

# Architectural and Urban Environmental Engineering research group

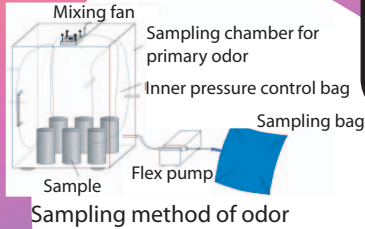
Department of Architectural Engineering, Division of Global Architecture  
Graduate School of Engineering  
Osaka University

Our researches are categorized as "Building service" and "Architectural environmental engineering".

Main subjects of our research are;

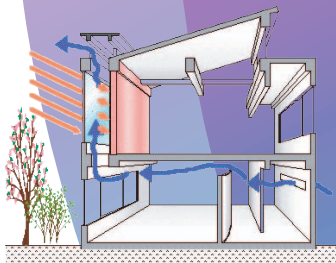
1. Air-conditioning system
2. Indoor air distribution, ventilation and thermal environment
3. Natural and cross ventilation
4. Environmental psychology and physiology

## Sensory evaluation of odor from building materials



Odor sensory evaluation by odor bag method

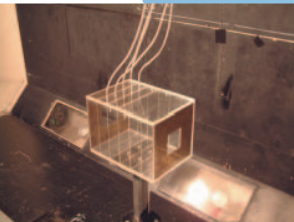
## Natural ventilation by solar chimney with phase change material



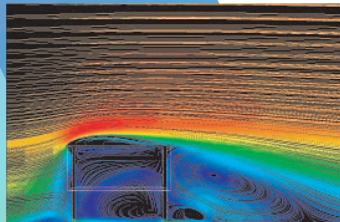
Experiment device

Practical use in houses

## Stream tube analysis of cross ventilation

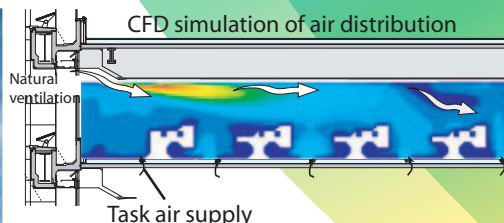


Wind tunnel test



CFD analysis

## Task ambient air-conditioning system with natural ventilation

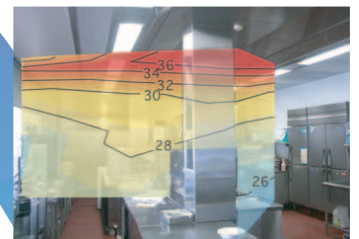


Office building with this system

## Evaluation method on working environment in commercial kitchen

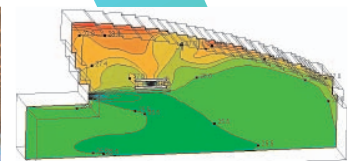


Measurement in kitchen



Temperature distribution

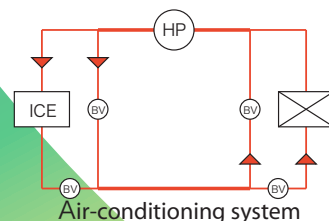
## Airflow control in room by means of ceiling fan



Predicted temperature distribution

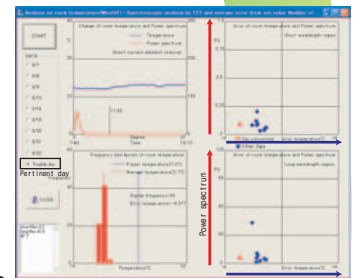
Large room with ceiling fan

## Fault detection technique in air-conditioning system



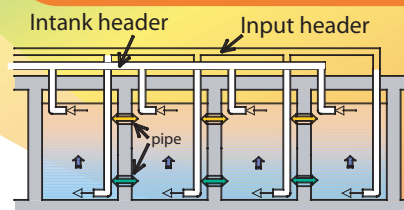
Air-conditioning system

Development of program for fault detection

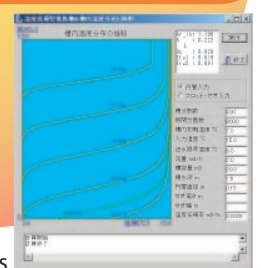


Difference between set value and mean value

## Performance evaluation of heat storage system by use of water



Thermal storage tank



Analysis

## Staff

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