

Built Environment and Building Service Research Group

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

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**.

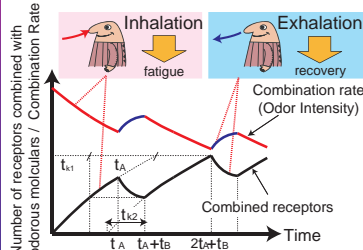
Our research field is spreading from Human to Building and they are categorized as follows

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

Odor Environment for Health and Comfort Adaptation process of human olfactory

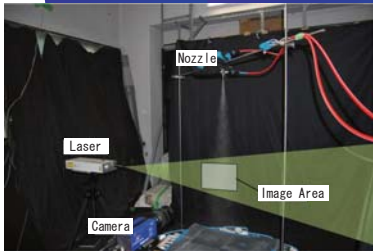


Sensory Evaluation by Supply Odor Method

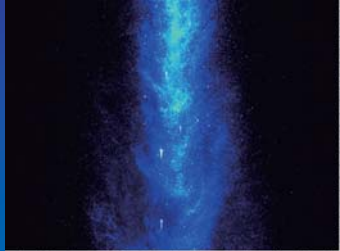


Adaptation Model of Human Olfactory

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



PIV measurement for sprayed particle

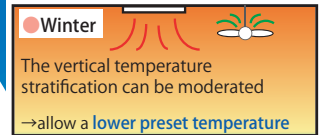
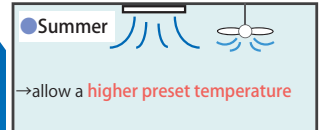


Visualization of sprayed particle

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



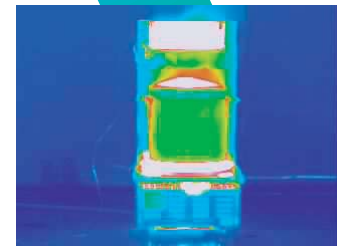
Measurement in Class Room with Ceiling Fan of Osaka Univ.



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

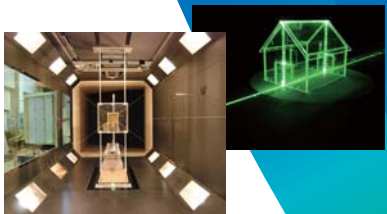


Thermal Environment Measurement

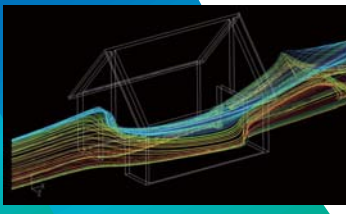


Surface Temperature Measurement of Low Radiation Cooking Equipment

Basic Research for Cross Ventilation Prediction Method of Cross Ventilation Rate

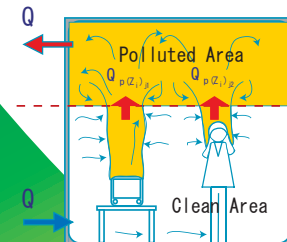


Wind Tunnel Test for House

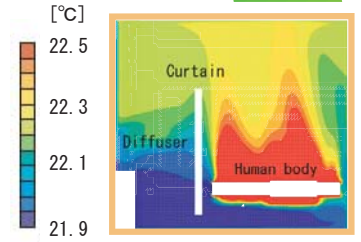


Simulated Result of Flow

Ventilation System for Clean Air Environment Displacement Ventilation System for Sickroom



Displacement Ventilation

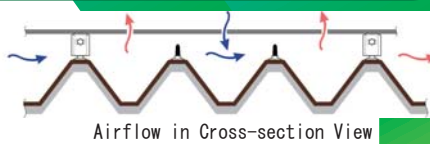


CFD Simulation of Air Temperature Distribution in Sickroom

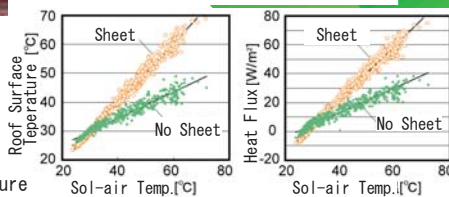
Sunshade on Roof using Sunshade Sheets Field Measurement and Prediction Method of Sunshade Effect



Sunshade Sheets on Folded-plate Roof



Airflow in Cross-section View

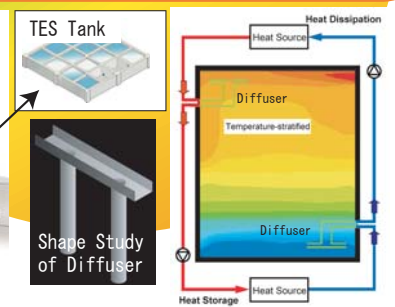


Measurement Result of Roof Surface Temperature and Heat Flux against Sol-air Temperature

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



Building with Thermal Energy Storage (TES) Tank



Temperature-stratified Water TES Tank

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