

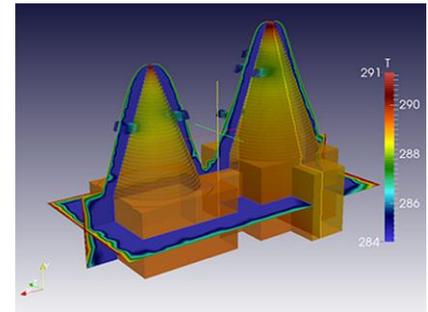
Designing Spaces for Natural Ventilation

An Architect's Guide

By Ulrike Passe, Francine Battaglia

Routledge – 2015 – 336 pages

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Designing Spaces for Natural Ventilation

Ulrike Passe, Associate Professor of Architecture

Department of Architecture, College of Design, Iowa State University, USA

ABSTRACT

This talk will summarize key design strategies for natural ventilation using spatial composition and recent research funded by the US National Science Foundation (NSF) using high performance computing and computational fluid dynamics. The impact of spatial composition on the effectiveness of passive cooling by natural ventilation has been investigated in a comparative study of the conical roofed Harran houses in Turkey and a passive solar home in the Midwest of the United States. Both projects have in common open variable configurations of multiple interconnected spaces. Higher temperatures and lower velocities were found in less connected cell-like spaces, and indicate the importance of spatial connectivity for effective cooling based on variable interaction of vents and flow path.

Date:	13 December, 2018 (Thursday)
Time:	3:00 pm – 4:00 pm
Venue:	Room Z411, 4th Floor, Block Z, The Hong Kong Polytechnic University

SPEAKER'S BIOGRAPHY

Ulrike Passe, Associate Professor at Iowa State University, Diplom - Ingenieur in Architecture (Technical University in Berlin, Germany), is a licensed architect. She teaches sustainable design and environmental technologies and serves as director for the Center for Building Energy Research. Currently, she leads the interdisciplinary team "Big data for sustainable cities decision making" integrating human-building-microclimate interactions into urban energy models for urban resilience. She published "Designing Spaces for Natural Ventilation: an Architect's Guide (Routledge) with Dr. Francine Battaglia in 2015. In 2009 she led the ISU team to design and build a solar powered home for the US Department of Energy Solar Decathlon. Passe then led the building science plank in the Iowa NSF EPSCoR project "Harnessing Energy in the Biosphere to Build Sustainable Energy Systems". Her students placed in the AIA/ACSA Top 10 Community of the Environment 2015-2017.

*** All Interested Are Welcome ***

Free Admission. For further information, please contact Prof. Jian-Guo DAI at Tel. 27666026.

Please reserve your seat with Prof. Jian-Guo Dai by email: cejgdai@polyu.edu.hk.

Certificates of attendance will be provided to participants if they attend the whole lecture.