My talk

my name, my collaborators, my advisor
my department
my university

this project was funded by ...
location & date of presentation
key points for presentations

• organization
• appearance
• preparation
• presentation
• formatting

Based largely on an example from Prof. Mankey for PH491/591
organization

• Outline

• Introduction
  - context for the topic
  - impact/implications of the work
  - who, what, hows of previous work

• Main Body
  - organization logical & flows well
  - emphasize key assumptions, results, implications

• Summary
  - what is the conclusion
  - impacts and implications
  - need for future work?
appearance

- brief phrases & keywords for reinforcement
  - only a few complete sentences on each slide
  - never just have a graph and no explanation
  - don’t read the text verbatim!
- Use the PH255 template
  - no fonts below 16 point
  - can you read it from the back of the room?
  - no more than 3 font colors
- don’t put too much on the page
- forget tables
  - graph or histogram if possible
preparation

• make sure you can use the equipment
  - fumbling is embarrassing, distracting, inefficient
• make sure image is focused and fills the screen
  - if we can’t read it, what’s the point?
• test the slide show before presenting
• practice (even if you’re alone) - have the words ready!
• make sure fonts & graphics are readably sized
presentation

• know your audience’s level
  - avoid or explain jargon
• don’t block the screen
  - be aware of your surroundings
• talk to the audience
  - don’t face the screen
• don’t striptease your slides
  - it frustrates the audience
presentation (cont)

• vary the amplitude of your voice, no monotone
• reinforce / repeat the particularly important points
  - make sure they know what is most important
• develop a narrative which builds expectation for your results
• make eye contact with all parts of the audience
• don’t fidget
• entertain the audience
formatting

• use a single file with the slides in the correct order

• use a template and stick to it - uniformity!

• make it readable in handout form (6 slides per page)
  – minimum 16 or 18 point, typically
  – scale graphics accordingly

• put graphs/pictures in an image format (JPEG)
  – object-linked embedding may fail on another PC ...

• enter page titles using the slide layout to make a table of contents automatic

• with your permission, presentations will be put on the PH255 web site
picture guidelines

- avoid drag & drop
- object embedding may fail on other PCs
- PDF/TIFF may fail too
- save graphs as images & import
- resolution 300~600dpi
- resize images in a picture editor, not powerpoint
- font/color consistency with slides
- caption + reference...

PH255 electrical transport setup (photo: P. LeClair)
graphs

Histogram and Gaussian fit

- \( x_c = 75.46 \pm 0.12 \) (68%)
- \( \sigma = 8.48 \)
- \( N = 5120 \)

- ~300 dpi (or ~6x6 in)
- fonts:
  - title ~36pt
  - axes titles ~32
  - legend ~28
- import as picture
- units on axes if relevant
- legend
- same fonts everywhere
- symbol size/line thickness!
- watch the color combos
- Excel defaults are terrible
equations

• use the equation editor! don’t fake it with a text box!

• under Size / Define change font sizes as follows:

  - Full: 24 Point.
  - Subscript/Superscript: 14 Point.
  - Sub-subscript/Superscript: 10 Point.
  - Symbol: 36 Point.
  - Sub-Symbol: 24 Point.

  • resizing affects formatting and makes some formulae unreadable
  • even better: use a LaTex-based program like TexPoint ....

\[ \nabla \cdot \vec{F} = \frac{\partial F_x}{\partial x} + \frac{\partial F_y}{\partial y} + \frac{\partial F_z}{\partial z} \]

\[ \nabla \cdot \vec{j} = -\frac{d\rho}{dt} \]
more on equations

- they won’t print/display correctly if they use special fonts installed only on your computer

- To eliminate this problem, edit your equation in a Microsoft Word document, save the Word document as an html file into a dummy directory, and the equation will be saved as ImageNNN.gif in the dummy directory where NNN is an equation number assigned by the Word program. Then use ‘insert picture’

- even better: TexPoint or similar (e.g., LaTeXIt for the mac)
  - (downside: learning LaTeX markup. upside: beautiful.)

- use the font settings from equation formatting to make it the right size
explanatory text

• make it self-contained: people reading the slides afterward should understand

• still, no lengthy sentences.

• questions to answer:
  – what is the experiment?
  – what did you expect?
  – did you get it?
  – what does it tell you

• PROOFREAD and spell check
slide titles

• keep it short - 7 words or less
• make it a phrase
• will be in the table of contents when exported to HTML for PH255 site
• use terminology that will produce hits on search engines
presentation content

- all presentations have title, introduction, main body, and conclusion slides
- outline the presentation before you start
  - saves time, keeps you organized
- limit the content to ~3 main points: don’t overwhelm
- introduction: state the problem and method of approach
- main body: what you did, how you did it
- conclusion: restate problem, how you contributed to solution
- conclusion can include future work/outstanding problems
miscellanea

• animations & transitions are really, really unlikely to help. they distract, mostly.
• exotic backgrounds don’t help either.
• clean & crisp
• scientists are not above valuing pretty
• cite published background work
• emphasize your unique contributions
• you cannot practice too many times
  – have the words ready, eliminate pauses
• you cannot proofread too many times
miscellanea

- make title slides informative
- *summarize* relationships - no long derivations
- make assumptions clear
- identify all symbols, try to tell what symbols & equations *mean*
- always present some raw data as well as processed data
- always compare to a model
- report uncertainty in results (e.g., \( x = y.\bar{y} \pm z.\bar{z} \)) and compare to known values ... how many standard deviations away are you?
- describe how errors are determined