Solar Energy and Building Physics Laboratory
web: http://leso.epfl.ch

LESO LUNCHTIME* LECTURES

renewable energy - building science - urban physics

Friday 11 April 2013, 12h20-13h30
EPFL – CM4

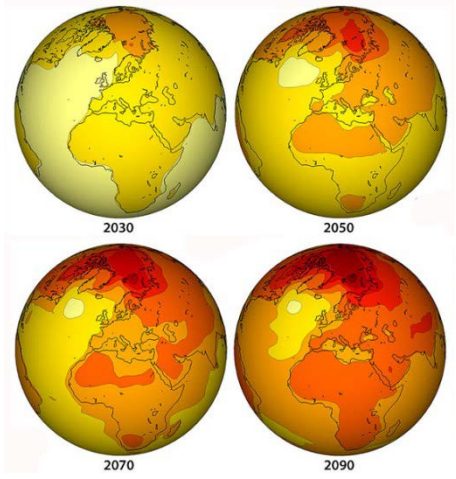
IMPACT ASSESSMENT OF CLIMATE CHANGE ON THE HYGROTHERMAL PERFORMANCE OF BUILDINGS

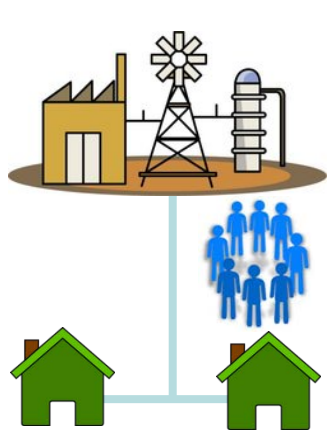
Vahid Nik, PhD
EPFL/LESO-PB and Lund University

Summary

Climate change can affect buildings in different ways; its consequences are higher or lower heating/cooling demand and more or less moisture problems. Impact assessment of climate change enables to estimate the probable future conditions. Impact assessment is usually performed through simulating the considered phenomena using different future climate scenarios, numerically simulated by Global Climate Models (GCMs). Using the simulated climate data introduces different uncertainties to the building simulations. Moreover working with long time periods, for example 100 years, increases the calculation time and the data assessment efforts. These all mean that to enable drawing practical conclusions out of impact assessment, different techniques should be used to handle the data sets and to analyse their uncertainties.

In this lecture Vahid Nik will talk about his PhD project which was about impact assessment of climate change on the hygrothermal performance of buildings in Sweden. He will briefly explain the models and techniques which he has used and discuss some of the results of his project.





Author

Vahid Nik is a postdoctoral fellow at the Solar Energy and Building Physics Lab (LESO-PB), EPFL. He is also a senior lecturer at the Building Physics division, Lund University, Sweden. He finished his PhD in May 2012 at Chalmers University of Technology, Sweden. His background is Mechanical Engineering, focusing on fluid dynamics and energy conversion. His research interests are impact assessment of climate change on the built environment, energy efficiency in buildings, hygrothermal simulation of buildings and building/urban physics.

*Presentations are followed by drinks & snacks, to give the opportunity to guest and speakers to further discuss the topic.