



Introduction to Beamer Presentation

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Outline

- About overleaf
- Beamer slides in overleaf
 - Title page
 - Table of contents
 - Adding text
 - Adding math expression
 - Adding pictures
 - Adding tables

OVERLEAF

Overleaf



- LaTeX
 - a high quality typesetting system that facilitates the production of well-formatted document
- Overleaf
 - a collaborative cloud-based LaTeX editor used for writing, editing and publishing scientific documents

The image is a composite of three parts related to Overleaf:

- Left:** The registration page, featuring a 'Register' heading, input fields for 'Email' and 'Password', a green 'Register using your email' button, and options to register using Google or ORCID.
- Middle:** The 'New Project' dropdown menu, listing options such as 'Blank Project', 'Example Project', 'Upload Project', 'Import from GitHub', and various 'Templates' like 'Academic Journal', 'Book', 'Formal Letter', etc.
- Right:** A screenshot of the Overleaf v2 editor interface. It shows a LaTeX source code editor on the left with a file explorer containing 'main.tex', 'references.bib', and 'universe.jpg'. The main editor area displays the LaTeX code for a document titled 'Some Random Project on Overleaf v2 using \LaTeXe'. The right pane shows the rendered PDF output, which includes the title, author information, an 'Introduction' section with a paragraph and a figure of a galaxy, and a 'Conclusion' section.

Useful links

- Documentation:
 - <https://www.overleaf.com/learn>
- Beamer Presentations Tutorial:
 - <https://www.overleaf.com/learn/latex/Beamer>
 - [https://www.overleaf.com/learn/latex/Beamer_Presentations%3A_A_Tutorial_for_Beginners_\(Part_1\)%E2%80%94Getting_Started](https://www.overleaf.com/learn/latex/Beamer_Presentations%3A_A_Tutorial_for_Beginners_(Part_1)%E2%80%94Getting_Started)
- Templates:
 - <https://www.overleaf.com/gallery/tagged/presentation>

TIME TO MAKE SLIDES!

Title page

An example of the beamer package (Copy)

Menu
Review
Share
Submit
History
Chat

Source Rich Text

```

1 \documentclass{beamer}
2 \usetheme{Madrid}
3 \usecolortheme{default}
4 %-----
5 \title[About Beamer] %optional
6 {Introduction to Beamer Presentation}
7
8 \subtitle{Part 1: The Basics}
9
10 \author[R. Li] % (optional)
11 {Ruiyang Li \inst{1} \and Name2 \inst{2}}
12
13 \institute[Columbia University] % (optional)
14 {
15   \inst{1}%
16   Department of Biostatistics\
17   Columbia University
18   \and
19   \inst{2}%
20   Info
21 }
22
23 \date[Computing Club 2022] % (optional)
24 {Computing Club, April 2022}
25
26 \logo{\includegraphics[height=1cm]{overleaf-logo}}
27 %-----
28 \begin{document}
29 \frame{\titlepage}
30 %ADD SLIDES IN HERE
31 \end{document}

```

Beamer slideshow

Define info in title page

Creates title page

What's next

Table of contents

An example of the beamer package (Copy)

Menu | Source | Rich Text | Recompile

```
27 %-----
28 \begin{document}
29 \frame{\titlepage}
30 %
31 \begin{frame}
32 \frametitle{Table of Contents}
33 \tableofcontents
34 \end{frame}
35 %-----
36 \AtBeginSection[]
37 {
38 \begin{frame}
39 \frametitle{Table of Contents}
40 \tableofcontents[currentsection]
41 \end{frame}
42 }
43 %-----
44 \section{Adding text}
45 \begin{frame}\end{frame}
46 \begin{frame}\end{frame}
47
48
49
50
51
52
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54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72 %-----
73 \section{Adding math expression}
74
75
76
77
78
79
80
81
82
83 \section{Adding figures}
84
85
86
87
88
89
90
91
92 \section{Adding tables}
93
94
95
96
97
98
99 %-----
100 \end{document}
101
```

Table of Contents

- 1 Adding text
- 2 Adding math expression
- 3 Adding figures
- 4 Adding tables

R. Li (Columbia University) | About Beamer | Computing Club 2022 | 2 / 11

Adding text

An example of the beamer package (Copy)

Menu ↑ Source Rich Text Ω Recompile

```
45 %-----  
46 \section{Adding text}  
47  
48 \begin{frame}  
49 \frametitle{\LaTeX \ Basics}  
50 Here are some examples of \emph{italicized text}, \textbf{bold text},  
51 \underline{underlined text}, \textbf{\emph{bold italicized text}}, and  
52 \textcolor{orange}{colored text}.  
53 \end{frame}  
54 \begin{frame}  
55 \frametitle{Text with lists}  
56 Example bulleted list  
57 \begin{itemize}  
58 \item some text xxx  
59 \item some text yyy  
60 \begin{itemize}  
61 \item some nested text zzz  
62 \end{itemize}  
63 \end{itemize}  
64 \vspace{5mm}  
65 Example numbered list  
66 \begin{enumerate}  
67 \item some text 111  
68 \item some text 222  
69 \begin{enumerate}  
70 \item some nested text 333  
71 \end{enumerate}  
72 \end{enumerate}  
73 \end{frame}
```

File outline: fig.png, fig2.png, fig3.png, main.tex, overleaf-logo.pdf

Slide 4: **LaTeX Basics**
Here are some examples of *italicized text*, **bold text**, underlined text, ***bold italicized text***, and colored text.

Slide 5: **Text with lists**
Example bulleted list

- some text xxx
- some text yyy
 - some nested text zzz

Example numbered list

- 1 some text 111
- 2 some text 222
 - 1 some nested text 333

Adding text (cont'd)

The screenshot shows the Overleaf Beamer presentation editor interface. The top navigation bar includes 'Menu', 'Review', 'Share', 'Submit', 'History', and 'Chat'. The main editor area is split into two panes: 'Source' and 'Rich Text'. The 'Source' pane shows LaTeX code for a Beamer slide, with a pink box highlighting the `\begin{description}` block. The 'Rich Text' pane shows the rendered output of the code, titled 'Definitions', which includes the text 'Variable description:' followed by three items: 'CASE_COUNT', 'HOSPITALIZED_COUNT', and 'DEATH_COUNT', each with its corresponding description.

```

71
72 \begin{frame}
73 \frametitle{Definitions}
74 Variable description:
75 \vspace{3mm}
76 \begin{description}
77 \item[CASE\_COUNT] Count of confirmed cases citywide
78 \item[HOSPITALIZED\_COUNT] Count of confirmed HOSPITALIZED
  citywide
79 \item[DEATH\_COUNT] Count of confirmed deaths citywide
80 \end{description}
81 \end{frame}
82
83
84
85
86
87
88
89
  
```

Definitions

Variable description:

CASE_COUNT Count of confirmed cases citywide

HOSPITALIZED_COUNT Count of confirmed HOSPITALIZED citywide

DEATH_COUNT Count of confirmed deaths citywide

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Adding math expression

Menu ↑ An example of the beamer package (Copy) Review Share Submit History Chat

Source Rich Text Ω Recompile

main.tex
overleaf-logo.pdf

```

71
72 %-----
73 \section{Adding math expression}
74
75 \begin{frame}
76 \frametitle{In-line Math and Equations}
77 For a random sample  $X_1, \dots, X_n \sim N(\mu, 1)$ , the likelihood function is
78 given by
79  $L(\mu \mid \mathbf{X})$ 
80  $= \prod_{i=1}^n \frac{1}{\sqrt{2\pi}} \exp\left(-\frac{(X_i - \mu)^2}{2}\right)$ 
81  $\]$ 
82 \end{frame}
83
84
85
86
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89
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91
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101
102

```

Table of Contents

- 1 Adding text
- 2 Adding math expression
- 3 Adding figures
- 4 Adding tables

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In-line Math and Equations

For a random sample $X_1, \dots, X_n \sim N(\mu, 1)$, the likelihood function is given by

$$L(\mu \mid \mathbf{X}) = \prod_{i=1}^n \frac{1}{\sqrt{2\pi}} \exp\left(-\frac{(X_i - \mu)^2}{2}\right)$$

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Adding figures

Menu ↑ An example of the beamer package (Copy) Review Share Submit History Chat

Source Rich Text Ω Recompile

109 %-----

110 \section{Adding figures}

111 \begin{frame}

112 \frametitle{Example Figure 1}

113 \begin{figure}

114 \includegraphics[scale=0.5]{fig.png}

115 \caption{Spaghetti plot by site}

116 \end{figure}

117 add text here

118 \end{frame}

119

120 \begin{frame}

121 \frametitle{Example Figure 2}

122 \begin{columns}

123 \column{0.5\textwidth}

124 \includegraphics[scale=0.35]{fig2.png} \\

125 \includegraphics[scale=0.35]{fig3.png}

126 \column{0.3\textwidth}

127 add text here \\

128 interpretation line 1 \\

129 interpretation line 2 \\

130 interpretation line 3 \\

131 interpretation line 4 \\

132 \end{columns}

133 \end{frame}

134

135

136

137

138

Example Figure 1



Figure: Spaghetti plot by site

add text here

Example Figure 2



add text here

interpretation line 1

interpretation line 2

interpretation line 3

interpretation line 4

Adding tables

An example of the beamer package (Copy)

Menu ↑ Review Share Submit History Chat

Source Rich Text Ω Recompile

```

135 %-----
136 \section{Adding tables}
137
138 \begin{frame}{Example Table}
139 \begin{table}
140 \caption{Descriptive Statistics}
141 \begin{tabular}{l c c c}
142 \hline
143 & Group 1, N = 36 & Group 2, N = 26 & P-value \\
144 \hline
145 Age & 41 (7) & 42 (7) & 0.4 \\
146 Gender & & & 0.008 \\
147 \ \ \ Male & 26 (72\%) & 10 (38\%) & \\
148 \ \ \ Female & 10 (28\%) & 16 (62\%) & \\
149 \hline
150 \footnotetext[1]{n (\%); Mean (Standard Deviation)}
151 \end{tabular}
152 \end{table}
153 \end{frame}
154
155
156 %-----
157 \end{document}

```

4 Adding tables

R. Li (Columbia University) About Beamer Computing Club 2022 12/13

Example Table

Table: Descriptive Statistics

	Group 1, N = 36	Group 2, N = 26	P-value
Age	41 (7)	42 (7)	0.4
Gender			0.008
Male	26 (72%)	10 (38%)	
Female	10 (28%)	16 (62%)	

¹n (%); Mean (Standard Deviation)

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Basics that we've covered

- Title page
- Table of contents
- Adding
 - Text
 - Math
 - Figures
 - Tables

THANKS FOR LISTENING!