

The Beamer presentation theme **Frederiksberg**

version 2.2

<http://matdat.life.ku.dk/LaTeX/Frederiksberg>

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UNIVERSITY OF COPENHAGEN

Faculty of Life Sciences

Frederiksberg
A KU-LIFE presentation theme for beamer

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Slide 1/2

UNIVERSITY OF COPENHAGEN

Faculty of Life Sciences

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Faculty of Health Sciences

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UNIVERSITY OF COPENHAGEN

Faculty of Science

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1 Introduction

This is a users' guide to the *Frederiksberg* theme for L^AT_EX presentations made with *beamer*. The theme was originally developed for use by *beamer*/L^AT_EX users at the Faculty of Life Sciences at the University of Copenhagen (KU-LIFE), but since version 2 also supports the Faculty of Science (KU-NAT) and the Faculty of Health Sciences (KU-SUND) and since version 2.1 also the Faculty of Social Sciences (KU-SAMF). Since version 2.2 there is also explicit support for use outside the University of Copenhagen¹. Beamer presentation themes are traditionally named after cities and the KU-LIFE campus is situated in Frederiksberg, hence the name.

1.1 Background

When the old Royal Veterinary and Agricultural University was merged into the University of Copenhagen (KU) in January 2007, the KU communication department came up with a Powerpoint template for presentations in “KU-LIFE style”. This template has served as a guide in the design of the (standard style) *Frederiksberg* theme.

The first two slides look as follows:



Clearly this shows how a title slide and a normal slide is supposed to look (apparently we are supposed to have all text in the official KU 60% grey, somewhat harder to read than black text). These two slides have served to define margins, footline style, logo placement and title slide look for the (standard style) *Frederiksberg* theme.

The third slide in the template looks as follows:

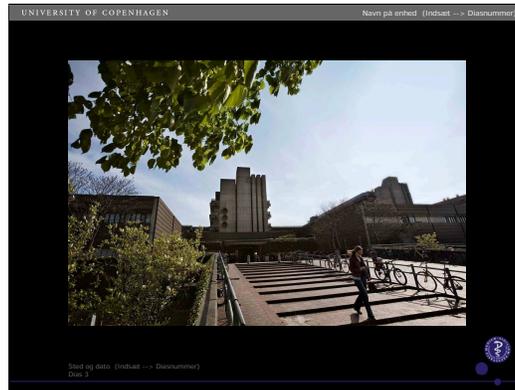


Now the background is suddenly grey! I was totally mystified by this when I wrote the first version of *Frederiksberg* and assumed (incorrectly) that the intention was that you could optionally elect to have a grey background throughout the presentation (hence the option `greybg`). I have seen this third slide simply used as the last slide in a Powerpoint presentation given by a colleague and this made me lean more towards the idea that this “end slide” was something you could use as a service to your audience, to indicate in a pleasant way

¹I have been somewhat surprised by the number of people outside KU who have contacted me with questions on how to use *Frederiksberg*.

(without eye strain) that now your talk is finally over and they can sit back, relax and start to forget what you have said.

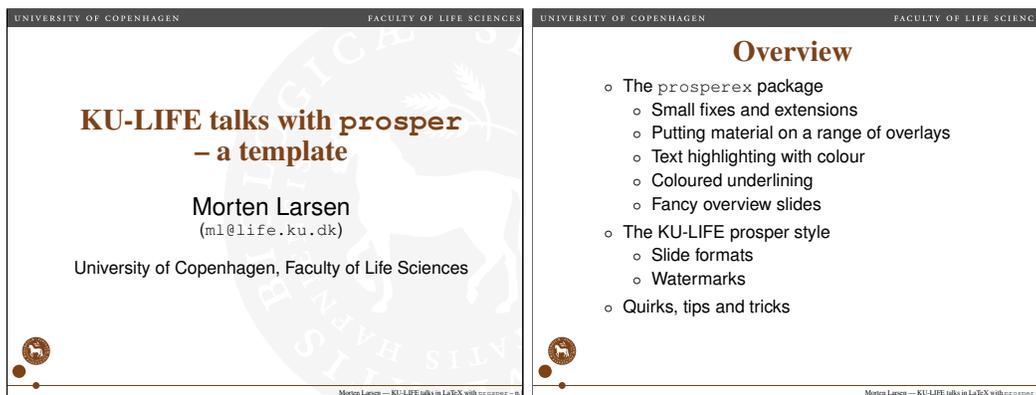
When I much later looked at the download page for the power point templates for all the KU faculties (rather than just LIFE), I finally found out what this third slide is all about. First of all, it is probably an error that the background colour is grey: It is supposed to be black! There is black background slide like this in the templates for all the faculties except LIFE:²



It is stated on the download page that the black background is intended for presentation of “photos or scientific diagrams”. Why I would want diagrams on a black background slide I do not know – I would prefer just to add a box around it, if required.

Well, the upshot of my original misunderstanding is that *Frederiksberg* supports changing the colour of the background canvas much better than the theme otherwise would have done.

So far the “official” design for the *Frederiksberg* theme (version 1). I had for a number of years been using the package *prosper* to typeset my presentations. When January 2007 and the merger with KU came around, I designed a look for my prosper slides using the logo and the grey top bar but not much else from the “official look”. When I decided to switch to using *beamer* and set out to design and program *Frederiksberg* I wanted the option to keep on using the “old look” (which I still like better than the official one). My old prosper slides look like this:



This has slightly more room on each slide than the official KU template and a simpler title slide which uses a watermark sigil to have it stand out from the rest (rather than pictures of girls doing gymnastics).

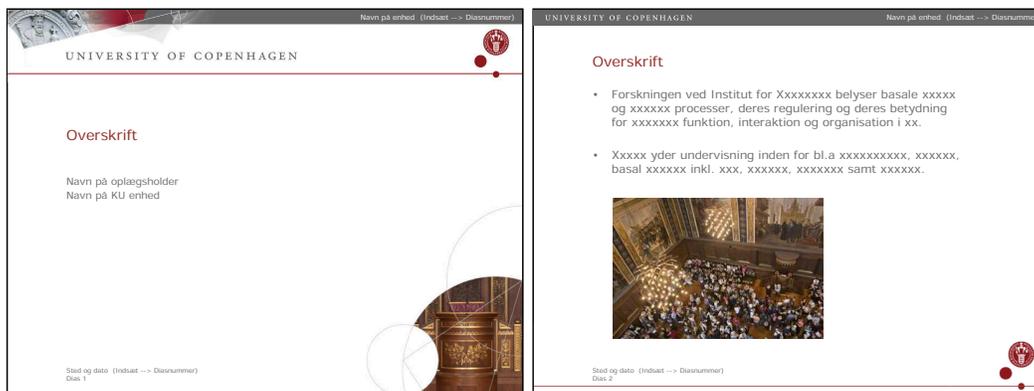
1.1.1 And then came version 2...

After the publication of *Frederiksberg* I had several people from the NAT and SUND faculties approach me about doing a version of *Frederiksberg* adapted to their needs. I therefore set out to program a version that supported these two faculties *and* the “general KU” look intended for presentations not tied to a specific faculty.

² Notice how this black background slide does not even follow the design guidelines for use of the KU logos. On a dark background, the logo should be drawn with a white border (like *Frederiksberg* does).

In the process I have made *Frederiksberg* much more flexible and adaptable than before (and also came up with the idea of pre-packaged “units”, see section 5). You can now change the graphics on the standard title slide and you can have your department (“institute” in *beamer*-speak) rather than your faculty in the top bar. The Powerpoint templates for “central KU” look like this:³

Version 2.1 saw the addition of SAMF, the Faculty of Social Sciences.⁴



Notice how, since there is no faculty, the name of the university takes its place on the title slide and the unit (department) is now featured in the upper right. Notice also how UNIVERSITY OF COPENHAGEN in the left side of the grey header bar uses a different font (Garamond small caps) than the unit name in the right side, which must create a rather uneven-looking header. *Frederiksberg* avoids this and always uses the same font in both sides of the header...

1.2 Features

The *Frederiksberg* theme features:

- Supports LIFE, NAT, SUND, SAMF, “general KU” and “not KU” looks.
- A look fairly close to the “official” KU slide templates ...
- ... but prettier – uses vector graphics wherever possible rather than ugly, JPEG-compressed raster graphics ...
- ... and you can choose to depart more or less from the “official” look to make things even prettier or more readable/functional.
- Automatic frames around the slides in handout mode, if the slide background colour is white (or transparent).
- Supports an additional logo (with the `\logo` command) for e.g. a department or course logo.
- Improved look (and scaling behaviour) of the *beamer* action buttons.
- No ugly *beamer* navigation bar to clutter your slides (unless you really, really, *really* want it).

1.3 Compatibility

The *Frederiksberg* theme has been developed to be usable with both `pdflatex` and the `latex – dvips – ps2pdf` chain of processing. Even in the latter case, repeated graphical elements (the logo, the water mark (if any) and the text in the grey top bar) will be defined only once and re-used, making the PDF file much smaller than if you included the logo yourself.

³ Rather shoddy work, if you ask me. Even though this is supposed to be the English template all the instructions are in Danish. And the photo used in the lower right corner of the title slide is rather low resolution.

⁴ Who would ever have guessed there was more demand for *Frederiksberg* from SAMF than from FARMA?...

The theme is compatible with *beamer* version 3.07 (the latest at the time of writing) but also works with some older versions of *beamer* (specifically version 3.01 which I still had on my laptop when programming the first version of *Frederiksberg*).

No other packages are used besides those already used by *beamer*.

1.4 Acknowledgements

Thanks must go to my former colleagues in the *Mathematics and Computer Science* group at IGM (LIFE) for being the first *Frederiksberg* guinea pigs. I am also grateful for useful feedback and suggestions from Arne Henningsen from the *Institute of Food and Resource Economics* at LIFE, Gunnar Hellmund from the *Department of Biostatistics* at SUND and Andreas Noack Jensen from the *Department of Economics* at SAMF.

2 Installation and basic usage

To install the theme, you first need to dump the `Frederiksberg` directories with all their files in your local `TeX` file hierarchy:

1. The directory which in the install package is named `tex/latex/beamer/Frederiksberg` needs to be put where `LATEX` will find it.
2. The directory which in the install package is named `dvips/Frederiksberg` needs to be put where `dvips` will find it.

This should be achieved if you unpack the installation archive in the top directory of your local `TeX` installation (e.g. `/usr/local/share/texmf/` on my Linux box, `C:\localtexmf` on my colleague's Windows box with MikTeX, and `/usr/local/gwTeX` on the Mac I have access to). Then you must do whatever you need to do to have `LATEX`/`dvips` find the new files (e.g. run `texhash` on a Linux box; on a Windows MikTeX installation you start "MikTeX options" from your program menu and click the "Refresh now" button).

In your *beamer* presentation, write:

```
\usetheme{Frederiksberg}
```

(if you want the default LIFE look) or give an option to indicate the faculty:

```
\usetheme[nat]{Frederiksberg}
```

(where you can use `life`, `sund`, `samf`, `ku` or `not@ku`⁵ in place of `nat`).

If you need the Danish version:

```
\usetheme[nat,dk]{Frederiksberg}
```

If you really, really want to adhere as closely as possible to the "official" template provided by the KU communications department, you can use the option `dogma`. You will also want to use 12 point postscript fonts and align your slide text at the top of the slides, so your preamble might start like this:

```
\documentclass[12pt,t]{beamer}
\usepackage{pslatex}
\usetheme[dk,sund,dogma]{Frederiksberg}
```

If you want to get any closer to the template than that, use Powerpoint...

To get the title slide right it needs to be put in a "plain" *beamer* frame, like this:

```
\frame[plain]{\titlepage}
```

That's all you need to know if you are happy with the way things look by default! Or you may be so lucky that some kind soul has designed a "unit" file for *Frederiksberg* that makes it even easier for you to get the right "department look" for your slides, see section 5.

⁵See section 4.2 if you are not associated with the University of Copenhagen.

3 Using the *Frederiksberg* presentation theme

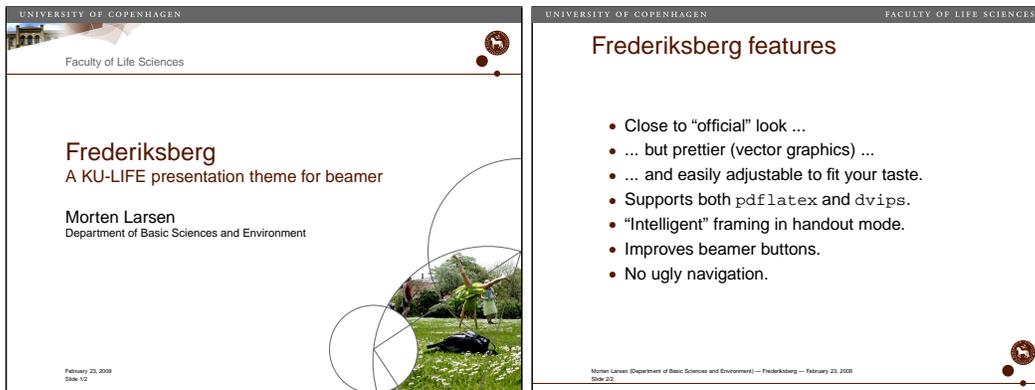
To use the *Frederiksberg* presentation theme in your *beamer* presentation, write

```
\usetheme[life]{Frederiksberg}
```

or, for the Danish version,

```
\usetheme[life,dk]{Frederiksberg}
```

This will give you a presentation looking like this:



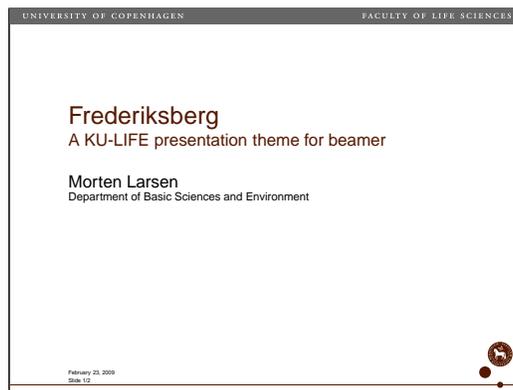
You should of course replace the `life` option with your own faculty (`nat`, `sund` or `samf`) if you are not from LIFE, or you can write `ku` to get the “general KU” (no faculty) look. If a “unit” style has been set up for your KU department or unit (and you have installed it) you may activate that with the `unit` option, rather than selecting a generic faculty look. For example if you are from the *Institute of Food and Resource Economics* (FOI) at LIFE you could write:

```
\usetheme[unit=FOI,dk]{Frederiksberg}
```

Be sure to put the `\titlepage` command in a plain frame, like this:

```
\frame[plain]{\titlepage}
```

If you do not, you will not get pictures on your title slide, just text, like this:



The font size most closely matches that of the “official” template if you specify `[12pt]` when you load *beamer*, i.e.:

```
\documentclass[12pt]{beamer}
```

The Powerpoint templates have slide content flush with the top rather than centered (like *beamer* prefers); to achieve this you can add the `t` option when loading *beamer*, i.e.:

```
\documentclass[12pt,t]{beamer}
```

You probably also want to use postscript fonts, which you will get with:

```
\usepackage{pslatex}
```

or with:

```
\usepackage{times}
```

Since the *Frederiksberg* theme uses quite a lot of (non-standard, small) font sizes, you *must* use scalable fonts to get proper results. That means that if you do not use either the `pslatex` package or `times` package, you should instead use e.g. the `lmodern` package or change your LaTeX installation to use a scalable version of the Computer Modern fonts by default.

In summary, the start of your document might look something like this:

```
\documentclass[12pt,t]{beamer}
\usepackage{pslatex}
\usetheme[life,dk]{Frederiksberg}

\title{Frederiksberg}
\subtitle{A KU-LIFE presentation theme for beamer}
\author{Morten Larsen}
\institute{Department of Basic Sciences and Environment}
\date[]{\today}

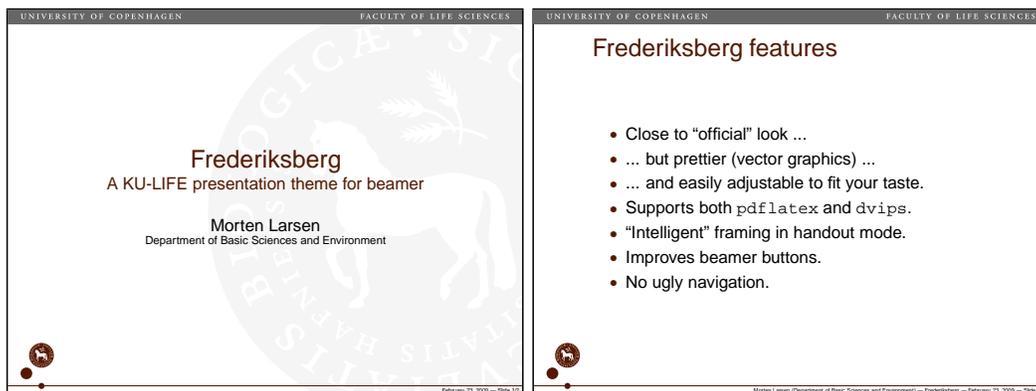
\begin{document}
\frame[plain]{\titlepage}
```

3.1 Changing the overall style

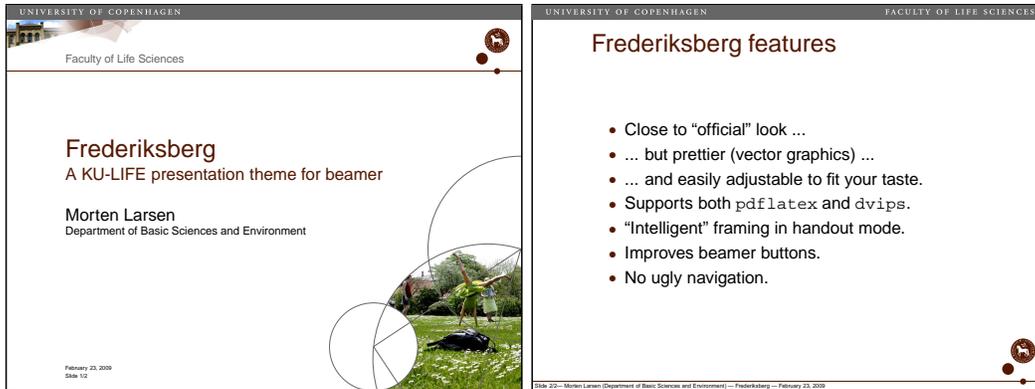
Frederiksberg comes in two (well, actually four) styles. The standard style is as shown above and can be explicitly requested with the option `style=standard`. The main other style is the “simple” style, which you request like this:

```
\usetheme[style=simple]{Frederiksberg}
```

Your slides will then look like this:



Notice how the footer informational text is now below the “logo line”, giving a better separation and leaving more space for actual content. Note also that the pictures on the title slide have been replaced by a watermark. If you like the “standard” title slide but prefer the “simple” footer style, you can instead specify the option `footstyle=low` which will change the footer (except on the title slide), so you get something like this:

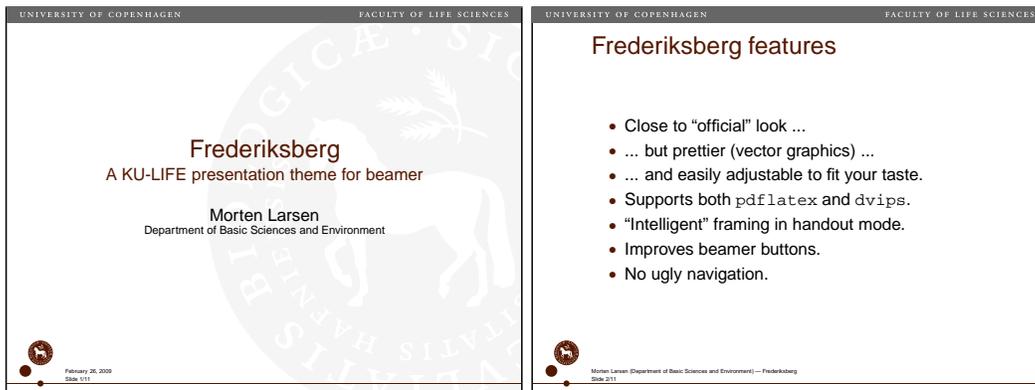


Notice that the logo is now placed in the lower right corner rather than the lower left to keep it more consistent with the placement on the title slide. If you want to move it to the left, simply specify the option `logoplacement=left` (in the same way you can force the logo to the right by specifying `logoplacement=right`).

If for some odd reason you like the “high” footer but dislike the standard title slide, you can do like this:

```
\usetheme[style=simple,footstyle=high]{Frederiksberg}
```

This will give the following result:



Note that the placement of text in the “high” footer is flush left to the margin, independent of where the logo is, while in the “low” footer style the text will be placed opposite the logo and ignore the margin.

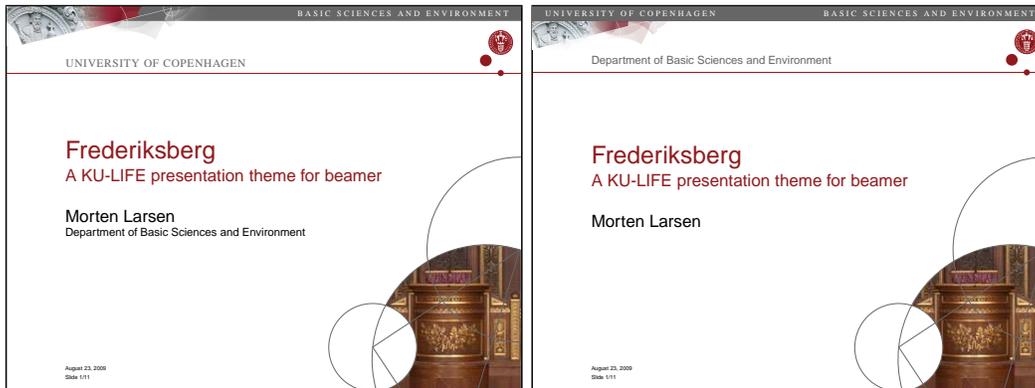
The third overall style is a variant named “alternative”, which differs from the standard style only on the title slide. It moves the faculty name up into the top bar even on the title slide and moves the institute name (department name) up over the logo line to where the faculty name would be with the “standard” style:

```
\usetheme[style=alternative]{Frederiksberg}
```

This will give the following title slide look:

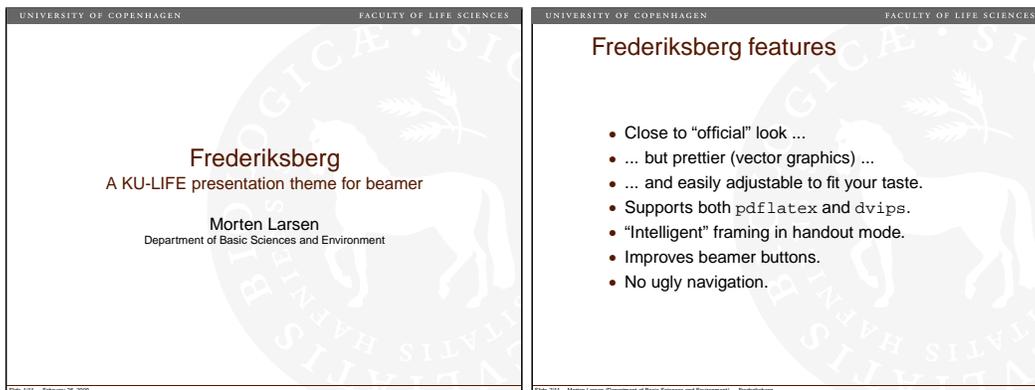


With “ku” as the faculty, the “standard” and “alternative” title slides differ from each other in almost the same way, except that now it is the university name which gets displaced into the top bar by the institute name. Compare the “standard” title slide on the left with the “alternative” title slide on the right:



There is a fourth overall style named “clean”. This is exactly like the “simple” style except it omits the water mark on the title slide. If on the other hand you like the water mark so much that you want it to appear on every slide (except the standard style title slide) you can specify the option `wmark` (it will usually also be a good idea to specify `logoplace=left` as well; the watermark is along the right edge of the slide and putting the logo there as well looks clunky). When water marking is active you can use the command `\KUwmarkOmitOnce` inside a frame to omit the water mark on that frame only (e.g. if it interferes with the slide content).

If you use a water mark you might not want the standard logo to appear at all. If you specify the option `nologo` you will only get the thin, horizontal line, not the sigil and the two dots⁶. With the options `style=simple,wmark,nologo,logoplace=right`⁷ you will get this:



There is a similar option `noline` which omits the horizontal “logo line” from the footer (and you could combine this with `nologo` to have no graphics in the footer, except any logo you define with `\logo`).

A last word about the title slide: You can omit the frame number (and total number of frames) on the title slide by specifying the option `TPomitframeno`. For an even cleaner footer on the title slide you can specify an empty date in the `\date` command (and move the date information to the `\institute` command instead if you just want it to appear higher up on the title slide).

3.2 Changing the images on the title slide

With the `TPlrimage=file`⁸ you can change the image that appears masked by the logo grid in the lower right corner of the standard title slide (and if you are from the Faculty of Science you will most likely want to do that as the image that was chosen for the Powerpoint template has nothing to do with the faculty whatsoever

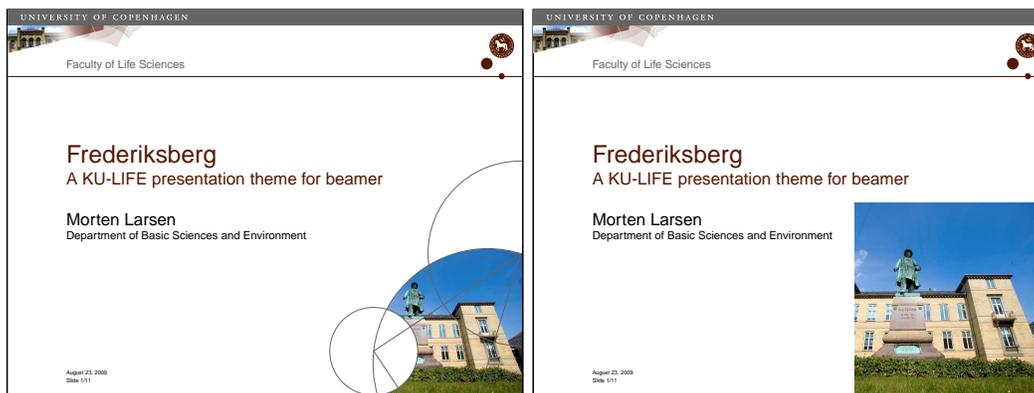
⁶You will still get the logo on the standard title page with `nologo`, use `logotype=none` to get rid of even that (see section 4.1).

⁷ The `logoplace=right` is included to move the footer text to the left – even though there is no logo, its would-be position still governs where the footer text and any graphics set with `\logo` appears.

⁸ You do not need to specify the file name extension (e.g. `.eps`, `.pdf` or `.jpg`).

– it depicts, if I recall correctly, the founding of the university, many years before the Faculty of Science came into being). You will most likely have to experiment with cropping the image you use to get the appearance you want. Specifically the image should be at least as high as it is wide to fill out the “window” in the logo grid and it should be no higher than about 1.3 times its width in order to not extend beyond the mask.

If you do not want to use the mask (e.g. because you have made some fancy graphics yourself) you should use the option `TPrawlrimage=file` instead. Below is shown the result of using `TPlrimage` (left) and `TPrawlrimage` (right) with the same, quadratic image:



If you want to change the upper left image, you can similarly use the option `TPulimage=file`. There is no masking of the upper left image.

If you specify a single dash (or minus) as the file name for any of the image options it means you want no image in that place, e.g. `TPlrimage=-` will produce no image in the lower right corner (not even the logo grid mask).

If you should need control e.g. of the way the images are scaled or rotated there are commands you can use. They are detailed in section 4.3.4.

3.3 More room...

If you need more room for your slide material you can give the option `wide`, which will reduce the space set aside for margins (leaving the margin only just wide enough to contain the faculty logo). You can of course also use one of the main styles using the “low” footer (e.g. `style=simple`) or specify `footstyle=low`.

3.4 The content of the footer

The text in the footer is in *beamer* specified by the document commands which also specify the text on the title slide. The examples so far have used the following:

```
\title{Frederiksberg}
\subtitle{A KU-LIFE presentation theme for beamer}
\author{Morten Larsen}
\institute{Department of Basic Sciences and Environment}
\date{\today}
```

Each of the five commands above (`\title`, `\subtitle`, `\author`, `\institute` and `\date`) can optionally specify a “short” version of its argument. The normal “long” text is what appears on the title slide and the “short” text is what will appear in the footer of all the other slides⁹. An empty short text will completely omit the corresponding information in the footer. E.g. if I did not want the date on every page, I could specify:

```
\date[]{\today}
```

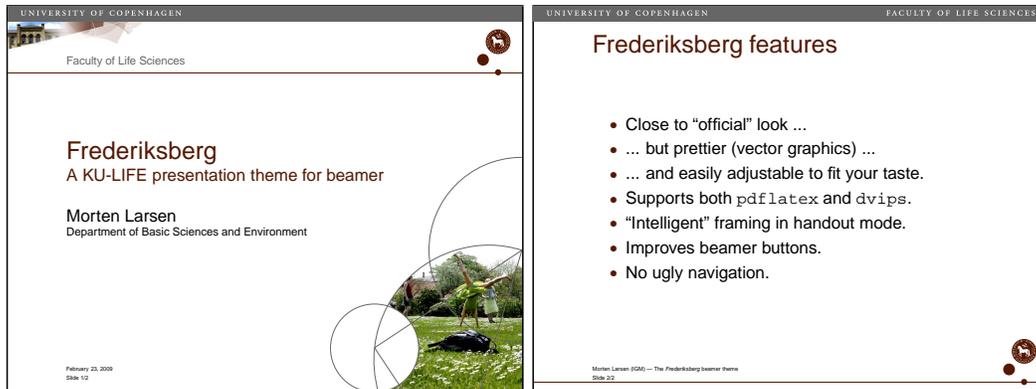
Here is a more complete example and the resulting slides:

⁹ Actually, in *Frederiksberg* the subtitle does not appear in the footer at all, so if you want to include subtitle information there you should specify it as part of the short text for the main title.

```

\title[The \emph{Frederiksberg} beamer theme]{Frederiksberg}
\subtitle{A KU-LIFE presentation theme for beamer}
\author{Morten Larsen}
\institute[IGM]{Department of Basic Sciences and Environment}
\date[]{\today}

```



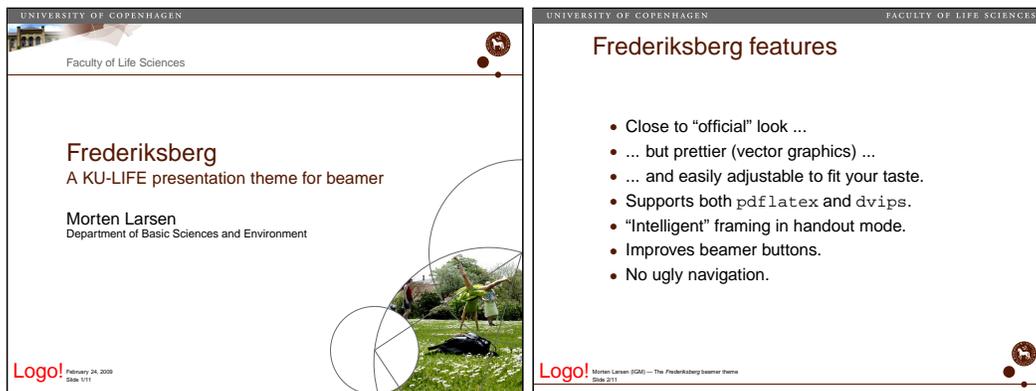
If you do not want the total number of slides to appear in the footer, specify the option `totalframes=hide` to change “Slide x/y ” to just “Slide x ”. If you want to change the label “Slide” (or “Dias” in Danish) before the frame number, specify the option `fno\label=label`, e.g. `fno\label=Page`. You can specify an empty `label` text to get only the number(s).

The footer is also responsible for typesetting the presentation logo, if you define one with the `\logo` command. This logo (which could be a department logo or a logo for a course) is put above the “logo line”, in the opposite side of where the faculty logo is placed. Here is an example of a `\logo` command and its effect:

```

\logo{\color{red}\large Logo!}

```

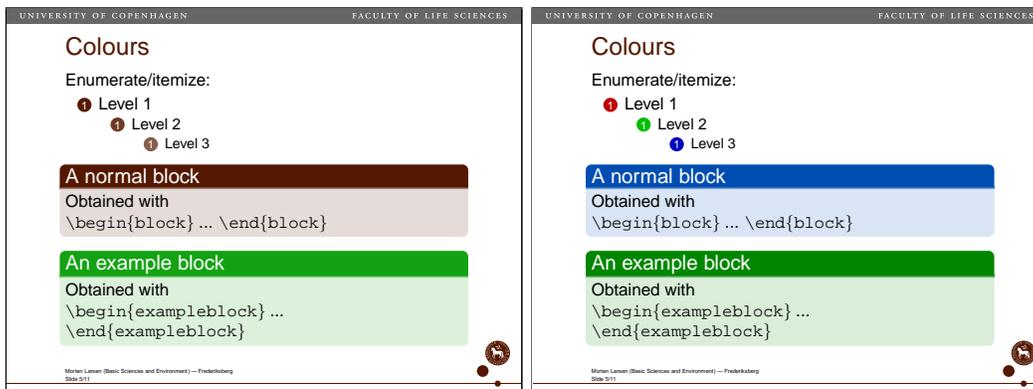


The items of informational text in the footer are by default separated by a long dash (—). You can change this with the `footsep` option: e.g. `footsep={ \cdot }` to get a small centered dot (and spaces) between text items.

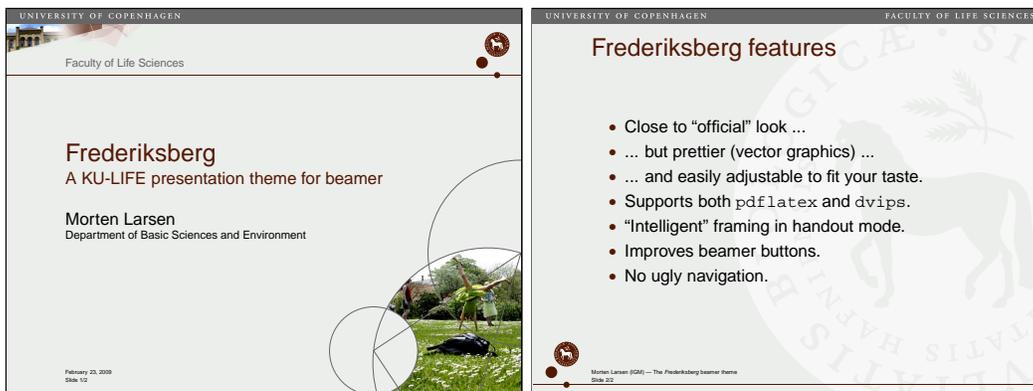
3.5 Colour

The standard colour scheme is to have black text and to use the logo colour for itemised bullets *et cetera*. The “official” template uses the 60% grey of the top bar even for text and bullets. If you want this boring and hard-to-read look you can specify the option `greytext`. This will also change all colours inheriting from the normal text colour such as the text in the footer and the non-coloured text on the title slide. You can (perhaps more sensibly) specify `greyauthor` to just make the author and institute text on the title slide grey. Similarly, if you want to change only the text in the footer to grey (making the small text even harder to read but also making the footer less obtrusive) you can specify the option `greyfoot`.

With the standard colours, enumeration and itemise items and the standard “block” box (and its derivatives) will be shades of the logo colour. At the risk of demonstrating poor taste you can specify the option `colourful` to change this. The two colour schemes are illustrated here, with the standard¹⁰ on the left and the colourful on the right:



If you would like your slides with the grey background from the third slide in the official LIFE Powerpoint template, you can specify the option `greybg`. Note that this will turn off the frame automatically added around each slide in handout mode. Here is what the result will look like with options `greybg, wmark, logoplace=left`:

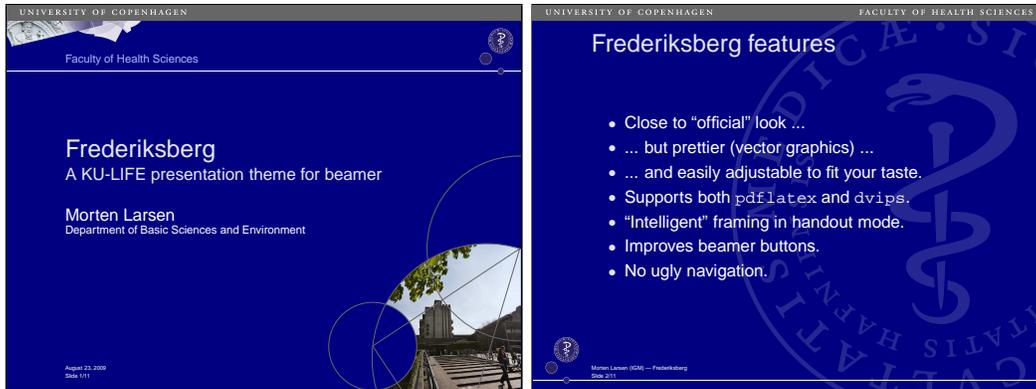


Personally I find the grey background rather dreary looking, so I suggest you never use it...

You can of course adjust all colours individually with the `beamer` command `\setbeamercolor` if you are unhappy with details of the *Frederiksberg* colour scheme. It is even possible to change the colour of the background canvas and *Frederiksberg* will adapt as best it can, e.g. using a clipped version of the upper left image on the title slide and adjusting water mark and logo version if the background is set to some dark colour:

```
\usetheme[sund,wmark,logoplace=left]{Frederiksberg}
\setbeamercolor{background canvas}{bg=blue!50!black}
\setbeamercolor{normal text}{fg=white}
\setbeamercolor{structure}{fg=white!90!blue}
\setbeamercolor{titlepage head}{fg=white!70!blue}
```

¹⁰ The colours shown are the standard colours derived from the LIFE logo colour. They will be different for the other faculties because the logo colour differs.

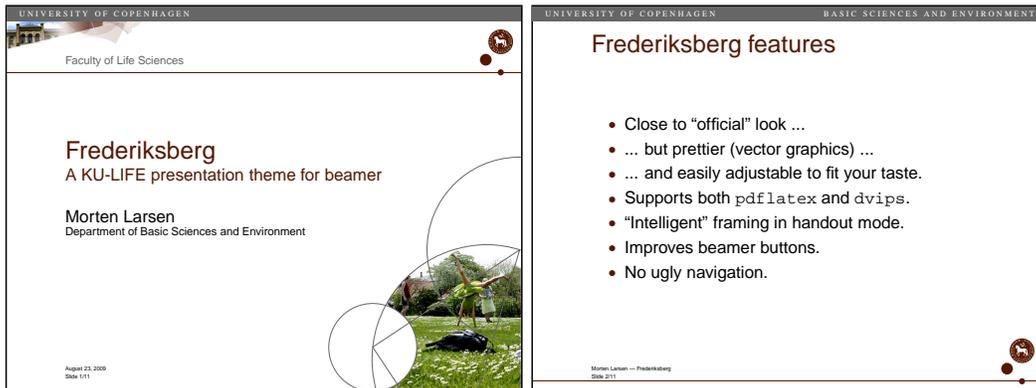


Not that I am suggesting that this particular example is in any way pretty...

3.6 Institute in the top bar

The default grey top bar has the university name to the left and the faculty name on the right (except on the standard title slide where the faculty name has been moved down above the logo line). With the `headstyle=institute` option you make the name specified with `\institute` replace the name of the faculty in the top bar (in fact it is the *short* institute name that will be used). For example:

```
\usetheme[life,headstyle=institute]{Frederiksberg}
\institute[Basic Sciences and Environment]
  {Department of Basic Sciences and Environment}
```



Notice how the long text “Department of ...” appears on the title slide while the shorter text “Basic Sciences ...” appears in the top bar on the subsequent slides. Also note that the institute no longer appears in the footer (as this would be redundant).

The `headstyle=institute` option is automatically selected if you specify the `ku` option for *Frederiksberg* (as there is then no faculty).

If you look closely you will see that the font is no longer the dogma Garamond small caps. The reason for this is that such a font does not come with L^AT_EX (usually). If you are not afraid to experiment with installing extra fonts you can look at the `ugm` option described in section 4.1 to use a Garamond font and move a little closer to KU design Nirvana.

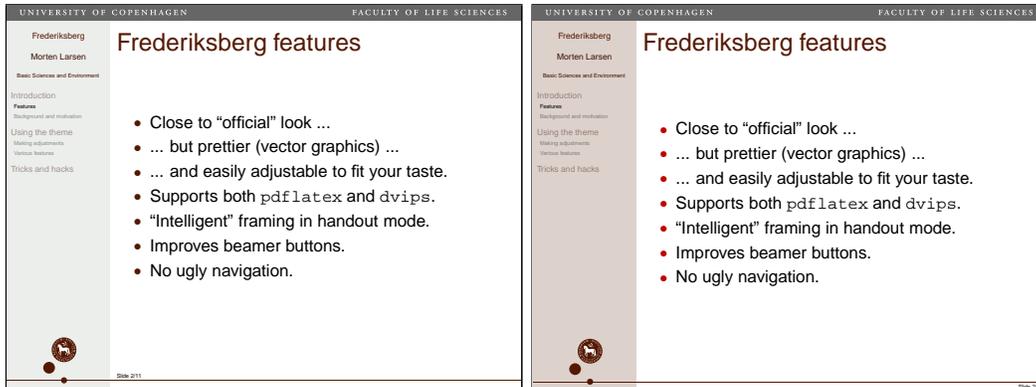
3.7 Navigation symbols

You do not want navigation symbols. They are ugly and unnecessary. Truly, you are better off without that clutter. If you really, really, really insist on having navigation symbols, you can use the option `navsymbols`, which (unless you redefine the navigation symbol commands and/or completely redefines the navigation symbols *beamer* template) will put nicely scaled down navigation symbols in the footer, below the “logo line” (*never* on the title slide though). But you do not really want navigation symbols on your pretty slides, do you? Of course not.

3.8 Sidebar

For a long talk e.g. at a conference you might want a sidebar with navigational information (table of contents) like in some other *beamer* themes. You can get a sidebar with the `sidebar` option, and you can even specify the width, like this: `sidebar=.15\paperwidth` (the default width is 20% of the paper width). Personally I do not care much for a sidebar as it reduces the available space too much, so I have not put much thought into making it pretty (although it does work a lot better with the *Frederiksberg* footer and header than the standard *beamer* sidebar would). As some information normally in the footer now goes into the sidebar, the footer will be changed if you specify a sidebar.

A *Frederiksberg* presentation with sidebar will look like this (the version on the right using the tasteless colourful option as well as `style=simple` to get the compact footer):

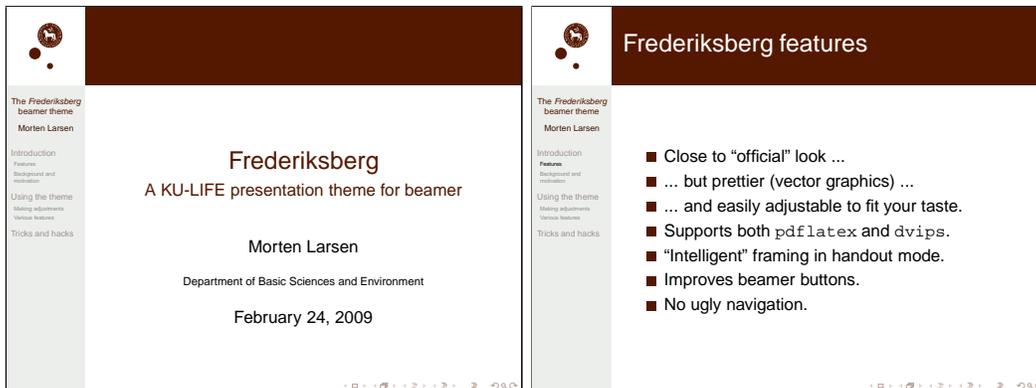


Like other *beamer* themes with sidebar, *Frederiksberg* accepts the options `hideothersubsections` and `hideallsubsections` to modify the behaviour of the sidebar table of contents. Placing the sidebar in the right side is *not* supported – that is just too ugly.

3.9 Rolling your own

Frederiksberg actually consists of a lot of *beamer* theme packages (colour, font, inner and outer themes) which are designed to work well together. In the extremely unlikely event that you cannot get the look you want with the *Frederiksberg* presentation theme (just goes to show how unreasonable you are) you can try to mix and match the component theme packages on your own. The reference section of this manual contains details on all the different packages. Here is an example of a roll-your-own presentation theme using two of them:

```
\usetheme{Berkeley}
\useoutertheme{KUlogo}
\usecolortheme{KUhorse}
```



4 Reference

4.1 Presentation theme Frederiksberg

Usage: `\usetheme[options]{Frederiksberg}`

Options:

<code>unit=unit</code>	Where <i>unit</i> is the shorthand for your KU unit, e.g. IGMmatdat, FOI or biostat. Loads a unit style file tailoring <i>Frederiksberg</i> for your KU unit – if someone has written such a file, that is! See section 5.
<code>course=course</code>	Same as <code>unit</code> , only it sets up <i>Frederiksberg</i> for a specific course you are preparing slides for. Most likely <i>you</i> will have to write the style file doing the actual work, see section 5.
<code>style=style</code>	Where <i>style</i> is one of standard , alternative , simple or clean (default is standard). Chooses the overall style, affecting mainly the footer and the title page (see section 3.1).
<code>dogma</code>	Synonym for <code>greytext,totalframes=hide</code> .
<code>dk</code>	Chooses Danish text in header and footer.
<code>uk</code>	Chooses English text in header and footer (default).
<code>life</code>	The look of the <i>Faculty of Life Sciences</i> (LIFE). This is the default.
<code>nat</code>	The look of the <i>Faculty of Science</i> (NAT).
<code>sund</code>	The look of the <i>Faculty of Health Sciences</i> (SUND).
<code>samf</code>	The look of the <i>Faculty of Social Sciences</i> (SAMF).
<code>ku</code>	The look of the <i>University of Copenhagen</i> (KU), no faculty.
<code>not@ku</code>	You are not from the University of Copenhagen at all! See section 4.2.
<code>footstyle=style</code>	Where <i>style</i> is one of low or high (default depends on main style). Chooses the footer style.
<code>totalframes=style</code>	Where <i>style</i> is one of hide or show (default). Chooses whether to show the total number of frames in the footer.
<code>logoplace=place</code>	Where the faculty or university logo should appear in the footer, either left or right . (default depends on the overall style).
<code>nologo</code>	Omits the faculty/university sigil and logo dots from the footer (only).
<code>noline</code>	Omits the logo line from the footer.
<code>footsep=separator</code>	Sets the separator text (by default a long dash) used between informational items in the footer. You must also specify any space (put it all in curly braces, like this: <code>footsep={ \$\cdot\$ }</code>).
<code>fnolabel=label</code>	Sets the text label before the frame number in the footer (by default either “Slide” or “Dias”, depending on the chosen language). It is possible to specify an empty label to have only the number shown. You must specify any internal space but not the space between the label and the number (put it in curly braces if needed, like this: <code>fnolabel={Slide number}</code>).
<code>headstyle=style</code>	Where <i>style</i> is either faculty or institute . Chooses whether the faculty name or the short institute name should appear in the header bar. The default is faculty , except if the <code>ku</code> option is given.
<code>TPomitframeno</code>	Omit the frame number in the footer on the Title Page .
<code>TPlrimage=file</code>	Specifies the image for the lower right corner of the Title Page , to be masked with the logo grid graphic. <code>TPlrimage=-</code> means “no lower right image”. See section 3.2 and the <code>\KUtitlepageLRimage</code> command in section 4.3.4.
<code>TPrawlrimage=file</code>	Specifies the image for the lower right corner of the Title Page , not to be masked. <code>TPrawlrimage=-</code> means “no lower right image”. See section 3.2 and the <code>\KUtitlepageRawLRimage</code> command in section 4.3.4.
<code>TPulimage=file</code>	Specifies the image for the upper left corner of the Title Page . <code>TPulimage=-</code> means “no upper left image”. See also the <code>\KUtitlepageULimage</code> command in section 4.3.4.

<code>FTalign=<i>alignment</i></code>	Sets the alignment of the Frame Title , with <i>alignment</i> being one of left (default), center or right .
<code>FTbeamer</code>	Specifies that the <i>beamer</i> default Frame Title should be used, with the result that the left margin is ignored (looks really bad with other alignment than left and even then it looks terrible if a sidebar is present).
<code>wide</code>	Use less space for margins, making the main content area wider.
<code>narrow</code>	Use officially sanctioned margins, giving a fairly narrow main content area (default).
<code>sidebar</code>	Gives a (left) sidebar, of the specified width (default width is 20% of the slide width).
<code>sidebar=<i>width</i></code>	
<code>hideothersubsections</code>	Hide subsections except in the current section in the sidebar table of contents (only relevant with sidebar).
<code>hideallsubsections</code>	Hide all subsections in the sidebar table of contents (only relevant with sidebar).
<code>colourful</code>	More colour, less tones of the logo colour and grey...
<code>colorful</code>	Synonym for colourful .
<code>greytext</code>	Make most text (including main content) grey.
<code>graytext</code>	Synonym for greytext .
<code>greyfoot</code>	Make the footer text grey.
<code>grayfoot</code>	Synonym for greyfoot .
<code>greyauthor</code>	Make the author, institute and date on the title slide grey.
<code>grayauthor</code>	Synonym for greyauthor .
<code>greybg</code>	Give your slides a grey background.
<code>graybg</code>	Synonym for greybg .
<code>wmark</code>	Puts a water mark on every slide.
<code>wmarkcolour=<i>colour</i></code>	Defines The colour of the watermark graphic, where <i>colour</i> is either auto (the default), darken , lighten or a colour specification. See the description of the colour option of the outer theme KUwmark for further details (section 4.3.11, page 25).
<code>wmarkcolor=<i>colour</i></code>	Synonym for wmarkcolour .
<code>wmarkvariant=<i>variant</i></code>	Selects which variant of the watermark graphic to use, where <i>variant</i> is either normal , inverse or auto (the default). See the description of the variant option of the outer theme KUwmark for further details (section 4.3.11, page 25).
<code>seriftitles</code>	Set frame and presentation titles with a serif font.
<code>navsymbols</code>	Add navigation symbols in the footer.
<code>noframes</code>	Suppress the automatic framing in handout mode.
<code>logostyle=<i>style</i></code>	Where <i>style</i> is one of normal , outlined , none or auto (default). The style of the logo to use in the footer (and on the standard title page). The outlined version is intended for display on a dark background while the normal version if for a light colour background. With the default auto , the colour of the background determines which version will be used. The value none omits the logo, both in the footer and on the standard style title page.
<code>linestyle=<i>style</i></code>	Where <i>style</i> is one of normal , white , none or auto (default). The style of the logo line in the footer (and on the standard title page). The normal style is a line the same colour as the logo. The white style is for use with the outlined logo. With the default auto , the colour of the background determines which version will be used. The value none is equivalent to the noline option.
<code>ugm</code>	Use the free URW Garamond font in the header bar (only relevant if headstyle has been set to institute). This font is not included in most LaTeX distributions but can be fetched e.g. from CTAN.

Description:

This is the overall presentation theme defining the look of your slides. It will generally be all you need. It uses

(and thus automatically includes) most of the theme packages described in the subsections below, so if you use *Frederiksberg* itself you will usually *not* specify the use of any of those.

Some new colours are defined and can be selected with the `\color` command: `KULIFEbrown`, `KUNATgreen`, `KUSUNDbblue`, `KUSAMForange`, `KUred`, `KUgrey` and `KUBggrey`.

A collection of new L^AT_EX commands are provided by *Frederiksberg*, these are all described in the reference sections for the various sub-themes that follow. Here is however one command only defined if the main presentation theme is used:

`\FrederiksbergVersion` Expands to the version number of *Frederiksberg*, currently “2.2”.

4.2 If you are not from the University of Copenhagen

You are allowed to use *Frederiksberg* even if you are not from the University of Copenhagen (KU). However, you must not use any of the graphical elements associated with the University of Copenhagen. To make it easy for you to switch off all the KU-specific stuff, *Frederiksberg* accepts the package option `not@ku`, which automatically disables all the package options and defaults which are only relevant for KU, and also allows you to change the text appearing in the top bar.

With the following in your preamble:

```
\usetheme[not@ku={My University}]{Frederiksberg}
\institute{My Short Institute}{My Long Institute}
\logo{\color{red}\large Logo!}
```

you will get something like this:



Notice how the basic overall colour scheme is now a tasteful green – see the list of options below for how to change this. You can use the `TPImage` to insert an image in the lower right corner (and/or to insert one in the upper left), but you will of course not get the KU logo grid graphic.

While `not@ku` turns off a lot of KU-specific options (see further below), it also turns on some options to control the colours not settable by normal *beamer* commands:

Options:

<code>not@ku={your organization}</code>	The text you give as argument goes into the top bar, left side.
<code>basecolour=colour</code>	Sets the colour which is the base for the overall colour theme, determining e.g. the title colour and the colour of the “logo line” in the footer (the base colour is the faculty logo colour if you are from KU). The default is a dark green. You can specify any L ^A T _E X colour name, e.g. “pink”. You can of course also define your own colour and give its name here.
<code>basecolor=colour</code>	Synonym for <code>basecolour</code> .
<code>topbarcolour=colour</code>	The background colour for the top bar. Defaults to green.
<code>topbarcolor=colour</code>	Synonym for <code>topbarcolour</code> .
<code>toptextcolour=colour</code>	The foreground colour for the top text. Defaults to white.
<code>toptextcolor=colour</code>	Synonym for <code>toptextcolour</code> .

The options which are unavailable with `not@ku` are those for selecting KU faculty as well as those related to logo style and water marks. Also turned off are `dogma` and `headstyle`. Finally, the main style `standard` is actually the same as `alternative` and the main style `simple` is actually the same as `clean`.

4.3 Theme packages used in *Frederiksberg*

These are the *beamer* theme packages that are combined to form the *Frederiksberg* presentation theme – thus if you use *Frederiksberg* you will *not* need to use any of these. If on the other hand you are unhappy with elements of *Frederiksberg* but find other elements useful you can try to mix selected packages of those described below with standard *beamer* theme packages or your own template definitions.

4.3.1 Presentation theme KUsetup

Usage: `\usetheme[options]{KUsetup}`

Options:

<code>dk</code>	Chooses Danish text in header and footer.
<code>uk</code>	Chooses English text in header and footer (default).
<code>life</code>	The look of the <i>Faculty of Life Sciences</i> (LIFE). This is the default.
<code>nat</code>	The look of the <i>Faculty of Science</i> (NAT).
<code>sund</code>	The look of the <i>Faculty of Health Sciences</i> (SUND).
<code>samf</code>	The look of the <i>Faculty of Social Sciences</i> (SAMF).
<code>ku</code>	The look of the <i>University of Copenhagen</i> (KU), no faculty.

Description:

This is the theme you must use to change the faculty and/or language if you do not use the main presentation theme.

The following commands are defined by the theme:

`\KUlanguagelanguage` Use to change the language of text elements; allowed values are `dk` and `uk`.

`\KUfacultyfaculty` Use between frames to change the faculty. (Yes, you can do that! I guess it is mostly useful if you are presenting *Frederiksberg* itself...). Permitted values are `life`, `nat`, `sund`, `samf` and `ku`.

4.3.2 Colour theme KUhorse

Beamer colour themes are traditionally named after animals and of course the KU-LIFE animal has to be a horse. I prepended KU to the name in case someone else has already defined a “horse” colour theme.

Usage: `\usecolortheme[options]{KUhorse}`

Options:

<code>colourful</code>	More colour, less tones of the logo colour and grey...
<code>colorful</code>	Synonym for <code>colourful</code> .
<code>greytext</code>	Make most text (including main content) grey.
<code>graytext</code>	Synonym for <code>greytext</code> .
<code>greyfoot</code>	Make the footer text grey.
<code>grayfoot</code>	Synonym for <code>greyfoot</code> .
<code>greyauthor</code>	Make the author, institute and date on the title slide grey.
<code>grayauthor</code>	Synonym for <code>greyauthor</code> .
<code>greybg</code>	Give your slides a grey background.
<code>graybg</code>	Synonym for <code>greybg</code> .

Description:

Defines the colours of most things (at least everything used by the *Frederiksberg* presentation theme). Could possibly be used together with some of *beamer*'s pre-defined presentation themes (e.g. "Berkeley").

Some new colours will be defined¹¹ and can be selected with the `\color` command: `KULIFEbrown`, `KUNATgreen`, `KUSUNDbrown`, `KUSAMForange`, `KUred`, `KUgrey` and `KUbggrey`.

4.3.3 Font theme KU

Usage: `\usefonttheme[options]{KU}`

Options:

<code>seriftitles</code>	Set frame and presentation titles with a serif font.
--------------------------	--

4.3.4 Inner theme KUtitlepage

Usage: `\useinnertheme[options]{KUtitlepage}`

Options:

<code>style=style</code>	Where <i>style</i> is one of <code>standard</code> , <code>alternative</code> , <code>simple</code> or <code>clean</code> (default is <code>standard</code>). Chooses the title slide style, see section 3.1.
<code>omitframeno</code>	Omit the frame number in the footer on the title slide.
<code>lrimage=file</code>	Specifies the image for the lower right corner of the title page, to be masked with the logo grid graphic. See section 3.2 and the <code>\KUtitlepageLRimage</code> command below.
<code>rawlrimage=file</code>	Specifies the image for the lower right corner, not to be masked. See section 3.2 and the <code>\KUtitlepageRawLRimage</code> command below.
<code>ulimage=file</code>	Specifies the image for the upper left corner. See also the <code>\KUtitlepageULimage</code> command below.

The options `headstyle`, `ugm`, `logostyle`, `logoline`, `wmarkcolour/wmarkcolor` and `wmarkvariant` are also available, see section 4.1 for descriptions.

Description:

Defines three *beamer* title page templates ("KU standard", "KU simple" and "KU clean") and selects the one chosen by the `style` option (the `style=alternative` option selects the "KU standard" template but makes it behave slightly differently).

The title slide templates (which are invoked by the `\titlepage` command in *beamer*) are designed to be typeset in a "plain" frame but will detect and adjust for a normal frame (this means no fancy graphics).

The outer theme `cleanplain` is automatically included by the title slide theme in order to remove the default *beamer* navigation symbols on plain frames which conflicts with the standard title slide graphics.

¹¹ Actually these colours are defined almost no matter which of the KU theme packages you import.

The following commands are defined to change the look of the title page:

`\KUtitlepagestyle{style}` Use to change the title page style; permitted values are as for the `style` option above.

`\KUtitlepageLRimage{file}` Sets the lower right image (masked) just like the `limage` option above.

`\KUtitlepageLRimage*{id}{file}` The starred version permits specification of the *id* used to identify the image internally. Use this only if the file name contains strange characters which give rise to an error message.

`\KUtitlepageRawLRimage[options]{file}` Sets the lower right image (not masked) like the `rawlimage` option above, but furthermore allows options to be passed to the image import command (`\pgfdeclareimage`, which generally accepts the same options as `\includeimage`). This means you can scale or rotate the image, *et cetera*.

`\KUtitlepageRawLRimage*[options]{id}{file}` Like the starred version of `\KUtitlepageLRimage` above.

`\KUtitlepageULimage[options]{id}` Like `\KUtitlepageRawLRimage`, but for the upper left image.

`\KUtitlepageULimage*[options]{id}{file}`

`\KUtitlepageULimage*[options]{id}{file}` Like the starred version of `\KUtitlepageLRimage` above.

The theme also defines and uses a new beamer colour, “titlepage head”, which is used for the colour of the text above the logo line on the standard title page (typically the faculty name). You can of course change it with `\setbeamercolor`.

4.3.5 Outer theme KUfoot

Usage: `\useoutertheme[options]{KUfoot}`

Options:

<code>style=<i>style</i></code>	Where <i>style</i> is one of <code>low</code> or <code>high</code> . Chooses the footer style to set, default is <code>low</code> .
<code>sep=<i>separator</i></code>	Sets the separator text (by default a long dash) used between informational items in the footer. You must also specify any space (put it all in curly braces, like this: <code>sep={ \$\cdot\$ }</code>).
<code>fnolabel=<i>label</i></code>	Sets the text label before the frame number in the footer (by default either “Slide” or “Dias”, depending on the chosen language). It is possible to specify an empty label to have only the number shown. You must specify any internal space but not the space between the label and the number (put the label in curly braces if needed, like this: <code>fnolabel={Slide number}</code>).
<code>keeprightsidebar</code>	Instructs the theme to leave the right sidebar <i>beamer</i> template alone (if set to something relevant already). By default the <code>KUfoot</code> theme will define an empty right sidebar to override <i>beamer</i> ’s default, which will otherwise typeset navigational symbols which most likely collide with the footer.

The options `nologo`, `noline`, `logoplace`, `logostyle`, `logoline`, and `totalframes` are also available, see section 4.1 for descriptions.

Description:

Defines and sets the *beamer* footline template “KU”.

In order for the footline to “play nice” with the other components of the *Frederiksberg* presentation theme, a few commands are defined to alter the contents of the footline on the current frame:

`\KUfootOnTitlePage` Use in a frame to signal that this is a title slide and the alternate (reduced) form of the footer should be used.

`\KUfootOmitLogos` Use in a frame to signal that the faculty logo as well as any presentation logo set by the `\logo` command should be omitted for this frame. Could be useful if the logo(s) interfere(s) with the slide content.

`\KUfootOmitLine` Use in a frame to signal that the horizontal thin “logo line” should be omitted for this frame. Could be useful if the line interferes with the slide content.

`\KUfootOmitFrameNo` Use in a frame to signal that the frame number should be omitted for this frame (a feature used e.g. by the `\ghostframe` command of the `MLHacks` inner theme).

Further commands are defined which allows changing footline style and other aspects normally set with the package options:

`\KUfootstyle{style}` Use (outside frames) to change the footline style (see the description of the `style` option above for possible values).

`\KUfootsep{separator text}` Use (outside frames) to change the footline separator, corresponding to the `sep` option above.

`\KUfootfnolabel{label text}` Use (outside frames) to change the footline frame number label, corresponding to the `fnolabel` option above.

`\KUlogoplace{place}` Use (outside frames) to change the placement of the faculty logo to be either `left` or `right`, see the description of the `logoplace` option in section 4.1.

`\KUlogostyle{style}` Use (outside frames) to change the faculty logo style (see the description of the `logostyle` option in section 4.1).

`\KUlogoline{style}` Use (outside frames) to change the logo line style (see the description of the `logoline` option in section 4.1).

4.3.6 Outer theme KUhead

Usage: `\useoutertheme[options]{KUhead}`

Options:

`style=style` Where *style* is either `faculty` or `institute`. Chooses whether the faculty name or the short institute name should appear in the header bar. The default is `faculty`.

`ugm` Use the free URW Garamond font in the header bar (only relevant if `style` has been set to `institute`). This font is not included in most L^AT_EX distributions but can be fetched e.g. from CTAN.

Description:

Defines and sets the *beamer* headline template “KU” (the grey top bar).

Two commands are provided to change the look of the header on the fly:

`\KUheadstyle{style}` Use (outside frames) to change the header style (see the description of the `style` option above for possible values).

`\KUheadfont{font}` Use (outside frames) to change the font used when the header style has been set to `institute`. Possible values are `ugm`, corresponding to the `ugm` option above, and `standard`, which means a small caps version of the standard text font will be used.

4.3.7 Outer theme KUframetitle

Usage: `\useoutertheme[options]{KUframetitle}`

Options:

- | | |
|-------------------------------------|--|
| <code>align=<i>alignment</i></code> | Sets the alignment of the frame title, with <i>alignment</i> being one of <code>left</code> (default), <code>center</code> or <code>right</code> . |
| <code>beamer</code> | Specifies that the <i>beamer</i> default frame title should be used, with the result that the left margin is ignored (looks really bad with other alignment than <code>left</code> and even then it looks terrible if a sidebar is present). |

Description:

If `beamer` is specified, the *beamer* default frametitle template will be used, with the specified alignment. Otherwise a new frametitle template named “KU” will be defined and set, with the specified alignment. Note that both the default and KU frametitle templates takes the alignment as an optional argument and have `left` as the default alignment.

4.3.8 Outer theme KUmargins

Usage: `\useoutertheme[options]{KUmargins}`

Options:

- | | |
|---------------------|---|
| <code>wide</code> | Use less space for margins, making the main content area wider (so it is not the margins which are “wide”, it is the content area). |
| <code>narrow</code> | Use officially sanctioned margins, giving a fairly narrow main content area (default). |

Description:

Just sets the margins. Right and left margins are always the same. With `wide` content area, margins are each 8% of the frame width, with `narrow` content area they are 11.38% of the frame width (which is what I measured the margins in the official template to be).

4.3.9 Outer theme KUsidebar

Usage: `\useoutertheme[options]{KUsidebar}`

Options:

- | | |
|-----------------------------------|--|
| <code>width=<i>width</i></code> | Specifies the sidebar width, the default being 20% of the slide width. |
| <code>hideothersubsections</code> | Hide subsections except in the current section in the sidebar table of contents. |
| <code>hideallsubsections</code> | Hide all subsections in the sidebar table of contents. |

Description:

Defines and sets “KU” *beamer* templates for the (left) sidebar and all the sidebar elements. Text margins are set to 5 points (both left and right). The KU sidebar has slightly more information in its head than the standard *beamer* sidebar and its background colour extends down into the footer area all the way to the bottom of the frame (so it works well with a footline with transparent background, unlike the default *beamer* sidebar).

4.3.10 Outer theme KUnavsymbols

Usage: `\useoutertheme{KUnavsymbols}`

Description:

Defines a command `\KU@navsymbols` which the footer(s) defined by the `KUfoot` outer theme will check for and (if present) use to draw navigation symbols. Thus unless used together with the KU footers this theme will have no visible effect on your presentation.

The theme uses the outer theme `scalenavigationsymbols` to enable scaling the default *beamer* navigation symbols to 70% original size. This scaling will still work if the *beamer* template “navigation symbols” is redefined in terms of the standard *beamer* navigation symbol commands (e.g. `\insertslidenavigationsymbol`), so you can use this theme *and* redefine the navigation symbols template within reason.

4.3.11 Outer theme KUwmark

Usage: `\useoutertheme[options]{KUwmark}`

Options:

<code>colour=colour</code>	Defines the colour of the watermark graphic, where <i>colour</i> is either <code>auto</code> , <code>darken</code> , <code>lighten</code> or a colour specification in the syntax used by the <i>xcolor</i> package (and thus by <i>beamer</i>), e.g. <code>colour=white!95!KULIFEbrown</code> . The default is <code>colour=auto</code> , which will select either <code>darken</code> or <code>lighten</code> depending on the colour of the background canvas. The colour names <code>bg</code> and <code>fg</code> can be used to refer to be background and foreground colour of the background canvas, e.g. <code>colour=bg!95!blue</code> will mix the canvas background (i.e. slide background) with 5% blue; a specification like this will mean that if you change the background colour during your presentation (setting the beamer colour “background canvas”) the water mark colour will adapt! The value <code>darken</code> means the background colour mixed with 4% black and the value <code>lighten</code> means the background colour mixed with 15% white.
<code>color=colour</code>	Synonym for <code>colour</code> .
<code>variant=variant</code>	Selects which variant of the watermark graphic to use, where <i>variant</i> is either <code>normal</code> , <code>inverse</code> or <code>auto</code> (the default). The <code>normal</code> variant is intended for a water mark darker than the background while the <code>inverse</code> (outlined) variant is for a water mark lighter than the background. With <code>variant=auto</code> the appropriate variant will be selected.
<code>defonly</code>	Only define the new background canvas; do not select it.

Description:

Defines (and sets, unless option `defonly` is given) the *beamer* background canvas template “KU wmark”, which puts a water mark on every slide.

A command is provided to omit the water mark on the current frame (e.g. if it interferes with some graphic):

`\KUwmarkOmitOnce` Use in a frame to signal that the frame should not have a water mark.

Commands are also provided to change the colour and variant of the water mark on the fly:

`\KUwmarkcolor{colour}` Use (outside frames) to change the water mark colour (see the description of the `colour` option above for possible values).

`\KUwmarkcolour{colour}` A synonym for `\KUwmarkcolor`.

`\KUwmarkvariant{variant}` Use (outside frames) to change the water mark variant (see the description of the `variant` option above for possible values).

4.3.12 Outer theme KUlogo

This theme is *not* used by the *Frederiksberg* presentation theme but is provided for those who wish to roll their own.

Usage: `\useoutertheme{KUlogo}`

Description:

Includes the graphics file(s) needed to draw the faculty or university logo (sigil and two dots) and uses this in the *beamer* `\logo` command to define the logo for the presentation. Thus you can include this theme if you just want to use the logo in your presentation. The logo graphics are designed so that they are defined only once and re-used whenever needed and therefore you get a nice, compact PDF file. You need to specify faculty and (possibly) logo style as options to the `KUsetup` *beamer* theme (or use the commands provided by that theme).

A command is also defined to insert the logo in text:

```
\KUlogo
```

4.4 Generally useful theme packages

These theme packages for *beamer* have been developed for *Frederiksberg* but are generally useful and not only applicable to KU-LIFE presentations. They are all included by *Frederiksberg*, so you automatically get their features if you use *Frederiksberg* for your presentation.

4.4.1 Outer theme framehandouts

Usage: `\useoutertheme[options]{framehandouts}`

Options:

<code>mode=mode</code>	If mode is force (the default), slides will always be framed in handout mode. If mode is smart , slides will only be framed if the background colour specified for the <i>beamer</i> background canvas is either transparent (none) or white .
------------------------	---

Description:

Draws a frame around each slide in handout mode, to make borders visible when multiple slides are typeset on one handout page, e.g. using the `psnup` program or the `pgfpages` L^AT_EX package.

The package works by adding code to the *beamer* background canvas template at the start of the document, so if the background canvas template is changed after your `\begin{document}` you will lose the frames.

4.4.2 Outer theme cleanplain

Usage: `\useoutertheme{cleanplain}`

Description:

Removes the navigation symbols put on “plain” frames by *beamer*. Works by redefining an internal page style command.

4.4.3 Outer theme scalenavigationsymbols

This theme is included by the outer theme `KUnavsymbols` and hence by *Frederiksberg* if given the option `navsymbols`.

Usage: `\useoutertheme[options]{scalenavigationsymbols}`

Options:

<code>beamerdocnav</code>	Keep the default <i>beamer</i> document navigation symbol (which in my opinion lacks arrows). Otherwise arrows will be added to this symbol in the version used when no appendix is present.
<code>xscale=scale</code>	Set the default horizontal symbol scaling factor to <i>scale</i> (default is 1).
<code>yscale=scale</code>	Set the default vertical symbol scaling factor to <i>scale</i> (default is 1).
<code>scale=scale</code>	Same as <code>xscale=scale,yscale=scale</code> .

Description:

This package allows scaling of the *beamer* defined navigation symbols. The scaling to use can be set when loading the package and/or changed along the way using the `\scalenavigationsymbols` command:

`\scalenavigationsymbols{scale}`

Scales navigation symbols by the factor *scale* (1 giving the default *beamer* size). The command has an optional first argument – by using the two-argument form `\scalenavigationsymbols[xscale]{yscale}` the horizontal and vertical scaling can be specified independently.

The package works by redefining the standard *beamer* navigation symbol commands `\insertlidenavigationssymbol`, `\insertframenavigationssymbol`, `\insertsubsectionnavigationssymbol`, `\insertsectionnavigationssymbol`, `\insertdocnavigationssymbol` and `\insertbackfindforwardnavigationssymbol`. Thus as long as you keep the default *beamer* navigation symbols template or redefine the template in only terms of these commands (e.g. to reduce the number of navigation symbols or alter their order), scaling will still work.

4.4.4 Inner theme scaledbuttons

This theme is included by *Frederiksberg* to produce prettier buttons.

Background:

Now that I had developed code that allowed scaling the *beamer* navigation symbols it was easy to implement code to scale the symbols on the *beamer* navigation buttons (inserted by the *beamer* commands `\beamergetobutton`, `\beamer skipbutton` and `\beamerreturnbutton`). When I tested this it turned out that the *beamer* button template (used to typeset buttons) always produces buttons of fixed height, no matter what the “content”. This not only makes scaling the symbols look odd, it also means that increasing the size of the button font makes buttons very ugly! Compare the buttons in the frame below:

Repairing the *beamer* buttons

Compare the default *beamer* buttons with those provided by inner theme *scaledbuttons*:

New look	Original <i>beamer</i>
Default button font	
Normal button ▶ Goto button ▶▶ Skip button ◀ Return button	Normal button ▶ Goto button ▶▶ Skip button ◀ Return button
Larger button font	
Normal button ▶ Goto button ▶▶ Skip button ◀ Return button	Normal button ▶ Goto button ▶▶ Skip button ◀ Return button

The *scaledbuttons* inner theme “repairs” the *beamer* button code to handle non-standard font size and button content *and* allows scaling of the navigation button symbols.

Usage: `\useinnertheme[options]{scaledbuttons}`

Options:

<code>xscale=scale</code>	Set the default horizontal symbol scaling factor to <i>scale</i> (default is <code>auto</code>).
<code>yscale=scale</code>	Set the default vertical symbol scaling factor to <i>scale</i> (default is <code>auto</code>).
<code>scale=scale</code>	Same as <code>xscale=scale,yscale=scale</code> .
<code>autofactor=factor</code>	Set the scaling factor used to scale symbols when the scale is <code>auto</code> . A factor of 1 will produce symbols of the same size as the <i>beamer</i> default if the <i>beamer</i> button font has “standard” size. The default for this option is 1.22, producing slightly larger symbols on the navigation buttons than the <i>beamer</i> default.

Description:

The package does two things:

1. It repairs the *beamer* button code to make buttons fit around their actual content rather than relying on a fixed height. This is done by defining and setting a new *beamer* button template named “scaled”.
2. It allows scaling of the graphical navigation button symbols. By default, symbols will be auto-scaled to fit the button font, but it is also possible to define a numerical scaling factor to use, with scale 1 yielding the *beamer* default sized symbols. When symbols are auto-scaled it is possible to change their scaling factor relative to the button font.

The scaling to use for navigation button symbols can be set when loading the package and/or changed along the way using the `\scalebuttonssymbols` command:

`\scalebuttonssymbols{scale}`

Scales navigation button symbols by the factor *scale* (1 giving the default *beamer* size). The special value `auto` will scale symbols relative to the button font, using the `auto-factor` settable with the `\buttonssymbolsautofactor` command or the `autofactor` package option. The command has an optional first argument – by using the two-argument form `\scalebuttonssymbols[xscale]{yscale}` the horizontal and vertical scaling can be specified independently.

`\buttonssymbolsautofactor{factor}`

Sets the numerical factor to use for `auto` symbol scaling, the value 1 yielding the *beamer* standard size at standard button font size. The initial value can be set by the `autofactor` package option (default value 1.22).

The symbol scaling works by redefining the standard *beamer* navigation button symbol commands `\insertgotosymbol`, `\insertskipsymbol` and `\insertreturnsymbol`. The commands `\beamergetobutton`, `\beamerkipbutton` and `\beamerreturnbutton` are also redefined to allow proper vertical alignment of symbols and button text.

4.4.5 Inner theme compacttoc

This inner theme is not used by *Frederiksberg* at all but is provided as a service for those who (like the author) tend to have too many subsections in their talks.

Usage: `\useinnertheme{compacttoc}`

Description:

Makes the table of contents inserted by `\tableofcontents` more compact (vertically), especially when subsections are omitted. Default *beamer* inserts a large, ugly vertical space between sections in the table of contents when the subsections are hidden and this means you cannot have more than 6–7 subsections.

CAVEAT: Removing this space requires redefining an internal *beamer* command, so the next version of *beamer* could break this theme (and *vice versa*).

Also selects a smaller font for subsections in the table of contents.

NOTE: If you need to have a compact table of contents you should also locally set `\parskip` to zero.

4.5 Bonus: Inner theme MLHacks

The inner theme MLHacks is not a *beamer* theme package as such and is not included by *Frederiksberg*. It contains the definition of a couple of L^AT_EX commands that can be useful in *beamer* presentations. I have chosen to make this an “inner theme” rather than a normal L^AT_EX package because it does not make sense to use it outside of a *beamer* presentation.

Usage: `\useinnertheme{MLHacks}`

4.5.1 Ghost frames

Some of my colleagues like to insert table-of-contents slides at the beginning of each section to show the progress through the talk. They wish to omit these pages in handout mode (makes sense) and dislike the “holes” in the frame number sequence which are the result. It is easy to avoid holes in the frame number sequence by just setting the frame counter back by one for each such frame – but that introduces the problem that in the presentation these extra frames will be shown with a non-valid frame number. Since *Frederiksberg* supports omitting the frame number on a slide this problem can be overcome in *Frederiksberg* presentations. The MLHacks command `\ghostframe` will do the necessary counter manipulation and, if *Frederiksberg* footers are used, will suppress the frame number. Thus my colleagues can write something like the following to achieve the “anonymous” extra progress frames:

```
\AtBeginSection[]
{
  \begin{frame}<beamer>
  \frametitle{Overview}
  \tableofcontents[currentsection,hideothersubsections]
  \ghostframe
  \end{frame}
}
```

4.5.2 References to enumeration items

In your *beamer* presentation you might want to reference an enumeration item in the slide text, e.g. “... as follows from item 2 above...”. Here it would be nice to have “item 2” replaced by “2” typeset as the item label in the enumeration itself (i.e. as a bullet or square or whatever is dictated by the theme in use). The MLHacks command `\enumref` allows this. The basic usage would be like this:

```
... as follows from \enumref{2} above ...
```

If the referenced item is not at the first level of enumeration you can write like this:

```
... as follows from \enumref{4.2} above ...
```

With some themes (such as the default inner theme) a reference like that will be typeset as the (possibly coloured) text “4.2” while with some themes (such as circles or rectangles) only the text “2” (properly typeset) will appear. If you use such a theme and would like to have the reference shown as “4” followed by “2” (both properly typeset as labels) then use the starred version of the command, like this:

```
... as follows from \enumref*{4.2} above ...
```

This would however result in “4.4.2” with the default inner theme, so use with care...

Maybe useful in strange cases, it is possible with an optional argument to specify which “level” enumeration item the reference should be typeset as:

... as follows from `\enumref[subsub]{3}` above ...

This will get “3” typeset as an enumeration subsubitem label.

The `\enumref` command (like *beamer*) supports up to three levels of enumeration.

4.5.3 Multiple lines of “date” information

If you want to put multiple lines in your `\date` you will normally have to wrap it in a `\parbox`. Multiple lines of “date” text will look bad in the *Frederiksberg* footers, *except* on the standard (or alternative) style title page. If you use a simple `\parbox` to put multiple lines in the “long date” used on the title page and have one line in the “short date” used on other slides, the height of the footer will unfortunately be computed wrong (and the footer will look strange except on the title page). The command `\multilinedate` is provided to get around this specific problem (I can’t imagine it being useful for anything else). Use it like this:

```
\date[short date text]{\multilinedate{%
  The conference \\
  The location \\
  The date
}}
```

4.6 Other files

The *Frederiksberg* package comes with some files in addition to the `.sty`-files that make up the packages described so far. These extra files are briefly described here for completeness:

`KUcommon.sty` – Responsible for loading the resources needed by the different theme packages (and doing so only once).

`MLsupportoldpgf.sty` – Makes it possible to use selected graphical commands from the version of the `pgf` package that comes with *beamer* 3.07 with the version that comes with *beamer* 3.01.

`*.pro` – Prologue files needed by `dvips`.

`*.eps` – Graphics files used with `dvips`.

`*.pdf`, `*.jpg` – Graphics files used with `pdflatex`.

5 Units (and courses)

Maybe your department has its own Powerpoint template for presentations (typically a variant of the faculty template with the image on the title slide changed and possibly with the department name rather than the faculty name in the header). You can most probably duplicate the look by lifting the image out of the Powerpoint template (and possibly cropping it) and then giving the appropriate options to *Frederiksberg*. Now that you have done that, you probably want to share with your L^AT_EX- and *beamer*-using colleagues. You can of course send them your files and your document preamble with the relevant options. It is better, however, to put all that information into a *Frederiksberg unit package* that can be installed the same way you install *Frederiksberg* and then put it on your department intranet for download or (even better) send it to the *Frederiksberg* author so that he can put it up for download together with *Frederiksberg* itself ¹² Maybe you are so lucky that one of your colleagues has beat you to it and already created a unit package for your department or KU unit. In this case, all you have to do is to install the package and then give the proper `unit` option when you load *Frederiksberg*:

¹²In this way it can serve as inspiration for others who wish to create *Frederiksberg* unit packages and furthermore the *Frederiksberg* author will ensure that your package will still work with future versions of *Frederiksberg*.

```
\usetheme[unit=biostat]{Frederiksberg}
```

(if your unit is called `biostat`).

At the time of writing there are three unit packages available from the *Frederiksberg* website: `IGMmatdat` (the *Frederiksberg* author's group), `FOI` (the *Institute of Food and Resource Economics* at LIFE) and `biostat` (the *Department of Biostatistics* at SUND). If you wonder why these three units have been singled out, take a look in the acknowledgements...

5.1 Creating unit packages

A *Frederiksberg* unit package for unit *X* consists of a file named `FrederiksbergUnitX.sty` and possibly some support files (typically images). The proper place for these files is the subdirectory *X* under the `units` subdirectory under the main *Frederiksberg* directory.¹³

There is a `FrederiksbergUnittemplate.sty` file which explains how to write the main style file. You can also take a look at the existing unit packages for inspiration. When you create images, consider that you need two versions of each image; a `.eps` version for the `dvips` users and a `.jpg` or `.pdf` version for `pdflatex` users. I do not recommend `.png` for use with `pdflatex` because in my experience the transparency (alpha channel) of PNG can cause some versions of Acrobat Reader to display all the colours wrong on the page with the image (this is most likely a bug in Acrobat Reader).

When your *X* directory contains the needed files, all you have to do is create a `.zip` and/or a `.tgz` archive with your unit package. Create it from the `texmf` directory to get the “full” paths (so it may be unpacked the same way you unpack the main *Frederiksberg* package).

5.2 Course packages

You can set up a *course package* with the look for the lectures for a specific course and then activate it with the `course` option when you load *Frederiksberg*. This works exactly the same way as a unit package, only the file that is loaded is named `FrederiksbergCourseX.sty`.

A course look is probably only of interest to yourself and perhaps a couple of colleagues teaching the same course, so course packages will not be made available for download with *Frederiksberg* – you can probably figure out how to share with the relevant people on your own.

¹³...`texmf/tex/latex/beamer/Frederiksberg`, where the ... is where you unpacked *Frederiksberg*.

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