

# Poster Design

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Digital Learning & Scholarship Librarian



*Adapted from a presentation by Ann Holstein*

# Why posters?



Communicate main ideas of your work



Easy to understand, visual format



Stimulate interest & discussion

# Qualities of a good poster



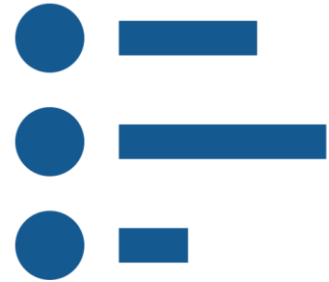
Readable



Legible



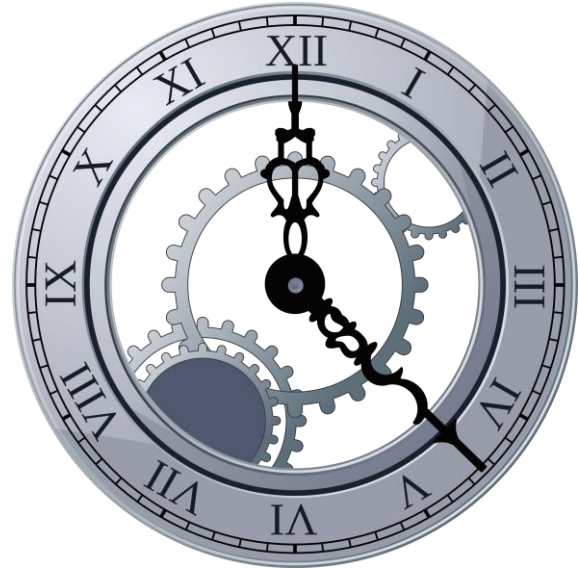
Well Organized



Succinct

# Time

- » Design takes time
- » ***Minimum*** of 2-3 days of concentrated effort
- » Leave space for items you don't yet have



## Software

- » Unless you have plenty of time, don't learn something new.
- » Use what you're comfortable with!

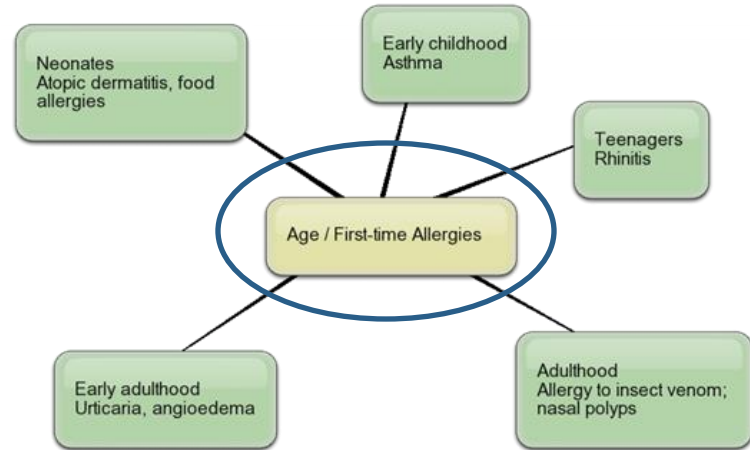


# Getting Started

**Where to begin planning your poster**

# Main message

- » Short
- » Focused
- » Self-explanatory
- » Prominent in your title



# Capture your audience

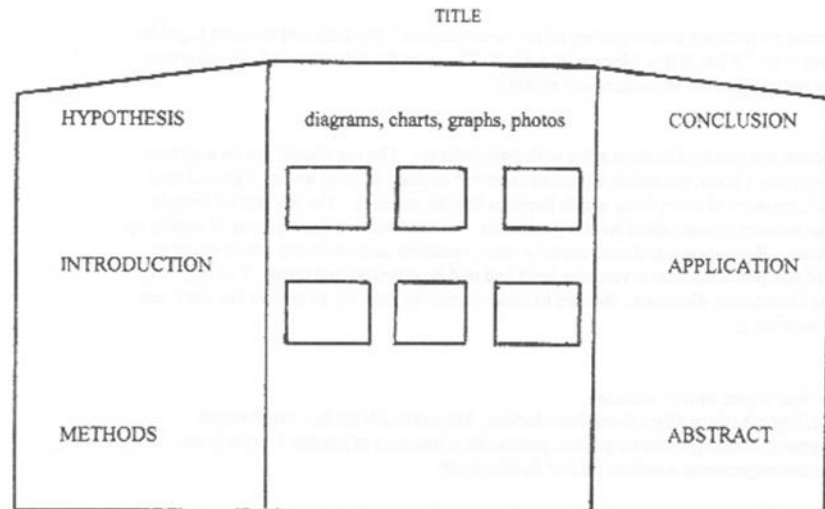
- » Less text, more graphics
- » Clear main points
- » Shift long explanations to a handout if they can't be cut





# Lay out your images

- » Sketch out your poster on paper
- » Check for sizing and spacing
- » Limited space



## Edit, edit, edit!

- » People spend less than 10 minutes with your poster
- » 10 seconds to capture attention
- » Remove clutter!



## Be sure you include...

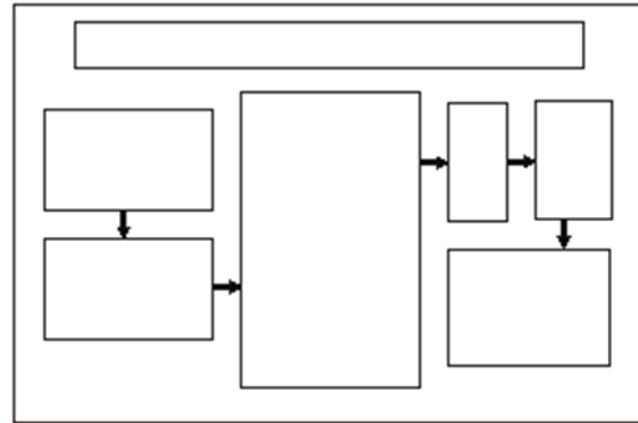
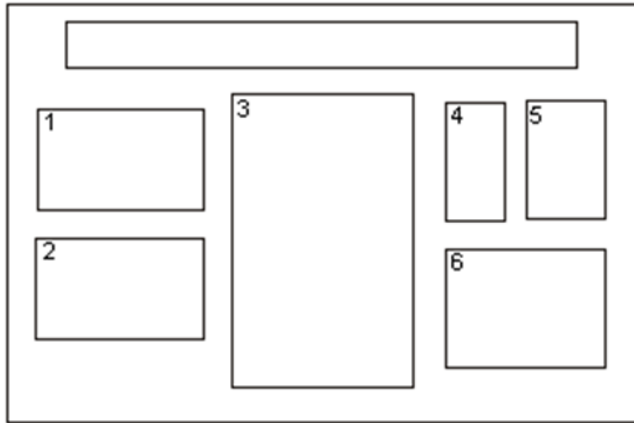
- » Title
- » PI & authors
- » Affiliations
- » Departments
- » School & institution names, logos, and addresses
- » Abstract
- » Introduction
- » Materials & methods
- » Results
- » Discussion
- » Conclusion
- » Future directions
- » References
- » Acknowledgements

# Layout & Design

**Where to place items on your poster  
and how to make it look good**

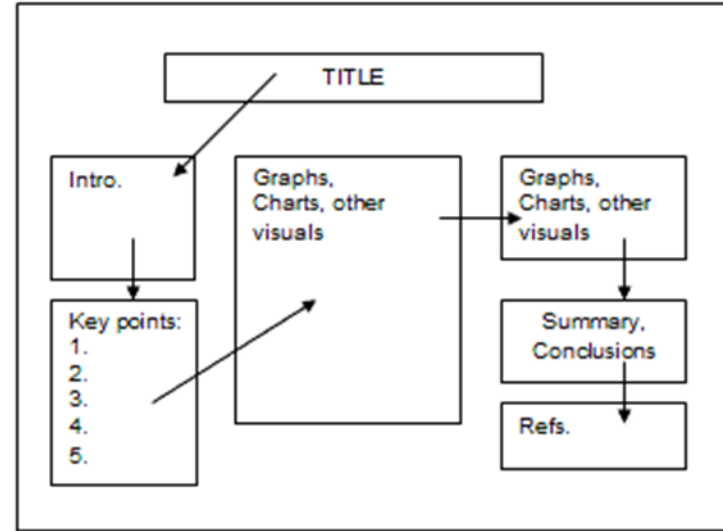
# Arranging poster elements

- » Vertically we read center → top → bottom
- » Horizontally we read left → right



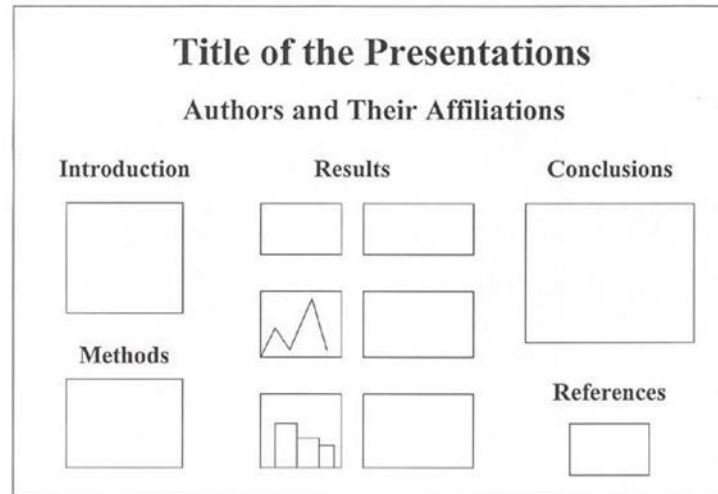
# Arranging poster elements

- » Place your content in order of importance as shown
- » Center top position is always your title and name



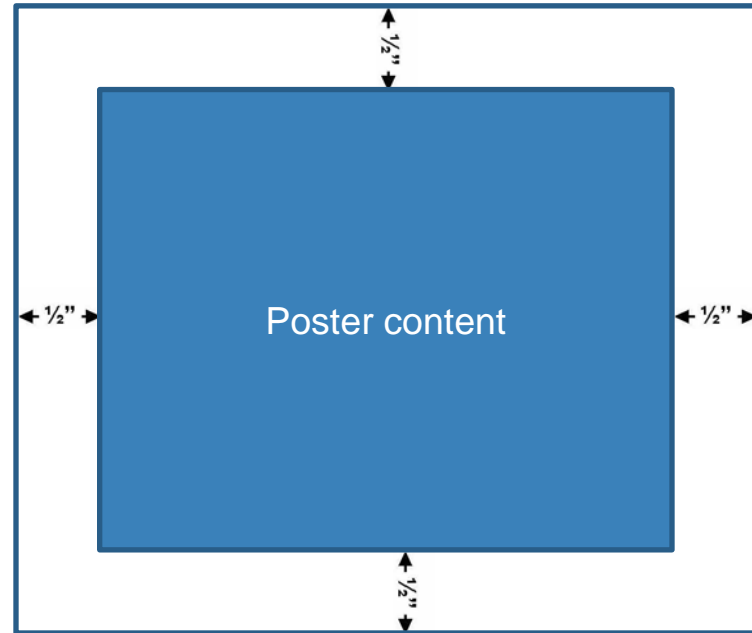
# Arranging poster elements

- » Most people use 3-5 columns
- » Use sections to make the information easy to follow
- » Use blank space to highlight or offset information



# Space

- » Without space your reader has no visual pauses to think
- » Leave space around sections and images
- » Leave at least  $\frac{1}{2}$ " margin around the poster





# Element size

- » Size shows emphasis
- » The larger the element, the more the eye is drawn to it and the more important it should be

**The Polarity Effect of Electromigration on Intermetallic Compound (IMC) Formation at Solder-Copper Interfaces**

Hao Gan and K. N. Tu  
Dept. of Materials Science and Engineering, UCLA  
Los Angeles, CA 90095

**Introduction**  
Electromigration (EM) is mass diffusion driven by high current flow.  
- EM is a major failure mode in microelectronics.  
- Trend of miniaturization leads to a wider application of flip chip packaging.  
- Higher current density, poorer performance.  
- Decreasing dimension of flip chip solder joints.  
- Higher current density to meet EM reliability issue in solder.  
- Environmental concern of Pb in U.S., Japan and Europe.  
- Study of EM in Lead free solder: SnAg<sub>3</sub>Cu<sub>1</sub>, SnAg<sub>3</sub> and SnCu<sub>2</sub> (Au-free).

**Growth rule of IMC**  
- IMC growth rate is proportional to current density.  
- IMC growth rate is proportional to current density.  
- IMC growth rate is proportional to current density.

**Current Crowding and Polarity Effect**  
- Resistor of network.  
- Resistor of network.  
- Resistor of network.

**Polarity Effect of EM on IMC Thickness**  
- Polarity effect of EM on IMC thickness.  
- Polarity effect of EM on IMC thickness.  
- Polarity effect of EM on IMC thickness.

**Back Stress in Electromigration**  
- Back stress in electromigration.  
- Back stress in electromigration.  
- Back stress in electromigration.

**EM Effect on Thickness Change of IMC**  
- EM effect on IMC thickness change.  
- EM effect on IMC thickness change.  
- EM effect on IMC thickness change.

**Sample Preparation**  
- Sample preparation process.  
- Sample preparation process.  
- Sample preparation process.

**Growth Rate Considering Back Stress**  
- Growth rate with back stress.  
- Growth rate with back stress.  
- Growth rate with back stress.

**Morphology Change at Cathodes and Anodes**  
- Morphology change at cathodes and anodes.  
- Morphology change at cathodes and anodes.  
- Morphology change at cathodes and anodes.

**IMC Thickness X<sup>2</sup> vs. Time**  
- IMC thickness vs. time graph.  
- IMC thickness vs. time graph.  
- IMC thickness vs. time graph.

**Summary**  
- The scallop-to-layer transformation of IMC is different from the anode to the cathode.  
- Electric current enhances the IMC growth at anode and inhibits it at cathode.  
- IMC growth at anode has parabolic dependence with time, and the growth rate increases with current density.

Electronic Thin Film Laboratory, UCLA  
<http://www.seas.ucla.edu/ThinFilm>

Acknowledgements: NSF Contract No. DMR-9987484  
SRC Contract No. NJ-174

# Font style

- » Basic, sans-serif font such as Arial, Calibri, Helvetica, and Tahoma
- » Avoid using multiple fonts
- » Be aware of color

**FATSO** **DEVON** **NATIVE**  
**Catchup** **Expose** **Heidleberg**  
**IRONWORK** **ASIA** **TEMPLETT**

green on orange

red on green

red on orange

yellow on orange

orange on blue

white on yellow

# Font size

- » Needs to be large; easily read from 4-6 ft. away
- » Test by viewing on your computer at 100% zoom and stepping back

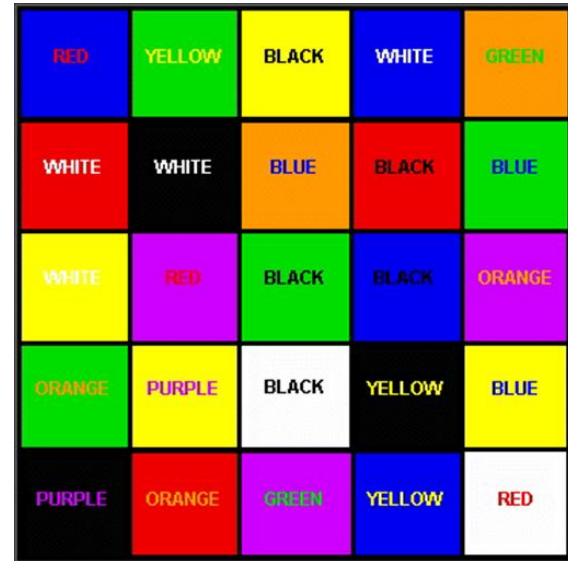
Size:	Arial:	Times New Roman:
1	Font	Font
2	Font	Font
3	Font	Font
4	Font	Font
5	Font	Font
6	Font	Font
7	Font	Font

## Font size recommendations

- » **Title:** 60 pt bold
- » **Authors & affiliations:** 48 pt
- » **Section headings:** Color of your choice, 30 pt bold
- » **Text:** Black, 24 pt
- » **Figure, graph, & table captions:** Black, 20 pt
- » **References & acknowledgements:** Black, 20 pt
- » **Photo & image credits:** Black, 14 pt

# Color

- » Be aware of color contrast
- » Use it to highlight important information
- » Too much color or patterning will drive people away
- » Dark backgrounds are fine but will cost more to print



RED	YELLOW	BLACK	WHITE	GREEN
WHITE	WHITE	BLUE	BLACK	BLUE
WHITE	RED	BLACK	BLACK	ORANGE
ORANGE	PURPLE	BLACK	YELLOW	BLUE
PURPLE	ORANGE	GREEN	YELLOW	RED

# Formatting

- » Do not single space!
- » Justify text
- » Use bullet points to highlight important points or lists



# Images, Graphs, & Tables

**What makes your poster pop**

# Images

- » 30% text, 40% graphics, 30% empty space
- » Use color in your graphics
- » Include captions



Figure 1. Health Centers

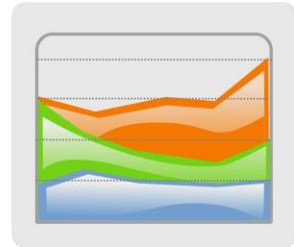
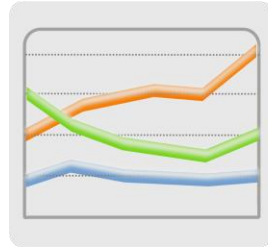
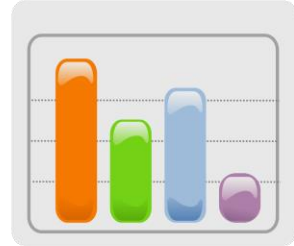


# Images

- » 4"x5" photos
- » 8" x 10" drawings
- » Place related items close together and offset with white space
- » 300dpi resolution
- » Use .jpg or .png files
- » Avoid .bmp & .gif

# Graphs

- » Avoid complexity and excessive numbers
- » Use color to distinguish groups
- » Avoid fine patterns



# Tables

- » Keep these compact
- » Only use tables when they tell the story better than a graph

Table 4: Installed  $R_{peak}$

TOP500 Statistics — Installed $R_{peak}$ [Gflop/s]					
	USA/Canada	Europe	Japan	others	Total
SGI	18895	6885.8	625.6	277.2	26683
IBM	9563.8	3756.3	258.1	57.0	13635
Sun	2628.1	787.1	234.4	177.0	3826.6
Hewlett-Packard	1745.5	496.5		46.1	2288.0
Fujitsu	48.4	620.8	1370.6	28.6	2068.4
NEC	256.0	248.0	842.0	64.0	1410.0
Hitachi		77.0	3200.0		3277.0
others	4244.8	137.6	125.1		4507.5
Total	37381	13009	6655.7	649.8	57696

Mannheim/Tennessee      June 10, 1999

# Printing your poster

**How to make sure it comes out the way you want**

## Saving your poster file

- » Save files as PowerPoint or PDF
- » If working on a Mac or in another program, save as PDF to ensure quality prints



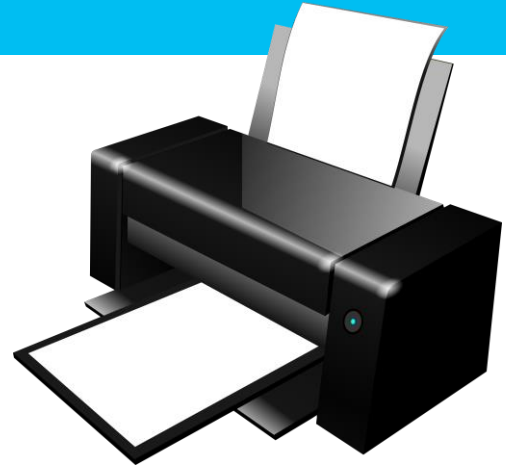
## Proofread and test print

- » Have someone else read your poster
- » Do a test print on regular paper: Print → scale to fit → letter size paper → landscape



# Printing

- » Freedman Center for Digital Scholarship
- » FedEx in Thwing
- » think[box]
- » Remember it takes time for things to be printed! Turn in your file for printing a few days ahead of time to avoid rush fees.



# Pricing

- » Freedman Center for Digital Scholarship pricing
- » Other places will charge significantly more for posters – sometimes over \$100

Size	Type	Price
24" or less length	Regular ma / <u>sgl</u> / <u>gl</u> Prem: ca / ad	\$2/print \$10/print \$25/print
25-36" length	Regular ma / <u>sgl</u> / <u>gl</u> Prem: ca / ad	\$4/print \$20/print \$50/print
37-42" length	Regular ma / <u>sgl</u> / <u>gl</u> Prem: ca / ad	\$5/print \$25/print \$70/print
43-48" length	Regular ma / <u>sgl</u> / <u>gl</u> Prem: ca / ad	\$6/print \$35/print \$90/print
49-56" length	Regular ma / <u>sgl</u> / <u>gl</u> Prem: ca / ad	\$8/print \$45/print \$120/print
57-72" length	Regular ma / <u>sgl</u> / <u>gl</u> Prem: ca / ad	\$10/print \$60/print \$145/print
Cost per add'l ft	Regular ma / <u>sgl</u> / <u>gl</u> Prem: ca / ad	+\$2 addt'l +\$10 addt'l +\$25 addt'l
Dark, solid background	≤48" >48"	+\$5 addt'l +\$10 addt'l
Rush fee	per poster file	\$5



# Presenting

- » Prep a short presentation to introduce people to your poster (3-5 minutes max)
- » Enjoy your accomplishment
- » Be enthusiastic
- » Have fun!

