Preparing An Effective Scientific Poster

UMBC College of Natural and Mathematical Sciences

July 2019

Kathy Lee Sutphin
Assistant Dean for Academic Affairs &
Director of College Initiatives

Science is about networks

… not silos

http://www.freeimages.com/photo/social-connection-1624773

http://www.freeimages.com/photo/silo-1204462

and sharing accurate information is paramount!

Why scientific posters?

"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[1]

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

It is all about the importance of scientific communication!

Why give scientific posters?

- To learn how to organize and effectively present research data

- To convey findings in scientific research

- To share and exchange ideas with colleagues

- To serve as an alternative to longer oral presentations

Steps to a Poster Presentation

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 Presentation

1. **Conduct Research**
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5. **Prepare Presentation**
6. **Present Research**

RESEARCH

Steps to a Poster Presentation

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ABSTRACT

ABSTRACTS

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

TYPICAL LENGTH: 300 words or less

SUGGESTED CONTENT:
Abstracts may differ by discipline but typically includes:

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

Abstract Requirements & Templates
http://surf.umbc.edu/presenters/abstract-requirements/

ABSTRACT TEMPLATE

BOLD TITLE OF THE STUDENT PRESENTATION USE ALL CAPS AND 12-POINT TIMES NEW ROMAN FONT AND CENTER THE TITLE
Double Space Here

PresenterFirstName PresenterLastName[1], Other contributing authors such as graduate students[1], MentorFirstName MentorLastName[2]
[1]Department of XXX, InstitutionName1, StreetAddress, City, State ZIPCODE
[2]Department of XYZ, InstitutionName2, StreetAddress, City, State ZIPCODE
Double Space Here

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 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. Indent each paragraph with a tab. There is a 300-word maximum for the body of the abstract. Follow this format, and pay particular attention to the word count limit, formatting of the authors' names and affiliations otherwise the student will have the abstract returned for rewriting. The suggested content includes background, the research questions, approach, experiments, and conclusion. The abstract generally does not include figures or the data as displayed in the poster. Please check all spelling and grammar.

Mentors must review and approve the student's abstract. Alternatively, an individual authorized by the mentor may review and approve the student's 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 posted online. If the mentor does not want the abstract posted online then the mentor should clearly note this on the review/approval form. The submission deadline for abstracts is on the Summer Undergraduate Research Fest website. Submit your abstract using the online abstract submission form.

Posters are one sheet no wider than 36 inches and no longer than 42 inches to ensure that two students' posters can fit side-by-side on a campus poster display board 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 bottom of your abstract. *Check with your mentor to see if this is appropriate. If yes, then the support acknowledgment also should be included on your poster.*

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 Requirements & Templates
http://surf.umbc.edu/presenters/abstract-requirements/

SURF ABSTRACT FORMATTING

ALL ABSTRACTS SUBMITTED BY THE DEADLINE WILL APPEAR IN THE ANNUAL SURF ABSTRACT BOOK

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

- **File Name:** Please title the abstract file as follows, the presenters 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**: One 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.

ABSTRACT FORMATTING

- **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, Presenter, Institution Name, Street Address, 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 acknowledgment statement are not included in word limit). Paragraphs must be indented using a tab.

- **Acknowledgment Statement:** This should specifically recognize funding support of the research project with grant or other support information. Research mentors, program coordinators, and/or program directors can provide this information.

Abstract Requirements & Templates
http://surf.umbc.edu/presenters/abstract-requirements/

ABSTRACT SUBMISSION

- 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.

- Program officials must review and submit the abstracts of students in their programs prior to submission

- **DEADLINE FOR ONLINE ABSTRACT SUBMISSION**
5:00 p.m. EDST
Wednesday, July 24, 2019

Abstract Requirements & Templates
http://surf.umbc.edu/presenters/abstract-requirements/

ABSTRACTS TAKE TIME….

- Plan to submit your abstract to your research mentor 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 2019.

Steps to a Poster Presentation

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CREATE THE POSTER

To create an effective poster – keep the following traits in mind:

- Adopt a **viewer-friendly style** with large (not small) typeface & informative subheadings

- Provide **small offerings of information** vs. long paragraphs of text

- Maintain a **logical and orderly progression** of presentation of information

- Incorporate **summary statement(s)** of key aspects

- Use **easily understood language** with no jargon or undefined acronyms

ELEMENTS OF A POSTER

- **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**

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

TITLE: think big

- **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?

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

AUTHORS

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 <u>worked</u> on the project. Primary Investigator.

Affiliations:

- Follow the guidelines provided for the abstract submission.

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

POSTER CONTENT: KNOW YOUR AUDIENCE

Title

Author & Affiliations

Introduction

Background

Statement of the research problem

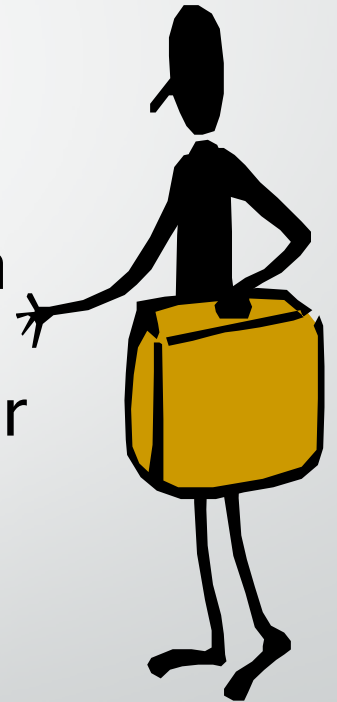**Formula(s) - it is best to use figures when possible**

Data/Results and Analysis

Conclusions

References

Acknowledgments

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

Poster Requirements & Templates
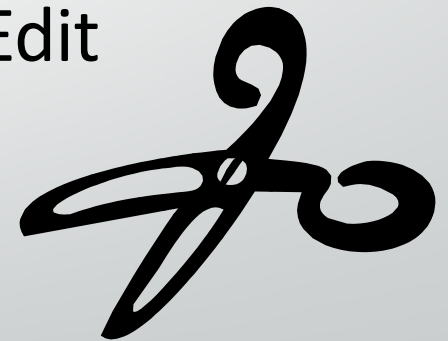**http://surf.umbc.edu/presenters/poster-template/**

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

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Conclusions

References

Acknowledgments

- Minimize Text
- Maximize Illustrations and Cartoons

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

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

POSTER CONTENT: WHAT IS THE TAKE HOME MESSAGE?

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 Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/**

POSTER CONTENT: BE CONCISE

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 Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/**

POSTER CONTENT: TECHNICAL TERMS

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 technical terms used throughout a poster

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

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

Explain What??
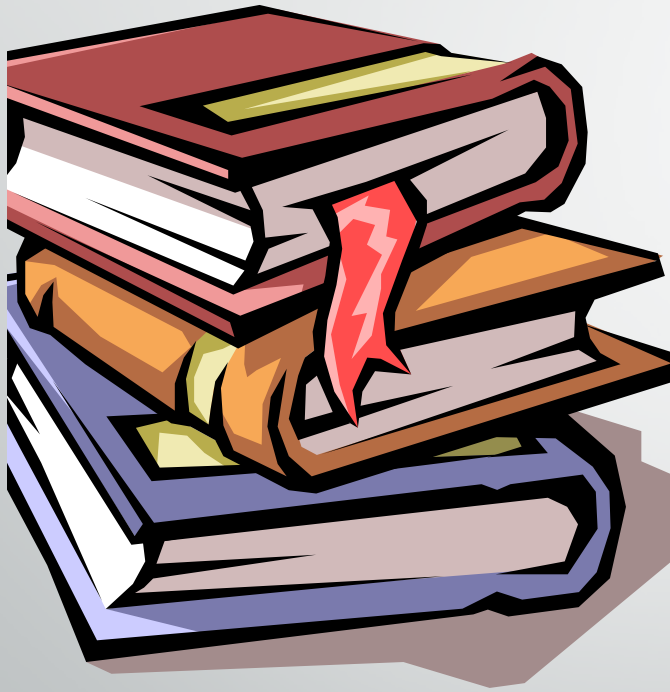
- jar ● gon - "The specialized language of a trade, profession, or similar group2" …

  <computer jargon>[2]

- ac ● ro ● nym - "A word formed from the initial letters of a name3" …

  <WAC for Women's Army Corps>[3]

[2] <u>Webster's II New College Dictionary</u>, Houghton Mifflin Company. (1999) pg. 592.
[3] Ibid, p. 11

POSTER CONTENT: SUMMARY OF YOUR RESEARCH

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

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

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/or Individuals who contributed to the project

- Often placed in the lower right section of a poster:

Acknowledgment:

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

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

FROM CONTENT TO LAYOUT

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?

**Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/**
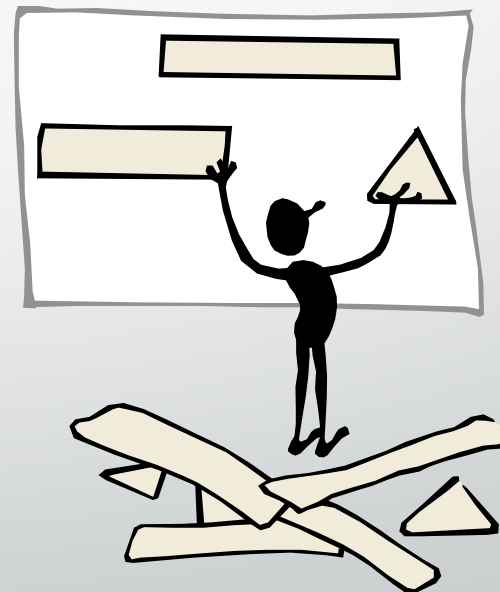
What is the best format?

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 (high)
Formats: one-sheet posters or multiple-panel posters
TEMPLATES available online surf.umbc.edu

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

POSTER LAYOUT

- Begin by using the size allotted for each poster presentation at the event

  2019 SURF requested size is
  36" wide by 42" high
  (or 92 cm wide 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
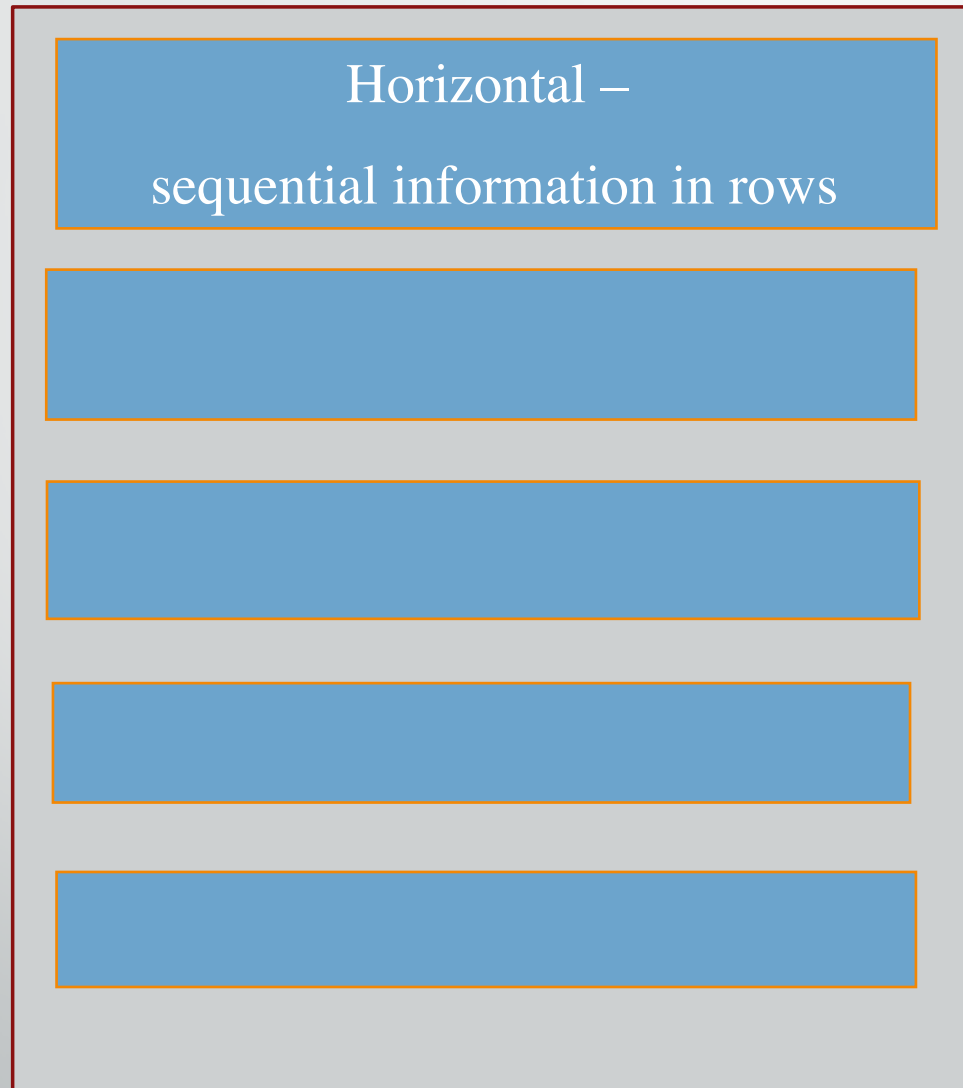
Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

Two Basic Poster Layouts

Vertical – sequential elements in columns
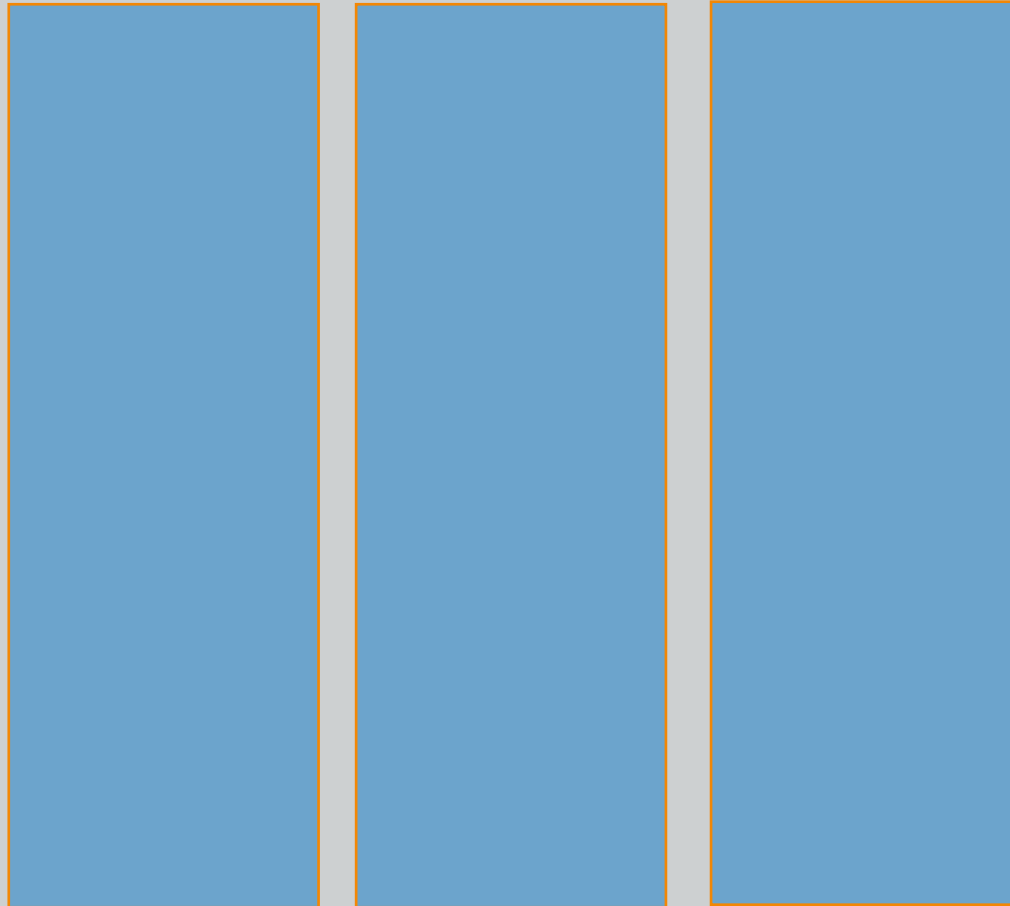
Two Basic Poster Layouts

Horizontal –
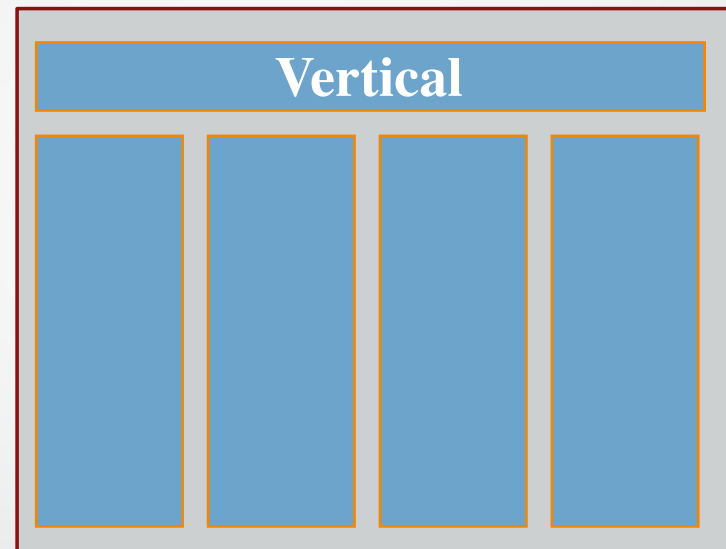
sequential information in rows
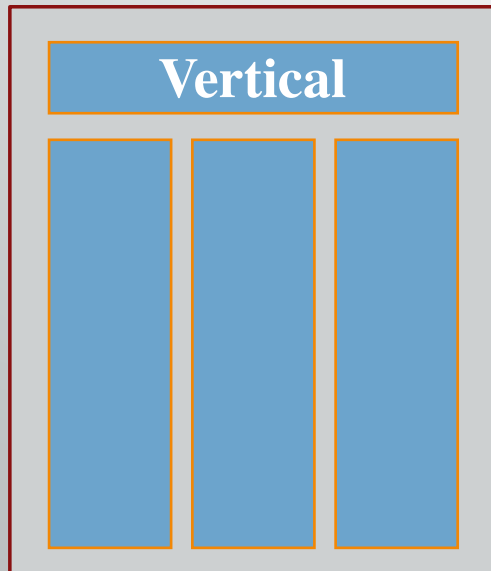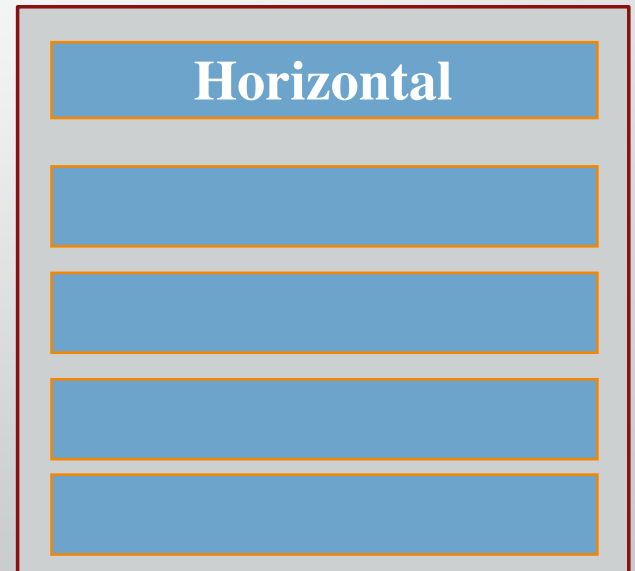
Poster Layout

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

- When the layout is visualized, you may want to sketch it on a piece of paper to use as a helpful reminder when creating the poster

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

FONTS and COLORS

- 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

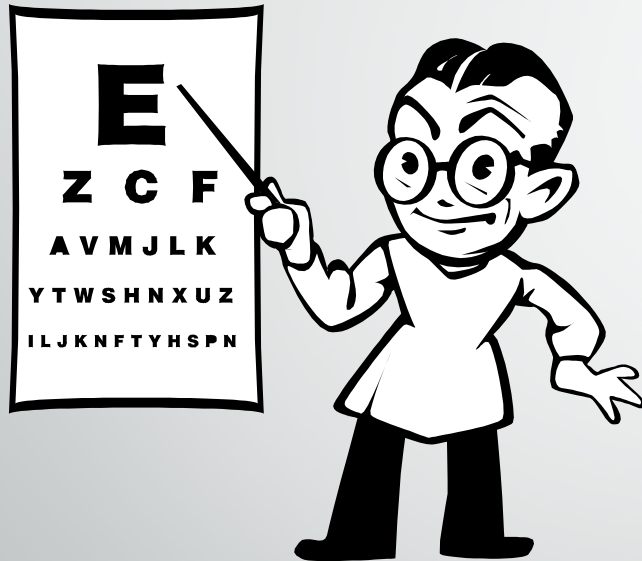### Dark text on light background

Light text on dark background

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

POSTER LAYOUT

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 Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

POSTER TYPE

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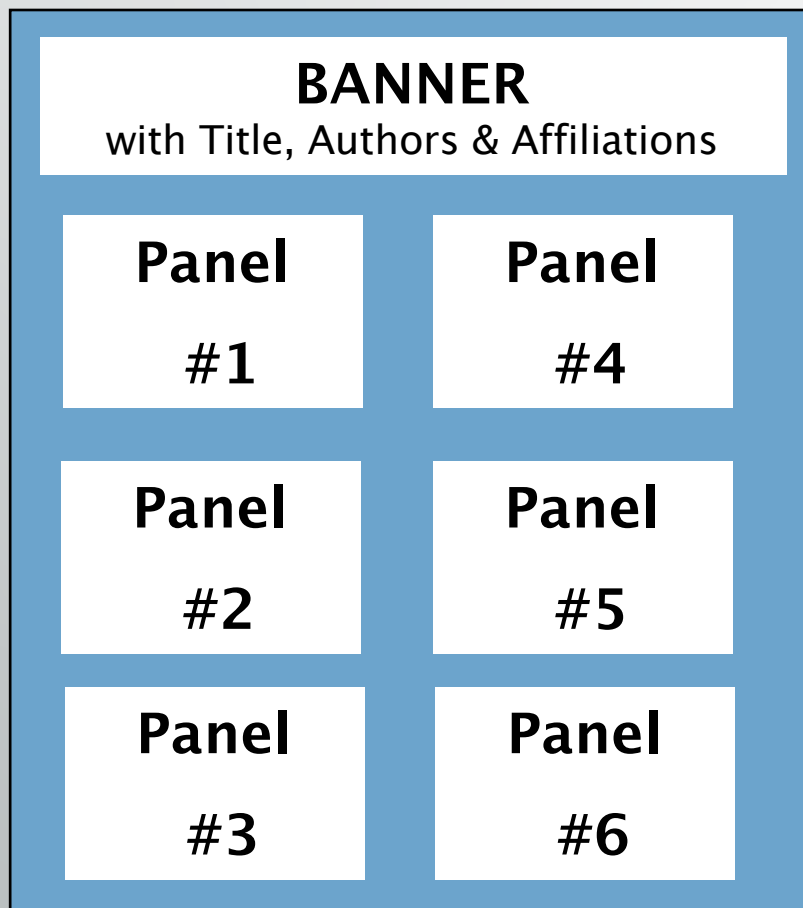
MULTI-PANEL POSTER

- Multiple components on

  8.5" x 11" sheets – use any color printer

- Banner – can be professionally printed early!
  save as a .pdf file
  (template available)

SINGLE PANEL POSTER

- Traditional Format

  Saved as a .pdf File that is professionally printed

Poster Tips

BANNER
with Title, Authors & Affiliations

Panel #1	Panel #4
Panel #2	Panel #5
Panel #3	Panel #6

- 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

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

Poster Tips

Sample Layout for One Sheet Poster

For One Sheet Posters:

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

Vertical

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

Poster Tips

- Reed over for errrors nd ommisssions

- Use the cheek sppellling feetures on youre komputer

POSTER PRINTING

Poster printing takes time and money …
get it right the first time

Mr. Jeremy Swan, CNMS Research Graphics, is able to accept requests for printing posters but there is a cost. All requests must be submitted in PDF format to jswan1@umbc.edu by July 31, 2019:

File Type: PDF format files
File Name: Include the poster presenter's name (e.g., SmithAJPoster.pdf)

More Questions? Call Mr. Swan jswan1@umbc.edu for help.

CNMS Research Graphics reserves the right to edit poster size and color

Remember: Dark colors for text and Light colors for background!

Important: If another resource is used for poster printing, please allow adequate time to ensure the poster is printed and picked up by Tuesday, August 6, 2019, in preparation for the Summer Undergraduate Research Fest on August 7, 2019.

Poster Requirements & Templates
http://surf.umbc.edu/presenters/poster-template/

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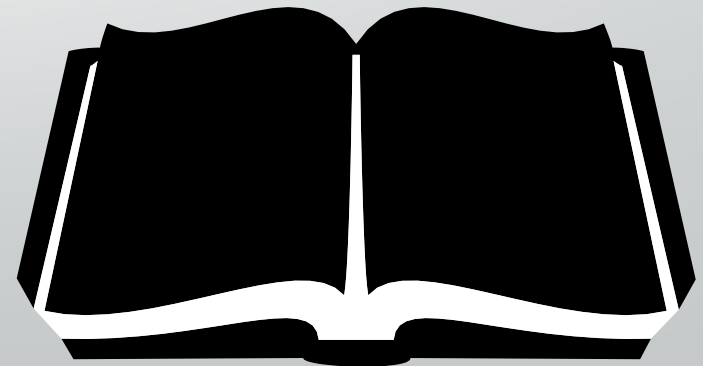PRESENT THE POSTER

Presenting the Poster

- Practice giving your poster

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

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

- Offer a quick tour of one-to-two minutes to anyone showing interest

- Point to relevant poster elements during the quick tour

- Close with your "take-home" message in a 30-second summary

Getting Ready to Present

- Dress in business attire (no jeans or beach clothing)

- Avoid chewing gum – it detracts from your presentation

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

- Welcome all visitors

- Relax and enjoy the opportunity to share your research project

Optional Things to Consider for Future Poster Presentations….

- Offering "business cards" to interested visitors

- Providing copies of the poster as handouts (only with permission from your mentor!)

- Listing an email address with the title/author information

What to Expect at the annual Summer Undergraduate Research Fest (SURF)

Wednesday, August 7, 2019

University Center Ballroom – 3rd Floor

What to Expect at SURF

8:15 AM – Poster set-up and Presenter Check-in begins

All posters must posted by 8:45 a.m.

9:00 to 10:30 AM – Introductions and Oral Presentations

10:30 AM to 12:00 PM – Poster Presentations

Poster Session 1 – 10:30 a.m. – 11:15 a.m.

Poster Session 2 – 11:15 a.m. – 12:00 p.m.

12:00 to 12:30 PM – Mentor Recognition and Closing

*We ask that **all** research group pictures be taken after the closing.*

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

Important Notes

Participants will use the SURF website to register for the Summer Undergraduate Research Fest at UMBC

Abstracts must be mentor reviewed and approved before the **submission deadline of 5:00 p.m., Wednesday, July 24, 2019**.

The deadline for submission of posters for printing by CNMS Research Graphics (Mr. Jeremy Swan) is **July 31, 2019.**

Research Mentors, UMBC faculty, and guests are asked to use the website to register their planned attendance and contact surf@umbc.edu (410-829-8095) if there is any need for special accommodations as soon as possible and no later than Monday, July 29, 2019

https://surf.umbc.edu/general-registration/

To Review….

Annual UMBC Summer Undergraduate Research Fest (SURF)

Date: Wednesday, August 7, 2019

Location: 3rd Floor of University Center, Ballroom

Website: surf.umbc.edu

Poster assignments will be posted on the SURF website closer to the event.

After SURF …

- Remember to ask and receive permission <u>in advance</u> from your mentor for any and all future presentations of your summer research. This is critical!

- Build your curriculum vitae or resume by working with your mentor to create a notation to add about your conference participation that lists the presentation authors, date, formal title of presentation, and formal name of meeting with the location.

Example:

Sutphin, K., add any other research names, & Mentor, U.R. (2018, August). *Preparing an Effective Scientific Poster.* Poster session presentation at the Summer Undergraduate Research Fest at UMBC, Baltimore, MD.

For more information, visit: https://gsehd.gwu.edu/content/how-conferences-are-displayed-your-resume-or-cv

Finishing up…

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

- Practice giving your poster presentation to colleagues

- Remember to smile!

Thank you for your attention!