Preparing An Effective Scientific Poster

UMBC COLLEGE OF NATURAL AND MATHEMATICAL SCIENCES

JULY 2015

ANDREA MILLER

STEM PROGRAM COORDINATOR
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\(^1\)

Why give scientific posters?

- 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

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

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

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

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 Requirements & Templates  surf.umbc.edu/abstract-requirements
ABSTRACT TEMPLATE

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
<table>
<thead>
<tr>
<th>File Type</th>
<th>Abstracts must be generated in MS Word (.doc or .docx).</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Name</td>
<td>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”</td>
</tr>
<tr>
<td>Page Format</td>
<td>8.5” x 11” page with 1-inch margins and 12-point Times New Roman font.</td>
</tr>
<tr>
<td>Page Limit</td>
<td>1 page for complete abstract.</td>
</tr>
<tr>
<td>Title</td>
<td>The abstract title should be in all CAPITAL letters</td>
</tr>
<tr>
<td>Authors</td>
<td>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.</td>
</tr>
</tbody>
</table>
### 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, 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

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 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. [ONLINE FORM]

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

DEADLINE FOR ABSTRACT SUBMISSION

5 p.m. EST, Wednesday, July 22, 2015
ABSTRACTS TAKE TIME....

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 **SURF abstract submission deadline:**

5 p.m. EST, July 22, 2015
Steps to a Poster Session

1. Conduct Research
2. Write & Revise Abstract
3. Review Abstract (by Mentor)
4. Submit Abstract
5. Prepare Presentation
6. Present Research
Effective posters share the following traits:

- 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

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

Authors:
Researchers who worked on the project. Primary Investigator.

Affiliations:
Follow the guidelines provided for the abstract submission.

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

Poster Requirements & Templates
surf.umbc.edu/poster-template
POINTER CONTENT: KNOW YOUR AUDIENCE

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

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 surf.umbc.edu/poster-template
POSTER CONTENT: IMAGES v TEXT

- Minimize Text
- Maximize Illustrations and Cartoons

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

Poster Requirements & Templates  surf.umbc.edu/poster-template
POSTER CONTENT: TAKE HOME MESSAGE

- Include the one main point you would like a visitor to remember about 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

Poster Requirements & Templates  surf.umbc.edu/poster-template
POSTER CONTENT: BE CONCISE

• 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

Define all technical terms used throughout a poster

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

jar • gon –
“The specialized language of a trade, profession, or similar group”...

<computer jargon>²

ac • ro • nym –
“A word formed from the initial letters of a name”...

<WAC for Women’s Army Corps>³

³ Ibid, p. 11
POSTER CONTENT: SUMMARY OF YOUR RESEARCH

• Include a summary of the poster’s most important points
• Use bullets and/or boldface to emphasize important information

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
surf.umbc.edu/poster-template


# ACKNOWLEDGMENTS

<table>
<thead>
<tr>
<th>Title</th>
<th>Acknowledgement:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author &amp; Affiliations</td>
<td>This study was supported in part by the Howard Hughes Medical Institute program, the NIH/NIGMS MARC U*STAR T34 08663 National Research Service Award to UMBC and a National Eye Institute grant to P.R.R. (R01EY019053).</td>
</tr>
<tr>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>Background</td>
<td></td>
</tr>
<tr>
<td>Statement of the research problem</td>
<td></td>
</tr>
<tr>
<td>Formula(s) - it is best to use figures when possible</td>
<td></td>
</tr>
<tr>
<td>Data/Results and Analysis</td>
<td></td>
</tr>
<tr>
<td>Conclusions</td>
<td></td>
</tr>
<tr>
<td>References</td>
<td></td>
</tr>
</tbody>
</table>

- 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:
Where does the information go on the 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
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
  - Formats: one sheet posters or multiple panel posters
  - TEMPLATES available online surf.umbc.edu
POSTER LAYOUT

Know the size requirements for each poster

- 2015 SURF maximum poster 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

Poster Requirements & Templates surf.umbc.edu/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 is best?
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 finalized, consider sketching it on a piece of paper to use as a helpful reminder when creating the poster.
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.

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

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

SINGLE PANEL POSTER
Traditional Format
.pdf File
Professional Printer

Banner
Professional Printer
.pdf File
template available
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

Poster Requirements & Templates  surf.umbc.edu/poster-template
Tips for Effective Posters

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

Check for errors and omissions.

Use the check spelling features on your computer.
POSTER PRINTING

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 4, 2015 in preparation for the Summer Undergraduate Research Fest on August 5, 2015.

Poster Requirements & Templates surf.umbc.edu/poster-template
Steps to a Poster Session

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

• 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
• Remember to emphasize your “take-home” message in a 30-second summary.
Getting Ready to Present

• 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
Optional ...

- 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
Steps to a Poster Session

1. Conduct Research
2. Write & Revise Abstract
3. Review Abstract (by Mentor)
4. Submit Abstract
5. Prepare Presentation
6. Present Research
What to Expect at SURF

8:30 am
Poster Set-up & Presenter Check-in Begins
University Center Ballroom Lobby, 3rd Floor

9:00 am – 10:30 am
Introductions & Oral Presentations

10:30 am – 12:00 noon
Poster Presentations
10:30 am – 11:15 am – Poster Session I
11:15 am – 12:00 noon – Poster Session II

12:00 noon – 12:30 pm
Mentor Recognition and 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 CNMS Summer Undergraduate Research Fest at UMBC BUT abstracts must be reviewed and submitted by their program coordinators by **the submission deadline of 5 p.m. EST, Wednesday, July 22, 2015.**

The deadline for submission of posters for printing by UMBC Illustrative Services (Mr. Tim Ford) is **9:00 a.m. on Wednesday, July 29, 2015.**

Research Mentors, UMBC faculty and all guests are asked to use the website to register their planned attendance as soon as possible and by **Monday, August 3, 2015.**
Important Notes

Eighteenth Annual UMBC Summer Undergraduate Research Fest

Date: Wednesday, August 5, 2015

Location: 3rd Floor of University Center, Ballroom

Website: surf.umbc.edu

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

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!