So-Yeon Yoon

Web Bio

Information

Biography

Biographical Statement

So-Yeon Yoon is associate professor of design and environmental analysis and director of Design-User Experience-Technology (DUET) Research Lab at the College of Human Ecology, Cornell University. She practiced interior design and architecture in Korea and the U.S. With her education and industrial experience in design with digital media, she taught in the School of Design at the University of Ulsan in Korea and worked with industry partners on large scale interface/interaction design projects. From her interdisciplinary experience in education and design practice, Yoon determined to study user-technology interaction in the context of design and usage of interfaces and earned her PhD in Information Technology with emphasis on Human Computer Interaction from the University of Missouri.

Prior to Cornell, Professor Yoon taught in the Architectural Studies Department at the University of Missouri in Columbia for 12 years, leading the design with digital media graduate program. Professor Yoon was a recipient of 2011 Gold Chalk Award for teaching excellence and three-time finalist for excellence in teaching with technology award from the University of Missouri. In 2014, the International Interior Design Association (IIDA) has announced Professor Yoon as its 2014 Educator of the Year. Yoon's research has been developed around the interdisciplinary areas of design, user experience and human computer interaction using computer simulation techniques. To better answer the research questions related to user experience and effects of designed environments, she explores innovative approaches with research collaborators from neuroscience, marketing, and media psychology.

Department Website Summary

So-Yeon Yoon is an associate professor in Design and Environmental Analysis, Cornell University. She is a licensed and practiced interior designer in both South Korea and the U.S. With a PhD in Information Technology with emphasis on Human Computer Interaction, her research has been developed to explore interdisciplinary areas of design computing and visualization related to interior design. Prior to Cornell, she was a faculty member coordinating interior design studios and design with digital media graduate program in the department of Architectural Studies at the University of Missouri, Columbia.

Teaching

Teaching and Advising Statement

I teach students design problem solving and visual communication skills from manual to advanced digital media to be creative and sensible designers, with an emphasis on the interaction between the user experience and the designed physical environment. In teaching design studios, I believe in the mission to teach students to be creative problem solvers with the abilities to tackle hidden issues in user experiences of today's inherently digital, fast-paced, and competitive environments; and to effectively deliver research-driven solutions for optimal user experiences of built environments. As a proponent of active learning, I guide students to active learners who contribute to their own learning.

Professional

Current Professional Activities

Editorial board member, Korean Society of Emotion and Sensibility. 2015

Guest Editor, Special Issue of the Journal of Global Fashion Marketing (JGFM) on Fashion Visual Merchandising. 2013-2014

Educator Partner, American Society of Interior Designers. 2013-present.

National Council for Interior Design Certification (NCIDQ: 021944 – US & Canada), 2006

Designer/CAD Administrator, Chinn & Associates, Inc., Architects, Columbia, Missouri. 1997-1998

Freelance Interior Designer, Pusan, South Korea. 1996

Assistant Architect, Ga-In Architects and Engineers, Inc., Pusan, South Korea. 1995

Korean National License for Interior Designers (93203030219N), 1993

Korean National License for Engineer Architecture (93204030684P), 1993

Interior Designer, Hae-In Environmental Design, Inc., Pusan, Korea. 1994

Research

Current Research Activities

The focus of my work is the study of emerging technology and design factors affecting the way people respond to built-environments. As exploratory research, psychological, emotional, physiological aspects of design elements are tested in the Design User Experience Technology (DUET) research lab. Current topics include reactions to interior stimuli known to evoke emotional responses and creativity. Cognitive and affective qualities of user experience are identified and examined in such research. Other issues being investigated include effects of design elements of the environment such as geometry, color, light, shape, and movement on user experience focusing on space perception and wayfinding using

computer simulation.

Extension

Education

Ph.D. University of Missouri-Columbia, Information Science and Technologies. 2004

M.A. University of Missouri-Columbia, Environmental Design. 1998

M.HE. Pusan National University, Korea, Housing & Interior Design. 1995

B.HE. Pusan National University, Korea, Housing & Interior Design. 1993

Courses

Courses Taught

DEA1150 Design Graphics and Visualization
This course immerses students in the act and art of design communication. Drawing and rendering techniques using both manual and digital media will enable students to effectively present ideas visually to oneself and others. Orthographic and perspective methods for conceptual and formal drawing are covered to understand form and space. The four main projects for this class include: 1. free hand sketching and rendering; 2. creative dorm room design using AutoCAD and SketchUp; 3. from analog to digital: perspective drawing/ Photoshop rendering; 4. recreate an exemplar of modern architecture, visual documentation.

DEA3301 Interior Design Studio
This course intends to engage students in design processes of socially relevant innovation. One or two projects throughout the semester will immerse students into different types of user experience design as design-problem solving. It is organized around the design process broken into four phases: research/ideation, prototyping, design evaluation, and design documentation/presentation. Effective use of technology and research/evidence driven design approach will be emphasized throughout the design process.

DEA5520 Virtual Experience of Designed Environments
The purpose of this lecture course is threefold: 1) to analytically examine and understand theory and empirical research utilizing digital media for design in the fields of environmental psychology, environment and behavior, affective engineering, and human-computer interaction; 2) to develop interactive visualization techniques to create virtual environments simulating physical, built environments with the strategic control of design variables; and 3) to develop the ability to generate papers with theoretical and practical implications related to the previous theories and findings in the various areas of digital media for design.

DEA4020 Supervised Fieldwork

DEA4000 Directed Readings

DEA4010 Empirical Research

Websites

Administration

Administrative Responsibilities

Faculty Director, DEA Website team
Director, Design.User.Experience.Technogloy (DUET) research lab

Publications

Selected Publications

Books

Yoon, S.-Y. (2007). Exploring Usability of Web-based Virtual Reality Technology. Berlin, Germany: VDM Verlag Dr. Mueller.

Tofle, R., Schwarz, B., **Yoon, S.-Y.**, & Max-Royale, A. (2004). Color in Health Care Environments: Coalition for Health Environments Research.

Book Chapters

Yoon, S.-Y. & Wise, K., (2014). Reading Emotion of Color Environments: Computer Simulations with Self-Reports and Physiological Signals. *Industrial Applications of Affective Engineering,* Springer. In press.

Refereed Journal Articles

Yoon, S.-Y., Choi, Y. & Oh, H. (2015). User Attributes in Processing in Processing 3D VR-Enabled Showroom: Gender, Visual Cognitive Styles, and the Sense of Presence. *International Journal of Human Computer Studies.* Accepted.

Chandrasekera, T., D'Souza, N., & **Yoon, S.-Y.** (2015). Virtual Environments with Soundscapes: A study on immersion and spatial abilities with way finding tasks. *Environment and Planning B-Planning and Design.* Accepted.

Yoon, S.-Y. & Choo, H. (2015). Visual merchandising strategies for fashion retailers. *Journal of global fashion marketing,* 6(1). pp. 1 - 3.

Chandrasekera, T., & **Yoon, S.-Y.** (2015). Adopting Augmented Reality in Design Communication. The International Journal of Architectonic, Spatial, and Environmental Design .9(10). pp. 1-14.

Lee, H.-K., **Yoon, S.-Y.,** Lee, J., Kim, H.., Kwon, H., Kang, H., Hur, H., Lee, M. & Jun, D. (2015). The effects of sale signs on consumer intentions to visit a store. *Journal of global fashion marketing,* 6 (1), pp. 20 - 32.

Choo, H., **Yoon, S.-Y.,** Jung, H., Jim, G., Shin, H., Kim, H., & Kim, H. (2015). An exploratory study on visual merchandising of an apparel store utilizing 3D technology. *Journal of Global Fashion Marketing*, 6(1), pp. 33 - 46.

Alawadhi, A. & **Yoon, S.-Y.** (2014). Effects of store image on perceived product value. *International Journal of Design Management and Professional Practice.* 7(3), pp. 31-52.

Choi, Y. & **Yoon, S.-Y.** (2014). Neuroaesthetics: A review of the evidence on the importance of sensible design. *Journal of Korean Society for Emotion and Sensibility.* 17(2). pp. 45-54.

Chung, S., Hedge, A. & **Yoon, S.-Y.** (2014). Developing a Conceptual Framework for Understanding How Physical Environment Attributes Impact Creativity: A Review of Creativity in the Workplace, *Journal of Creative Behavior.* In review.

Sadeghi, R. & **Yoon, S.-Y.** (2015). Effects of Detail and Navigability on Size Perception in Virtual Environments, *Design Principles and Practices: An International Journal.* In review.

Hwang, J., **Yoon, S.-Y.,** & Bendle, L., (2012). Desired privacy and the impact of crowding on customer emotions and approach-avoidance responses: Waiting in a virtual reality restaurant. *International Journal of Contemporary Hospitality Management.* 24(2). pp. 224-250.

Nam, K., **Yoon, S.-Y.,** & Han, J. (2011). The Present Condition and Character Research of Environmental-Friendly Interior Design through the View of America's Green Buildings. *Journal of the Korean Society of Design Culture. 16*(3). pp. 371-384.

Lin, Y.-F., & **Yoon, S.-Y.** (2011). Exploring Display Lighting Effects: A Comparison of Real and Virtual Experience. *Journal of Korean Living Science Research. 3 1*(1), pp. 60-69.

Yoon, S.-Y. & Cho, J. (2011). Emotional Responses to Color Environments: An Experimental Study on Young and Old Adults using a Semi Immersive Virtual Environment. *Journal of Korean Living Science Research. 31*(1). pp.49-58

D'Souza, N., **Yoon, S.-Y.,** & Islam, Z. (2011). Understanding Design Skills of the Generation Y: An Exploration through the VR-KIDS project, *Design Studies. 3 2*(2). pp. 180-209.

Cho, J. & **Yoon, S.-Y.** (2011). Different Aesthetic Impressions of Building Design between Designers and Laypersons, *Journal of Korean Living Science Research.*21, pp.15-21.

Yoon, S.-Y., Oh, H., & Cho, J. (2010). Understanding Furniture Choices using a 3D Virtual Showroom, *Journal of Interior Design.* 35(3). pp. 33-50.

Yoon, S.-Y., Hwang, J., & Park, J. (2010). Affordable 3D VR Technology for Sensible Design: An Approach to Designing an End-User Oriented Service Space. *Journal of Korean Society for Emotion and Sensibility.* 13(1). pp. 269-278.

Yoon, S.-Y., & Yoon, S.-H. (2010). Different Experiences of a Virtual Reality Interface for Design Review, *Design Principles and Practices: An International Journal*. 4(6). pp. 313-331.

Oprean, D., & **Yoon, S.-Y.** (2010). Experiencing the Color Environment: Understanding User Interaction with a Virtual Reality Interface. *Journal of Korean Society for Emotion and Sensibility*. 13(4). pp. 789-796.

Park, J.-A., Kim, S.-H. , & **Yoon, S.-Y.** (2009). Elderly Public Housing in the U.S.: A Study on the Environmental Conditions and Resident Needs, *Journal of the Korean Housing Association. 2 0*(5), pp. 41-50.

Hwang, J., & **Yoon, S.-Y.** (2009). Where Would You Like To Sit? Understanding Customers' Privacy-Seeking Tendencies and Seating Behaviors to Create Effective Restaurant Environments, *Journal of Foodservice Business Research. 12*(3), pp. 219-223.

Park, S., & **Yoon, S.-Y.** (2008) A Study on the User Evaluation for Media Forms of the Virtual Environment, *Korean Journal of Interior Design.17*(5), pp.166-175.

Yoon, S.-Y., Laffey, J., & Oh, H. (2008). Understanding Usability and User Experience of Web-Based 3D Graphics Technology. *International Journal of Human-Computer Interaction 24*(3), pp.288-306.

Oh, H., **Yoon, S.-Y.**, & Shyu, C.-R. (2008). How Can Virtual Reality Reshape Furniture Retailing? *Clothing and Textile Research Journal. 26*(2), pp.143-163.

Shin, K.-J., **Yoon, S.-Y.**, & Candy, C. (2006). South Korea and US Interior Designer's Responsibilities, Contract Documents and Fee comparison. *Journal of Korean Living Science Research, 26,* pp.28-36.

Uddin, M. S., Islam, Z., & **Yoon, S.-Y.** (2005). People in Digital Space: Simplified Options of Scaled Figures in 3D Animation. *Journal of the Design Communication Association*, pp.40-45.

*Oh, H., *Yoon, S.-Y.**, & Hawley, J. (2004). What virtual reality can offer to the furniture industry? *Journal of Textile and Apparel, Technology and Management, 3* (1). (*equally contributed)

Conference Proceedings

Oh, H., Baek, E., Choo, H., **Yoon, S.-Y.,** Janiszewski, C. (2015). *How Does Lighting of Stores Interact with Global Versus Local Processing Modes of Shoppers in Retail Environments?* American Marketing Association and American Collegiate Retailing Association (AMA/ACRA) Conference, Coral Gables, FL. March 4-7. Accepted.

Yoon, S.-Y., Spreng, R. N., & Kim, S. (2015). *Cross-cultural Environmental Aesthetics Using Neuroimaging and Psychophysiology Measures*: Eastern and Western Women's Appraisal of Hotel Guest Room Interiors, 46[t h] Annual Conference of Environmental Design Research Association (EDRA46), Los Angeles, CA. May 27-30. Accepted.

Yoon, S.-Y., Hedge, A., Danko, S., Ying, H., & Bigalow, L., (2015). *Forecasting*

Performance of Collaborative Workplaces: Case Studies to Explore Social Sensing Technology, EDRA46 Los Angeles, CA. May 27-30. Accepted.

Lee, Y.-R, Nam, K., & **Yoon, S.-Y.** (2015). *Design Characteristics of Cultural Spaces in Traditional Cultural Areas Using the Concept of Space Marketing*, EDRA46 Los Angeles, CA. May 27-30. Accepted.

Chandrasekera, T. & **Yoon, S.-Y.** (2015). Virtuality to Reality: Furniture Designing through Digital Prototyping, 2015 Interior Design Educators Council (IDEC) Annual Conference, Fort Worth, Texas. March 11-14. Accepted.

Yoon, S.-Y. & Park, N. (2015). Transforming the Visitor Center for Tourism in the Smartphone Era: Care study using a persona-based user-experience design approach, 2015 IDEC Annual Conference, Fort Worth, Texas, March 11-14. Accepted.

Eune, J. Ono, K., Fu, Z., Kim, Y., & **Yoon, S.-Y.** (2015). *Workshop: Design Approach for the Development of the Metropolitan Public Transportation*, CHI 2015: International Computer-Human Interface conference, Seoul, Korea, April 18-23. Accepted.

Chandrasekera, T. & **Yoon, S.-Y.** (2015). *Understanding the effect of tangible user interfaces on design creativity*, 20th Annual Conference on Computer Aided Architectural Design Research in Asia (CAADRIA2015), Global Plaza, Korea. May 20-23. Accepted.

Chandrasekera, T. & **Yoon, S.-Y.** (2014). The effect of virtual reality and augmented reality in the design process, Biannual Conference of DCA, California Polytechnic State University, Atlanta, GA, Oct. 2.

Alawadhi, A., & **Yoon, S.-Y.** (2014). *Display layout and perceived crowding: Examining the effects of interior design on customers' perception of crowding in a retail environment*, 2014 IDEC Annual Conference, New Orleans, Louisiana, March 8.

Lin, Y.-F., & **Yoon, S.-Y.** (2013). Enhancing Atmospheric Effects: Exploring the Effects of Display Lighting on Consumers' Psychological and Perceptional Reactions in a Retail Environment. EDRA 44. Providence RI, May 31. pp. 339.

Chandrasekera, T., & **Yoon, S.-Y.** (2013). An augmented reality-based spatially related navigation system for internal navigation of healthcare environments. EDRA 44. pp. 244-245. Providence RI, May 30.

Chandrasekera, T., D'Souza, N., & **Yoon, S.-Y.** (2013). *Soundscapes in immersive virtual environments*. Conference Proceedings of the First International Symposium on Affective Engineering (ISAE2013). March 7. pp. 341-350.

Yoon, S.-Y., & Kim, D. (2013). *Experiencing Color Environments by Different Age Groups: Tapping into the Potentials of VR Simulation*. Conference Proceedings of the First International Symposium on Affective Engineering (ISAE2013). Fukuoka, Japan. pp. 193-198. March 7.

Yoon, S.-Y., & Wise, K. (2013).Reading the Mind and Body Responding to Color Environments: Computer Simulations with Self-Reports and Physiological Signals. 2013 IDEC Annual Conference, pp. 694-695. Indianapolis, Indiana. Feb. 18.

16. Lin, Y.-F., & **Yoon, S.-Y.** (2013). *Exploring the Effects of Display Lighting in a Retail Environment,* 2013 IDEC Annual Conference, pp. 364-366, Indianapolis, Indiana. Feb. 18.

Chandrasekera, T., **Yoon, S.-Y.,** & Balakrishnan, B. (2012). *Digital orthographic projections in architectural representation: Augmented Reality based Learning*, 16[t h] Biannual Conference of DCA, Stillwater, Oklahoma, Oct. 22.

Balakrishnan, B., Oprean, D., & **Yoon, S.-Y.** (2012). Analog to Digital: Affordable image based 3D modeling and motion capture for architectural design and evaluation, 16[t h] Biannual Conference of DCA, Stillwater, Oklahoma, Oct. 22.

Chandrasekera, T., **Yoon, S.-Y.,** & D'Souza, N. (2011). *The Effect of Soundscapes on Immersive Experience in Virtual Environments*, EDRA42, Chicago. May 27.

Hwang, J., & **Yoon, S.-Y.** (2010). *Impacts of crowding and desired privacy on customers' emotions and attitudes toward service: A case of waiting in a restaurant,* 2010 International Council on Hotel, Restaurant and Institutional Education Conference, San Juan, Puerto Rico. July 28-31.

Oprean, D., & **Yoon, S.-Y.** (2010). *Gaming or Non-gaming: Exploring interactive 3D design representation tools*, 15[t h] Biannual Conference of DCA, Bozeman, Montana. Sept. 10.

Cho, J., & **Yoon, S.-Y.** (2010). Aesthetics by Laypersons and Designers: Understanding Different Views on Public Building Designs using Virtual Reality Technology, 15[t h] Biannual Conference of DCA, Bozeman, Montana. Sept. 9.

Chandrasekera, T., **Yoon, S.-Y.**, & D'Souza, N. (2010). *The Effect of Soundscapes on Immersive Experience in Virtual Environments*, 15[t h] Biannual Conference of DCA, Bozeman, Montana. Sept. 9.

Cho, J., **Yoon, S.-Y.**, & Nam, K. (2010). An Analysis on Topics of Sustainability during the Past Three Years: Reviewing Trends from Recent Conference Proceedings, 2010 Annual Conference of IDEC, Atlanta, Georgia. March 29.

Yoon, S.-Y., & Yoon, S.-H. (2010). *Different Experiences of a Virtual Reality Interface for Design Review,* International Conference on Design Principles and Practices. Chicago, Illinois. Feb. 14.

Yoon, S.-Y., Wise, K., & Balakrishnan, B. (2010). *Evaluating Emotional Effects of Color Environments: The Case for Computer Simulations and Psycho-Physiological Measure*, EDRA 41, Washington DC. June 6.

Yoon, S.-Y., & D'Souza, N. (2009). *Different Visual Cognitive Styles, Different Problem-Solving Styles*? International Association of Societies of Design Research 2009, Seoul, Korea. Oct. 19.

Yoon, S.-Y., Tofle, R., Schwarz, B., Oprean, D., & Cho, J.Y. (2009). *Understanding the Meaning of Color Environments: A Virtual Environment Exploratory Study*, 2009 Annual Conference of IDEC, St. Louis, Missouri. March 27.

Yoon, S.-Y., Park, J., & Hwang J. (2009). *Utilizing Virtual Environments to Advance Evidence-Based Design in Restaurant Interiors*, 2009 Annual Conference of IDEC, St. Louis, Missouri. March 26.

Yoon, S.-Y., Cho, J. Y. (2009). *Understanding Furniture Decision Making Process and Design Preference using Web-Based VR Technology*, 2009 Annual Conference of IDEC, St. Louis, Missouri. March 25-28.

Hong, Y.-K., **Yoon, S.-Y.**, & Tofle, R. (2007). *Oriental and Occidental Color Instruction: Comparing US and South Korea Undergraduate Interior Design Education.* DCA Biannual Conference, Muncie, Indiana. pp. 365-374.

Cho, J. Y., & **Yoon, S.-Y.** (2007). *Students' Interaction with Different Representation Media in Design Studio: Learning from Students' Perspective.* DCA Biannual Conference, Muncie, Indiana. pp. 123-134.

Oh, H., **Yoon, S.-Y.**, & Weitz, B. (2007). *Virtual Affordance of Visual Coordination in Furniture Online Retail Research in Motion.* American Marketing Association and American Collegiate Retailing Association (AMA/ACRA), New York City. Jan. 15.

Shin, K.-J., **Yoon, S.-Y.**, & Tofle, R. (2006). Interior Design Accreditation: U.S., Canada & Korea. 2006 KIID Summer Conference, Choonchun. Korea. June 29.

Simmons, K., **Yoon, S.-Y.**, & Oh, H. (2005). *Collaborative Capstone Experiences.* Paper presented at the International Textile & Apparel Association Conference (ITAA), Alexandria, Virginia. Nov. 1.

Oh, H. & **Yoon, S.-Y.** (2005) *Application of 3-D Virtual Reality in Testing Consumer Decision-Making Processes*, ITAA conference, Portland, Oregon. Nov. 3.

Oh, H., & **Yoon, S.-Y.** (2005). *Testing the 3D Virtual Reality Integrated Solution (VRIS) as a Tool for Understanding Consumers' Decision-Making for Furniture.* ITAA conference, Raleigh, NC. March 20-25.

Yoon, S.-Y., & Uddin, M. S. (2006). *Viewer's Perspective: A Comparative Evaluation of 3D and 2D Graphics for Design Communication.* DCA Biannual Conference, Bozeman, Montana. pp. 271-284.

Anandan, S., **Yoon, S.-Y.**, & Uddin, S. (2006). *Architectural Animation and Cinematic Interpretation.* 11th International Conference of CAADRIA, Kumamoto, Japan. pp.197-202.

Yoon, S.-Y. (2006). *Usability in Context: A framework A Framework for Analyzing the Impact of Virtual Reality in Design Evaluation Context.* 11th International Conference of CAADRIA, Kumamoto, Japan. pp. 371-377.

Ibrahim, A., Uddin, M. S., & **Yoon, S.-Y.** (2004). *Mass and Wall: The Representation of Ongoing Change in Relationship.* 22nd Conference on Education in Computer Aided Architectural Design in Europe (eCAADe), Copenhagen, Denmark. pp. 239-247.

Yoon, S.-Y., Tutar, M., & Uddin, M. S. (2004). *Computer Representation Techniques for Architectural Analysis: A Comparison between Game & Web 3D Environments.* 9th International Conference of CAADRIA, Seoul, Korea. pp. 601-609.

Gonavaram, S., & **Yoon, S.-Y.** (2004). *Can Technology Enhance the Design Pedagogical Experience?* 9th International Conference of CAADRIA, Seoul, Korea. April 28. pp. 477-482.

Tutar, M., Uddin, M. S., & **Yoon, S.-Y.** (2004). *People in Digital Space: Simplified Options of Scaled Figures in 3D Animation.* DCA Biannual Conference, San Luis Obispo, California, Vol. 1. pp.93-98.

Tofle, R., Schwarz, B., **Yoon, S.-Y.**, & Max-Royale, A. (2003). *Impact of Color in Health Care Environments: Knowledge-based or Capricious?* EDRA34. Minneapolis, MN. May 24.

Hong, R., **Yoon, S.-Y.**, & Moore, J. (2002). *Designing an Immersive 3D Tour of a Historical Locale*, Association for Educational Communication & Technology (AECT), Dallas, Texas. Nov.15.

Uddin, M. S., & **Yoon, S.-Y.** (2002). *3D Game Engine for Portable Virtual Representation of Architecture.* 20th Conference on Education in Computer Aided Architectural Design in Europe (eCAADe), Warsaw Poland, pp.526-531.

Choi, J. & **Yoon, S.-Y.** (2002). *The Use of the Web in Design Process: Potentials of Component-based 3D Virtual Models in Architectural Education.* DCA Biannual Conference, Clemson University, South Carolina. Jan.3.