

## **Zápis z obhajoby disertační práce**

konané dne 21.8.2019

na ČVUT Fakultě strojní v Praze od 10:00 hodin

disertant **Magnus Wessberg, MSc.**

na téma: **„Design and analysis of energy efficient indoor-climate control methods for historic buildings“**

Studijní program Strojní inženýrství, obor Technická kybernetika

### **Stručné zhodnocení průběhu obhajoby:**

The PhD defense started by introduction of the candidate and his evaluation by the supervisor prof. Vyhlídal.

The candidate then presented his PhD dissertation in approximately 30 minute talk. After the problem motivation, he stated and justified three objectives, focused on application of model based analysis, control design and data processing in assessment of methods used for indoorclimate control in historic buildings. In particular, intermittent heating, adaptive ventilation and climate control for mould growth prevention were targeted. After outlining key results achieved in the given areas involving wide range of both theoretically and practically oriented work, he claimed the objectives as fulfilled. He also presented list of his publications, which includes two journal papers and made an overview of historic buildings where the control methods were implemented or adjusted by him.

Following the presentation, the reviewers gave their comments on the dissertation. They provided different perspectives on the research but they all agreed that the dissertation has practical relevancy and meets the scientific standards for a PhD degree. In answering the questions from the reviewers, the candidate showed his ability to defend his work and to critically discuss it.

In the open discussion a number of additional questions, listed below, were well answered by the candidate.

### **Dotazy a připomínky**

prof. P. Zítek – What time units were used in the root-square of time functions?

prof. B. Šulc – What was the sampling time for control actions?

prof. A. Procházka – were the sensors calibrated and data pre-processed before their analysis?

Dr. R. Kilian – When adaptive ventilation can be used, for which building type is it useful?

Výsledek tajného hlasování:

počet odevzdaných hlasovacích lístků 8, počet neplatných hlasovacích lístků 0,

hlasů pro 8, hlasů proti 0.

prof. Ing. Aleš Procházka, CSc.  
předseda komise

Obhajoba skončila v 12:05 hodin