Stanford

Sneha Jain

Postdoctoral Scholar, Civil and Environmental Engineering

Bio

BIO

I completed my PhD degree at EPFL, Switzerland focused on the influence of eye physiology and color of daylight on human visual comfort under daylight office spaces. I have a background in Architecture and a Master's in Building Science and Information Technology from India, complemented by a research fellowship at the Lawerence Berkeley National Lab (LBNL). I am currently pursuing a postdoctoral fellowship at the Billington lab (Building for Wellbeing lab) in the Civil and Environmental Engineering department at Stanford University. Here, I am working on evaluating the wellbeing of low-income renters living in affordable housing as a result of sustainability retrofits. On another project, I am working on broader aspects of occupant wellbeing in indoor spaces brought by biophilic design interventions.

HONORS AND AWARDS

- Building Energy Efficiency Higher & Advanced Network (BHAVAN) Fellowships, Indo-US Science and Technology Forum (IUSSTF) (2018)
- Best paper Award, Asia's Building Performance Simulation Association (2018)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Technical Committee member, International Commission on Illumination (CIE) (2020 - present)
- Technical Committee member, International Energy Agency (2022 - present)

PROFESSIONAL EDUCATION

- Ph.D., EPFL, Switzerland , Civil & Environmental Engineering (2023)
- M.S., IIIT-Hyderabad, India , Building Science (2018)
- B.Arch., NIT-Bhopal, India , Architecture (2015)

STANFORD ADVISORS

- Sarah Billington, Postdoctoral Faculty Sponsor

LINKS

- Billington Lab: https://www.billingtonlab.org
- LinkedIn: https://www.linkedin.com/in/sneha-jain-22b59510b/

Research & Scholarship

RESEARCH INTERESTS

- Research Methods
- Technology and Education

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The overarching goal of my research is to understand the impact of the built environment on human well-being and integrate the complexity and dynamism of human-environment interaction into effective design strategies that promote i) health and well-being, ii) equitability, and iii) sustainability.

Currently, I am working on evaluating the impact of sustainble retrofit solutions on the wellbeing of low-income renters living in affordable housing. I have strong interest to work on quantifying the impact of exposure to daylight on human comfort, sleep patterns, alterness and stress relief.

Publications

PUBLICATIONS

- **Perceived glare from the sun behind tinted glazing: Comparing blue vs. color-neutral tints** *BUILDING AND ENVIRONMENT*
  Jain, S., Wienold, J., Lagier, M., Schueler, A., Andersen, M.
  2023; 234
- **Influence of macular pigment on the sensitivity to discomfort glare from daylight.** *Scientific reports*
  Jain, S., Wienold, J., Eandi, C., Gisselbaek, S., Kawasaki, A., Andersen, M.
  2023; 13 (1): 18551
- **Behind electrochromic glazing: Assessing user's perception of glare from the sun in a controlled environment** *ENERGY AND BUILDINGS*
  Jain, S., Karmann, C., Wienold, J.
  2022; 256
- **A review of open loop control strategies for shades, blinds and integrated lighting by use of real-time daylight prediction methods** *BUILDING AND ENVIRONMENT*
  Jain, S., Garg, V.
  2018; 135: 352-364
- **Comparison of questionnaire items for discomfort glare studies in daylit spaces** *LIGHTING RESEARCH & TECHNOLOGY*
  Quek, G., Jain, S., Karmann, C., Pierson, C., Wienold, J., Andersen, M.
  2023
- **Transmittance thresholds of electrochromic glazing to achieve annual low-glare work environments** *Nordic Building Simulation 2022*
  Wienold, J., Jain, S., Andersen, M.
  2022: 8
- **Subjective assessment of visual comfort in a daylit workplace with an electrochromic glazed facade**
  Jain, S., Karmann, C., Wienold, J., Scartezzini, J. L., Smith, B.
  IOP PUBLISHING LTD.2021
- **Circadian lighting in a space daylit by a tubular daylight device**
  Jain, S., Fernandes, L., Regnier, C., Garg, V., IOP
  IOP PUBLISHING LTD.2019

PRESENTATIONS

- Discomfort glare from daylight: Influence of transmitted color and the eye's macular pigment - Bright environments. Daylight in Sustainable Building Design Conference (8/25/2023)
- Does glazing color influence our perception of discomfort glare from daylight? - Build for Life, VELUX Daylight Symposium 2021
- What factors influence human visual comfort perception? - EPFL, Switzerland
- Glare behind blue (electrochromic) glazing - 9th Annual International Radiance Workshop
- Influence of Daylight Spectrum filtered by colored glazing on discomfort glare perception - Daylight Academy Annual Conference & General Assembly