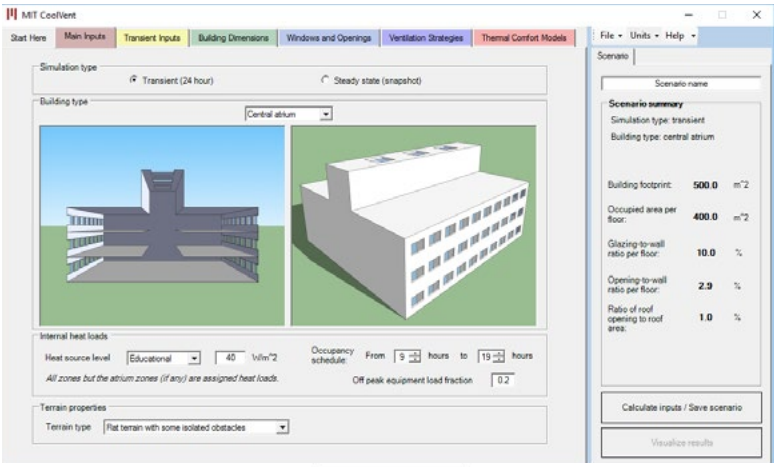
NATURAL VENTILATED BUILDING ANALYSIS

Option1-central atrium



Building type: Central Atrium

Building dimensions: 4 floors, 20m*10m, floor height 6m

Building footprint: 500m2

Occupied area per floor:400m2

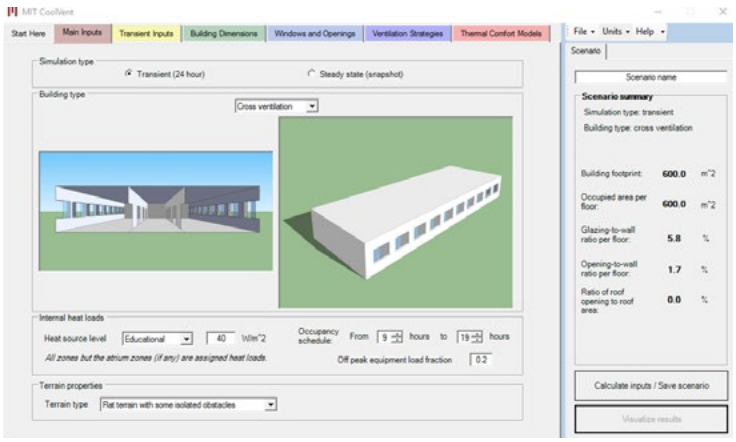
Glazing to wall ratio per floor:5.8%

Opening to wall ratio per floor:1.7%

Time: September

By changing the floor height from 3m to 5m, the comfortable hour is increased through out the day. And if the shape of the building is rectangular and have the openings on the longer side face, the natural ventilation is better. If I change the length of the building to 30*30, the comfortable hours are dropping critically.

Option1-cross ventilation



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For option 2, the basic data are remain the same as option1. The result is not as good as ventilating with central atrium. There are much more hot hours. However it is better than ventilate with chimney, single sided, and ventilation shaft. I feel the central atrium is probably the most efficient method for Meyerson Hall.