Bomin Kim, Assoc. AIA, CPHD, LEED AP

+1 508 309 0507
bomin.k@gmail.com

education

2023 Doctorate in Sustainable Urbanism, Washington University in St. Louis, Sam Fox School of Design & Visual Arts

Designing Social Connection: Older Adults and the Infrastructure of Social Encounters
Committee: Linda C. Samuels, PhD, RA, Nancy Morrow-Howell, PhD, MSW, Patty Heyda, LEED AP

2015 Master in Design Studies, Harvard University Graduate School of Design

Natural Ventilation's Role in Hospital Resiliency and Airborne Diseases
Advisor: Joyce Klein-Rosenthal, PhD

2013 Bachelor of Arts, Architecture, Washington University in St. Louis, Sam Fox School of Design & Visual Arts

Major in Operations and Supply Chain Management, minor in Legal Studies

professional experience

2020 – Environmental Design Consultant

Provide project teams with sustainable design knowledge and energy expertise. Leverage research and simulations including thermal comfort, energy modeling, computational fluid dynamics, to assist in developing environmental design practices and strategies.

2015 – 19 Architectural Designer / Sustainability Coordinator, Sasaki Associates, Watertown, MA

Led the sustainability efforts at Sasaki Associates, developing multi-disciplinary sustainable design narratives through high performance design simulations and analysis. Responsibilities include conducting research on sustainability parameters at both the urban and building scale and analyzing and documenting new and existing technologies for integrating high performance design. Position includes consulting projects for green building rating goals and analysis to support LEED and other green building rating compliances such as NZE, LBC, and Passive House as well as developing and implementing internal sustainability goals for architecture, urban, and planning projects and green training curriculum for the firm.

2012 Architecture Intern in Bio + Healthcare Department, Samoo Architects and Engineers, Seoul, Korea

Assisted with designing large-scale healthcare and food science campuses CJ Food Campus, Samsung Hospital, and report translation.

teaching + research experience

Full-time Lecturer, Washington University in St. Louis. Sam Fox School of Design & Visual Arts

2024 – Architectural Design I (M.Arch. 3)
The first of a two-semester sequence that introduces students to architectural design, focusing on conceptual, theoretical, and tectonic principles.

2024 Research Methods for a Changing Global Climate
This course explores urban research methodologies with a lens on climate change resilience. Students will navigate qualitative and quantitative research techniques, gaining the skills to assess and inform urban interventions for climate resilience. Students will engage with interdisciplinary methods and practices, incorporating local knowledge and design practices to understand and mitigate the complex socio-environmental dynamics of climate change such as heat island effect, health impacts, and urban flooding in coastal cities like Bangkok or New Orleans. Coursework guides students in

formulating critical research questions and developing sustainable, evidence-based approaches that contribute to making our cities more livable, sustainable, and resilient in the face of climate change.

2024 Senior Capstone in Architecture
The Senior Capstone in Architecture allows undergraduate students in their final semester of study to pursue individual research projects. All students will participate in shared discussions and presentations, as well as pursue a highly individualized line of research inquiry that potentially starts where a former project left off, supplementing current or previous coursework, or investigating a previously unexplored route. The course will culminate in a presentation and defense of a well-articulated and developed research project.

2023 Introduction to Design Processes I
The first year of the core studio sequence examines interactions between architecture and environments through the design of a small-scale project. Key concerns include global climate change, ecological systems, and sustainability. The first semester emphasizes experimentation in which students search for a conceptual position relative to architecture history, theory, and culture via the iterative development of form, geometry, space, and aesthetics. Introduction to Design Processes I is the first in the series of the five required core studios in the undergraduate architecture program.

Adjunct Faculty, The New School. Parsons School of Design

2022 Environmental Technology
This course introduces the fundamentals of energy and environmental management in buildings. Students will develop a conceptual, practical, and experiential knowledge of how the physical aspects of a building mediate between occupants and the elements to make a habitable environment. Course content includes an overview of green building, microclimates, thermal and visual comfort, solar geometry from global and building perspectives, heat transfer and storage mechanisms, thermal properties of materials, building envelope heat transfer, ventilative heat transfer, moisture and vapor control, daylighting, artificial lighting, passive cooling, and mechanical systems.

Teaching Fellow, Washington University in St. Louis. Sam Fox School of Design & Visual Arts

2022 CounterPublics: Master of Urban Design Studio 711, Associate Professor Linda C. Samuels
Partnering with Counterpublic 2023, a civic exhibition that weaves contemporary art into the daily life of St. Louis, this studio addresses the historic legacies and excluded pasts to determine opportunities of infrastructural investments in St. Louis. Substitute lectures, provide desk crits, teach research methodologies.

2021 Code Red: Master of Urban Design Studio 713, Professor John Trelawney Hoal
The middle landscape and the red fields of urban pastoralism is predicated on fear and exclusion, and privatization and regulation to maximize profit. This studio explores how to create an authentic egalitarian and economically and environmental responsible middle landscapes in sites of dying malls in a rapidly warming world. Assisted with guest lectures, teaching, course materials, grading.

Teaching Assistant, Washington University in St. Louis. Sam Fox School of Design & Visual Arts

2020 The Land of Which We Stand: Master of Urban Design Studio 711, Associate Professor Linda C. Samuels
As part of the International Green New Deal Superstudio out of the McHarg Institute, this studio utilizes mapping and analysis of the GND to determine systems of best intervention and create city/site-specific design aspirations along the Great River Greenway Brickline in St. Louis. Assisted with lectures, course materials, grading.

2020 Great Lakes: Chicago + Toronto: Master of Urban Design Studio 713, Professor John Trelawney Hoal
The future of urbanisms a state of being – being urban – is increasingly concentrated in a limited number of global meg-cities. This studio situates North America's Mid – a bi-national urban area anchored by Chicago and Toronto – to explore the metabolism and morphology of public works and public life. Assisted with guest lectures, teaching, course materials, grading.

Teaching Assistant, Harvard University Graduate School of Design

2015 Environmental Planning and Sustainable Development, Professor Joyce Klein-Rosenthal
Course objective was identifying the necessary information to integrate environmental viability and sustainable development with equity, healthy communities, and economic development in urban planning. Assisted with course materials, grading and compiling reading lists for lectures.

research experience

Research Consultant, Food Forward, Los Angeles

2023 – Increasing Community Access to Healthy Food through Large-Scale Food Recovery
Food Forward and NorvoNordisc are committed to improving vulnerable populations by ensuring more sustainable access to healthier and nutritious food through recovering and redistributing surplus food to hunger relief agencies. This project involves assessing service delivery gaps by analyzing and mapping the geographic distribution system, increased food demand, and future community partner capacities.

Research Consultant, The City of Los Angeles, Bureau of Engineering (BOE)

2021 – 23 Infrastructure Equity Scorecard Pilot Project (IESPP)
The IESPP is a collaborative effort between the BOE and the Mayor's Office to create a framework and tool that helps guide capital investment in infrastructure projects through an equity lens. Key phases include identifying and interviewing city and community stakeholders, developing racial and social equity measuring methodologies to prioritize bureau wide infrastructure projects in LA neighborhoods, and developing an open-source beta digital tool to comprehensively grade equitable infrastructure needs.

Research Assistant, Washington University in St. Louis Sam Fox School of Design & Visual Arts

2019 – Associate Professor Linda C. Samuels, Ph.D.
Research and analysis for manuscript Infrastructure Optimism, Routledge, 2021. Analyzed case studies to help identify untapped relationships across infrastructural systems for greater social and environmental benefits.

Research Assistant, Harvard University Graduate School of Design

2014 –15 Professor Joyce Klein-Rosenthal, Ph.D.
Part of Dr. Rosenthal's *Urban Brain Project* which seeks to foster collaboration between planners, designers and public health practitioners and scholars to address solutions to the widespread lead poisoning in cities. Investigated existing public housing policy regarding the effects of buildings containing lead paint and identified risks of unlicensed remediation/contractors illegally removing lead paint. Analyzed data and made recommendations for new regulations for renovations.

2014 Professor Kiel Moe
Research initiative led by Professor Kiel Moe at the Energy, Environments & Design Lab, analyzed the mechanical and operational systems and daylighting of the original Frank Furness design for Pennsylvania Academy of Arts and recommended potential restoration of aspects of the original Furness building systems.

2013 –14 Professor Kiel Moe
Contributions made to Professor Kiel Moe's book "Empire State & Building." Researched and analyzed the material history and geography of the parcel of land under the Empire State Building and tracked the built materials' embodied energy, embodied carbon, and emergy flow to chart the dynamic thermodynamics of the Empire State Building.

Research Assistant, Washington University in St. Louis Sam Fox School of Design & Visual Arts

2010 Assistant Professor Liane Hancock
Develop core competencies for Green Supply Chain and quantify the embodied energy of the built environment
Analyzed Green Operations and Supply Chain of building materials and identified risks of the industry's current definition of local/locally sourced goods.

publications

Journal Articles

2023 Samuels, L. Kim, B. "Measuring What Matters: The True Cost of the National Geospatial Agency," Journal of Architectural Education, 77:1, Spring 2023

2019 Samuels, L. Kim, B. "Measuring What Matters," Less Talk More Action: Conscious Shifts in Architectural Education. Association of Collegiate Schools of Architecture, 2019 https://doi.org/10.35483

2017 Kim, B. Lee, Y. "Genetic Algorithms for Balancing Multiple Variables in Design Practice," Advances in Computational Design, Vol 22. No. 3

2016 Kim, B. Lee, Y. "GA for Facades Optimizing Energy and Occupant Experience," Sustainable Built Environment, Vol 10, No. 12016

Conference Proceedings

2020 Kim, B. Yuan, P."Conceptualizing Loneliness: Modelling Individual Trajectories of Loneliness Across Time," Systems Dynamics Society, International Conference. Bergen, Norway: 2020

Reports and Other Publications

2022 "Sites of Wounding/ Sites of Healing," Center for the Study of Race, Ethnicity, and Equity, https://storymaps.arcgis.com/stories/2a88317a73c54b3ebf85ac3f96a5c05f?header=false&cover=false

2020 "Private Streets: Monuments of Expropriation," featured on Monument Lab, WashU UD, NCCJ

2019 "Environmental Racism in St. Louis," Sierra Club of St. Louis, Interdisciplinary Environmental Clinic, Washington University School of Law, 2019

2019 "Aging in Heat: Measuring Thermal Inequity and Walkability in Chicago," Center for the Study of Race, Ethnicity & Equity

presentations

2024 "Shifting the Paradigm: Measuring What Matters in Urban Design," APA St. Louis

2020 "Conceptualizing Loneliness: Modelling Individual Trajectories of Loneliness Across Time," International Conference of the System Dynamics Society

2019 "Aging in Heat: Measuring Thermal Inequity and Walkability in Chicago," Oasis Institute, Zoom

2017 "Advanced Tools and Strategies for Performance-Based Design Exploration," American Society of Heating, Refrigerating, and Air-Conditioning Engineers Building Performance Analysis, Atlanta, GA

2017 "Genetic Algorithms for Facades Balancing Energy and Occupant Experience," A'17 American Institute of Architecture Conference on Architecture, Orlando, FL

2016 "GA for Facades Optimizing Energy and Occupant Experience," International Conference on Sustainable Built Environment, Seoul, Korea

2016 "Integrating Building Science in Practice," United States Green Building Council Sustainable Design Leaders, San Francisco, CA

awards

2020 Teaching Fellowship, College of Architecture and Graduate School of Architecture and Urban Design

2019– 20 Research Fellowship, Divided City Graduate Student Research Fellowship; Center for the Humanities funded by The Andrew W. Mellon Foundation

2019 – 20 Civic Engagement Award, Sam Fox School of Design & Visual Arts, Washington University in St. Louis

2019 – 20 Dean's Scholarship of Urban Design, Graduate School of Architecture and Urban Design

2017 Short-listed, "Genetic Algorithms for Facades Balancing Energy and Occupant Experience," Practice-based or Academic Research, Curriculum or Applied Technology Development, AIA Innovation Award

2016 Best Research, "GA for Facades Optimizing Energy and Occupant Experience," International Conference on Sustainable Built Environment

2012 Finalist, "Inefficiency Can Be Beautiful," Land Art Generator Initiative, World Future Energy Summit in Abu Dhabi, 2012

research grants

2023 "Integrating Socio-Ecological Strategies for Flood Mitigation in Bangkok's Climate Vulnerability Assessment," Global Futures Small Grants

2021 "Sites of Wounding/Sites of Healing," CRE2: Center for the Study of Race, Ethnicity & Equity

2015 "Integrating Water Management with Urban Planning and Design," Hideo Sasaki Foundation

academic experience

Guest Lecture

2022 Carbon Accounting and Sustainability Metrics, NY COTE

2022 Private Streets: Monuments of Expropriation, Washington University in St. Louis

2021 Contested St. Louis Sites: Acknowledge, Inform, Repair, Washington University in St. Louis

2021 Theories and Methods of Architecture, Landscape, and Urbanism Research, Washington University in St. Louis

Invited Critic

2022 – 23 Master of Urban Design Mid and Final Review, Washington University in St. Louis

2022 International Housing Studio Mid and Final Review, The New School

2018 – 20 Master of Urban Design Mid and Final Review, Washington University in St. Louis

2018 – 19 Master of Architecture Mid and Final Review, Washington University in St. Louis

2017 Master of Architecture Design Thesis Reviews, Boston College of Architecture

2015 – 16 Bachelor of Architecture First Year Mid and Final Review, Boston College of Architecture

certification + professional membership

American Institute of Architecture, Associate AIA

Passive House Institute, Certified Passive House Designer

United States Green Building Council, LEED AP

American Society of Heating, Refrigerating and Air-Conditional Engineers, Associate Member

International Building Performance Simulation Association, Member

Engineers without Borders, Working Professional Mentor

American Society for Healthcare Engineers, Associate Member

skills

Software

Rhinoceros 5.0 (V-Ray, T-Splines), Revit, Dynamo, Grasshopper, Energy Plus, AutoCAD, Adobe Suite, GIS, Microsoft Office

Energy Modeling and CFD

Ladybug, Honeybee, EnergyPlus, DIVA, Design Builder, Coolvent, Openfoam, Daysim, Radiance

Language

English (native), Korean (fluent), Mandarin (proficient), Ruby, Python, C#

community

2020 – Diversity, Equity, Inclusion Committee, Washington University

2020 – Admissions Committee Master of Urban Design, Washington University

2020 – The Oasis Institute
Facilitate and assist with older adults coping with life transitions and social isolation

2019 – 20 Learning Culture Committee, Washington University

2015 – CrossFit L-2 Trainer
Coach CrossFit classes

2016 – 19 InnerCity Weightlifting, Inc
Help build safer, more inclusive communities through weightlifting, Boston, MA, 2016-present