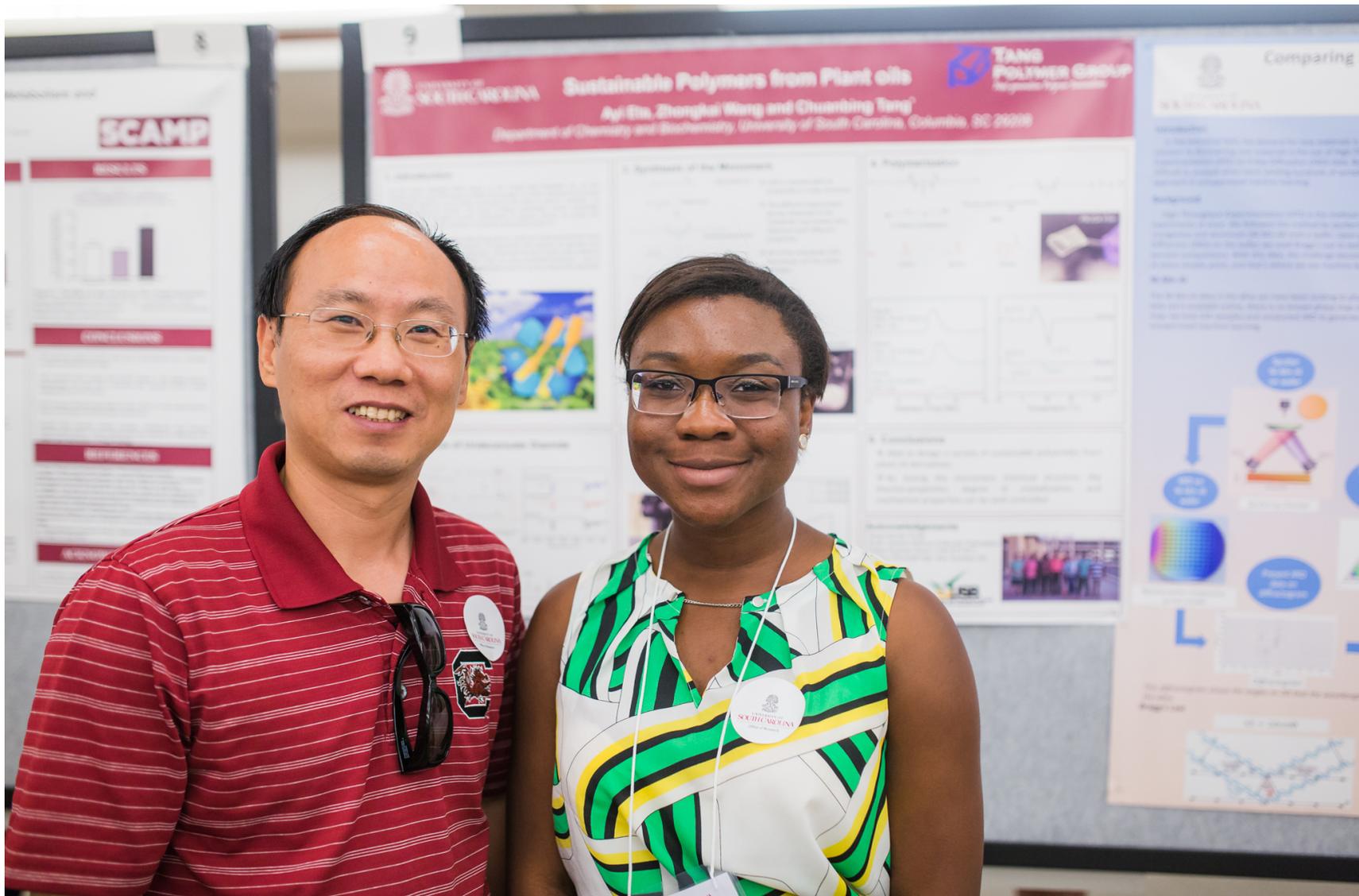


WHAT IS A POSTER SESSION?







UNIVERSITY OF
SOUTH CAROLINA



UNIVERSITY OF
SOUTH CAROLINA

GENERAL OVERVIEW



UNIVERSITY OF
SOUTH CAROLINA

A SUCCESSFUL POSTER...

Conveys a **clear message** and presents **high-impact** visual information with **minimum** text

Readable | use clear language and correct grammar in poster text

Legible | all poster text should be readable from 5 feet away

Well-organized | group items logically and visually

Succinct | you have 10 seconds to grab your audience's attention



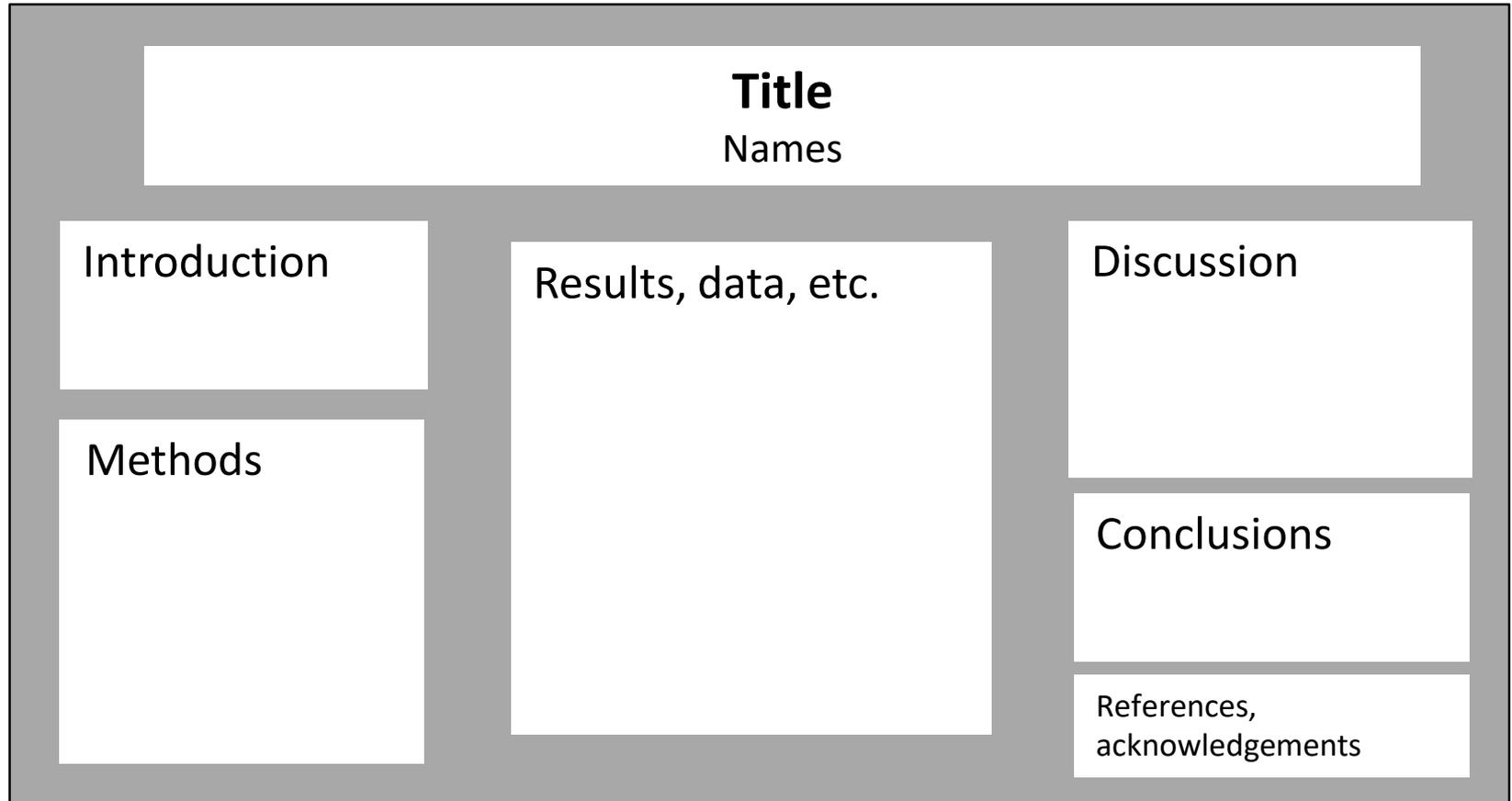
POSTER CONTENT: What Do I Include?

- Abstract (ask your mentor if this should be included)
 - Introduction/Background (context for your work)
 - Hypothesis/Research Question
 - Methods (what did you do)
 - Results (what did you find)
 - Discussion (what do your results mean – interpret the data)
 - Conclusions (what you learned)
 - Future plans or next steps
 - References/Works cited
 - Acknowledgements
- Introduction, background, or overview
 - Activity/Event description (what did you do)
 - Motivation or purpose (why did you do it)
 - Reflection (what you learned; what was the impact on you)
 - Significance (what it means; what you want others to learn/know from your experience)
 - Future plans or next steps
 - References/Works cited
 - Acknowledgements

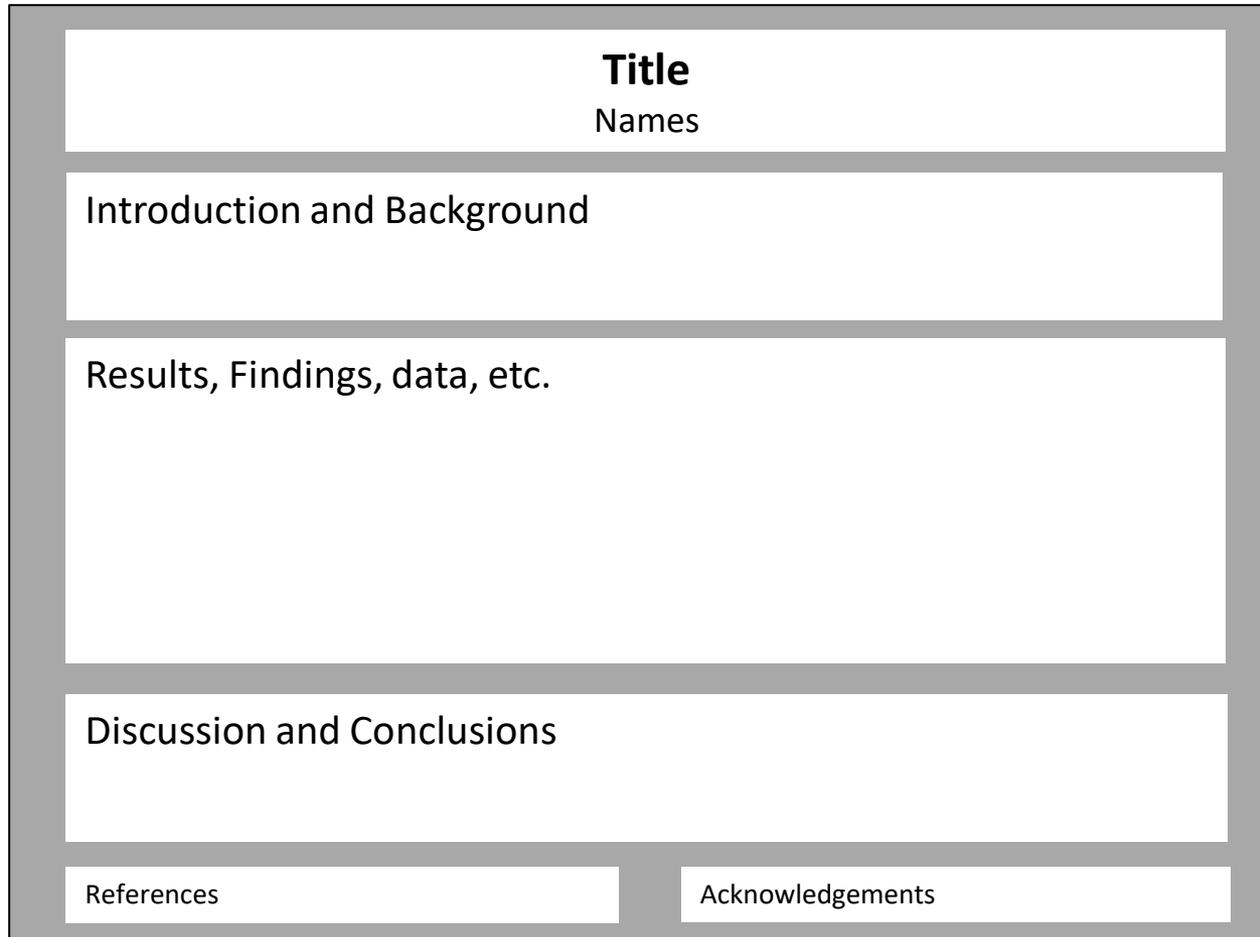
**Research presentations*



OVERVIEW: LAYOUT



OVERVIEW: LAYOUT



3 IMPORTANT QUESTIONS

- What is the most important/interesting/astounding finding from my project?
- How can I visually share my project with event attendees? Should I use charts, graphs, photos, images?
- What kind of information can I convey during my talk that will complement my poster?

Information from <https://guides.nyu.edu/posters>





GABA Mechanisms in Audiogenic Seizures Studied Using Herpes Virus and Lentivirus Mediated Gene Transfer

S. A. Epps^{1,2}, J. R. Coleman¹, ¹Department of Psychology, University of South Carolina, Columbia, SC 29208; ² South Carolina Honors College, University of South Carolina, Columbia SC 29208



Introduction

Audiogenic seizures (AGS) susceptibility in Long-Evans rats results from exposure to intense sound during an early sensitive period of development and is characterized by wild running and clonus (convulsions) following intense sound exposure. Experimental models of seizure disorders have demonstrated the efficacy of increasing GABAergic activity within the inferior colliculus (IC) in the AGS model. Increasing IC GABA levels directly or indirectly (via injection of GABA agonists) or increasing the availability of GAD67 reduces AGS incidence and severity. Alteration of GABA_A receptor configurations also appears to be a critical feature of seizure susceptibility.

Gene transfer technology shows promise for the study and treatment of seizure disorders. Previous studies showed the effectiveness of injecting a herpes viral vector encoding for GAD65 or GABA_A1 to reduce the incidence of wild running and clonus behaviors. To study long-term expression, a lentivirus viral vector was injected into the central nucleus of the IC in order to change GAD65 or GABA_A1 expression. Behavioral testing was then conducted to examine the effect of viral gene transfer on AGS. The incidence and latency of AGS, wild running and clonus convulsions were examined before and after injection. Immunohistochemical and histological examination of the injection site followed behavioral testing.

Previous Findings

Wild Running and Clonus Incidence Percentages Following GAD65 and Alpha-1 Mix Sensa Herpes Simplex-1 Injections

Previous studies found that infection with GAD65 sense herpes viral vector significantly reduced the incidence of overall clonus, $\chi^2=2.893$, $p=0.05$. For wild running, there was a marginal decrease in incidence between all pre-tests and Post-test 2, $\chi^2=2.268$, $p=0.058$, as well as significant decreases between each post-test and Post-test 3.

Methods

AGS susceptibility in Long-Evans rats is typically induced by exposure to pure tone bursts (15 kHz, 125 dB SPL, 8 sec) on PND 18, followed by subsequent testing on PND 32 (125 dB white noise test, session 2, n=1).

Subjects were pre-tested for AGS 2 and 3 days before surgery. Incidence of AGS activity (seizure, wild running, or wild running & clonus) were recorded as well as latency to wild running and clonus.

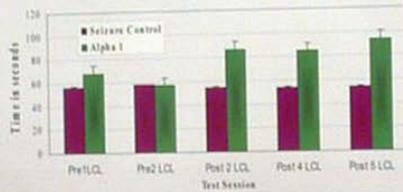
Behavioral ICNCR sections (1 of each) were made of PND 30-31 using thionin-aphanatic[®] (retrograde) technique, and self-injecting 11.0 µg/ml GABA_A1c₁ lentivirus or 0.8 µg/ml GAD65 lentivirus viral vectors.

After testing for AGS was conducted 2 through 30 days after surgery using a 125 dB white noise.

Subjects were intracranially perfused with 1M PFA, followed by perfusion with 4% paraformaldehyde. Frozen sections (4 sections/100 µm) were processed for β-galactosidase (β-gal) signal, GAD65 (Chromatin), or Nucleo-Substace.

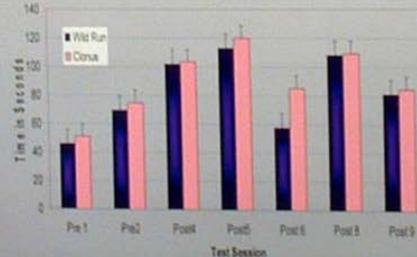
Results

Clonus Latencies Following Lentivirus Alpha-1 Sense Injections Compared to Control Rats



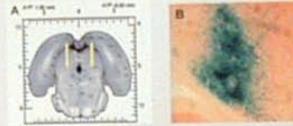
Treatment with lentivirus GABA α-1 injections yielded no significant changes in latencies to wild running. However, the latency to clonus increased significantly from pre-testing to Post-test 2 ($p=0.028$, $p<0.05$), Post-test 4 ($p=0.019$, $p<0.05$), and Post-test 5 ($p=0.042$, $p<0.05$), as compared with seizure control rats. The overall incidence of clonus between pre-tests and post-tests was only marginally reduced, $p=0.080$.

Wild Running and Clonus Latencies Following Lentivirus GAD65 Sense Injection



The latency to wild running increased significantly from Pre-test 1 and 2 to Post-test 5 ($p=0.005$, $p=0.020$, and $p=0.003$), as compared to a control group. The latency to clonus also showed a significant increase as compared to control groups. This increase occurred for Post-test 4 ($p=0.007$) and Post-test 5 ($p=0.003$). The incidence of AGS seizures decreased and decreased in rats injected with GAD65 Sense Lentivirus. Chi-square analysis for the incidence of wild running showed a significant decrease, $\chi^2=4.122$, $p=0.038$. Overall incidence of clonus also significantly decreased, $\chi^2=7.811$, $p=0.005$.

Diagrams and Figures



A. The central nucleus of inferior colliculus (CNIC), located in the midline region of the rat brain.
B. β-galactosidase (β-gal) staining shows injection site in medial central nucleus of right IC on neutral red background (50x).

Conclusions

1. Previous data showed that blocking GAD65 or GABA_A1 expression increases incidence of wild running and clonus in normal seizure resistant rats. Also, enhancing herpes GAD65 expression significantly reduces the incidence of clonus in primary post-testing in normal seizure resistant rats. Enhancing herpes GABA_A1 reduces the incidence of wild running to primary post-testing of normal seizure resistant rats.
2. Enhancing lentivirus α-1 expression significantly increases the latencies of clonus during post-testing. The overall incidence of clonus was marginally reduced.
3. Latency to wild run and clonus increased significantly in rats treated with a GAD65 sense lentivirus injection. Chi-Square results also showed a significant decrease in wild running and clonus incidence following this injection.
4. This research suggests that introduction of viral vectors which influence the GABA synapse can be used systematically to study seizure mechanisms. This method may be useful in clinical treating human epilepsy in the future.

References & Acknowledgements

References
1. Ross, K.L., & Coleman, J.R. (2008). Audiogenic seizures in the developmentally aged rat. *Developmental Neurobiology*, 34, 30-40.
2. Fingert, C.L., et al. (2008). GABA in the inferior colliculus plays a critical role in controlling audiogenic seizures. *Brain Research*, 1191, 40-47.
3. Coleman, J.R., et al. (2008). The role of GABA in the inferior colliculus in the development of audiogenic seizure susceptibility. *Brain Research*, 1191, 135-144.
The authors wish to thank the following:
A. J. Pineda, K. E. Venable, L. E. Martin, K. Kumar, M. Dink, J. Deane, and K. C. Ross. ¹Department of Psychology, University of South Carolina, Columbia, SC 29208; ²Department of Human Resources, Columbia College, Columbia.

Want to provide additional information or handouts during your presentation?

Add a folder or envelope of info to bottom of the display board

MUST bring your own push pins or thumbtacks



UNIVERSITY OF SOUTH CAROLINA

CREATING YOUR POSTER



UNIVERSITY OF
SOUTH CAROLINA

COLOR SCHEME

- When choosing colors for your poster, err on the side of being conservative.

Chartreuse and pink? ACK!

- Avoid background pictures



TEXT

Break text into easy-to-read chunks:

- Use paragraphs sparingly
- Use lists/bullets
- Use audience appropriate language
- Use distinctive section headers
- Emphasize with text size, color, or font



FONT

- Use an easy-to-read font for all text at a minimum size of 24
- **AVOID ALL-CAPS FOR EXTENDED BLOCKS OF TEXT, AS THEY ARE HARD TO READ IN LARGE BLOCKS OF TEXT.**
- Limit your poster to two fonts:
 - one serif
 - one sans serif



FONT

Using “standard” fonts minimizes printing concerns. Unknown fonts might be changed during the printing process, resulting in changes to your design and layout.

Serif:

Times New Roman

Garamond

Georgia

Sans Serif:

Arial

Calibri

Verdana

Symbols, math: Use only the most basic symbols needed –
save poster as pdf

TEXT/FONT

Suggested font sizes/types/styles

Title - sans serif, Title Case, 90-120pts

Sub Titles - sans serif, 72 pts

Section Titles - sans serif, 45 pts

Main Text - serif font, minimum 24 pts



IMAGES

- Check the quality of your image, picture, graph, etc. BEFORE printing (check it at 100% size – find this under “View” in PowerPoint)
- Avoid pixilated pictures and graphs!
- Pictures, graphs, etc = **YES!**
- Clip art = **NO!**



IMAGES

Don't use images you find on the internet for your poster unless you know:

1. The images are not copyrighted
2. The images are large enough to print well on your poster



PRESENTING YOUR POSTER



PREPARE YOUR TALK

- Prepare a 30 sec, 2 min, and 5 min overview of your project
- Explain the context of your research question and why it is relevant/important (background)
- Explain your objective and what you did (methods).
- What were your results (explain figures and tables)?
- What do the results mean – what is the significance of your research project?

Questions you must be able to answer:

So what? Why should I care?

CONSIDER YOUR AUDIENCE

- Be prepared to talk with experts and non-experts
- Know definitions of every word on poster and be able to define acronyms
- Critically review your poster for potential questions – anticipate questions people might ask
- Don't be scared of “I don't know,” “I hadn't thought of that,” and “Great idea!”
- Don't assume knowledge!



ENGAGE THE VIEWER

- Invite the viewer to ask questions or offer to “walk them through it”
- Use the poster as a visual aid to emphasize points and share information (point to things, use your poster to help your discussion)
- Don’t stand directly in front of your poster
- **Be friendly and welcoming!**



HAVE A POSITIVE ATTITUDE AND DRESS PROFESSIONALLY

- If you are bored – your audience will be bored!
- Show your enthusiasm for your topic.
- Be neatly neutral
- Business casual (suits not required)
- Sensible shoes (remember you will be standing in one place for 1.5 hours!)



QUESTIONS?

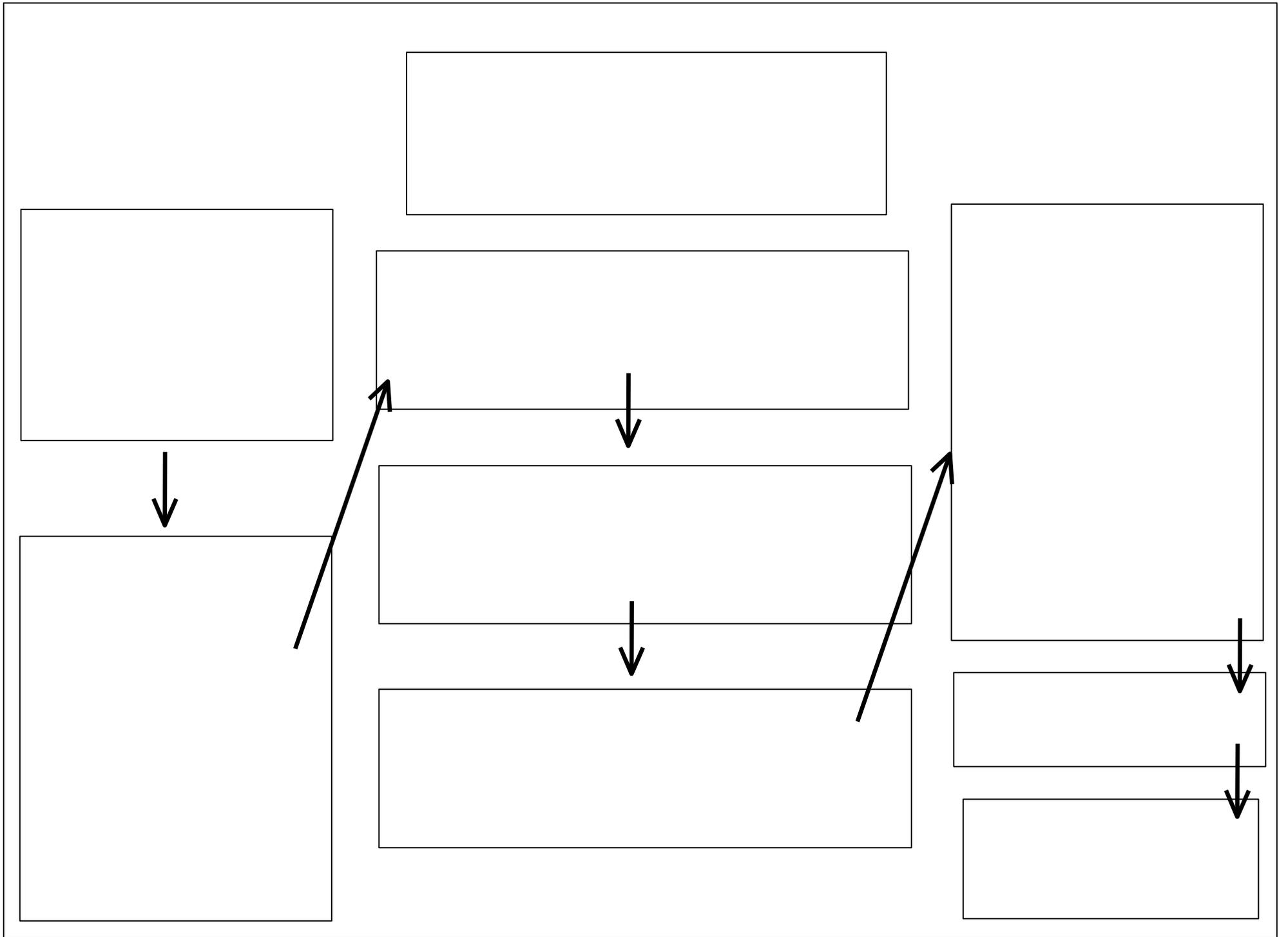
Contact the Office of Undergraduate Research

our@sc.edu

(803) 777-1141



UNIVERSITY OF
SOUTH CAROLINA



How to make a poster using PowerPoint

Start PowerPoint: Make a New presentation – Blank.

Choose the size of your poster: Depending on your version of PPT: Go to Design>Page Setup OR for older versions, File> Page Setup. A Page Setup screen will appear. In the Slides sized for option, choose Custom. Enter the Height and the Width by inches. [[Find recommended sizes here](#)]. Click OK. Do this before you begin creating the poster! Failure to do so may result in a poster that is not printable, or not printed at the size you need. Click OK.

Adding text: In order to add text, the text needs a "container" – a Text Box. Make a text box by clicking on the Text Box tool or selecting Text Box under the Insert menu. The Text Box tool is found toward the right – it looks like a mini page with an "A" in the upper-left part of it. Make a separate Text Box for each separate piece of text.

Text tips:

- It is better to create all of your text, charts, and tables in PowerPoint rather than copy and pasting to avoid problems with formatting and printing your poster. You can change the proportions, type size and style later.
- Try to use a minimum of 24 point type for the body text.
- Allow for enough "white space" (areas where there is no text or graphics) to keep your poster from looking too overloaded.
- Minimum 72 point font for the title. (Of course the bigger the better, but 72 pt is approximately 1" tall.)
- You can import text from your word processor via copy and paste.
- You may have to change the formatting of the pasted text. It rarely survives the translation process unchanged. Try one of the "paste special" options if it is available to you.
- Individual text box backgrounds can be changed by selecting the box and changing the "fill" and/or "lines" colors.
- Do not use lettering effects such as outlined or shadowed. They don't reproduce well.
- Bold, italic, and underline are OK. Use these sparingly.

Adding images: The two ways to add images are with Insert/Picture and with Copy and Paste.

- **Insert/Picture:** This is the most common way of adding graphics to a PowerPoint document. If you have a file that is in one of several standard graphic formats (like JPEG, GIF, PICT, etc.), use the **Insert> Picture>From file** and browse your computer to select your file.
- **Copy and Paste:** Use this if you have something like an Excel graph you want to add to your document. Generally avoid this method if you can – Copy and Paste will often only give you a low-resolution copy of a graphic.

Background: You can select a background or page color under the **Design** menu OR **Format>Background** menu. Avoid using bold, dark, solid colors as your background. (If it takes up more than 50% of the printed area.) Too much ink saturation can make your poster wavy like a Ruffles potato chip. Under the Fill Effects window, several options can be used that will not cause this effect. Just explore with the many options shown until you find a look that you like and is still easy to read. (Note: Avoid the "patterns" option under the Fill Effects menu. They typically do NOT print well.)

Lines, Boxes, Arrows: The Insert menu also has tools to make ovals, boxes, lines, arrows, etc. When you have made one of these, you can change it (when it is selected) with the Format menu/Colors and Lines.

Design Tips

- Pictures imported from web sites are low resolution image. Use for onscreen presentations and web pages only.
- Do Spell-check, under the **Review** tab OR **Tools**.
- Use high contrast colors between foreground and background. A light background with a dark foreground is the most readable combination. e.g., a white or light yellow background with black or dark blue text is the optimal combination. Or another effective combination is a dark blue background with white text body and yellow for titles. Use all other colors sparingly.
- Use common fonts to reduce the chance of printing errors: Times New Roman, Helvetica, Arial, etc.

If you are using special or non-standard fonts:

NOTE: This cannot be done with a Mac. You may need to save as PDF if the printer cannot accommodate a Mac file.

- When you have completed your poster in PowerPoint, go to the **File** tab and choose Save As or Options. Depending on your version of PowerPoint, either at the top of the dialog box OR at the bottom right near the "save" button, you will see a button called "Tools". Click that and a drop down box of options will appear. One of the options will be Save Options, choose that and you'll see a check box that says "embed fonts" make sure this is checked and then name and save your file.

How to print a full-sized draft of your poster through tiled printing

It is difficult to get a firm grasp of how your poster will look when it is printed full size when looking at it on the computer through "View">"Fit to window" or "View">"100%"

Tile format or tiling allows you to print out a design that is larger than a single sheet of 8.5" x 11" paper by printing out parts of the drawing on multiple sheets of paper that are then pieced together like a puzzle to create the complete drawing at the specified scale.

Unfortunately, PowerPoint will not let you print in "tile" format. So how to do this...

- Some printers can tile directly through the printer. Choose File, Print, pick your printer and then click Properties. Look for settings that will allow you to print tiled output directly from PowerPoint.
- **Adobe Acrobat:** Recent versions of Adobe Acrobat can do tiled printing.
 - Create a PDF from your PowerPoint file (Office button>Save As>Adobe PDF).
 - Open the PDF in Acrobat.
 - Choose File > Print.
 - Under Page Scaling (near center left of Print box), choose Tile All Pages. NOTE: the preview image will show you how the document will look once printed, how many pages it will print on, etc
 - (Optional) Set any of these options, referring to the Preview image to check the output results:
 - Tile Scale: This affects how close to actual size the image will print. Recommend: 100%.
 - Overlap: Specifies the minimum amount of duplicated information you want printed on each tile for ease in assembly. Recommend: Leave as is.
 - Labels: (not necessary) Includes the PDF name, date of printing, and tile coordinate on every sheet. For example, Page 1 (1,1) means row 1, column 1 of the first page. Tile coordinates are used for reassembling the tiles.
 - Cut Marks: Prints marks on each corner of a tiled page for ease of assembly. Use this option in conjunction with the Overlap option. When you specify an overlapping edge and then superimpose those edges, you can use the cut marks to line up the tiles.
- **Microsoft Publisher:**
 - OPTION 1:
 - Open PowerPoint and Save As > .PNG
 - Open Publisher. Create custom size with same dimensions as PowerPoint "poster"
 - Into new Publisher doc: Insert > Picture > From File > (browse for your newly created .PNG file)
 - Adjust size of picture to cover the Publisher doc and Save
 - OPTION 2:
 - Open PowerPoint, under Editing > Select All > copy.
 - Open Publisher. Create custom size with same dimensions as PowerPoint "poster"
 - Paste into Publisher. Adjust size of picture to cover the Publisher doc and Save.
 - TO PRINT:
 - Print > Printing Options > Tiled > Print (can also Print Preview to see how it will divide the document)
 - NOTE: In the Print Box > More Print Options, you can select "Print a single tile" and enter the column and row of a desired section of the poster, as seen in the Print Preview, if you want to see, check, or re-print a small area.
- **Excel:** (NOTE: this may not print out a high quality document, but fine for draft editing)
 - Open PowerPoint and Save As > .PNG
 - Open Excel. Insert > Picture > (browse for your newly created .PNG file) > Insert
 - Print (will automatically print in tiled format)
- **Other options:** Google "tiled printing" or similar terms.