Joon-Ho Choi - Board Member at Large

Biography

Dr. Choi, Joon-Ho. is an Assistant Professor of Building Science and Director of Human-Building Integration Research Group in the USC Architecture. His primary research interests are in the area of user-centered indoor environmental quality control, comprehensive post-occupancy evaluation, and cyber-physical system in a built environment. As an interdisciplinary scholar and principal investigator, he has developed/participated in multiple research projects sponsored by federal and non-profit research grant programs, as well as industry partners, which include National Science Foundation(NSF), Environmental Protection Agency(EPA), General Services Administration(GSA), American Institute of America(AIA/BSA), Roof Construction Institute Foundation (RCIF), Buro Happold Engineering, and AECOM.

Statement

I received my Ph.D. degree in Building Performance and Diagnostics from Carnegie Mellon University in May 2010. I served as an Assistant Professor of Architectural Engineering at Missouri University of Science & Technology from fall 2010 to summer 2012. Since then, I have been working as an Assistant Professor in the School of Architecture at the University of Southern California (USC).

In academia, based on my intellectual practice and training through my Ph.D. program, I have developed a research theme of “Human-Building Integration (HBI)” which incorporates a user’s environmental comfort, focusing on thermal and visual quality, and IEQ measurements. The goal of the research is to enhance the understanding of the impact of IEQ on human physical and psychological conditions as a design principle to establish a smart environmental design and control that will enhance occupants’ work productivity, health, and sustainability in a built environment. Due to the creative and innovative features of the study, the research outcomes have been selected for best paper awards in international conferences. Also, the HBI research helped me receive the 2015 New Investigator Award from the U.S. Architectural Research Centers Consortium (ARCC), and the intellectual robustness of this study has also been recognized and financially sponsored by multiple (federal) research agencies and major industry firms, including the National Science Foundation (NSF), Environmental Protection Agency (EPA) and AECOM. Part of the research that focuses on Comprehensive IEQ and Building Design guideline projects has been (being) conducted with the help of industry partners, such as Buro Happold Engineering, Perkins+Will, Glumac, and the US Green Building Council.

In USC Architecture, I have been teaching multiple undergraduate/graduate courses which are related to Environmental Design, Building Performance, LEED Metrics, IEQ, and Comprehensive POE & Measurement. Most courses were developed to illustrate the effects of design strategies on environmental sustainability as well as on the building occupants’ health and productivity. This practice-based teaching has been positively evaluated within a philosophical approach to

architectural buildings as an educational tool. Consequently, the work of students in my courses has frequently been integrated with my research ideas for presentation and competition in national research programs of the EPA and DOE.

My extensive experiences in the research and educational fields have prompted me to become seriously involved in multiple research and professional organizations. I am convinced that the Architectural Research Centers Consortium is an ideal and productive place where I can contribute my research skills and education to the architectural research society. Based on my successful endeavors in multiple research activities as well as my practice in a research center at USC, I shall help establish an intensive architectural research infrastructure, such as facilities and educational research program, and will proactively seek opportunities to share my approach/know-how of interdisciplinary research with investigators and students in addition to the requested roles and responsibility of board members. Much of these will enhance the scholarly excellence of our architectural research community, which is one of the major goals of ARCC. Therefore, it would be a privilege to continue my role as an ARCC board member, and I would be sincerely appreciative of the opportunity to share my research experience and passion via ARCC.