANIZED

2016 Jul. **International VR Summer Workshop** (Instructor / Presenter)
"Interfacing VR Environment with Sensors", Osaka University, Japan. July 11 – July 16, 2016.

2015 Jul. **International VR Summer Workshop** (Instructor / Presenter)
Drone Technology and VR modeling training and presentation of research ideas. Thessaloniki, Greece.

2014 Jul. **International VR Summer Workshop** (Instructor / Presenter)
Projection Mapping and VR modeling training and presentation of research ideas, Honolulu, Hawaii.

2014 Mar. **Dynamic Surfaces as Building Envelops**, International Workshop and Exhibition,
with Ron, R., and Vital, R. at Shenkar College of Engineering and Design, Tel Aviv, Israel, March 17 – 23, 2014. (http://dynamicsurfaces.wix.com/dynamic-surfaces#)

2013 May **Open Robotics Systems for Adaptive Buildings**, the CAADRIA 2013 conference
with Zarzycki, A. (NJIT) and Park, J. W. (Soongsil University) in Singapore in May, 2013.
(Peer reviewed; Submitted, accepted, and completed in 2013).

2012 **From insect nests to human cities**: Biological insights for architecture, design, and engineering,
Inter-departmental Conference/Seminar proposed with Garnier, S. (Biological Science) (Proposal pending).

2009 Aug **International VR Summer Workshop** (Instructor / Presenter)
VR modeling training and presentation of research and ideas. Tokyo, Japan

2009 Mar **Workshop at Toyohashi University of Technology** (Instructor)
"Flat to Form", Faculty and Staff Development and Diversity Program, Department of Architecture and Civil Engineering, Toyohashi University of Technology, Japan, with Prof. Martin Bechthold (Harvard).
Tutorial on programming in architecture (Rhino Scripting) and parametric-modeling (Digital Project).

2008 Aug **International VR Summer Workshop** (Instructor / Presenter)
Presented on "The Status of 3D Character Simulation tool and Future of VR" at Arizona State University

2007 Jul **MIT-KEIO University Workshop** in Okuike, Shiga, Japan (Teaching Assistant)
Assisted Prof. Shun Kanda (MIT) and Prof. Hiroto Kobayashi (KEIO)

REVIEWER

Journal Articles:

2017 -	*Technology | Architecture + Design (TAD), Routledge, Taylor & Francis*
2016	*Automation in Construction, Elsevier.*
2016	*Computers & Graphics, Elsevier.*
2016	*Multimedia Tools and Applications, Springer.*
2014 -	*Transactions of the Architectural Institute of Japan (JIA).*
2013	*The Artificial Intelligence for Engineering Design, Analysis and Manufacturing Journal (AIEDAM), Cambridge University Press.*

Conference Papers:

2017	*ACADIA (The Association for Computer Aided Design in Architecture)*
2017 -	*eCAADe (Education and research in Computer Aided Architectural Design in Europe) (2017)*
2016 -	*SIGGRAPH (The international Conference and Exhibition on Computer Graphics and Interactive Techniques), Reviewer for General Submissions & Posters, (2016)*
2015 -	*CAADRIA (Association for Computer-Aided Architectural Design Research in Asia) (2015, 2016)*
2011 -	*ACSA (Association of Collegiate Schools of Architecture) (2011, 2012, 2013, 2015)*
2012	*SIGraDi (The Iberoamerican Society of Digital Graphics) (2012)*
2011	*ACADIA Regional (2011)*
2010	*ALGODE (The International Symposium on Algorithmic Design for Architecture and Urban Design) (2010)*
2008, 2009	*The International Conference on Critical Digital, Harvard University, Cambridge, MA, (2008, 2009)*

Juror for Studio Finals (an excerpt):

2017	Oct.	Pratt Institute (Guest Critic, hereinafter the same)
2015	Dec.	Princeton University, Prof. Axel Killian, Final Design Studio Review.
2012	May	MIT 4.S52: Computational Design Lab: Reinventing BIM, Prof. Nagakura, T., Final Review.
2010	May	Harvard, Master of Design Thesis, Final Review.
2008	Dec.	Harvard 6317: CAD/CAM: Application in Architecture, Prof. Bechthold, M., Final Review.
2008	July	KEIO University, Tokyo, Japan, Prof. Hiroto Kobayashi, Final Review.
1998	Sep.	Tokyo Metropolitan University, School of Architecture, Tokyo, Japan, Studio Final Review.

SKILLS

Languages: English (proficient), Japanese (native),

Computer Languages: C#, Python, Java, Processing, Arduino Microcontroller programming, MEL (Maya Embedded Language), Rhinoceros Script, MAX-Script (3ds MAX), NetLogo, and Auto-Lisp (for AutoCAD).

Media Skills:

Applications:	Unity3D, AutoCAD, 3DSMAX, Maya, Rhinoceros, Unreal Engine, Adobe Creative Suite.
Robotics:	6-Axis Robots by ABB, Rapid-Codes, Arduino Microcontrollers.
Fabrication:	G-Codes, CNC machining techniques, and tool path generations.
Prototyping:	3-D Printers (UltiMaker; FormLab), Laser Cutters, OMAX Waterjets, Vacuum Formers.

Relevant Courses Completed:

NJIT	Workshop	Kilo-Bots: Workshop on Swarm Robotics (Jointly-offered by Harvard CS and NJIT Biological Sciences)	Prof. Radhika Nagpal
Harvard	Math153:	Evolutionary Dynamics (Evolutionary Game Theory)	Prof. Martin Nowak
	CS226:	Biologically-inspired Distributed and Multi-Agent Systems	Prof. Radhika Nagpal
	ES252:	Micro / Nano Robotics	Prof. Robert J. Wood
MIT/Media Lab	MAS 961:	How to Make Something that can Make Almost Anything	Prof. Neil Gershenfeld
	1.124:	Foundations of Software Engineering (C# language)	Prof. John R. Williams
	1.001:	Computers & Engineering Problem Solving (Java language)	Prof. Steven Lehman
	6.270:	Autonomous Robot Design (Finalist for the competition)	
	6.281:	Logistics and Transportation Planning Methods (Queuing/Network Theory)	Prof. Richard Larson Prof. Amedeo Odoni
Waseda	B.S.in Math:	Differentiable Manifolds and Twister Space	Prof. Toshiaki Kori

Travels: Travelled throughout Australia, Austria, Belgium, Brazil, Cambodia, Canada, Chile, Czech, Denmark, Egypt, England, Estonia, Finland, France, Germany, Guatemala, Greece, Holland, India, Indonesia, Israel, Italy, Japan, Laos, Malaysia, Mexico, Morocco, Norway, Peru, Singapore, Spain, Sweden, Switzerland, Thailand, Turkey, and Vietnam studying their architecture and cultures.