

Job Description:

We are seeking a highly motivated and technically skilled Post-doctoral Research Fellow to join a large-scale interdisciplinary project funded under Singapore's Cities of Tomorrow R&D Programme. The project, conducted in partnership with the Ministry of Education (MOE), will evaluate the impact of mixed-mode ventilation (MMV) in schools on student learning, thermal comfort, and energy performance. The project brings together expertise in building science, thermal comfort, cognitive psychology, and occupant-centric controls, providing the Fellow with a unique opportunity to work across disciplines to design and execute classroom-based experiments with students.

The successful candidate will play a leading role in designing and executing classroom-based experiments with students, ensuring high-quality data collection that links environmental conditions, thermal comfort, and student learning outcomes. A strong background in thermal comfort research, experimental design, and environmental measurement is essential.

Job title: Post-doctoral Research Fellow

Monthly Salary Range: SGD 6000 – SGD 7500 per month

Closing Date: Open Until Filled

Key Responsibilities

- Lead the design and implementation of randomized controlled trials and longitudinal field studies in schools to assess thermal comfort, indoor environmental quality (IEQ), and student learning outcomes under different ventilation modes (NV, MMV, AC).
- Develop and implement experimental protocols in collaboration with Singapore Ministry of Education (MOE), ensuring alignment with the school curriculum and standardized assessments.
- Oversee measurement campaigns and manage instrumentation deployment, calibration, and data integrity.
- Lead the integration of student learning assessments (standardized school assessments and cognitive tasks) with environmental and comfort data, working in close collaboration with a cognitive psychology and learning sciences expert on the project team.
- Apply thermal comfort models and advanced statistics (e.g., equivalence testing, mixed-effects models) to link comfort and learning.
- Collaborate with researchers, industry partners, and government agencies to translate findings into evidence based design standards and operational guidelines for schools in the Tropics.

Qualifications and Skills

- PhD in Building Science, Mechanical/Architectural Engineering, Cognitive Science or a related field.
- Strong track record in thermal comfort and human subject research, ideally with experience in learning or cognitive performance studies.
- Proven expertise in experimental design and field studies involving large participant groups.
- Familiarity with environmental monitoring systems and data acquisition in real-world settings.
- Excellent skills in data analysis (comfort metrics, survey analysis, educational outcomes, advanced statistics).

- Experience working in interdisciplinary projects involving education, health, or human factors is highly desirable.

Application Instructions

Interested candidates submit the following to Associate Professor Adrian Chong at adrian.chong@nus.edu.sg

- CV
- Cover letter describing relevant expertise and experience in thermal comfort research, CFD simulation, field experiments, and real-world implementation of environmental control strategies.
- Contact information for three academic or professional referees