SIMULATION TECHNOLOGY DEGREE COURSE

SIMTECH CLUSTER OF EXCELLENCE

Titlepage - Design

Readme

Submitted by

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TABLE OF CONTENTS

1 Introduction

When writing a paper or a thesis one will always look for a good looking titlepage. This package although has a simple design should help creating a satisfactory titlepage.

In order to include the package, the phrase *\usepackage{titlePageST}* has to be added to the beginning of the LaTeX document. Furthermore the *geometry* package has to be included (\usepackage{geometry}).

There is also the possibility to compile the titlepage in a separate document and including the pdf output of that document, using the package *\usepackage{pdfpages}* and calling the command *includepdf*.

```
1    \includepdf{SimTechTitlePage.pdf}
```

For best results it is recommendable to use the *fourier* font (\usepackage{fourier}), since the spacing and width of the elements were optimized on this specific font.

How to change these values for other fonts will be explained for the affected elements later on.

2 STRUCTURE

The structure of the titlepage is very simple:

1. A Logo header,

2. Institute and Professorship chair,

3. Degree Course and thesis type,

4. Title of the thesis with optional subtitle,

5. A list of supervisors and

6. Author information.

To start a new Titlepage, the environment *titlePageST* has to be invoked

```
1   \begin{titlePageST} %
2   ...
3   \end   {titlePageST} %
```

This environment will automatically remove page numbering. Although the geometry will be altered, the original one will be restored at the end of the title page.

The spacing between the different segments is realized by using the command

```
1   \vspace{*} %
```

at the end of a segment.

2.1 LOGO HEADER

This header consist of three different logos. The original concept was having the degree course logo on the left, university logo on the right and institute logo in the middle. This concept can of course be changed to the individuals liking.

The command *makeLogo* needs six inputs.

```
1   \makeLogo %
2   {- 50pt}{\includegraphics[scale=0.3]{pic1}} %
3   {   0pt}{\includegraphics[scale=0.3]{pic2}} %
4   { 120pt}{\includegraphics[scale=0.3]{pic3}} %
```

Every two entries are for declaring an image. The first of the two inputs states the left spacing of the picture. The second input is for the picture declaration. The type of picture input can be used at one's convenience. Here the most common *includegraphics* was used.

In case a logo isn't needed, the inputs can be simply left empty without altering the spacing of the other logos.

```
1   \makeLogo %
2   {- 50pt}{\includegraphics[scale=0.3]{pic1}} %
3   {}{} %
4   { 120pt}{\includegraphics[scale=0.3]{pic3}} %
```

Figure 2.1: Exemplary logo header output

2.2 INSTITUTE HEADER

As the title suggests this segment is dedicated to the institute information. This command has two inputs, the institute name and professorship chair. The second argument is optional and will be left blank if not assigned otherwise.

Command with empty professorship chair:

```
1  \makeHeader %
2  {Institute Full Name} %
```

Command with declared professorship chair:

```
1  \makeHeader %
2  [Professorship chair] %
3  {Institute Full Name} %
```

INSTITUTE FOR APPLIED ANALYSIS AND NUMERICAL SIMULATION

CHAIR OF APPLIED ANALYSIS

Figure 2.2: Exemplary institute header output

2.3 DEGREE COURSE AND THESIS TYPE

In this section degree course (first input) and thesis type (second input) are filled in.

```
1  \makeTitle %
2  {Simulation Technology degree course} %
3  {Bachelor thesis} %
```

SIMULATION TECHNOLOGY DEGREE COURSE

Bachelor thesis

Figure 2.3: Exemplary degree course header output

2.4 THESIS TITLE

The most important part, the thesis title, is declared with the command *makeTitleThesis* and has two inputs. The title and an optional subtitle, which is blank in the initial state. Command with empty subtitle:

```
1   \makeTitleThesis
2   {Title}%
```

Command with declared subtitle:

```
1   \makeTitleThesis %
2   [Subtitle] %
3   {Title} %
```

Stochastic Modeling for Heterogeneous Two-Phase Flow, Finite Volumes for Complex Applications VII-Methods

An approach using DuMuX

Figure 2.4: Exemplary title output

2.5 SUPERVISOR

Of course the number of supervisors can vary for each individual. Thus the count can be selected by calling the supervisor environment

```
1   \begin{supervisorST}{N} %
2   ...
3   \end  {supervisorST}    %
```

with N the desired number. Note that the maximal number of supervisors is three ($N \in \{1, 2, 3\}$). A supervisor can be declared by calling the command *addSuper* which has three arguments: title, name and institute.

```
1   \addSuper %
2   {Supervisor} %
3   {Prof. Dr. rer. nat. Christian \textsc{Rohde}} %
4   {Institute for Applied Analysis and Numerical Simulation} %
```

Naturally this command has to be called within the supervisor environment N times. Thus a supervisor segment may look like the following

```
1   \begin{supervisorST}{2} %
2   \addSuper %
3   {First Supervisor} %
4   {Prof. Dr. rer. nat. Christian \textsc{Rohde}} %
5   {Institute for Applied Analysis and Numerical Simulation} %
6   \addSuper %
7   {Second Supervisor} %
8   {Prof. Dr.-Ing. Joachim \textsc{Gro\ss}} %
9   {Institute of Thermodynamics and Thermal Process Engineering} %
10  \end  {supervisorST}    %
```

In case more information is desired for the individual supervisor, the *addSuper* command can be updated in the package. For example the command for four inputs could be added like

```
1  \newcommand{\addSuper}[4]{ %
2  ...
3          {\small #3}\\[3pt] %
4          {\small #4} %
5  ...
6  } %
```

First Supervisor

Prof. Dr. rer. nat. Christian ROHDE

Institute for Applied Analysis and Numerical Simulation

Second Supervisor

Prof. Dr.-Ing. Joachim GROSS

Institute of Thermodynamics and Thermal Process Engineering

Figure 2.5: Exemplary Supervisor segment

2.6 AUTHOR INFORMATION

Similar to the supervisor, for adding the author segment an environment is needed. The environment takes in one command, the contribution caption, that can be modified for each language.

```
1  \begin{authorST}{Caption} %
2  ...
3  \end   {authorST} %
```

Adding author information is simple. The command *addAuthorInfo* can be called within the environment as often as needed. The command has two inputs, an information title and the information itself

```
1  \addAuthorInfo{Author}{Sebastian \textsc{Reuschen}} %
```

Thus a complete author segment may look as follows

```
1  \begin{authorST}{Submitted by} %
2  \addAuthorInfo{Author}{Sebastian \textsc{Reuschen}} %
3  \addAuthorInfo{Matriculation number}{1234567} %
4  \addAuthorInfo{SimTech–Nr.}{99} %
5  \addAuthorInfo{Submission date}{January 2015} %
6  \end{authorST} %
```

Submitted by

Author	Sebastian REUSCHEN
Matriculation number	1234567
SimTech-Nr.	99
Submission date	January 2015

Figure 2.6: Exemplary Author segment

3 PACKAGE

3.1 COLORS

The used colors for titles and header were matched to the Simulation Technology logo colors.

If another color is desired it can be simply changed in the package by altering the following two colors

```
1  \definecolor{simBlue1}{HTML}{002C52} %
2  \definecolor{simBlue2}{HTML}{004884} %
```

Note that the used color type is *HTML* based.

3.2 SUPERVISOR SPACING

When using another font than *fourier*, most of the segments shouldn't be affected. However the supervisor segment will collapse. Thus the spacing has to be changed within the package.

The command responsible for spacing is the environment itself.

```
1  \newenvironment{supervisorST}[1]{%
2  \IfEqCase{#1}{ %
3  {2}{ %
4  \renewcommand{\superWidth}{0.47} %
5  \renewcommand{\superSpace}{23}} %
6  {3}{ %
7  \renewcommand{\superWidth}{0.3}  %
8  \renewcommand{\superSpace}{19}}  %
9  } %
10 }{\\}%
```

As can be seen the supervisor number was realized using if and case commands. Therefore, depending on the desired supervisor number, the concerned case has to be altered.

The command *superWidth* defines the size or rather the width of one supervisor box, whereas the command *superSpace* defines the spacing between the different supervisor boxes. Hence in order to get a style for the individuals liking these two values have to be experimented around with.

4 EXEMPLARY TITLEPAGE (ENGLISH)

```
1   \begin{titlePageST} %
2   % ——————————————————————————————————
3   \makeLogo %
4   {− 50pt}{\includegraphics[scale=0.3]{../pics/_simtech.png}} %
5   {   10pt}{\includegraphics[scale=0.5]{../pics/_ians.png}} %
6   { 120pt}{\includegraphics[scale=0.8]{../pics/_unilogo.png}}%
7   \vspace{35pt} %
8   % ——————————————————————————————————
9   \makeHeader %
10  [Chair of Applied Analysis] %
11  {Institute for Applied Analysis and Numerical Simulation} %
12  \vspace{50pt} %
13  % ——————————————————————————————————
14  \makeTitle %
15  {Simulation Technology degree course} %
16  {Bachelor thesis} %
17  \vspace{80pt} %
18  % ——————————————————————————————————
19  \makeTitleThesis %
20  [An approach using DuMuX] %
21  {Stochastic Modeling for Heterogeneous Two−Phase Flow, Finite Volumes for ↩
        Complex Applications VII−Methods} %
22  \vspace{100pt} %
23  % ——————————————————————————————————
24  \begin{supervisorST}{2} %
25  \addSupe %
26  {First Supervisor }%
27  {Prof. Dr. rer. nat. Christian \textsc{Rohde}} %
28  {Institute for Applied Analysis and Numerical Simulation} %
29  \addSuper %
30  {Second Supervisor} %
31  {Prof. Dr.−Ing. Joachim \textsc{Gro\ss} }%
32  {Institute of Thermodynamics and Thermal Process Engineering} %
33  \end{supervisorST} %
34  \vspace{100pt} %
35  % ——————————————————————————————————
36  \begin{authorST}{Submitted by} %
37  \addAuthorInfo{Author}{Sebastian \textsc{Reuschen}} %
38  \addAuthorInfo{Matriculation number}{1234567} %
39  \addAuthorInfo{SimTech−Nr.}{99} %
40  \addAuthorInfo{Submission date}{January 2015} %
41  \end{authorST} %
42  % ——————————————————————————————————
43  \end{titlePageST} %
```

SIMULATION TECHNOLOGY DEGREE COURSE

Bachelor thesis

Stochastic Modeling for Heterogeneous Two-Phase Flow, Finite Volumes for Complex Applications VII-Methods

An approach using DuMuX

First Supervisor

Prof. Dr. rer. nat. Christian ROHDE

Institute for Applied Analysis and Numerical Simulation

Second Supervisor

Prof. Dr.-Ing. Joachim GROSS

Institute of Thermodynamics and Thermal Process Engineering

Submitted by

Author	Sebastian REUSCHEN
Matriculation number	1234567
SimTech-Nr.	99
Submission date	January 2015

5 EXEMPLARY TITLEPAGE (GERMAN)

```latex
1  \begin{titlePageST} %
2  % ———————————————————————————————
3  \makeLogo%
4  {- 50pt}{\includegraphics[scale=0.3]{../pics/_simtech.png}}%
5  {  10pt}{\includegraphics[scale=0.5]{../pics/_ians.png}}%
6  { 120pt}{\includegraphics[scale=0.8]{../pics/_unilogo.png}}%
7  \vspace{35pt} %
8  % ———————————————————————————————
9  \makeHeader%
10 [Lehrstuhl fuer Angewandte Mathematik]%
11 {Institut fuer Angewandte Analysis und Numerische Simulation}%
12 \vspace{50pt}%
13 % ———————————————————————————————
14 \makeTitle%
15 {Studiengang Simulation Technology}%
16 {Bachelorarbeit}%
17 \vspace{80pt} %
18 % ———————————————————————————————
19 \makeTitleThesis%
20 [Untertitel (Optional)]%
21 {Titel der Bachelorarbeit}%
22 \vspace{70pt}%
23 %———————————————————————————————
24 \begin{supervisorST}{2}
25 \addSuper{Erstpruefer}{Prof. Dr. Marc \textsc{Brown}}{Institut fuer ↩
       Angewandte Analysis}%
26 \addSuper{Zweitpruefer}{Prof. Dr. Markovitsch \textsc{Brown}}{Institut fuer↩
       Angewandte Analysis und Numerische Simulation}%
27 \end{supervisorST}
28 \vspace{50pt}%
29 %———————————————————————————————
30 \begin{supervisorST}{3}
31 \addSuper{Betreuer 1}{Prof. Dr. Marc \textsc{Brown}}{Institut fuer ↩
       Angewandte Analysis}%
32 \addSuper{Betreuer 2}{Prof. Dr. Markovitsch \textsc{Brown}}{Institut fuer ↩
       Angewandte Analysis und Numerische Simulation}%
33 \addSuper{Betreuer 3}{Prof. Mark \textsc{Brown}}{Institut fuer Numerische ↩
       Simulation}%
34 \end{supervisorST}
35 \vspace{40pt}%
36 % ———————————————————————————————
37 \begin{authorST}{Vorgelegt von}%
38 \addAuthorInfo{Autor}{Sebastian \textsc{Reuschen}} %
39 \addAuthorInfo{Matrikel-Nr.}{1234567} %
40 \addAuthorInfo{SimTech-Nr.}{99} %
41 \addAuthorInfo{Abgabetermin}{Januar 2015}%
42 \end{authorST %
43 % ———————————————————————————————
44 \end{titlePageST}%
```

STUDIENGANG SIMULATION TECHNOLOGY

Bachelorarbeit

Titel der Bachelorarbeit

Untertitel (Optional)

Erstprüfer

Prof. Dr. Marc BROWN

Institut für Angewandte Analysis

Zweitprüfer

Prof. Dr. Markovitsch BROWN

Institut für Angewandte Analysis und Numerische Simulation

Betreuer 1

Prof. Dr. Marc BROWN

Institut für Angewandte Analysis

Betreuer 2

Prof. Dr. Markovitsch BROWN

Institut für Angewandte Analysis und Numerische Simulation

Betreuer 3

Prof. Mark BROWN

Institut für Numerische Simulation

Vorgelegt von

Autor	Sebastian REUSCHEN
Matrikel-Nr.	1234567
SimTech-Nr.	99
Abgabetermin	Januar 2015