

Guidelines for Poster Presentations

PRE-PREPARATION

What is your purpose?

It is extremely important to specify the purpose of your poster before starting. This will help you make your presentation specific, straight to the point, and clear.

Who is your target audience?

Whose attention are you trying to draw? Students? Researchers? Institutions? Critics? Individuals from other disciplines?

Ask yourself this question: why should they care?

Which software are you using?

There's more than one software you can use to prepare your poster.

- 1- PowerPoint
- 2- InDesign
- 3- Photoshop
- 4- Adobe Illustrator

There are also open source alternatives:

- 1- OpenOffice
- 2- Inscap and Gimp
- 3- Gliffy or Lovely Charts (for charts and diagrams)

Which information is the most important to share?

An interesting and attractive poster shouldn't have too much information jammed in together on page. It would be too overwhelming. Therefore, it's important to only display extremely important information in your poster, and you could talk about the rest during your presentation.

How do you want your poster to look like?

You can sketch how you want make your poster visually pleasing on a piece of paper. This will make designing it more manageable when you are selecting the information you wish to share and the graphs you want to use to support your main points.

PREPARATION

Layout Design

Your layout design is what will hook your audience way before they become interested in your content.

1. Set the correct size of your poster.

SIZE	Inches	Millimetres
A0	33.11 x 46.81	841 x 1189
A1	23.39 x 33.11	594 x 841
A2	16.54 x 23.39	420 x 594
A3	11.69 x 16.54	297 x 420
A4	8.27 x 11.69	210 x 297
A5	5.83 x 8.27	148 x 210
A6	4.13 x 5.83	105 x 148
A7	2.91 x 4.13	74 x 105
A8	2.05 x 2.91	52 x 74
A9	1.46 x 2.05	37 x 52
A10	1.02 x 1.46	26 x 37

Source: Poster size guide. Poster Size Guide – Dimensions for Posters & Banners | Marler Haley. (2019, November 10). Retrieved February 21, 2023, from <https://www.marlerhaley.co.uk/blog/poster-paper-sizes/>

2. Stick to one or two fonts only to avoid making your poster look messy (Times New Roman, Arial, Georgia...). You can even combine uppercase and lowercase letters in titles to make them easier to read (for example: “Guidelines for Poster Presentation” rather than “GUIDELINES FOR POSTER PRESENTATION”)
3. Margins should be set to 2 inches.
4. Your title should be at the top center of your poster with a 50 point size.
5. Your text should be a 25 point size. Remember, it should be large and clear enough to be seen from at least 1.5 meters away.
6. The title should be followed by the text and graphs.
7. Your information should be arranged in columns not rows.
8. Make sure your figures and graphs can be viewed from a distance with their proportions intact (not stretched).
9. Try to include empty areas to increase legibility (around 40%).

Information Distribution

1. To the top left, you can add your introduction where you write your research question and why it's important.
2. Then comes the body paragraphs where you explain what you did and how you did it.
3. You end your poster with the conclusion.

Color Choice

It is better to relate the color you choose to your research. For example, you could choose green for agricultural research or blue for marine research.

Having a color scheme can reduce the risk of having a chaotic poster presentation. You can include two colors that go well together like blue and green, pink and purple, light red and white, and so on.

Image Selection

Images in a poster should add meaning to the research. Avoid choosing pictures just for the aesthetic.

The images you choose should:

- have a high resolution
- serve your purpose
- have colors and a tone that suit the general layout of the poster
- be cropped and of the right size so as not to have a great difference in sizes between pictures
- have a caption or short title

ADDITIONAL SOURCES:

Teaching and Learning with Technology. (2005). *Designing Communications for a Poster Fair*. Pennsylvania State University. Retrieved February 21, 2023, from <https://www.personal.psu.edu/drs18/postershow/postershow.pdf>

Poster Presentation Guidelines. Institute of Education Sciences. (2010). Retrieved February 21, 2023, from https://ies.ed.gov/director/conferences/10ies_conference/pdf/PosterGuidelines.pdf

DIFFERENCE BETWEEN A GOOD AND BAD POSTER

Example of a good poster presentation:

Theophilus Aluko
Dr. Meilin Yu, Assistant Professor, Mechanical Engineering;
Jamie Gurganus, Instructor, Mechanical Engineering

ABSTRACT
This research aims to study and mimic the lift of a bird's wing based on computational and experimental analysis, by modeling finite dynamic constraints such as flapping amplitude and frequency. This lift was modeled because of its maneuverability, efficiency and control modeling wing-flapping motion. An animation of a simplified flapping motion was obtained by creating a three-dimensional space of a representative bird from the Smithsonian National Museum of Natural History. In addition to the animation, we constructed a physical sensor rotor prototype that mimicked the take-off process of the bird in its natural environment. Using the physical model, the generated lift forces caused by the flapping structure were measured and then compared with the force derived by a conventional flapping structure. To compare the experimental with the computation, coefficient of lift was obtained for each method. Our analysis and measurements support the hypothesis that the lift generation is highly affected by a characterization of changes in the bird wing due to geometry. In particular we hypothesize that leading edge vortices (LEV) play an important role in lift generation and should be further parameterized for the making of a better, more efficient wing-morphing commercial robot.

INTRODUCTION AND HISTORY
The leading Edge Vortices created by its hard wing make it, and similar species like swifts, very maneuverable even for low speeds by giving them the lift and drag they need for swooping prey in mid-air. It takes us to around 1500 years before new contribution to knowledge is light emerged. However, research on robotics wing-morphing aircrafts widely started in the 21st century.

ROBOT DESIGN
DESIRED WING MORPHING MECHANISM: SWEEP MOTION
MECHANISM
$$G(s) = \frac{S(s)}{T(s)} = \frac{N1}{D1(s)} \cdot \frac{N2}{D2(s)} \cdot \frac{N3}{D3(s)}$$

EXPERIMENT OUTCOME
The Lift Coefficient for more, complex (rigid) wings can be the bio-mimicked robot assembly is calculated by:
$$C_L = \frac{3(L)l}{\pi^2 \rho^2 g^2 C u l}$$

RESULTS
CFD ANIMATION RESULTS
Lift Coefficient History
Vortex Structures

COMPARISON
Average Lift coefficient for the computational animation was about 0.215
Lift coefficient for the current experiment (for free flapping mechanism without morphing actuator) was calculated to be less than 0.242. This makes sense because one was flapping (wing shape dynamic) and the other was not.

FUTURE WORK
Dynamic CFD and animation using a dynamic User-defined function
Robot Morphing Experiment: Actuals rigid connection string to allow wing morphing

REFERENCES
[1] Torres, Augustin A. The Swift. Barnes & Noble, 2008, 2008.

Source: Aluko, T. (2016). *Experimental and Computational Analysis of Lift Generation by Wing Morphing Bird*. University of Maryland. Retrieved February 21, 2023, from <https://ur.umbc.edu/wp-content/uploads/sites/354/2016/06/alukoTheophilusSm.pdf>

Example of a bad poster presentation:

O⁶-Benzylguanine Inhibits Tamoxifen Resistant Breast Cancer Cell Growth and Resensitizes Breast Cancer Cells to Anti-Estrogen Therapy
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Abstract
Estrogen therapy using tamoxifen remains an effective and very effective for breast cancer. However, tumor resistance to tamoxifen remains a clinical challenge. In our study, we investigated whether MGMT expression in breast cancer cells is associated with tamoxifen resistance. We found that MGMT expression is associated with tamoxifen resistance in breast cancer cells. MGMT expression is associated with tamoxifen resistance in breast cancer cells. MGMT expression is associated with tamoxifen resistance in breast cancer cells.

Introduction
Recent advances in breast cancer research have identified key pathways involved in the repair of DNA damage induced by chemotherapeutic agents. The ability of cancer cells to recognize DNA damage and initiate DNA repair is an important mechanism for therapeutic resistance and has a major impact on therapeutic efficacy. A number of DNA damage recognition and repair proteins are involved in this process. One of these proteins is MGMT, which is involved in the repair of O⁶-methylguanine (O⁶-MeG) lesions in DNA. MGMT expression is associated with tamoxifen resistance in breast cancer cells.

Results
Pharmacological Treatment of Tamoxifen Increases MGMT Expression: We developed a tamoxifen resistant MCF-7 cell line for study. Tamoxifen treatment of MCF-7 cells resulted in a significant increase in MGMT expression. Tamoxifen treatment of MCF-7 cells resulted in a significant increase in MGMT expression.

Conclusions
In the present study, we observed that tamoxifen treatment of tamoxifen resistant breast cancer cells led to a significant increase in MGMT expression. This increase in MGMT expression was associated with a decrease in tamoxifen sensitivity. Our findings suggest that MGMT expression is a key factor in tamoxifen resistance in breast cancer cells.

Acknowledgements
We thank the Cancer Research Institute of M.D Anderson Cancer Center for their support of this research.

Source: Research guides: *How to create a research poster: Poster basics*. Poster Basics - How to Create a Research Poster - Research Guides at New York University. (n.d.). Retrieved February 21, 2023, from <https://guides.nyu.edu/posters>