Effective Posters—
Presenting your Results Clearly and Persuasively

Courtesy Carlos A. Alvarez Zarikian

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An effective poster must

Attract and engage the audience—
- **prominent title**
- **visually interesting figures (lots)**
- **clean, uncluttered appearance**

Highlight key points so they are *immediately* recognizable

Be arranged logically so a viewer quickly understands the "story"

Contain all elements of a good research paper—motivation, methods, results, discussion, conclusions, acknowledgments

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Distill your message

What one idea do you want your audience to remember when they walk away from your poster?

How can you best represent that one idea?

- In pictures?
- In plots?
- In words?

Tip: Note that "words" is the last item on the list! (and should take up the least space on your poster)

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Use the visual elements of the poster to tell the story

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Use the visual elements of the poster to tell the story

- Engage the audience
- Emphasize main points
- Illustrate apparatus, methods, and results
- Summarize numerical data to show trends or reveal relationships

Tip: People remember pictures, not words

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At least half your "story" should be told in pictures

Helix Nebula

- No graphic should be smaller than 5 in × 7 in (13 cm × 15 cm), and most should be larger
- Crop and enlarge photos and simplify drawings to focus attention on important details
- Scan photos at 300 dpi
- Provide a brief caption for every graphic—tell people what they are looking at
- Put a "drop shadow" behind images to make them pop off the flat poster

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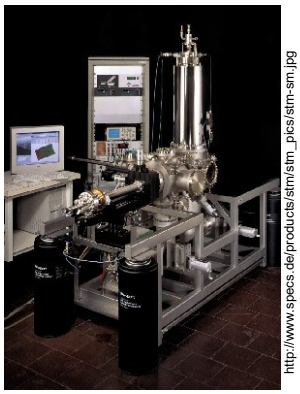
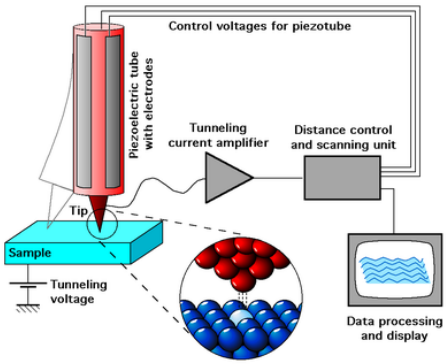
Don't use pointless graphics



http://www.specs.de/products/stm/stm_pics/stm-sm.jpg



http://en.wikipedia.org/wiki/Scanning_tunneling_microscope

Your project used a scanning tunneling microscope to characterize your thin-film superconducting samples. Which is a better image for your poster?

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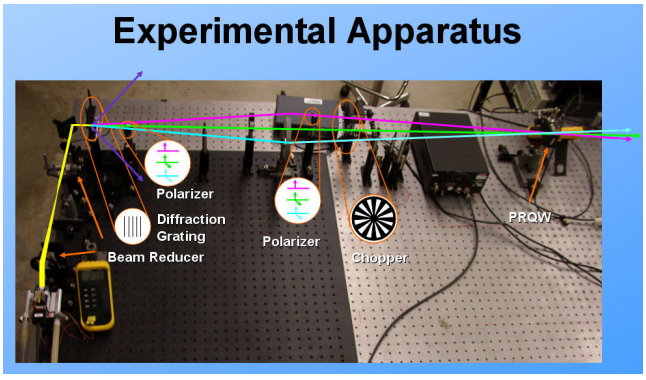
This excellent graphic shows the apparatus *and* the process



Courtesy Laura Butler

Tip: Show pictures of equipment only if they are related to an important idea that you want to convey

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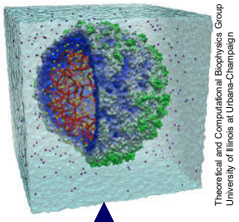
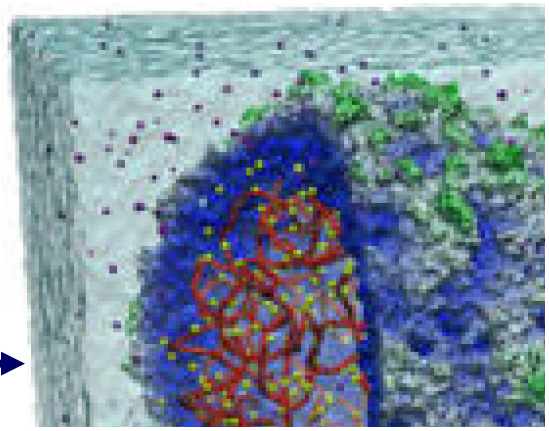
Avoid using graphics taken from the Internet; they're too low-res (72-dpi) to print acceptably



Looks fine on your monitor; looks awful blown up to poster size and printed



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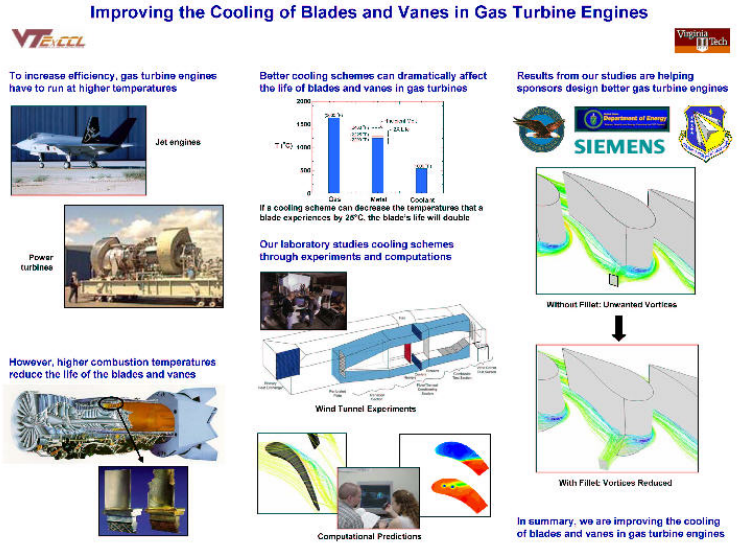
Make every graphic mean something; avoid "eye candy"



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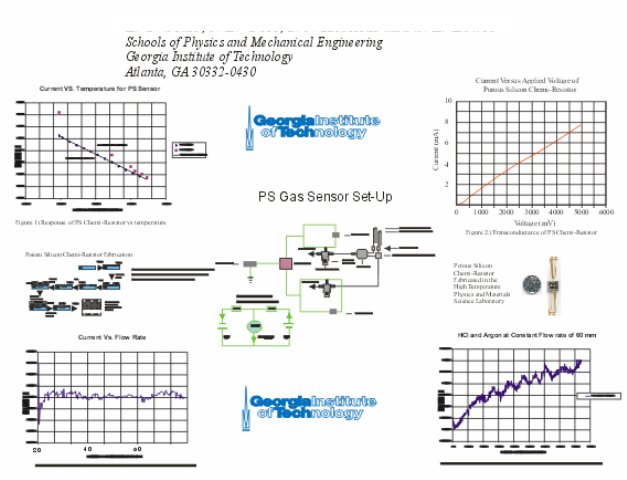
But you have to have *some* text…



Authors' names have been removed; the original poster had no title

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Use easy-to-read fonts

Sans-serif fonts usually print well and are easier to read from a distance than serif fonts

Fancy fonts are harder to read

DON'T USE ALL CAPS, EVEN IN THE TITLE —much harder to read (and proofread!)

Title—120 pt
Section headings—60 pt
Figure captions—48 pt
Text—36 pt

Tip: Scale the font with the size of the poster

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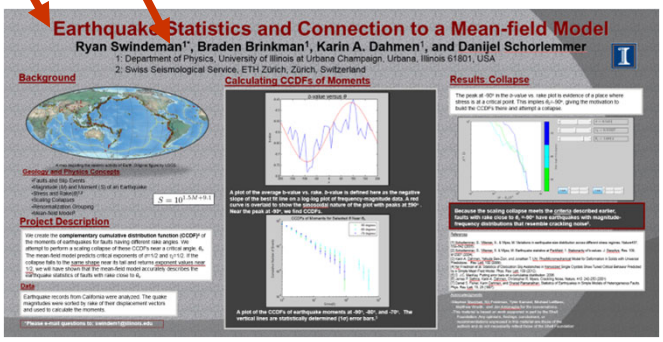
Every poster must have a "headline" (title) and a "byline" (authors)

Title—<10 words

Your name and affiliation—Ask your adviser NOW about co-authors



Courtesy Ryan Swindeman

Tip: If it's important, make it BIG

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Present text in lists rather than paragraphs

Figures promote audience interest, provide supporting evidence, help explain complex ideas and relationships quickly, and give the viewer something to remember

Use figures to:

- promote interest
- provide supporting evidence
- explain complex ideas quickly
- show relationships
- give the viewer some-thing to remember

Tip: Lists are easier to process quickly and are easier to remember

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Include an "abstract" only if your poster is going to be unattended for lengthy periods*

- If you're standing there explaining the work, nobody's going to read an abstract anyway
- Use the space for something more compelling and visually interesting
- If you *must* include an abstract, keep it very brief (<100 words)

*or if your adviser tells you to…

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Remember that people will be looking at your poster while standing, not sitting

Tip: Don't put important points in tiny print at the bottom

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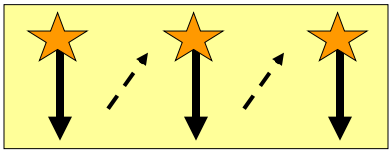
Most viewers will start at the upper left corner of the poster and read down and across

Break up your story into columns (think "newspaper")

Put important points at the top of each column



Tip: Keep lines of text <20 words long—people's eyes don't easily track strings of text longer than that, even at 30 pt

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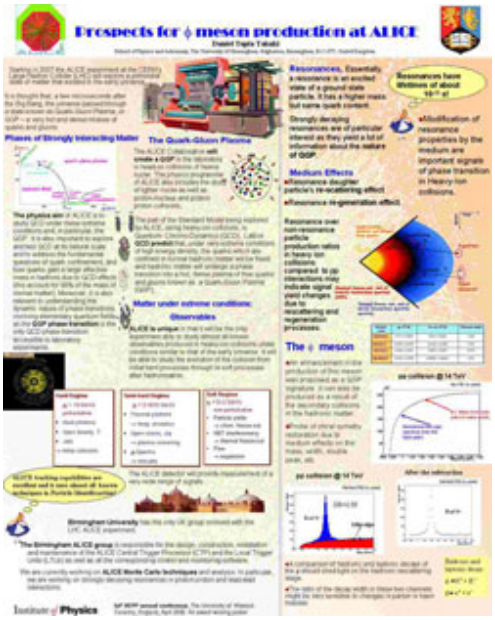
How is the viewer going to navigate through this poster?



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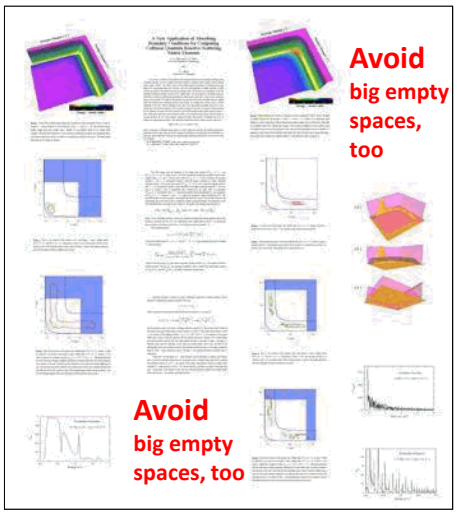
Use headings to guide the viewer through the poster

Make your key points immediately recognizable

Use headings to help viewers locate what interests them

- Motivation
- Methods
- Results
- Conclusions



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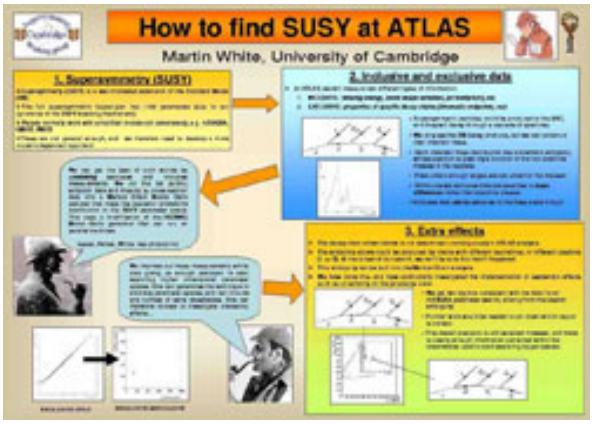
If navigation is not *immediately* obvious, number the elements or use arrows to guide the viewer through the poster.



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The center of the poster should feature the methods and results

Problem statement, motivation, objectives

Methods

Results

Applications or future work

Sources of additional information

Acknowledgments

Tip: Visually represent the relative importance of text elements

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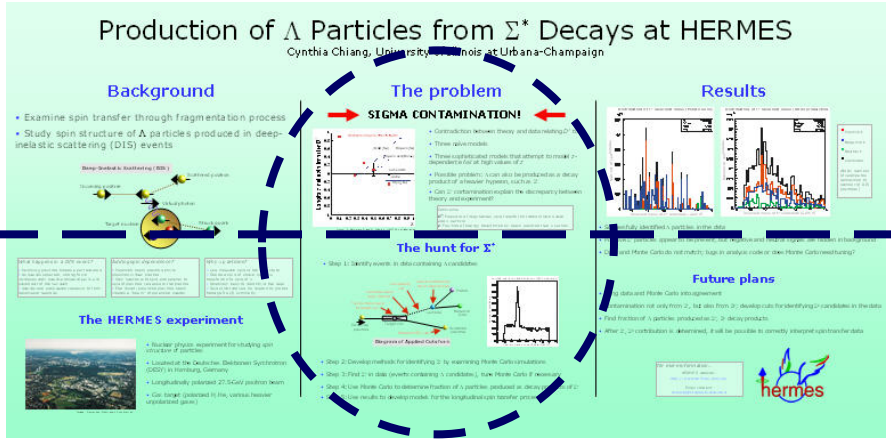
Position your important points strategically



Courtesy H. Chiang

Tip: Position important information above the midline and in the center

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Choose colors carefully

- Colors affect how easily your poster can be read
- Use a high contrast between background and text
- "Warm" colors are more visible, but don't overpower with orange (even Illini orange)
- Avoid using red/green or red/blue

Tip: Gradient backgrounds that look great on your monitor may not print properly

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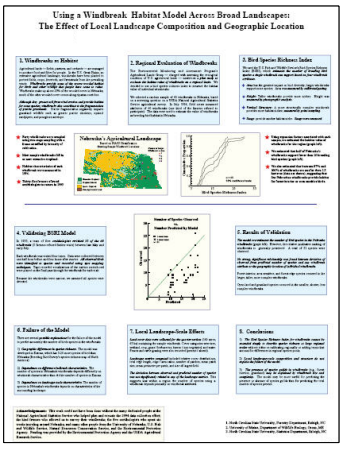
Use color to highlight, separate, or associate information visually



Tip: People expect color to mean something; don't use color randomly

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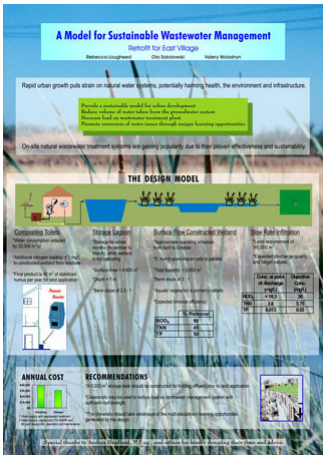
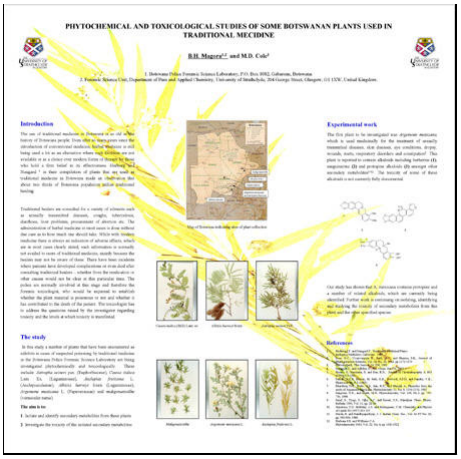
Choose neutral backgrounds with high-contrast text and images





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Leave adequate “white space”

- Effective posters look uncluttered
- Use white space to isolate and emphasize important details
- Leave at least 1.5 in (4 cm) of white space between columns
- Balance elements on the page

Tip: Leave at least 0.5-in (1.25-cm) margins on all sides of your poster; no plotter prints to the very edge of the paper

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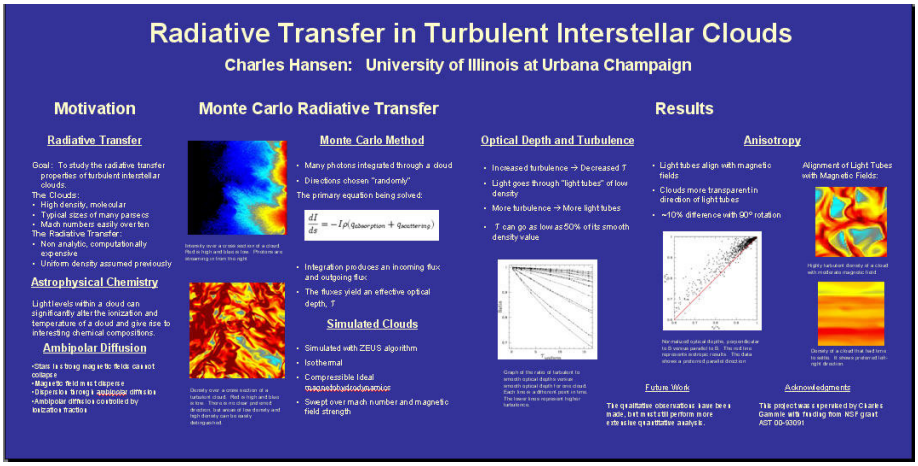
"White space" doesn't have to be white



Courtesy Charles Hansen

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You must have an "acknowledgments" section on your poster

First, get it spelled correctly—no *e* following the *g* in the US English spelling of *acknowledgment*

(Don't believe me?—look at the acknowledgment page of any book published by a US publisher)

British English spells it with the "e," but we colonials have our own rules

Some wimpy US dictionaries may accord "acknowledgement" alternative status, but we have higher standards in physics

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Acknowledge research contributions by people other than the authors

- Persons who gave scientific guidance, participated in discussions, or shared unpublished results, data, or samples
- Persons who provided facilities or equipment
- Assistants or students who helped do the work
- Technicians at user facilities or labs

Tip: Make it a simple statement of thanks, not a testimonial or dedication

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Acknowledge by name only

- Do not use titles, honorifics, positions, or awards
  - Paul G. Kwiat
    - NOT
  - Professor Paul G. Kwiat, Bardeen Chair in Physics
  - Anthony J. Leggett
    - NOT
  - Sir Dr. A.J. Leggett, Nobel Laureate

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Always acknowledge financial support of the research—*always*

- Give the name of the funding agency and grant or contract number
- "This material is based upon work supported by the National Science Foundation under Grant No. ___."
- On posters, the following disclaimer must be included for NSF-funded research:

  "Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation."

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What about logos?

- Federal funding agencies may allow you to use their logos, but obtain a high-resolution image and follow their guidelines
- The University has explicit rules about the use of the I-mark
- Companies are aggressive about protecting their brands and trademarks; just because you can grab a logo off a website does *not* mean you can use it with impunity


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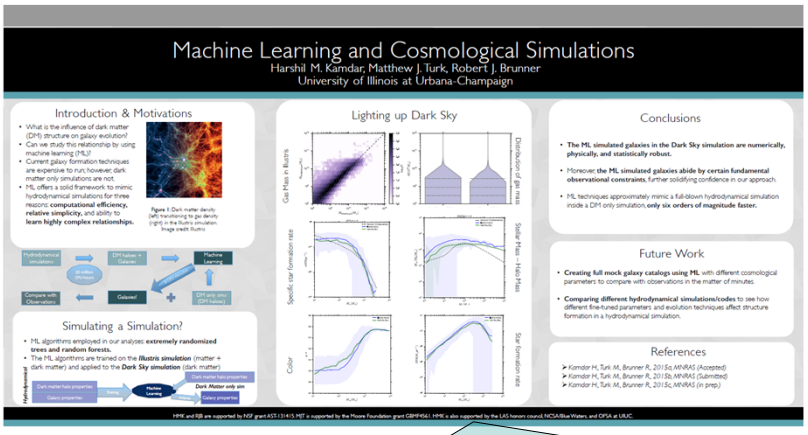
Where to put the acknowledgments?



Courtesy Harshil Kamdar

- **Lower right corner**
- **Under the "byline"**
- **Along the bottom margin**

HMK and RJB are supported by NSF grant AST-131415. MJT is supported by the Moore Foundation grant GBMF4561. HMK is also supported by the LAS honors council, NCSA/ Blue Waters, and OFSA at UIUC.

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Prepare a "stump speech" to introduce your poster

Should be 1–2 min.

Briefly state

1. **What you studied and why it's important**
2. **What methods you used**
3. **What your principal results are**
4. **What you think they mean**
5. **What you're going to do next**

Prepare two versions—one for experts and one for novices

Be prepared to be interrupted with questions; rehearse possible answers

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Coordinate the elements of your stump speech to the sections of your poster

Stump speech:

1. What you studied/ why it's important
2. What methods you used
3. What your principal results are
4. What you think they mean
5. What you're going to do next

Poster:

1. Motivation
2. Methods
3. Results
4. Conclusions
5. Future work

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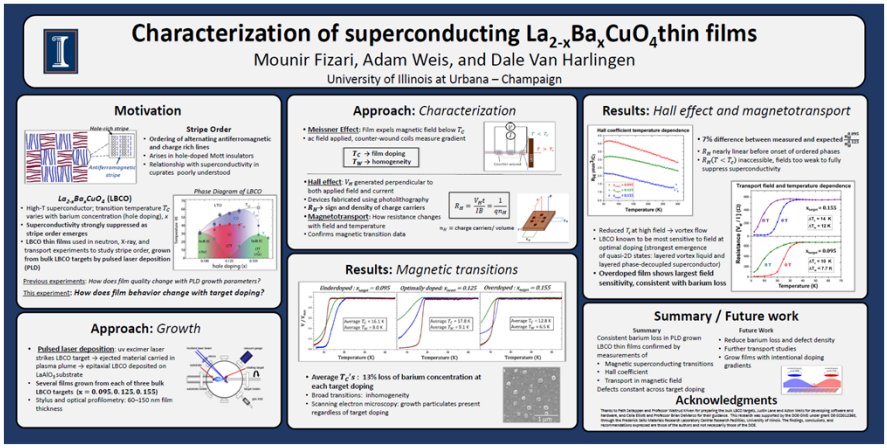
Point to the different sections of the poster as you're talking



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Prepare two versions of your stump speech

Non-experts:

- Emphasize the "big picture"
- Explain what's new and why it's important
- Use simple words—no acronyms or jargon
- Don't get bogged down in technical details

Experts:

- More technical language
- More detailed explanations of methods and results
- More math

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Rehearse both versions

Out loud

In front of real people

Okay to write it out first, but practice until you can deliver your lines without notes

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How do you know which version to give?

ASK!

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Be prepared to be interrupted with questions during your speech

Respond to a question as soon as it is asked, don't just keep rattling off your speech

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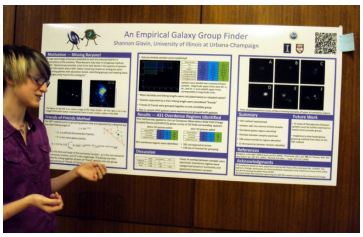
Rules for answering questions:

- Always be respectful
- If you don't understand the question, ask for clarification
- If the question if off-topic, redirect
- Don't ever argue with a questioner—you'll just look bad



PHYS 499 Posters, October 2012; Shannon Glavin

- If you don't know the answer, just say so*

*Make a note of it to ask your adviser!
*Ask for the person's email address and say you'll find out the answer and send it to him or her.

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Find out *before* your session . . .

- The location and time by which your poster is to be displayed
- What kind of surface your poster will be mounted on
- Whether you need to provide your own tape, thumbtacks, putty, Velcro strips…
- Whether other needed equipment will be provided (electrical outlet, table, easel)

Tip: Don't expect the meeting organizers to supply you with anything other than space

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Tips for successfully presenting your poster:

- Arrive early (early birds usually get the desirable locations)
- Bring your own "poster hanging" emergency kit
- Have your "stump speech" prepared to explain your work to visitors
  - Give the big picture
  - Explain why the work is important
  - Have two versions—one for experts and one for non-experts
- Greet each visitor with a smile; ask questions to elicit interest and level of understanding

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Be prepared to mount your poster on any surface

- Your poster-hanging toolkit should include:
  - Push pins or thumbtacks
  - Straight pins or drawing pins
  - Plastic mounting putty
  - Velcro® strips and glue
  - Clear PCV tape or masking tape
  - Scissors

- Have a permanent marker the color of your text for emergency typo corrections
- Have a small notebook and pen handy for notes

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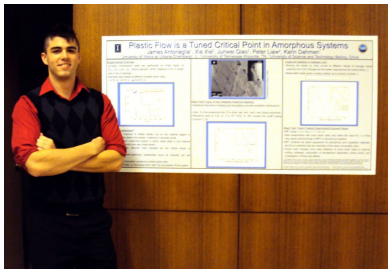
Convey your enthusiasm for your research project

- Greet people as they walk up to your poster
- By your stance and expression, invite them to ask questions
- Have your business cards, copies of your paper, or other handouts ready



PHYS 499 Posters, October 2012; James Antonaglia

Tip: Open your hands, lean forward, and *smile*

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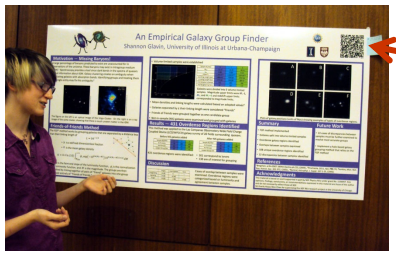
Have hand-outs available

- A miniature version of your poster
- An extended abstract or a summary
- Reprints or preprints
- Include your complete contact information



PHYS 499 Posters, October 2012; Shannon Glavin

Tip: use a QR code to link to the group's web site or a copy of the paper

Tip: an 11-in × 17-in sheet of paper, folded in half, gives you four pages for additional information about your work in one handout

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Some advice from the experts:

Never *ever* put *anything* on your poster that you do not thoroughly understand

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That figure you got from somebody else and added at the last minute…

…will be all the audience asks questions about

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Some final advice:

- Eat breakfast (or lunch) before your session—a growling stomach is distracting
- Take a bottle of water with you—it's hard to talk when your mouth feels like a desert
- Wear comfortable shoes
- Wear clothes that are loose enough you can point to things on your poster
- Take pride in what you've learned and done—don't apologize
- Relax and have fun

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