

---

# Presenting Research: Tips and Best Practices for Virtual Events

---

**March 26, 2021**

**Michelle Richards-Babb & Kevin Walden  
Office of Undergraduate Research, West Virginia  
University**

---

# WVU's 5<sup>th</sup> Annual, Virtual Undergraduate Spring Symposium!

---

- **Symposium launch** at 11 am **Sat. April 17, 2021**
- Symposium presence expected ~1-5 pm
- All presentations judged! Prizes awarded!
- All are welcome to attend. **RSVP** for link.

---

# What are the goals of a research presentation?

- Stimulate interest in your research
  - Receive feedback on your research
  - Network - generate contacts
    - expansion of research
    - job opportunities
      - include your email on your presentation
-

---

# How do I attract people to my presentation?

- **To get attention & to capture attention...**
    - use visually appealing layout of information, colors, and fonts
    - invite people to view your virtual presentation by emailing them a direct presentation link or through the spring symposium **RSVP**
-

---

# How do I attract people to my presentation?

- **To keep attention...**

- give a clear, logical, and interesting presentation of your research
- include only necessary information, focus on data
- use abbreviated writing style (i.e., omit non-essential words)

---

***Presentation should NOT be enlarged version of written report!!***

I will be visible during my pre-recorded presentation.  
How should I dress? Dress to Impress!! Business casual, at minimum.



\*photo by Nicole Barker: obtained from <http://www.flickr.com/groups/postersessions/>



\*obtained from <http://www.flickr.com/groups/postersessions/>



---

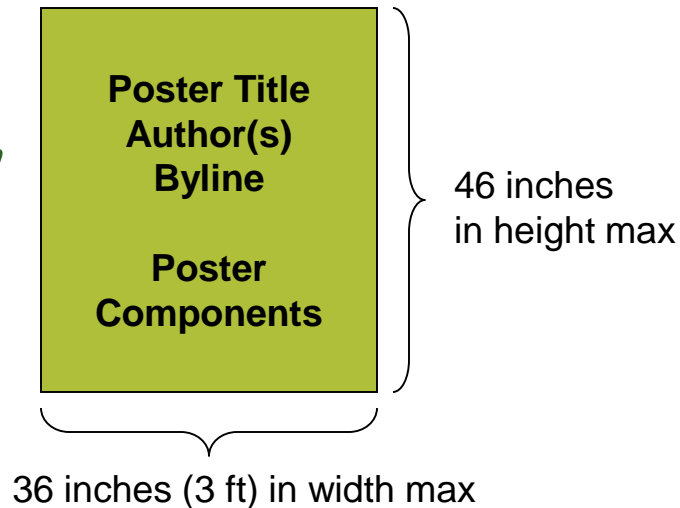
# Poster Presentation - Preparation Guidelines

---



# Poster Size? As this is a virtual event, any size poster can be used. Posters limited to 1-page but...

***WVU In-person Symposium  
Poster layout should be  
portrait mode! →***



- Virtual posters can include **additional panels that are "expanded versions of figures on the poster"** to facilitate and focus the discussion during the 5-minute presentation (see [example](#)).
- A poster that is no larger than 46 inches in height and 36 inches in width may be useful, post-COVID, at in-person WVU-based and statewide symposia.

---

***If printing, be aware of ½ in margin on each edge.***

# How do I prepare my poster?

- Use Microsoft PowerPoint or Publisher (or other presentation software). However, Microsoft products compatible with WVU computers.
  - **PowerPoint**
    - Go to Design and then Slide Size - Custom and change width, height, and orientation of page (e.g. width=36", height=46", & orientation = portrait)
    - Click View followed by Zoom to zoom in (10% gives picture of overall poster on screen) and out (100% gives actual size of text) as you prepare the poster.
  - **Publisher**
    - When first open click on More Blank Page Sizes, then Custom, Create New Page Size (or just go to Page Design and change page size) and change page size to width=36" and height=46".
    - Zoom in (10% gives picture of overall poster on screen) and out (100% gives actual size of text) as you prepare the poster.

***Plotter has tough time with gradient and/or busy backgrounds. Avoid!!***

# What components should I include on my poster?

- See poster judging rubric. Include -
  - Title: from abstract
  - Author(s): from abstract (no Dr./Prof. titles)
  - Byline/Author Affiliation: from abstract
  - Poster Body
    - *Hypothesis/goals/problem statement* (**What's the question?**)
    - *Motivation/purpose of research/broader impacts* (**Why care?**)
    - *Background information* (limited and as needed)
    - *Theoretical or Experimental Plan/Methods* (**Approach?**)
    - *Data/results* (**What did you find?**)
    - *Conclusions* (**What do your results mean? Did they answer the question?**)
    - *Future work/directions* (**Next steps?**)
    - References (if needed, 5 or fewer, shorten, on bottom)
  - Acknowledgements (**Who funded/helped with work?**)

---

***Typically, do NOT include the abstract on your poster!!***

# How should I present my research if I do not have results?

- For national/regional discipline-specific research conference, typically present only completed research.
- For our institutional symposium, it is understood that your research may be *in progress*.
- No results yet? Recommended language for presentation:
  - **“Preliminary results indicate that.....”**
  - **“We expect our results to confirm.....”**
  - Be sure to check with your faculty research mentor.

---

# Guidelines of Poster DOs...

## Colors

- Use light background with dark lettering. Uses less ink and more readable.
- Use text colors consistently (e.g., main headers in dark blue, subheadings in tan, rest of text in black)
- Limit to 3-4 compatible colors

**(Not red on black)**

**(Not green w/red)**



# Guidelines of Poster DOs...

## Text

- Left justify most text except title/author/affiliation
- Use bold, italics, underlining consistently, but sparingly
- Use easy to read font - Times New Roman (text) or Arial (headings/title)
- Use large font size
  - Title 72 point (visible 15 ft away)
  - Author/Byline 48 point
  - Headings/Subheadings 44 point (visible 6-7 ft away)
  - Text 32 point (visible 3 ft away)
- Minimize complete sentences
- Make title/headings compelling/attention grabbing similar to a newspaper headline.
- State results explicitly in headings (e.g. Results: Rats ingesting pot live longer!). Attracts attention from far away.

---

***HINT...Print out a “handout” version on an 8 1/2” x 11” piece of paper. If text is unreadable on handout, then text is too small. Increase the font size.***

---

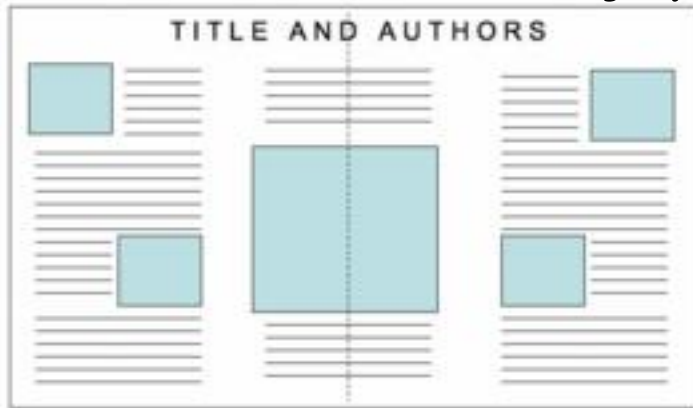
# Guidelines of Poster DOs (cont)...

## Layout

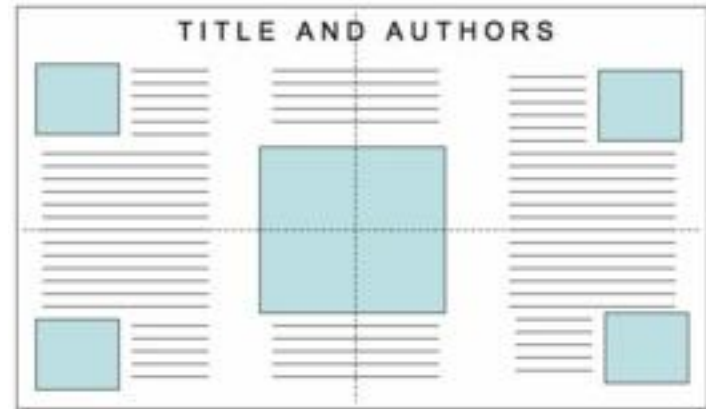
- Arrange top to bottom then left to right
- Use bulleted/numbered lists for methods/conclusions
- Include some white space
- Use arrows or numbered headings to direct reader
- Use good balance of graphics and text
- Use symmetric arrangement



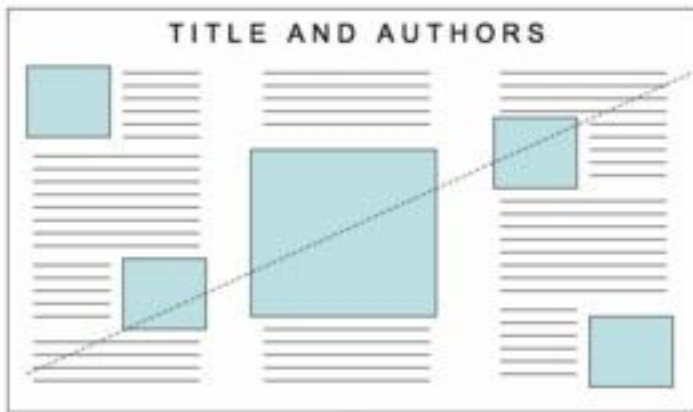
***Make visually appealing!!***



**Good Layout: Vertical Symmetry**



**Good Layout: Horizontal & Vertical Symmetry**



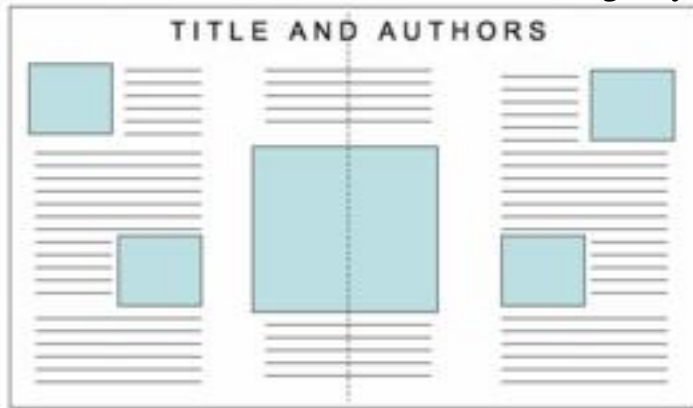
**Good Layout: Diagonal Symmetry**



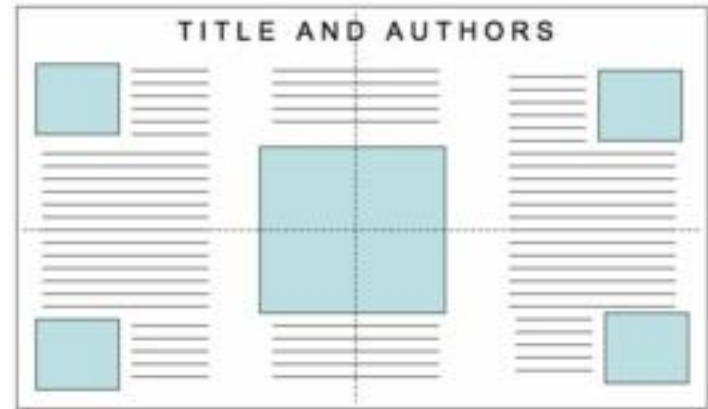
**Poor Layout: No Symmetry & Text Heavy**

\*Obtained from : Hess, G., Tosney, K., and Liegel, L. Creating Effective Poster Presentations, <http://www.ncsu.edu/project/posters/NewSite/CreatePosterLayout.html>.

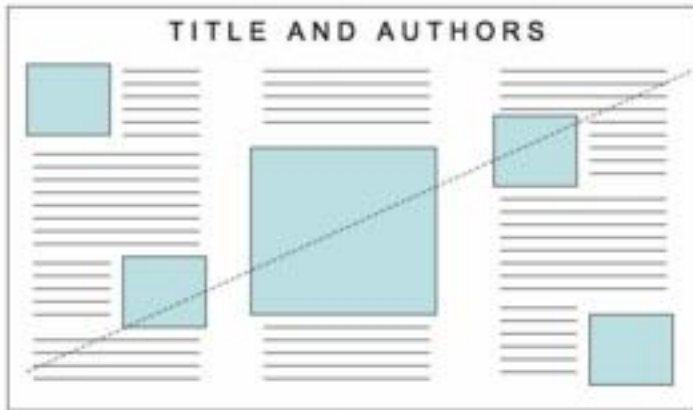
***Make visually appealing!!***



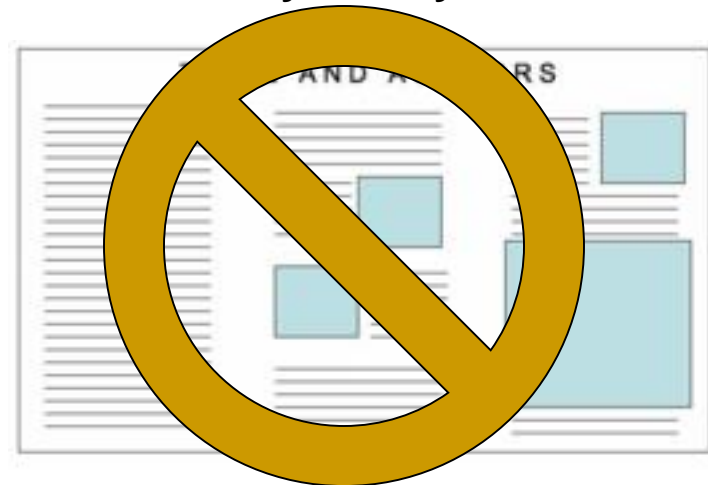
**Good Layout: Vertical Symmetry**



**Good Layout: Horizontal & Vertical Symmetry**



**Good Layout: Diagonal Symmetry**



**Poor Layout: No Symmetry & Text Heavy**

\*Obtained from : Hess, G., Tosney, K., and Liegel, L. Creating Effective Poster Presentations, <http://www.ncsu.edu/project/posters/NewSite/CreatePosterLayout.html>.

---

# Guidelines of Poster DOs (cont)...

## **Graphics**

- Viewable 3 feet away at a minimum
- Use heavier lines to improve viewing
- Text should support graphics (not vice versa)
- Limit rows/columns in tables (> 20 table cells overwhelms)
- Limit bars on graph (6 or fewer) or lines (3 or fewer)
- On separate graphs: use same scale (especially for comparisons)

---

# Guidelines of Poster DOs (cont)...

## Graphics

- Use graphics over text whenever possible
- *Images/graphs > flow charts (e.g., for methods) > tables > bullet lists > text*
- Pictures – use jpeg format instead of tif (smaller size)
- Use white background within graphics
- Label legend directly on graphic. Legend outside of graphic takes up space.
- Simple, polished, and publication quality

---

***Try for 40% graphics, 40% empty space, and 20% text.***

---

# Guidelines of Poster DOs (cont)...

## **Poster Content**

- Minimize methods section (unless poster is about new method)
  - Throughout, stay focused and keep to message
  - Focus message more on results
  - Interpret results in conclusion section (don't restate results again!).
  - Place results in context within the broader research field.
-

# Guidelines of Poster DON'Ts.....

- Use fluorescent color - attention grabbing but **visually annoying**
- Use pastel colors for text – **hard to read!**
- Use text anywhere that is smaller than 24 point
  - Can you read this 10 point font?
- Clutter with text
- Use complete sentences and wordy paragraphs (< 50 words per section)
- Use cheesy clip art
- Use annoying/busy/distracting background
- Use dark or gradient background
  - Postscript plotting feature has major issues with gradient backgrounds. **Avoid gradient backgrounds in order to minimize printing time!**

***Overall: Simple is better!***

---

# Poster Critiques

## \*Pigs in Space Poster Example

(see <http://colinpurrington.com/wp-content/uploads/2012/02/bad-scientific-poster-example.jpg>)

Use simple rubric to assess this poster. See <https://projects.ncsu.edu/project/posters/60second.html>.





# Can Suburban Greenways Provide High Quality Bird Habitat?



George R. Hess :: NC State University :: Department of Forestry & Environmental Resources :: Raleigh NC 27695-8002 USA :: george\_hess@ncsu.edu  
 Christopher E. Moorman, Jamie H. Mason, Kristen E. Sinclair, Salina K. Kohut :: NC State University :: Department of Forestry & Environmental Resources  
[www4.ncsu.edu/~grhess/GreenwaysForWildlife](http://www4.ncsu.edu/~grhess/GreenwaysForWildlife)

## Birds of Conservation Concern in Decline

- Many bird species of conservation concern – including neotropical migrants, insectivores, and forest-interior specialists – decline with increasing human development
- Greenways might mitigate this effect
- Habitat patch size, vegetation composition & structure, and landscape context are key factors
- Standards are lacking for designing and managing suburban greenways as high quality habitat

## Objective: Greenways for the Birds

- Determine how development-sensitive forest birds are affected by
  - forested corridor width
  - adjacent development intensity
  - vegetation composition & structure
- Develop recommendations for greenway designers and planners

## Study Design & Independent Variables

- Sampled 34 - 300m corridors in Raleigh & Cary, NC, USA
- Sampled range of
  - Forested corridor widths (20 – 1,200m)
  - Adjacent density (low density residential – office/commercial)
- Additional measures
  - Vegetation composition & structure in corridor
  - Land cover in 300m x 300m adjacent to corridor (context)

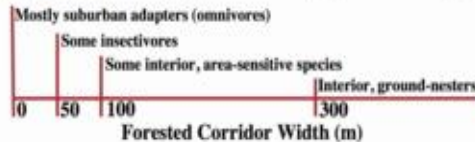
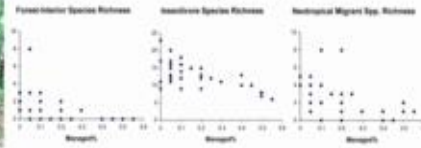


- Measured richness & abundance of
  - Breeding birds
  - Neotropical migrant birds during stopovers
  - Mammal nest predators

## Breeding Birds of Concern More Common in Wider Greenways with Less Managed Area Surrounded by More Forest Canopy



- 8-minute, 50m point counts at center of corridor
- Revisited 4 times during breeding season

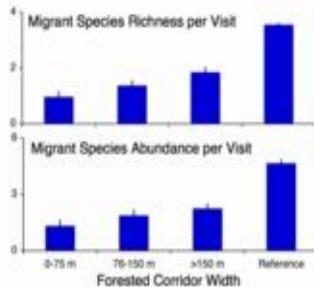


### Significant Predictors for Breeder Abundance

- Greenway:**  
 (-) Managed Area  
 (+) Shrub Cover
- Adjacent Landscape:**  
 (+) Canopy Cover  
 (-) Building Density  
 (-) Bare Earth

## Spring Neotropical Migrant Stopovers More Common in Wider Greenways with More, Taller Hardwood Trees

- 200m x 25m transects along one side of greenway path
- Revisited sites for two spring seasons and one fall season
- Width *not* significant, but trend consistent with other findings



### Significant Predictors for Spring Migrant Abundance

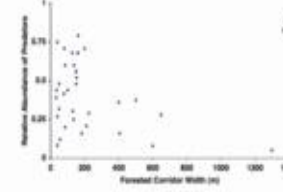
- Greenway:**  
 (+) % Hardwoods  
 (+) Canopy Height
- Adjacent Landscape:**  
 (-) Bare Earth

## Nest Predators Less Common in Wider Greenways with Narrower Paths

- Five baited scent stations along each greenway segment
- Observed for 5 nights each



Predator Abundance Decreased with Corridor Width



### Significant Predictors for Predator Abundance

- Greenway:**  
 (-) Corridor width  
 (+) Trail width  
 (+) Mature forest  
 (+) Ground cover  
 (-) Vine cover
- Adjacent Landscape:**  
 (-) Building density

## Greenways for Development-Sensitive Forest Birds Might Conflict with Intense Recreational Use

### People & Managers Prefer ...



- Good for walking, running, cycling, strollers, wheelchairs
- Easier to maintain, especially with higher intensity use

### Forest Birds Prefer ...



- Narrow path avoids splitting forested corridor
- Discourages heavy human use
- Fewer nest predators

## Potential Solution: Wide Corridor, Trail Near Edge

- Make corridors at least 50m wide; wider is better
- Don't split forested corridor
  - Keep trails as narrow as possible
  - Avoid wide grassy areas along trails within forested corridor
  - Locate trails near the edge of forested corridors

---

# Better Research Poster in Less Time – New Poster Design (Poster 2.0) Sweeping the Conference Circuit

- Developed by Mike Morrison (psychology grad student at Michigan State U.)
  - Frustration with perceived lack of efficiency of poster events for presenter and attendee prompted him to develop a sleek poster design.
-

---

# Poster Design (Poster 2.0)

- New Poster Design –
    - Main research finding in center in plain language and large font.
    - QR code below where can find more info.
    - Side panels for title, authors, byline and typical poster info.
  
  - For more information, see:
    - How to create a better research poster in less time [YouTube Video](#)
    - NPR (6/11/19 All Things Considered) “To Save the Science Poster, Researchers Want to Kill it and Start Over” [article](#)
    - Poster 2.0 [Templates](#)
-

# Title

Authors

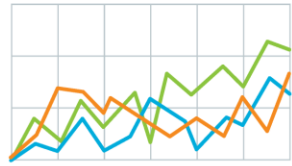
## Intro



## Methods



## Results



## Discussion

More research is needed, but...



Main finding goes here,  
translated into **plain english**.  
Emphasize the important  
words.



Take a picture to  
download the full paper

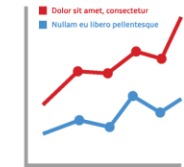
## Extra Tables & Figures

DISCOVERING THE LANGUAGE OF MEANINGFUL WORK

Table 3. Correlation of all variables

	1	2	3	4	5	6	7	8	9	10	11	12	
1. Observed weekly hours	1												
2. WAGE	0.18**	1											
3. CHINA	0.00	0.00	1										
4. Self-reported meaningfulness	0.00**	0.00**	0.00**	1									
5. Other meaningfulness	0.00**	0.00**	0.00**	0.00**	1								
6. CHINA	0.00	0.00	0.00	0.00	0.00	1							
7. Positive Psychology	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	1						
8. Autonomy	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	1					
9. Absent Leadership	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1				
10. Positive Psychology	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	1			
11. Autonomy	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	1		
12. Transparency	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	
13. Algorithmic control	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1

*Note.* \*\* p < .01. \*\*\* p < .001.



DISCOVERING THE LANGUAGE OF MEANINGFUL WORK

Table 4. The relationship between positive outcomes and meaningfulness

	WAGE	Single-line Meaningfulness Control	CHINA	Other valid Meaningfulness
Positive Psychology	0.00**	0.00**	0.00**	0.00**

*Note.* \*\* p < .01. \*\*\* p < .001.

---

# What should I do for the audio part of my poster presentation?

- Give an overview of your project (5 min. max) using your poster visuals.
  - Start broad (w/impact), then move on to more focused information.
  - Non-expert should be able to understand!
  - Avoid jargon/acronyms!

---

# What should I include in my project overview?

- In the overview you should display:
  - ❑ Project knowledge (Main focus of research? Importance/impact? Explain Results/Conclusions?)
  - ❑ Logical presentation (Clear/coherent? Refer to poster visuals?)
  - ❑ Background information/understanding (as evidenced by ability to explain project)
  - ❑ Presence (Speak clearly? or Read from poster?)
  - ❑ Ability to answer questions about your research (evidence of project knowledge)

***Before recording, practice your poster presentation and limit to 5 minutes!!***

---

---

# Overall Poster Should Be...

- Focused
- Coherent
- Ordered
- Visual
- Graphic

***Poster is expanded and visual form of abstract!***

***Poster should stand alone and tell your research story  
without you present AND with minimum words!***

---



---

# Oral Presentation - Preparation Guidelines

---

# General Strategy (15 minutes max.)

1. Tell what going to tell them → forecast
    - \* *simple*
    - \* *gear to all*
  2. Tell them → body
    - \* *more complicated*
    - \* *gear to experts*
  3. Tell them again → summary/  
conclusions
    - \* *simple*
    - \* *gear to all*
-

---

# Oral Presentation DOs.....

- DO KISS
-

# Oral Presentation DOs.....

- DO KISS



# Oral Presentation DOs.....

- DO KISS

No not KISS, the rock band!! But.....

Keep It Simple Stupid!!



# Oral Presentation DOs.....

- DO KISS

No not KISS, the rock band!! But.....

*Keep It Simple Stupid!!*

- DO know your material.
- DO leave out material you can't explain.
- DO use pictures instead of words.
- DO practice. Practice a lot!
- DO assume 2 minutes/slide.
- DO speak up.
- DO look at audience/camera.
- DO check for errors (or is it **errors**?).
- DO use  $\geq 18$  pt font.
- DO act confident.
- DO explain completely charts/graphs & point out titles/units for axes.
- DO exude enthusiasm for your research!



---

# Oral Presentation **DON'Ts**.....

- **DON'T** use acronyms and jargon. If must use - define and remind.
  - **DON'T** face or block the screen.
  - **DON'T** include an outline slide.
  - **DON'T** be messy.
  - **DON'T** cover w/words. Minimize full paragraphs/sentences.
  - **DON'T** act bored.
  - **DON'T** swear.
  - **DON'T** include extra material.
  - **DON'T** run over time.
-



# What slides should I include in my oral presentation?

- **Title slide (Title, Authors, Affiliation)**
- **Motivation Slide:** Why should we care about this research? What is the “big picture” of why doing this research?
- **Background Info:** Limited and only if needed.
- **Hypothesis/Objectives:** What want to do and why? What’s the question? How do objectives attempt to solve outstanding problem/issue in this field of research? (i.e., before we can get to the “big picture” we have to understand \_\_\_\_\_)
- **Theoretical/Experimental Plan/Methods:** What have you done and how? What are going to do and how? What is your approach?
- **Data/Results (~3 slides):** What are results up to this point? What did you find? Use graphs to show trends. Pictures are good. Tables of data not good but better than words. Completely explain all results/graphs, etc. Take ownership of your results.
- **Conclusions:** What have you learned? What do your results mean and did you answer the question? What still needs to be addressed? Display in bullet form.
- **Future Work/Directions:** What are you going to do next (future studies)?
- **References:** Include as needed throughout (partial citation at bottom of slides) or include references in one slide at end.
- **Acknowledgements:** Who funded/helped with work?

***Do NOT include the abstract !!***

---

# Audio Recording

---

---

# Recording Your Presentation

- *Combine* audio and visual elements. How? Be creative. Use any device with the capacity to capture audio and visual input (e.g., laptop, camera, smartphone)
    - Record simultaneous audio and video of yourself standing in front of your projected presentation or artwork.
    - Add audio to a poster or presentation within PowerPoint and export the presentation as a video file (mp4). Upload video file directly to personal YouTube channel to generate a url.
      - Microsoft's instructions on how to record audio within PowerPoint presentation, [please click here](#).
      - Instructions from Microsoft employee on exporting PowerPoint to a video file, [please click here](#).
    - If needed, use video or web conferencing software to record your presentation (e.g., Zoom or Collaborate Ultra)
-

---

# Recording Your Presentation

- Presentation Examples
    - WVU's 2020 Fall Undergraduate Research Symposium
    - 2021 Undergraduate Research Day at the Capitol
    - Other examples and resources
-

---

# After your experience, be sure to thank:

- your faculty research mentor,
- secondary mentors (graduate students, postdocs, etc.) with whom you have worked, and
- any other folks who have helped you in your project.

***Remember: Faculty who mentor UGs in research/creative work consider it an opportunity to train and enable the next generation to carry on the enterprise of scholarly activity in their field.***

---

---

# Emblems, Acknowledgements, and Financial Support

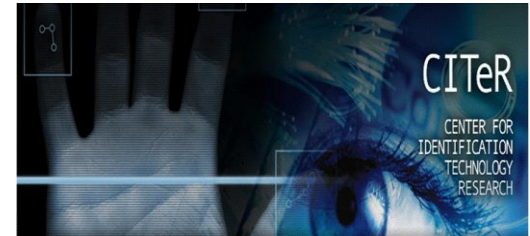
---

---

Include one type of WVU Emblem (perhaps at bottom and not too large): see <http://brand.wvu.edu/brand-guide/identity/logo> for more logos and logo no-nos.



**Include acknowledgements and emblems: Ask research mentor BUT...place at bottom/end and don't make them too large**



**Do include financial support: Ask research mentor!**



---

# Do include financial support: Ask research mentor

## **WVU SURE**

*Sponsored in part by the West Virginia Research Challenge Fund through a grant from the Division of Science and Research, HEPC and in part by (i) the WVU Provost's Office, (ii) the Davis College of Agriculture, Natural Resources, and Design, (iii) the Eberly College of Arts and Sciences, (iv) the Statler College of Engineering and Mineral Resources, (v) the School of Medicine, (vi) the Colleges of Creative Arts, Education and Human Services, and Business and Economics, (vii) the Honors College and (viii) the Departments of Chemistry and Biology.*

## **SURE/LSAMP**

*Sponsored by NSF Louis Stokes Alliance for Minority Participation (LSAMP) KY-WV Mid-Level Alliance Phase II (LSAMP-1305039) grant with partial funding through SURE.*

---

---

# Resources

---

---

# WVU Resources

- How to Prepare for a Poster Session by WVU's Ian Harmon:  
<https://libguides.wvu.edu/c.php?g=903129&p=6500445>
- Poster Printing Info at WVU Libraries:  
<https://lib.wvu.edu/services/printing/poster/>
- WVU's SpeakWrite Website: <http://speakwrite.wvu.edu/>

# External Resources

- Humorous Advice on Designing Conference Posters by Colin Purrington (Swarthmore College): <https://colinpurrington.com/tips/poster-design/>
- Impactful Scientific Posters (ACS): [https://www.youtube.com/watch?time\\_continue=215&v=J-SRWog-5ls](https://www.youtube.com/watch?time_continue=215&v=J-SRWog-5ls)
- Designing Effective Research Posters by Justin Matthews (California State University, Monterey Bay): [http://graduatestudent.ucmerced.edu/jmatthews/Site/Designing\\_Effective\\_Research\\_Posters.html](http://graduatestudent.ucmerced.edu/jmatthews/Site/Designing_Effective_Research_Posters.html)
- Creating Effective Poster Presentations by George Hess, Kathryn Tosney and Leon Liegel (NC State University): <http://www.ncsu.edu/project/posters/> & 60-Second Poster Evaluation by George Hess (NCSU): <https://projects.ncsu.edu/project/posters/60second.html>
- Humanities Poster Tips (from NYU): <https://wp.nyu.edu/archivesandpublichistory/2014/05/13/poster-tips-for-humanities-conference-posters/>
- Posters for Humanities and Social Sciences by Aimee Roundtree (UHD): <https://www.uhd.edu/academics/sciences/scholars/Documents/workshop-poster.pdf>
- Giving an Effective Poster Presentation: [https://www.youtube.com/watch?time\\_continue=606&v=vMSaFUrk-FA](https://www.youtube.com/watch?time_continue=606&v=vMSaFUrk-FA)
- Great collection of Flickr posters, some good and some not so good: <http://www.flickr.com/groups/368476@N21/pool/>