

# Preparing An Effective Scientific Poster

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UMBC COLLEGE OF NATURAL AND MATHEMATICAL SCIENCES

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DIRECTOR OF COLLEGE INITIATIVES

# Why scientific posters?

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“Criticism and testing are of the essence of our work. This means that science is a fundamentally social activity, which implies that it depends on good communication.”

-Hermann Bondi<sup>1</sup>

<sup>1</sup>Quoted by Robert A. Day in How to Write & Publish a Scientific Paper. The Oryx Press (1998) p. ix.

# Why give scientific posters?

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- To serve as a basis for communication with researchers and the public
- To convey findings in scientific research
- To share ideas with colleagues
- To serve as an alternative to longer oral presentations
- To learn how to organize and effectively present research data

# Steps to a Poster Session

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- 1. Conduct Research**
- 2. Write & Revise Abstract**
- 3. Review Abstract (by Mentor)**
- 4. Submit Abstract**
- 5. Prepare Presentation**
- 6. Present Research**

# Steps to a Poster Session

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**2. Write & Revise Abstract**

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**4. Submit Abstract**

**5. Prepare Presentation**

**6. Present Research**

**ABSTRACT**

# ABSTRACTS

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Many presentation venues require presenters to submit abstracts as part of the registration process.

**LENGTH:** 300 words or less

**SUGGESTED CONTENT:**

*Abstracts may differ by discipline but typically includes:*

- Background
- Research question/problem
- Approach and experiments
- Conclusion

# ABSTRACT TEMPLATE

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TITLE OF THE STUDENT PRESENTATION  
PresenterFirstName PresenterLastName<sup>1</sup>, Other contributing authors such as graduate students<sup>1</sup>,  
MentorFirstName MentorLastName<sup>2</sup>  
<sup>1</sup>Department of XXX, InstitutionName1, StreetAddress, City, State ZIPCODE  
<sup>2</sup>Department of XYZ, InstitutionName2, StreetAddress, City, State ZIPCODE

This document is an abstract template for the Annual CNMS Summer Undergraduate Research Fest at UMBC. All of the specific formatting requirements for abstracts are provided online at <http://surf.umbc.edu>. The entire abstract should fit on one page with one-inch margins on all four sides and use 12-point Times New Roman font. The presenting author's name (student) should be underlined. The presenting undergraduate author should be the first author and the research mentor should be the last author. Any coauthors should be included between the first and last authors. Affiliations should be included for all authors/coauthors and noted using superscript numbers.

The text of the abstract goes in this section. Each paragraph is indented with a tab. There is a 300-word maximum for the body of the abstract. Abstracts that do not following this format, specifically the word count limit or formatting of the authors' names and affiliations, will be returned to the student for rewriting. The suggested content includes background, the research question, approach, experiments, and conclusion. The abstract generally does not include figures or the data to be displayed in the poster. Please check all spelling and grammar.

All abstracts must be reviewed and approved by the student's research mentor or by an individual authorized by the mentor to review and approve the abstract. Mentors must confirm they have reviewed and approved the abstract with the understanding that the abstract will appear in an event program book and may be posted online. An online abstraction confirmation form is provided for this confirmation. The submission deadline for abstracts is posted on the Summer Undergraduate Research Fest website. Abstracts must be submitted using the online abstract submission form. Specific instructions are posted on the SURF website. This template's word count is 300 words not including the title, authors or notations below.

#### Notes:

One-sheet posters are required to be no wider than 36 inches and no longer than 42 inches to ensure that two posters can fit side-by-side on a campus poster display unit. Multiple panel posters are acceptable and should take up no more space than a 36" wide and 42" long poster.

Please include the grant or other support information for your undergraduate research on a separate line at the end of your abstract, if appropriate. This acknowledgement should also be included on your poster. The word count of the acknowledgement is not included in the 300-word maximum for the abstract. If you have any questions about the acknowledgement, please check with the coordinator or director of the program that is sponsoring you. If you are not affiliated with a program, please ask your research mentor what acknowledgement information is needed.

If you have any questions, send them to [SURF@umbc.edu](mailto:SURF@umbc.edu).

## Title, Authors & Affiliations

## Body of the Abstract:

background, research question, approach and experiments, and conclusion

## Acknowledgment Statement:

specifically recognize funding support of the research project. Program coordinators, directors and/or research mentors can provide this information

# ABSTRACT FORMATTING

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**File Type:** Abstracts must be generated in MS Word (.doc or .docx).

**File Name:** Please title the abstract file as follows, the presenter's entire last name, followed by the first initial of their first name plus the word "Abstract". Example: "SmithJAbstract.doc"

**Page Format:** 8.5" x 11" page with 1-inch margins and 12-point Times New Roman font.

**Page Limit:** 1 page for complete abstract.

**Title:** The abstract title should be in all CAPITAL letters.

**Authors:** The presenting author's name (student) should be underlined. The presenting undergraduate author should be first author and the research mentor should be the last author. Any coauthors should be included between the first and last authors. Affiliations should be included for all authors/coauthors and noted using superscript numbers.

**Affiliations:** Provide the affiliation for each author. Use superscript numbers to identify which author is associated with the listed affiliations. An author may have more than one affiliation. The format for affiliations should be as follows: Department of XXX, PresenterInstitutionName, StreetAddress, City, State (abbreviation) ZIPCODE. Example: Department of Biological Sciences, UMBC, 1000 Hilltop Circle, Baltimore, MD 21250

**Body of Abstract:** Maximum word count is 300. (Title, authors, affiliations and acknowledgement statement are not included in word limit). Paragraphs must be indented using a tab.

**Acknowledgement Statement:** This should specifically recognize funding support of the research project. Program coordinators, directors and/or research mentors can provide this information.



# ABSTRACT SUBMISSION

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All abstracts must be reviewed and approved by each student's research mentor or by an individual authorized by the mentor to review and approve the abstract.

The mentors must confirm in writing that have reviewed and approved the abstract with the understanding that the abstract will appear in an event program book and may be posted online. **[NEW! ONLINE FORM]**

Program officials must review and submit the abstracts of students in their programs

## **DEADLINE FOR ABSTRACT SUBMISSION**

**Midnight EST, Thursday July 24, 2014**

# ABSTRACTS TAKE TIME....

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Students should submit their abstracts to their research mentors so there is sufficient time to edit the abstract.

Talk about this **now** so that you know what deadline to use for your mentor's review of your work to ensure you meet the July 24th SURF abstract submission deadline for 2014.

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3. Review Abstract (by Mentor)
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5. Prepare Presentation
6. Present Research

**POSTER  
PRESENTATION**

# Effective posters share the following traits:

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- Viewer-friendly style with large (not small) typeface & informative subheadings
- Small offerings of information vs. long paragraphs of text
- Logical and orderly progression of presentation of information
- Summary statement(s) of key aspects
- Easily understood language with no jargon or undefined acronyms

# ELEMENTS OF A POSTER

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**Title**

**Author & Affiliations**

**Introduction**

**Background**

**Statement of the research problem**

**Formula(s) - it is best to use figures  
when possible**

**Data/Results and Analysis**

**Conclusions**

**References**

**Acknowledgments**



# TITLE: think big

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## Title

Author & Affiliations

Introduction

Background

Statement of the research problem

Formula(s) - it is best to use figures when possible

Data/Results and Analysis

Conclusions

References

Acknowledgments

**The Title of a Poster is the First Thing a Visitor Sees**

The goal is to be professional and attract visitors to your poster.

Can you read the title from 15-20 feet away?

# AUTHORS

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Title

**Author & Affiliations**

Introduction

Background

Statement of the research problem

Formula(s) - it is best to use figures when possible

Data/Results and Analysis

Conclusions

References

Acknowledgments

## **Authors:**

Researchers who worked on the project.  
Primary Investigator.

## **Affiliations:**

Follow the guidelines provided for the abstract submission.

# POSTER CONTENT: KNOW YOUR AUDIENCE

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Title

Author & Affiliations

Introduction

Background

Statement of the research  
problem

Formula(s) - it is best to  
use figures when possible

Data/Results and Analysis

Conclusions

References

Acknowledgments

For SURF, we suggest  
making the poster  
presentation  
understandable  
to educated  
laypersons





# POSTER CONTENT: IMAGES v TEXT

Title

Author & Affiliations

**Introduction**

**Background**

**Statement of the research  
problem**

**Formula(s) - it is best to  
use figures when possible**

**Data/Results and Analysis**

**Conclusions**

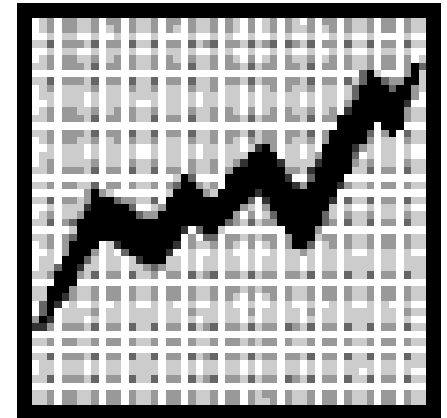
References

Acknowledgments

Minimize Text

Maximize Illustrations and  
Cartoons

(Hint: A poster is not a research  
paper.)



# POSTER CONTENT: TAKE HOME MESSAGE

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Title

Author & Affiliations

**Introduction**

**Background**

**Statement of the research  
problem**

**Formula(s) - it is best to  
use figures when possible**

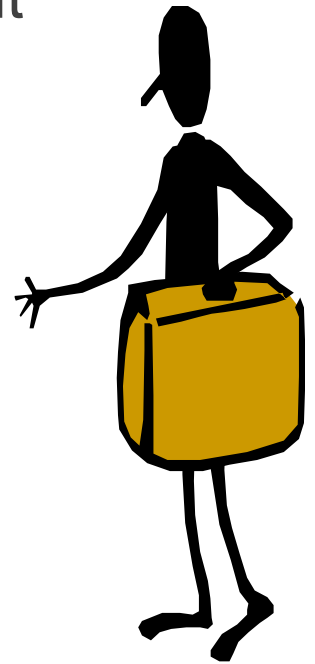
**Data/Results and Analysis**

**Conclusions**

References

Acknowledgments

Include the one main point you would like a visitor to remember about your research.



# POSTER CONTENT: BE CONCISE

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Title

Author & Affiliations

**Introduction**

**Background**

**Statement of the research  
problem**

**Formula(s) - it is best to  
use figures when possible**

**Data/Results and Analysis**

**Conclusions**

References

Acknowledgments

Avoid long blocks of text

Use small chunks of  
information

(Hint: Edit, Edit, Edit to  
get to the core messages  
of the poster.)



# POSTER CONTENT: TECHNICAL TERMS

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Title

Author & Affiliations

**Introduction**

**Background**

**Statement of the research  
problem**

**Formula(s) - it is best to  
use figures when possible**

**Data/Results and Analysis**

**Conclusions**

References

Acknowledgments

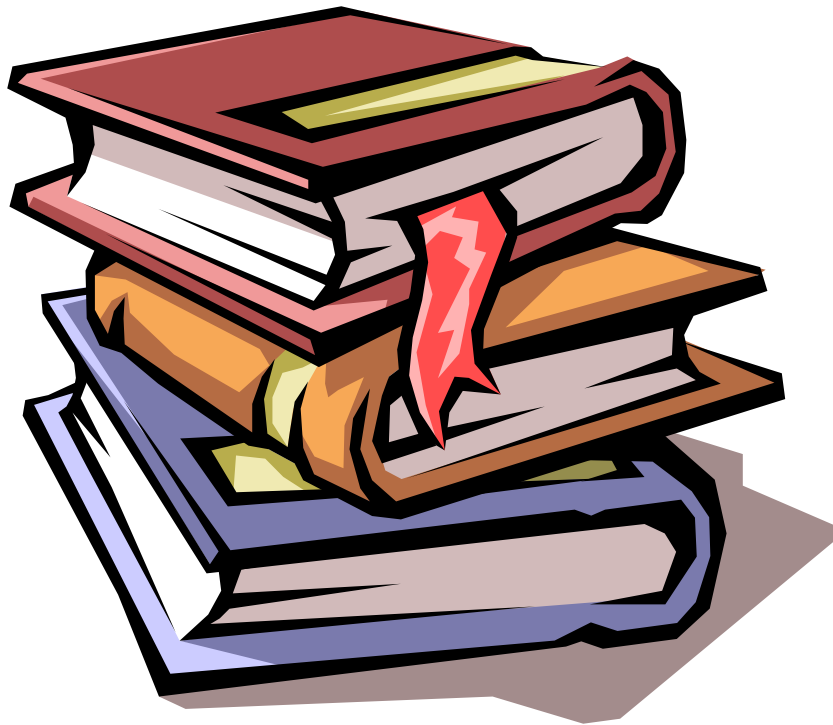
Define all technical terms  
used throughout a poster

(Hint: An element listing these definitions  
can be very helpful to visitors.)



# Explain What??

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jar ● gon - “The specialized language of a trade, profession, or similar group<sup>2</sup>” ...

<computer jargon><sup>2</sup>

ac ● ro ● nym - “A word formed from the initial letters of a name<sup>3</sup>” ...

<WAC for Women’s Army Corps><sup>3</sup>

<sup>2</sup> Webster’s II New College Dictionary, Houghton Mifflin Company. (1999) pg.592.

<sup>3</sup> Ibid, p. 11

# POSTER CONTENT: SUMMARY OF YOUR RESEARCH

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Title

Author & Affiliations

Introduction

Background

Statement of the research  
problem

Formula(s) - it is best to  
use figures when possible

**Data/Results and Analysis**

**Conclusions**

References

Acknowledgments

Include a summary of the poster's  
most important points

Use bullets and/or boldface to  
emphasize important information





# ACKNOWLEDGMENTS



Title

Author & Affiliations

Introduction

Background

Statement of the research problem

Formula(s) - it is best to use figures when possible

Data/Results and Analysis

Conclusions

References

**Acknowledgments**

Organizations and agencies that contributed to the project, especially through funding support and Individuals who contributed to the project

Often placed in the lower right section of a poster:

## **Acknowledgement:**

➤ This research was partially funded by the Temple University MARC U STAR program, and supported by NIGMS-NIH Grant 5T34-GM087293, the NIAID-NIH Grant 5R37-AI030917 and the Howard Hughes Medical Institute at UMBC.

# FROM CONTENT TO LAYOUT

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Title

Author & Affiliations

Introduction

Background

Statement of the research problem

Formula(s) - it is best to use figures when possible

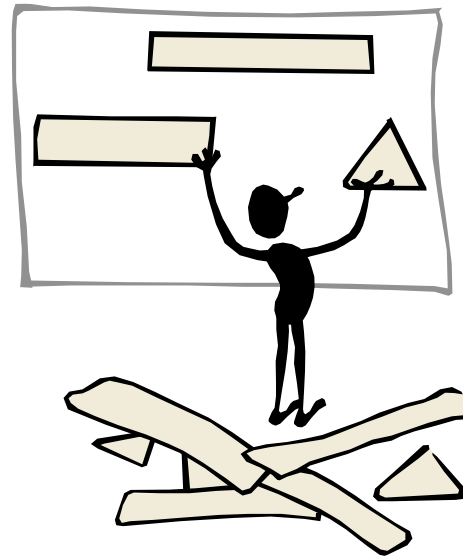
Data/Results and Analysis

Conclusions

References

Acknowledgments

## Where does the information go on the poster?





# What is the best format?

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Various formats can be used successfully

There is no single “ideal” format for poster presentations

- **PROGRAM OPTIONS**

Microsoft PowerPoint®

LaTeX, can be helpful in creating a professional display

- **SIZE REQUIREMENTS**

Each event has different requirements.

- **SURF**

Maximum Size: 36” W x 42” L

Formats: one sheet posters or multiple panel posters

TEMPLATES available online [surf.umbc.edu](http://surf.umbc.edu)



# POSTER LAYOUT

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Plan using the size allotted for each poster presentation

2014 SURF requested size is 36" wide by 42" high or 92 cm w x 107 cm long

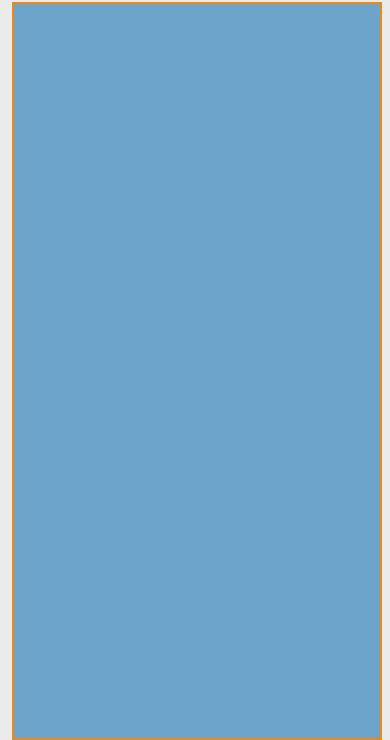
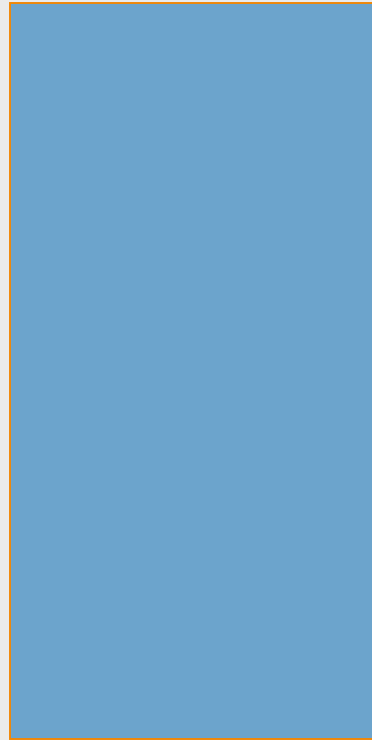
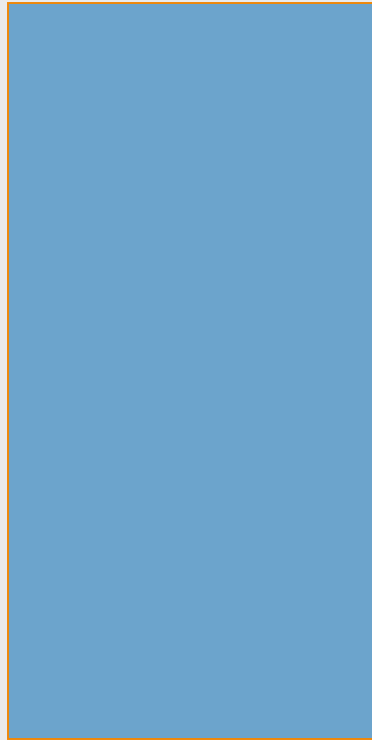
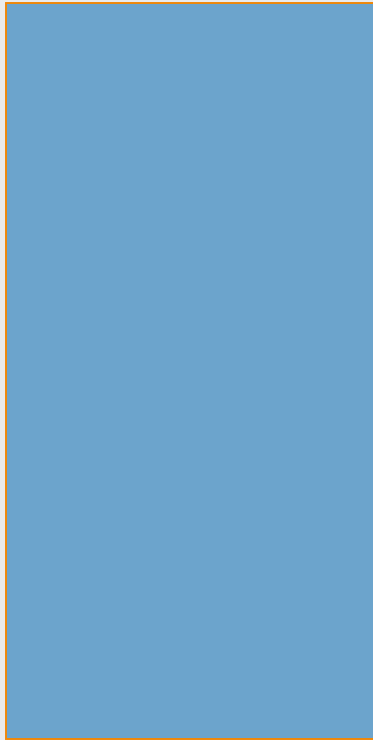
Plan the layout of the elements

It is not necessary to fill all of the space - do not "clutter" your poster



# Two Basic Poster Layouts

Vertical - sequential elements in columns



# Two Basic Poster Layouts

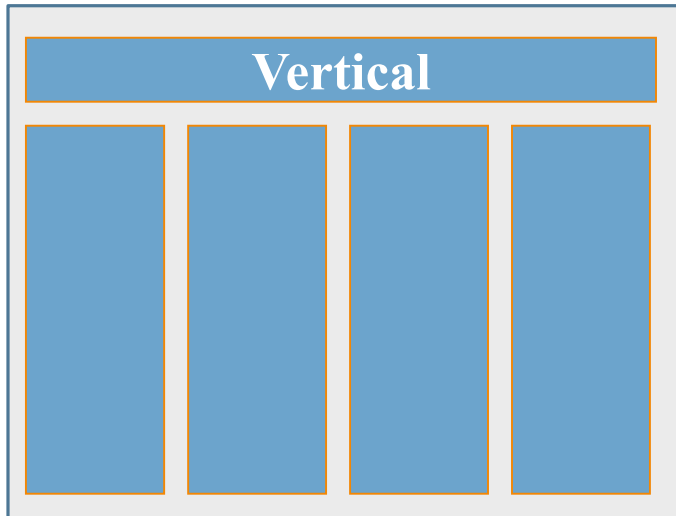
Horizontal - sequential information in rows



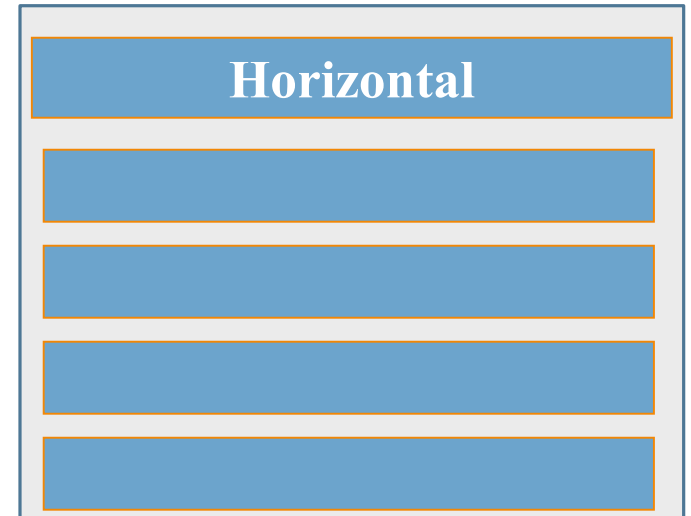
# Two Basic Poster Layouts

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Which layout  
is best



?

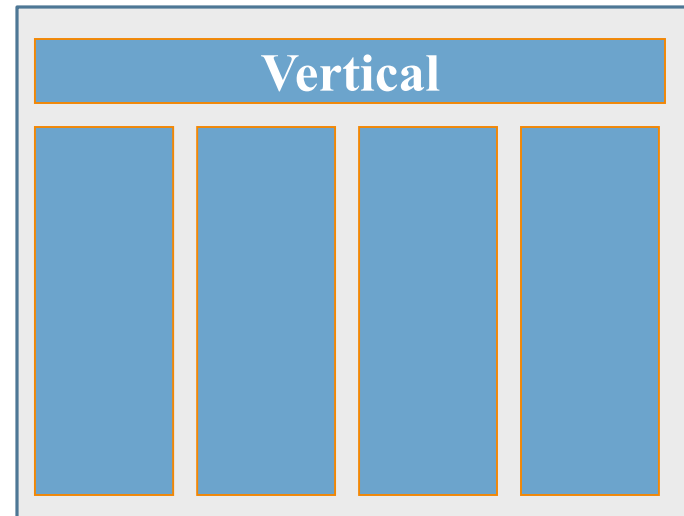


# Poster Layout

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## Vertical

When information is presented in columns, this layout enables the poster elements to be viewed in progression and helps to prevent traffic jams



# Poster Layout

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When the layout is finalized, consider sketching it on a piece of paper to use as a helpful reminder when creating the poster



# FONTS and COLORS

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TITLES: 90 pt for long titles; 100 pt for short titles

Typical Affiliation line: 65-70 pt

TEXT: 24-36 pt

TEXT COLORS: Use normal, dark colors. No light colors.

BACKGROUND: Avoid dark background colors - they waste ink, take much longer to print and dry, etc.

Title

Affiliation

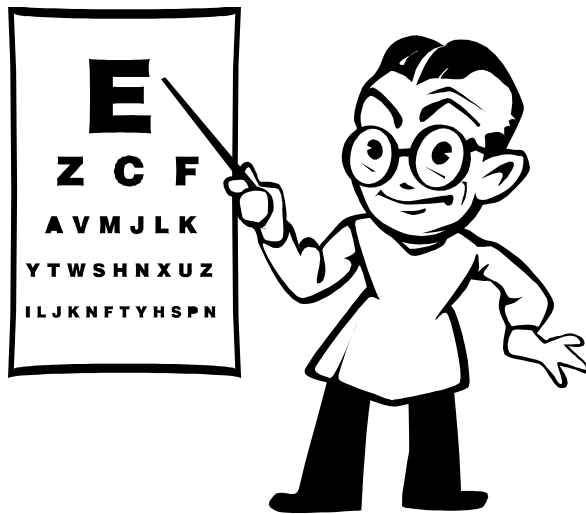
Dark text on light background

Light text on dark background



# MINIMUM FONT SIZE

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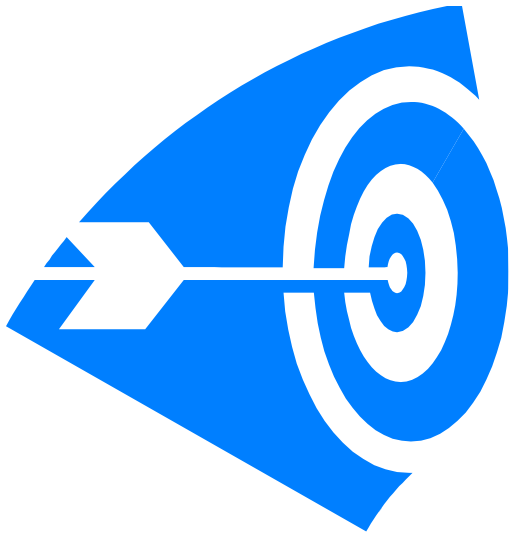
Use a  
minimum  
font size of

18

If it is too small, people will move to  
next poster

# POSTER LAYOUT

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## **Helpful Hint:**

The most important elements of a poster should be displayed at the viewer's eye level - which is often about one foot from the top of the poster board

# POSTER TYPE

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The maximum poster size for SURF is 36-inches wide by 42-inches high

## MULTI-PANEL POSTER

**Multiple components**

**8.5" x 11" sheets**  
color printer

**Banner**

Professional Printer  
.pdf File  
template available

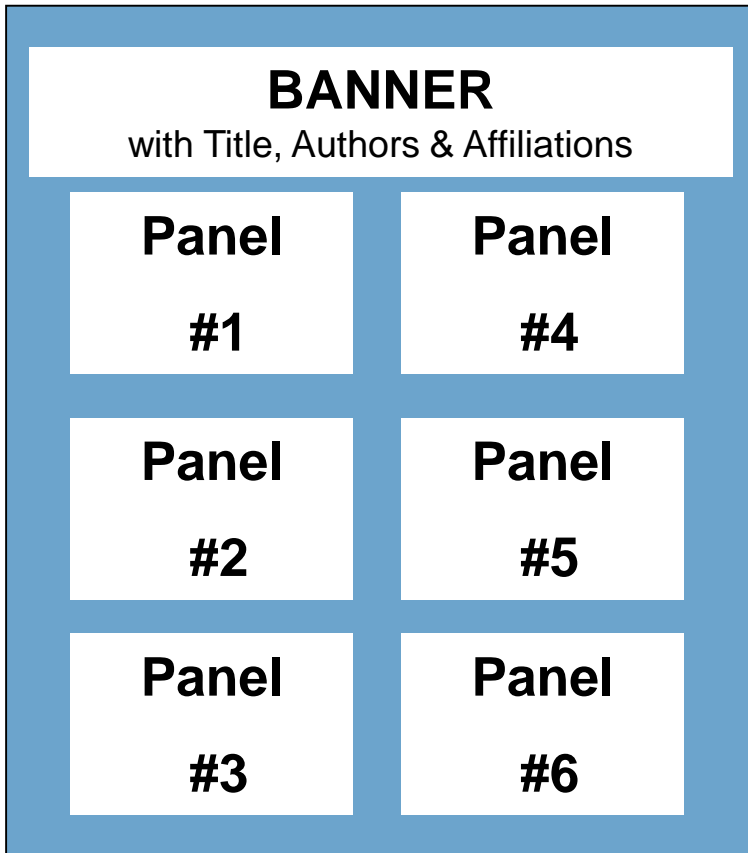
## SINGLE PANEL POSTER

Traditional Format

.pdf File

Professional Printer

# Tips for Effective Posters



For Multiple Panel Posters:

Mount each element on a piece of colored cardboard. Some presenters use page protectors, which guard against moisture and allow for quick revisions.

Consider having a 36" banner printed with your title information for your presentation. (Template online)

(Hint: Some presenters number the backs of the mounted elements in sequential order)

*Note: The blue background in the diagram depicts the poster display board, where the panels are displayed*

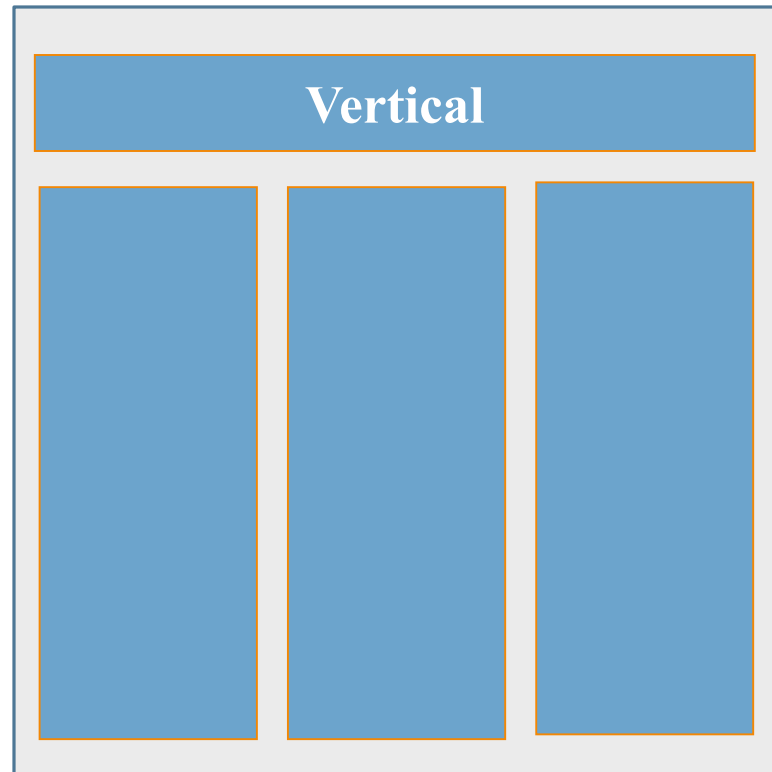
# Tips for Effective Posters

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For One Sheet Posters:

Use the 36" w x 42" h  
template available on the  
CNMS SURF website.

Sample Layout for One Sheet Poster



# Tips for Effective Posters

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Read over for errors and omissions

Use the check spelling features on your computer



# POSTER PRINTING

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**There is no time to reprint posters – get it right the first time**

**ON CAMPUS PRINTING:**

**File Type:** .PDF files

**Text:** Use dark, not light, colors

**Background:** Avoid dark colors

More Questions? Call Mr. Ford at x5-2257 for help.

***UMBC Illustrative Services reserves the right to edit poster size and color***

Important: If another shop or resource is used for poster printing, please be sure to check on the amount of time required to complete and pick up the finished product to avoid problems in getting the poster printed by Tuesday, August 5, 2014, in preparation for the Summer Undergraduate Research Fest on August 6, 2014.

# Getting Ready to Present

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Dress in business attire (no jeans)

Chewing gum detracts from your presentation

Plan to stand beside your poster during your entire scheduled session - don't block the view of your work

Be aware of all visitors

Relax and enjoy the opportunity to share your research project



# Presenting the Poster

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Prepare a 10-30 second introduction to your research to engage visitors

Explain why your research project matters, especially to the general population

If there is interest, offer a quick tour of one-to-two minutes

Remember to point to relevant poster elements during the quick tour

Don't forget to emphasize your "take-home" message in a 30-second summary.

# Optional ...

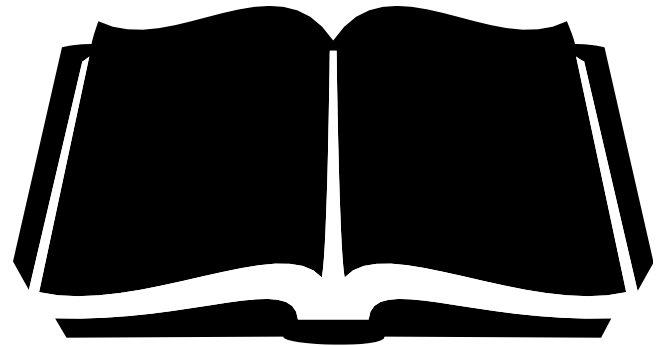
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Business cards to offer to interested visitors

Additional supporting data available in a booklet for visitor review

Copies of the poster as handouts

Email address with the title/author information



# What to Expect at SURF

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POSTER SET UP and PRESENTER CHECK IN - Begins at 8:30 a.m.

INTRODUCTION and ORAL PRESENTATIONS – 9:00 a.m. to 10:00 a.m.

POSTER PRESENTATIONS – 10:00 a.m. to 11:30 a.m.

- Poster Session 1 - 10:00 a.m. – 10:45 a.m.
- Poster Session 2 - 10:45 a.m. - 11:30 p.m.

CLOSING - 11:30 to 12:00 Noon

A good poster gives information with or without the presenter



# Two types of posters...



# One Visitor....



Or many...



Take time to make eye contact with all visitors...to let them know that you look forward to talking with them, too

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# Important Notes

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Participants will use the SURF website to register for the CNMS Summer Undergraduate Research Fest at UMBC BUT abstracts must be reviewed and submitted by their program coordinators by **the submission deadline of midnight, Thursday, July 24, 2014.**

The deadline for submission of posters for printing by UMBC Illustrative Services (Mr. Tim Ford) is **9:00 a.m. on Thursday, July 31, 2014.**

Research Mentors, UMBC faculty and all guests are asked to use the website to register their planned attendance as soon as possible and by Friday, August 1, 2014

# Important Notes

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## **Seventeenth Annual UMBC Summer Undergraduate Research Fest**

**Date:** Wednesday, August 6, 2014

**Location:** 3<sup>rd</sup> Floor of University Center, Ballroom

**Website:** [surf.umbc.edu](http://surf.umbc.edu)

Details and poster assignments will be posted on the SURF website closer to the event.

# Finally

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The Internet offers a treasure trove of information about creating effective scientific posters

Seek advice from your research mentor and members of your research group as your poster reflects their work

Practice giving your poster presentation with colleagues

**Remember, it is essential for you to ask and receive permission in advance from your mentor for any and all additional presentations of your summer research. This is critical!**