



# Built Environment Laboratory

Course of Architectural Engineering,  
Division of Global Architecture,  
Graduate School of Engineering,  
Osaka University

## Odor Environment for Health and Comfort Adaptation process of human olfactory

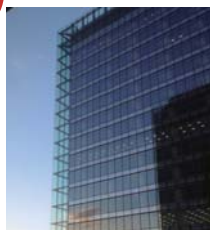


Sensory Evaluation by Supply Odor Method

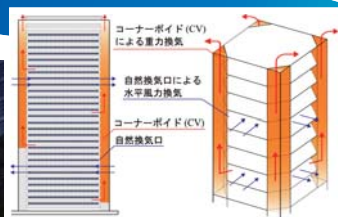


Extraction of Human Body Odor

## Natural Ventilation of Multistory Office Building Coupled Wind-forced Ventilation and Stack Ventilation



Office Building with Corner-Void for Stack Ventilation



Outline of Natural Ventilation Building



Natural Ventilation Inlet

We are dealing with building environment like heat, air, light, and sound from the viewpoint of utilization of **natural energy**, **energy saving**, and designing occupied spaces of **comfort** and **health**.

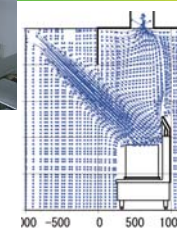
Our research field is spreading from Human to Building and they are categorized as follows

- 1) Environmental Psychology and Physiology
- 2) Built Environment Engineering
- 3) Building Services

## Working Space Design for Safety and Comfort Thermal Environment and IAQ in Kitchen



Thermal Environment Measurement in Commercial Kitchen

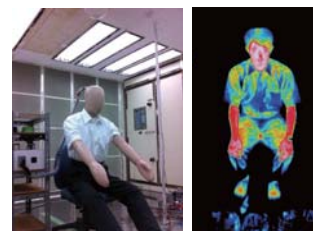


Emergence of Oil Mist in Housing Kitchen

## Ceiling Fan for Thermal Comfort Air Movement and Temperature Control in Class Room

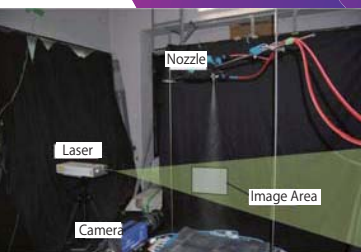


Measurement in Class Room with Ceiling Fan of Osaka Univ.

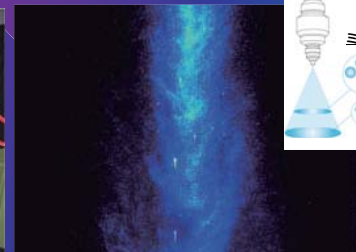


Skin Temperature of Thermal Mannequin and Human Body

## Deodorant Effect by Spraying Hypochlorous Solution Particle Behavior Analysis using PIV Measurement



PIV measurement for sprayed particle



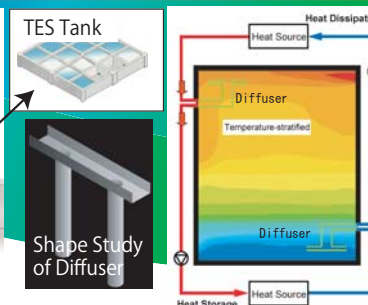
Visualization of sprayed particle



## Energy Efficiency of Building Services Performance Evaluation of Thermal Energy Storage Tank



Building with Thermal Energy Storage (TES) Tank



Temperature-stratified Water TES Tank

## HVAC design for patients room IAQ and Thermal Environment by Fabric Air Diffuser

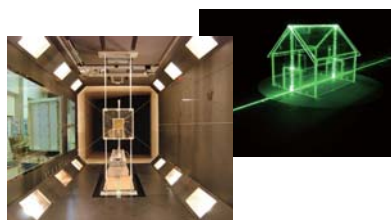


Experimental setup for 4-bed patients room

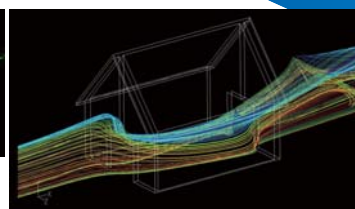


Low velocity fabric air diffuser on ceiling

## Basic Research for Cross Ventilation Prediction Method of Cross Ventilation Rate



Wind Tunnel Test for House



Simulated Result of Flow

### Staffs

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