Introduction to Biophysics Seminar
MBP 1015Y

with some dos and don’ts!

DON’T: have a boring title slide

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Department of Medical Biophysics
University of Toronto

New! Submit and vote for questions on
sli.do: #MBPdowntown

Please pick up evaluation forms to evaluate this talk and James Hawley’s talk.
Goals

Practical experience in oral presentation of your scientific research

DO: cite ALL external artifacts you use in your slides

https://www.flickr.com/photos/garethjmsaunders/748083829/
Goals

Broad knowledge of research throughout the Department of Medical Biophysics

DO: use author names whenever possible

Virtanen C et al.

http://medbio.utoronto.ca/sites/all/themes/nexus/images/front_banner.png
# Schedule

<table>
<thead>
<tr>
<th>Student year</th>
<th>Presentation length</th>
<th>Evaluation by</th>
<th>Graded</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>25 min + 5 min</td>
<td>Faculty</td>
<td>–</td>
</tr>
<tr>
<td>2 (PhD)</td>
<td>25 min + 5 min</td>
<td>Faculty</td>
<td>+</td>
</tr>
<tr>
<td>2 (MSc)</td>
<td>25 min + 5 min</td>
<td>Faculty</td>
<td>+</td>
</tr>
<tr>
<td>1</td>
<td>17 min + 3 min</td>
<td>Year 5+ students</td>
<td>–</td>
</tr>
</tbody>
</table>
Grading

• Required attendance every semester
• Required critique of Year 1 students in Year 5+
• Stick around after your talk for feedback
• Grading based on 2nd seminar

• Please send feedback on grading scheme to michael.hoffman@utoronto.ca
Presentation goals

- inspire
- educate
- entertain

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https://leanpub.com/universities/courses/jhu/cbds-communication
Outline your presentation:

tell a story

Introduction

Middle
  - Topic 1
  - Topic 2
  - Topic 3

Conclusion
Aims

• Aim 1
  ▪ Most of the work I’ve done so far
  ▪ Really almost everything is in “Aim 1”
  ▪ All of our interesting results are really on this aim

• Aim 2
  ▪ Very little

• Aim 3
  ▪ Almost nothing
Aims

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  ▪ Very little

• Aim 3
  ▪ Almost nothing

NOT A COHERENT STORY!

Present the science, not the project!
On your slides...

- Limit number of ideas
- Limit words
- Include references directly on slides
Choose good fonts

This is not very easy to read

This is much easier to read

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https://leanpub.com/universities/courses/jhu/cbds-communication
Use large text

This is not very easy to read

This is much easier to read

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Use large images
• Speak clearly
• Express excitement
• Silence is OK
• Be yourself!
"Parents’ height affects a child’s height."

"Here, we have parent’s height along the x-axis and the child’s height along the y-axis. Each point represents a different child. We can see from the scatterplot that there is a positive relationship between parents’ height and their child's height."
Introduction:
- Why you did this analysis
- Question being answered

Middle:
- Highlight necessary parts
- Limit details

Conclusion:
- Emphasize take-home message

Lots of time and effort can be focused on the introduction and background information!
Introduction & Background
- Details on background material
- Full explanation of question and why conducting project

Results
- Limited discussion of approach
- Focused presentation of results

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https://leanpub.com/universities/courses/jhu/cbds-communication
Each slide was assigned a category. Each category is a different color.

**Key**
- Q = Question
- 0 = Outline
- BG = Background
- T = Teaching
- A = Approach
- R = Results
- C = Conclusion

https://leanpub.com/universities/courses/jhu/cbds-communication
The width of the rectangle is proportional to the number of slides.
The beginning of the talk is quite focused on background information.
The middle of the talk does a lot of explaining the approach and teaching the audience.
Results are presented but *not* in great detail.
A motivating question can help tell your story and explain why the work was necessary.

Coming back to that question and answering it throughout your presentation completes the story.

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[Source](https://leanpub.com/universities/courses/jhu/cbds-communication)
Using an outline and referring to it throughout the talk can help the audience

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>24%</td>
<td>10%</td>
<td>51%</td>
<td>10% 5%</td>
</tr>
<tr>
<td>Question (Q)</td>
<td>O</td>
<td>Q</td>
<td>BG</td>
<td>O</td>
</tr>
<tr>
<td>Background (BG)</td>
<td>R</td>
<td>BG</td>
<td>Teaching (T)</td>
<td>A</td>
</tr>
<tr>
<td>BG</td>
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<td>Approach (A)</td>
<td>T</td>
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<tr>
<td>Teaching (T)</td>
<td>A</td>
<td>T</td>
<td>Results (R)</td>
<td>C</td>
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<tr>
<td>Approach (A)</td>
<td>T</td>
<td>R</td>
<td>BG</td>
<td>R</td>
</tr>
<tr>
<td>Results (R)</td>
<td>C</td>
<td></td>
<td>BG</td>
<td>C</td>
</tr>
</tbody>
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30% of the slides were dedicated to background information.
~65% of the slides were background or teaching.
Other common suggestions

• Cite on slide any material you borrow
• **Include on the slide ONLY the things you’ll explain**
• Present actual data (not bar plots + error bars)
• Label axes on ALL plots. Include scale bars on ALL images
• Show some enthusiasm. Exhibit “sparkle”
Dynamite plots

Dynamite plots: blow them up

The Datasaurus Dozen

X Mean: 54.2659224
Y Mean: 47.8313999
X SD : 16.7649829
Y SD : 26.9342120
Corr. : -0.0642526

Practicing

- Improves explanations
- Calms nerves
- Ensures you’re within the time limit

https://leanpub.com/universities/courses/jhu/cbds-communication
Preparation and time management

Dull talks at conferences can feel interminable. Or could it be that they really do go on for longer?

I investigated this idea at a meeting where speakers were given 12-minute slots. I sat in on 50 talks for which I recorded the start and end time. I decided whether the talk was boring after 4 minutes, long before it became apparent whether the speaker would run overtime. The 34 interesting talks lasted, on average, a punctual 11 minutes and 42 seconds. The 16 boring ones dragged on for 13 minutes and 12 seconds (thereby wasting a statistically significant 1.5 min; t-test, \( t = 2.91, P = 0.007 \)). For every 70 seconds that a speaker droned on, the odds that their talk had been boring doubled. For the audience, this is exciting news. Boring talks that seem interminable actually do go on for longer.
- Roll with the punches
- Have an extra copy of your slides
- Bring any adapters and laser pointers you may need
- Silence your phone

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Questions after talks

• Feel free to raise your hand when others are talking
• We’ll nod at you to indicate that you’re in the queue
• Usual priority of questions
  1. Students
  2. Other faculty
  3. Michael

DON'T: distract your audience and use up your space with template junk
Electronic questions pilot 2019–2020

- sli.do #MBPdowntown
- If you want to be anonymous, put “Student” or “Faculty” as your name
- Vote for questions
- During pilot: only when Michael is running the seminar
Questions

- Repeat the question back to the audience
- Take a moment to think
- It’s ok to say “I don’t know”
DON’T: wave your laser pointer around
Deadlines

• **16 August 2019:** Seminar titles to Daphne
  You can change your title later. Don’t overthink it

• **Thursday before your presentation:** email abstract to Daphne

• **6 January 2020:** location survey and seminar titles for 1st year students. *(You can change your title later. Don’t overthink it.)*

• **4 February 2020:** 1st year seminars begin

Daphne Sears <daphne.sears@utoronto.ca>
What is your preferred seminar location? *

- Downtown
- Sunnybrook
- Maximize topic diversity
“It is expected that MBP students attend all student seminars. In years where a student is required to present (usually years 1 and 2 of the student's MBP graduate studies, and year 4 if they are a PhD student), the student is required to be available for any assigned presentation date unless they are on a department-approved leave of absence. In years 5 or above the student is required to be available for any assigned date to review 1st year seminars unless they are on a department-approved leave of absence.

On other dates, students are **required** to attend a minimum of 80% of seminars for 2 years of their MSc and 4 years of their PhD. Students must attend seminars in person and sign their own names on the attendance form.”
Results of previous feedback

• Faculty attendance
• Time management
• Student evaluation of seminars (thanks Daphne!)
• Student attendance
• Refreshments
• Mixture of talk topics
• sli.do

• Seminar room and location
Questions and feedback

• Administrative questions and schedule swaps
  Daphne Sears <daphne.sears@utoronto.ca>

• Feedback on the course
  Michael Hoffman <michael.hoffman@utoronto.ca>

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