Petr Zelenský started his PhD study in the Department of Environmental Engineering, Faculty of Mechanical Engineering, CTU in Prague on October 1, 2011. The motivation for his thesis topic was previous experience with difficulties in modeling of heat sources in indoor air flow simulations.

In my view the subject matter addressed in the thesis is both very relevant and timely. The scope, extensiveness and depth of the work are all appropriate for PhD research. The main research methods were based on computational modeling and simulation, and on experimental studies for calibration and validation. The candidate has been very active throughout his PhD research period. He has a keen interest in the research topic and he developed a thorough knowledge and research attitude, as one may expect from a doctoral candidate.

Petr Zelenský studied courses relevant for his research topic and he passed all exams with excellent results. He submitted the critical review of literature on September 20, 2012 and presented his study for doctoral thesis on November 26, 2014. He passed the comprehensive doctoral examination in Environmental Engineering with honor on June 29, 2015. During his PhD study program Petr Zelenský visited Technische Universiteit Eindhoven in The Netherlands for one month in 2012 and for six months in 2014.

He published his research results at international conferences (IBPSA international conferences Building Simulation 2013 and Building Simulation 2015, REHVA World Congress Clima 2013) and in the journal of the Czech Society for Environmental Engineering Vytápění, větrání, instalace (in 2012, 2013 and 2017).

Since October 2016, Petr Zelensky has been employed as a researcher in the Department of Environmental Engineering. He has been involved in R&D projects based on collaboration between the Department of Environmental Engineering and industrial partners. In these projects he is using his expertise in CFD modeling and simulation.

The contributions of the doctoral thesis to the field of indoor air flow CFD simulations are both theoretical and practical. The main result is a new method for simplified modeling of indoor heat sources. In my opinion, the doctoral thesis submitted by Petr Zelenský fulfils the criteria for the PhD degree at CTU in Prague. I recommend the thesis for the defense.

Date: 19th September 2018

Prof. dr. ir. Jan L. M. Hensen