

# Creating Beamer presentations in *Scientific WorkPlace* and *Scientific Word*

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# What is Beamer?

- Beamer is a  $\text{\LaTeX}$  document class that produces presentations and transparency slides.
- Beamer presentations feature
  - PDF $\text{\LaTeX}$  output.
  - Global and local control of layout, color, and fonts.
  - List items that can appear one at a time.
  - Overlays and dynamic transitions between slides.
  - Standard  $\text{\LaTeX}$  constructs.
  - Typeset text, mathematics like this  $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ , and graphics.



# Basic tasks in creating a Beamer presentation

- 1 Start a new document with the Slides - Beamer shell in the Other Documents shell directory.
- 2 Choose a presentation theme to define the appearance of the presentation.
- 3 Create a frame for each slide in the presentation.
- 4 Organize information in lists and columns.
- 5 Create transitions between frames.
- 6 Add graphics and animations.
- 7 Typeset the presentation with PDF $\LaTeX$ .

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- Sample any of the themes by adding the command `\usetheme{themename}` to the preamble of this document, replacing any existing `\usetheme` command.

# Using presentation themes

## Themes without navigation bars

- **Default:** a professional, no-nonsense theme
- **Bergen:** divides the frame into vertical boxes
- **Boadilla:** gives much information in little space
- **Madrid:** similar to Boadilla but with fancier item icons
- **Pittsburgh:** professional, with right-flush titles
- **Rochester:** a professional theme with a horizontal header panel

# Using presentation themes

Themes that display a tree-like navigation bar

- **Antibes**: a theme with a strong appearance, with a navigation bar at the top
- **JuanLesPins**: a smoother, rounder version of Antibes
- **Montpellier**: professional, with basic navigational hints at the bottom

# Using presentation themes

## Themes with a table of contents sidebar

- **Berkeley**: a professional theme with a with a horizontal header panel
- **PaloAlto**: a less forceful form of Berkeley
- **Goettingen**: with a full table of contents on the right and no header panel
- **Marburg**: a very strong variation of Goettingen
- **Hannover**: TOC sidebar on the left balances right-flush titles

# Using presentation themes

Themes with a mini-frame navigation bar

- **Berlin:** a theme with strong rectangular areas and a navigation bar at the top
- **Ilmenau:** a variation of Berlin
- **Dresden:** a variation of Ilmenau
- **Darmstadt:** similar to Dresden with rounded theorem boxes and icons
- **Frankfurt:** like Darmstadt but without subsection information
- **Singapore:** a softer appearance; divides headings from text with shading
- **Szeged:** softer, with strong horizontal lines

# Using presentation themes

## Themes with section and subsection tables

- **Copenhagen**: shows current section and subsection at top, title and author at bottom; no shadows
- **Luebeck**: a boxier variation of Copenhagen
- **Malmoe**: a more professional variation of Copenhagen
- **Warsaw**: a variation of Copenhagen, with a strong appearance

# Using outer and inner themes

Instead of using complete presentation themes, you can define presentation elements separately.

- Use **Outer themes** to define the overall frame layout, borders, headers, sidebars, footers, and navigation bars.
- Use **Inner themes** to define the appearance of title pages, lists, blocks of text, theorems and proofs, figures, tables, footnotes, and bibliography entries.
- For full information, see [TCITeX/TeX/LaTeX/contrib/beamer/doc/beameruserguide.pdf](http://TCITeX/TeX/LaTeX/contrib/beamer/doc/beameruserguide.pdf) provided as part of the downloaded support.

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- Apply the `Frame title` and `Frame subtitle` text tags to the titles.

# Working with lists

- Use lists to organize information on slides.
- Types of lists:
  - Standard numbered and bulleted lists
  - Step lists
  - Alert step lists

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- Each fragment controls the transition from the frame that precedes it to the frame that contains it.
- This sample presentation uses the Box Out transition.

- Because specifying color for individual elements is complex, use Beamer *color themes* to define the use of all color in a presentation:
  - **Default color theme** has black text, white background, blue structural elements, alerts in red, examples in dark green.
  - **Complete color themes** specify all colors for all parts of a frame. Available color themes: albatross, beetle, crane, dove, fly, seagull, wolverine, beaver.
  - **Special purpose color theme** defines colors for sidebars.
  - **Inner color themes** define colors for inner elements. Named for flowers.
  - **Outer color themes** define colors for outer elements. Named for sea animals.
- This presentation uses the default color theme.
- To use a different color theme, add the command `\usecolortheme{colorthemename}` to the preamble, replacing any existing `\usecolortheme` command.

- Beamer *font themes* define the use of fonts in a presentation:
  - **Default** font theme uses a sans serif font in various sizes.
  - **Serif** uses a serif font in various sizes.
  - **Professional** suppresses Beamer font control in favor of installed fonts.
  - **Structurebold**, **structureitalicserif**, and **structuresmallcapserif** change the font used for structural elements such as headers, footers, and sidebars.
- This presentation uses the default font scheme.
- To use a different font theme, add the command `\usefonttheme{fontthemename}` to the preamble of your document, replacing any existing `\usefonttheme` command.

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- To begin later columns, apply and revise the `Column` fragment.
- Columns can contain inline graphics and movies.
- To end the last column, apply the `EndColumns` fragment.

# Adding graphics

- Frames can contain graphics  and movies.
- Columns provide support for laying out graphics and text:



## Theorem

*A picture is worth 1000 words.*

## Proof.

Look to the left.

# Embedding animations

- Beamer presentations can include graphics and animations:

## Theorem

*An animation is worth  
1,000,000 words.*

## Proof.

Click to the left.

Click me!

This slide shows an AVI file of an animated plot generated in *SWP* and exported from *VCAM*.

# Setting class options

Use class options to

- Set the base font size for the presentation.
- Set text alignment.
- Set equation numbering.
- Set print quality.
- Format displayed equations.
- Create a presentation, handout, or set of transparencies.
- Hide or display notes.

# Setting class options

## Notes

- This sample document is originally supplied with the notes class option set to Show.
- This frame contains a note so that you can test the notes options.
- To see the note, scroll to the next frame

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Here is a Beamer note.

# Learn more about Beamer

- This sample document, the Slides - Beamer shell, and the associated fragments provide basic support for Beamer in *SWP* and *SW*.
- The current support is a beta version.
- For complete information, read the Beamer User Guide (a .pdf file):  
See TCITeX/TeX/LaTeX/contrib/beamer/doc/beameruserguide.pdf  
in your program installation.
- For support, contact **support@mackichan.com**.