

CFD Analysis of Airflow Patterns and Heat Transfer in Small, Medium, and Large
Structures

Michael Francis Detaranto

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in
partial fulfillment of the requirements for the degree of

Master of Science

In

Mechanical Engineering

Francine Battaglia, Chair

Javid Bayandor

Scott T. Huxtable

September 26, 2014

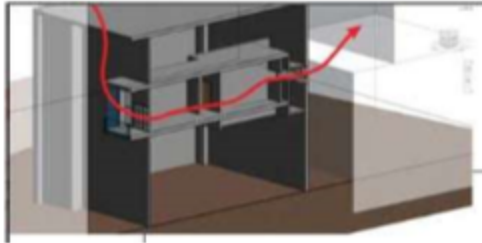
Blacksburg, VA

Keywords: CFD, Natural Ventilation, cross-ventilation, single-sided ventilation

10/30/2014

Dear UlrikePasse :

I am completing a Master's thesis at Virginia Tech entitled "CFD analysis of airflow patterns and heat transfer in small, medium, and large structures." I would like your permission to reprint in my thesis an image you hold the copyright to:



These rights will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter will also confirm that you own the copyright to the above-described material.

If these arrangements meet with your approval, please sign this letter where indicated below and return it to me in the enclosed return envelope. Thank you very much.

Sincerely,

Michael Detaranto

PERMISSION GRANTED FOR THE
USE REQUESTED ABOVE:



_____ Date: 10-30-2014 _____

Ulrike Passe, Dipl.-Ing. Architekt
Associate Professor of Architecture
Director Center for Building Energy Research
Iowa State University
146 College of Design
Ames Iowa 50011 USA
upasse@iastate.edu