

Effective Posters—
Presenting your Results Clearly and Persuasively

Courtesy Carlos A. Alvarez Zarikian

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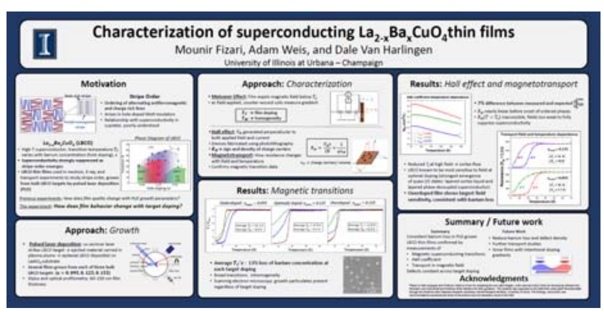
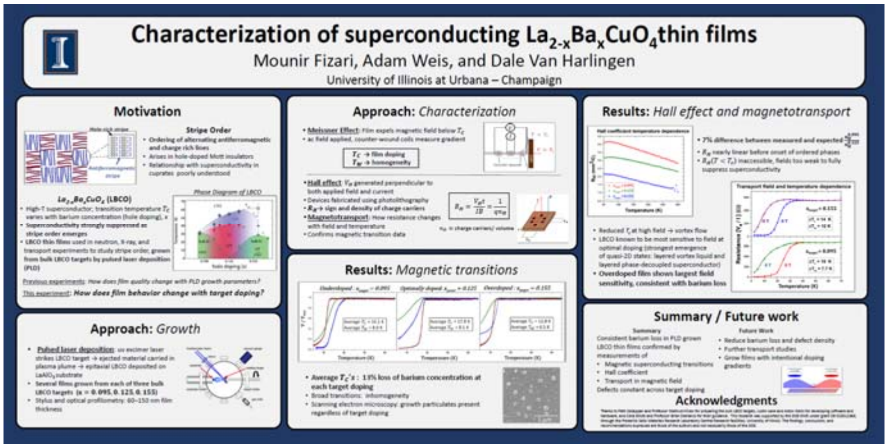
Overview

- Message
- Graphics
- Text
- Layout
- Use of color
- Acknowledgments
- Presenting your poster



Courtesy Mounir Fizari

Message



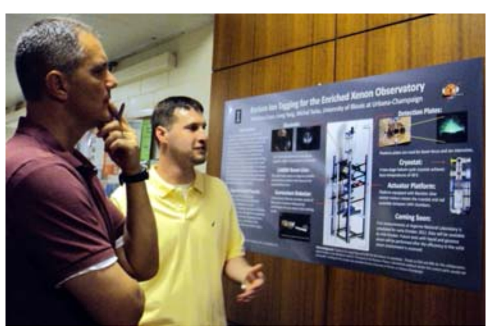
Courtesy Mounir Fizari

Your poster must be tailored to your audience to be effective

Who is your audience?

What do they want to know?

What will capture their interest?



PHYS 499 Posters, October 2012; (l) Kevin Pitts, (r) undergraduate Matthew Coon

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

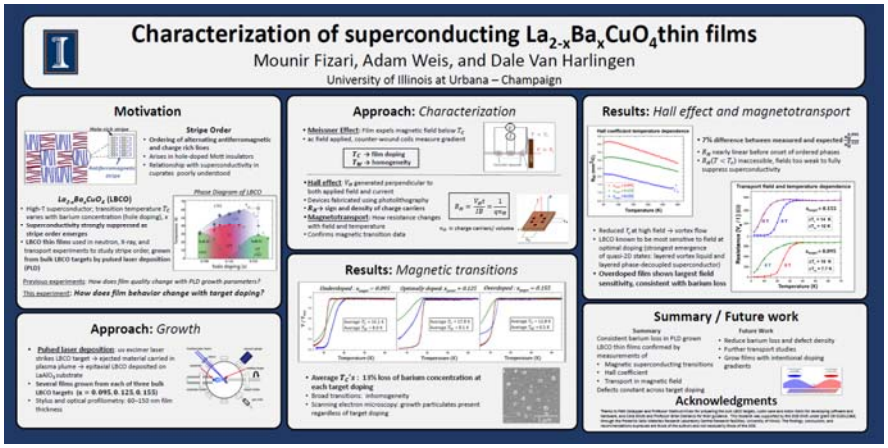
Distill your message

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)

Graphics



Courtesy Mounir Fizari

Use the visual elements of the poster to tell the story

Tip: Keep all text (total) to <400 words

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

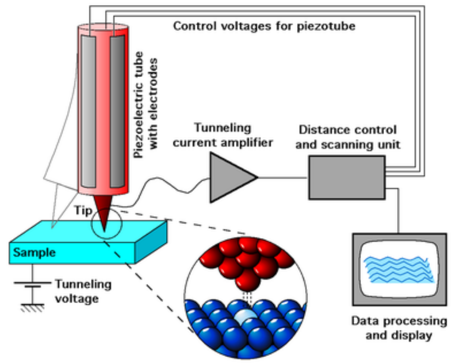
Tip: People remember pictures, not words

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

- 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 to look for

Don't use pointless graphics

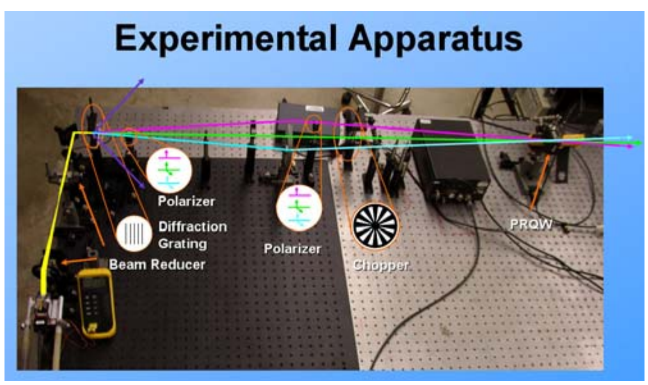
http://www.specs.de/products/stm/stm_pics/stm-sm.jpg



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?

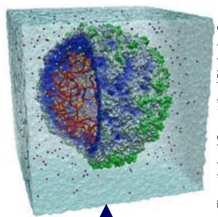
This excellent graphic shows the apparatus *and* the process



Courtesy Laura Butler

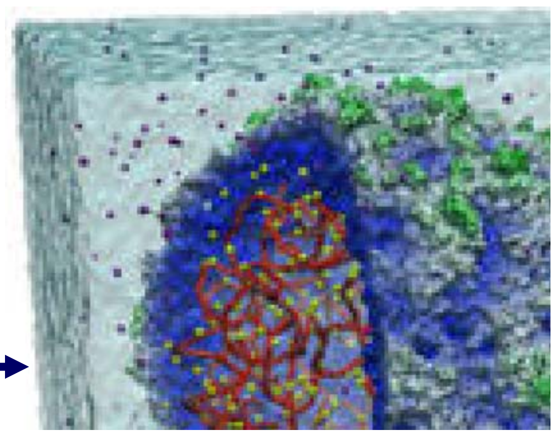
Tip: Show pictures of equipment only if they are related to an important idea that you want to convey

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

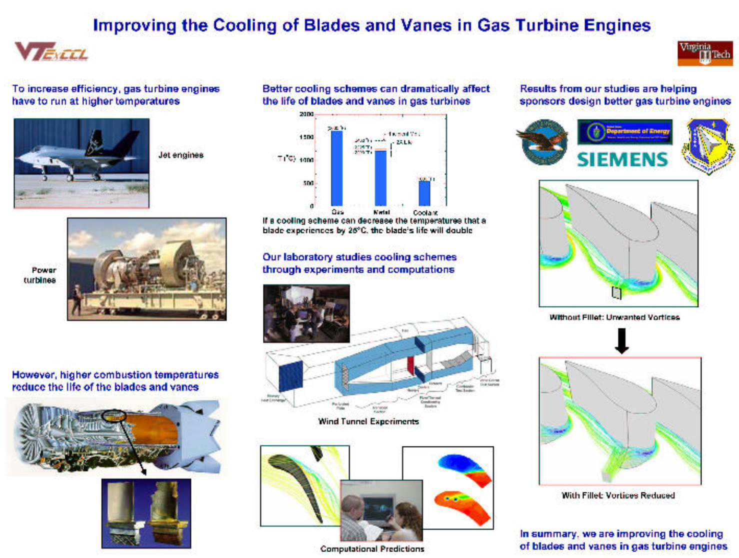


Theoretical and Computational Biophysics Group
University of Illinois at Urbana-Champaign

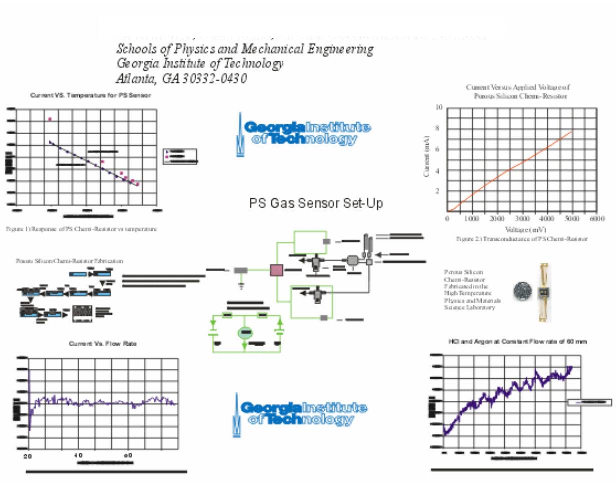
Looks fine on your monitor; looks awful blown up to poster size and printed.



Make every graphic mean something; avoid "eye candy"

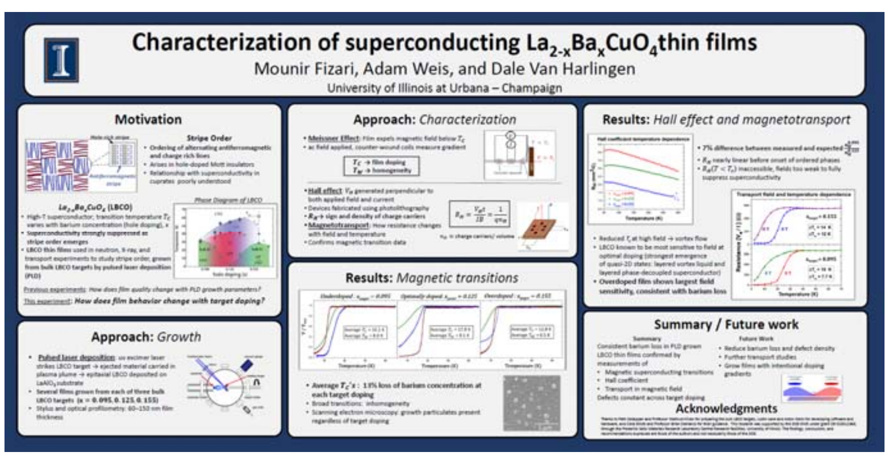


But you have to have *some* text…



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

Text



Courtesy Mounir Fizari

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!)

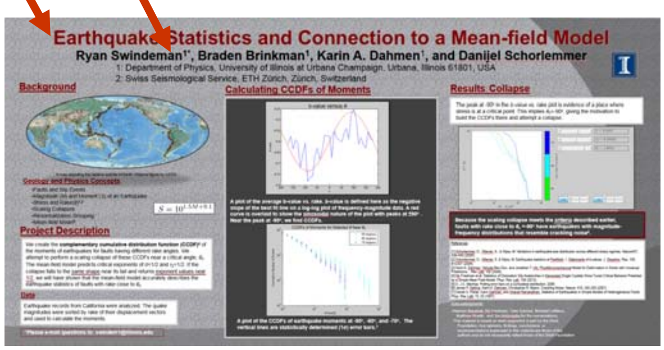
Title—120 pt
Section headings—60 pt
Figure captions—48 pt
Text—36 pt

Tip: Scale the font with the size of the poster

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

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

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

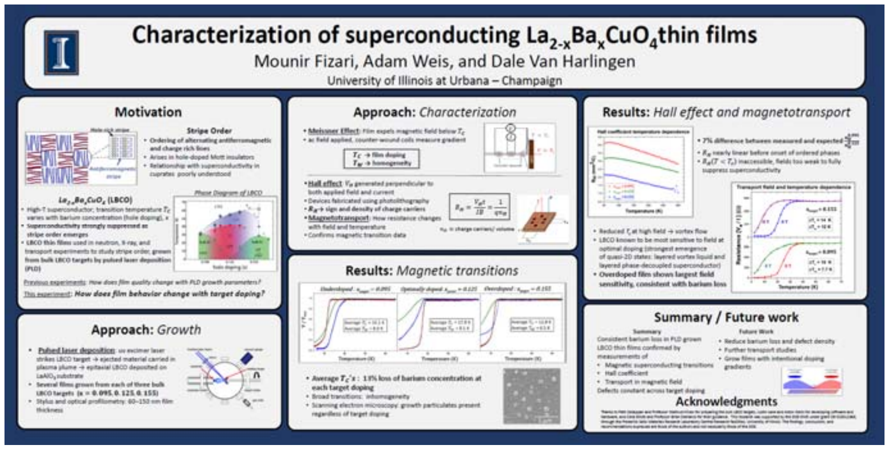
Use the space for something more compelling and visually interesting

If you *must* include an abstract, keep it very brief (<50 words)

***or if your adviser tells you to…**

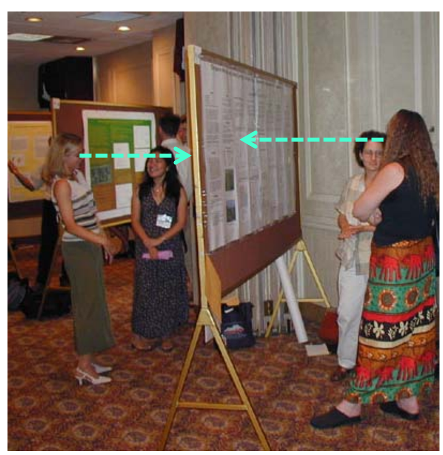
Layout

(Navigation)



Courtesy Mounir Fizari

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

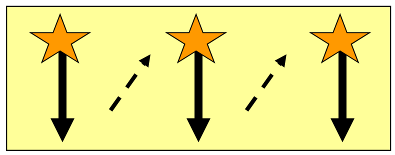


Tip: Don't put important points in tiny print at the bottom

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

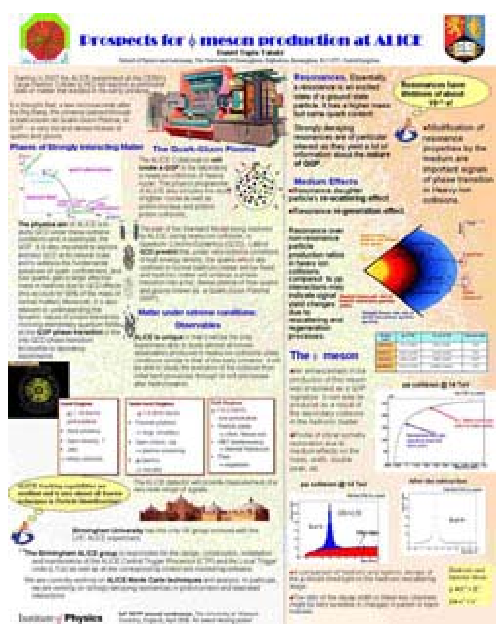
Break up your story into columns
(think “newspaper”)

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

How is the viewer going to navigate through this poster?

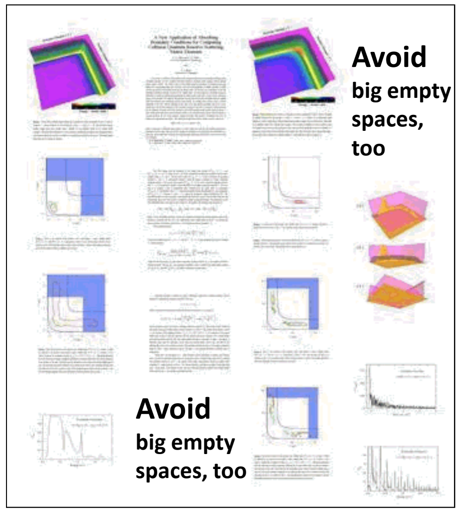


Use headings to guide the viewer through the poster

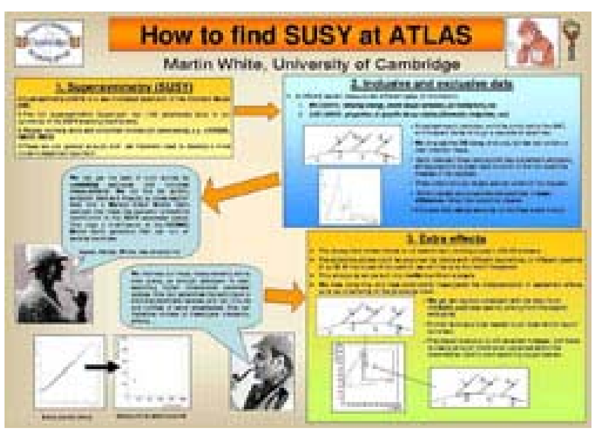
Make your key points immediately recognizable

Use headings to help viewers locate what interests them

- Motivation
- Methods
- Results
- Conclusions



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



The center of the poster should feature the methods and results

Problem statement, motivation, objectives

Methods

Results

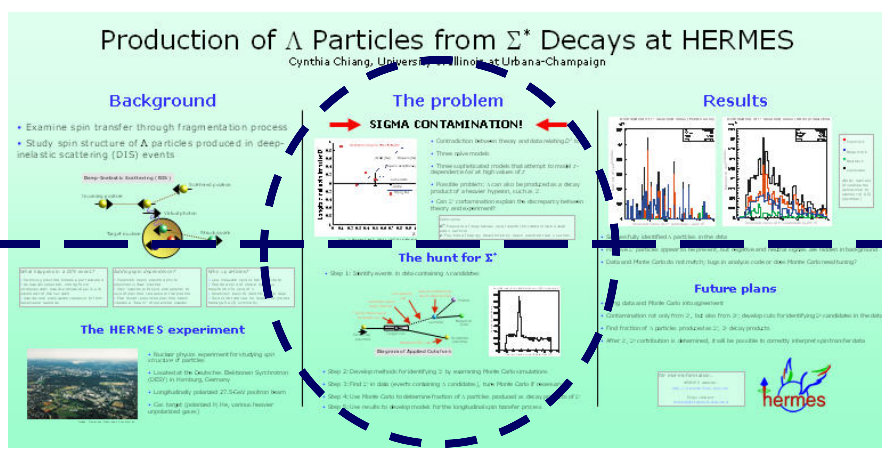
Applications or future work

Sources of additional information

Acknowledgments

Tip: Visually represent the relative importance of text elements

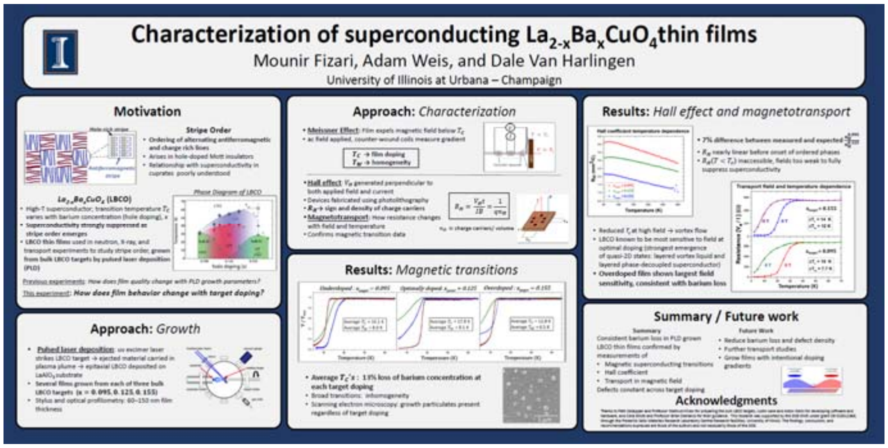
Position your important points strategically



Courtesy H. Chiang

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

Use of Color



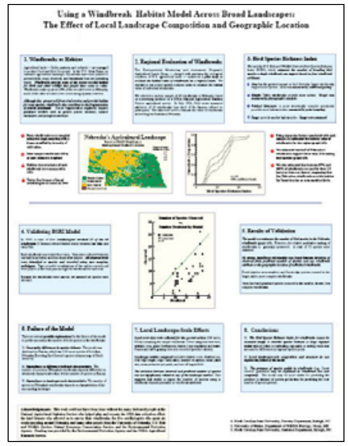
Courtesy Mounir Fizari

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

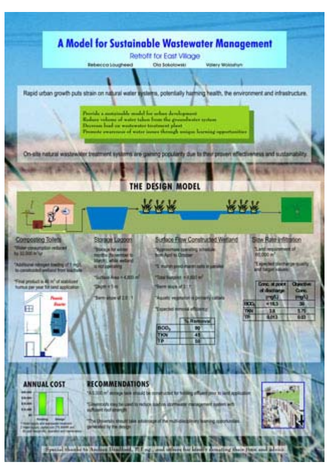
Tip: Gradient backgrounds that look great on your monitor may not print properly

Use color to highlight, separate, or associate information visually



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

Choose neutral backgrounds with high-contrast text and images



Leave adequate "white space"

Effective posters look uncluttered

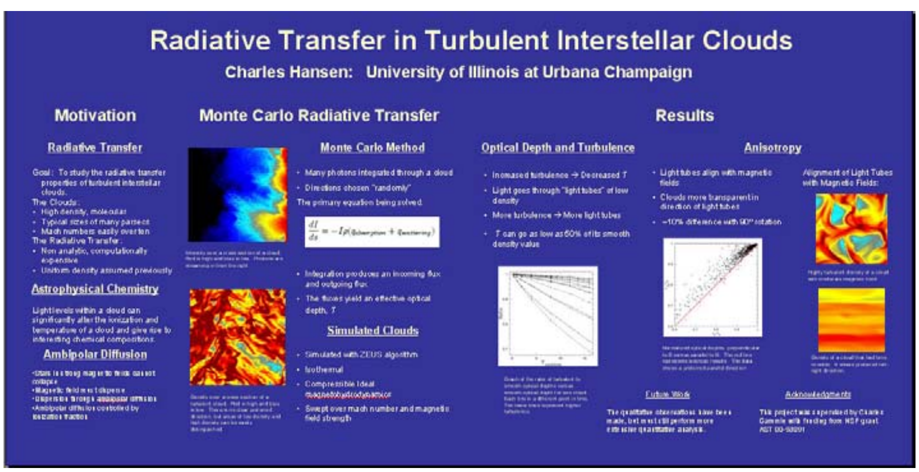
Use white space to isolate and emphasize important details

Leave at least 1.5 in (4 cm) of white space between columns

Balance elements on the page

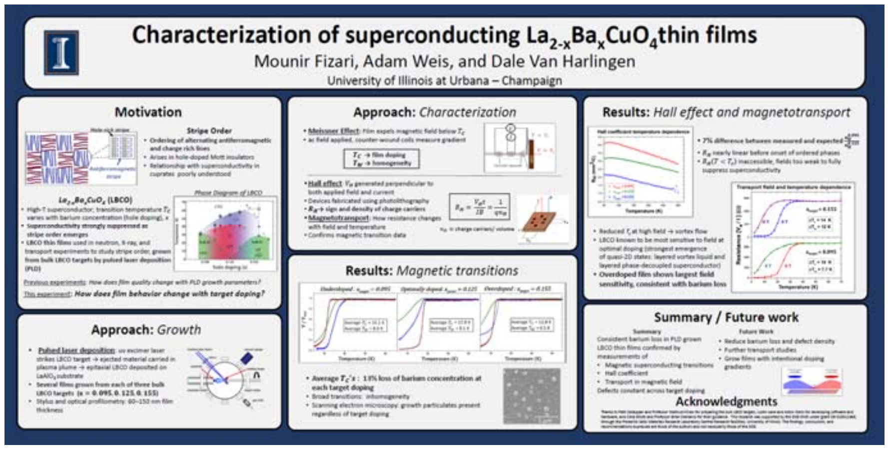
Tip: Leave at least 0.5-in (1.25-cm) margins on all sides of your poster; no plotter prints to the very edge of the paper

"White space" doesn't have to be white



Courtesy Charles Hansen

Acknowledgments



Courtesy Mounir Fizari

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

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

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

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."

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

Follow the logo rules!

Rules for using the NSF logo:

http://www.nsf.gov/policies/logos.jsp

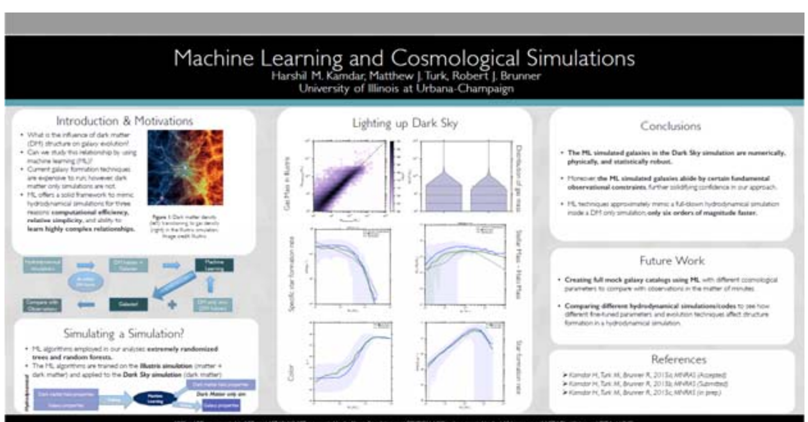
Rules for using the University of Illinois at Urbana-Champaign logo:

(http://identitystandards.illinois.edu/graphicstandardsmanual/general guidelines/generalguidelines.html)

The U.S. Department of Energy says you may NOT use their logo without explicit permission

(http://energy.gov/management/office-management/employee-services/graphics/doe-logo-seal-and-word-mark)

Where to put the acknowledgments?



Courtesy Harshil Kamdar

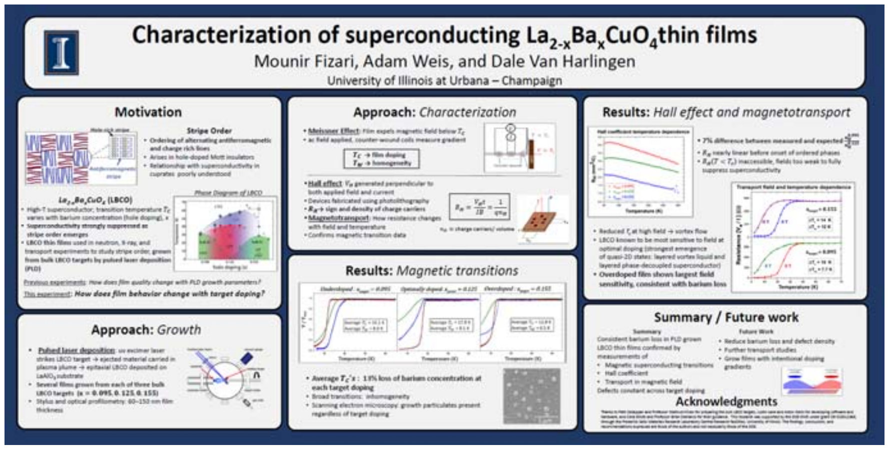
Smaller font

At the bottom

Lower right corner

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.

Presenting



Courtesy Mounir Fizari

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, 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

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

istockphoto.com—William Howell

Have a permanent marker the color of your text for emergency typo corrections

Have a small notebook and pen handy for notes

Rehearse your "stump speech"

Should be 1–2 min.

Think about what the audience wants to know

Briefly state

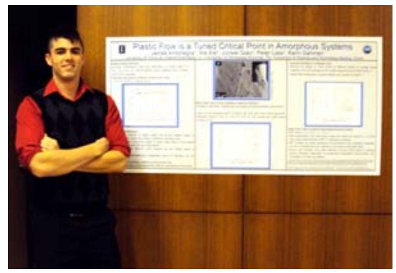
1. What you studied and why it's important
2. What methods you used
3. What your principal results are
4. What you think they mean
5. What you're going to do next

Prepare two versions—one for experts and one for novices

Be prepared to be interrupted with questions; rehearse possible answers

Convey your enthusiasm for your research project

- Greet people as they walk up to your poster
- By your stance and expression, invite them to approach you and ask questions
- First ask them if they're familiar with your topic, so you know which version of your stump speech to give
- Maintain eye contact

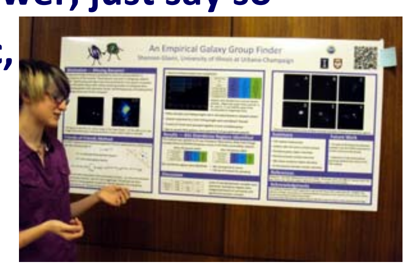


PHYS 499 Posters, October 2012; James Antonaglia

Tip: Relax, lean forward, and ***smile***

Rules for answering questions:

- Always be respectful
- If you don't understand the question, ask for clarification
- If you don't know the answer, just say so
- If the question if off-topic, redirect
- Don't ever argue with a questioner—you'll just look bad
- Don't read your poster, use it as a visual aid to explain your work



PHYS 499 Posters, October 2012; Shannon Glavin

References and further guidance…

Edward R. Tufte,
***The Visual Display of Quantitative Information*, Graphics Press (2001)**

http://www.personal.psu.edu/drs18/postershow/
http://www.soe.uoguelph.ca/webfiles/agalvez/poster/
http://www.ncsu.edu/project/posters/
http://www.writing.engr.psu.edu/posters.html

cmelliot@illinois.edu
http://physics.illinois.edu/people/Celia