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Giving a Good Presentation

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Outline of Presentation

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- As a professional statistician, you'll probably be expected to give many presentations over the course of your career.
- These happen in many contexts: research talks, job interviews, educational settings, etc.
- Knowing how to give a good talk is a critical job skill for statisticians.
- This presentation will discuss some of the key issues to be considered in preparing a good talk.

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Know Your Constraints

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Time					
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Time Cor	nstraints				

- The most important constraint to deal with is your presentation time.
- Never go over your allotted time. Many people consider this to be exceptionally bad form.
- Always leave time (around 5 minutes) for answering questions.
- Practice your talk at least 2-3 times! This helps you learn your timing, and how you may need to modify your presentation.

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Time					
Time Ma	nagement I				

What if I'm going too long?

- Think ahead about material you can cut.
- Keep an eye on the clock, try to make sure you can skip forward to key results and conclusions around the last 5 minutes.
- Be willing to acknowledge that you're running short on time. Most audiences will understand, and will be more sympathetic to you if you show you're trying to stay on schedule.

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Time					
Time Ma	nagement II				

What if I'm going too short?

- Include extra slides with technical details that you intend to skip past during the presentation. This gives you the ability to slow down and talk about them, as needed.
- Extra technical detail slides can also be a big help for addressing questions after the presentation.
- Slow down your delivery. Most people talk too fast when they're presenting because of nervousness; it's almost always the case that your audience will welcome a slower pace.

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Understand your goal with your presentation. Are you trying to:

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- Teach a topic?
- Present original research?
- Interview for a job?

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Teaching	Presentations				

- These function differently to other presentations.
- Your goal is to get your audience to understand and remember the maximum amount of information.
- Be slow and deliberate, cover all the details, take questions.

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Research	Presentations				

- Most professional presentations are research presentations.
- Goals for these presentations differ depending on the context.
- Consider how much you're trying to sell the research vs. how much you're trying to sell yourself.

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The Diff	iculty Curve I				

- Think of your presentation as having three parts: a topic introduction, groundwork, and the original research.
- If you want to sell the research, spend more time making sure everyone understands what you're doing. Paradoxically, this means spending *less time* on your original research and *more time* on topic introduction and groundwork, so your audience understands why your work is important.
- It's fine, actually, for the audience to not fully understand your original research if you're trying to sell the research. Your goal is to get them interested. They can come to you for details afterwards.

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The Di	fficulty Curve II				

- If you're trying to sell yourself more than the research (e.g. if you're giving a talk for a professional interview), your priorities change.
- An interview talk is selling your ability to do hard, complex work. You want to show off the original research more, and spend less time setting up the problem. This focuses the audience on your contribution.
- You still want to spend enough time on introduction and groundwork to convince your audience that you're tackling a worthwhile problem, though.

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Research	Talks				

An example time breakdown for a 50-minute research talk:

- (10-15 min) Topic introduction
- (15-20 min) Groundwork
- (10-20 min) Original Research
- (5 min) Questions

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Job Talks					

An example time breakdown for a 50-minute job talk:

- (5-10 min) Topic introduction
- (10-15 min) Groundwork
- (20-30 min) Original Research
- (5 min) Questions

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Know Your Audience

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Audience	Knowledge				

- The same presentation can be given to many different audiences with the same slides, but the details of the presentation should change based on the audience.
- Think about what your audience knows and what they don't know.
- Focus your presentation on things that are just outside your audience's knowledge base, but close enough to their knowledge base that they can be brought to understand.

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Statistical	Audiences				

- Stats audiences don't need as much scientific setup for a problem; you can assume they understand general scientific goals and how statistics can be applied to satisfy those goals.
- Stats audiences will usually need more of an introduction to the particulars of an applied setting, however.
- You can (and should!) go deeper into the details of a new method for a statistical audience.
- Stats audiences have an easier time parsing statistical results and are more likely to care about issues relating to precision, bias, and variability.

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Applied A	udiences				

- An applied audience will often understand the application and topic background well, but may not understand scientific goals or how statistics helps those goals be realized.
- Spend more time explaining the core rationale for statistical methods and what precisely they're going to do to answer an applied researcher's scientific questions.
- Focus discussion of results on how this informs the applied setting; deemphasize technical details of modeling and in-depth statistical results.
- Your goal is to communicate what the data do and don't say about the applied problem. Where can you draw clear conclusions? Where are the data insufficient for this? What story do the data tell about the applied setting?

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Content Issues

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Really? Who cares about content?

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Content is totally overrated.

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"Snowing"	L				

- One content issue that's really worth mentioning is the phenomenon of "snowing" your audience bombarding them with so much high-level material and denying context so that the audience gets lost and can't follow the work.
- Some people do this accidentally by not properly motivating their work, others do it intentionally because they want to avoid questions or seem particularly smart.
- Generally speaking, "snowing" should be avoided. I consider it a sign of either poor preparation or fear that one's work won't hold up under scrutiny, both of which are bigger negatives to me than being forthright about what you do and don't know.

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"Snowing"	П				

- Occasionally, *very* high level talks will manage to snow the audience anyway because no one can keep up with the presenter.
- To a sophisticated audience, the difference between someone being so good you can't keep up and someone just obfuscating the details of their work is usually obvious.
- I've only been legitimately snowed unable to keep up with a presentation because it was over my head, but dead certain about its quality once or twice that I can remember.
- Ed Bedrick, a former UNM Stats faculty member who's now at the University of Arizona College of Public Health, is the most memorable of those.

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Style Issues

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Presentat	ion Modes				

- Remember that your presentation is a combination of three things:
 - 1 Your slides
 - 2 Your speech
 - 3 Your actions
- These three facets of the presentation should work together to complement each other.

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Slides I					

- Your slides are a visual medium. Take advantage of this fact.
- Whenever you've got good data visualizations to help the audience understand the points you're trying to communicate, use them. Figures are your friend.
- Photos and diagrams can break up the monotony of text. These can be especially useful in the topic introduction, to help concretize your work for the audience.
- Equations are often overused, but can be useful if you want to dig into the particular details of the mechanics of a model. (If you're not going to dig in and discuss, consider equation slides to be extra technical detail slides you'll probably skip past.)

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Slides II					

- Your slides are also acting as a visual brand for your presentation.
- If you belong to an organization (e.g. a university, a national lab) with their own presentation template, style guide, or branding, try to incorporate those features.
- This presentation is using my prototype Beamer template for the UNM color scheme, though I haven't included standard UNM branding yet.

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Speech I					

- Your goal with the verbal presentation is to make your audience engaged.
- Speak slowly and clearly, and project your excitement with the project you've been working on.
- Try to be prepared for questions, and treat questioners with respect. It's okay to not have all the answers.

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Speech II					

• Avoid reading your slides! Nothing is more boring than watching someone read their slides out loud to the audience.

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- Your slides should act as an outline and a guide, but you should practice speaking extemporaneously on the same subjects presented on the slides.
- The slides provide the core, your speech provides the elaboration.

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Actions					

- Again, your goal with the presentation is to make your audience engaged. This works best if you seem engaged.
- If you can, walk around while presenting and engage with the projections of your slides.
- Be dynamic and active instead of staying tied to a podium. The more energy you demonstrate, the easier it will be for your audience to remain engaged.

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Chalk Tal	ks				

- One of the best ways to bring a presentation together is to abandon slides entirely and give a "chalk talk" – an old-style presentation where you write important details on a chalk- or white-board.
- Chalk talks require better time management skills. The presentation slows down when you go to write something on the board. This can keep you from going through the material too fast, but it can also bog you down if you haven't figured out precisely what does and doesn't need to go on the board.
- Chalk talks are more exiting and dramatic. You're revealing research in real time, and engaging with it directly, instead of using pre-prepared slides.
- You can't use detailed figures in most chalk talks, which limits the visual resources you have at your disposal.

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In Summa	ary				

- Spend some time rehashing the highlights of your work.
- Mention some possibilities for future research.
- If there are any serious methodological difficulties you had to contend with, it's often worth mentioning them too; make sure your audience understands your results in their full scientific context, and don't oversell them.

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Acknowle	edgements				



Acknowledge the work of your collaborators.

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Photos can be nice.



This is basically a point of politeness.

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Thank You					

Thank Your Audience!