

Jaewook Lee

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University of Illinois Urbana-Champaign

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EDUCATION

University of Illinois Urbana-Champaign, Champaign IL

Ph.D candidate, School of Architecture, Present

Outside Focus Area: Statistics

Advisor: Prof. Mohmed Boubekri

Title: Integration of Daylight and Building Design for Human Health and Wellbeing

Korea Advanced Institute of Science & Technology (KAIST), Daejeon, Korea

Master of Science, Civil and Environmental Engineering, Feb 2012

Title: A Numerical Study on Application of Semi-Transparent Photovoltaic Cells in Building Window System

Hongik University, Seoul, Korea

Bachelor of Architecture (B.Arch), School of Architecture, Feb 2010

ACADEMIC POSITIONS

University of Illinois Urbana-Champaign, School of Architecture

Graduate Teaching Assistant, 2015-Current

Environmental Control Systems: Lighting and Acoustics

Fall 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019

Environ Control Systems II: Thermal and luminous environments

Fall 2019

Graduate Research Assistant, 2017-Current

Classroom Quality during Early Childhood as a Mechanism Linking Health and Education:

Investigating the Roles of Daylighting and Sleep

National Institutes of Health, NIH

Graduate Research Assistant, 2016-2017

Impact of Daylighting on Office Workers Health (co-worked with Northwestern Univ.)

National Institutes of Health, NIH

Korea Advanced Institute of Science & Technology (KAIST), Civil and Environmental Engineering

Graduate Research Assistant, 2010-2012

Development of Modernized HAN-OK Technology (2010.06.21-2013.06.20)

R&D Plan for Creating "Smart Green City" (2010.12.23-2011.06.22)

Guideline Development to Establishing Science & Technology Policy for Low Carbon Green City
(2010.07-2010.12)

Design Studio Consultant, Assistant to Professor Jiyoung Park, 2011

PROFESSIONAL POSITIONS

Korea Advanced Institute of Science & Technology (KAIST), Civil and Environmental Engineering
Researcher, 2014-2015

Building-Integrated PV and Wind Turbine System Utilizing Building Skin

Hyundai Engineering & Construction (HDEC), Building Design Works Group

Assistant manager, 2011-2014

Technical report

The 2014 Hyundai Engineering & Construction Sustainability Report (2014.03-2014.07)

Consulting report

Green Smart Building R&D project; Green Research center for HDEC; built in 2014

Design project

Residential Building and Urban Planning: *Se-jong residential district; built in 2016*

Residential Building: *Pyeongtaek Songdam Hillstate; built in 2016*

Residential Building: *Magok Hyundai Hillstate Eco; built in 2015*

Residential Building: *Gangnam Hyundai Hillstate Eco; built in 2014*

Residential Building: *Changwon Gamgye Hillstate; built in 2013*

NADAAA, Inc., Boston, U.S

Intern, Jan 2011 - Feb 2011

Participated in research and design project about 'Samsung Digital Gallery'; built in 2012

Pavilion for Hyundai Motors Group, Yeo-Su EXPO 2011

JOURNAL PUBLICATIONS

(A&HCI) Impact of Daylight Exposure on Health, Well-being and Sleep of Office Workers based on Actigraphy, Surveys, and Computer simulation

Lee, J*. & Boubekri, M

Journal of Green Building, under review

(SCI-E, SSCI) Impact of Building Design Parameters on Daylighting Metrics Using an Analysis, Prediction, and Optimization Approach Based on Statistical Learning Technique.

Lee, J*, Boubekri, M., & Liang, F. (2019).

Sustainability, 11(5), 1474.

(SCI-E, SSCI) Phase Change Material (PCM) Application in a Modernized Korean Traditional House (Hanok).

Lee, J., & Park, J. (2018).

Sustainability, 10(4), 948.

(SCI-E) Renewable energy potential by the application of a building integrated photovoltaic and wind turbine system in global urban areas.

Lee, J., Park, J., Jung, H. J., & Park, J. (2017).

Energies, 10(12), 2158.

(A&HCI) A COMPARISON OF FOUR DAYLIGHTING METRICS IN ASSESSING THE DAYLIGHTING PERFORMANCE OF THREE SHADING SYSTEMS.

Boubekri, M., & Lee, J. (2017).

Journal of Green Building, 12(3), 39-53.

(SCI-E) The Impact of Shading Type and Azimuth Orientation on the Daylighting in a Classroom—Focusing on Effectiveness of Façade Shading, Comparing the Results of DA and UDI.

Lee, K. S*, Han, K. J., & Lee, J. W*. (2017). (*co-corresponding author)

Energies, 10(5), 635.

(SCI-E, SSCI) Feasibility Study on Parametric Optimization of Daylighting in Building Shading Design.
Lee, K. S*, Han, K. J., & **Lee, J. W***. (2016). (*co-corresponding author)

Sustainability, 8(12), 1220.,

(SCI-E) Feasibility study on the relation between housing density and solar accessibility and potential uses.

Lee, K. S., **Lee, J. W.**, & Lee, J. S. (2016).

Renewable Energy, 85, 749-758.

(SCI-E) A feasibility study on a building's window system based on dye-sensitized solar cells.

Lee, J. W., Park, J., & Jung, H. J. (2014).

Energy and Buildings, 81, 38-47.

(SCI-E) Optimization of building window system in Asian regions by analyzing solar heat gain and daylighting elements.

Lee, J. W., Jung, H. J., Park, J. Y., Lee, J. B., & Yoon, Y. (2013).

Renewable energy, 50, 522-531.

Evaluation of Heating & Cooling Energy by Setting Standards for Material Performance Property in Newly Proposed Korean Traditional House,

Lee, J. W., Park, J. (2011).

Journal of Korean Institute of Architectural Sustainable Environment and Building System, Vol.5, No.2, pp.75-81 (KOREAN)

CONFERENCE PROCEEDINGS

A Comparative Assessment of Daylighting Metrics Assessing the Daylighting Performance of Three Shading Devices under Four Different Orientations

Boubekri, M., **Lee, J.**

World Academy of Science, Engineering and Technology, International Science Index, Architectural and Environmental Engineering, 4(6), 950. (2017.6.26 PT)

Daylight metrics analysis for louver design optimization in educational building

Lee, J., Boubekri, M.

ASHRAE and IBPSA-USA SimBuild 2016: Building Performance Modeling Conference, Salt Lake City, UT, USA, (2016.8.12 PT)

Building-Integrated Wind Turbine System Utilizing High-Rise Building Skin

Park, J., **Lee, J.**, Jung, H.J.

The Korean Society for Noise and Vibration Engineering, Jeju, Korea, 2015 (KOREAN)

Analyzing solar heat gain and daylighting elements in building window system of Asian regions

Lee, J. W., Jung, H. J., Park, J. Y., Lee, J. B., & Yoon, Y.

International Symposium on Nanostructures and Their Applications in Renewable Energy, Beijing, China, October 23-26, 2013

Application of PCM-Hwangtoh Composites for Thermal Comfort in Newly Proposed Korean Traditional House

Lee, J., & Park, J.

IAPS International Network Symposium 2011, Daegu, Korea, October 10-14, 2011, pp166-168 (2011.10.13 PT)

Determination of Optimal Insulation Thickness and Materials for Korean Traditional House Walls

Tak S.H., **Lee, J.**, & Park, J.

The Twenty-Third KKCNN Symposium on Civil Engineering, National Taiwan University, Taipei, Taiwan, November 13-15, 2010, pp. 425- 428 (2010.11.13 PT)

INVITED PRESENTATIONS

“Integration of Daylight and Building Design for Human Health and Wellbeing”, *Honors courses for architecture and daylighting*, November 2018, Champaign, US

HONORS & AWARDS

Scholarship, Malcolm Jaseph Scholarship in UIUC (Jul 2017 - Jun 2018)

Scholarship, Stouffer Research Traineeship in UIUC (Jul 2016 - Jun 2017)

All Expenses Scholarship, Stouffer Research Traineeship in UIUC (Jul 2015 - Jun 2016)

All Expenses Scholarship, Korea Minister of Ministry of Land, Transport and Maritime (Feb 2010 - Feb 2012)

Academic Scholarship, Hong-Ik Univ. (Mar 2009 - Feb 2010)

International Exchange Students Scholarship, Hong-Ik Univ. (Feb 2010 - Feb 12)

ARCOM (Army Commendation Medal), U.S Army (Nov 2007)

Scholarship for contribution in student representative of the department, Hong-Ik Univ. (Mar 04 - Feb 05)

SERVICES

Manuscript reviewer for *Building Simulation* (2019 -)

SKILLS

Daylighting Simulation Program (Grasshoper with DIVA, Ecotect)

Building Energy Simulation Program (Energyplus with Openstudio, ESP-r)

Statistical Analysis (R, Rstudio)

Architectural Design tool (Autocad, Rhinoceros, Revit)