Creating and Delivering a Winning Poster

Dr. Robert M. Ramirez
rramirez@sfsu.edu
Associate Dean,
College of Science & Engineering

Purpose of a poster.

To communicate/publicize your information to others

- Research or experimental results.
- Report a study.
- Outcome of a project.
- The characteristics of your organization.
- Clear & Effective

Presenter must be

- Knowledgeable
- Enthusiastic

Purpose of a poster

- Communicate or publicize your research to others.
- Short, concise, but complete "story."

Describes …

… The question that is asked *or* the "gap" in our knowledge.

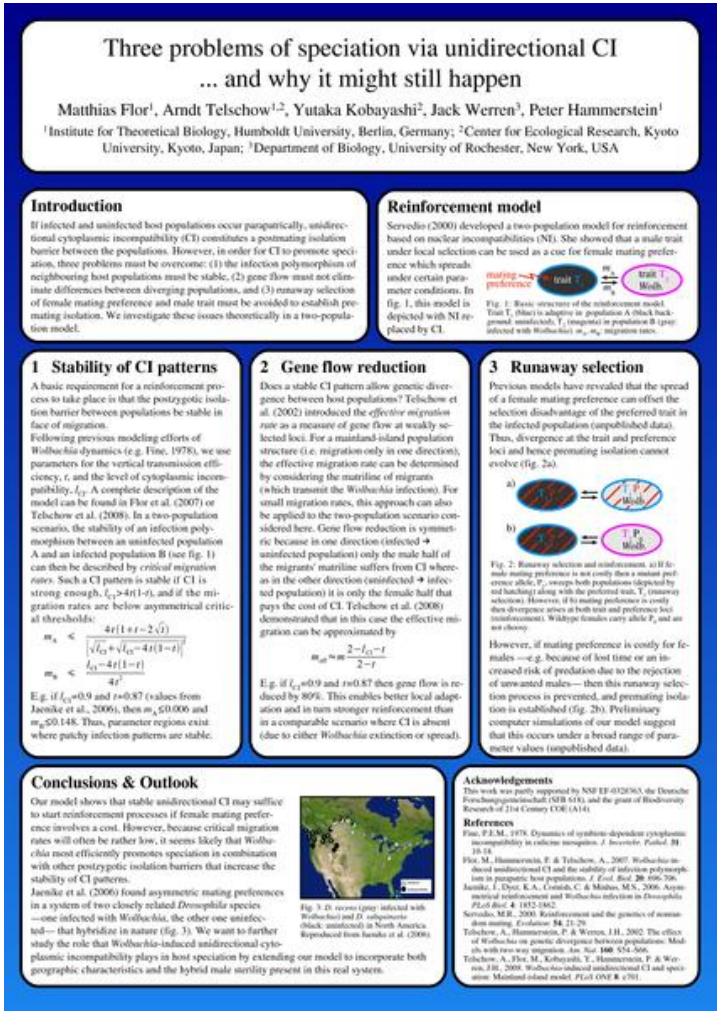
… the means by which you addressed this.

… your results that must "**persuade**" us.

… your conclusion & why it is significant.

Types of Posters

Vertical or "portrait"



Three problems of speciation via unidirectional CI
... and why it might still happen

Matthias Flor[1], Arndt Telschow[1,2], Yutaka Kobayashi[2], Jack Werren[3], Peter Hammerstein[1]
[1]Institute for Theoretical Biology, Humboldt University, Berlin, Germany; [2]Center for Ecological Research, Kyoto University, Kyoto, Japan; [3]Department of Biology, University of Rochester, New York, USA

Introduction

Reinforcement model

1 Stability of CI patterns

2 Gene flow reduction

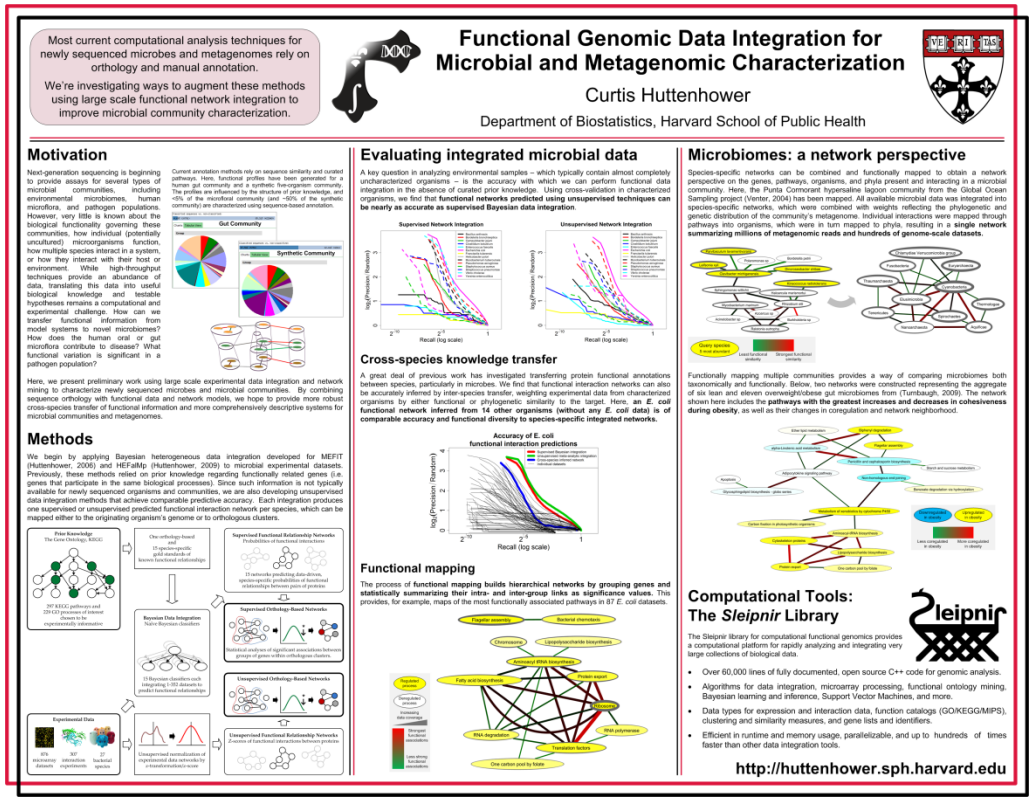
3 Runaway selection

Conclusions & Outlook

Acknowledgements

References

Horizontal or "Landscape"



Most current computational analysis techniques for newly sequenced microbes and metagenomes rely on orthology and manual annotation.

We're investigating ways to augment these methods using large scale functional network integration to improve microbial community characterization.

Functional Genomic Data Integration for Microbial and Metagenomic Characterization

Curtis Huttenhower
Department of Biostatistics, Harvard School of Public Health

Motivation

Evaluating integrated microbial data

Microbiomes: a network perspective

Cross-species knowledge transfer

Methods

Functional mapping

Computational Tools: The *Sleipnir* Library

http://huttenhower.sph.harvard.edu

3 Column poster is the most common

Before starting…

- Know your intended audience.
- Decide upon the “basic message”.
- Gather your information, graphs, tables, photos, etc.
- Allocate the correct amount of space.
- Allocate **TIME** to design the poster; this is especially true if there are several partners.
- Pre-sketch a layout.
- Be clear in your ideas and simple in your presentation.

Who is the audience?

- Are they people in your own specialty?
  →Then you can use some jargon (i.e. words used in your profession) & some shortcuts.
- Are they people in a related field?
  →Then use less jargon, but you can assume they have basic knowledge.
- Are they people in an unrelated field?
  →Then use basic, simple language & terms.

What is the message?

- State the main point(s) and conclusions succinctly.

  A short but informative title + an effective abstract & introduction.
- All other points should relate to the main title.
- You do not have to include everything. Other corollary findings can be summarized as "bullet points".

Be strategic !

- How to present your data?

  Tables are better than written text.

  Figures are better than tables.
- Use short, informative statements.
- This is not a publication … you don't have to present a graph or table for everything!
- Use graphs/tables for most important data.
- Check spelling and grammar.

Banner :

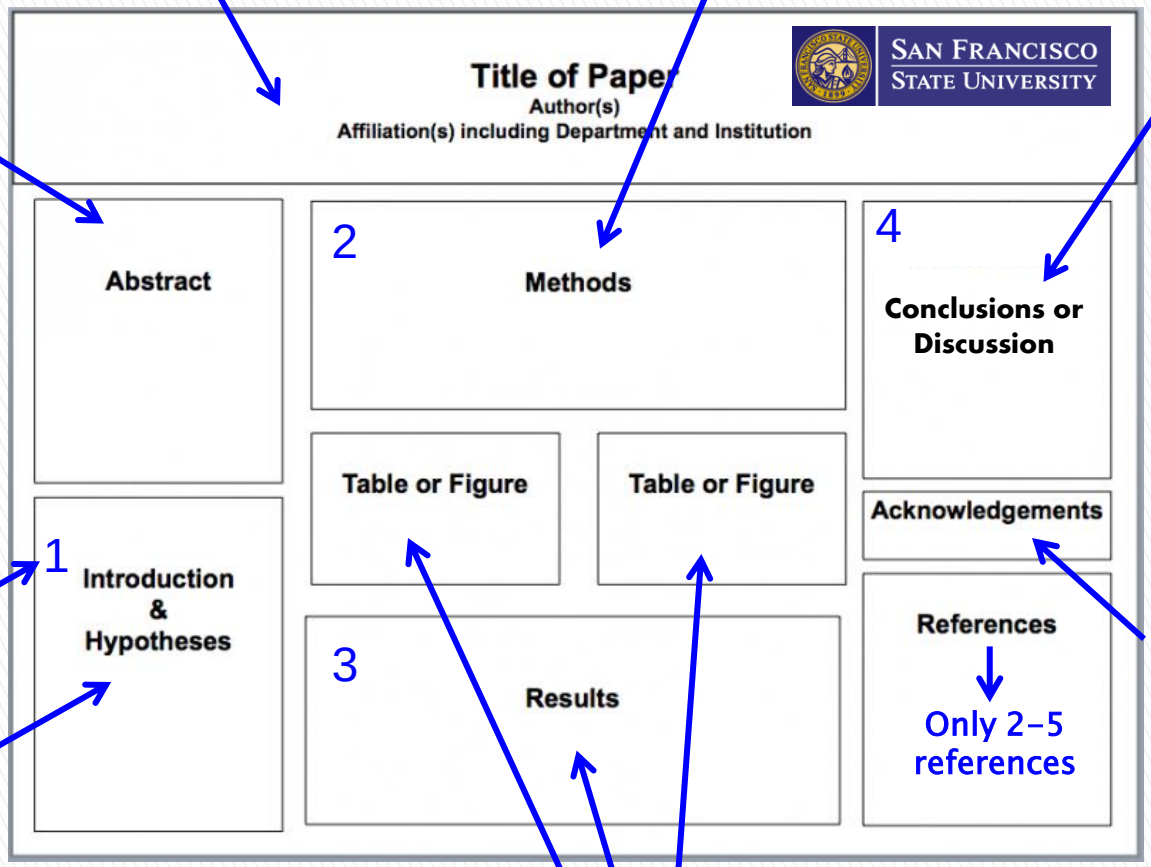
Concise Title, Author(s), Affiliation (legible @ 20 ft)

Methods:

What did you do? (How?). Enough detail to ascertain **validity** (Correct method? Reproducible?)

Abstract:

- Hypothesis or objectives
- Short methods & Results.
- Conclusions or significance.



Discussion:

- What do your results "mean"? (don't repeat results). Address any contradictions.
- How does this support your hypothesis?

Use numbers to guide your audience

Acknowledge:

Grant agency or special assistance.

Introduction:

- Essential background information.
- Why is this problem being researched?
- What is your objective or questions?
- What is your hypothesis?

Results:

What did you observe? (Outcome?). Arrange data (graphs or tables) in logical order. Enough data to support conclusions

General Suggestions: LAYOUT

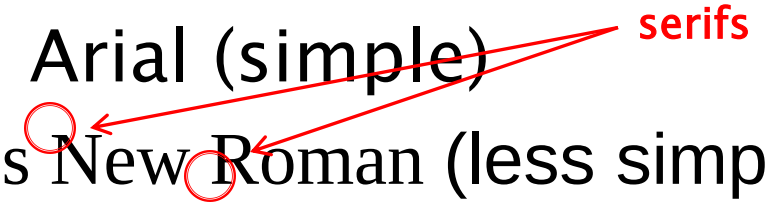
- Use numbered heading sub-titles so that audience reads the poster *in the order that you want*.
- Balance placement of text and graphics (symmetry).
- Don't CRAM! Use white spaces between sections.
- Follow normal flow of reading: Top to bottom, left to right.
- Use Left-justification alignment of text.

General Suggestions:
Text and Font

- Use a simple font (sans serif) throughout.
- Examples:

  Sans Serif = Arial (simple)

  Serif = Times New Roman (less simple)



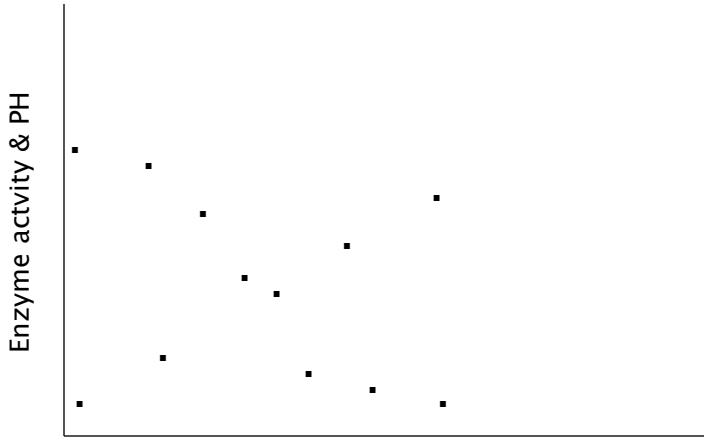
- Use key words and phrases. Omit unnecessary words or language.
- Use large font size: 18 point for smallest text, 24 point for regular text, 28 point for subtitles, 48 point for main title in banner (smaller font for authors and affiliation).

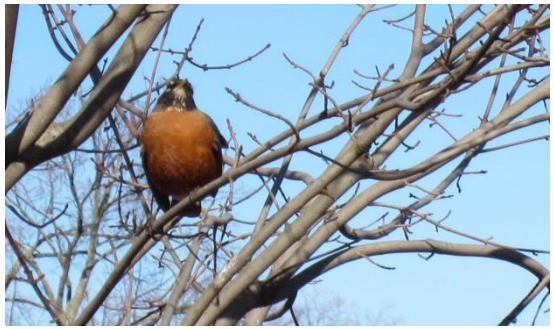
General Suggestions:
Photos, figures and tables

- Should be clear, self-explanatory, uncomplicated, and sufficiently large.
- Tables and figures must have titles.
- Tables: columns and rows should have titles.
- Graphs: horizontal and vertical axes should be labeled. Symbols for each condition (●, ◆, ○, Δ) should be robust (visible at 3-4 feet). Line on graph should be "tagged" with a label.
- Photos: Should be cropped & enlarged to clearly show your key point.

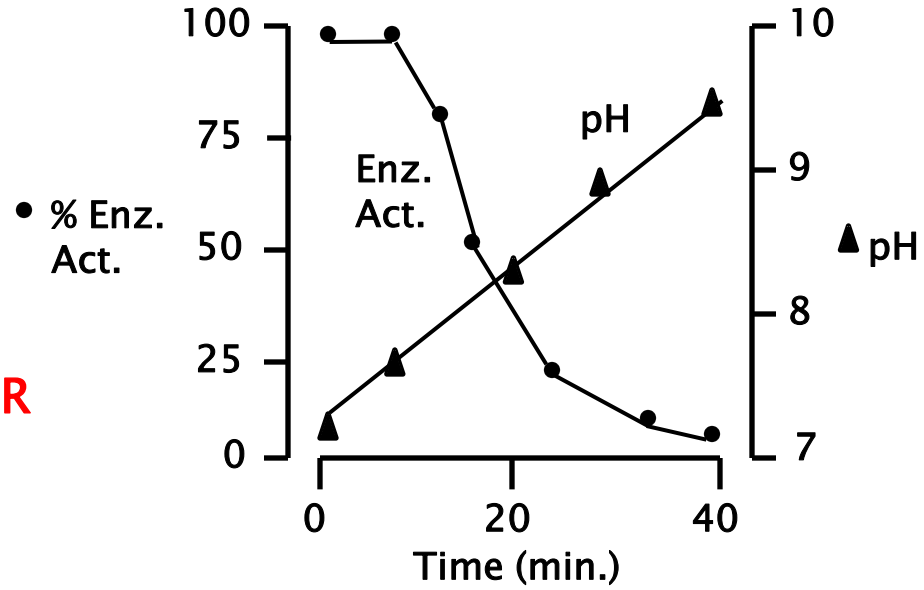
General Suggestions:
Photos & figures

BAD





BETTER



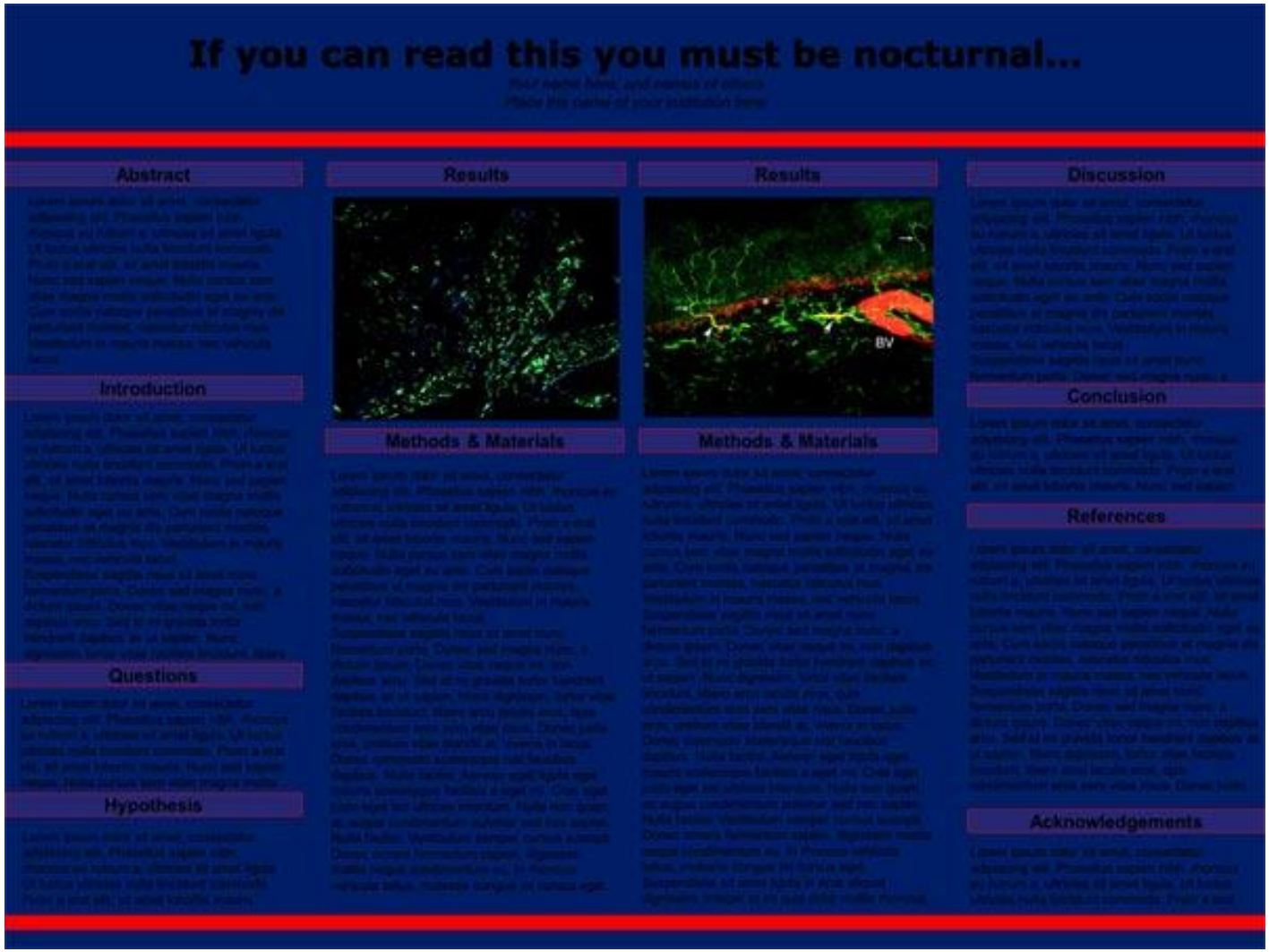
General Suggestions:
Color and Contrast

- Use a white background but a colored border line to draw attention to important parts of your poster.
- White background also saves ink.
- Use pleasing contrast to reduce eye strain.

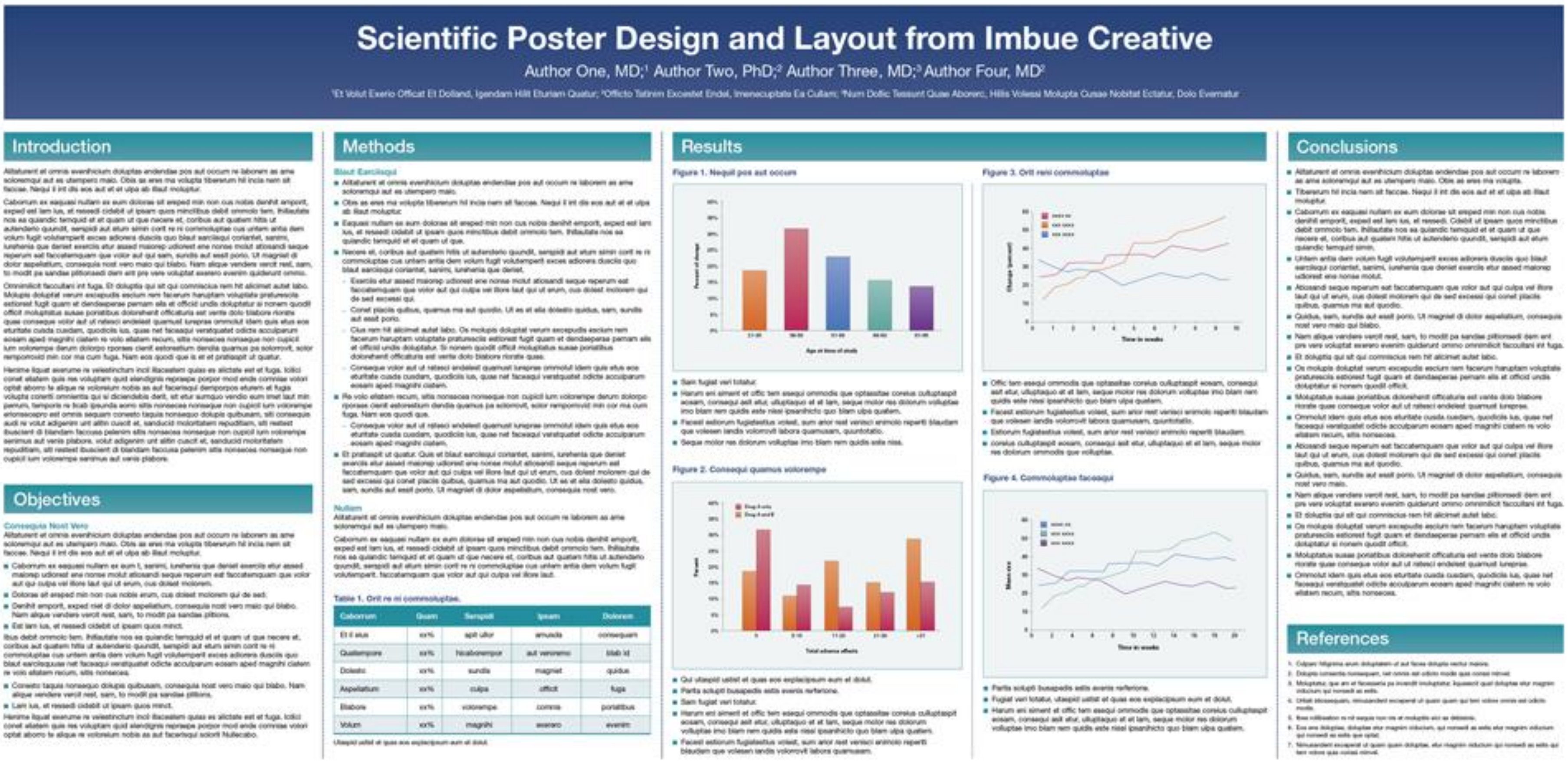
Good: This is a good contrast for a poster.

Poor: This is a poor contrast for a poster.

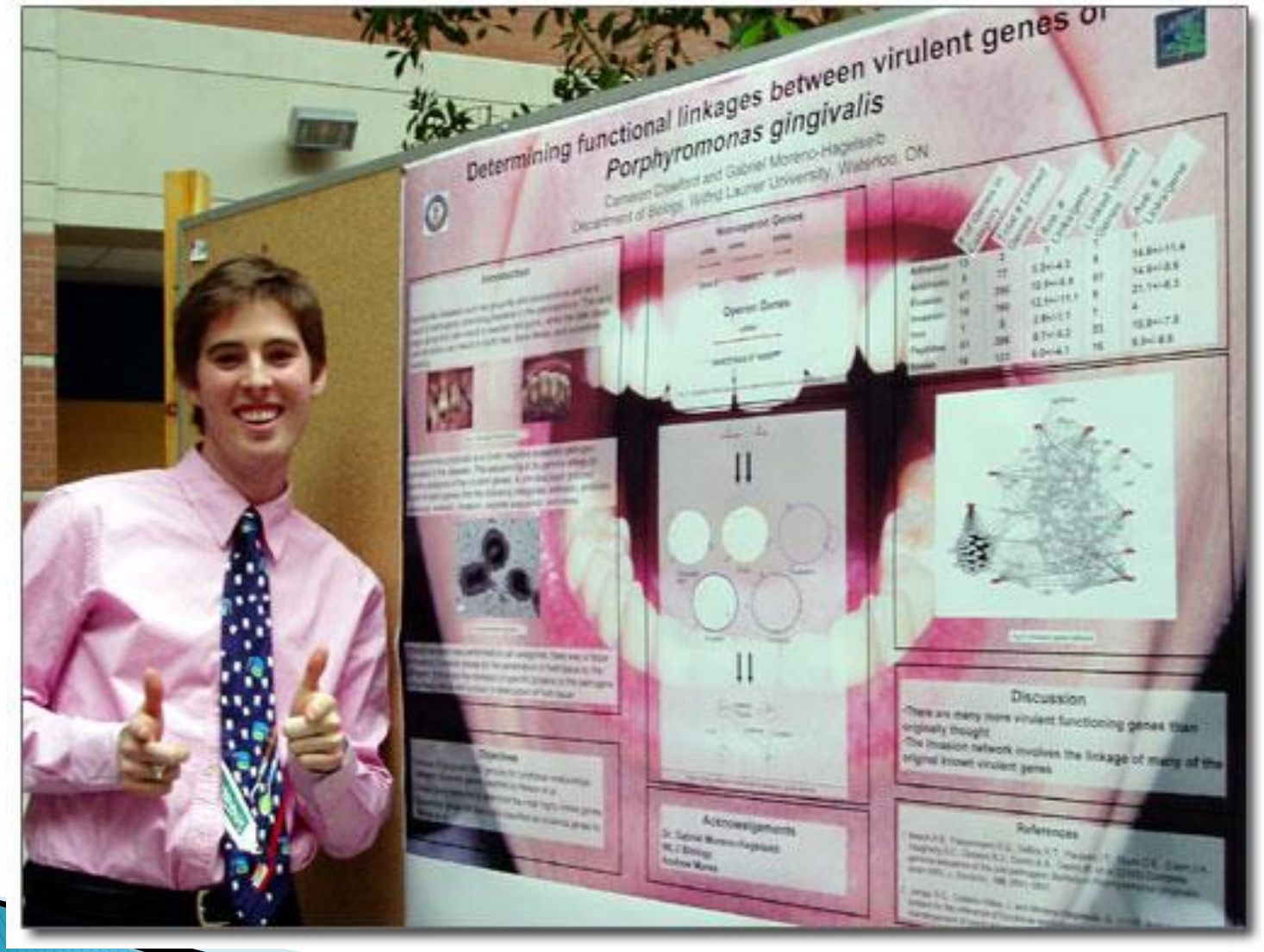
Good or Bad?



Good or Bad?



Good or Bad?



Good or Bad?

Bad or Good?

Cooling Effects of Dirt Purge Holes on the Tips of Gas Turbine Blades

Eric Couch, Jesse Christophel, Erik Hohlfeld, and Karen Thole

Gas turbine engines run better at higher combustion temperatures

At higher combustion temperatures, these engines generate more power and use less fuel. However, these temperatures are restricted by melting temperatures of the turbine blades downstream of the combustor (see Figure 1).

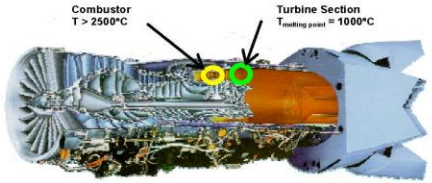


Figure 1. Pratt & Whitney F119 gas turbine engine.

Dirt purge holes on turbine blade tips allow for higher combustion temperatures

Harmful hot gases from the combustor leak across the gap between the blade tip and the shroud (see Figure 2). Dirt purge holes expel foreign particles from the blade tip so that film cooling holes are not blocked.

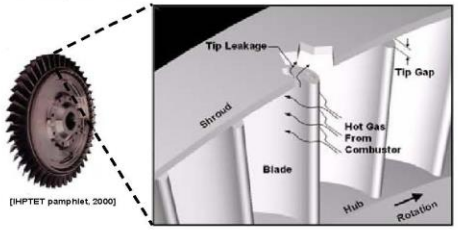


Figure 2. Flow at the tip region of a turbine blade.

The project goal was to find the film cooling effects of these dirt purge holes

To find the effects, we performed wind tunnel experiments with scaled turbine blades. The wind tunnel was low speed and low temperature, and the blades, shown in Figure 3, were scaled at 12 times their normal size. To measure temperatures on the blade tip, we used an infrared camera. Tip gap sizes and amount of coolant flow from the dirt purge holes were both varied.

Figure 3. Large-scale turbine blade in wind tunnel.

Temperature measurements were converted to dimensionless cooling effectiveness

Effectiveness $\eta = \frac{T_\infty - T_{aw}}{T_\infty - T_c}$ where T_∞ = mainstream temperature, T_c = coolant temperature, T_{aw} = adiabatic wall temperature (on tip surface)

Cooling increased with blowing ratio

The effectiveness contours of Figure 4 show that cooling increased with blowing ratio.

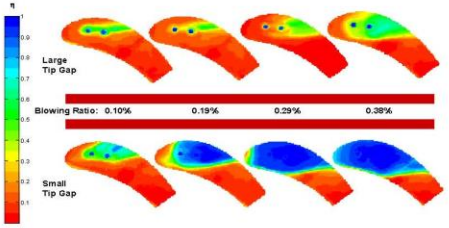


Figure 4. Measurements of film cooling effectiveness.

Tip size dramatically affected cooling

In Figure 5, the lateral averages of effectiveness plotted against the axial chord length show that tip size dramatically affected the cooling.

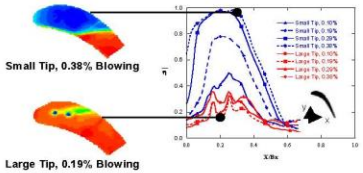


Figure 5. Laterally averaged effectiveness plotted against normalized axial chord.

In summary, dirt purge holes provide cooling to the tip surface

While intended to remove dirt from the blade, dirt purge holes also provide cooling to the tip surface. This cooling is enhanced with a small tip gap as the dirt purge floods the tip region near the leading edge with cool air.

Acknowledgments

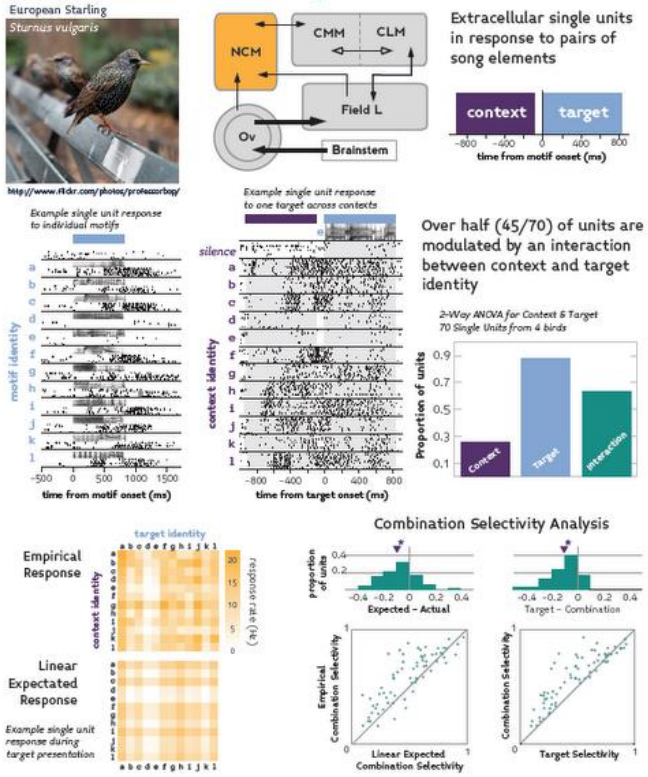
The sponsor for this project was Pratt & Whitney.

Good or Bad?

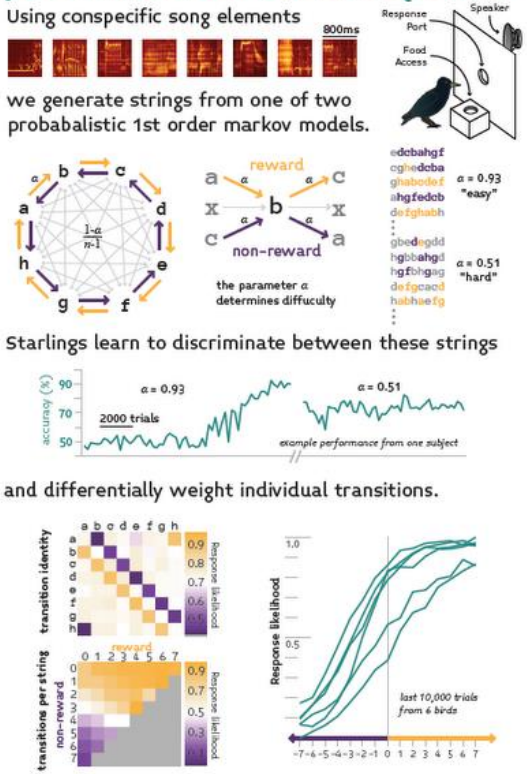
The neural representation of behaviorally relevant acoustical sequences

Justin T. Kiggins jkiggins@ucsd.edu
Neurosciences Graduate Program, UC San Diego
Timothy Q. Gentner tgentner@ucsd.edu
Department of Psychology, Neurosciences Graduate Program, Kavli Institute for Brain and Mind, UC San Diego

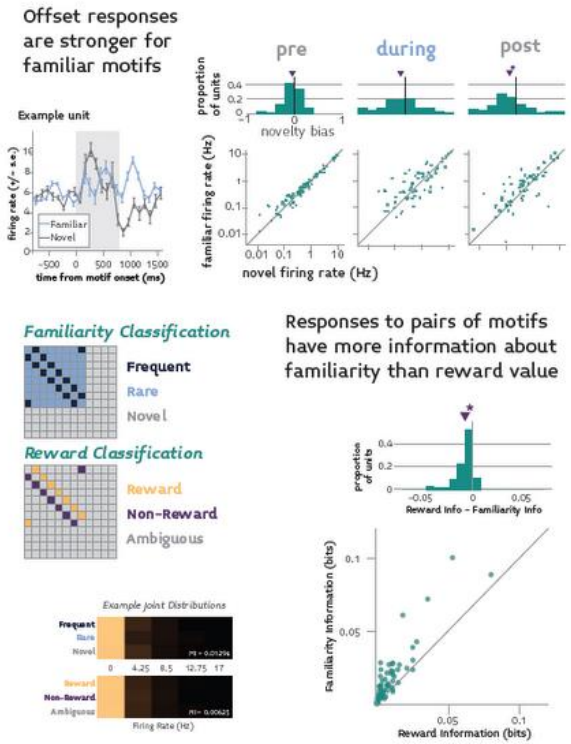
Neurons in NCM are sensitive to temporal combinations of song elements



Starlings can discriminate between probabilistic acoustical sequences



Responses in NCM are biased by the familiarity of elements & sequences



10 rules to make a bad poster

- Wait until the last minute to design your poster.
- Boring is best.
- Include political or sexually offensive statements.
- No results? Then use a lot of pictures.
- Use a font size that will require the use of a magnifying lens.
- Don't proofread; everybody else should "know" what your mistakes mean.
- Use 3000 words in your poster. Also provide armchair and some potato chips.
- Just show results, your audience doesn't need know anything else.
- Don't attend the poster session … people know how to read on their own, anyway.
- Include "Spiderman" as the poster background.

Good Visual Communication

Poster should …

- Be informative.
- Be a conversation starter.
- Capture the attention of as many people as possible within 15 seconds.
- Be pleasing to the eye & “exciting”.
- Be succinct and well organized.
- Be readable from 3-6 feet.

Poster preparation

Poster size for :

Tri-fold poster = 48 in. length x 36 in. height.

Foam board = 60 in. length x 40 in height.

- First 50 posters = No charge.
- Prepare poster & send final version to:

In Press Printing

Details & account number to be announced.

On the Showcase day…

- Prepare & rehearse a 2-3 minute presentation for the judges.
- Focus on the main point. Explain how your different data support the main point.
- Explain why your research is important or how it solves a problem or need.
- Limit technical language ("jargon").
- Do you use a special technique? Then prepare a *concise* (3-4 sentence) explanation for it.
- Arrive early to set up. Bring your poster & tacks.
- Bring a 1-page version of poster (optional).
- Attend your poster from 12-3PM.