

ALWAYS ! NEVER !

in scientific presentations

The Deadliest Powerpoint Presentation of All Time

**Orbiter Assessment of STS-107 ET Bipod
Insulation Ramp Impact**

**P. Parker
D. Chao
I. Norman
M. Dunham**


January 23, 2003

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Jan 16, 2003

Feb 1, 2003



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Orbiter Assessment of STS-107 ET Bipod Insulation Ramp Impact

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Review of Test Data Indicates Conservatism for Tile Penetration

- **The existing SOFI on tile test data used to create Crater was reviewed along with STS-87 Southwest Research data**
 - **Crater overpredicted penetration of tile coating significantly**
 - ◆ **Initial penetration to described by normal velocity**
 - Varies with volume/mass of projectile (e.g., 200ft/sec for 3cu. In)
 - ◆ **Significant energy is required for the softer SOFI particle to penetrate the relatively hard tile coating**
 - Test results do show that it is possible at sufficient mass and velocity
 - ◆ **Conversely, once tile is penetrated SOFI can cause significant damage**
 - Minor variations in total energy (above penetration level) can cause significant tile damage
 - **Flight condition is significantly outside of test database**
 - ◆ **Volume of ramp is 1920cu in vs 3 cu in for test**

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The Greatest Speech of All Time

If the Gettysburg speech had been a PPT presentation

Review of Key Objectives & Critical Success Factors

- What makes nation unique
 - Conceived in Liberty
 - Men are equal
- Shared vision
 - New birth of freedom
 - Gov't off/for/by the people

11/19/1863

Home Back Next

Source: [Peter Norvig](#)

If the Gettysburg speech had been a PPT presentation

POOR

PRESENTATION

CAN BURY

GREAT CONTENT

Source: [Peter Norvig](#)

ALWAYS ! NEVER !

in scientific presentations

ALWAYS !

Identify yourself

*Your complete affiliation – lab, department, institution,
student/postdoc, year in program*

NEVER !

*Assume that everyone likes the same kind
of powerpoint presentation that you do*

ALWAYS !

- Tell them what you are going to tell them, then
- Tell them, and then
- Tell them what you told them

ALWAYS !

Divide your talk into distinct sections

*Titles – background, hypothesis, methods, results,
discussion, conclusions*

Apportion a reasonable amount of time to each section

*The more results, generally the
more time required to put them in context*

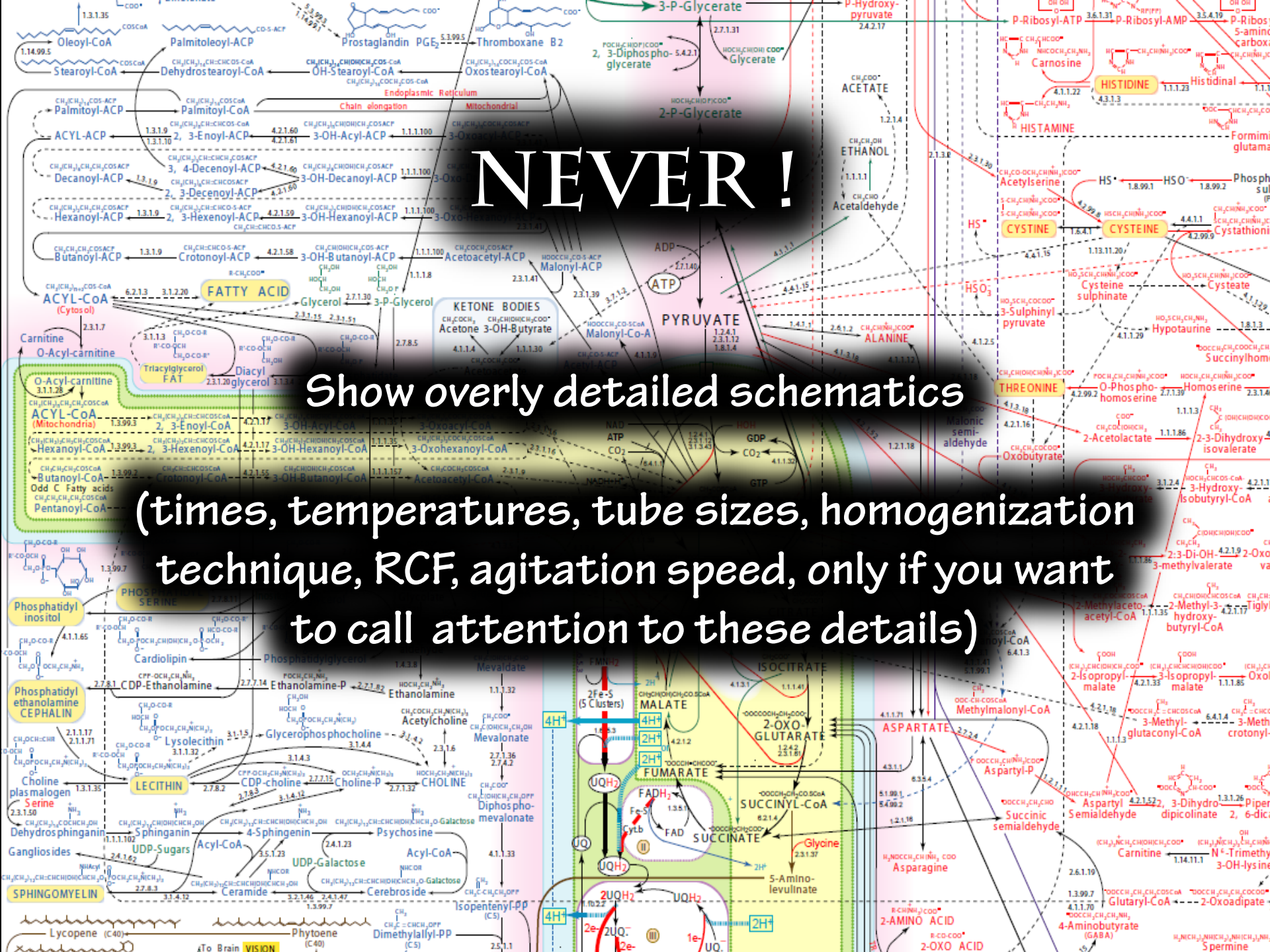
ALWAYS !

Know your audience and their vocabulary

NEVER!

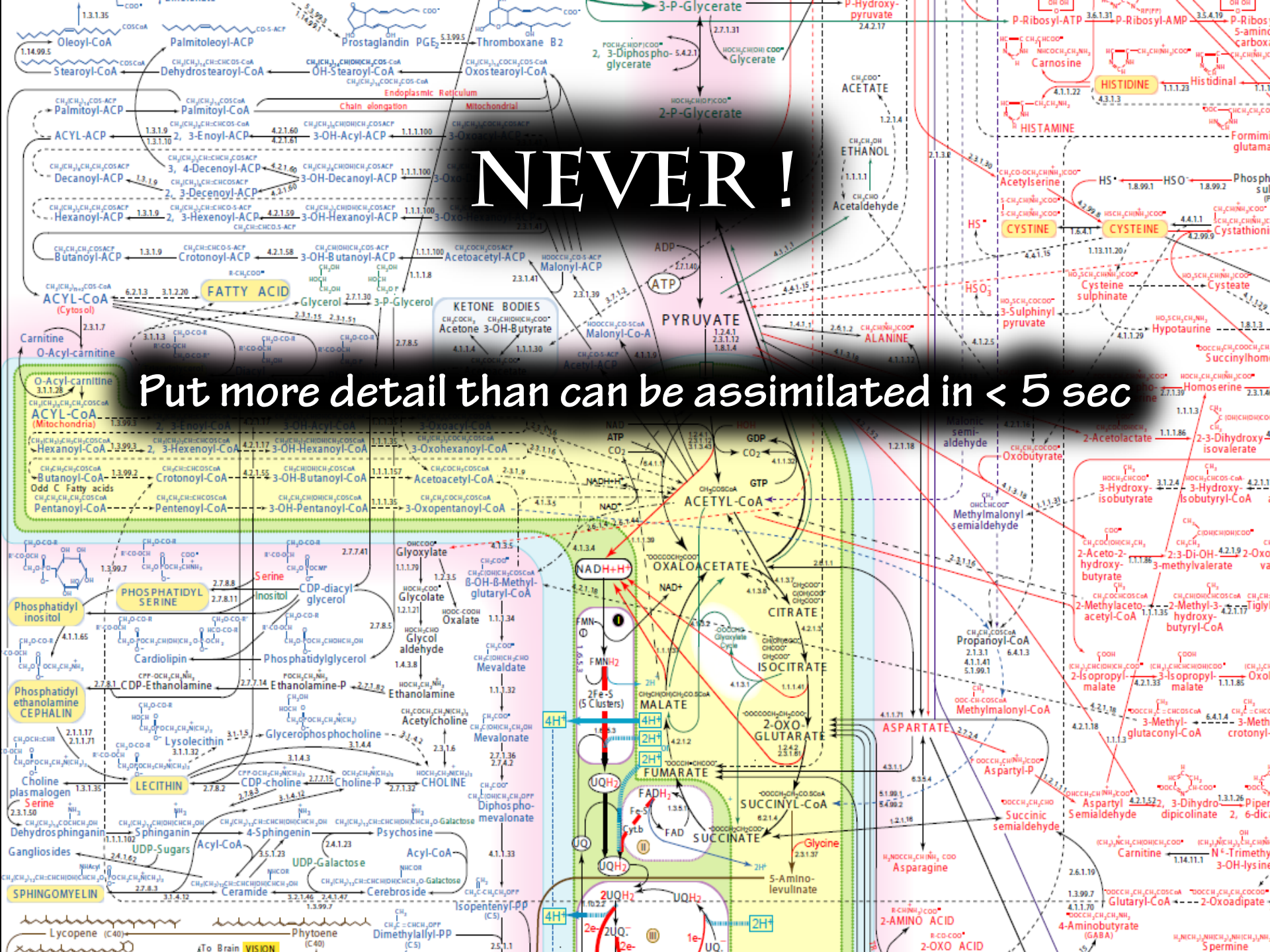
Show overly detailed schematics

(times, temperatures, tube sizes, homogenization technique, RCF, agitation speed, only if you want to call attention to these details)



NEVER!

Put more detail than can be assimilated in < 5 sec



ALWAYS !

Consider the room

Light-on-dark

Dark-on-light

Small vs large

NEVER !

Assume that fonts and apps will work in a presentation saved on a flash drive

The need for special fonts & symbols may be better met by a pdf presentation rather than ppt

NEVER !

Assume Mac vs PC,

HDMI macro v micro, VGA,

or internet access if you use a flash drive

ALWAYS !

*Make a backup copy of your presentation
accessible to you via internet*

NEVER !

Forget your power supply

NEVER !

Read your slide text

ALWAYS !

Adapt to the microphone

Even if you are “wearing” a clip-on microphone, it may not pick up your voice when you turn your head

This is a good reason to face your audience when you talk, not your slides

ALWAYS !

Adapt to the microphone

*Make sure that high frequencies are produced,
de-emphasize low frequencies*

(older people who tend to lose high frequency hearing)

ALWAYS !

*Have intervals where slides are black and
you face your audience*

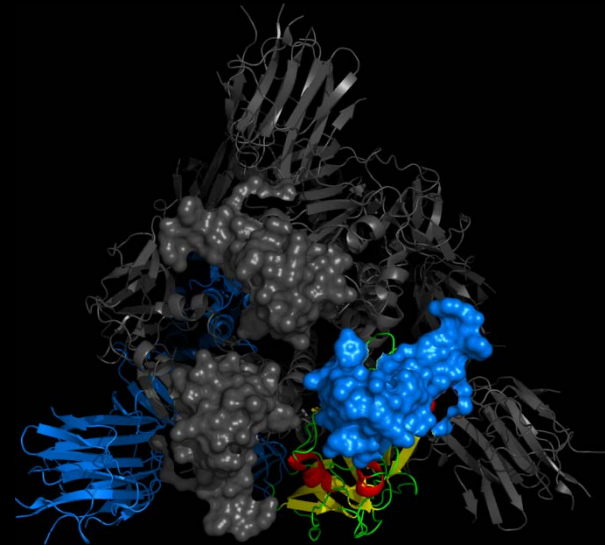
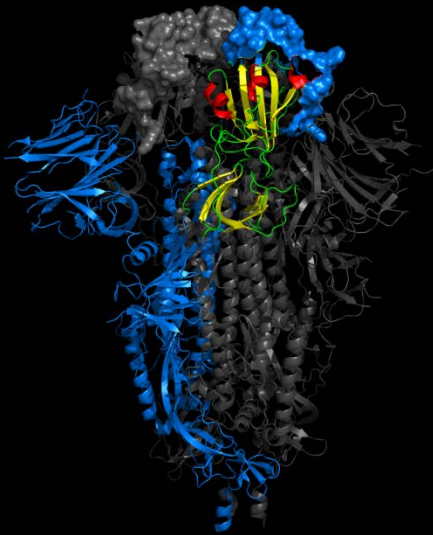
NEVER !

Induce laser pointer vertigo,
Even better, never use a laser pointer

(it requires you to look at
your slides, not your audience)

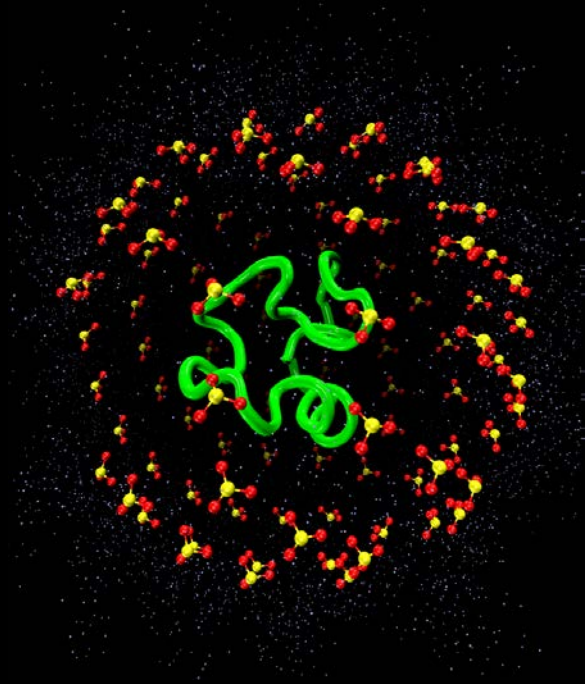
NEVER !

*Assume that your audience is accustomed to
looking at molecular models*



NEVER !

*Assume that your audience is accustomed to
looking at moving molecular models*



NEVER !

UAA

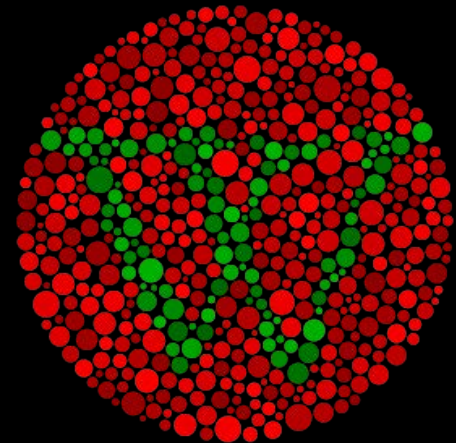
(Use arcane abbreviations)

ALWAYS !

Use primary colors with contrast

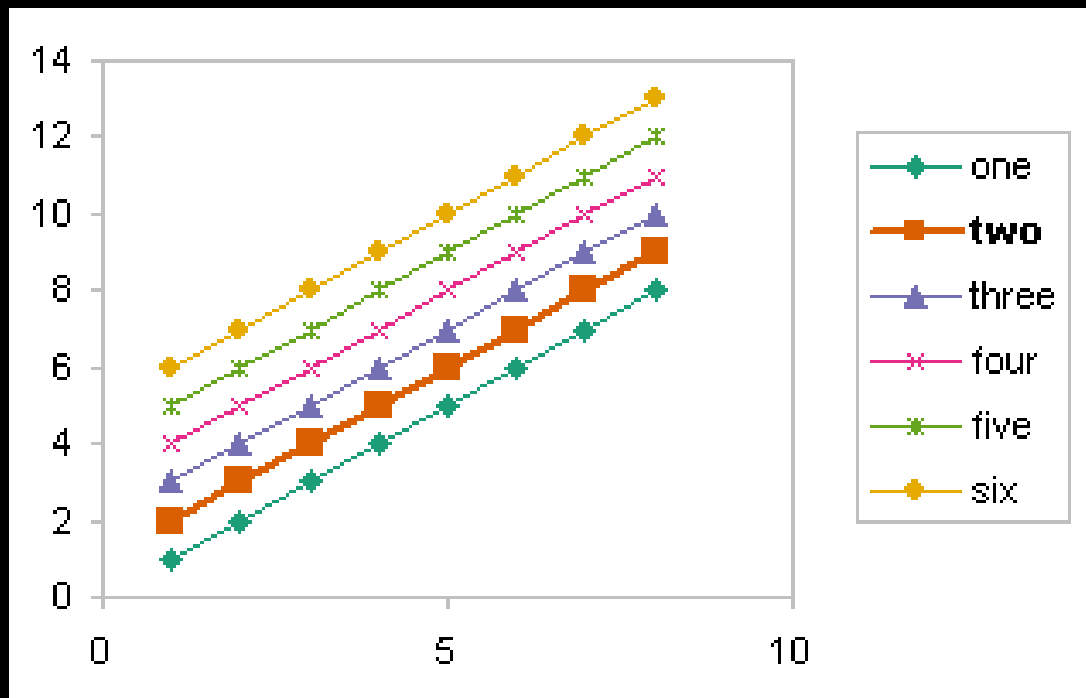
Consider the possibility that people in
your audience are color blind

The difference between red and
green may not be appreciated
X-lined recessive trait present
in 8% of men



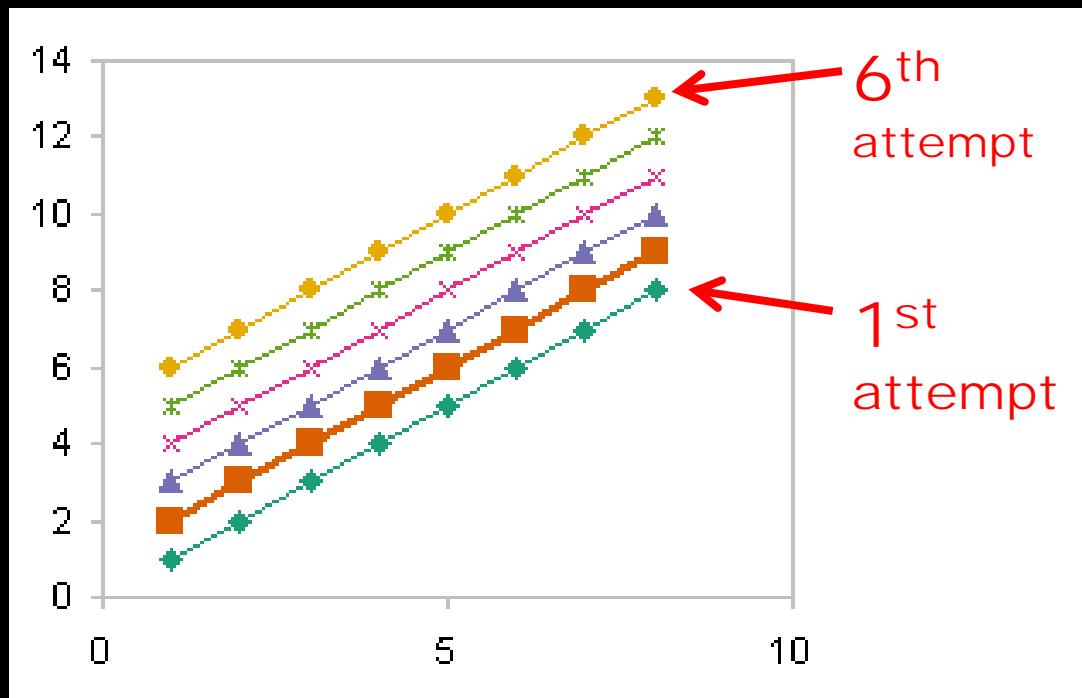
NEVER !

Use color for legends
Or, even better – never use legends



NEVER !

Use color for legends
Or, even better – never use legends



ALWAYS !

Include acknowledgement slide

People, funding, cores, materials – oftentimes appropriate during the talk, not only at the end

Include potential COI disclosures

(including those of your collaborators!!!)

ALWAYS !

*Include references, and clearly (with labels) distinguish
between your work and the work of someone else*

NEVER !

Use animations or transitions

“That presentation needed more animations”

... No one

NEVER !

Tell a more senior scientist:

“that’s a good question”

NEVER !

Put critically important material

in the margins

NEVER !

*Copy from a PPT to an editing program,
then import into another PPT*

Resolution loss!

ALWAYS !

*Provide conclusions at the end that are truly
conclusions, not summaries*

ALWAYS !

Turn off your phone, notifications

NEVER !

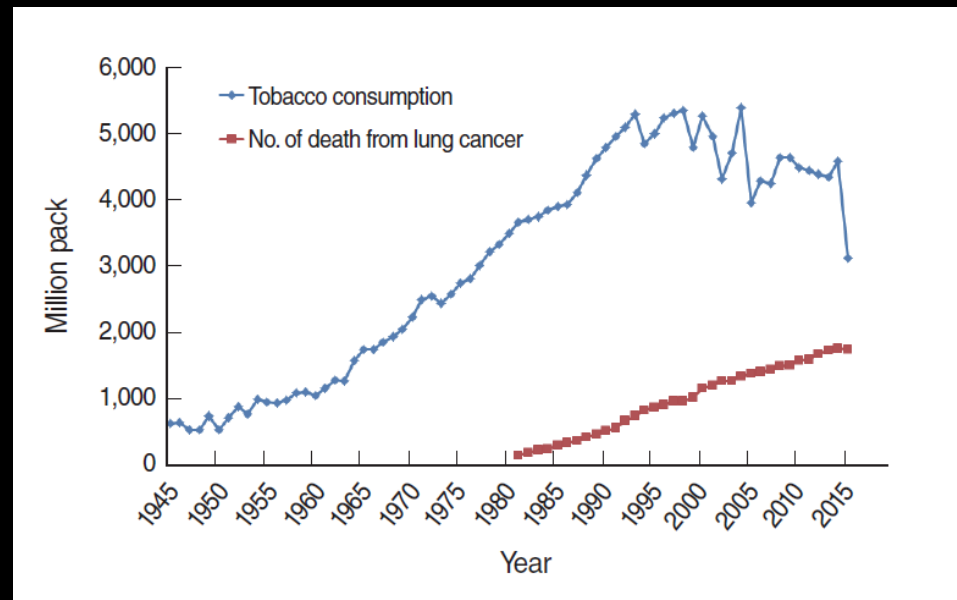
Expect anyone to remember what you told them 5 min ago unless you have repeated it multiple times for emphasis

(Remember: Never UAA)

ALWAYS !

Label your graphs: title, axes, units of measure
Include a statement of the conclusion

Smoking Causes
Lung Cancer



ALWAYS !

Help your audience with conceptual jumps

Your audience often cannot “synthesize” results on the fly that have required days-weeks-months for you to synthesize and construct conclusions

Reinforce verbal statements with written

The bigger the jump, or the more important, the more time should be spent on reinforcement

THIS IS REALLY IMPORTANT:

Reinforce verbal statements with visual statements

The bigger the jump, or the more important, the more time should be spent on reinforcement

ALWAYS !

Slow down when stating your main point and dwell on the most important terms

“The only compound that made

any difference was the 7th one

”

because it worked by &^%\$&@

ALWAYS !

Ask questions of the audience

Can merely rhetorical questions help?

ALWAYS !

Repeat questions so that everyone can hear them

NEVER !

Go overtime

Better to leave them wanting more than less

ALWAYS ! NEVER !

*Accept the challenge of communicating as you would
accept the challenge of getting consistent results*

The result you want when communicating is

Clarity

*despite diverse ways of learning and
assimilating information*

ALWAYS ! NEVER !

The impression you want to give when communicating is

*Competence,
Trustworthiness, and that
You would be a good colleague*

LOONEY TUNES



"That's all Folks!"