

## HUI CAI

Ph. D.  
Assistant Professor  
School of Architecture Design & Planning  
The University of Kansas, USA

112 Marvin Hall  
1465 Jayhawk Blvd  
Lawrence, Kansas, 66045  
E-mail: [huicai@ku.edu](mailto:huicai@ku.edu)

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### EDUCATION

05/2012	Ph.D. Georgia Institute of Technology, United States
01/2005	M.A. (Arch), National University of Singapore, Singapore
07/2002	B. Arch with highest honor, Southeast University, China

### TEACHING EXPERIENCE

#### Studio

Fall 2014	Foundation Studio, KU
Spring 2014	Studio II (sophomore) Instructor, MU
Fall 2013	Studio I (sophomore) Instructor, MU
Fall 2010-2008	Studio Instructor COA1011-Fundamentals of Design & the Built Environment I Georgia Institute of Technology
Spring 2010-2009	Studio Instructor COA 1012- Fundamentals of Design & the Built Environment II
10/2010	Guest critic at first year graduate Option-I studio final review Master program at Georgia Institute of Technology Project: "Mapping the city"
09/2010	Guest critic at second year graduate studio final review Master program at the University of Kansas Project: "Disaster Reaction: Urban reconstruction"
09/2010	Guest critic at first year graduate Option-I studio review Master program at Georgia Institute of Technology Project: "Mapping the city"

08/2008 Guest critic at second year studio review  
Southern Polytechnic University

08/2007 Guest critic at second year studio review  
Southern Polytechnic University

### Courses/Seminars

Fall 2014 Instructor,  
ARCH 930 Doctoral Seminar, KU

Spring 2014 Instructor,  
ARCH 4001/7001 Healthcare Facilities Design, MU

Spring 2014 Instructor,  
Programming

Fall 2013-Spring 2014 Drafting class instructor, MU  
Fall 2013 Doctoral Independent Study on Healthcare architecture, MU

Spring 2011 Co-lecturer  
COA 8223 CZ1-Evidence-based Design in Health Care  
Georgia Institute of Technology

Spring 2009 Teach assistant  
HS8803/COA8823 - Pediatric Health Center of the Future  
Georgia Institute of Technology

03/2009 Guest lecturer, "Spatial analysis on inpatient unit typology"  
COA 8223 CZ1-Evidence-based Design in Health Care  
Georgia Institute of Technology

09/2007 & Guest lecturer, "Introduction to Chinese Architecture"  
09/2008 ARCH 2111/4105- History of Architecture I  
Georgia Institute of Technology

Fall 2003-2005 Teach Assistant, "History of Modern Architecture"  
GEM 1016K, the School of Architecture  
National University of Singapore

### PROFESSIONAL WORK EXPERIENCE

08/2013-08/2014 Assistant Teaching Professor

	University of Missouri, Columbia
08/2012-08/2013	Health + Science Research Leader and Designer RTKL Associates Inc.
08/2006-12/2011	Research Assistant & Teach Assistant Georgia Institute of Technology
08/2008-12/2010	First Year Studio Instructor Georgia Institute of Technology
05/2010-08/2010	Design Researcher (Summer Intern for China Hospital Studies) Nurture, Steelcase Inc.
02/2005-07/2006	Full-time Research Associate National University of Singapore
01/2003-01/2005	Part-time Research Assistant National University of Singapore
12/2001-12/2002	Full-time Design Architect Hong Kong Ho & Partner's Design LTD (Shanghai)
05/2001-10/2001	Assistant Architect Architecture Design Institute of Nanjing University, China

#### **PARTICIPATED RESEARCH PROJECTS**

Fall 2012- Aug 2013	Building the Central Knowledge Repository for the Performance-driven design: Best Practice and Performance Metrics for RTKL's Health + Science Projects Principal investigator
Jun 2013- Aug 2013	Post-occupancy Evaluation on the Family Medicine at Downtown Clinic Campus of University Health System at San Antonio (unfinished) Principal investigator

Mar 2013- May 2013	Lean Six Sigma Study on the Operating Room Turnaround Time (TAT) for the Existing Surgical Suits of University Health System at San Antonio Main Researcher
Feb 2013- Mar 2013	Vision on the Baylor DDA (Dallas Doctor Association) Pavilion II Design Main researcher (conducting research on trends of clinic design, translating research to design concepts, participating client kick-off meeting, and conducting visioning survey)
Mar 2013- Present	Space syntax analysis on the old and new layout for the Emergency Department of Yuma Medical Center Principal investigator
Fall 2012- Present	Post-occupancy Evaluation on the Emergency Department and Operating Rooms at Baylor Medical Center at Waxahachie (proposal awarded by the client and actual POE will be conducted in 2014) Principal investigator
Fall 2011-Spring 2012	Making “invisible architecture” visible: A comparative study of nursing unit typologies in the United States and China Doctoral dissertation
Spring 2011-Fall 2011	Evidence-based healthcare design and research in China Main researcher A collaborative project between Georgia Tech and the Steelcase Inc.
Fall 2009-Spring 2010	Construct Health Environment Research Group web-based online database Research Assistant PI: Professor Craig Zimring
Spring 2009	Create the world –class hospitals for the Military Health System (MHS): Developing an Innovation Center Research Assistant PI: Professor Craig Zimring
Fall 2007	Health web Research Assistant

	PI: Professor Craig Zimring
Spring 2007	Design of ambulatory care centers Research Assistant PI: Professor Craig Zimring
Fall 2006	Supporting the redevelopment of healthcare in the wake of Katrina (space syntax analysis on best practices examples of seven U.S. and seven European Clinics) Research Assistant PI: Professor Craig Zimring
02/2005-07/2006	Internet-based real-time interactive VR Visualization of Tang period Chang'an with particular emphasis of the Palace compounds Research Associate and coordinator for student research assistants PI: Professor Heng Chye Kiang

#### ACADEMIC AWARDS

2013	Faculty Award of Merit- Best Doctoral Dissertation, awarded by Georgia Institute of Technology, School of Architecture
2011	The 2011 Best International Research Project awarded by the Design & Health International Academy
2007	Exhibition at international Contemporary Furniture Fair 2007, led by Professor Tristan Al-Haddad
2005	"Lijiang Yuhu Elementary School" that won the 2005 UNESCO Jury Award for Innovation, team leader and architect: Dr. Li Xiaodong
2006-2012	Graduate Research Assistant, Georgia Institute of Technology
2003-2005	Full scholarship for Master studies in National University of Singapore
2000-2002	Top-class scholarship of Southeast University
1997-2000	Second-class scholarship of Southeast University

#### SERVICE

2013-present	Department of Architectural Studies, Ad-hoc committee to review Non-tenured track guidelines with recent decisions at campus level and in concert with college guidelines
2013-2014	Academic advisor to 28 undergraduate students

2013	High-school Art Day, students' recruitment activity
2000-2002	Top-class scholarship of Southeast University
1997-2000	Second-class scholarship of Southeast University

## PUBLICATIONS

### *Peer Reviewed International Conference Papers and Poster Presentations*

Cai, H., & Zimring, C. (2013), "Understanding Cultural Differences in Nursing Unit Design with the Support of Space Syntax Analysis", *Proceedings of the 9<sup>th</sup> Space Syntax Analysis Symposium*, 014: 1-24, Seoul, Korea.

Morgareidge D., Cai, H., & Jia J. (2013), *Performance-Driven Design with the Support of Digital Tools: Using Simulation and Space Syntax to Facilitate Design Decision-makings in Healthcare Settings*, paper presented at EDRA44 (the 44th Annual Conference of the Environmental Design Research Association), Providence, Rhode Island, USA, May 29-June 1.

Morgareidge D. & Cai, H. (2013), *Integrated Healthcare Design with Predictive Analytics Tools and Advanced Post-Occupancy Evaluation Tools*, paper presented at INFORMs Healthcare (The Institute of Operations Research and Management Science, the 2<sup>nd</sup> Conference on Healthcare), Chicago, IL, USA, June 23-June 26.

Cai, H., Morgareidge D. (2013), *The Application of Space Syntax in Evaluating Physical Environment and Organizational Performance*, presentation at the Human Centered Design Summit at RTKL, Los Angeles, Mar 18.

Cai, H., & Zimring, C. (2012). *Out of Sight, Out of Reach: Correlating Spatial Metrics of Nurse Station Typology with Nurses' Communication and Co-awareness in an Intensive Care Unit*. Paper published in the proceedings of the Space Syntax Symposium, Santiago, Chile, January 3-6.

Cai, H., & Zimring, C. (2012). *Developing Metrics for Nursing Station Typology*, Paper presented at the "Development of Tools for Healthcare Environments Research and Practice" intensive session organized by Anjali Joseph and Upali Nanda, at EDRA43 (the 43rd Annual Conference of the Environmental Design Research Association), Seattle, WA, USA, May 30-June 2.

Cai, H., & Zimring, C. (2011). *Stay Connected in Decentralized Nurse Station: The Impact of Nurse Station Typology on Nurses' Informal communication and Learning*. Paper presented at the Design & Health 7th World Congress & Exhibition, Boston, MA, USA, July 6-10.

Zimring, C., Cai, H., DuBose, J., & Wallen, T. (2011). *Evidence-Based Integrated Green Hospital* (以循证设计为基础的整体绿色医院设计). Paper presented at the International Hospital Architectural Design and Equipment Symposium: Towards the Green Hospital (医院建筑设计及装备国际研讨会：绿色医院解决方案), Chengdu, China, September 2-4.

Cai, H., & Zimring, C. (2010). *To Make Invisible Architecture Visible: Comparative Studies on*

*American and Chinese Nursing Units*. Paper presented at the EDRA 41 (the 41st Annual Conference of the Environmental Design Research Association) ---Policy & the Environment: Establishing Ground Rules through Environmental Design Research, Washington DC, May 30-June 2.

Cai, H., & Zimring, C. (2009). *Rethinking Evidence-Based Design: The Impact of Nursing Station Typology on Nurses' Communication and Learning*. Paper presented at the EDRA 40 (the 40th Annual Conference of the Environmental Design Research Association), Kansas City, USA, May 28-30.

Cai, H., Nagar, E., Rippin, A., Cowan, D., Zimring, C., & DuBose, J. (2009). *The Innovation Center: A Military Health System Endeavor*. Paper presented at the HSI (Healthcare System Institute) Student Symposium 2009, Georgia Institute of Technology, Atlanta, GA, USA, Apr 25-26.

Cai, H., & Kahn, S. (2008). *CFY in Hot-Desk Age--- Impact of Physical Environment on Studio Culture in Common First Year (CFY)*. Paper presented at the 24th NCBD (National Conference of Beginning Designers): We Have Never Been Pre-Disciplinary, Georgia Institute of Technology, Atlanta, USA, March 13 -15.

Cai, H., & Zimring, C. (2008). *The Impact of Physical Environment on Nurse Learning: Comparative of Emory 2D and 5E ICU*. Paper presented at the HSI (Healthcare System Institute) Student Symposium 2008, Georgia Institute of Technology, Atlanta, USA, April 25-26.

Cai, H. (2007). *Explore the Role of Vernacular Precedent in Sustainable Architecture*. Paper presented at the Georgia Institute of Technology Graduate Student Research Symposium, Atlanta, USA, March 6.

Cai, H., & Do, E. Y.-L. (2007). *Dual Effects of Inspiration Sources: Designers' Use of Analogy in Creative Design*. Paper published in the proceedings of the IASDR07 (International Association of Societies of Design Research), Hong Kong Polytechnic University, Hong Kong, China, November 12-15.

Cai, H., & Zimring, C. (2007). *Comparative Study of Nursing Floor Design on Nurse Learning*. Paper presented at the EDRA 38 (the 38th Annual Conference of the Environmental Design Research Association) --- Building Sustainable Communities, Sacramento, CA, May 30-June 3.

Cai, H., & Li, X. (2006). *Searching Shelter for Body and Soul--- Lessons from Chinese Yunnan Naxi Vernacular*. Paper published in the proceedings of the 3rd International Seminar on Vernacular Settlement--- Rethinking Local Knowledge in Vernacular Settlements: Anchoring the Concept of Place in the Post-Disaster and Post-Global World, Surabaya, Indonesia, March 2-4.

Cai, H., & Li, X. (2006). *Vernacular Precedent Adaptation in Sustainable Architecture Design in Tropical Regions*. Paper published in the proceedings of the iNTA 2nd International Conference on Sustainable Architecture and Urban Design in Tropical Regions: Harmony in Culture and Nature, Jogjakata, Indonesia, April 3-5.

Cai, H., & Li, X. (2004). *Critical Sustainability in Chinese Vernacular: Chinese Architects' Exploration for Holistic Sustainability*. Paper presented at the XXXII<sup>th</sup> IAHS World Congress: Sustainability of the Housing Project, Trento, Italy, September 21-25.

Cai, H., & Li, X. (2004). *Preserving Meaning of Place in Changing Age-----Case Study of Yunnan Lijiang Yuhu Primary School Design*. Paper published in the proceedings of the mAAN 4th International Conference: Safeguarding and Revitalizing Local Heritage, Shanghai, China, October 28-30.

Cai, H., & Xiaodong, L. (2003). *From Neo-vernacular to Sustainable vernacular: Chinese Architectural Practice and Education in Regional Architecture*. Paper published in the proceedings of the International Forum of Architectural Education: Regionalism under the trends of Globalization, Southeast University, Nanjing, China, December 10-12.

### *Journal Papers*

Morgareidge D., Cai, H., & Jia J. (2014), "Performance-Driven Design with the Support of Digital Tools --- Applying Discrete Event Simulation and Space Syntax on Emergency Department Design", in *Frontiers of Architectural Research*.

Cai, H. & Zimring, C. (2013), "Correlating Spatial Metrics of Nurse Station Typology with Nurses' Communication and Co-Awareness in an Intensive Care Unit", in *EDRA Special Report: Development of Tools for Healthcare Environments Research and Practice*, pp. 25-30.

Zimring, C., Augenbroe, G. L., Malone, E. B., Sadler, B. L., & Cai, H. (2011). Key Elements of Evidence-Based Design (循证设计相关因素) . *China Hospital Engineering* (中国卫生工程) (8), 32-34.

Zimring, C., Augenbroe, G. L., Malone, E. B., Sadler, B. L., & Cai, H. (2011). Ten Strategies to Succeed the Implementation of Evidence-Based Design (成功实施循证设计的十大策略) . *China Hospital Engineering* (中国卫生工程) (8), 28-31.

Zimring, C., Augenbroe, G. L., Malone, E. B., Sadler, B. L., & Cai, H. (2011). Toward Evidence-Based World-Class Hospital (以科学为依据引导世界一流医院). *China Hospital Engineering* (中国卫生工程) (8), 25-27.

Cai, H., & Zimring, C. (2011). Stay Connected in Decentralized Nurse Station: The Impact of Nurse Station Typology on Nurses' Informal communication and Learning. *World Health Design* (July), 60-67.

Cai, H., & Khan, S. (2011). The Common First Year Studio in a Hot-desking Age: An Explorative Study on the Studio Environment and Learning. *Journal for Education in the Built Environment (JEBE)*, published by the Center for Education in the Built Environment, 5(2), 39-64 (26).

Cai, H., Do, E. Y.-L., & Zimring, C. (2010). Extended Linkography and Distance Graph in Design



Evaluation: An Empirical Study of the Dual Effects of Inspiration Sources in Creative Design. *Design Studies*, 31(2), 146-168.

Cai, H., & Li, X. (2004). Critical Sustainability in Chinese Vernacular: Chinese Architects' Exploration for Holistic Sustainability. *International Journal for Housing and Its Applications*, 29(1), 21-32.

### **Books**

Kiang, H. C. (2005). *Reconstruction of Tang Chang'an* (H. Cai, Trans.). Bilingual. Singapore, Beijing: Chinese Architecture and Construction Press. Translation, layout and graphic design by Hui Cai

### **Review**

Cai, H., et al. (2013). Work as a reviewer for Research Track Rating for the Healthcare Design Conference (HCD) 2013.

Cai, H., et al. (2013). Work as a reviewer for EDRA 44

Cai, H., et al. (2012). Work as a reviewer for EDRA 43.