

# New cleaning and control technologies

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# New cleaning and control technologies

- Five sessions and 2 forums
- A total of 50 papers presented
- Interesting topic, as it provide a way to improve air quality without conditioning more outside air

# Main topics

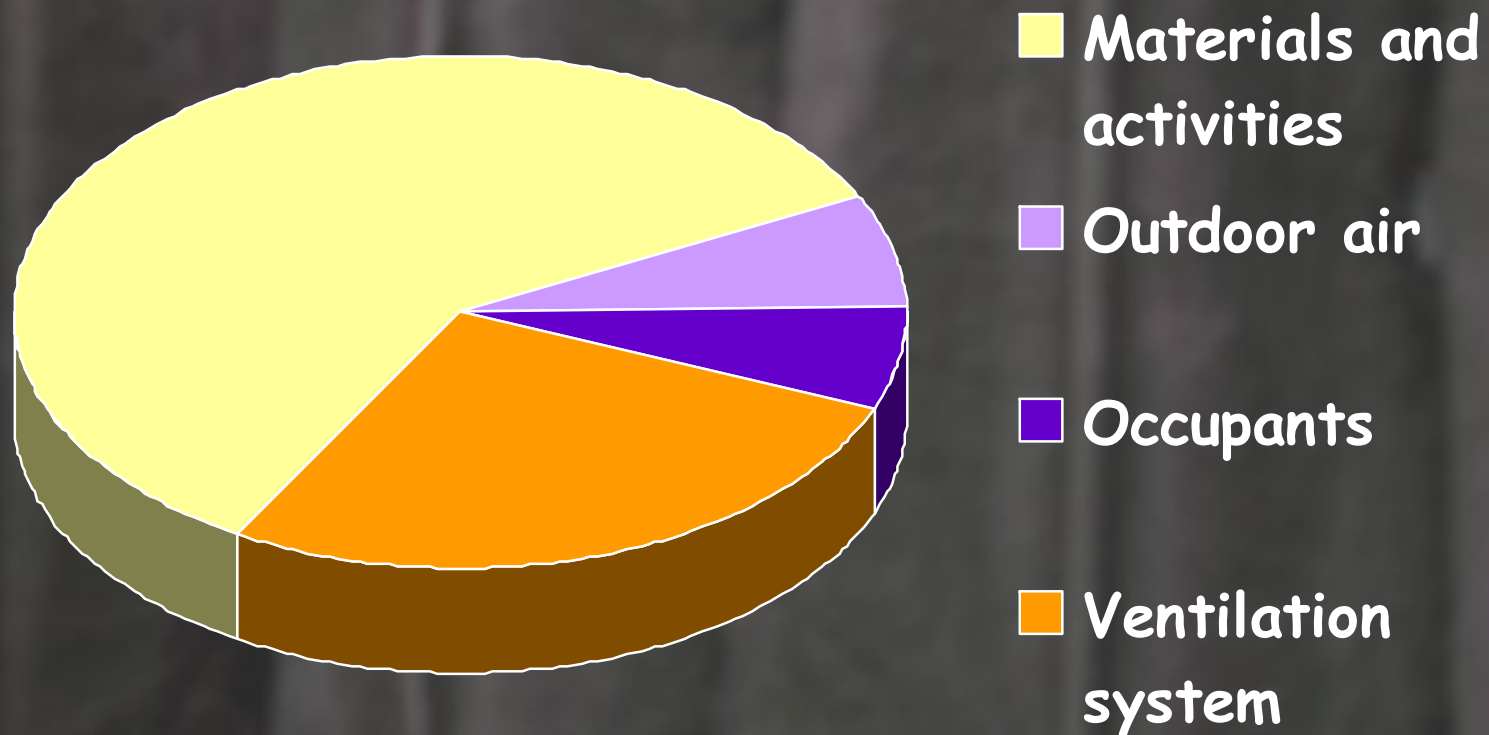
- Performance of traditional particle filters
- Gas filtration
  - Absorption
  - Photocatalytic oxidation
  - Other processes
- Combination/other filters

# Performance of traditional particle filters



# European Audit Project to Optimise Indoor Air Quality and Energy consumption in Office Buildings

Sensory pollution load



# Performance of traditional particle filters

- Main topics:
  - The role of ozone
  - Leakage
  - Filter treatment with biocides
  - Fundamental understanding of filtration mechanisms

# Performance of traditional particle filters

- Highlights:
  - New combination filters with small amount of activated carbon seem to do the job
  - (Use dust collected from ventilation filters to characterize indoor air/dust (in case of recirculation))

# Gas filtration

- Absorption
  - Surprisingly little work done here
- Photocatalytic oxidation
  - Improve efficiency / avoid byproducts or intermediate products
- Other processes
  - Plants

# Combination/other filters

- Electrostatic charges
- Ultraviolet germicidal irradiation
- Scrubbers (ionized water)
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# Personal observations

- Impressive amount of work coming from Asia (China/Korea)
- Ozone is finally deemed to be unwanted in indoor air
- Very interesting development in improved traditional bagfilters for particulate/ozone removal
- PCO still struggling to take off the ground

# Personal observations

- Almost no papers on "active" building materials
- Most innovative idea: Inject aerosol containing bacterias into air stream to romove formaldehyde. (However, the issues of security still need to be investigated!)

# Words of caution

- Make sure that we have not forgotten older findings
- Make sure to look at other fields to get inspiration