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Invitation to Thesis Defence

On the 13th of April, I will defend my PhD thesis *Fire Dynamics in Multi-Room Compartment Fires*. You are most welcome to attend. In this invitation the background and content of the thesis are briefly explained.

In the thesis the area of fire dynamics in multi-room compartments is explored and the explicit objective is to develop hand-calculation methods that can be used for such spaces.

Advanced computer models can make good predictions of several factors important for fire safety in buildings and are consequently suitable tools for fire engineering purposes. However, the computer models are complex and can withhold the user information about the calculation process. This can lead to the understanding of the calculations being restricted, and it is therefore important that the user has a fundamental understanding of the underlying fire dynamics of the studied problem. Hand-calculation methods can offer a simplified procedure with an approximate answer that is satisfactory for understanding what variables that are influential for a certain phenomena.

There are a number of hand-calculation methods available for studying conditions in the room of fire origin. However, there are few methods that can be used to study the conditions in adjacent spaces and therefore, in principle, only computer models are used for such analyses. This means that there is a need for developing new hand-calculation methods for this purpose. Two new hand-calculation methods to study conditions in rooms adjacent to the room of fire origin are presented in this thesis. Both methods are validated against a well-documented experiment that is also included in the thesis.

The thesis will be defended at 10:00 a.m. in lecture hall A:C, A-huset, Sölvegatan 24, Lund. Faculty opponent is Associate Professor Björn Karlsson, University of Iceland.

You are also invited to a light lunch after the defence, approximately at 1:00 p.m. If you are available for this meal please contact Heidi Francke (phone 046-222 31 14 or e-mail, heidi.francke@byggtek.lth.se) no later than Monday, March 30. For attending only the thesis defence no prior notice is required.

Sincerely yours,
Nils Johansson

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