Built Environment Laboratory

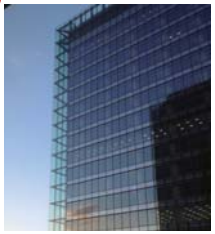
Course of Architectural Engineering,
Division of Global Architecture,
Graduate School of Engineering,
Osaka University

We are dealing with bulding 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.

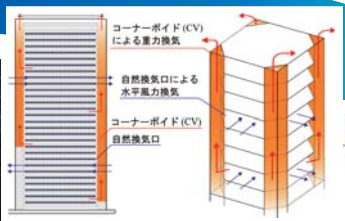
Our research field is spreading from Human to Building and they are categorized as follows

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

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

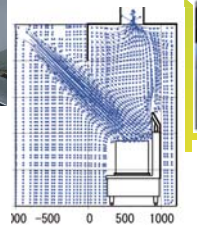
Odor Environment for Health and Comfort
Adaptation process of human olfactory

Sensory Evaluation by Supply Odor Method

Extraction of Human Body Odor

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

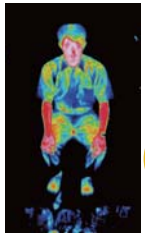
Thermal Environment Measurement in Commercial Kitchen



Emergence of Oil Mist in Housing Kitchen

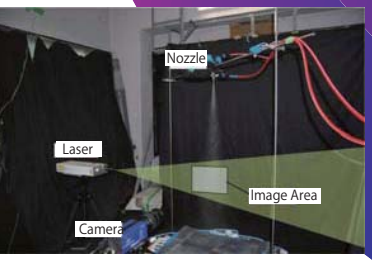
Ceiling Fan for Thermal Comfort
Air Movement and Temperature Control in Class Room

Measurement in Class Room with Ceiling Fan of Osaka Univ.

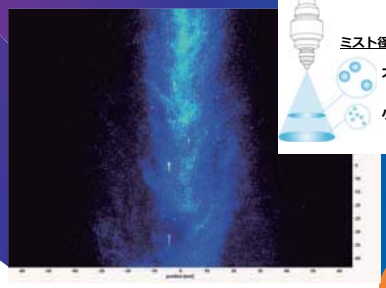


Skin Temperature of Thermal Mannequin and Human Body

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



PIV measurement for sprayed particle

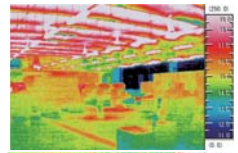


Visualization of sprayed particle

Eco-repair Design and Evaluation in School
Thermal Environment Improvement of Work Room

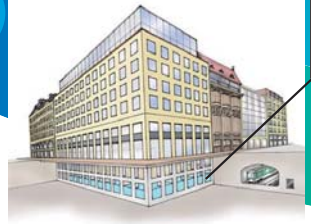
Openable Skyligh

Machine Practical Room

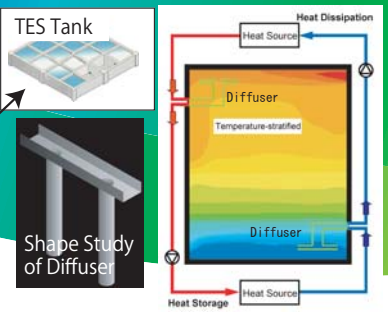


Indoor Wall Temperature before and behind Repair

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

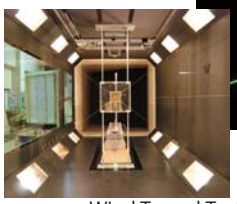


Building with Thermal Energy Storage (TES) Tank

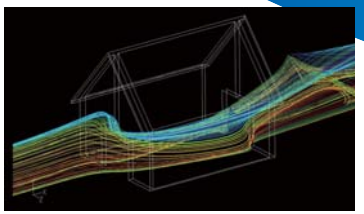


Temperature-stratified Water TES Tank

Basic Research for Cross Ventilation
Prediction Method of Cross Ventilation Rate



Wind Tunnel Test for House



Simulated Result of Flow

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