

Job Description:

We are seeking a highly motivated and technically skilled Post-doctoral Research Fellow to join an interdisciplinary research programme focused on advancing mixed-mode ventilation (MMV) in the tropics. The aim is to develop, assess, and optimise MMV strategies that deliver energy-efficient cooling while maintaining thermal comfort in hot and humid climates. The successful candidate should have a strong foundation in heat and mass transfer, thermal comfort, and computational fluid dynamics (CFD). These skills will be applied to design, evaluate, and optimise strategies that enable the effective implementation of MMV in tropical climates.

Job title: Post-doctoral Research Fellow

Monthly Salary Range: SGD 6000 – SGD 7500 per month

Closing Date: Open Until Filled

Key Responsibilities

- MMV system performance evaluation and optimization in tropical climates.
- Design and conduct thermal comfort and indoor environmental quality studies in MMV settings.
- Plan and execute controlled and longitudinal field experiments, ensuring high-quality data collection.
- Conduct CFD simulations to assess the performance of diverse MMV configurations in terms of airflow, thermal conditions, and humidity control.
- Manage environmental monitoring systems, including deployment, calibration, and data integrity assurance.
- Collaborate with researchers, industry partners, and government agencies to translate findings into practical applications.

Qualifications and Skills

- PhD in Architecture or Mechanical Engineering, Building Science, or a related field.
- Strong understanding of heat and mass transfer, thermal comfort, and indoor environmental quality.
- Proven experience in CFD modelling for airflow and heat transfer applications.
- Proven experience in experimental design and environmental data analysis.
- Familiarity with environmental monitoring instrumentation and data acquisition systems.
- Demonstrated ability to work effectively in multidisciplinary teams and manage complex research activities.

Application Instructions

Interested candidates should 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