

C U R R I C U L U M V I T A E

JONG-JIN KIM, PH D

University of Michigan
Ann Arbor, Michigan 48109
Phone: 734-763-3518
Email: daylight@umich.edu

Education Ph D in Architecture, University of California, Berkeley
M. ARCH, University of Texas, Austin
B.S in Architectural Engineering, Seoul National University

Teaching Areas Environmental Systems, Lighting and Daylighting, Façade Design and Engineering,
Zero Energy Building, Building Ecology

Academic Positions

1997 - Current Associate Professor, University of Michigan, Ann Arbor, Michigan
1991 - 1997 Assistant Professor, University of Michigan, Ann Arbor, Michigan
1988 - 1991 Assistant Professor, Arizona State University, Tempe, Arizona
1981 - 1988 Research Associate, Lawrence Berkeley Laboratory, Berkeley, California

2005 Brain Pool Fellow, Korea Federation of Science and Technology
1998 Research Professor, Yonsei University, Seoul, Korea
1985 Visiting Scholar, University of Strathclyde, Glasgow, United Kingdom

Research Contracts and Grants

2015 - 2017 "Interactive Satellite Solar Lab," TLTC (Transforming Learning for a Third Century) Program, University of Michigan
2007 - 2010 "Wireless Indoor Air Quality Sensor Network," Sponsor: Office of Vice President for Research, University of Michigan
2006 - 2010 "Green Building Design Guidelines for a Single-Family Home Community," Sponsor: Thorntree Commons Co
2006 - 2008 "PC-Based Wireless Home Climate Control Systems," Sponsor: Tokyu Construction Co
2004 - 2005 "Quantification of the Value of Windows and Views to Indoor Occupants," Sponsor: Lighting Research Center
2004 - 2006 "Quality of Life in Residential Buildings in Korea," Sponsor: Yonsei University
2003 "Dynamic Lighting and Environmental Control Methods for Large Mixed-Used Building," Sponsor: Yamasaki Associates
2002 "Mobile Indoor Air Quality Station," Sponsor: Undergraduate Research Opportunity Program, University of Michigan
2000 - 2002 "Multi-Zone Home Climate Control Systems," Sponsor: Office of Vice Present for Research, University of Michigan
1997 - 1998 "Intelligent Environmental System Design Guidelines," Sponsor: Moo-Young A/E, Seoul, Korea
1995 - 1998 "Development of an Architectural Compendium for Environmental Education," Sponsor: National Pollution Prevention Center, University of Michigan
1994 "Assessment of Current Status of Intelligent Building Technologies in Japan," Sponsor: Japan Technology Management Center

- 1993 "Intelligent Office Module," Sponsor: Office of Vice President for Research, University of Michigan
- 1993 ACSA TECHNOLOGY CONFERENCE ORGANIZATIONAL GRANT, Sponsor: Detroit Edison
- 1990 "Development of SUPERLITE 2 0," Sponsor: Lawrence Berkeley Laboratory
- 1990 "Quality and Innovation of Campus Buildings," Sponsor: Arizona State University - West Campus, Facility Development Office
- 1990 "Development of Solar Design Guidelines," Sponsor: Arizona State Energy Office
- 1989 "A HyperCard-Based Active Solar Energy Simulator," Sponsor: Apple Corporation
- 1988 "Daylighting Utilization in Commercial Buildings in a Hot-Arid Climate," Office of Vice President for Research, Arizona State University

Professional Services

- 2018 Guest Editor, *International Conference on New Paradigms in Energy*, Karimnagar University, Talangana, India
- 2018 Editorial Board Member, *Indoor and Built Environment Journal*
- 2018 Reviewer, *Energy and Buildings Journal*
- 2018 Reviewer, *Building and Environment Journal*
- 2017 - 2018 Reviewer, National Science Foundation, Singapore
- 2015 - 2016 External Reviewer, Building Technology Office, US Department of Energy
- 2016 Scientific Committee Member, *2016 ICSDEC (International Conference on Renewable Energy Technology)*, Along Luang, Pathumthani, Thailand
- 2014 - 2017 Reviewer, SDSU (San Diego State University) Research Foundation, California Energy Commission PIER Program
- 2013 Review Panel Member, CTBUH (Council on Tall Buildings and Urban Habitat)
- 2012 Scientific Committee Member, *2012 ICSDEC (International Conference on Sustainable Design and Construction)*, Forth Worth Texas
- 2012 Reviewer, Singapore National Research Foundation
- 2011 Scientific Committee Member, *2011 International Conference on Sustainable Design and Construction*, University of Kansas
- 2011 Reviewer, California Energy Commission, *Energy Innovation Small Grants*, SDSU Foundation, San Diego, California
- 2010 Member, External Program Review Board, Office of Provost, University of Oregon
- 2010 Reviewer, *AXA Research Fund*, Paris, France
- 2007 External Dissertation Examiner, Department of Architecture, Faculty of Environmental Design, University of Calgary, Calgary, Canada
- 1999 - 2004 Editorial Board Member, *Journal of Sri Lanka Institute of Architects*
- 2000 - 2001 Theme Editor, *Encyclopedia of Life Supporting Systems*, UNESCO-EOLSS, Paris, France
- 1994 Chair, *ACSA Technology Conference*, "Design and Technological Innovation for the Environment," Association of Collegiate Schools of Architecture
- 1990 Energy Exhibition, *International Union of Architects (Energy and Architecture Working Group)*, Montreal, Canada

Professional Practice

- 2012-16 Consultant, "Green Renovation of Existing Buildings," Architectural Institute of Korea, Seoul, Korea
- 2010 Consultant, "Greening of Automobile Manufacturing Facilities," Chung-Ang University, Seoul, Korea, 2010
- 2008 Consultant, "Solar Energy Production in Urban Areas," to Chung-Ang University, Seoul, Korea, 2008
- 2008 Consultant, "Korean Green Building Design Guidelines," Korea Institute of Energy Research, 2008

- 2004 Consultant, "Lighting Design and Analysis for the Qatar Convention Center," Minoru Yamasaki Associates, Troy, Michigan, December 2007
- 2004 Consultant, "Green Design of the Ann Arbor Unitarian Church," David Osler Associates, Ann Arbor, Michigan
- 2003 Consultant, "Green Design of the Kensington Park Interpreter Center," David Osler Associates, Ann Arbor, Michigan
- 2002 Consultant, "Minewanca Environmental Education Center," American Youth Foundation, St Luis, MO
- 2001 Instructor, IBS WORKSHOP, Intelligent Building Institute of Korea
- 2000 Consultant, "Daylighting of Ferrari Automobile Manufacturing Plant," Ove Arup & Partners, London, United Kingdom
- 2000 Consultant, "Daylighting of Fiat Automobile Manufacturing Plant," Ove Arup & Partners, London, United Kingdom
- 1998 Consultant, "Design and Construction of Il-San Hospital Atrium," to Hyun-Shin A/E, Seoul, Korea The Il-San Hospital Building received the 1998 Korea's Best Non-Residential Building Award
- 1998 Consultant, "Design of the KIER Central Administration Building," the Korea Institute of Energy Research, Daejun, Korea The KIER Administration Building is the first green office building in Korea
- 1996 Consultant, "Design of Kyung-Gi Province Headquarters Building," Minoru Yamasaki Associates, Rochester Hills, Michigan
- 1977 - 1978 Junior Engineer, International Construction Division, Daewoo Construction Co , Seoul, Korea
- 1975 - 1977 Construction Supervisor (First Lieutenant), Army Engineering Corps, Korea

Invited Lectures and Speeches (Selected)

- 2016 Chung Ang University, *Zero Energy Buildings: Feasibility and Strategies*, Seoul, Korea, May 2016
- 2015 Chung Ang University, *Resource Self-Sufficient Buildings: Fiction or Reality?* Seoul, Korea, June 2015
- 2015 Seoul National University, *The Prospect of Zero Energy High-Rise Buildings*, Seoul, Korea, June 2015
- 2013 Chi Epsilon Honor Student Society, College of Engineering, University of Michigan, *Zero Energy Building*, October 2013
- 2012 Faculty Presentation, *Feasibility of Zero Energy Buildings in the US*, TCAUP, September 2012
- 2009 "Optimization of PV-Integrated Shading Device," 2nd International Symposium on Sustainable Healthy Building, Seoul, Korea
- 2009 "Sustainable Architecture," Chun Nam University, Kwang Ju, Korea
- 2008 "Sustainable Architecture: Economy and Strategies," International Symposium Sustainable Housing, Yonsei University, Seoul, Korea
- 2008 "Economic Benefits of Green Buildings," Remodel 2008 Conference, Ypsilanti, Michigan
- 2008 "New Agenda in Green Building," Lecture Series, School of Natural Resources and Environment, University of Michigan
- 2008 "Green Innovation in Architecture," 7th International Conference on Sustainable Energy Technology, Seoul, Korea
- 2008 "Green Building, Green Community and Green City," Multifunctional Administrative City Construction Agency (MACCA), Ministry of Construction and Transportation, Korea
- 2005 "Critical Issues for Greening of the Korean Building Industry," Ecological Building Association Annual Meeting, Seoul, Korea

- 2005 “Economy of Green Building,” Annual Green Building Council Meeting, Seoul, Korea
- 2005 “Green Innovation in Architecture,” Ho-Seo University, Chun-An, Korea
- 2005 “Green Building and Design Innovation,” Korea University, Seoul, Korea
- 2005 “Attributes of Future Buildings,” Kwang-Woon University, Seoul, Korea
- 2005 “Attributes of Future Buildings,” Kun-Kook University, Seoul, Korea
- 2002 “Intelligence in Residential Buildings,” IBS Korea, Seoul, Korea
- 1999 “Intelligent Building,” Intelligent Building Symposium, Real Estate Developers Association of Singapore (REDAS), Singapore (Keynote Speech)

Honors

- 2005 Recipient of the 2005 *Brain-Pool Fellowship*, Korean Science and Engineering Foundation
- 1998 Nominee, Member of *Korean Academy of Science and Engineering*
- 1994 Citation, *Service as Chair of 1994 ACSA Technology Conference*, Association of Collegiate Schools of Architecture of North America
- 1985 *Applied Research Citation*, 32nd PA Award for Sky Simulation Facility
- 1982 *Honor Student Society*, University of California, Berkeley

University Services

- 2016 Fulbright Scholar Selection Committee
- 2005 - 2012 Executive Committee, Center for Korean Studies
- 2000 - 2008 University Academic Senate, University of Michigan
- 1999 - 2000 Academic Advisory Committee for University Provost
- 2003 Fulbright Scholar Selection Committee
- 2004 Housing Director Search Committee
- 2001 - 2004 Advisory Committee Student Affairs Committee
- 1995 - 2003 Arboretum Academic Advisory Committee

Publications

Jong-Jin Kim, “Water Self-Sufficiency of US Homes Utilizing Rainwater Harvesting,” Submitted to **Sustainable Cities and Society, a journal of Elsevier**, April 2019

Jong-Jin Kim, “Field-Classroom Interactive Solar Education,” Proceedings of the Passive and Low Energy Architecture (PLEA) Conference, Hong Kong, December 2018 (Shortlisted for the Best Paper Award)

Jong-Jin Kim, “Energy and Form Revisited: Optimal Building Form for Zero Energy Building,” Proceedings of the Passive and Low Energy Architecture (PLEA) Conference, Hong Kong, December 2018

Jong-Jin Kim and Will Laughner, “Feasibility of Rainwater Harvesting in US,” Proceedings of 2017 ARCC Conference, Salt Lake City, Utah, June 2017

Jong-Jin Kim and Anna Latos, “Non-Drinking Water Self-Sufficiency of Buildings Utilizing Rainwater Harvesting,” **WIT Transaction on the Built Environment**, Vol 165, 2016, Southhampton, UK

Sung-Woo Cho, Jong-Jin Kim, “Zero Energy Potential of High-Rise Residential Buildings,” **Journal of Asian Architecture and Building Engineering**, Vol 14 No3, Tokyo, Japan, September 2015

- Jong-Jin Kim, "Energy self-sufficiency of office buildings in four Asian cities," **Journal of Advancement in Energy Research**, Vol 2, No 1 Techno Press, 2014
- Jong-Jin Kim, "Feasibility of Zero energy office buildings in four Asian cities," Proceedings of the International Conference on Energy Research, Seoul, Korea, August 2013
- Cai, H, Green, P. A. & Kim, J. J. (2013), Estimating the Legibility of a Single Letter E Viewed at Different Display Angles, **Applied Ergonomics** 44(4): 575-587
- Jong-Jin Kim, "Policies and Market Demand Survey on Green Renovation of Existing Buildings," Technical Report to the Korean Institute of Architects, January 2013
- Jong-Jin Kim and Jessica Gerow, "Feasibility of Zero Energy Homes," Proceedings of the ICSDEC Conference, Fort Worth, Texas, November 2012
- Hongyi Cai, Jong-Jin Kim and Paul Green, "Computational Assessment of Text Legibility in Lecture Halls," **Indoor and Built Environment**, 2011
- Jong-Jin Kim, Sung Kwon Jung and Jeong Tai Kim, "Wireless Monitoring of Indoor Air Quality by a Sensor Network," **Indoor and Built Environment**, Vol. 19, February, 2010 (Best 20 Paper of the Journal)
- Jong-Jin Kim, Sung Kwon Jung, Yoon Seok Choi and Jeong Tai Kim, "Optimization of Photovoltaic Integrated Shading Devices," **Indoor and Built Environment**, Vol. 19, February, 2010 (Best 50 Paper of the Journal)
- Jinwoo Moon and Jong-Jin Kim, "ANN Based Thermal Control Model for Residential Buildings," Building and Environment Journal, **Building and Environment**, Vol. 4/17, March 2010
- Jong-Jin Kim and Jinwoo Moon, "Impact of Insulation on Building Energy Consumption," Proceedings of the IBPSA Conference, Glasgow, Scotland, July 2009
- Jinwoo Moon and Jong-Jin Kim, "Application of Artificial Neural Network in Residential Thermal Control," Proceedings of the IBPSA Conference, Glasgow, Scotland, July 2009
- Soo-Young Kim and Jong-Jin Kim, "The Impact of Daylight Fluctuation on a Daylight Dimming Control System," **Energy and Buildings**, June 2007
- Soo-Young Kim and Jong-Jin Kim, "Influence of Light Fluctuation on Occupant Visual Performance," **Building and Environment**, July 2007
- Soo-Young Kim and Jong-Jin Kim, "Effect of Fluctuating Illuminance on Visual Comfort in a Small Office Environment," **Indoor and Built Environment**, 2007
- Jong-Jin Kim, "IAQ Monitoring System," Technical Report to LG Construction Co, 2005
- Jong-Jin Kim, "Design of Environmental Educator Center," Technical Report to American Youth Foundation, 2004
- Kearney, J. and Brower, R. and Jong-Jin Kim, "Field Measurement of Indoor Air Quality: University of Michigan Campus," Proceedings of 2003 American Solar Energy Conference, Austin, Texas, 2003
- Chang, J.D, Hwang, J.H. and Jong-Jin Kim, "Underfloor Air-Supply System," Proceedings of the Indoor Air 2002 Conference, Monterey CA, 2002

- Hwang, J.H., Chang, J.D. and Jong-Jin Kim, "A Multi-Zone Home Climate Control Systems for Single-Family Homes," Proceedings of the Indoor Air 2002 Conference, Monterey CA, 2002
- Jong-Jin Kim, "Sustainable Built Environment," **Knowledge for Sustainable Development: An Insight into the Encyclopedia of Life Supporting Systems**, Chapter 19.2, Volume III, EOLSS Publisher Co. London, 2002
- Jong-Jin Kim and S.D. Park, "Greening of an Office Building: a Real-world Experience," Sri Lanka 2000 Conference, Sri Lanka, 2000
- K.B Jeong and Jong-Jin Kim, "Individual Air Distribution Control Systems," Indoor Air 99 Conference: International Conference on Indoor Air Quality, Edinburgh, United Kingdom, 1999
- K. B. Jeong and Jong-Jin Kim, "Daylighting Light-Pipe Systems," Proceedings of Solar World Congress, Taejun, Korea, 1997
- K. B. Jeong and Jong-Jin Kim, "Transmission Efficiency of Light-Pipe Systems," Proceedings of Solar World Congress, Taejun, Korea, 1997
- K.B. Jeong and Jong-Jin Kim, "A New Light-Pipe System," **Journal of Architectural Institute of Korea**, Seoul, Korea, 1998
- J.H. Hwang and Jong-Jin Kim, "Air Flow Patterns of Personalized Ventilation Systems," **Journal of Architectural Institute of Korea**, Seoul, Korea, 1997
- Jong-Jin Kim, "Intelligent Building Systems," **Time Saver Standards**, 7th edition, McGraw Hill, NY, 1997
- Jong-Jin Kim, "Intelligent Buildings: A Case of Japanese Buildings," **Journal of Architecture**, Royal Institute of British Architects, United Kingdom, 1996
- Jong-Jin Kim, "Green Principles in Architecture," **Journal of Architecture and Building Science** Vol. 39 No 10, Architectural Institute of Korea, 1995
- Jong-Jin Kim, "Optimal Placement of Low-E Coating in Insulated Glazings," Proceedings of the Solar '95 Conference, Minneapolis, 1995
- Jong-Jin Kim, "Intelligent Building Technologies in Japan," Research Report to Japan Technology Management Center, University of Michigan, 1994
- Jong-Jin Kim and Colin Clipson, **Design and Technological Innovation for the Environment**, Proceedings of the 12th Annual ACSA Technology Conference, ACSA, 1994
- Jong-Jin Kim, et. al., "A Conceptual Framework for Dynamic Control of Daylighting and Electric Lighting Systems," 1993 IEEE Conference, Toronto, Canada, 1993
- Jong-Jin Kim, "Design of a Window as the Key Component of the Luminous Environment," 11th ACSA Technology Conference, Tempe, Arizona, 1993
- Jong-Jin Kim, et. al., "Application of Fluid Mapping and Wind Tunnel Techniques for Evaluating Window Flow Patterns of an Atrium," Solar 92: National Passive Solar Conference, Cocoa Beach, Florida, 1992
- Jong-Jin Kim, "Modeling of Reflected Solar Radiation from Adjacent Building Surfaces," Solar 92: National Passive Solar Conference, Cocoa Beach, Florida, 1992

Jong-Jin Kim, "Removing the Wall between Art and Science in Architecture," 10th ACSA Technology Conference, San Diego, CA, 1992

J. H. Huh, H.F Wu and Jong-Jin Kim, "Control Strategies for Switchable Glazing in Office Buildings," International Solar Energy Conference, Denver, Colorado, 1991

Jong-Jin Kim, "A HyperCard-Based Active Solar Energy System Simulator (ASESS)," Solar 90 Conference, Austin, Texas, 1990

Jong-Jin Kim, "Daylight Utilization in a Hot-Arid Climate," Building Simulation 89 Conference, Vancouver, Canada, 1989

Jong-Jin Kim, et. al., "Determining Daylight Illuminance in Rooms Having Complex Fenestration Systems," 1986 International Daylighting Conference (Proceedings II), ASHRAE, 1989

R. Sullivan, et. al, and Jong-Jin Kim, "An Indices Approach for Evaluating the Performance of Fenestration Systems in Residential Buildings," **ASHRAE Transactions**, 1988

Jong-Jin Kim, "Lighting Simulation in Building Performance Appraisal," Electronic Imaging '87, International Electronic Imaging Exposition and Conference, Vol. 2, Boston, MA, 1987

Jong-Jin Kim, et. al., "Development of Regression Equations for a Daylight Coefficient-of-Utilization Model," 1986 International Daylighting Conference (Proceedings II), ASHRAE, 1986

M. Spitzglas, et. al, and Jong-Jin Kim, "Scale Model Measurements for a Daylighting Photometric Database," **Journal of the Illuminating Engineering Society**, Vol. 15, No. 1, 1985

Ed Arens, et. al and Jong-Jin Kim, **SUN, WIND, AND COMFORT: A Study of Open Space and Sidewalks in Four Downtown Areas**, Institute of Urban and Regional Development, College of Environmental Design, University of California, Berkeley, 1984

Jong-Jin Kim and Stephen Selkowitz, "A New Coefficient of Utilization Model for Daylighting Calculation in Energy Analysis Programs," 1983 International Daylighting Conference, Phoenix, AZ, 1983

Stephen Selkowitz and Jong-Jin Kim, "The DOE-2 and SUPERLITE Daylighting Programs," 7th National Passive Solar Conference, Knoxville, TN, 1982

Francisco Arumi and Jong-Jin Kim, "Parametric Studies on the Thermal Response of a Direct Gain Room to the Distribution of Massive Elements on the Walls," 5th National Passive Solar Conference, Boston, MA. 1980

Authorship of Computer Programs

SUPERLIGHT, Electrical and Daylighting Analysis Program for Interior Spaces, Lawrence Berkeley Laboratory, 1992

CITYLIGHT, Daylighting Analysis Program for Urban Outdoor Spaces, University of California, Berkeley, 1988

DIM (Dynamic Illumination Model), Multi-Chromatic Lighting Analysis Program for Computer Graphic Module, ABACUS Lab, University of Strathclyde, Glasgow, UK, 1984