

AIR MOVEMENT & VENTILATION CONTROL WITHIN BUILDINGS

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Modelling of Air Flows, Temperatures and Contaminant
Levels for Localized Ventilation Systems.

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ABSTRACT

Results of 3-D computational fluid dynamic simulations of the air flows, temperature distribution and contaminant remove efficiencies for typical workstation configurations which include the option for localized supply of outdoor air will be presented. A typical office configuration including desks, partitions, localized heat and contaminant sources will be modelled. The results will be compared to similar simulations the same workstation environment using ceiling supply and return plenum configurations. The emphasis of the presentation will be on usefulness of computational fluid dynamics for the design of local ventilation systems and the accuracy required of 3-D simulations for making design decisions.