

Young Mi (Christina) Choi, Ph.D.

[Georgia Institute of Technology](#)
[College of Design, School of Industrial Design](#)
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I. Earned Degrees

Ph.D. Industrial Design, [Georgia Institute of Technology](#), Atlanta, Georgia (2004-2009)

Major emphasis: New Product Innovation, Assistive Technology, Universal Design, Human Factors/Ergonomics and User Needs/Usability

Minor emphasis: Marketing Management

Advisor: Trained under a multidisciplinary program with Stephen H. Sprigle, Ph.D., PT Professor of Bioengineering, Applied Physiology and Mechanical Engineering at Georgia Tech and Director of the Rehabilitation Engineering and Applied Research (REAR) Lab

M.Sc. Industrial Design, [Georgia Institute of Technology](#), Atlanta, Georgia (2001-2002)

MID Industrial Design, [Sook-Myung Women's University](#), Seoul, Korea (1998-2000)

BFA Industrial Design, [Sook-Myung Women's University](#), Seoul Korea (1994-1998)

Professional Qualification

South Korea national technical qualification holder of Industrial Engineer Product Design
Qualification Certificate Number: 97408010039G

II. Employment History

Georgia Institute of Technology, Atlanta, Georgia

- Associate Professor, Tenured (early promotion), School of Industrial Design: March 2017-present
- Master of Industrial Design (MID) Thesis Coordinator : 2017 - Present
- Assistant Professor, School of Industrial Design : May 2012 - February 2017
 - Industrial Design faculty advisor for the Rehabilitation Engineering Research Center (RERC) for Wireless Technology : Oct. 2014-present
 - Human-Computer Interaction, Master of Science Program (MS-HCI) faculty member : 2013 - Present
- Visiting Assistant Professor, School of Industrial Design (Full Time): May 2010 - May 2012
- Graduate Research Scientist, Center for Assistive Technology and Environmental Access (CATEA) at Georgia Tech : Fall 2004 - August 2010

Time & Space Tech, Seoul, South Korea

- Marketing Associate & Coordinator : February 2000 - August 2000
- Marketing Intern & Part-time Employee : January 1998 - February 2000

Daewoo Design Forum, Seoul, South Korea

- Co-Op Intern : December 1996 – March 1998

III. Honors and Awards

Georgia Tech Center for Teaching and Learning (CTL), Class of 1940 Course Survey Teaching Effectiveness Award, 2017

Faculty receiving this award had a response rate of at least 85 percent to the Course-Instructor Opinion Survey and had teaching effectiveness scores of at least 4.9/5.0 in classes that were at least 40 students in size or scores of 4.9/5.0 in classes that were at least 15 students in size. Only 40 awards are given to the top rated classes (12 for larger classes and 28 for smaller classes) across the Institute.
<https://design.gatech.edu/student-opinion-design-professors>

National Science Foundation ADVANCE Program Women of Excellence Award, 2016

Presented to a woman faculty member who has distinguished herself through professional leadership, mentoring, academic excellence and sustained service on behalf of the Georgia Institute of Technology and the College of Architecture.

Outstanding Faculty Award, College of Architecture, 2015

Recognizes outstanding achievement in the areas of teaching, scholarship, creative activity, and service by a tenured or tenure-track faculty member. It is given to one who has made significant contributions to the College in one or more of these areas that have brought recognition to the faculty member and School.

Georgia Tech Center for the Enhancement of Teaching and Learning (CETL), Class of 1934 Teaching Effectiveness Award, 2012

Faculty receiving this award had a response rate of at least 85 percent to the Course-Instructor Opinion Survey and had teaching effectiveness scores of 4.8/5.0 in classes that were at least 40 students in size or scores of 4.9/5.0 in classes that were at least 15 students in size.

IV. Research, Scholarship, and Creative Activities

A. Published Books, Book Chapters, and Edited Volumes

Refereed Book Chapters

Choi, Y.M. (2018). Introducing AT and UD Design Theory and Applications in Design Education. *Breaking Down Barriers: Usability, Accessibility and Inclusive Design*. Eds: Langdon, P.M., Lazar, J., Heylighen, A., Dong, H. London, Springer. (publication in 2018).

Choi, Y.M. (2014). User Capabilities vs. Device Task Demands in a Tape Dispenser Product for Persons with Limited Dexterity. *Inclusive Designing: Joining Usability, Accessibility, and Inclusion*. Eds: Langdon, P.M., Lazar, J., Heylighen, A., Dong, H. London, Springer.

Choi, Y.M., D. Sabata, et al. (2008). Building a Consumer Network to Engage Users with Disabilities. *Designing Inclusive Futures*. Eds: Langdon, P.M., Callahan, J., Robinson, P. London, Springer.

B. Refereed Publications and Submitted Articles

Published and Accepted Journal Articles

Humphries, H., Choi, Y.M., Book, W. (2017). "Advanced patient transfer assist device with intuitive interaction control." *Assistive Technology*, pp. 1-11.

Choi, Y.M., Carpenter, C. (2017). "Evaluating the Impact of Open Educational Resources: A Case Study." *Portal*. 17(4), 685-693.

- Wu, X., Gable, T., May, K., Choi, Y.M., Walker, B. (2016). Comparison of Touch-Screen Gestures and Air Gestures for In-Car Navigation. *Archives of Design Research*. 29(4), 65-81.
- Choi, Y.M., Sardroud, O.E. (2016). "Design and Evaluation of a Universally Accessible Academic Course Search Portal." *Archives of Design Research*. 29(4), 21-37.
- Choi, Y.M., Yang, T. (2016). "Effects of Head-Mounted Display (HMD) Position on Procedure Following Tasks and Usability." *Archives of Design Research*. 29 (3), 5-23.
- Choi, Y.M., Li, J. (2016). "Usability Evaluation of a New Text Input Method for Smart TV." *Journal of Usability Studies*. 11(3), 110-123.
- Choi, Y.M., Zhang, L. (2015). "Student Perspectives on Fabrication Methods and Design Outcomes" *Archives of Design Research*. 28(4), 49-61.
- Choi, Y.M. (2015). "Utilizing End User Input in Early Product Development." *Procedia Manufacturing*. 3(1), 2244-2250.
- Choi, Y.M. (2015). "Comparison of Grip and Pinch Strength in Adults with Dexterity Limitations to Normative Values." *Procedia Manufacturing* . 3(1), 5326-5333.
- Choi, Y.M., Eiring, S., Ghovanloo, M. (2015). "Privacy in Medication Adherence and Personal Emergency Response Systems" *International Journal of Design and Society*. 8(2), 17-23.
- Choi, Y.M. (2014). "The Costs and Benefits of User Input in the Design Process: A Practical Guide for Assistive Technology Device" *Archives of Design Research*. 27(3), 17-35.
- Choi, Y.M., Ghovanloo, M. (2013). "Challenges to a Persistent Medication Adherence Monitoring System for Seniors" *Journal of Neuroscience and Neuroengineering*. 2(3), 1-5.
- Choi, Y.M. (2011). "Managing Input During Assistive Technology Product Design." *Assistive Technology*. 23(2), 65-75.
- Choi, Y.M., Sprigle S. (2011). "Approaches for Evaluating Usability of Assistive Technology Product Prototypes." *Assistive Technology*. 23(1), 36-41.

Conference Presentation with Proceedings (Refereed)

- Wilson, W., Choi, Y.M. (2018). A Multi-Disciplinary Approach to Design In Education Applied To Medical Systems Problems. 9th International Conference on Applied Human Factors and Ergonomics (AHFE 2018). July 22-26, 2018. Orlando, FL, USA.
- Choi, Y.M. (2018). Learning Volume and Structure: Form or Function First. 12th International Conference on Design Principles and Practices. March 5-7, 2018. Barcelona, Spain.
- Wilson, W., Choi, Y.M., Purdy, T. (2018). Introducing Digital Fabrication to Early Year Design Students. 12th International Conference on Design Principles and Practices. March 5-7, 2018. Barcelona, Spain.
- Ray, Samantak, Y.M. Choi. "Employing design representations for user-feedback in the product design lifecycle." *DS 87-4 Proceedings of the 21st International Conference on Engineering Design (ICED 17) Vol 4: Design Methods and Tools, Vancouver, Canada, 21-25.08. 2017*. 2017.
- Choi, Y. M. (2017, July). Challenges to Teaching Empathy in Design. In *International Conference on Applied Human Factors and Ergonomics* (pp. 3-12). Springer, Cham.
- Wilson, W., Choi, Y.M., Jones, B. (2016). Teaching Universal Design in the Early Stages of a Design Curriculum: Involving End Users in a Student Project. *Universal Design 2016*. York, UK. August 21-24, 2016.
- Elliyoun, O., Choi, Y.M. (2016). "Design and Evaluation of a Universally Accessible Academic Course Search Portal", pp. 351-359. In Di Bucchianico, G., Kercher, P. (Eds.), *Advances in Design for Inclusion*. Proceedings of the AHFE 2016 International Conference on Design for Inclusion, Orlando, FL, USA, July 27-31, 2016, *Advances in Intelligent Systems and Computing* (Vol. 500). Springer. (Accept Rate 34%)
- Joshi, T., Choi, Y.M. (2016). "Designing Accessible Course Registration for Users with Visual Impairments", pp. 481-493. In Soares, M., Christianne, F., Ahram, Z. (Eds.), *Advances in Ergonomics Modeling, Usability & Special Populations*. Proceedings of the AHFE 2016

- International Conference on Design for Inclusion, Orlando, FL, USA, July 27-31, 2016, *Advances in Intelligent Systems and Computing* (Vol. 486). Springer. (Accept Rate 34%)
- Wu, X., Choi, Y. M., Fenlason, C. (2015). Utilizing Smart Phones to Improve the Effectiveness of University Students' Collaborative Work. In *DS82: Proceedings of the 17th International Conference on Engineering and Product Design Education (E&PDE15)*, *Great Expectations: Design Teaching, Research & Enterprise*. Loughborough, UK, September 3-4, 2015.
- Choi, Y.M., Mittal, S. (2015). "Exploring Benefits of Using Augmented Reality for Usability" In *DS 90-4 Proceedings of the 20th International Conference on Engineering Design (ICED 15) Vol 4: Design for X, Design to X*, pp. 101-110. Milan, Italy, July 27-30, 2015.
- Wu, X., Choi, Y.M., Ghovanloo, M. (2015). "Design and Fabricate Neckwear to Improve the Elderly Patients' Medical Compliance", pp. 222-234. In J. Zhou, G. Salvendy (Eds.), *Human Aspects of IT for the Aged Population: Design for Everyday Life*. First International Conference, ITAP 2015 Held as Part of HCI International 2015, Los Angeles, CA, USA, August 2-7, 2015, Proceedings (Vol. 9194). Springer. (Accept rate 34%).
- Zhang, X., Choi, Y.M. (2015). "Applying Tangible Augmented Reality in Usability Evaluation." pp. 88-94. In R. Shumaker & S. Lackey (Eds.), *Virtual, Augmented and Mixed Reality*. 17th International Conference, HCI International 2015, Los Angeles, CA, USA, August 2-7, 2015, Proceedings (Vol. 9179). Springer.
- Yang, T., Choi, Y.M. (2015). "Study on The Design Characteristics of Head Mounted Displays (HMD) For Use in Guided Repair and Maintenance". pp. 535-543. In R. Shumaker & S. Lackey (Eds.), *Virtual, Augmented and Mixed Reality*. 17th International Conference, HCI International 2015, Los Angeles, CA, USA, August 2-7, 2015, Proceedings (Vol. 9179). Springer.
- Zhang, L., Choi, Y. M. (2015). " A Study the Interactive Application in Aquarium Exhibit." pp. 549-559. In M. Kurosu (Ed.), *Human-Computer Interaction: Users and Contexts*. 17th International Conference, HCI International 2015, Los Angeles, CA, USA, August 2-7, 2015, Proceedings (Vol. 9171). Springer.
- Li, M., Choi, Y.M. (2015). "An Exploration of Mobile Collaborative Authoring Solutions". pp. 97-105. In P. Zaphiris, A. Ioannou (Eds.), *Learning and Collaboration Technologies*. Second International Conference, LCT 2015, Held as Part of HCI International 2015, Los Angeles, CA, USA, August 2-7, 2015, Proceedings (Vol. 9192). Springer.
- Li, J., Choi, Y.M. (2015). "Comparing and Exploring New Text Entry and Edit Methods for Smart TV " pp. 680-683. In C. Stephanidis (Ed.), *HCI International 2015 - Posters' Extended Abstracts*. International Conference, HCI International 2015, Los Angeles, CA, USA, August 2-7, 2015, Proceedings (Vol. 529). Springer.
- Wu, X., Choi, Y.M. (2014). Testing the cognitive load of gesture interaction on drivers when performing tertiary tasks. In N. Stanton, S. Landry, G. Bucchianico, A. Vallicelli(Eds.), *Advances in Human Aspects of Transportation Part 1*, pp. 575-581. Proceedings of the 5th International Conference on Applied Human Factors and Ergonomics (AHFE 2014). Krakow, Poland, July 19-23, 2014.
- Purdy, T. G., Choi, Y. M. (2014, April). Enhancing augmented reality for use in product design. In *CHI'14 Extended Abstracts on Human Factors in Computing Systems*. pp. 1303-1308. ACM. (Accept rate 23%.)
- Zhang, L., Choi, Y.M. (2014). Study of Fabrication Methods and Design Outcomes. International Conference on Design Principles and Practices. Vancouver, Canada, January 16-18, 2014. (Accept rate 29%).
- Eiring, S., Choi, Y.M., Ghovanloo, M. (2014). Privacy in Medication Adherence and Personal Emergency Response Systems. International Conference on Design Principles and Practices. Vancouver, Canada, January 16-18, 2014. (Accept rate 29%).
- Gonzalez, E. T., Jones, A. M., Harley, L. R., Burnham, D., Choi, Y. M., Fain, W. B., & Ghovanloo, M. (2014). Older Adults' Perceptions of a Neckwear Health Technology. In Proceedings of the Human Factors and Ergonomics Society Annual Meeting (Vol. 58, No. 1, pp. 1815-1819). SAGE Publications.

- Wilson, W., Choi, Y.M. (2013). "Improving Multi-Disciplinary Design Education in Sponsored Studio Projects". Industrial Design Society of America (IDSA) International Conference. Chicago, IL, August 21-24, 2013.
- Wu, X., Choi, Y. M. (2013). Design and testing of a new medical rail-adapter product. In *DS 75-1: Proceedings of the 19th International Conference on Engineering Design (ICED13), Design for Harmonies, Vol. 1: Design Processes*. Seoul, Korea, August 19-22, 2013.
- Hao, Y., Gong, Y., Choi, Y. M. (2013). Improving Management of Medical Equipment. In *Design, User Experience, and Usability. User Experience in Novel Technological Environments*, pp. 75-84. Springer Berlin Heidelberg.
- Choi, Y. M., Olubanjo, T., Farajidavar, A., & Ghovanloo, M. (2013, July). Potential barriers in adoption of a medication compliance neckwear by elderly population. In *Engineering in Medicine and Biology Society (EMBC), 2013 35th Annual International Conference of the IEEE*, pp. 4678-4681. IEEE. Osaka, Japan, July 3-7, 2013.
- A.R. Jones, D.F. Miranda, Y.S. Choo, J.A. Guerra, J. Chapman, Y.M. Choi, C.R. Forest, Umbrella valve design for intravenous fluid delivery system, Proceedings of the Biomedical Engineering Society (BMES) 2012 Annual Meeting, Atlanta, GA, October 24-27, 2012.
- Choi, Y. M. (2012). Identifying New Design Problems: Observations from Senior Undergraduates. *DS 74 Proceedings of E&PDE 2012*. Antwerp, Belgium. September 6-7, 2012.
- Choi, Y. M. (2011). Effective Scheduling of User Input During the Design Process. In *DS 68-3: Proceedings of the 18th International Conference on Engineering Design (ICED 11), Impacting Society through Engineering Design, Vol. 3: Design Organisation and Management*. Lyngby/Copenhagen, Denmark, August 15.-19, 2011.
- Choi, Y.M. and Sprigle, S. (2008). "The When of User Engagement". Cambridge Workshop on Universal Access and Assistive Technology (CWUAAT), Cambridge, UK. April 14-16, 2008.
- Choi, Y.M. (2007). "Portable Ramp Usage of Wheeled Mobility Users". RESNA 2007, Phoenix, Arizona. June 18-20, 2007.

C. Presentations

- Choi, Y.M. (2016). "Nurturing Universal Design Across Disciplines " Keynote Presentation. Design Brand Management Society Annual Conference. December, 22, 2016.
- Kim, J., Choi, Y.M., Kim, D. (2016). "An Exploratory Study on Inclusive Design in Football Stadium." Presentation to the Korean Society of Design Science (KSDS). May 2016, Seoul, Korea.
- Kim, D., Kim, J., Choi, Y.M. Hwang, Y.H. (2016). "Inclusive Management - Beyond Creating Shared Value." Presentation to the Korean Academic Society of Business Administration (KASBA). Aug 17-19, Pusan, Korea.
- Choi, Y.M. (2015). "Meeting Non-technical needs in the Design of Assistive Products" 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015). Invited Paper. Las Vegas, NV. July 26-30, 2015.
- Choi, YM (2014). " Improving Validity of Stakeholder Input in Product Design". Presentation to the Georgia Tech College of Architecture Research Forum. Oct. 23, 2014.
- Choi, YM (2014). "Approaches to improving assistive technology design methods" Presentation to the National Council on Disability. Oct. 6, 2014.
- Choi, YM (2014). "Assessing a Flipped Class in Teaching Human Factors". Celebrating Teaching Day, Georgia Institute of Technology. March 6, 2014.
- Choi, YM (2013). "The Human Factor in Engineering and Industrial Design Assignments". Georgia Tech Center for the Advancement of Teaching and Learning (CETL), Engaging Conversations series. Sept. 4, 2013.
- Choi, YM (2013). Georgia Tech Women's Faculty Club (GTFWC) Spring Luncheon technology display (presentation), April, 2013.

- Choi, YM (2013). "Examining Undergraduate Design Student Utilization of Research to Find Solutions to Unfamiliar Design Problems". Celebrating Teaching Day, Georgia Institute of Technology. March 28, 2013.
- Choi, YM (2013). "To Walk a Mile in Their Shoes" Georgia Tech Women's Faculty Club (GTFWC): Designing Women Envision our Future. Jan. 16, 2013.
- Choi, Y.M. (2012). "Balance in Multidisciplinary Design Instruction." Design Engineering Workshop (DEWS) 2012. Seoul, South Korea. June 25-26, 2012.
- Choi, YM (2012). "A Product Service System to Improve Medication Adherence". Service Design Institute Seminar, Sungkyunkwan University. Dec, 26, 2012.
- Choi, YM (2012). "Design in a Complex World". School of Design and Human Engineering, Ulsan National Institute of Science and Technology (UNIST). Jan. 19, 2012.
- Choi, YM (2011). "Perspectives on Multidisciplinary Design." Design Science Colloquium, University of Michigan. Oct. 25, 2011.
- Choi, YM (2011). "To Walk a Mile in Their Shoes: Meeting Users in Design." Catch the Future Series, Korea Advanced Institute of Science and Technology (KAIST). May 17, 2011.
- Choi, YM (2010). "The Impact of Input During the Design of an Assistive Product". Creative Design Institute, Sungkyunkwan University. June, 2010.
- Choi, YM (2009). "Utilizing the Design Structure Matrix for Scheduling User Input in Product Design". School of Business, Sungkyunkwan University. June. 2010.
- Choi, Y.M. (2009). The Impact of Different Types of Input in the Design of Assistive Technology Products. Institute for Operations Research and the Management Sciences (INFORMS), San Diego, California. October 11-14, 2009.

D. Grants and Contracts

As Principal Investigator

Title of Project: Design for Special Needs
 Agency/Company: AccessSTEM/DO-IT MiniGrant
 Period of Contract: March 1, 2017 - May 15, 2017

Title of Project: Wireless RERC: R2-Augmented Reality for Design
 Agency/Company: National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR), Rehabilitation Engineering Research Centers (RERCs) Program on Wireless Technologies
 Period of Contract: August 2016 - August 2021

Title of Project: Wireless RERC: T3-Building Research and Design Capacity
 Agency/Company: National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR), Rehabilitation Engineering Research Centers (RERCs) Program on Wireless Technologies
 Collaborators: Brian Jones
 Period of Contract: August 2016 - August 2021

Title of Project: Discovery of User Needs and Preferences for Information and Communication Technologies: Priority Needs and Access Issues
 Agency: National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR)
 Period of Contract: January 1, 2016 - December 31, 2017

Title of Project: Project T3 Building Research and Design Capacity
Agency/Company: Rehabilitation Engineering Research Center (RERC) for Wireless Technologies
Role: Industrial Design Faculty Advisor
Period of Contract: 2014, 2015

Title of Project: Textbook Transformation
Agency/Company: Affordable Learning Georgia (ALG)
Collaborator: Cathy Carpenter
Period of Contract: September 30, 2014 - June 1, 2015

Title of Project: Travel Innovation
Agency/Company: Jeju Air, South Korea
Period of Contract: September 15, 2014 - August 1, 2015

Title of Project: Open Academic Environment
Agency/Company: Office of Educational Technology
Period of Contract: August 15, 2014 - May 30, 2015

Title of Project: Open Academic Environment
Agency/Company: Office of Educational Technology
Period of Contract: August 15, 2015 - May 30, 2016

Title of Project: Open Innovation on Home Entertainment
Agency/Company: LG Electronics, USA
Period of Contract: July 1, 2014 - September 2, 2014

Title of Project: Improving Validity of Stakeholder Input in Product Design
Agency/Company: Georgia Tech Foundation
Period of Contract: July 1, 2013-June 30, 2014

Title of Project: Assessing a flipped class in teaching human factors
Agency/Company: Georgia Tech Center for the Enhancement of Teaching and Learning (CETL) -
Class of 1969 Teaching Scholar
Period of Contract: Jan 1, 2014 - May 15, 2014

Title of Project: Utilization of research by undergraduate design students to find solutions to
unfamiliar design problems
Agency/Company: Georgia Tech Center for the Enhancement of Teaching and Learning (CETL) -
Class of 1969 Teaching Scholar
Period of Contract: Jan 1, 2013 - May 15, 2013

As Co-Principal Investigator

Title of Project: Feasibility and Usability Assessment of an Intraoral Inconspicuous Control Surface
Agency/Company: National Science Foundation (NSF)
Collaborators: Maysam Ghovanloo
Period of Contract: Sept. 15, 2013 - Aug. 31, 2016

Title of Project: An Ecosystem for Objectively Monitoring and Improving Medication Adherence
Agency/Company: Institute for People and Technology - Children's Healthcare of Atlanta (IPaT-CHOA) Seed Grant Program
Collaborators: Maysam Ghovanloo, Mark Braunstein, Shiri Deshpande, Brandon Aylward, Roshan George, William Mahle
Period of Contract: Aug. 15, 2013 - Aug. 14, 2014

E. Other Professional Activities

- Director of I³ Lab (Innovation, Intelligence, Interaction)
- Jeju Air, Seoul, Korea
Design Consultant, 2015 - present
- GVP Ltd, Seoul, Korea
Design Innovation Principal, 2010-present
- East Gate Capital Management, Palo Alto, CA/Seoul, Korea
Lead Innovation Consultant, 2006-present
- Korea Institute for Advancement of Technology (KIAT) USA office, Washington, D.C.
Global Collaboration Resource for Human Factors, Ergonomics and Assistive Technologies, 2015-present
- Adhere 2 Care, Atlanta, Georgia
New Product Development Consultant, July 2011 - 2014
- Global Center for Medical Innovation (GCMI), Atlanta, Georgia
New Product Development Consultant, 2012 - 2013

V. Teaching

A. Courses Taught

<i>Sem, Year</i>	<i>Course No.</i>	<i>Course Title</i>
Fall, 2018	ID8900	Intro ID Thesis Studies
Spr, 2018	ID2320	Human Factors in Design
Spr, 2017	ID2022	Design Studio II
Spr, 2017	ID2320	Human Factors in Design
Fall, 2016	ID2021	Design Studio I
Fall, 2016	ID2320	Human Factors in Design
Spr, 2016	ID2022	Design Studio II
Spr, 2016	ID2320	Human Factors in Design
Fall, 2015	ID2021	Design Studio I
Fall, 2015	ID2320	Human Factors in Design
Fall, 2015	ECE3812	Open Academic Environment Vertically Integrated Project (VIP)
Spr, 2015	ID2022	Design Studio II
Spr, 2015	ID2320	Human Factors in Design

Spr, 2015	ECE3812	Open Academic Environment Vertically Integrated Project (VIP)
Fall, 2014	ID2021	Design Studio I
Fall, 2014	ID2320	Human Factors in Design
Fall, 2014	ECE3812	Open Academic Environment Vertically Integrated Project (VIP)
Spr, 2014	ID2022	Design Studio II
Spr, 2014	ID2320	Human Factors in Design
Fall, 2013	ID2021	Design Studio I
Fall, 2013	ID6200	Graduate Studio I
Spr, 2013	ID2012	Intro to Design II
Fall, 2012	ID2011	Intro to Design I
Fall, 2012	ID6200	Graduate Studio I
Spr, 2012	ID3012	Intermediate Design II
Spr, 2012	ME4182	Capstone Design
Fall, 2011	ID2011	Intro to Design I
Fall, 2011	ME4182	Capstone Design
Spr, 2011	ID4012	Advanced Design II
Spr, 2011	ID4843	Spec Topics: Hist/Theory The Human Factors
Fall, 2010	ID3011	Intermediate Design I
Fall, 2010	ID4201	Design/Research Methods
Fall, 2010	ID6400	Master's Project

B. Individual Student Guidance

M.S. Students (indicate thesis option for each student)

Xiaotian Zhang (Thesis, MID)

Thesis title: Applying tangible augmented reality to usability testing

Graduated: Spring 2016

Current position: HiScene Information Technology Co., Ltd. Shanghai, China.

Omid Elliyoun (Project, MS-HCI program)

Project title: Design and Evaluation of a Universally Accessible Academic
Course Registration Portal

Graduated: Spring 2016

Yiwen Xhong (Project, MS-HCI program)

Project title: Improving online video collaboration for hearing impaired users

Graduated: Spring 2016

Current position: Technical Marketing Engineer, LeEco. San Francisco, CA.

Patricia Joe (Project, MS-HCI program)

Project title: Coordinated Color Selection System

Graduated: Fall 2015

Jingtian (Oliver) Li (Thesis, MID)

Thesis topic: Improving interactions efficiency through wearable user interfaces

Graduated: Summer 2015

Current position: User Experience Designer, SAP Labs. Palo Alto, CA.

Linye Zhang (Thesis, MID)

Thesis title: A study of Fabrication Methods and Design Outcomes

Graduated: Summer 2015

Tao (Tom) Yang (Thesis, MID)

Thesis topic: Augmented reality and wearable technologies

Graduated: Spring 2015

Current position: Associate Application Developer, Deloitte Innovation Lab. Atlanta, GA.

Xiaolong (Shawn) Wu (Thesis, MID)

Thesis title: Combining non-contact gesture control and voice recognition control as multi-modal input to reduce the cognitive load on drivers when performing tertiary tasks

Graduated: Fall 2014

Current position: Software Engineer, Fitbit. San Francisco, CA.

Sanchit Mittal (Thesis, MID)

Thesis title: Exploring the benefits of using augmented reality for usability testing

Graduated: Spring 2014

Current position: UX Designer, Universal Electronics. Orange County, CA

Undergraduate Students

Monika Lee (Industrial Design)

Project: Ergonomics & Video Game Controllers

Jina Lee (Industrial Design)

Project: Use of Digital Fabrication by Industrial Design Students

Michael Vinson (Industrial Design)

He won first prize in the 2011 Product Development and Management Association (PDMA) 'The Next Big Idea' undergraduate student competition. He won with a design for an Assembled Cooking Unit designed for back country backpackers. The design was conceived, developed and submitted out of a project in the junior studio class in which I instructed and advised him that year.

Gyeongtae Kim

2016 SPARK design award finalist. The submitted design was an assistive technology product developed during a project in my sophomore studio class during the Spring 2016 semester.

Service on Thesis or Dissertation Committees

Ph.D.

Heather Humphries (Mechanical Engineering Ph.D.)

Dissertation topic: Caretaker-Machine Collaborative Manipulation with an Advanced Hydraulically Actuated Patient Transfer Assist Device

Proposal defense: April 2015

Final defense: September 2016

Elaine Liu (Industrial Design Ph.D.)

Dissertation topic: A Universally Designed Airport Guidance System

Proposal defense: TBD

Final defense: TBD

Christina Harrington (Industrial Design Ph.D.)
Dissertation topic: Technologies for healthy aging in the home
Comprehensive Exam: Spring 2015

Master

Hongnan Lin (Master of Industrial Design)
Thesis topic: Gesture Interaction Study in Autonomous Cars Based on VR Simulation
Final defense: Spring 2018
Graduation: Planned Spring 2018

Amanda Foster (Master of Building Construction and Facilities Management)
Thesis topic: Atlanta Beltline
Final defense: TBD
Graduation: TBD

Katherine Kenna (Master of Industrial Design)
Thesis topic: Assessing trunk Posture of Assembly Workers Through Wearable Technology
Final defense: Spring 2017
Graduated: Summer 2017

Bradley Bergeron (Master of Industrial Design)
Project topic: Optimizing Conditions for Multi-Disciplinary Collaboration Through the
Synthesis of Theatre and Industrial Design Methodologies
Graduated: Spring 2017

Achyuthkumar Addepalli Sanath (Master of Industrial Design)
Project topic: Universal Eyewear Fit System
Graduated: Spring 2017

Mentorship of Postdoctoral Fellows or Visiting Scholars

Synge Tyson
Topic: Improving Classroom Accessibility for Students with Visual Impairments
Agency: AccessSTEM/DO-IT
University of Washington, Seattle, WA
Funded through National Science Foundation RDE (Research in Disability
Education) awards
Dates: May 15 - August 22, 2016

Junior Faculty Mentorship

Wei Wang, Ph.D.
Assistant Professor (tenure track)
School of Industrial Design

C. Other Teaching Activities

Courses and Curriculum

Developed class "ID6109 Human Factors and Ergonomics", 2018
This class was developed to support the new MID Certificate in Industrial Design
Foundation/Fundamentals. It is a graduate level introductory course covering an introduction to

the topics of Human Factors and Ergonomics and their practical application in the design of workplace products, consumer products and services.

Developed class "ID7100 Intro ID Thesis Studies" 2017

Students will undertake the process of designing and planning their master thesis or master project. This will encompass background research, problem definition, hypothesis generation, research methods/design criteria development, study design and planning and submission to IRB (Institutional Review Board).

Development of Applied Ergonomics course for the Master of Occupational Safety and Health Management program, 2015-present

This course is under development and will be offered primarily online. It will be part of the required course work for the newly approved master of Occupational Safety and Health Management in the School of Building Construction in the College of Architecture. The course is currently titled PMOSH (Professional Masters in Occupational Safety and Health Management) 6600: Applied Ergonomics.

AccessEngineering Capacity Building Institute (CBI): Universally Designed Learning and Learning about Universal Design. April 6-8, 2016. Seattle, WA.

The capacity building institute is a National Science Foundation (NSF) funded project that brings together selected engineering faculty, disability experts, and engineering students and professionals with disabilities to share their expertise and work together to create resources. I was accepted to participate and my goal was to further develop my own teaching skills and classes so that I can integrate new project-based universal design resources and find new ways to better recruit and train students with disabilities.

Redesigned the sophomore ID studio curriculum, 2012

The curriculum and projects for this studio class needed to be refreshed to function more as a bridge between the freshman common first year class and later studio classes. The new sophomore course removed instruction in a number of basic skill topics that were to be covered in the freshman class. I redesigned the studio curriculum to focus on providing a strong foundation in the design process, design research and user centered design. This foundation provided students with the tools that they needed to be successful in later studio tracks which are focused on more specialized design topics.

Developed the current Human Factors in Design class, 2011

This is an introductory class in human factors with a focus on how it is used in design. This class was an elective when I first taught it but is now required for ID majors and minors. It also has been a highly multidisciplinary class, including students from other schools, such as engineering and computer science.

Sponsored Studio Projects

Wireless RERC (Rehabilitation Engineering Research Center) sponsored project, 2012-present

Universal design project of wireless technology devices. Sophomore and junior studio class project

Material 6 sponsored project, 2014

Packaging design for iPhone case product. Sophomore studio class project

Philips sponsored project, 2012

Redesign pulse oximeter device for Philips Healthcare. Junior studio class project

LifeSpan sponsored project, 2012

Design of a medical equipment mounting rail for use in emergency room environments. Graduate project

Directed Study and Student Projects

Research Positions for Incoming Freshmen - Fall 2017

This work-study program provides opportunities for incoming freshmen to work with faculty on research projects.

Kimi Pham, Jae Hyuk Kim - PURA, Summer 2017 (President's Undergraduate Research Award)

The projects that Kimi and Jae Hyuk (Industrial Design) are conducting are focused on identifying and investigating the use and barriers encountered by people with disabilities in using wireless devices. The projects will focus on investigating the kinds of device functions that are used and the kinds of daily activities that wireless devices are used for. The findings will contribute to both upcoming and ongoing research projects.

Richard Lee - PURA 2017 (President's Undergraduate Research Award)

This project, Development of Augmented Reality and Tangible Augmented Reality Tools for Use in Product Design. Richard (Electrical Engineering) will be conducting activities which will make direct contributions to an ongoing research project.

Samantak Ray - PURA 2016 (President's Undergraduate Research Award)

This project, Development of Augmented Reality Tools for Use in Product Design will be conducted over the Fall of 2016. Samantak (Electrical Engineering) will be conducting activities which will make direct contributions to an ongoing research project.

The OAE (Open Academic Environment) VIP (Vertically Integrated Project) team

This project is an open-source, multi-institutional software development project to create a collaborative platform that supports globally networked learning and scholarship. The outcome of this project will produce an international service for academic collaboration. I have also coordinated sponsorship of master students Xiaolong Wu and Omid Elliyoun in the MS-HCI program and Tanaya Joshi from the MID program through this project.

Human-Computer Interaction, Master of Science Program (MS-HCI) faculty member : 2013 - Present

I am in the MS-HCI program both ID track and not ID track HCI (Human Computer Interaction) students. Each year I advise several master student projects from the MS-HCI program, including several students who have been supported/funded through the Georgia Tech Center for Enhancement of Teaching and Learning (CETL). The involvement helps strengthen the collaboration between the ID and Computing Schools.

Development of Accessible Cell Culture Lab Equipment

The goal of this project is to develop low-tech, low-cost and ergonomic cell culture lab equipment for people with vision and dexterity limitations. Collaboration with Mark Colasurdo (Biomedical Engineering Ph.D.).

Tanaya Joshi

Master student who participated in a project to design an improved class registration portal for blind and visually impaired users. She got full GRA support for two semesters to work on the project based on her initial work from the OAE (Open Academic Environment) VIP (Vertically Integrated Projects) class.

Menghui Li

Master student who participated in OAE (Open Academic Environment) VIP (Vertically Integrated Projects) class and collaborated on a conference paper about Mobile interaction design for the OAE. The OAE VIP class was a collaboration with the GT Office of Educational Technology.

Yida Gong and Yu (Hannah) Hao

Master students who participated in a project focused on Improving Management of Medical Equipment (IRB Protocol H13060)

I did not advise these master students, but did supervise this project with them. They wrote a paper based on the results. It was submitted and accepted to the HCI International 2013 conference.

D. Recognition

Faces of Inclusive Excellence - features diverse faculty, staff, and students who are committed to gender diversity, equity, and inclusion, and women who are excelling in leadership, collaboration, and innovation. The Gender Equity Champion award is selected from featured people in the Fall, 2016
<https://www.youtube.com/watch?v=UmFooLbX8ks>

Georgia Tech Center for the Enhancement of Teaching and Learning (CETL) - "Thank a Teacher" honor, Industrial Design, Spring 2016

President's Scholars Mentoring Program (PSMP), Favorite professor recognition, Spring 2014

Georgia Tech Center for the Enhancement of Teaching and Learning (CETL) - "Thank a Teacher" honor, Industrial Design, Fall 2012

Georgia Tech Center for the Enhancement of Teaching and Learning (CETL) - "Thank a Teacher" honor, Industrial Design, Spring 2012

Georgia Tech Center for the Enhancement of Teaching and Learning (CETL) - "Thank a Teacher" honor, Mechanical Engineering, Fall 2011

Georgia Tech Center for the Enhancement of Teaching and Learning (CETL) - "Thank a Teacher" honor, Industrial Design, Spring 2011

Georgia Tech Center for the Enhancement of Teaching and Learning (CETL) - "Thank a Teacher" honor, Industrial Design, Fall 2010

VI. Service

A. Professional Contributions

Grant Reviewer

- NIDILRR (National Institute on Disability, Independent Living, and Rehabilitation Research), Rehabilitation Engineering Research Center on Universally Accessible Information Technology (RERC-UAIT) review panelist, 2018
- NSF/NIH (National Science Foundation/National Institutes of Health) Smart and Connected Health (SCH) review panelist, 2014

Journal Publications

- Co-Editor of 'Strategic Design Review (SDR) Journal' : the official journal of the Design Brand Management Society (DBMS), 2016 - 2018

Journal Reviewer

- *Applied Ergonomics*, 2016, 2017
- *Assistive Technology*, 2013, 2014, 2015, 2016
- *Journal of Orthopedic Research & Physiotherapy*, 2015
- *Journal of Rehabilitation Research and Development (JRRD)*, 2013

Conference Reviewer

- CWUAAT (Cambridge Workshop on Universal Access and Assistive Technology), 2018
- E&PDE (Engineering and Product Design Education Conference), 2015, 2016, 2017
- ICED (International Conference on Engineering Design), 2013, 2015, 2017
- PETRA (International Conference on Pervasive Technologies Related to Assistive Environments), 2015
- DESIGN Conference Scientific Advisory Board, 2014, 2016, 2018
- UKC13 (US-Korea Conference on Science, Technology and Entrepreneurship), 2013

Committees

- AHFE 2018 (International Conference on Applied Human Factors and Ergonomics), Interdisciplinary Practice in Industrial Design Track Co-Chair
- DEWS 2017 (Asia - Design Engineering Workshop), Program Committee
- 1st International Conference on Interdisciplinary Practice in Industrial Design (IPID), IPID Track Advisory Member, Innovation in Interdisciplinary Education session chair: 2017 ~
- AHFE 2015 (International Conference on Applied Human Factors and Ergonomics), Design and Applied Anthropometry Track Co-Chair
- UKC 2013 (US-Korea Conference on Science, Technology and Entrepreneurship), Industrial Engineering & Management Science, Technical group chair
- ICED13 (International Conference on Engineering Design), Asian Liaison Committee
- DEWS 2012 (Design Engineering Workshop), Design & System/Education track program committee Co-Chair
- Institute of Packaging Professionals (IoPP) SE Chapter Committee : 2013

B. Public and Community Service

Drew Charter School design career day outreach speaker: 2013, 2014

C. Institute Contributions

Institute level

- GT FIRE (Funding Innovation in Research and Education) review panel, 2018
- Textbook affordability taskforce, 2018
- Intellus (Open Educational Resources search tool) pilot test, 2018
- Center for Health & Humanitarian Systems (CHHS) Affiliate, 2017 - present
- UROP (Undergraduate Research Opportunities Program) 11th annual Undergraduate Research Symposium judge, 2016
- Georgia Tech Stamps President's Scholarship Program Interviewer, 2015, 2016, 2017
- Contributing to proposal for Georgia Tech PROMISE Center (PRosthetics-Orthotics-Mobility Innovation, Science & Engineering) to the Georgia Tech office of the Vice President of Research, 2015 - present
- Georgia Tech Faculty Women's Club (GTFWC), Scholarship Committee Chair, 2016

- Georgia Tech Faculty Women's Club (GTFWC) Scholarship Committee Member, 2014, 2015
- Georgia Tech Center for the Enhancement of Teaching and Learning (CETL) CRIDC (Career, Research, Innovation and Development Conference). Navigating the Transition to U.S. Faculty Position: Advice for International Scholars panelist, 2015

College level

- 2018 Moog Hackathon (Guthman Musical Instrument Design Competition), Judge, 2018
- College Diversity Committee, School of ID representative, 2016-2019
- Contributed to the development of the curriculum for Professional Masters in Occupational Safety and Health Management (PMOSH). The new degree will be offered jointly by the GT College of Architecture and School of Building Construction starting in fall 2016. I have developed and will teach the class in Applied Ergonomics.
- Dean's Strategic Planning Committee - Undergraduate Curriculum & Enrollment Committee, 2013 - 2014
- College standing committee on Diversity, 2012 - present
- Mechanical Engineering capstone design expo judge, 2011 - 2014

School level

- Industrial Design Ph.D. program development committee, 2016 ~
- MID curriculum program committee, 2012~
- MS-HCI curriculum program committee, 2012~
- Co-chair ID Curriculum review focused on Design Methods and Research. The goal is to review and propose update to the ID curriculum to present to College of Architecture and Institute curriculum committees, 2015-2016
- Industrial Design Faculty Search Committee, 2013-2016
- Master of Industrial Design (MID) application review, 2012- 2016
- Master of Science in Human Computer Interaction - Industrial Design (MS HCI-ID) track application review, 2017
- Ph.D. in Industrial Design application review, 2015-2016
- Commencement representative, Fall 2012, Spring 2013, Spring 2016, Fall 2016
- Korean Industrial Design Students (KIDS) - Founded new SGA organization, 2014
- Georgia Tech IDSA (Georgia Tech Industrial Design Society of America) Merit Award judge, 2011-2014
- Aided in organizing the "Have a Seat" chair show exhibition at the Ferst Center which featured chairs designed in my sophomore studio class, Spring 2013