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# **A simple AAU Template for a Collection of Papers Ph.D. Thesis**

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Ph.D. Dissertation  
Author

Dissertation submitted month XX, 20XX

Thesis submitted: Month XX, 20XX  
PhD Supervisor: Prof. XX  
Aalborg University  
Assistant PhD Supervisor: Assoc. Prof. XX  
Aalborg University  
PhD Committee: Prof. X, Y University  
Prof. X, Y University  
Prof. X, Y University  
PhD Series: Faculty of X, Aalborg University

ISSN: xxxx-xxxx  
ISBN: xxx-xx-xxxx-xxx-x

Published by:  
Aalborg University Press  
Skjernvej 4A, 2nd floor  
DK – 9220 Aalborg Ø  
Phone: +45 99407140  
aauf@forlag.aau.dk  
forlag.aau.dk

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Printed in Denmark by Rosendahls, 20XX

Normalsider: XXX sider (á 2.400 anslag inkl. mellemrum).  
Standard pages: XXX pages (2,400 characters incl. spaces).

# Curriculum Vitae

Author name



Here is the CV text.

## Curriculum Vitae

# Abstract

English abstract

## Abstract

# Resumé

Danish Abstract

## Resumé



# Contents

## Contents

# Todo list

## Contents

# Preface

As my background does (did) not lie in mathematics, physics or computer science, which – trust me – were three equally crucial components in creating the result of this project, I added a, say, more pedagogical section at the end of this thesis. These tutorials are a result of the things that I learned and (hopefully) explain topics such as *Energy Analysis*, *Stability Analysis*, etc. in a way so that others with the same background will be able to understand what is going on.

Name  
Aalborg University, February 6, 2020

## Preface

## **Part I**

# **Introduction**





# Introduction

## 1 History of bowed strings

In static bow-string-interaction models, the friction force is defined as a function of the relative velocity between the bow and the string only. The first mathematical description of friction was proposed by Coulomb in 1773 [?] to which static friction, or *stiction*, was added by Morin in 1833 [?] and viscous friction, or velocity-dependent friction, by Reynolds in 1886 [?]. In 1902, Stribeck found a smooth transition between the static and the coulomb part of the friction curve now referred to as the Stribeck effect [?]. The latter is still the standard for static friction models today.

## 2 To do thingies

- Think about how to define real-time.
- Create an intuition for different parts of the equation

Intuition for the frequency dependent damping term  $+2\sigma_1\partial_t\partial_x^2u$ :

- Take the frequency independent damping term  $2\sigma_0\partial_tu$
- The effects of the damping increases with an increase of either  $\sigma_1$   $\partial_t$  or  $\partial_x^2$ .
- $\partial_t\partial_x^2u$  can be interpreted as the rate of change of the curvature of the string.
- If this value is more positive, i.e., the rate of change of the curvature is

## 3 Conclusion

In case you have questions, comments, suggestions or have found a bug, please do not hesitate to contact me. You can find my contact details below.

## References

Jesper Kjær Nielsen  
jkn@create.aau.dk  
<http://sqrt-1.dk>  
Audio Analysis Lab, CREATE  
Aalborg University  
Denmark

## References

# **Part II**

# **Models**



# Models

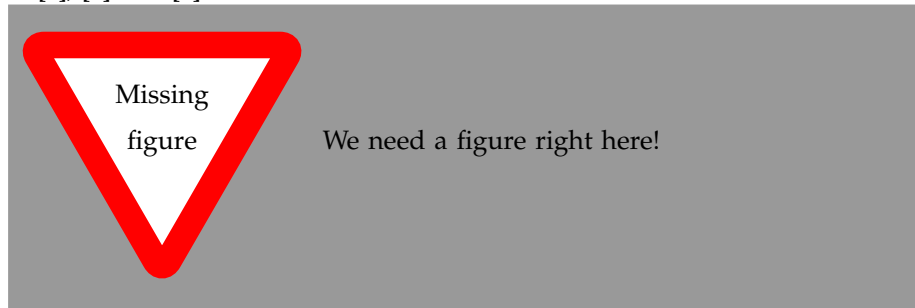
## 4 Bow Models

As opposed to less complex bow models, such as the hyperbolic [source] and exponential [source] models, the elasto-plastic bow model assumes that the friction between the bow and the string is caused by a large quantity of bristles, each of which contributes to the total amount of friction.

## 5 Section 2 name

Here is section 2. If you want to leearn more about  $\text{\LaTeX}2_{\epsilon}$ , have a look at [?], [?] and [?].

I think this word is mis-pelled



### 5.1 Examples

You can also have examples in your document such as in example ??.

#### Example 5.1 (An Example of an Example)

Here is an example with some math

$$0 = \exp(i\pi) + 1 . \tag{1}$$

You can adjust the colour and the line width in the `macros.tex` file.

## 5.2 How does Subsections and Subsubsections Look?

Well, like this

**This is a Subsubsection**

and this.

**A Paragraph** You can also use paragraph titles which look like this.

**A Subparagraph** Moreover, you can also use subparagraph titles which look like this. They have a small indentation as opposed to the paragraph titles.

I think that a summary of this exciting chapter should be added.

## 6 Conclusion

In case you have questions, comments, suggestions or have found a bug, please do not hesitate to contact me. You can find my contact details below.

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jkn@create.aau.dk  
<http://sqrt-1.dk>  
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Denmark

## References

- [1] L. Madsen, "Introduktion til LaTeX," <http://www.imf.au.dk/system/latex/bog/>, 2010.
- [2] F. Mittelbach, *The LATEX companion*, 2nd ed. Addison-Wesley, 2005.
- [3] T. Oetiker, "The not so short a introduction to LaTeX2e," <http://tobi.oetiker.ch/lshort/lshort.pdf>, 2010.

Is it possible to add a subsub-paragraph?

# **Part III**

# **Papers**





# Paper A

Paper A title

List of authors

The paper has been published in the  
*Journal or Proceedings* Vol. XX(X), pp. XXX–XXX, 201X.

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*The layout has been revised.*

## **Abstract**

*Here is an abstract.*

## **1 Introduction**

Here is an introduction [?].

## **2 Conclusion**

Here is the conclusion.

## **A An appendix**

Here is some text.

## **References**

[1] F. Mittelbach, *The LATEX companion*, 2nd ed. Addison-Wesley, 2005.

## References

# Paper B

Paper B title

List of authors

The paper has been published in the  
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*The layout has been revised.*

## **Abstract**

*Here is an abstract.*

## **1 Introduction**

Here is an introduction [?].

## **2 Conclusion**

Here is the conclusion.

## **References**

[1] F. Mittelbach, *The LATEX companion*, 2nd ed. Addison-Wesley, 2005.