

Hongyi Cai, PhD, LC

Department of Civil, Environmental & Architectural Engineering, University of Kansas

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PROFESSIONAL PREPARATION

Central South University, China	Architectural Engineering	B.Eng.
Chongqing University, China	Architectural Technology and Science	M.Eng.
University of Michigan	Architecture	M.S.
University of Michigan	Architecture	Ph.D.

APPOINTMENTS

2010 – present	Assistant and Associate Professor, Department of Civil, Environmental & Architectural Engineering, University of Kansas (KU), Lawrence, KS
Sept – Oct 2019	Visiting Professor, Department of Architecture, Faculty of Science and Technology, Tokyo University of Science (TUS), Japan
2009 – 2010	Research Associate, Hong Kong Polytechnic University, Hong Kong
2007 – 2009	Application Engineer, WAC Lighting Company, New York, NY

SELECTED PUBLICATIONS (Corresponding (lead) author underlined)

- He, S., Li, H., Yan. Y., Zhang, K., & Cai, H. (2026). Quantifying the Environmental Light Exposure to Human Eyes. LEUKOS 22(2): 223-257.
- He, S., Li, H., Yan. Y., & Cai, H. (2024). Calibrating lighting simulation with panoramic high dynamic range imaging. Journal of Building Performance Simulation 17(1), 74-93.
- He, S., Li, H., Yan. Y., & Cai, H. (2024). Capturing luminous flux entering human eyes with a camera. Part 1: Fundamentals. LEUKOS 20(1), 9-27.
- He, S., Li, H., Yan. Y., & Cai, H. (2024). Capturing luminous flux entering human eyes with a camera. Part 2: A Field Verification Experiment. Leukos 20(1), 28-54.
- Mahlab, F., Yamaguchi, H., Shimoizima, Y., Yoshizawa, N., & Cai, H. (2023). A joint validation study on camera-aided illuminance measurement. Lighting Research & Technology, 55(6): 571-593.
- He, S., Yan. Y., & Cai, H. (2022). Improving the Accuracy of Circadian Lighting Simulation with Field Measurement. Journal of Building Performance Simulation, 15(5), 575-598.
- Li, H., & Cai, H. (2022). Lighting measurement with a 360° panoramic camera, Part 1: Technical Procedure and Validation. Lighting Research & Technology, 54(7): 694-711.

- Li, H., & Cai, H. (2022). Lighting measurement with a 360° panoramic camera, Part 2: Applications. *Lighting Research & Technology*, 54(7): 712-729.
- Poling R. M., & Cai, H. (2021). Calculating luminous flux radiated to a camera lens via high dynamic range photogrammetry. *Lighting Research & Technology*, 53(2), 119-145.
- Nelson, M. A., Anderson, B. P., & Cai, H. (2017). Selection methods and procedure for evaluation of LED roadway luminaires. *LEUKOS*, 13(3), 159-175.
- Cai, H., Saifan, M. I., & Killeen, J. A. (2015). Case studies of a camera-aided imaging method for evaluation of interior luminous environments. *Indoor and Built Environment*, 24(5), 658-671.
- Cai, H. (2013). High dynamic range photogrammetry for synchronous luminance and geometry measurement. *Lighting Research & Technology*, 45(2): 230-257.
- Cai, H., Chung T. M. (2011). Improving the quality of high dynamic range images. *Lighting Research & Technology*, 43 (1): 87-102.

PATENTS

- “Integrated Light and Heat Arrangement of Low Profile Light-Emitting Diode Fixture” (Patent No. US 10,215,441 B2). Inventors: Hongyi Cai. Issued on Feb 26, 2019
- “*Heated Lens Lighting Arrangement*” (Patent No. US 10,253,965 B2). Issued on Apr 9, 2019. Inventors: Hongyi Cai (40%), Steven D. Schrock (30%), Eric J. Fitzsimmons (30%).
- “Heated Lens Lighting Arrangement” (Patent No. US 9,851,086 B2). Inventors: Hongyi Cai (40%), Steven D. Schrock (30%), Eric J. Fitzsimmons (30%). Issued on Dec 26, 2017.

PROFESSIONAL PRACTICE

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| 2018 – Present | Founder and president of <i>SSLAH TECH INC.</i> for R&D, technology transfer, and commercialization of integrative Solid-State Lighting & Heating technologies. |
| 2007 – 2009 | Application Engineer, W.A.C. lighting company, New York. Completed projects: (1) R&D of InvisiLED LED Tape, (2) WAC and W2 Lighting Fixture Reflectors Design, (3) WAC Lighting Renovation Project, (4) Established and in charge of ENERGY STAR and LEED programs. |
| 2000 – 2001 | Senior Lighting Designer, Beijing Qili Lighting Equipment Company, China. Completed projects: (1) Guilin Mulong Lake Landscape Lighting Project, (2) Guangdong Olympic Stadium Outdoor Lighting Project, (3) Chengdu Outdoor Lighting Project, including Yingmenkou Cloverleaf Junction, Golden Bull Road, Shawan Road, and a Statue, and (4) China Mobile – Shijiazhuang Branch Office Building Outdoor Lighting Project. |