Seminar on Seminars

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30th Anniversary Presentation

- Managing & Coping
- Planning & Organization
- Slide Format
- Slide Content
- The Presentation

Caveats

- **Do as I say, not as I do.**
  This presentation, of necessity,
  is word-heavy and graphics-light.

- **De gustibus non disputandum est.**
  (*There is no arguing about tastes.*)
  These are my opinions.
  I could be wrong, but I'm not.

- **Snepscheut's Law:**
  In theory, there is no difference
  between theory and practice.
  But in practice, there is.

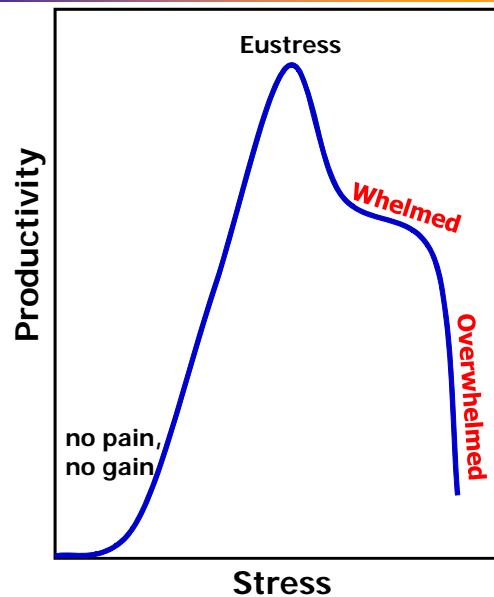- **Monk's Commentary:**
  You'll thank me later.

Coping and Managing

- **Public speaking:**
  very scary for most students.

- **The Literature Seminar:**
  A (relatively) safe place to develop your presentation skills.

- **This "*Seminar on Seminars*":**
  gives help on both the big picture and the devil of the details.

Coping with Stess: TANSTAFL

Productivity vs. Stress

- Eustress
- Whelmed
- Overwhelmed
- no pain, no gain

Managing Stress

- **Initiative vs. *Finish*itive:**
  starting is hard, finishing is harder.

- **Tricks for starting: do something, anything;**
  just type, do your favorite part, futz with format, …

- **Distractions are tempting due to rate of change.**
  We're much more sensitive to slope than position.

- **Finishing.   "An artist needs two assistants:**
  one to help create, the other to stop him
  when he's done." – W. Churchill

Managing Time

- **If it isn't worth doing, it isn't worth doing right!** – KSS

- **Write it down and the list will remember for you.**

- **Complex jobs are done one bite at a time:**
  Compartmentalize into small tasks.
  Even 15 min. can get a bite done.

- **Enjoy what you are doing! (well, mostly anyway…)**
  Do the crappy jobs first thing and quickly.

- **Last daily chore: 5 min. to plan *tomorrow's* day.**

Planning & Organization

Planning the Talk for Your AUDIENCE

- **Always** keep the audience in mind.

- **What is THE point of your seminar?**
  It's unlikely you'll be able to make more than 1.

- **Why will your audience be interested?**

- **Gear your talk at the right level.**
  Better to aim just a little low than too high.

Planning the Organization of the Talk

- **You are telling a story.**
  Tell it so they understand.

- **Graphics & figures first, then words.**
  Easier to organize your talk.

- **Verbal comprehension is limited:**

  Tell them what you are going to tell them,
  then tell them,
  then tell them what you told them.

Outlining the Plan

- **YOU need a detailed outline of the talk,**
  BUT your audience needs only a broad outline.

- **Number of sub-divisions MUST NOT be 1!**
  Best if ≥ 2 and ≤ 5.

- **Think about the logic of the flow.**

- **Slides for explicit division of sections are OK.**

Title and Introduction

- **Short titles are best:**
  It's a title, **NOT** an abstract!

- **1st slide:**
  Give the title, your name & <u>brief</u> outline.

- **2nd slide:**
  set the background —
  Why should we care about this topic?

How Many Slides?

- **It depends on your slides!**
  Use low content slides and lots of them.

- **Present only ONE main idea per slide.**

- **Most people plan on ~2 min/slide,**
  but can be <1 min/slide for images.

- **Be kind to the old fogies: eyesight declines > 40.**
  Use big text, high contrast.
  Rapid changes in light intensity are painful.

Who and What Are Slides For?

- **They are "visual aids"— human beings are visual, not auditory, creatures.**

- **Slides are BOTH for you and for your audience. Complementary, but different, needs.**

- **You need less information than you think: brief prompts will trigger detailed verbiage.**

KIS: Keep It Simple!

- **A talk is NOT a full research paper.**

- **Your job is to convince and inform, NOT to archive.**

- **Present enough data to establish the point, NOT all the data possibly available.**

- **Simplify graphics when possible.**

Slide Format

Direct Computer Projection

- **Now the default everywhere.**

- **Bring your own computer (if you can).**
  NEVER change from PC to Mac or vice versa.

- **ALWAYS, ALWAYS have your talk backed-up on a USB memory stick.**

- **Big images or scans will slow slide changing! Use jpg or png, *not* tiff.**
  200 dpi is more than enough (except for very small originals).

General Format

- **Landscape format is standard.**

- **Use page effectively:**
  Fill the page, but don't overfill.

- **Consider carefully your blank space.**
  Use it to improve visibility and
  to separate topics, ideas, etc.

- **The natural tendency is** **to cram things** **too close together**
  so that they'll fit in the space rather than to edit the text to the bare minimum needed;
  most people tend to be much too wordy and detailed in their slides, and they then go on and on
  and on and on, when what they really should do is just shut up!

Font Format: Titles 32 pt. Arial Bold
Or 36 pt., but be consistent.

- **Avoid serif fonts: don't use Times, New Roman, …**
  Use <u>sans serif</u> fonts: Arial, Helvetica, Tahoma…

- **Don't** change fonts **very** *often:* **it's** distracting**!**

- **Major Divisions: Arial, 28 pt. bold or 26 pt., bold.**
  Minor Divisions: Arial, ~24 pt., bold usually best.
  Avoid text below 20 pt., generally, especially un-bolded.   e.g., 16 pt.

- **CAPS ARE HARD TO READ FAST: avoid them.**

- *DON'T get cute.*

Line, Paragraph Format

- **Leave extra line spacing between divisions.
  I like 1.1 line spacing with 0.5 after paragraph.**

- **Spell-Check your work!!**

- **Be consistent with punctuation at line ends.**

**Hanging indents are generally more readable
    than 1st line indentations.**

**1st line indentations are less readable
than hanging indents.**

Backgrounds

- **Avoid distracting backgrounds with graphics.**

- **NEVER use backgrounds with 'ghost' text.**

- **Avoid colored backgrounds: they reduce contrast.**

- **Clear, unshaded backgrounds usually best.**

Kill Bill, part 1: Microsoft Defaults

- **Microsoft assumes that all users are morons.**

- **If this is not true for you,
  then turn off or change ALL Microsoft defaults.**

    Turn **OFF** WordWrap in Text Box. Manually break lines
      yourself (shift-enter). **DON'T** let Microsoft control you!

    Do resize text box to fit text! But for objects w/o text, turn off

    Don't have selection by whole words!

    Show status bar, ruler, file endings, system files!

    Save your own defaults
      … Application Data\Microsoft\Templates\blank.potx

- **Avoid all Microsoft Design Templates!**
    Keep logos (if any) simple and relevant.

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Kill Bill, part 2: Graphics Overkill

❖ **Avoid over-use of bullets:**

  ☹ **Use Solid and simple bullets. Never use – !!**

      ❽ **Use on major level only! Indent sets the gap.**

♥ **Don't distract your audience from your content.**

✓ **Avoid 'clip-art',
  especially the stupid Microsoft stuff.**

💣 **DON'T get cute.**
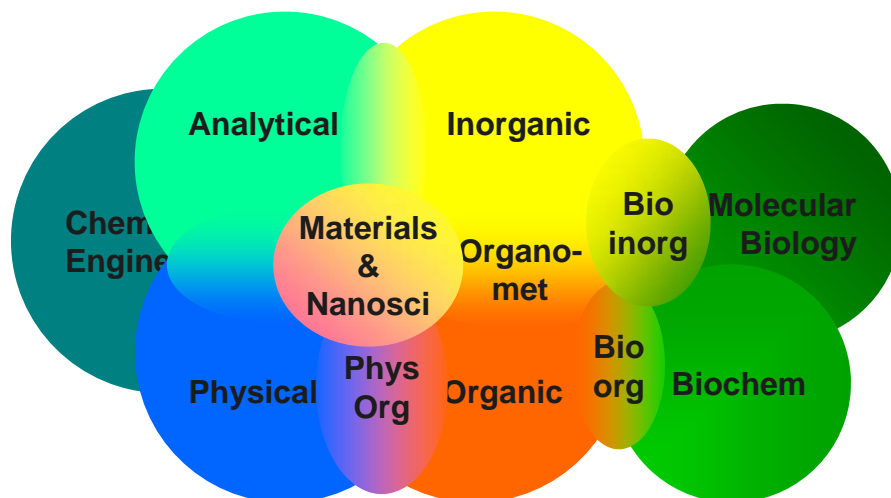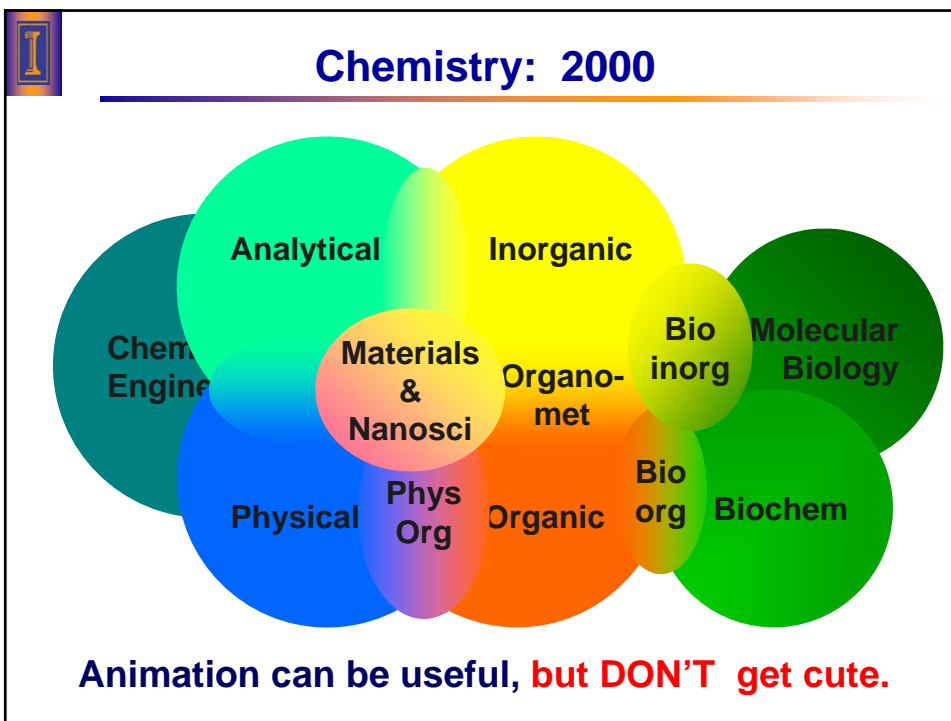
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Color

- **Color should be used judiciously for emphasis!**
  Use vivid, readable colors with limited shades.
  Design artists are partial to pastels: I'm not.

- **Use of color is very desirable for graphs, etc.**

- **Avoid overusing color for MOST text.**
  Watch out for bad contrast: e.g., yellow on white,
  or black, red, green, etc. on dark backgrounds

- **DON'T GET CUTE.**

Chemistry: 2000

Analytical

Inorganic

Chem Engine

Materials & Nanosci

Organo-met

Bio inorg

Molecular Biology

Physical

Phys Org

Organic

Bio org

Biochem

Animation can be useful, but...

Chemistry: 2000

Analytical Inorganic

Chem Engine Materials & Nanosci Organo-met Bio inorg Molecular Biology

Physical Phys Org Organic Bio org Biochem

Animation can be useful, but DON'T get cute.

Suslick's Rule of Fist

- *You're always too close to the computer monitor.*
  Strong tendency to over-stuff slides.
  Much better to have less per slide and more slides.

- Get far enough away from the screen[*]
  so that, with your arm fully extended,
  your fist blocks the whole slide.

- Slides legible at that distance
  will be visible even at back of the hall.

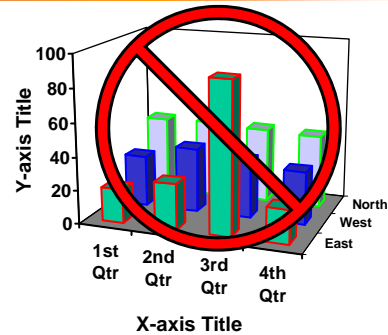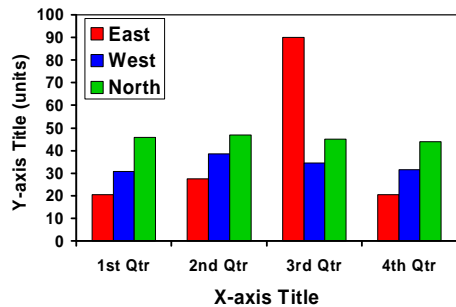 *or make the magnification small enough: ~33%

Keywords

- **DON'T** type long, complete sentences. Avoid "read along with the bouncing ball…"

- **Use keywords, shorten text.**

- **Make it easy to read: One idea per line.**

- **Don't break idea or phrase at end of the line.**
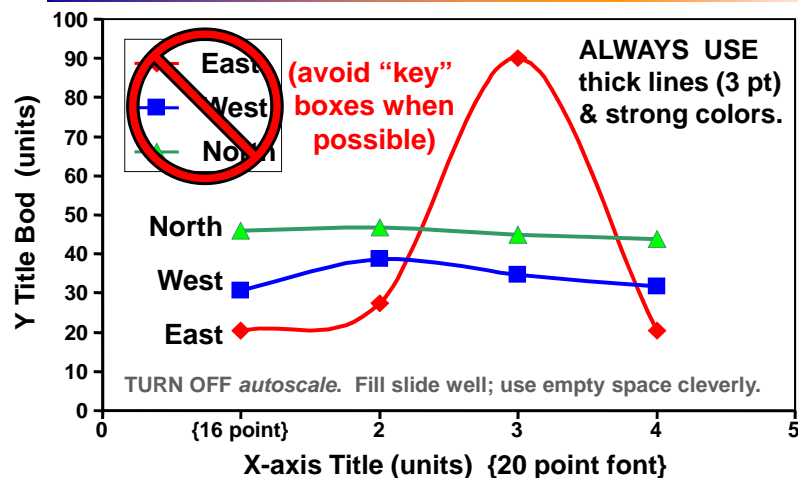
Type of Slides

- **Text Only:** usually bulleted or numbered.

- **Graphs:** x-y and bar **strongly** preferred.

- **Tables:** usually better as graph; large tables (> 9 numbers) *NEVER* work.

- **Images:** micrographs, ORTEPS, spectra, etc.

- **Conceptual Cartoons:** use judiciously, be credible, be careful!

Type of Graphs and Tables

- **ALWAYS label axes!   ALWAYS show units!**
- **KEEP IT SIMPLE: 3-D graphs usually *don't* work well.**
         Avoid novel graph forms.
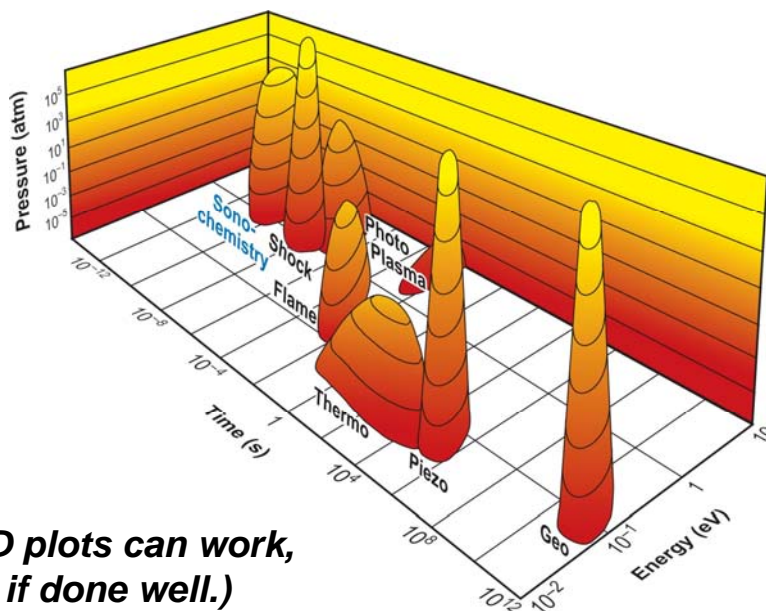- **USE STRONG COLORS.**
 Avoid complex hatch markings.

Format of Graphs

ALWAYS USE thick lines (3 pt) & strong colors.

(avoid "key" boxes when possible)

TURN OFF *autoscale*. Fill slide well; use empty space cleverly.

X-axis Title (units) {20 point font}

{16 point}

Y Title Bod (units)

Add a conclusions statement below: *Give the Bottom Line.*

The Islands of Chemistry

*(3 D plots can work,
   if done well.)*

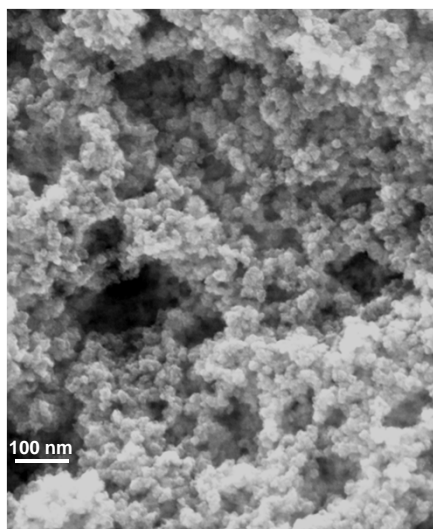# Micrographs Can Project Well.

- **Give information with image:**

  Amorphous Fe
  Sonicated $Fe(CO)_5$
  in $C_{16}H_{34}$, under Ar,
  25^oC, 20 KHz, 80 W

- **<u>ALWAYS</u> provide size scale.**

- **For projection, medium quality jpeg or png (not tiff), at $\leq$200 dpi**
  (unless copying from a very small original).

100 nm

Slide Content

Spectra & Raw Data

- **Spectroscopic data can provide credibility.**
    - Spectra must be well labeled (remember units!).
    - Label important assignments. Highlight with color.
    - Provide chemical structure with spectrum.
    - BE SURE your spectrum means what you say it does!

- **ORTEPs vs. computer models.**
    - Designate x-ray structures vs. computer models.
    - Give the chemical structure or formula.

- **Don't overdo it.**
    - Too many spectra will obscure the big issues.

Jargon & Abbreviations

- **Avoid jargon – you'll lose your audience.**

- **Use rational abbreviations, sparingly.**
  - **Watch out for TLA's (three letter acronyms).**

- **If there are lots of abbreviations, use a separate slide for them.**
  - **Consider using a second (overhead) projector or even a separate handout.**

Equations

- **Keep them simple.**
  - Remember, your goal is to convince, not 'prove'.
  - Proofs belong in written work, not in presentation.
  - Only show the important equations, limit details.

- **Define all symbols.**
  - Keep your audience's ignorance foremost in mind!

- **Make the equations big enough.**
  - Sub- and superscripts are often too small.

References

- **If you use someone else's data or figure, you MUST provide the citation.***

- **It's always nice to point your audience to lead references, *especially* if they are yours.**

- **Don't cluster references on a single slide.**
  Give them one or two per slide when relevant, so the audience can jot them down.

16 point or 18 point at the bottom of the slide is OK.

Humor

- **Be very, very careful.**
  Many scientists are badly humor impaired.
  (A defect *not* covered by the Americans with Disabilities Act.)

- **Visual humor often best, *especially* for an international audience.**

- **Rank has its privileges:**
  The more senior you are, the more you can get away with.
  (i.e., the boss's jokes always get more laughs.)

Humoresque

Cover your ass: always be politically correct.

(Well, almost always.)

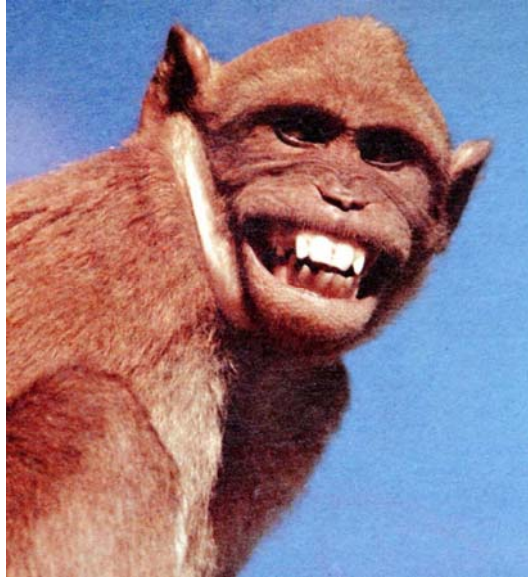*Current State of Our Two – Party System*

Humor

Make sure it's appropriate for the occasion.

The Presentation

How Long?

- **Practice talks are always** *sl o w e r* **than real presentations: adrenaline rush!**

- **DON'T go more than 50 min.**
  (After 55 min., your audience stops listening and starts wondering if they can catch their bus and if their bladders will hold out.)

- **At meetings, KEEP to the schedule!**

- **Don't worry if your audience leaves — worry when they start coming at you!**

Practice Talks

- "Be prepared." It's hard to practice too much.

- Your goal is to communicate naturally.
  Stream of consciousness doesn't work.
  A written script won't work, either – too boring.

- Get some friends to hear the talk,
  AFTER you've already practiced a little bit.

- Listen to their feedback. Don't be defensive.
  If they're confused, so will be your real audience.

- Watch out for "um", "O.K.", "you know",
  and other distracting habits.

Pointers for Pointers

- Bring your own laser pointer.

- Green is great. Red ok if 640 nm, NOT 670 nm.

- DON'T keep the laser on all the time.
  Push the button only sparingly!

- Don't get the shakes. Use two hands if needed.

- Always carry an extra set of batteries.
  Tygon tube connector prevents shorts.

The Room

- **Know your room in advance.**

- **Figure out the best lighting *BEFORE* the talk!**

- **Think about where to stand.**
  Don't block out screen from audience.
  Best to be in the open, away from podium.

- **With transparencies, point at the screen,**
  NOT the overhead! Audience looks where you do.

Presenting

- **Slow down!**

- **Modulate the voice: don't drone in MONOTONE.**

- **Be loud enough to be heard, even in the back.**
  (This may seem to you to be TOO LOUD!)

- **Speak towards audience, not towards screen!**

- **Keep eye contact with all of audience.**

Attitude

- **Relax and be modestly confident. Remember: You know more than they do about your talk.**

- **Don't be defensive.**

- **Don't be condescending.**

- **Don't try to impress, try to INFORM. An informed audience will BE impressed. Audiences can smell bullshit.**

- **Don't share your anxiety – it's contagious.**

- **Do show enthusiasm – it's contagious!**

Coming to Conclusions: Knowledge

- **"Knowledge is the small part of ignorance that we arrange and classify." — Ambrose Bierce**

- **Knowledge is *not* memorization of facts, it is the organization of the facts.**

- **Knowledge is *not* the data, it is the structure that connects the data.**

The Conclusions Slide

- **The conclusions slide should present *knowledge*.**

- **Verbal comprehension is limited:**
  **The Conclusions Slide should tell them
  what you told them.**

- **Present only the TAKE-HOME messages:**
  i.e., what should they remember in 1 month.

- **Keywords, NOT long sentences.**

Q and A: Managing Ignorance

- **Don't be defensive!**

- **Make your answers as short
  and to the point as you can.**

- **If you don't understand a
  question, ask for rephrasing.**

- **"I was gratified to be able
  to answer promptly. I said
  I didn't know." — Mark Twain**

Acknowledgments and Ending

- **Note American spelling of "acknowledgments".**

- **Make it brief and to the point.**

- **Let the audience know when you are done! Best closing line:**

    "And finally, I'd like to thank you for your very kind attention."

    (Then, shut up and wait for the applause!)