

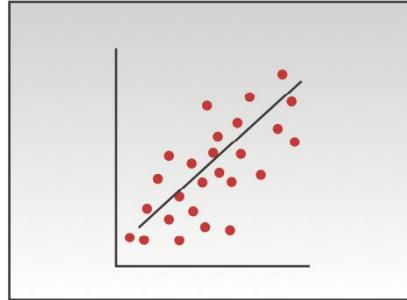
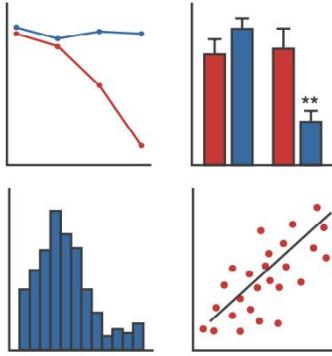
Elements of an effective poster

STARTneuro



Today's Objectives

- Introduce the purpose of poster presentations
- Illustrate the key aspects of a poster
- Consider design do's and don'ts
- Begin working on content for your poster



Scientific Content

+

Visual Information

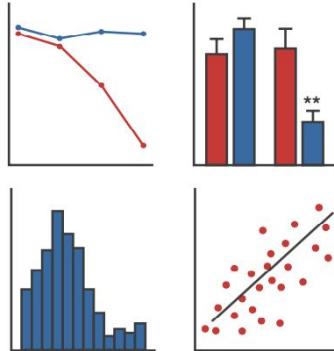
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Delivery

Your ideas, experiments, results, discussion, etc.
Anything you want to communicate to an audience.

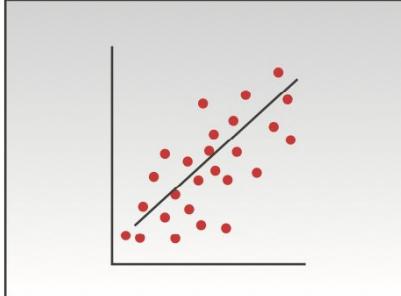
All of the visual aids you use to communicate information. In a paper, these are your figures; in a slide presentation, these are your slides; and in a poster presentation, this is your poster.

Your narrative that leads the presentation of your visual information. In a paper, your narrative is written on the page. In a slide and poster presentation, you deliver your narrative orally and with nonverbal communication (body language).



Scientific Content

Your ideas, experiments, results, discussion, etc.
Anything you want to communicate to an audience.



Visual Information

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Delivery

Your narrative that leads the presentation of your visual information. In a paper, your narrative is written on the page. In a slide and poster presentation, you deliver your narrative orally and with nonverbal communication (body language).

First step

The Purpose of Poster Presentations

- visually present a summary of your research that complements your interactions with other scientists during a poster session (although a good poster should be intelligible on its own)
- serve as a visual aid that supports your oral communication of information

Posters are a balancing act...

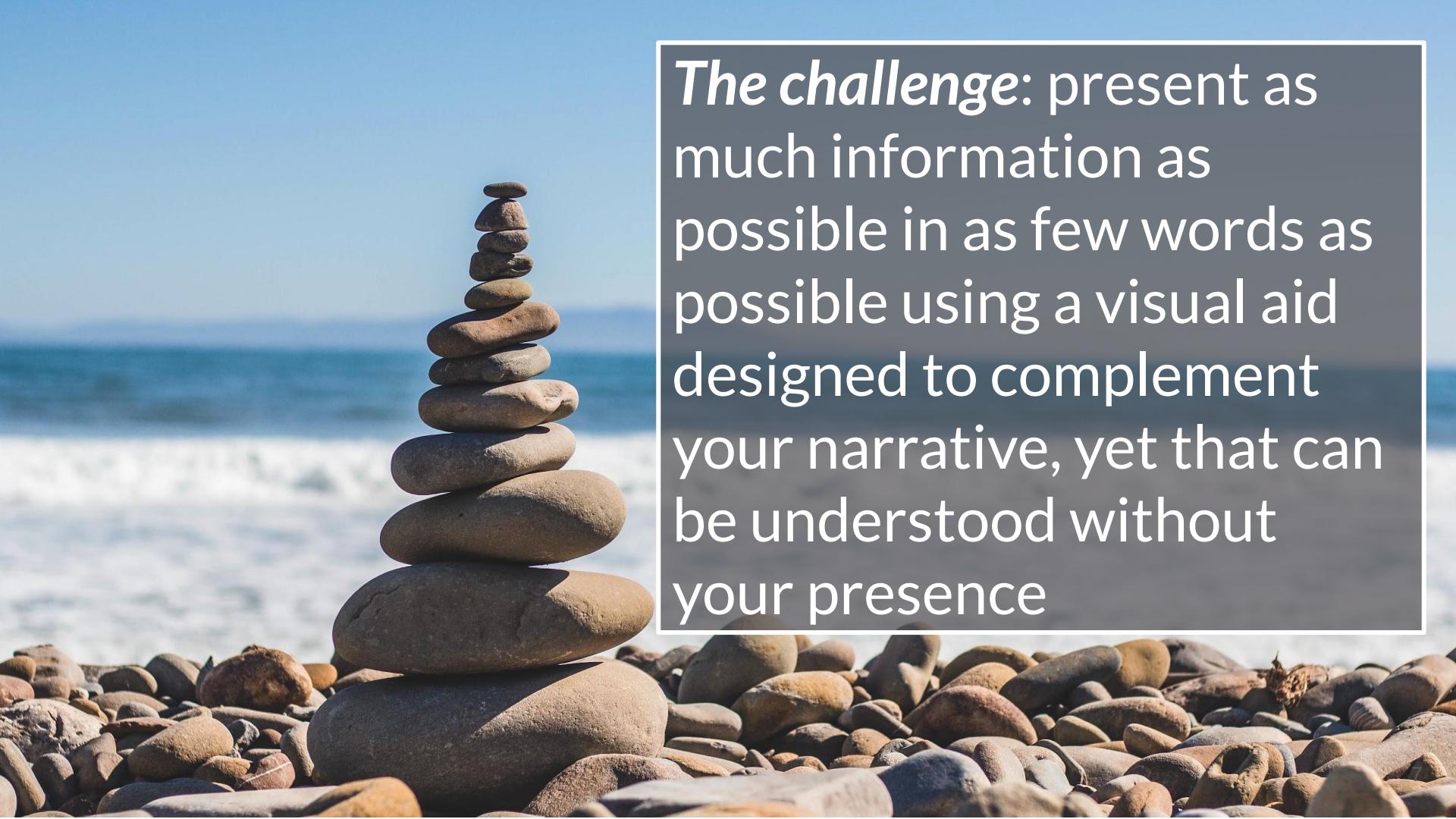


On one hand, someone should easily be able to understand the poster on its own.

You want it to be detailed & complete.

On the other hand, it shouldn't be overwhelming with text, and should serve as a visual guide.

You want it to be concise & accessible.



The challenge: present as much information as possible in as few words as possible using a visual aid designed to complement your narrative, yet that can be understood without your presence

Today's Objectives

- Introduce the purpose of poster presentations
- Illustrate the key aspects of a poster
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- Begin working on content for your poster

Background/Introduction

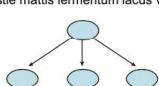
Results

Lorem ipsum dolor sit amet, consectetur adipiscing elit

Lucius Aurelius, Titus Crassus, Oenomaus Gannicus, Lucrecia Glaber
Universitatis Scientia

Background

Phasellus bibendum lacinia viverra. Sed suscipit mi id lectus molestie mattis fermentum lacus vulputate.

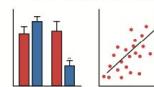


Hypothesis

Quisque non massa turpis, quis pretium eros. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

Result

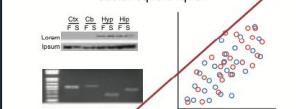
Integer volutpat neque at erat imperdiet sit amet elementum tellus sodales.



Vivamus euismod tristique consectetur. Nulla tempor faucibus dui, et elementum at condimentum eget. Nunc ornare, nulla vitae elementum ultrices, nunc nunc mollis lacus.

Result

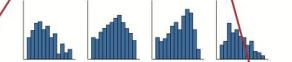
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Proin enim nisl, aliquam vitae sodales non, sagittis id nulla. Quisque et tempor nibh.

Result

Nam vitae vestibulum enim. Aliquam erat volutpat.



Result

Pellentesque diam nunc, euismod in tristique et, ornare vel neque.



Result

Duis id elit non neque faucibus tincidunt id nec nisl.



Cras consequat sem at augue hendrerit non malesuada elit accumsan. Pellentesque id lectus ligula. Vivamus ac erat id lorem posuere hendrerit tincidunt.

Summary

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Cras aliquam turpis nec turpis adipiscing ut ornare nisi luctus. Curabitur gravida viverr massa, ut placerat purus sollicitudin non.

Specific Hypothesis/Question

Summary/Conclusion

Acknowledgments and References

Everything on your poster needs to be visible from 10 feet away!

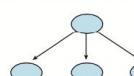
Title: 80 pt

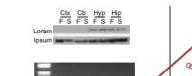
Headings: 32 pt

Text: 24 pt

Figure Details: 18 pt

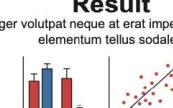


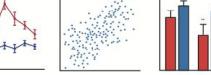
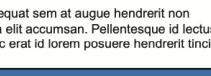
Background
Phasellus bibendum lacinia viverra. Sed suscipit mi id lectus molestie mattis fermentum lacus vulputate.


Result
Mauris commodo suscipit quam, sed luctus ligula scelerisque aliquet.



Result
Nam vitae vestibulum enim. Aliquam erat volutpat.


Hypothesis
Quisque non massa turpis, quis pretium eros. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

Result
Integer volutpat neque at erat imperdiet sit amet elementum tellus sodales.


Result
Duis id elit non neque faucibus tincidunt id nec nisl.



Summary
Pellentesque nec turpis sem. Pellentesque adipiscing erat a ipsum laoreet vel consectetur mi placerat. Vivamus a purus nunc. Aliquam elementum, sapien vitae posuere malesuada, augue purus vehicula ligula, at posuere tellus ligula eget orci.

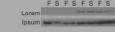


Vivamus euismod tristique consectetur. Nulla tempor faucibus dui, et elementum tellus at condimentum eget. Nunc ornare nulla vitae elementum ultrices, nunc nunc mollis lacus.

Premium poster space

Lorem ipsum dolor sit amet, consectetur adipiscing elit
Lucius Aurelius, Titus Crassus, Oenomaus Gannicus, Lucrecia Glaber
Universitatis Scientia

Background
Phasellus bibendum lacinia viverra. Sed suscipit mi id lectus molestie mattis fermentum lacus vulputate.

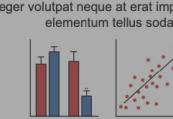
Result
Mauris commodo suscipit quam, sed luctus ligula scelerisque aliquet.


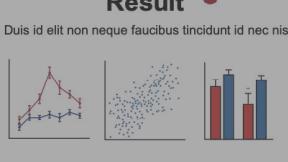
Result
Nam vitae vestibulum enim. Aliquam erat volutpat.


Hypothesis
Quisque non massa turpis, quis pretium eros. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

Result
Proin enim nisl, aliquam vitae sodales non, sagittis id nulla. Quisque et tempor nibh.

Result
Pellentesque diam nunc, euismod in tristique et, ornare vel neque.


Result
Integer volutpat neque at erat imperdiet sit amet elementum tellus sodales.


Result
Duis id elit non neque faucibus tincidunt id nec nisl.


Summary
Pellentesque nec turpis sem. Pellentesque adipiscing erat a ipsum laoreet vel consectetur mi placerat. Vivamus a purus nunc. Aliquam elementum, sapien vitae posuere malesuada, augue purus vehicula ligula, at posuere tellus ligula eget orci.
Cras aliquam turpis nec turpis adipiscing ut ornare nisl luctus. Curabitur gravida viverra massa, ut placerat purus sollicitudin non.

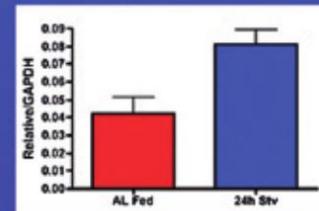
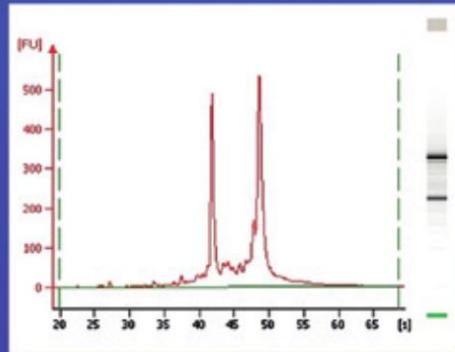
Vivamus euismod tristique consectetur. Nulla tempor faucibus duí, et elementum at condimentum eget. Nunc ornare, nulla vitae elementum ultrices, nunc nunc mollis lacus.

Less visible poster space

Good design is hard to define, but it's definitely not *this...*

Use just 1 or 2 fonts, and only a few main colors.

Results from RNA Data



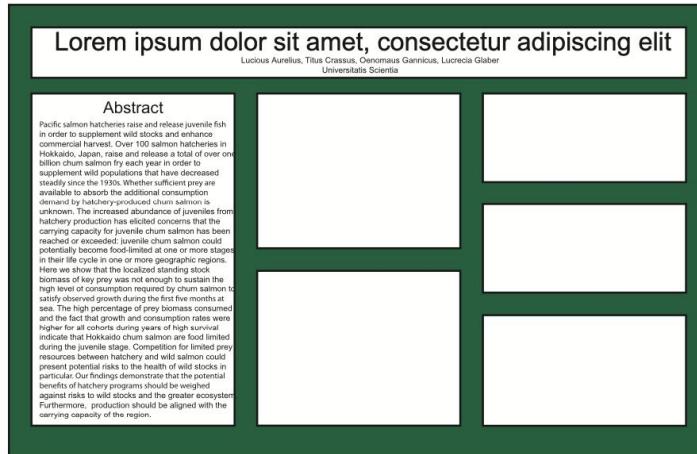
But what about the ChIP?

Poster examples

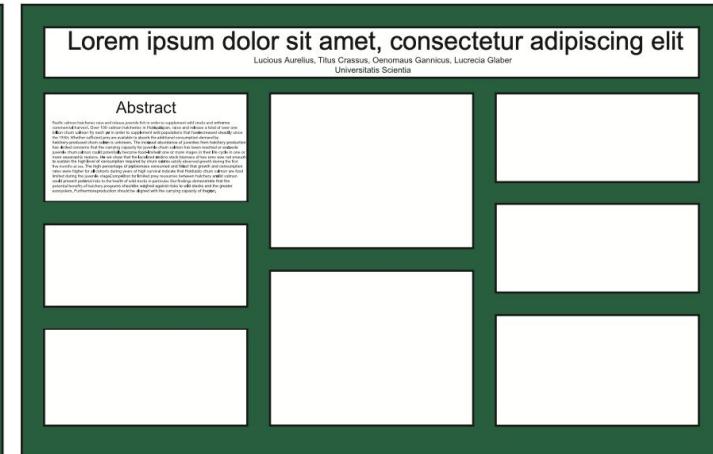
1. [Quantitative comparison of functional decoding... | Posters](#)
2. [Poster-Comparison of Hypoxia Inducible Factor 1 \$\alpha\$ \(HIF-1 \$\alpha\$ \) levels in HCT-15 cell line and Human Colon Can](#)
3. [Identification of Molecular Properties to Cluster Genetic Markers of Cardiovascular Disease](#)
4. [Investigating the Role of the Circadian Clock Genes PRR5, PRR7, and PRR9 in Regulating Plant Immunity](#)

To include an abstract, or not?

- Most conferences will have you submit an abstract, but this will take up valuable space on your poster.
- Including an abstract or not is *up to you*, but if your space is at a premium, you might consider leaving it off.



Full abstract, legible font.



Full abstract, tiny font.

Title & authors

Title: very important – this is what folks will see when they walk by!

- Title should be informative, with no more than 2 lines for the title.

Authors: if you're presenting the poster, you're first. Include anyone else who contributed significantly.

Your name, [anyone else who helped, e.g., your supervisor], your PI's name

Background & hypothesis

Background: *Just enough* information for another scientist to understand your poster.

- Including a background figure and/or using bullet points are *great* ideas.
- Your first sentence is the hook! It should immediately tell us something every biologist can relate to.

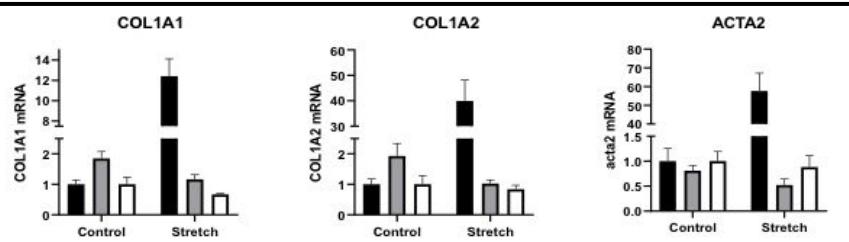
Hypothesis/Background/Goal: Place this in its own, visible box. This should be one sentence, possibly accompanied by a diagram.

Methods & results

Methods: not strictly necessary for posters. The detail here largely depends on your audience, as well as the complexity and importance of your methods.

Results: likely just 3 or 4 main results, driven by your figures.

- You don't *need* figure captions on your poster; you can simply make your figures clear by labeling items directly, and add any text necessary to explain the figure
 - I would only include a separate figure caption if your figure is dense visually and needs more explanation to be understood. Otherwise, summarize each panel in a clear sentence or two.
- Group your results into logical categories.
- Don't just use "Results" as the title for your results section.
 - Instead, say what the result is, e.g. "HOPX is required for keratinocyte differentiation."



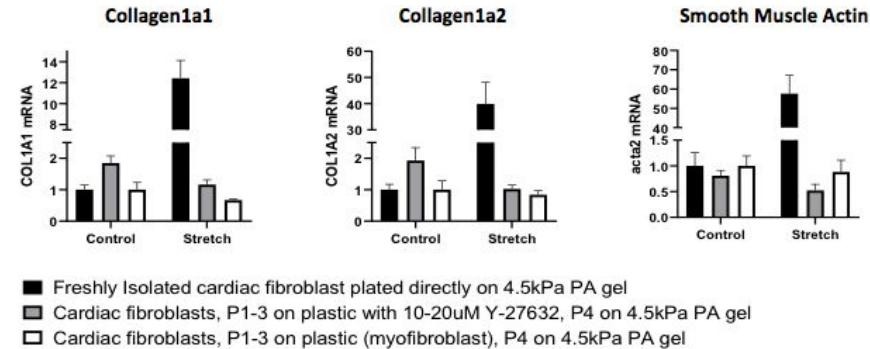
- Freshly isolated cardiac fibroblast plated directly on 4.5kPa PA gel
- Cardiac fibroblasts, P1-3 on plastic with 10-20uM Y-27632, P4 on 4.5kPa PA gel
- Cardiac fibroblasts, P1-3 on plastic (myofibroblast), P4 on 4.5kPa PA gel

Figure 2. ROCK inhibition during cardiac fibroblasts to prevent myofibroblast differentiation and preserve pro-fibrotic responses to stretch.

Cardiac fibroblasts were expanded by pre-culturing on plastic for passage (P) 1-3 with and without the Rho kinase (ROCK) inhibitor Y-27632 (10-20uM). The culturing conditions were: 1) Freshly isolated cardiac fibroblasts plated directly onto gels (black bars); 2) Cardiac fibroblasts pre-cultured on plastic for P1-3 with Y-27632 (grey bars) and 3) without Y-27632 (white bars) before plating on 4.5kPa PA gels. All fibroblasts were left on PA gels for 3 days without Y-27632 before analysis.

Fibroblasts were subjected to 30-minute stretch whereafter mRNA for collagen 1a1 (col1a1), collagen 1a2 (col1a2), and smooth muscle actin (acta2) were determined by real-time PCR. mRNA was normalized to 18S ribosomal RNA.

ROCK inhibition during cardiac fibroblasts prevents myofibroblast differentiation and preserves pro-fibrotic responses to stretch.



- Freshly Isolated cardiac fibroblast plated directly on 4.5kPa PA gel
- Cardiac fibroblasts, P1-3 on plastic with 10-20uM Y-27632, P4 on 4.5kPa PA gel
- Cardiac fibroblasts, P1-3 on plastic (myofibroblast), P4 on 4.5kPa PA gel

Cardiac fibroblasts were expanded by pre-culturing on plastic for passage (P) 1-3 with and without the Rho kinase (ROCK) inhibitor Y-27632 (10-20uM). All fibroblasts were left on PA gels for 3 days without Y-27632.

A few changes can make a big difference...

Summary & references

Summary/Conclusion: Restate the main takeaways for your viewer.

References/Acknowledgements: make the font size here small – viewers will look close if they're curious.

Reduce your text as much as possible

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam tempus nulla ut elit sodales et pellentesque urna pellentesque. Sed iaculis ipsum sed lacus porta sagittis. Maecenas imperdiet lacinia lectus in vulputate.

Lucius Aurelius, Titus Crassus, Oenomaus Gannicus, Lucrecia Glaber
Universitatis Scientia

Background

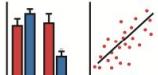
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Hypothesis

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Result

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Result

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Pellentesque orci tellus, rhoncus sit amet hendrerit pulvinar, ultricies vitae eros. Pellentesque sagittis feugiat urna, nec placerat sapien eleifend in. Vestibulum in lectus est. Ut blandit ante sit amet arcu posuere laoreet. Aliquam erat volutpat. Donec purus diam eu magna pretium pellentesque. Maecenas aliquam nulla purus, in auctor ligula. Sed varius posuere porta. Nullam non enim ac massa aliquam suscipit. Duis nec ligula eu nibh adipiscing eleifend et consequat lectus. Morbi vitae enim dui. Maecenas tincidunt suscipit tortor, vel auctor lectus dictum ac. Nullam pellentesque, magna feugiat adipiscing aliquet, urna elit sollicitudin orci, ut ultrices sapien nisi pretium turpis.

Result

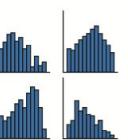
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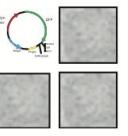
Result

Suspendisse potenti. Nulla tellus sem, placerat vel cursus sed, auctor vitae tellus. Fusce eu arcu at diam tincidunt porttitor tincidunt eu urna. Quisque pretium ipsum quis sapien dapibus fringilla a nec eros. Praesent tincidunt varius ante. Duis nec pellentesque nisl. Dignissim orci ut justo vestibulum aliquam. Fusce ac quam rhoncus orci adipiscing semper. Fusce lacus urna, aliquet id rhoncus vitae, tincidunt nec elit. Cras elementum mi eu felis aliquam condimentum.



Result

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Summary

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Cras aliquam turpis nec turpis adipiscing ut ornare nisi luctus. Curabitur gravida viverra massa, ut placerat purus sollicitudin non.

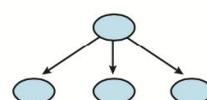
Reduce your text as much as possible

Lorem ipsum dolor sit amet, consectetur adipiscing elit

Lucius Aurelius, Titus Crassus, Oenomaus Gannicus, Lucrecia Glaber
Universitatis Scientia

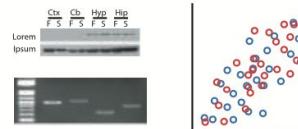
Background

Phasellus bibendum lacinia viverra. Sed suscipit mi id lectus molestie mattis fermentum lacus vulputate.



Result

Mauris commodo suscipit quam, sed luctus ligula scelerisque aliquet.

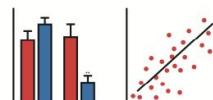


Hypothesis

Quisque non massa turpis, quis pretium eros. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

Result

Integer volutpat neque at erat imperdiet sit amet elementum tellus sodales.



Result

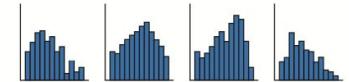
Duis id elit non neque faucibus tincidunt id nec nisl.



Vivamus euismod tristique consectetur. Nulla tempor faucibus dui, et elementum erat condimentum eget. Nunc ornare, nulla vitae elementum ultrices, nunc nunc mollis lacus.

Result

Nam vitae vestibulum enim. Aliquam erat volutpat.



Result

Pellentesque diam nunc, euismod in tristique et, ornare vel neque.



Summary

Pellentesque nec turpis sem. Pellentesque adipiscing erat a ipsum laoreet vel consectetur mi placerat. Vivamus a purus nunc. Aliquam elementum, sapien vitae posuere malesuada, augue purus vehicula ligula, at posuere tellus ligula eget orci.

Cras aliquam turpis nec turpis adipiscing ut ornare nisi luctus. Curabitur gravida viverra massa, ut placerat purus sollicitudin non.



... all told, your poster should have a word count of no more than 1000 words

Steps for poster creation

1. *Decide on the main results you'd like to present*
2. Write your hypothesis/Question
3. List your figures & group into categories
4. Write 1-2 sentences for each of your results
5. Write your summary statement
6. Write bullet points for essential background information.
7. Design your layout on paper
8. Create your poster electronically: maximum size typically designated by the conference; for this class, use any typical size (3' x 4' works well)

What software can I use?

PowerPoint/Google Slides: A popular, easy-to-use option with many templates.

Adobe Illustrator: Feature-rich professional software that is good for posters
(*We'll run through a tutorial next week*)

Open Source Alternatives: [OpenOffice](#) in the free alternative to MS Office (Impress is its PowerPoint alternative). [Inkscape](#) and [Gimp](#) are alternatives to Adobe products. For charts and diagrams try [Gliffy](#) or [Lovely Charts](#). A complete list of [free graphics software](#).

Summary of poster process

Don't think of a scientific poster as a text-based document that reads like a large version of a research article.

Do think of a scientific poster as a visually rich presentation medium designed to complement what you say during an oral delivery.

Don't place your abstract on your poster itself.

Do write your abstract for the organizing committee and official meeting program, but avoid rewriting it on the poster so that you don't take up valuable space.

Don't overwhelm your poster with text.

Do use tables, charts, diagrams, and photographs whenever possible to enrich the visual impact of your poster.

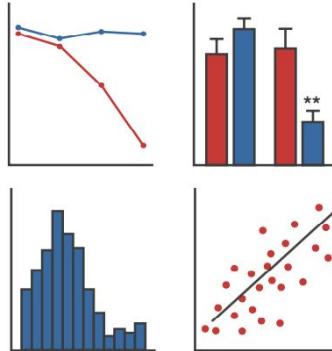
Summary of poster process (*continued*)

Don't begin designing a poster by focusing on layout.

Do begin designing a poster by making your figures and writing the text for the individual sections.

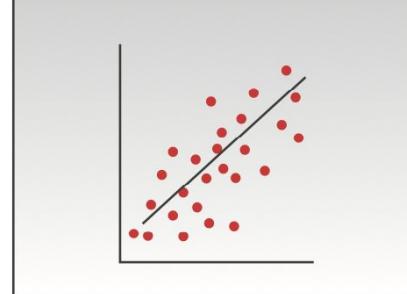
Don't include information on a poster that doesn't address your poster's central concept or goal.

Do compose your hypothesis/question section first and always keep it in mind when composing the figures and text for your poster.



Scientific Content

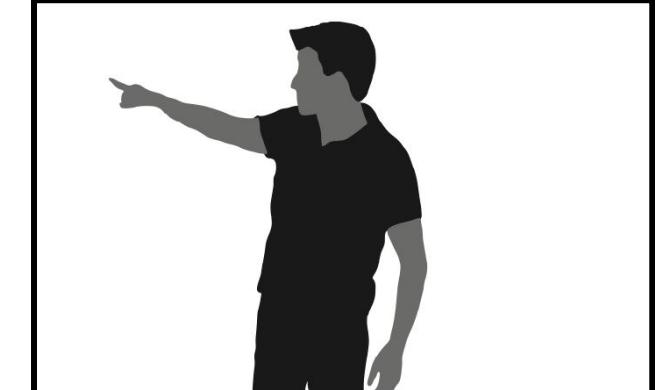
Your ideas, experiments, results, discussion, etc.
Anything you want to communicate to an audience.



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Visual Information

All of the visual aids you use to communicate information. In a paper, these are your figures; in a slide presentation, these are your slides; and in a poster presentation, this is your poster.



focus for today

+

Delivery

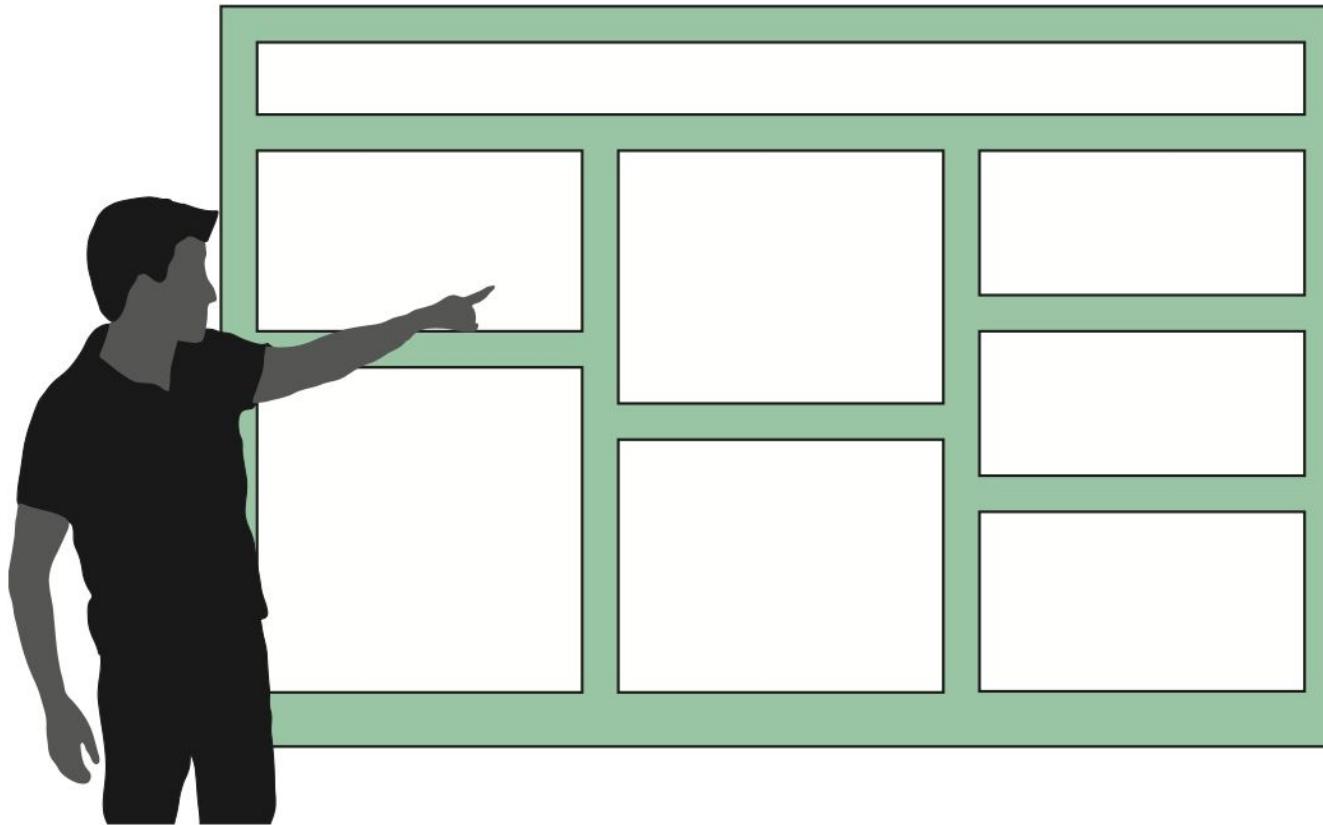
Your narrative that leads the presentation of your visual information. In a paper, your narrative is written on the page. In a slide and poster presentation, you deliver your narrative orally and with nonverbal communication (body language).



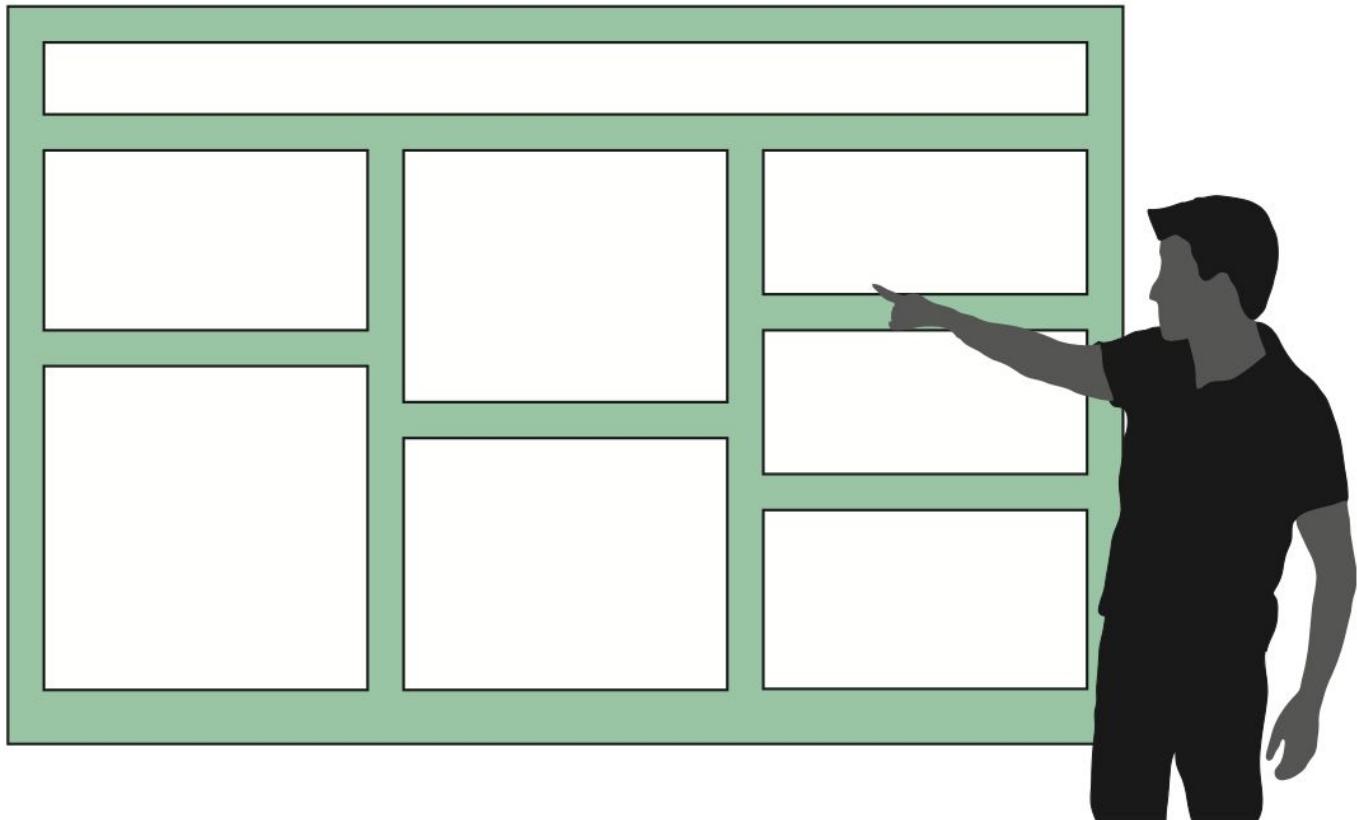
Poster presentation tips

- Be present at your poster!
- Know your audience
- Poster repair kits
- Be professional!
 - Look good, smell good, make eye contact.
- Point out visuals, but not text
- Consider supplementary information (e.g., a handout, tablet)
- Don't block your poster

Always start a walkthrough by standing just to the left of your poster.



When you are about halfway through,
completely cross to the other side.



Resources

Much of the material here from Matt Carter, *Designing Science Presentations* as well as [Research Guides: How to Create a Research Poster: Design Tips](#)

[Designing conference posters](#) – for advice & templates!

[Powerpoint poster templates for research poster presentations](#)

[Scientific Poster PowerPoint Templates](#)