

Preparing An Effective Scientific Poster

UMBC College of Natural and Mathematical Sciences

July 2018

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July 12, 2018

Science is about networks



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

... not silos




<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 Bondi¹

¹Quoted 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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- 4. Submit Abstract**
- 5. Prepare Presentation**
- 6. Present Research**

RESEARCH

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**

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

TITLE OF THE STUDENT PRESENTATION
Presenter(s) Name, Presenter(s) Last Name, Other contributing authors such as graduate students,
Mentor(s) Name, Mentor(s) Last Name
¹Department of XYZ, Institution Name 1, Street Address, City, State ZIP/COODE
²Department of XYZ, Institution Name 2, Street Address, City, State ZIP/COODE

This document is an abstract template for the Annual CNSM Summer Undergraduate Research Fair at UMB. 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 50-word maximum for the body of the abstract. Abstracts that do not follow this format, specifically the word count limit or formatting of the authors' names and affiliations, will be returned to the student for reworking. 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 abstract confirmation form is provided for this confirmation. The submission deadline for abstracts is posted on the Summer Undergraduate Research Fair 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 ggg 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 computer 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 before opening your file. 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

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 20th 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. Program coordinators, directors and/or research mentors 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 25, 2018

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 25th SURF abstract submission deadline for 2018.

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

*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 worked 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

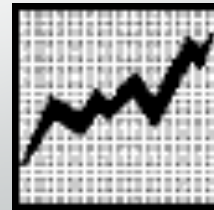
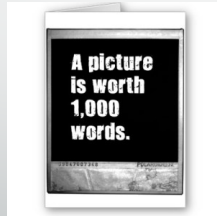
<http://surf.umbc.edu/presenters/poster-template/>

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
Data/Results and Analysis
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

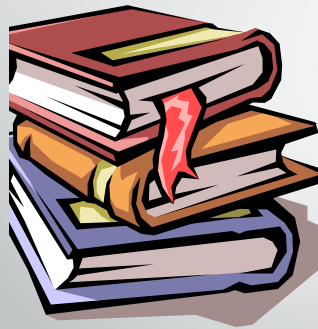
- Define technical terms used throughout a poster

(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 Webster’s II New College Dictionary, 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



- 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/>

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 }

FROM CONTENT TO LAYOUT

- Where does the information go on the poster?



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

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

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

2018 SURF requested size is

36" wide by 42" high

(or 92 cm wide x 107 cm long)

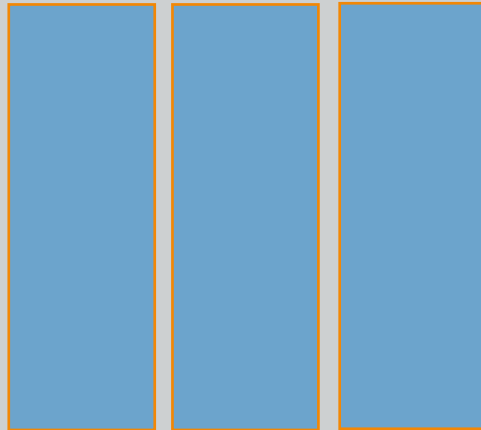
- Plan the layout of the elements
- It is not necessary to fill all of the space - do not *clutter* your poster

Poster Requirements & Templates

<http://surf.umbc.edu/presenters/poster-template/>

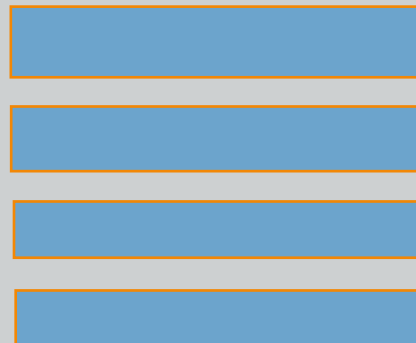
Two Basic Poster Layouts

Vertical - sequential elements in columns



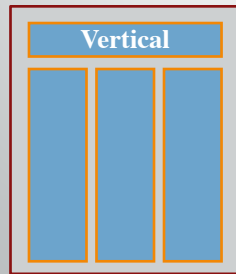
Two Basic Poster Layouts

Horizontal -
sequential information in rows

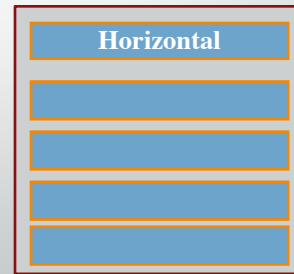


Two Basic Poster Layouts

Which layout do you think is best and why



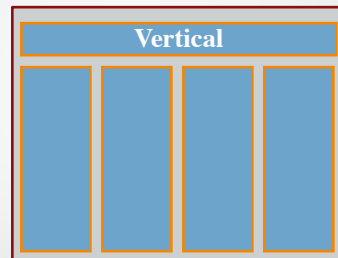
?



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

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.

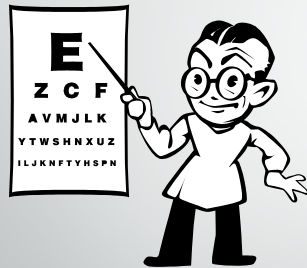
Title
Affiliation

Dark text on light background

Light text on dark background

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

MINIMUM FONT SIZE



Use a
minimum
font size of

18

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

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

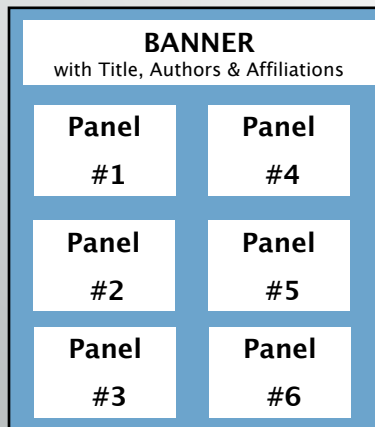
MULTI-PANEL POSTER

- 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



- 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

- Read over for errors and omissions
- Use the check spelling features on your computer



POSTER PRINTING

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

Mr. Tim Ford, 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 tford1@umbc.edu by 9:00 am August 2:

File Type: PDF format files

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

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

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

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

THERE IS A CHARGE FOR POSTER PRINTING

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 7, 2018, in preparation for the Summer Undergraduate Research Fest on August 8, 2018.

Poster Requirements & Templates

<http://surf.umbc.edu/presenters/poster-template/>

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

**PRESENT
THE POSTER**

Presenting the Poster

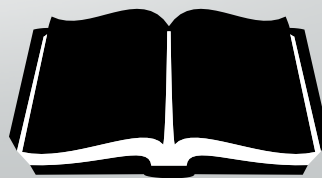
- Practice giving your poster
- Prepare a 10-30 second introduction to your research to engage visitors
- Explain why your research project matters, especially to the general population
- Offer a quick tour of one-to-two minutes to anyone showing interest
- Point to relevant poster elements during the 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 20th Annual Summer Undergraduate Research Fest (SURF)

Wednesday, August 8, 2018

University Center Ballroom – 3rd Floor

What to Expect at SURF

8:30 AM – Poster set-up and Presenter Check-in begins

All posters must be posted by 8:50 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 25, 2018.**

The deadline for submission of posters for printing by CNMS Research Graphics (Mr. Tim Ford) is **9:00 a.m. on Thursday, August 2, 2018.**

Research Mentors, UMBC faculty, and guests are asked to use the website to register their planned attendance and any need for special accommodations as soon as possible and no later than Thursday, August 2, 2018

<http://surf.umbc.edu/registration/>

To Review....

Annual UMBC Summer Undergraduate Research Fest (SURF)

Date: Wednesday, August 8, 2018

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 in advance 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!

Special thanks to Zoe Warwick, Ph.D. and Stephen Miller, Ph.D. for the assistance provided to prior versions of this presentation.

© Presentation created by Kathy Lee Sutphin - updated July 12, 2018