Creating Effective and Visually Attractive Scientific Posters: Making People Stop!

WHICH IS MORE IMPORTANT: NUMBER OF PATCHES OR CONNECT

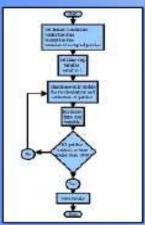
Darm Kalisak, PBS Student

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INTRODUCTION AND OBJECTIVES

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THE PROGRAM



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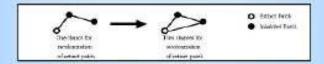
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Vanderbilt/University School of Medicine

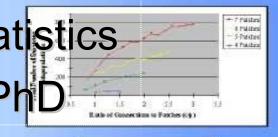
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RESULTS



CONCLUSIONS

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Introduction

- Purpose
- Things to Think About
- Advise and Feedback
- Poster Evaluation
- Presenting

Purpose

- Display Research
- Recognition & Notoriety

Provides Venue for Future Ideas

Things to Think About

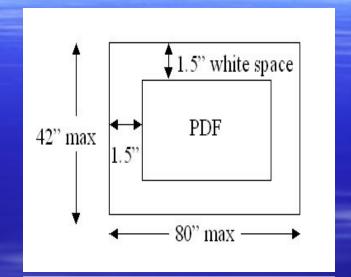
- Plan Ahead
 - Talk to Organizers
 - -(BRET) Poster Printing Services
 - What is the Story
- Putting Ideas Together
 - -Write a Rough Draft
 - Visual Layout
 - Proofread

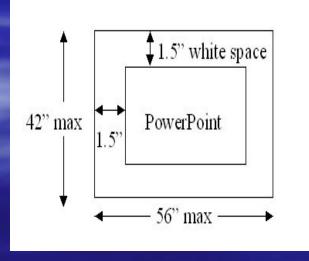
Plan Ahead: Talk To Organizers

Format Previous Successful Type of Audience

Plan Ahead: (BRET) Poster Printing Service

- Drop-Off Location
 - -307 Light Hall
 - -M F; 8:30 4:30
- Submit Poster Request Form
- Allow Two Business Days
- Margin Requirements
- Special Characters
- Text Boxes on the Page
- Use a Graphics Program
- Acquire a Poster Tube





Plan Ahead: What is the Story

Make Your Story Interesting for Mixed Audiences

Be Creative

Short Time to Grab Attention

Putting Ideas Together: Write a Rough Draft

- Create a Working Title
- Focused Ideas
- Headings
- Order Ideas Logically
- Background
- Methods
- Results
- Conclusion
- Author Identification



Putting Ideas Together: Fonts & Text

- Poster should be readable from 4-8 ft
- Title should be at least 48
- Text should be at least 36 points
- Headers should be larger than the text but smaller than the title or bordered
- Avoid script fonts and italicize
- Avoid equations
- Bullets vs. Paragraphs



Putting Ideas Together: Visual Layout

- Effective Visuals
- Try Different Layouts
- Make Appealing to the Eye
- Colors and White Space
- Color schemes http://colorschemedesigner.com/ Google "color schemes"
- Size
- High Quality Resolution



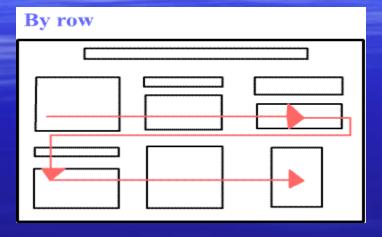
Putting Ideas Together: Visual Layout

- Search with "Creative Commons"
- commons.wikimedia.org/w iki/Main_Page
- www.flickr.com
- gettyimages.com
- spffy.com

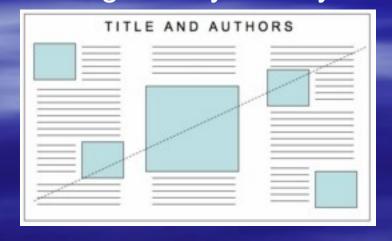


Visual Layout

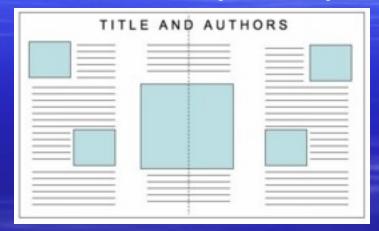
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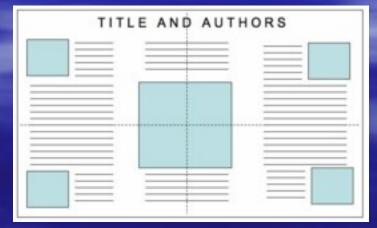
Diagonal Symmetry

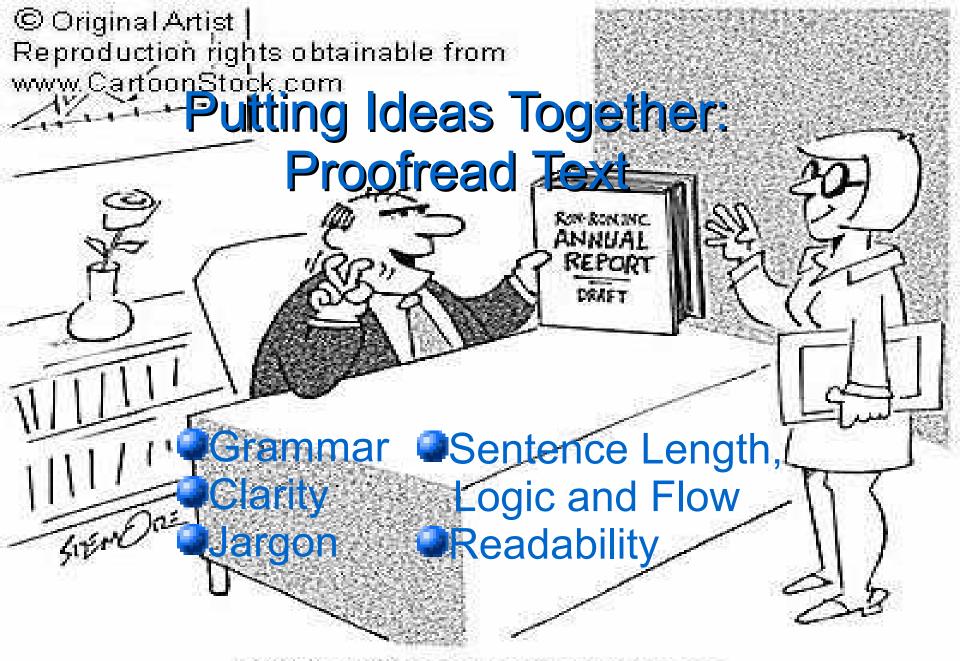


Horizontal Symmetry



Horizontal and Vertical Symmetry





"Don't laugh Ms. Newborn, but I want you to proof this for 'accuracy'."

Web-based teaching modules for plant pathology. applications in the R programming environment

A. H. Sports, P. D. Ester, K. A. Gornett, Dupt, of Plant Porticiogy, Kansas State University, Manhaman, KS.

Web-based teaching modules

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Development of an Educational Web Site for Swine Lameness

Lake Bolo, Laure Kocan, Elicky Line, Alex Sellenberg, Terry Burner.

Abstract

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Introduction

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Can Suburban Greenways Provide High Quality Fird Agaitat?

George R. Hess:: NC State University:: Department of Forestry & Environmental Resources:: Rale. NC 2760 8002 US . orge_ness@ncsu.edu Christopher E. Moorman, Jamie H. Mason, Kristen E. Sinclair, Salina K. Kohut:: NC State University:: eec ____ent of Fore_ry & Environmental Resources www4.ncsu.edu/~grhess/GreenwaysForWildlife

Birds of Conservation Concern in Decline

- Many bird species of conservation concern including neotropical migrants, insectivores, and forest-interior specialists - decline with increasing human development Greenways might mitigate this effect
- Habitat patch size, vegetation composition & structure, and landscape context are key factors
- Standards are lacking for designing and managing suburban greenways as high quality habitat

Objective: Greenways for the Birds

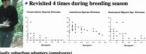
- Determine how development-sensitive forest birds are affected by forested corridor width
- adjacent development intensity
 vegetation composition & structure
- Develop recommendations for greenway designers and planners

Study Design & Independent Variables

- Sampled 34 300m corridors in
- Raleigh & Cary, NC, USA
- Sampled range of Forested corridor widths (20 - 1,200m)
- Adjacent density (low density residential -
- office/commercial) Additional measures
- Vegetation composition & structure in corridor
- Land cover in 300m x 300m adjacent to corridor (context)
- Measured richness & abundance of Breeding birds
- Neotropical migrant birds during stopovers Mammal nest predators

Breeding Birds of Concern More Common n Wider Greenways with Less Managed Area Surrounded by More Forest Canopy

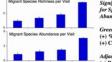
8-minute, 50m point counts at center of corridor Revisited 4 times during breeding season



Inter Forested Corridor Width (m)

Significant Predictors for Breeder Abundance

- Adjacent Landscape (-) Managed Area (+) Canopy Cover
- (+)Shrub Cover (-) Building Density (-) Bare Earth
- **Spring Neotropical Migrant Stopovers** More Common in Wider Greenways with More, Taller Hardwood Trees
- 200m x 25m transects along one side of greenway path
- Revisited sites for two spring seasons and one fall season Width not significant, but trend consistent with other findings



Forested Corridor Width

Significant Predictors for Spring Migrant

Greenway. (+) % Hardwoods (+) Canopy Height

Adjacent Landscape: (-) Bare Earth

redators Less Common in Wider creenways with Narrower Paths

- Five baited scent stations along each greenway segment
- Observed for 5 nights each



Significant Predictors for Predator Abundance Adjacent Landscape: (-) Corridor width (-) Building density (+) Trail width

(+) Mature forest (+) Ground cover

(-) Vine cover

Greenways for Development-Sensitive Forest Birds Might Conflict with Intense Recreational Use

People & Managers Prefer ...



- Good for walking, running, cycling, strollers, wheelchairs Easier to maintain, especially with higher intensity use
- Forest Birds Prefer
- Narrow path avoids splitting forested corridor Discourages heavy human use

Fewer nest predators Potential Solution: Wide Corridor, Trail Near Edge

- Make corridors at least 50m wide; wider is better
- Don't split forested corridor Keep trails as narrow as possible
- · Avoid wide grassy areas along trails within forested corridor Locate trails near the edge of forested corridors

EXPLORING CELLULAR TENSEGRITY: PHYSICAL MODELING AND COMPUTATIONAL SIMULATION

STANFORD

Chun hua Zheng[†], Joseph Doll [†], Emily Gu ^{*}, Elizabeth Hager-Barnard [‡], Zubin Huang [†], AmirAli Kia[†], Monica Ortiz *, Bryan Petzold †, Takane Usui †, Ronald Kwon †, Christopher Jacobs †*, Ellen Kuhl †*

'Mechanical Engineering, 'Materials Science and Engineering, 'Bioengineering -- Stanford University, Stanford, CA

Tensegrity

structures in which continuous tension in their members forms the basis for structural integrity. This structural integrity is created through the dynamic distribution of tensile and compressive forces amongst members.

Fuller most famously demonstrated the concept of tensegrity in

rchitecture through the design of geodesic domes while his student Kenneth Snelson applied the concept of tensegrity to sculpture (Fig. 1). The structura officiency and dynamic force balance properties of tensegrity have inspired its adoption as a paradigm for analyzing cell structure and mechanics.



Figure 1. Tensegrity structures: Fuller's geodesic dome, Snelson's sculpture 'Mozart', elastic-wood

The cellular tensegrity model aims to explain intracellular and extracellular processes via a biomechanics viewpoint. The model uses three distinct biopolymers to describe cell cytoskeletal structure. These three biopolymers work in conjunction to provide structure and support for the cell and its internal organelles (Fig. 2).

nents - Thin tension members (5-9 nm diameter), observed as straight 2.Microtubules - Hollow tubular compression members that are the largest of the

three biopolymers (25 nm diameter) and mechanically the stiffest termediate filaments - Highly flexible and extensible members that act like guy wires (10 nm diameter), keeping individual microtubules from buckling

Motivated by the simple mechanical elegance of the tensegrity model, this ly investigates cellular tensegrity by creating physical models and putational models that are analyzed for structural integrity and design study investiga

The goal of this study is to gain a prelim tensegrity structures physically respond to external loading, use this learning to analyze the response characteristics of different tensegrity forms and to draw parallels between these observations and cell mechanic

References

[1] Ingber SA 1998. [2] Ingber JCS 2003. [3] Ingber JCS 2003. [4] Chen+ O&C 1999.

Physical Models Physical tensegrity models were built using wooden struts and elastic bands (Fig. 3). Varying number of compression and tension members were used to achieve different structures with unique mechanics.



Computational Models

Computational models of were created in Matlah (Fig. 4). Tensile, compressive and shear stiffness, a ar finite element based analysis (Fig. 5).



you the proper you to

Properly reinforced structures intrinsically recover from large deformations without irreversible damage.

Altering prestress, compliance and cross-linking significantly impacts cell shape, stiffness and response to load.

Filaments | Toroide | 0.185 Nivre | 1.177 Nivre | 1.527 Nivre | 0 Nivre | 0.080 Nivre | 0.090 Nivre | 0.090 Nivre | 0.080 Nivre | 0 Nivre | 0.090 Nivre response to out.

Distinct locations on the surface of the tensegrity cell are more mechano-transducive than others (analogous to cell membrane adhesion receptors known as integrins).

To gain as understanding of the response of tensegrity cell structures, physical and computations models were designed and eliborated in the study. The tensegrity structures varied in stiffness depending on the magnitude of prestress and the geometric interconnections. Observations from the models revealed characteristics that are analogous to those observed in bloogical cells such as mechanisensity of the control of the c

Get Advise & Feedback

- Organizers
- Friends
- Colleagues
- Poster Evaluation



Is the title appropriate and interesting?

Effect of Protein Phosphatase 2A Subunit Gene Haplotypes and Proliferative Breast Disease on Breast Cancer Risk.
William Dupont, Joan P. Breyer, Kevin M. Bradley, Peggy Schuyler, W. Dale Plummer, Melinda E. Sanders, David L. Page, Jeffrey R. Smith

Synthesis of b-(1-Azulenyl)-L-Alanine, a New Blue-Colored Tryptophan Analog, and Its Use in Peptide Synthesis. Hans-Jürgen Musiol

Solid-Phase Synthesis of Substance P C-Terminal Hexapeptide Containing 1,4-Diazepine-3-One as a Dipeptidomimetic Element. Yinglin Han

- Is the manner of presentation interesting?
- Is there sufficient information so that nonexperts can understand the poster?
- Does the overall project appear to be well planned and executed?
- Does the poster's design stimulate interest and discussion?

- Are charts, images, and schematics well labeled?
- Is there consistency in formatting: justifying, boldfacing, table/figure dimensions, fonts, alignment of text boxes, etc.
- Do the authors provide an adequate background or introduction of the research question?
- Is the project methodology appropriate to the project goals?

- Is the methodology adequately and clearly outlined, yet concise?
- Can you easily grasp the conclusions?
- Is there a memorable "take-home" message?
- Does the presenter engage visitors and show enthusiasm?

- Does the presenter demonstrate knowledge of the topic and answer questions clearly?
- Have the objectives been addressed?

60-Second Poster Evaluation Use the following rating system:

- Overall Appearance
 - -0 Cluttered
 - -1 Pleasant
 - -2 Very Pleasing
- White Space
 - -0 Very Little
 - 1 Some Separation
 - -2 Plenty

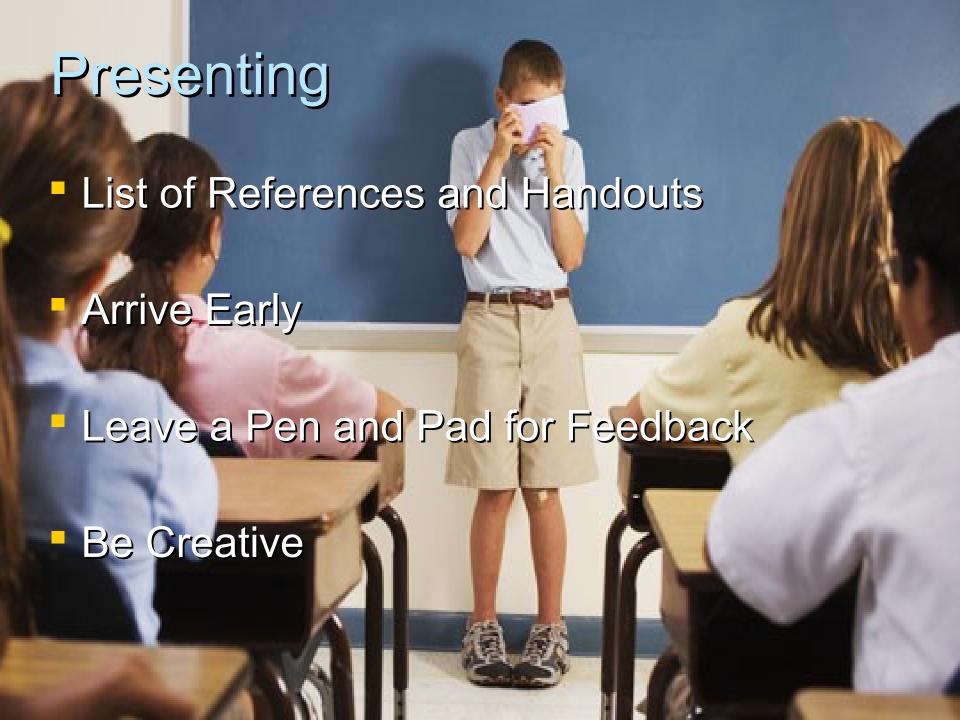
- Text/Graphics
 - -0 Too Much/Little Text
 - -0 Confusing Graphs
 - -1 Balanced
- Text Size
 - -0 Too Small
 - .5 Body Text Good;Figure Text Bad
 - -1 Easy to Read
 - -2 Very Easy

60-Second Poster Evaluation Use the following rating system:

- Author Identification
 - -0 None
 - -1 Partial
 - -2 Complete
- Research Objectives
 - -0 Missing
 - 1 Present; not Explicit
 - -2 Explicit

- Main Points (Headers)
 - -0 Absent
 - 1 Not Obvious
 - -2 Labeled
- Summary
 - -0 Absent
 - -1 Present

The higher the score, the better



Presenting

- Practice different lengths of your presentation.
- Be able to sum up major points in 2-3 sentences.
- Practice simplifying your poster.
- Anticipate questions and practice your responses.
- Dress to impress.
- Maintain eye contact.

Presenting

- Be enthusiastic and confident.
- Speak loud enough.
- Use pointers and hand motions to illustrate material on the poster.
- Use proper English.
- Summarize each section before moving on.
 - If people come after you have begun your spiel, welcome them and identify where you are by saying something like, "I was just explaining...

Presenting

- Stand to the side of your poster.
- Determine the audience's understanding by saying, "Do I need to explain XXX further?"
 - -Do not ask, "Do you understand?"
- Maintain professionalism.
 - Thank them for listening and be receptive of their feedback.

References

- www.training.nih.gov/careers/careercenter/publish.html
- http://bret.mc.vanderbilt.edu/bret/php_files/poster2.php
- http://www.ncsu.edu/project/posters/NewSite/60second.html
- http://www.owlnet.rice.edu/~cainproj/presenting.html
- http://colorschemedesigner.com/

WHICH IS MORE IMPORTANT: NUMBER OF PATCHES OR CONNECTIVITY?

Darin Kalisak, FBS Student

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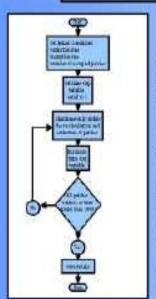
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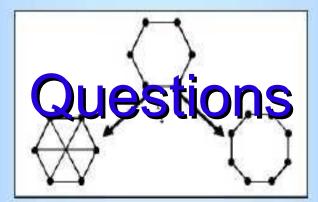
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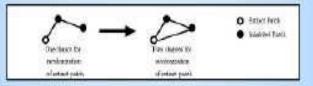
THE ISSUE



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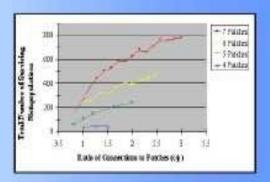


RESULTS

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CONCLUSIONS

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