**Eunhwa Yang**

Assistant Professor

College of Design, School of Building Construction

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## I. Earned Degrees

Ph.D. Cornell University, Human Behavior and Design, Department of Design and

Environmental Analysis (August 2010 – May 2016)

Dissertation: Diffusion of innovation in sustainable building practices in

construction projects and the role of major stakeholders

Minors: Statistics & Organizational Behavior

Committee: Ying Hua, Ph.D. (Chair), Brian Rubineau, Ph.D., and Thomas

DiCiccio, Ph.D.

M.S. Georgia Institute of Technology, Building Construction and Integrated Facility

Management (August 2008 – December 2009)

Area of Concentration: Facility Management

B.S. SungKyunKwan University, Architectural Engineering

(March 2000 – February 2005)

Area of Concentration: Construction Management

## II. Employment History

## Georgia Institute of Technology

Assistant Professor, School of Building Construction, College of Design (August 2016 – current)

Lecturer, School of Building Construction, College of Design (March 2016 – July 2016)

Visiting Assistant Professor, School of Building Construction, College of Design (January 2015 – December 2016)

**Cornell University**

Graduate Teaching Assistant, Department of Design and Environmental Analysis, College of Human Ecology (August 2011 – May 2014)

Graduate Research Assistant, Department of Design and Environmental Analysis, College of Human Ecology (August 2010 – May 2011)

**Samsung Heavy Industries**

Construction Manager, Construction Division (February 2005 – April 2006)

## III. Honors and Awards

* Center for Teaching and Learning Thank a Teacher honor, BC6200 and BC6600, April 15th, 2021
* Center for Teaching and Learning Thank a Teacher honor, BC6200, April 21st, 2020
* Class of 1969 Teaching Fellows at the Center for Teaching and Learning at GT, Fall 2017 – Spring 2018
* Center for Teaching and Learning Thank a Teacher honor, BC6100, December 8th, 2016
* International Association for People-Environment Studies (IAPS) Young Researchers best paper award 2014, highly commended
* Young Researchers Workshop Grant, International Association for People-Environment Studies (IAPS), 2014
* Human Ecology Alumni Association Grant, Cornell University, 2014
* Scholarship, International Facility Management Association (IFMA), sponsored by Corporate Facilities Council, 2014 & 2009
* Scholarship, International Facility Management Association (IFMA), sponsored by Doug Underwood Memorial Fund - Utilities Council, 2013
* Human Ecology Alumni Association Student Grant, Cornell University, 2013
* Grace Dimelow and Serby-Gildea Scholarships; Orrilla Wright Butts, Home Economics Extension, and Jean Failing Fellowships; and the Human Ecology Alumni Association Graduate Award, 2011
* Graduate Woman of Distinction Nomination, Georgia Tech, sponsored by Women's Leadership Conference, 2009

## IV. Research, Scholarship, and Creative Activities

### A. Book Chapters

1. \*Yang, E., & Sanborn, B. (in press) Ecological Systems Theory. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A handbook of theories on designing fit between people and the office environment.* Routledge, ISBN: 9780367652999.
2. \*Inalhan, G., Yang, E., & Weber, C. (in press) Place Attachment. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A handbook of theories on designing fit between people and the office environment.* Routledge, ISBN: 9780367652999

### B. Refereed Publications and Submitted Articles

#### B1. Published and Accepted Journal Articles

1. \*Yang, E., Hong, S., & Kim, Y. The environment of open-plan workspaces: space utilization, user satisfaction, and environmental measures. *Journal of Facility Management Education and Research* (accepted).
2. \*Yang, E., Hong, S., & Kim, Y. Factors influencing adaptive reuse of declining shopping malls in the U.S.: A multi-stakeholder view. *Journal of Green Building* (accepted)
3. \*Kim, Y., Hong, S., & Yang, E. Perceived productivity in open-plan library: Exploring occupant behavior and perception. *Journal of Learning Spaces* (accepted)
4. \*Chacon Vega, R. J., Gale, S., Kim, Y., Hong, S., & Yang, E. (2020). Does an open-plan office actually work? A workplace gap analysis: importance and perceived support of key activities. *Journal of Corporate Real Estate,* 22(4), 261-277.
5. \*Kim, Y., & Yang, E. (2020). Theoretical understanding of sociomateriality in workplace studies. *Facilities, 38*(13/14), 927-942.
6. \*Ghannad, P., Lee, Y.C., Friedland, C., Choi, J., & Yang, E. (2020). Multi-objective optimization of post-disaster reconstruction processes for ensuring long-term socioeconomic benefits. *Journal of Management in Engineering, 36*(4), 04020038.
7. \*Yang, E., Guevara-Ramirez, J. S., & Bisson, C. (2020). Finding evidence of green leasing in United States government-leased properties. *Journal of Green Building, 15*(1), 55-72.
8. \*Wang, N., Yang, E., & Li, L. (2020). Time as space: A comparative analysis of Zhejiang traditional houses in the 1960s and 2010s. *Journal of Architecture, 25*(1), 77-109.
9. \*Yang, E., & Bayapu, I. (2019). Big data analytics and facilities management: A case study. *Facilities,* 38(3/4), 268-281.
10. \*Yang, E., Bisson, C., & Sanborn, B. (2019). Coworking space as a third-fourth place: changing models of a hybrid space in corporate real estate. *Journal of Corporate Real Estate, 21*(4), 324-345.
11. \*Williams, B., Haines, B., Roper, K., & Yang, E. (2019). Building Information Modelling (BIM) for Facility Management (FM): Industry survey of building assets. *Journal of Facility Management Education and Research, 3*(1), 18-26.
12. \*Zhao, C., Yang, E., Nie, Y., & Russo, J. (2019). Facility decision making process with modified value engineering approach. *Journal of Corporate Real Estate*, *21*(2), 112-129.
13. \*Yang, E., Lee, Y. C., & Li, Q. (2018). Energy disclosure law in New York City: Building energy performance benchmarking progress. *Facilities*, *36*(11/12), 571-583.
14. \*Yang, E., Hua, Y., & DiCiccio, T. (2018). Diffusion of innovation in sustainable building practices and the role of stakeholders. *Journal of Green Building*, *13*(4), 91-102.
15. \*Yang, E., & Nie, Y. (2018). An aging workforce and work environment: A hotel case study in China. *Journal of Facility Management Education and Research, 1*(2), 59-64.
16. Hua, Y., & Yang, E. (2014). Building spatial layout that supports healthier behavior of office workers: A new performance mandate for sustainable buildings. *Work (Reading, Mass), 49*(3), 373-380.

#### B2. Conference Presentation with Proceedings (Refereed)

1. \* Ghannad, P., Lee, Y. C., Friedland, C., & Yang, E. (2019). Optimizing the Socioeconomic Benefit of Post-Disaster Strategies by Prioritizing Reconstruction of Damaged Facilities. *Proceedings of Computing in Civil Engineering 2019: Smart Cities, Sustainability, and Resilience* (pp. 180-187). Reston, VA: American Society of Civil Engineers.

2. \*Yang, E., & Bayapu, I. (2018). Big data analytics: Challenges and opportunities for facilities management in higher education. *Proceedings of the International Facility Management Association’s World Workplace Academic and Research Track,* Charlotte, NC.

3. \*Xu, D., & Yang, E. (2018). Library transformation in higher education. *Proceedings of the International Facility Management Association’s World Workplace Academic and Research Track*, Charlotte, NC.

4. \*Yang, E., Kim, Y., Hong, S., & Manoosingh, C. (2018). Aging workforce and their safety and health concerns in the construction industry. *Proceedings of the 54th Associated Schools of Construction Annual International Conference* (pp. 322-329). Minneapolis, MN.

5. \*Nie, Y., & Yang, E. (2017). Redesign the workspace for the aging workforce: A hotel case study in China. *Proceedings of the International Facility Management Association’s World Workplace Academic and Research Track* (pp. 22-30). Houston, TX.

6. \*Ross-Bain, J. G., Yang, E., Roper, K. O., & Song, X. (2017). A metric for measuring facility management quality. *Proceedings of the International Facility Management Association’s World Workplace Academic and Research Track* (pp. 63-71). Houston, TX.

7. \*Lee, Y., Yang, E., Eastman, C.M., & Roper, K.O. (2017). Modularized validation of a Building Information Model according to the specifications of the facility management handover and COBie. *Proceedings of Lean & Computing in Construction Congress (LC3),* Heraklion, Crete, Greece.

8. \*Hong, S., & Yang, E. (2017). Improving a spatial layout design method to promote communication and knowledge sharing with Agent-based modeling. *Proceedings of the International Facility Management Association’s World Workplace Europe Academic and Research Track* (pp. 26-33). Stockholm, Sweden.

9. \*Yang, E., & Juneja, P. (2017). Integrating research and practice in facility management. *Proceedings of the Associated Schools of Facility Management*, Seattle, WA.

10. \*Juneja, P., & Yang, E. (2017). Gap and partnership between facility management students and industry- where we are: A SWOT analysis. Proceedings of the Associated Schools of Facility Management, Seattle, WA.

11. Yang, E., & Hua, Y. *(2014*). Framework of construction innovation: A review of diffusion of sustainable innovation in the building sector. *Proceedings of Construction Research Congress: Construction in a Global Network* (pp. 2096-2105). Atlanta, GA.

### C. Presentations

\*Kim, Y., & Yang, E. (2019, October). Linking the evidence to argument: Workplace studies through the lens of Sociomateriality. Presented at the International Facility Management Association’s World Workplace Academic and Research Track, Phoenix, AZ. (refereed)

\*Hong, S., Kim, J., & Yang, E. (2019, October). Optimization of Maintenance Work Order (MWO) assignments with a Traveling Salesman Problem (TSP) algorithm. Presented at the International Facility Management Association’s World Workplace Academic and Research Track, Phoenix, AZ. (refereed)

\*Yang, E. (2018, March). Three instructional strategies for teaching software. Presented at the Celebrating Teaching Day, Georgia Institute of Technology, Atlanta, GA.

\*Hong, S., & Yang, E. (2018, October). Facility management as a service provider for millennial nomads in sharing economy. Presented at the International Facility Management Association’s World Workplace Academic and Research Track, Charlotte, NC. (refereed)

Yang, E., & Wells, N.W. (2015, May). Game for learning: Engaging students in research methods concepts.Presented at Teaching Professor Conference, Atlanta, GA. (refereed)

Yang, E. (2014, June). Diffusion of sustainable building practices and the role of stakeholders. Presented at the Young Researchers Workshop at the International Association for People-Environment Studies (IAPS) 23, Timisoara, Romania. (refereed)

Yang, E., & Hua, Y. (2013, February). How does the design of the built environment predict stair versus elevator use for college students? Presented at Active Living Research Conference, San Diego, CA. (refereed)

Yang, E., & Kim, Y. (2009, October*).* Analysis of effective methods to reduce building CO2 emissions. Presented at the International Facility Management Association’s World Workplace, Orlando, FL. (refereed)

## V. Education

### Courses Taught

|  |  |  |  |
| --- | --- | --- | --- |
| Sem, Year | Course No. | Course Title | No. of Students |
| Spr, 2021 | BCP6700 | Current Issues in Occupational Safety and Health | 19 |
| Spr, 2021 | BC6600 | Facility Management Financial Analysis | 6 |
| Spr, 2021 | BC6200 | Maintenance Management in Built Assets | 18 |
| Fall, 2020 | BC6300 | Safety and Environmental Issues | 11 |
| Fall, 2020 | BC6100 | Professional Trends in Facility Management | 6 |
| Spr, 2020 | BCP6700 | Current Issues in Occupational Safety and Health | 19 |
| Spr, 2020 | BC6850 | Building Construction and Facility Management Capstone | 15 |
| Spr, 2020 | BC6200 | Maintenance Management in Built Assets | 19 |
| Fall, 2019 | BC6850 | Building Construction and Facility Management Capstone | 15 |
| Fall, 2019 | BC6300 | Safety and Environmental Issues | 14 |
| Fall, 2019 | BC6100 | Professional Trends in Facility Management | 4 |
| Spr, 2019 | BC6850 | Building Construction and Facility Management Capstone | 14 |
| Spr, 2019 | BCP6700 | Current Issues in Occupational Safety and Health | 20 |
| Spr, 2018 | BC6850 | Building Construction and Facility Management Capstone | 9 |
| Spr, 2018 | BC6600 | Facility Management Financial Analysis | 21 |
| Fall, 2017 | BC6300 | Safety and Environmental Issues | 13 |
| Fall, 2017 | BC6100 | Professional Trends in Facility Management | 18 |
| Spr, 2017 | BC6600 | Facility Management Financial Analysis | 12 |
| Fall, 2016 | BC6300 | Safety and Environmental Issues | 15 |
| Fall, 2016 | BC6100 | Professional Trends in Facility Management | 15 |
| Fall, 2015 | BC6300 | Safety and Environmental Issues | 24 |
| Spr, 2015 | BC6600 | Facility Management Financial Analysis | 9 |

### B. Individual Student Guidance

#### B1. Ph.D. Students

Sungil Hong, Chair (Fall 2017 – current)

Dissertation topic: Coworking space as a physical platform that provides facilities and service: a mixed-method approach to workplace management

Proposal defense: January 2021

Yujin Kim, Chair (Fall 2017 – current)

Dissertation topic: Human-building interaction: Supporting students’ performance and wellbeing through built environments on campus

Proposal defense: January 2021

#### B2. M.S. Students

Amanda Foster, Chair (Thesis, MSBCFM)

Thesis topic: Lost to lucrative: A study of the Atlanta Beltline

Graduated: May 2018

Current position: Research Scientist at the Georgia Tech Research Institute

Gemma Peebles, Chair (Thesis, MSBCFM)

Thesis topic: Air Force asset management: Preventive versus reactive work

Graduated: December 2017

Current position: Capital Investment Planner (Programs Development) at the United States Air Force

Jeff Ross-Bain, Chair (Thesis, MSBCFM)

Thesis topic: The relationship between energy use and quality of the facility management function in small to medium enterprises (SMEs)

Graduated: December 2016

Current position: President at RBGB

#### B3. Service on Thesis or Dissertation Committees

#### Ph.D. Students

Mahnaz Ensafi (Environmental Design and Planning at Virginia Polytechnic Institute

and State University)

Dissertation topic: Using supervised machine learning for work order processing to improve operation and maintenance of building facilities

Preliminary exam: April 2021

Silvia Tijo-Lopez (Building Construction, Ph.D.)

Dissertation topic: Decision support system for the integration of sustainable parameters in single-family housing project delivery

Proposal defense: December 2017

Final defense: July 2019

Current position: Assistant Professor at Universidad Pontificia Bolivariana (Colombia)

Minsoo Baek (Building Construction, Ph.D.)

Dissertation topic: Quantitative analysis for modeling uncertainty in construction costs of transportation projects with external factors

Comprehensive exam: January 2017

Proposal defense: November 2017

Final defense: August 2018

Current position: Assistant Professor (Tenure Track) at Kennesaw State University

Saman Yarmohammadi (Building Construction, Ph.D.)

Dissertation topic: If these walls could talk: Data analytics for automated performance measurement for building design modeling decisions.

Proposal defense: August 2016

Final defense: September 2017

Current position: Data Scientist at Reflexis Systems, Inc.

**M.S. Students**

Yunzi Lou (Thesis, Environmental Planning and Design at University of Georgia)

Project topic: Rethinking traditional Lilong housing for contemporary neighborhood in Shanghai

Final defense: April 2021

Graduated: May 2021

Anthony Maddox (Thesis, MSBCFM)

Project topic: Mitigation of business risk exposure in public higher education facilities management using key performance indicators: Analysis of the University System of Georgia

Final defense: April 2021

Current position: Facilities Construction & Maintenance Director at Charlotte County, FL

Monica Aparicio (Thesis, MSBCFM)

Project topic: Conceptual framework for incorporating FM functions and accessibility considerations in BIM coordination

Final defense: April 2020

Graduated: May 2020

Current position: Project Engineer at Landmark Properties, Inc.

Jung Hyun Lee (Thesis, MSBCFM)

Project topic: Changes in quality management approaches for design-build highway projects

Final defense: April 2018

Graduated: May 2018

Current position: PhD student in the School of Building Construction at GT

#### B4. Mentorship of Postdoctoral Fellows or Visiting Scholars

Jaehyung Hur

Topic: Identifying the sources of stress from suburban and urban living

Agency: Self-funded

Dates: September 2018 – February 2020

Ning Wang

Topic: Comparative analysis of Zhejiang traditional houses in the 1960s and 2010s

Agency: Zhejiang University of Finance and Economics

Dates: February 2017 – February 2018

Current position: Lecturer at the School of Public Administration, Zhejiang University of Finance and Economics

### Educational Innovations and Other Contributions

Co-developed a new course, BC6850 Building Construction and Facility Management Capstone

This new course is mandatory for students in M.S. in Building Construction and Facility Management. The course encompasses three projects focusing on program management, construction management, and facility management on the same subject facility and is co-taught by three instructors. For the facility management component, I invite industry professionals for weekly feedback and final evaluation to provide students with both industry and academic perspectives.

Developed a new course, BCP6700 Currents Issues in Occupational Safety and Health

This course is offered online and one of the required courses for the Professional Masters in Occupational Safety and Health. The course is specifically designed to have similar learning effectiveness of offline seminar classes. Students in this course have opportunities to lead and participate in class discussions.

Developed a new course, BC6600 Facility Management Financial Analysis

This course is required for facility management concentration in M.S. in Building Construction and Facility Management. It focuses on helping students build financial knowledge and business management skills related to facility and building lifecycle management, covering financial principles and analysis, budgeting, real estate appraisal, contracting, and procurement.

Redesigned an existing course, BC6100 Professional Trends in Facility Management

This course is redesigned to reflect current professional trends in the field by adding facility management software lecture, demonstration, hands-on training, and current issues of workplace strategies and corporate real estate.

Redesigned an existing course, BC6200 Maintenance Management in Built Assets

This course is redesigned to reflect current and emerging technologies for managing built assets, such as current Integrated Workplace Management System (IWMS) software, WELL building certificate, BIM, IoT, and Machine Learning.

Redesigned an existing course, BC6300 Safety and Environmental Issues

The course needed to be refreshed and redesigned to emphasize two approaches, “protecting” and “promoting” safety, environmental issues, and occupational health.

Facility Management Intensive Program at Georgia Tech, Summer 2017 & 2019

I redesigned this four-week facility management intensive program under four main topics: facility business planning, space planning and management, management and leadership, and smart buildings/operation and maintenance. Twenty-six (2019) and twenty-three (2017) undergraduate and graduate students from Kyung Hee University, Seoul, Korea, stayed at Georgia Tech and completed the program successfully.

FM:Systems University Grant Lecture Series, Fall 2017, 2019, 2020

FM:Systems is one of the global leading facility management software development companies. I applied for their university grant lecture series and incorporated them into BC6100 Professional Trends in Facility Management.

AssetWorks Lecture Series, Spring 2020, 2021

AssetWorks is one of the leading facility management software development companies. AssetWorks and I worked together to create and provide a special lecture series on AiM, including lecture, demonstration, and hands-on training to BC6200 Maintenance Management in Built Assets.

Faculty Advisor for the 2nd and 3rd CoreNet Global Academic Challenges, March 2017 & 2018

I advised two student teams: one made to the top 3 finalists and presented in Shanghai, China in March 2017, and the other presented and won the competition in Singapore in March 2018. A total of 64 teams from 56 universities in 26 countries on 5 continents competed in 2017, and a total of 67 teams from 48 universities in 17 countries on 4 continents competed in 2018. Both teams were provided full conference registration, lodging, and transportation. Additionally, the winning team received a $5,000 award.

## VI. Service

### Professional Contributions

**Journal Editorial Board:**

* *Journal of Green Building, since 2021*
* *Journal of Facility Management Education and Research, since 2018*

**Journal Reviewer:**

* *Journal of Corporate Real Estate*, 2019, 2020, 2021
* *Urban Design International,* 2019, 2021
* *Environment and Behavior,* 2018
* *Facilities,* 2017, 2018, 2019, 2020, 2021
* *Journal of Green Building,* 2018, 2019, 2020
* *Journal of Facilities Management,* 2020, 2021
* *Journal of Facility Management Education and Research,* 2017, 2018, 2019, 2020, 2021

**Conference Reviewer:**

* Transdisciplinary Workplace Research Conference, 2020
* Construction Research Congress Conference, 2020
* CoreNet Global Summit Europe, the Middle East, and Africa (EMEA), 2019
* CoreNet Global Summit North America, 2019
* CoreNet Global Asia Pacific Summit, 2018
* ASCE International Conference on Computing in Civil Engineering, 2019
* Construction Research Congress Conference, 2018

**Committees:**

* Associated Schools of Construction (ASC) International Conference Organizing Committee, Workshops & Tutorials Chair, 2022
* Transdisciplinary Workplace Research Scientific Committee, 2020
* IFMA Foundation Facility Management Accreditation Commission Committee, 2017, 2018, 2019
* IFMA Atlanta Accredited Degree Program Liaisons Committee, 2016, 2017, 2018, 2019
* Program Committee for the International Sustainable Asset Management Conference, 2018
* Program Development Committee for the Recognized Built Environment Program by the IFMA Foundation, 2018, 2019
* Associated Schools of Facility Management Committee, 2016, 2017, 2018, 2019, 2020, 2021
* Technical Committee for the Building Performance and Lifecycle Analysis Track for the Construction Research Congress Conference, 2018
* IFMA World Workplace: judge for a student e-Poster competition in San Diego, CA, 2016
* Held IFMA sponsored student events: Meet and Greet with IFMA professionals and students from GT and Kennesaw State University, 2016, 2017, 2018

### Public and Community Service

Judge for the SkillsUSA Facilithon Massachusetts State Competition, April 2021

Judged high school and technical school students on the FM role play, FM challenge, and emergency scenario.

Hosted a high school career workshop, July 2019

Attendees included local industry professionals, high school counselors, and program managers from the Department of Education. This focus group discussed how to raise awareness of the field of facilities management and effective ways to introduce career development paths to high school students.

Participated in the Construction Education Foundation of Georgia (CEFGA) CareerExpo and SkillsUSA, March 2017 & 2019

Met high school students and high school counselors and introduced them to the School of Building Construction programs and career development opportunities in the field of facility management.

### Institute Contributions

**Institute level:**

Judge for Undergraduate Research Symposium, Spring 2021

Speaker at Georgia Tech Sustainability Showcase, Fall 2019

Serve-Learn-Sustain Smart Cities, Connected Communities Fellows, Fall 2017

**College level:**

Dean’s Advisory Board Committee since Fall 2016

**School level:**

Re-accreditation of the FM program: document preparation and process management

Master in BCFM application review

Ph.D. in BC application review