

Uued keskkonna, päevavalguse ja energiatõhususe analüüsil põhinevad meetodid hoonete arhitektuurseks kavandamiseks vastavalt Eesti regulatsioonidele - Project tasks for the end of the year

1. Study about energy saving of large single floor retail buildings located in the north of Europe using natural illumination through roof skylights and wall windows for the reduction of electric light. The results can help to reduce the energy consumption of commercial buildings that use a large share of the total energy produced in the world.
2. Studies about novel and efficient methods to design buildings that respect the Estonian direct sun light requirements of the standard “Daylight in dwellings and offices”. The results can be used by architects and planners to design more comfortable and energy efficient buildings and urban areas.
3. Study about a methodology to determine optimal window sizes for residential buildings in Estonia for natural illumination and energy saving. The results can help architects and engineers to design more comfortable and energy efficient dwellings.
4. Study about energy efficiency of office buildings located in northern countries through the utilization of shading systems. The results can help to reduce the energy consumption of office buildings that consume a large share of the total energy produced nowadays.
5. Study about electric light energy saving using high efficiency LED luminaires and natural illumination in different type of buildings, office, retail and educational. The results can help designers to choose optimal electric light systems to increase comfort and reduce total energy use.
6. The results of tasks 4 and 5 will be presented to Master and PhD students together with demonstration on the use of computer simulations and shading systems for the control of natural illumination using the TTÜ facility test building (Figure 1 and 2).

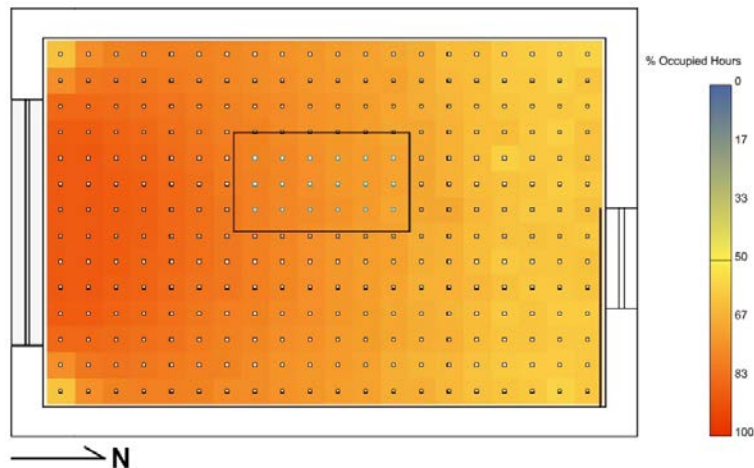


Figure 1. Computer simulation of Continuous Daylight Autonomy.



Figure 2. Dynamic shading devices of the test building facility of TTÜ.