

# EFFECTIVE SCIENTIFIC PRESENTATIONS

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# WHAT WE WILL COVER

- Goals of presentation
- Length and style tips
- Effective communication
- Power point do's and don'ts
- Body language tips and appearance

GOALLLLLLLLLL!!!

HOUSTON  
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# FIRST OF ALL

What is your main goal?

- Report your data
- Convince your audience
- Entertain your audience
- Make the take home message memorable

# GEARED TO AUDIENCE

- Only one chance to hear the information
- Audience doesn't know ALL the background
- Audience is at your mercy to tell the story

# COMMUNICATION IS KEY

- Put yourself in audience shoes—what do they need to know to understand your data?
- Be enthusiastic about your data—this will trickle down to your audience
- Capture audience by being clear and concise with a side of enthusiasm

# OLIVER WENDALL HOLMES

- It's faith in something and enthusiasm for something that makes a life worth living.



# WHAT'S YOUR MISSION?

My mission in life is not merely to survive, but to thrive; and to do so with some passion, some compassion, some humor, and some style

[Maya Angelou](#)



# SPECIFICS OF TALK

- How long is the talk?
- Who is the audience?
- What idea/data is most important to convey?

# TALK SPECIFICS

- Rule of thumb—1-2 slides per minute of talk
- A 10 minute talk should have NO MORE than 20 slides!!!!!! Preferably less than 15.
- A 60 minute talk no more than 75 slides

# KEYS FOR SHORT TALKS

- In 10 -12 minute talk, get to data quickly
- Provide background information
- Audience needs to understand purpose of work
- Big picture—what is question is/hypothesis?

# MAKE AN OUTLINE

- What facts do the audience need to know?
- How is work important to this knowledge?
- What are the methods?
- What is most important data to show?
- What are the conclusions?
- How does data fit in the big picture?

- What is the big picture?
- Why is this work important?
- If you don't tell the audience this—they will not appreciate your data

# BIG MISTAKE

- Show too much data in too little time
- In a 10-12 minute talk, 5 slides of data **not** 10
- Communicate, do not make people wonder
- Stories from my own experience

# IMPORTANT LESSON

- Fifty slides for a 15 minute presentation—data slide every 10-20 seconds, each covered with info and you couldn't actually see the data
- No conclusion slide—ended in a flurry—no time!
- Speaker talked so fast, hard to follow—ended without knowing what the data was or what it meant—except there was a lot of it.
- Take home message to me—NEVER do this!!!

# IMPORTANT LESSON

- Fifty slides for a 15 minute presentation
- Data every 10-20 seconds
- Data slides crammed with data
- No conclusion slide—ran out of time
  
- Speaker was speed talker with a data surplus
  
- Take home message to me—NEVER do this!!!



# ANOTHER LESSON

- Lone speaker at lunchtime—HIV epidemiology.
- No slides, but words from a typed paper
- Words conjured pictures in my head.
- When I next looked down, my watch said 1:10
- Take home to me: words and delivery matter

# KEYS TO SUCCESS

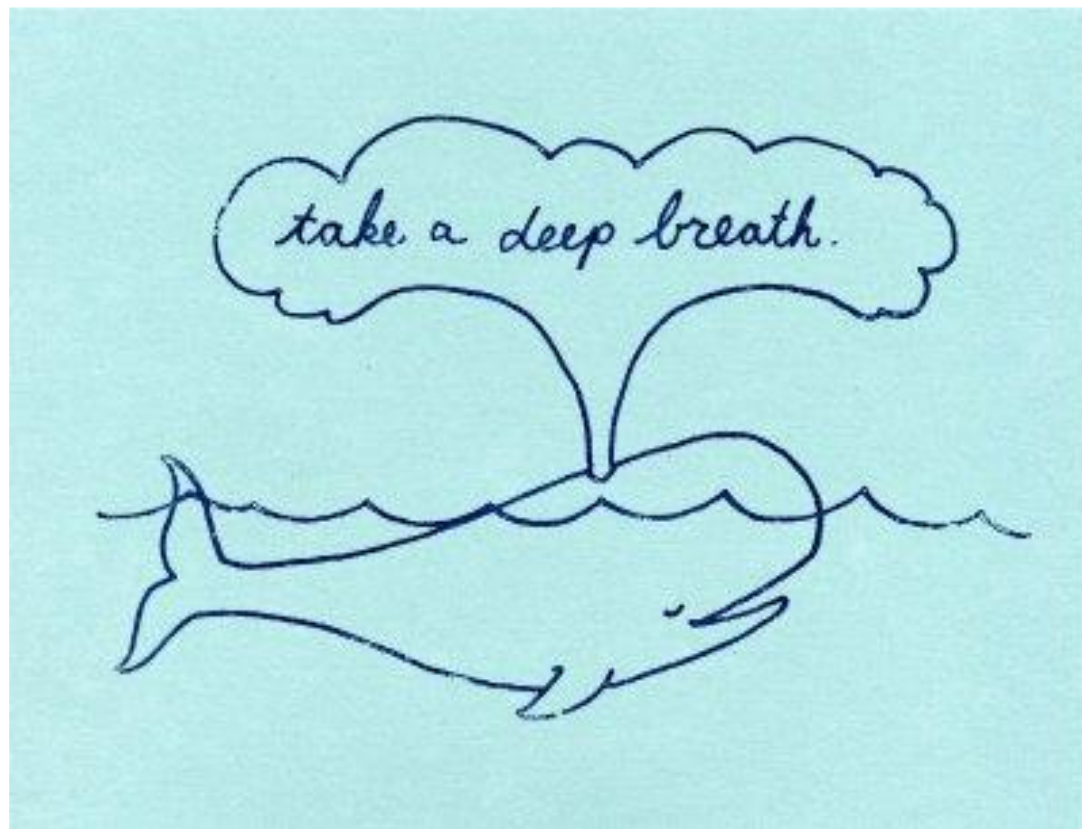
- PRACTICE!!!!!! Winging it doesn't work!!!
- Look at your audience.
- Use the fewest words possible
- Speak slowly, clearly—avoid Uuuhhs and grunts
- Imagine telling a story—engage the audience.

NO WINGS!!!!



# I AM NERVOUS!!!

- Sure, you are!
- But, you know your data better than anyone!
- Take a deep breath.
- Memorize the first few lines to start.
- Words and data will flow.



# PRESENTATION TIPS

- Make eye contact around the room
- Open your body to receive their interest
- Take your work, **not yourself** seriously.
- Be yourself! Don't force jokes, if not your style
- Answer questions non defensively:
- Thank you--interesting or insightful questions
- Say you don't know, if you don't know

# PREPARATION

- Depends on you—may need to memorize
- Nothing wrong with reading—harder to engage
- Strong command of material and pace.
- Nervous people speed up—less effective
- PRACTICE!!!! Depends on your level—2-5 times

# FOR 10-12 MIN TALK

suggestions

- Two to three overview slides with hypothesis
- One methods slides
- 3-5 slides of data
- Conclusions/model slide
- Acknowledgements
  
- This is easily 12-15 slides!



# BACKGROUND SLIDES

- Current understanding of topic—graphic good
- Hypothesis and importance of testing.
- Bullet points to convey ideas about topic.
- Avoid complicated graphics—where audience meanders—confusing and takes time.

- A single methods slide for a 10-12 minute talk.
- Cover highlights and anything not obvious—or a new technique.
- A cartoon of method may be informative

- Use most important data to make your points.
- Not **all** your data.
- Make each slide come from previous one.
- We found this, so it raised the next question— here is what we found and on to the next slide.

# CONCLUSION SLIDE

- Bullet points, they should match data.
- Can say “data not shown” but it must be additive data not necessary data.
- Implications of your data and next steps.

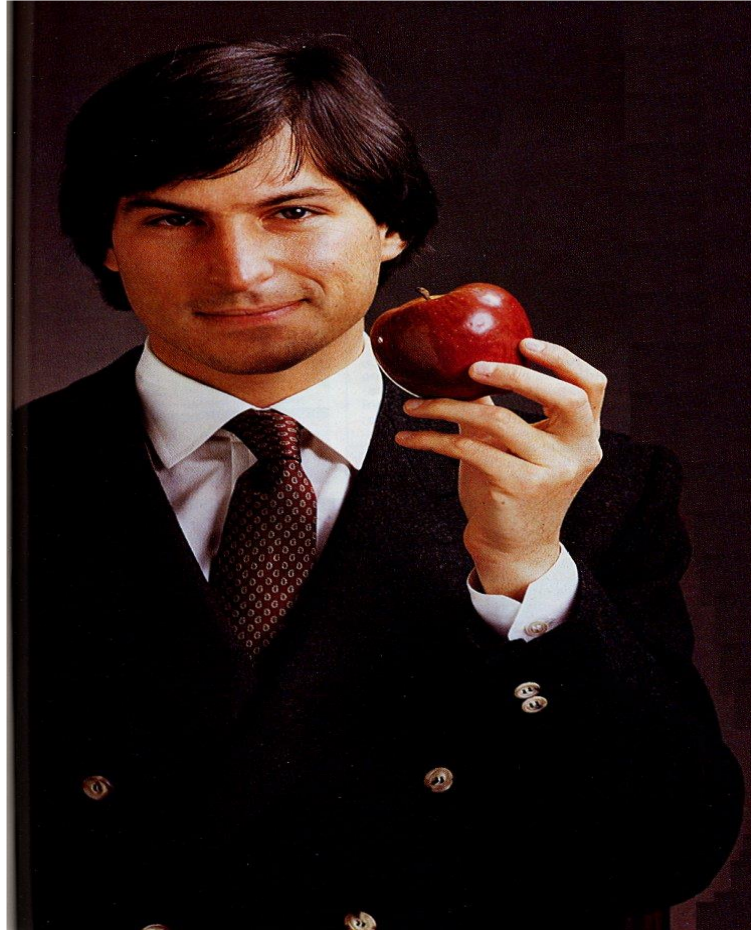
# ACKNOWLEDGMENTS

- Collaborators
- Funding
- Anything else that is appropriate

- Humans like color—but don't overdo
- Don't spend effort on fancy features
- Do tell the story in a compelling way.
- Channel Steve Jobs

# FOR 30-50 MINUTES

- Rule of thumb is 1 slide per minute
- Can have more background information
- More data, more explanation
- A few more methods slides
- Conclusions
- Next steps
- Can spread out info over more time





# SIMPLICITY BETTER

- Simple, concise words and pictures.
- Consider time, be selective
- Design affects impact of presentation.
- Design affects how the world sees your data.

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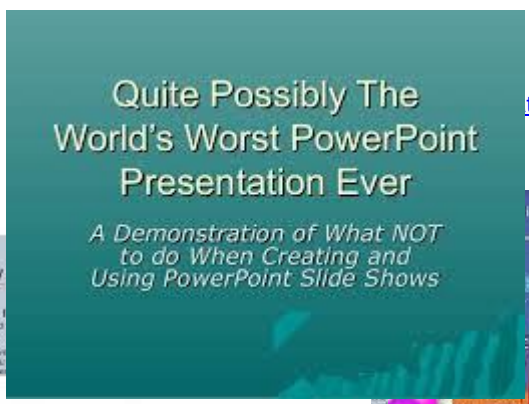
[youtube](#)

[Example bad powerpoint slides.com](#)

[slides.com](#)

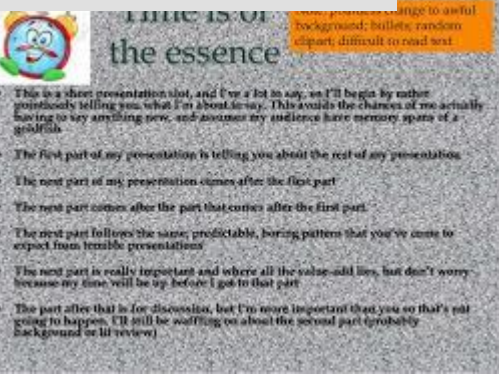
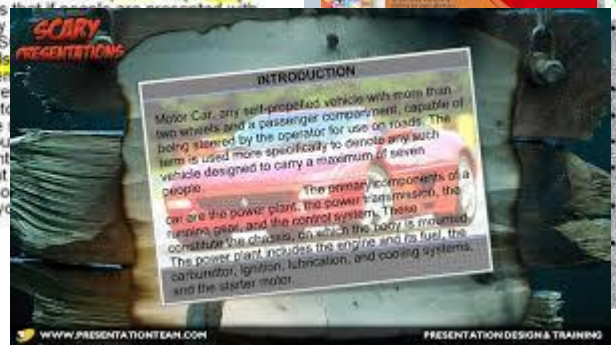
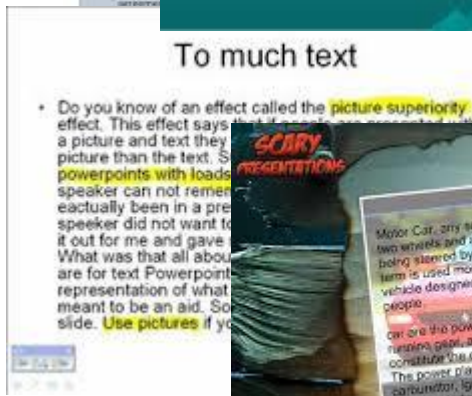
[A truly awful powerpoint presentation slideshare.net](#)

[Worst presentation ever standalone slideshare.net](#)



Most common power point mistakes

People tend to put every word they are going to say on their power point slide. Although this eliminates the need to memorise your talk, ultimately this makes your slides crowded, wordy and boring. You will lose your audiences attention before even reach the bottom of your...



# POWER POINT TIPS

- Bullet points for text—4-6 per slide.
- Make text large!!! Back of room (30 pt).
- Strong contrast between background and text.
- Graphics illustrate points, but not too many!
- Easy on animation—distracting in a brief talk.

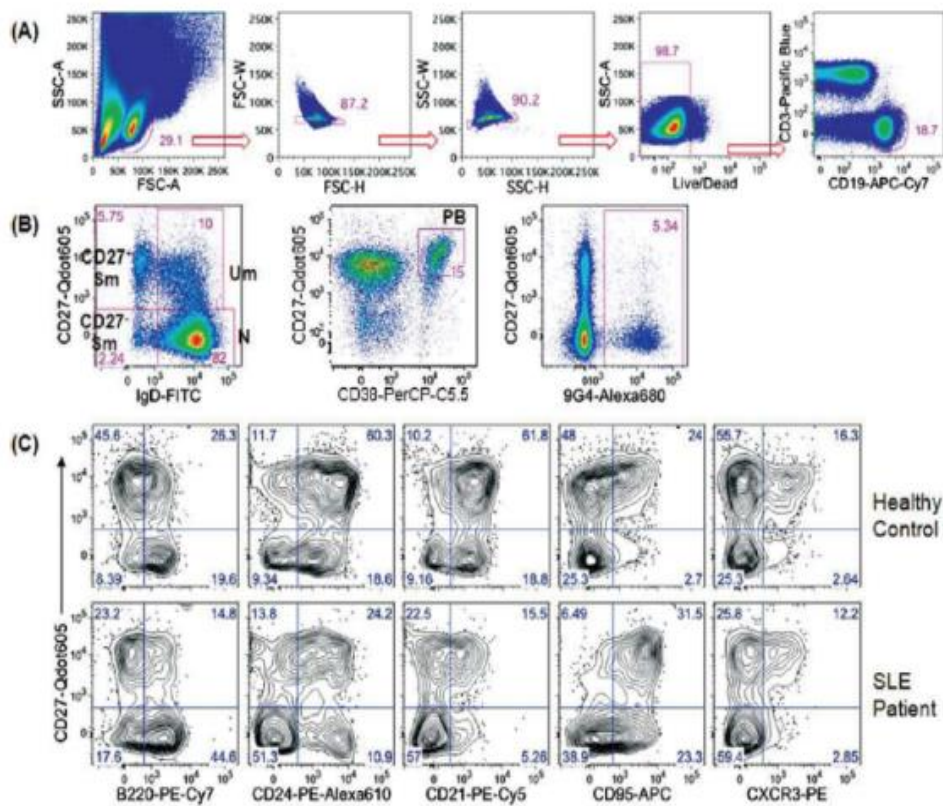
# POWER POINT TIPS

- Avoid large blocks of text
- Emphasize main points.
- The “Six-by-Six” Rule—6 bullet points/6 words
- Use pictures- PowerPoint is multimedia!

## Boring, generic title (4)

- **I am writing down everything I could possibly say about this slide**
- **Resulting in me reading all the text out loud**
  - But hey, that also means I do not have to make any contact whatsoever with my audience.
    - Yippee!
    - Shit, is my fly open? I feel a breeze
  - Why is that guy yawning over there?
  - I just love the Arial font, don't you?
  - I'm glad my secretary found this standard background, it is just so pretty to look at.
- **Could this possible get more lame?**
  - No, probably not
  - I should insert a joke, but I wouldn't know where to find one on the internet
  - If I bore everyone long enough, there will be no room for questions
    - The idea of interaction just made me pee in my pants
- **I hope no one notices I actually wish I was dead**
- **I've just forgotten my name...**
- **Oh well, only 50 more minutes of this**

# TOO MUCH DATA



# POWER POINT IS GREAT!!

- Easy and effective at selling your story
- Its visual—humans are visual
- Can overdo so the story gets lost
- **Explain** your data, not polish the power point.
- Without good presenter, power point is useless.

# PRESENTATION TIPS

- Talk to your audience, not the slides.
- Don't just read it—the audience can read it.
- Don't apologize for presentation shortcomings.
- Leave time for questions.



# COLOR TIPS

- Avoid loud, garish colors.
- Dark text on light background is best.
- Avoid dark text colors that fade
- Avoid certain color combinations:
  - Red and Green/Blue and Yellow

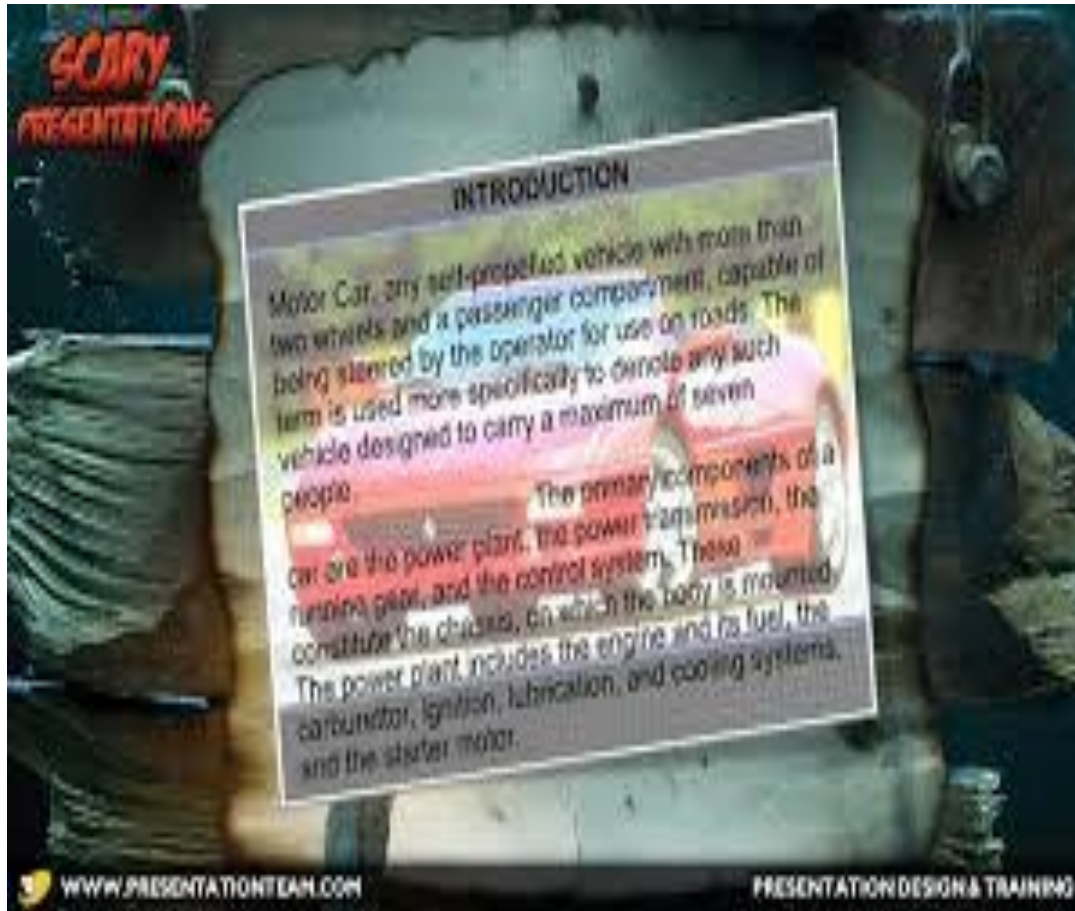
## Beginner Motorcycles



- My personal favorite: the Suzuki Savage
- Light weight (~380lbs)
- Adequate power (650cc engine)
- Low seat height fits most riders

- Check grammar! Misspellings should be caught before the presentation!!!
- Avoid “slide rush”.
- Cite sources on each slide or at the end.
- **KEEP IT SIMPLE!** Power point is a tool!

# MIXED MEDIA HORROR



# SPEAKING VOICE MATTERS

- Speak up and enunciate words.
- If you have an accent— slow down—consider accent reduction training
- Don't make your voice go up at end of sentences—sound tentative and unsure.
- **PRACTICE!!!!**

# APPEARANCE—ASSUME IT MATTERS

- Dress conservatively—no cleavage, no odd colors.
- Solids are good—no distracting patterns.
- Women have more choices for individual style—red is good for females—it speaks power. Forget provocative!
- Males can individualize their appearance with an appealing tie against a solid color

# MAYA ANGELOU



Courage is the most important of all the virtues, because without courage you can't practice any other virtue consistently. You can practice any virtue erratically, but nothing consistently without courage."

# RALPH WALDO EMERSON

- Too Much Text or clutter
- Bad Contrast
- Reading slides talking to the Screen
- Extreme Transitions or Animations
  
- Failing to Practice.



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