

Job Description: We are looking for a highly motivated and passionate post-doctoral research fellow to work on a funded research project that looks into mixed-mode ventilation in the tropics. The aim of the research is to develop a real-time occupant centric sensing and control strategy that optimizes total building performance for mixed-mode ventilation in the tropics. The post-doctoral research fellow will be supervised by the principal investigator Dr. Adrian Chong from the Department of Building, School of Design and Environment, National University of Singapore.

Job title: Post-doctoral Research Fellow

Qualifications and Skills:

- Ph.D. in Architecture, Engineering, Computer science or a related field
- Proficiency (with a demonstrated track record) in CFD software Openfoam.
- Familiarity with airflow networks and modeling of airflow in EnergyPlus.
- Proficiency in programming languages Python and/or R
- Good communication skills, and an ability to present research in both academic and non-academic venues.
- Good scientific writing, communication and learning skills.

Responsibilities:

- Develop detailed transient and steady-state CFD models using openfoam.
- Develop CFD models to aid the design of the testbed and demonstration site for optimal mixed-model ventilation.
- Establish a method of integrating real-time data with simulation models.
- Investigate and develop scalable CFD simulation methods for use in real-time building controls.
- Evaluate and quantify total building performance of proposed mixed-mode ventilation controls in an actual testbed and subsequently in an actual demonstration site.
- Develop models to generalize findings and propose guidelines for future implementations of effective mixed-mode ventilation.
- Document models and analysis tools on GitHub, or as required.
- Organize, analyze and publish research in peer-reviewed scientific journals.
- Perform other duties as assigned.

4. Monthly basic salary range:

- SGD 5000 ~ SGD 7000 per month

5. Closing date: Open until filled

Interested candidates apply by sending their CV and supporting documents to

Adrian Chong (Dr.), Department of Building, National University of Singapore

Email: adrian.chong@nus.edu.sg; Tel: 98210638