LaTeX BEAMER TEMPLATE
Howto for `beamer`-Slides v18.10

October 8, 2019 | Template Version 18.10 | Tutorial Version 18.10 | My Institute

JÜLICH
Forschungszentrum

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Part I: Introduction

LaTeX .sty FILES – VERSION 18.10

- Deprecate enabled compat mode for old FZJ colors.
- Using the old colors requires the switch `\fzjset{compat mode=enabled}`
- Failing to do so, will result in missing colors and a broken build.

LaTeX .sty FILES – VERSION 18.09

- first version with new corporate design
- tutorial is not complete yet, will be updated periodically

Part II: Installation

BEAMERTHEME-JUELICH.ZIP

The .zip archive consists of 1 directory with 2 subdirectories.

- `beamertheme-juelich.zip`
- `beamertheme-juelich/` — main directory of the .zip file
  - `/` — directory containing the .sty files
    - `beamerthemeJuelich.sty` — main style file
    - `beamercolorthemeJuelich.sty` — aux. style file
    - `beamerfontthemeJuelich.sty` — aux. style file
    - `beamerinnerthemeJuelich.sty` — aux. style file
    - `beamerouterthemeJuelich.sty` — aux. style file
    - `fzj.pdf` — Juelich logo for pdfLaTeX
  - `tutorial/` — directory containing some minimal examples and the sources of this tutorial
  - `tests/` — directory containing test infrastructure for the theme

LINUX INSTALLATION

Choose `texmf` Tree

First, choose your favorite install directory.
Then, create a new subdirectory `beamertheme-juelich`

Change to your `texmf` tree and create subdirectory

- `cd $HOME/texmf/tex/latex/` [preferred] or
- `cd /usr/share/texmf/tex/latex/` or
- `cd /usr/local/share/texmf/tex/latex/`

- `mkdir beamertheme-juelich`

LINUX: INSTALL THE .STY FILES

Create Directory + Copy files + Update TEX

- Unzip `beamertheme-juelich.zip` file
- Copy all files from subdirectory `beamertheme-juelich/` into the new subdirectory `beamertheme-juelich`
- Try to compile the minimal examples in the `tutorial/` subdirectory

  ```
  pdflatex minimal.tex
  pdflatex minimal_handout.tex
  ```
- Afterwards try to compile this tutorial in the `tutorial/` subdirectory

  ```
  pdflatex tutorial.tex
  ```

Supported flavors of LATEX

Pure `latex` is not supported, please use either `pdflatex`, `xelatex` or `lualatex`

TEST YOUR INSTALLATION

Try to compile this minimal talk: `tutorial/minimal.tex`

```
\documentclass[t]{beamer}
\usetheme{Juelich}

\title{My first talk with \LaTeX{}}
\subtitle{The template works!}
\author{Your Name}
\institute{Your Institute}
\date{\today}
\titlegraphic{\includegraphics%
    [width=\paperwidth]{placeholder}}

\begin{document}
\maketitle
\end{document}
```

TEST YOUR INSTALLATION II

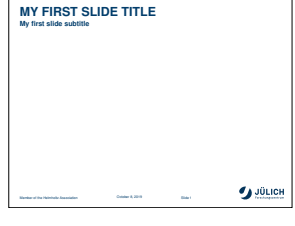
Try to compile this minimal talk with handouts: `tutorial/minimal_handout.tex`

```
\documentclass[t,handout]{beamer}
\usetheme{Juelich}

\title{My first talk with \LaTeX{}}
\subtitle{The template works!}
\author{Your Name}
\institute{Your Institute}
\date{\today}
\titlegraphic{\includegraphics%
    [width=\paperwidth]{placeholder}}

\begin{document}
\maketitle

\begin{frame}
  \frametitle{My first slide title}
  \framesubtitle{My first slide subtitle}
\end{frame}
\end{document}
```



Part III: Examples

LaTeX-BEAMER FEATURES

The following slides show how `Latex-Beamer` constructs work within the template.

- Lists, numbered lists
- Plain slides, background images
- Theorems, proofs
- Definitions, examples
- Blocks, alert blocks
- Highlight options
- Formulae
- Verbatim environments

LOTS OF LISTS

Another Subtitle

- using the `pause` command:
  - First item.

LOTS OF LISTS

Another Subtitle

- using the `pause` command:
  - First item.
  - Second item.
- using overlay specifications:

- using the general `uncover` command:

LOTS OF LISTS

Another Subtitle

- using the `pause` command:
  - First item.
  - Second item.
- using overlay specifications:
  1. First numbered item.

- using the general `uncover` command:

LOTS OF LISTS

Another Subtitle

- using the `pause` command:
  - First item.
  - Second item.
- using overlay specifications:
  1. First numbered item.
  2. Second numbered item.
     - 3rd level item!
- using the general `uncover` command:

LOTS OF LISTS

Another Subtitle

- using the `pause` command:
  - First item.
  - Second item.
- using overlay specifications:
  1. First numbered item.
  2. Second numbered item.
     - 3rd level item!
- using the general `uncover` command:
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LOTS OF LISTS

Another Subtitle

- using the `pause` command:
  - First item.
  - Second item.
- using overlay specifications:
  1. First numbered item.
  2. Second numbered item.
     - 3rd level item!
- using the general `uncover` command:
  - First item.
  - Second item.

PLAIN FRAMES

- The next slide shows a plain frame.
- To use plain frames add the `[plain]` parameter to your `\begin{frame}` statement.

How to use plain frames

```
\begin{frame}[plain]
    \frametitle{Plain Frame}
    \begin{center}
        Here is my tiny text on a plain frame.
    \end{center}
\end{frame}
```

PLAIN FRAME

Enough space for your big ideas. (or holiday pictures)

BACKGROUND IMAGES

On Standard Frames

- The next slide shows an image, embedded into the background of the frame layout.
- The background image is automatically cropped to the frame dimensions.

How to install a background image

```
\setbeamertemplate{background}{\includegraphics[width=\paperwidth]{placeholder}}
\begin{frame}
    \frametitle{An image in the background}
    \centering
    Some text in front of the background image.
\end{frame}
\setbeamertemplate{background}{}
```

AN IMAGE IN THE BACKGROUND

Some text in front of the background image.

BLOCK CONSTRUCTS

`theorem, proof`

Theorem

There is no largest prime number.

Proof.

1. Suppose p were the largest prime number.

4. Thus $q + 1$ is also prime and greater than p. □

BLOCK CONSTRUCTS

`theorem, proof`

Theorem

There is no largest prime number.

Proof.

1. Suppose p were the largest prime number.
2. Let q be the product of the first p numbers.

4. Thus $q + 1$ is also prime and greater than p. □

BLOCK CONSTRUCTS

`theorem, proof`

Theorem

There is no largest prime number.

Proof.

1. Suppose p were the largest prime number.
2. Let q be the product of the first p numbers.
3. Then $q + 1$ is not divisible by any of them.
4. Thus $q + 1$ is also prime and greater than p. □

BLOCK CONSTRUCTS

`definition, example`

Definition

A prime number is a number that has exactly two divisors.

Example

- 2 is prime (two divisors: 1 and 2).
- 3 is prime (two divisors: 1 and 3).
- 4 is not prime (three divisors: 1, 2, and 4).

BLOCK CONSTRUCTS

`block, alertblock`

Simple Block

Just some text.

Alert Block

This block seems to be pretty important.

HIGHLIGHT IMPORTANT INFORMATION

Use “Jülich” colors to attract attention

Use \emph{}

```
This text is \emph{important}.
```

This text is *important*.

Use \alert{}

```
This text is \alert{really} important!
```

This text is really important!

MATH ENVIRONMENT

Use your LaTeX formulae inside your slides without hassle

$$\iiint_V \operatorname{div} \vec{F}\, dV = \iint_S \vec{F} \cdot d\vec{S}$$

$$\prod_{k=1}^{n} k = n!\,, \quad \sum_{k=1}^{n} k = \frac{n(n+1)}{2}\,, \quad \int_0^{2\pi} \sin t\, dt = 0$$

$$p(x) = \sum_{i=0}^{n} f_i q_i(x) \quad \text{with} \quad q_i(x) = \prod_{\substack{k=0 \\ k \neq i}}^{n} \frac{x - x_k}{x_i - x_k}\,.$$

$$\iint_S (U \operatorname{grad} W) \cdot d\vec{S} = \iiint_V (\operatorname{grad} U \cdot \operatorname{grad} W + U \Delta W)\, dV$$

VERBATIM ENVIRONMENT

Code Snippets

- Slides containing `\verb` statements must be defined `fragile`

```
\begin{frame}[fragile]
    \frametitle{Hello World in Intercal}
    \begin{verbatim}
        DO ,1 <- #13
        PLEASE DO ,1 SUB #1 <- #234
        DO ,1 SUB #2 <- #112
        DO ,1 SUB #3 <- #112
        DO ,1 SUB #4 <- #0
        DO ,1 SUB #5 <- #64
        DO ,1 SUB #6 <- #194
        DO ,1 SUB #7 <- #48
        PLEASE DO ,1 SUB #8 <- #22
        DO ,1 SUB #9 <- #248
        DO ,1 SUB #10 <- #168
        DO ,1 SUB #11 <- #24
        DO ,1 SUB #12 <- #16
        DO ,1 SUB #13 <- #214
        PLEASE READ OUT ,1
        PLEASE GIVE UP
    \end{verbatim}
\end{frame}
```

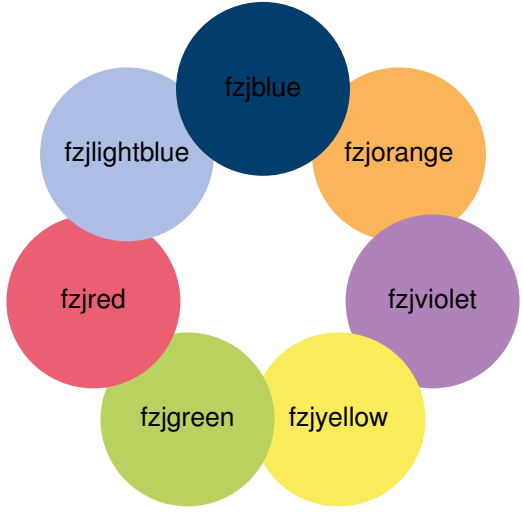
HELLO WORLD IN INTERCAL

```
DO ,1 <- #13
PLEASE DO ,1 SUB #1 <- #234
DO ,1 SUB #2 <- #112
DO ,1 SUB #3 <- #112
DO ,1 SUB #4 <- #0
DO ,1 SUB #5 <- #64
DO ,1 SUB #6 <- #194
DO ,1 SUB #7 <- #48
PLEASE DO ,1 SUB #8 <- #22
DO ,1 SUB #9 <- #248
DO ,1 SUB #10 <- #168
DO ,1 SUB #11 <- #24
DO ,1 SUB #12 <- #16
DO ,1 SUB #13 <- #214
PLEASE READ OUT ,1
PLEASE GIVE UP
```

Part IV: Jülich Colors

CORPORATE COLORS

You can use predefined colornames to spice up your slides



USING CORPORATE COLORS

In text:

- `\textcolor{colorname-text}{text}`
  There is a green word in this sentence.
- `\colorbox{colorname-background}{content}`
  This text is on an orange background.
- `\fcolorbox{colorname-frame}{colorname-background}{content}`
  This colored text is in a colorful framed box.

In TikZ, pgfplots: use the named colors in any color specification.

Part V: Localization

LOCALIZATION

How to change the date display to another language

The date will be adjusted automatically. You just have to use the `babel` package with the desired language.

Date style – Mixed

load package with DE and EN (default):	`\usepackage[ngerman,english]{babel}`
choose German:	`\selectlanguage{ngerman}`
choose English:	`\selectlanguage{english}`

Date style – German

01. Januar 2018	`\selectlanguage{ngerman}`

Date style – English

January 01, 2018	`\selectlanguage{english}`

LOCALIZATION/LANGUAGE

Change Helmholtz Banner Text

Using the `babel` package with the language option automatically sets the correct labels for the slide counter and Helmholtz banner.

Helmholtz Banner and Date in German

- Take a look at the date and Helmholtz banner in the lower left corner and the slide name and frame number in the middle
- This slide should show the german version
- Enable options via `\documentclass[english,ngerman]{beamer}`
- Enabled locally via `\selectlanguage{ngerman}` before `\begin{frame}`

Part VI: Tweaks

SLIDE NUMBER DISPLAY

How to change the slide number style

Full Display: Current Slide — Overall Number of Slides

```
\setbeamertemplate{frame number}[full]
```

Slide 42 | 524

No Display: empty

```
\setbeamertemplate{frame number}[empty]
```

Default Display: Current Slide

```
\setbeamertemplate{frame number}[default]
```

Slide 42

Translation

If you choose german as language the name Slide will be translated to Folie automatically (See this slide)

PROJECT PARTNERS

How to set up partner logos

- Show up to 3 partner logos, on this slide Jara, RWTH, Bonn
- Design your logos with sufficiently large white borders
- pdfLaTeX pictures file types: `.pdf .png .jpg`

Show logos

```
\setbeamertemplate{footer element1}[logo]{jara}
\setbeamertemplate{footer element2}[logo]{uni_bonn}
\setbeamertemplate{footer element3}[logo]{rwth}
```

Reset back to default settings

```
\setbeamertemplate{footer element1}[default]
\setbeamertemplate{footer element2}[default]
\setbeamertemplate{footer element3}[default]
```

JARA Jülich Aachen Research Alliance

RWTH AACHEN UNIVERSITY

universitätbonn

JÜLICH Forschungszentrum

FZJ LOGO WITH INSTITUTE NAME

- A variant of the Jülich logo has the institute's name right next to it
- How this looks like for Jülich Supercomputing Centre is shown on this slide
- Changing the logo works through the mechanism presented on the previous slide

Change Jülich Logo

```
\setbeamertemplate{footer element4}[logo]{fzj-jsc}
```

- In contrast to the image insertion mechanism for `footer element1-3`, the logo is vertically adjusted to the bottom baseline of the slide.
- The included logo, `fzj-jsc` in the example here, is expected to be a graphic without any surrounding whitespace

Part VII: Handouts

CREATE HANDOUTS

Switch and Setup Render Mode

```
\documentclass[handout]{beamer}
\mode<handout>{
\pgfpagesuselayout{4 on 1}[a4paper,landscape,border shrink=5mm]}
```

Define Number of Pages per Sheet

```
\pgfpagesuselayout{2 on 1}[a4paper,border shrink=5mm]
\pgfpagesuselayout{4 on 1}[a4paper,landscape,border shrink=5mm]
\pgfpagesuselayout{8 on 1}[a4paper,border shrink=5mm]
\pgfpagesuselayout{16 on 1}[a4paper,landscape,border shrink=5mm]
```

Further Reading – See `Latex-Beamer` manual for details

```
http://www.ctan.org/tex-archive/macros/latex/contrib/beamer/doc/beameruserguide.pdf
```

ASPECT RATIO

The documentclass allows several ratios for the slide. Just change the variable `aspectratio`.

- `aspectratio=43` gives classical 4:3 ratio
- `aspectratio=169` gives classical 16:9 ratio
- `aspectratio=1610` gives classical 16:10 ratio

STYLE

The design allows two styles.

Style with Image

- for the title page: `\fzjset{title page=image}`
- for the part page: `\fzjset{section page=image}`
- for the section page: `\fzjset{section page=image}`

Style with Text

- for the title page: `\fzjset{title page=text}`
- for the part page: `\fzjset{section page=text}`
- for the section page: `\fzjset{section page=text}`

ALLCAPS OR REGULAR TITLE FONTS

It is possible to switch the style of the font via the options

- `\fzjset{title=allcaps}` to set the title in allcaps
- `\fzjset{title=regular}` to set the title regular
- `\fzjset{subtitle=allcaps}` to set the title in allcaps for short text
- `\fzjset{subtitle=regular}` to set the title regular and in a smaller font for long text
- `\fzjset{part=allcaps}` to set the part in allcaps for short text
- `\fzjset{part=regular}` to set the part regular and in a smaller font for long text
- `\fzjset{frametitle=allcaps}` to set the frametitle in allcaps for short text
- `\fzjset{frametitle=regular}` to set the frametitle regular font for long text

MARGINS, SIZES

This slide has an outline on the background canvas

- One can see the alignments in a normal list

And also

- for lists
- in a block

LaTeX Beamer Template

Now in text only mode and regular text

October 8, 2019 | Your Name | My Institute

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LaTeX Beamer Template
Now back in image mode

October 8, 2019 | Your Name | My Institute

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Part X: This is a part page

This is a part page

This is a section page

TITLE IN ALLCAPS

Title in a regular style

Fixed Bugs

Periodically

The `.zip` archive will be updated periodically for bug fixes. The name and URL of the archive will be the same.

More Pitfalls/bugs?

Please report them to `i.kabadshow@fz-juelich.de`

Part XI: Extensions

Poster with LaTeX-Beamer

To create scientific posters with LaTeX the `beamerposter` extension can be used. Template will be provided soon.

More Information at

`http://www-i6.informatik.rwth-aachen.de/~dreuw/latexbeamerposter.php`

Contact

Thank you for using this template!

Enhance Missing Functionality Yourself!

Please send your enhancements along with a short description to `i.kabadshow@fz-juelich.de`

Report Problems

Please report problems with the template or uncommon behavior to `i.kabadshow@fz-juelich.de`