An introduction to the BEAMER class

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SCHOOL OF MATHEMATICAL AND STATISTICAL SCIENCES
• Transparencies – out of fashion
Presentation tools

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- PowerPoint (texpoint ?) – may have to use this if collaborating with others.
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- Latex – you may already have your paper written ...
  - slide class
  - Prosper
  - **Beamer**
Main Features

± Created like any other LaTeX document.
+ The final output is a PDF file – easy to share. Uses \textit{pdflatex}.
+ Structure: section, subsection, and table of contents.
+ Easy to create overlays and dynamic effects.
+ Themes allow you to change the appearance of your presentation.
+ Layout, colors, and fonts can easily be changed globally.
Help!

- Ask Renate to install Beamer (if not installed in your computer)
- There is a well written User’s Guide (200 pages)
- There is also info on the department’s website.
- The internet ...
- May look for a solution template (beamer/solutions/conference-talks/)
\begin{frame} \frametitle{Help!}
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Creating a simple frame with overlay

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More overlay specifications

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\begin{frame} \frametitle{The Hybrid method: A simple example} 
\begin{center} 
\includegraphics<1>[height=6cm]{intro1.pdf} 
\includegraphics<2>[height=6cm]{intro2.pdf} 
\includegraphics<3>[height=6cm]{intro3.pdf} 
\includegraphics<4>[height=6cm]{intro4.pdf} 
\end{center} 
\end{frame}
The Hybrid method: A simple example
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The Hybrid method: A simple example
Four figures in one frame
Accuracy depends on the analyticity of the product $uw$.

**Theorem (Tadmor 1986)**

Complex plane:

$$|f(z)| \leq M(\eta)$$

$f$ is analytic inside the strip of width $2\eta$

The error in a Fourier approximation of $f$ is bounded by

$$\frac{M(\eta)}{\sinh(\eta)} \exp(-N\eta)$$
|w(z)| < 10 if

|\Im z| \leq \eta = \pm \pi \left( \frac{\ln 10}{40} \right)^{1/(2\lambda)} \sin \left( \frac{\pi}{4\lambda} \right) \rightarrow \frac{\pi^2}{4\lambda} + O\left(1/\lambda^2\right)

\frac{M(\eta)}{\sinh(\eta)} \exp(-N\eta) \rightarrow \frac{40\lambda}{\pi^2} \exp\left(-\pi^2N/(4\lambda)\right)

Choosing $-\pi^2N/(4\lambda) < -30$ leads to $\lambda = \pi^2N/120 \approx 0.08N$. 
Note: Movies currently won’t play in Linux.