

INTRODUCTION

All of us spend about one third of our life sleeping, or trying to sleep! Sleep quality is a very important factor for our well-being. Noise, light, temperature, humidity, ventilation and air-conditioning influence sleep quality, beyond the distractions of modern life of course. Air-conditioning is becoming a significant factor in climate heating, yet only a small proportion of people in hot and tropical climates have that option.

In addition to the environmental aspects, energy prices have increased as exemplified by the cost of gas, oil and coal prices around the world in the recent months and affected the cost of electricity in many other parts of the world. While they may still be affordable to many consumers, the situation is different in many developing countries. In addition to affordability many people in developing countries also face difficulties to get on with daily life during blackouts and brownouts.

In this webinar the speakers will present an ongoing Final Year Project at NUS Department of Mechanical Engineering titled "Study of Thermal Comfort and Sleep Quality of Singaporeans". CoolestSG Industry Member Close Comfort is a collaborator in this project and the project team has looked at personalized cooling from Close Comfort in addition to ventilation. Close Comfort founder and CEO Professor James Trevelyan is a co-supervisor of the project. Prof Trevelyan will also share some aspects about the commercialization of his invention.

PROGRAM OUTLINE

1355 Admittance of attendees to the event

1400 Introduction

1405 Final Year Project "Study of Thermal Comfort and Sleep Quality of Singaporeans"

Dr Daniel Sng NUS Department of Mechanical Engineering

1420 The road to commercialisation of a personalized igloo cooling tent
Close Comfort Founder and CEO James Trevelyan

1440 Preliminary findings from the Final Year Project
Mr Malcolm Rhys Lim Jian Jun, NUS Student of
Bachelor of Engineering (Mechanical Engineering) and Bachelor
of Social Science (Economics)

Dr Daniel Sng NUS Department of Mechanical Engineering
Founder and CEO Professor James Trevelyan, Close Comfort

1500 Questions and Answers

1520 Closing of Event

1530 End of Event

ABOUT THE COOLESTSG CONSORTIUM

CoolestSG is a national consortium set up at NUS in 2018, with funding support from NRF. The task of the CoolestSG Consortium is to bring stakeholders together to catalyse co-development between researchers and industry of novel low-energy cooling technologies and/or passive/integrated designs and to translate research into deployment and commercialisation with the aim to promote Singapore as a frontrunner in cooling technologies.

Photos, video and audio may be taken and the event will be recorded.



Date: Tuesday 15 March 2022

Time: 1400 - 1530 Hours

Venue: Zoom

The event is open to CoolestSG Consortium members and government agencies. A Zoom link will be sent to registered attendees no later than two days from the event. For registration click [here](#) or scan the below QR Code no later than two days from the event.



Event Organizer: Cooling Energy Science and Technology Singapore - CoolestSG Consortium

21 Heng Mui Keng Terrace, S119613

Website: coolest.sg

Email: coolestsg@nus.edu.sg

Telephone: 6601 3453

ABOUT THE SPEAKERS

Dr Daniel Sng is a lecturer in the Department of Mechanical Engineering, the National University of Singapore. He obtained his joint Ph.D. (Building Science) from the National University of Singapore (NUS) and the Technical University of Denmark (DTU). His Ph.D. work evaluated the shortcomings of conventional air-conditioning systems, and proposed a novel enhancement to the existing system with aims to save energy as well as to improve occupants' thermal comfort. After completing his doctoral work, Dr Sng joined the Solar Energy Research Institute of Singapore (SERIS) in NUS as a Programme Manager and a Post-Doc. He was involved in the field of Building Integrated Photovoltaic (BIPV) and its application in the tropics.

Qualification

Ph.D., National University of Singapore (NUS) and
Technical University of Denmark (DTU) Joint Programme
MEng, BEng

Modules Taught

- ME2121 Engineering Thermodynamics
- ME4102 Standards in Mechanical Engineering
- EG1112 Engineering Principles and Practice 2

Research Interests

- Application of displacement ventilation in the tropics
- Energy efficiency and conservation in building HVAC systems
- Human thermal comfort and indoor air quality
- Green buildings in the tropics
- Building Integrated Photovoltaic (BIPV) / Renewable energy



Professor James Trevelyan is an Emeritus Professor in the Engineering School at The University of Western Australia, Fellow of Engineers Australia, and CEO of Close Comfort Pty Ltd. He practices as a mechanical and mechatronics engineer developing new air conditioning technology.

His main area of research is on engineering practice, and he taught design, sustainability, engineering practice and project management in his 41 year career with the university.



Mr Malcolm Rhys Lim Jian Jun is a student at the National University of Singapore (NUS), studying a double degree in Bachelor of Engineering (Mechanical Engineering) and Bachelor of Social Science (Economics)

