



PHD DEFENCE
by Sebastian T. Glavind

PHD defence

INFORMATION-CONSISTENT
SYSTEMSMODELING
AND ANALYSIS:
WITH APPLICATIONS IN OFFSHORE
ENGINEERING

25 June 2021
12:00 –16:00

This defence will be carried in hybrid format.



DEPARTMENT OF
THE BUILT ENVIRONMENT

AALBORG
UNIVERSITY

THESIS SUMMARY

The present thesis introduces and further develops recent research on probabilistic modeling and analysis of complex systems in pursuit of knowledge- and information-consistent models. It is emphasized that although this research is demonstrated in the context of offshore engineering, it is fully generic and applies in principle to any field of application where complex systems occur. Appreciating that model building is inherently a subjective task that relies on the modeler's bias towards and knowledge of existing modeling frameworks, as well as the available or chosen data for modeling, we often end up with a set of relevant model hypotheses that explain the data almost equally well. At the same time, our modeling efforts should always be seen in relation to the decisions they serve to support, i.e., it is imperative that system representations support the decision context at hand in the best way possible when performing decision optimization. This research accommodates these considerations by introducing practical statistical and decision analytical frameworks for dealing with competing system representations in inferential modeling and decision-making.

ASSESSMENT COMMITTEE

- Prof. Lars Bo Ibsen, Department of the Built Environment, Aalborg University (chairman)
- Prof. Engineer, Prof emeritus, Marc Maes, University of Calgary
- Prof. Eleni Chatzi, ETH Zürich

PHD SUPERVISORS

- Supervisor, Prof. Michael Havbro Faber, Dept. of the Built Environment, Aalborg University
- Co-supervisor, Prof. John Dalsgaard Sørensen, Dept. of the Built Environment, Aalborg University
- Co-supervisor, Prof. Bo Friis Nielsen, Dept. of Applied Mathematics and Computer Science Statistics and Data Analysis, Technical University of Denmark

MODERATOR

- Senior researcher Torben Valdbjørn Rasmussen, Dept. of the Built Environment, AAU

GRADUATE PROGRAMME: Civil Engineering

PROGRAMME

- 12:00: Welcome by Moderator
- 12:05: Lecture and presentation by Ph.D. student (45 min)
- 12:50: Break
*During the break, participants can email questions to the moderator, Torben Valdbjørn Rasmussen tvr@build.aau.dk.
If such are received, the questioner puts them forward after the assessment committee has finalized their questions and Q&A session.*
- 13:00: The assessment committee Q&A session
- 15:00: End of defence
The assessment committee enters another "room", evaluates and writes the final assessment
- Approx.
15:45: The assessment committee re-joins the "Defence room" and announces its decision
- 16:00 End of Event

HOW TO PARTICIPATE

This PhD defence will be carried out in hybrid format, meaning you can join on location or online.

Location: Aalborg University Copenhagen, Auditorium 1.008, A. C. Meyers Vænge 15, 2450 København SV

Online: Zoom, <https://aaudk.zoom.us/j/67048390176>

Meeting ID: 670 4839 0176

Passcode: 748599

Registration required by e-mail to inst.build.phd@build.aau.dk

Sign-up deadline: 23 June 2021

COPY OF THE THESIS

To request a copy of the thesis, please send an email to inst.build.phd@build.aau.dk

*This PhD defence is organized by
the Department of the Built Environment.*