Scientific Posters

Purpose, Planning & Preparation, Presentation

Step 1: Submitting the abstract Platform or poster presentation?

Goal: convey findings/science to peers for comment/review

Prestige/CV

Personal or PI preference

Status of work

Prep time

Why a poster can be better...

Excellent networking/collaborative potential

Better discussion opportunity

You don't have a lot of data

It can speak for hours – you cannot

It's less embarrassing to say "I don't know"

You are not a great public speaker

You improve with each visitor

The Purpose of a Poster

- stand alone summary and advertisement of your work
- conversation (and collaboration, networking) starter

You want people to be <u>interested</u> and <u>understand</u> what you've done and why

An Effective Poster...

- delivers a clear message
- attracts a diverse and enthusiastic audience
- is NOT a research paper attached to a board
- shows rather than tells

Planning

Planning know your audience

Design for 3 audiences

- 1. Those in your specific field
 - may seek out your poster & read carefully

2. Those in related fields

- may be attracted to your poster if accessible
- will need context
- may have valuable insights about your work

3. Those in unrelated fields

- may be attracted by clear and interesting message
- not likely to read entire poster but may want to know the main points
- will need context
- may have valuable trans-disciplinary insights

Planning

- Identify one key message
- Determine what key results will be shown
- Set up **deadlines**

Leave time for consultations, re-working, even re-printing

• **Determine** content & size requirements, style, logistics

Conference / University / Lab / Session specific

One poster vs. 3 panels

University/lab template?

Poster Content

- Title
- Authors and Affiliations
- Introduction
- Methods
- Data and Results
- Conclusions and Future Work
- •Reference and Acknowledgementmissing?

Abstract: only if REQUIRED

Poster Design



G STATE DIFFERENCE

Southern Flounder Exhibit Temperature-Dependent Sex Determination

Temperature Affects Sex Determination



Introduction

Souther a floorder of an after billy a lettoring on a support valuable fisheries and show good premises for aquaculture. Female floorder are known to grow faster and rouch larger adult rises than maken. Therefore, afternation on acc determination that might increase the national floorable in might increase the national floorable in might increase the national floorable in

Objective

This study was conducted to determine whether southean floander exhibit temperature dependent sen determination (TSUA and if growth is affected by centing temperature

Methods

- Southers flounder bisodynack even stipp spowood to collect eggs and spenn for in rare fertilization
- Taking large second room a satural due contensor result which powers perform from and and anti- antaken at least wave dury.
- Upon eaching a runn total length of 40 mm the poventhe flouride: were stocked at equal denotion (not one of three temperatures 18, 23, or 28°C for 245 days
- Gotads were gusserved and here sociated at 2-6 micross.
- Sex-datapaidong markers were used to distagand makes (spectratogenesis) from tenules (cogonesis)

Histological Analysis





Frank Differentiation

Male Differentiation



C**P < 0.01 and ***P < 0.001 represent significant destations from a 112 materianole (or rolo)

Rearing Temperature Affects Growth



Growth Does Not Differ by Sex



Results

- Sex was discernible in nost fish greater than 120 mm long
- High (28°C) temperature produced #3- Jonales."
- Low (183C) temperature produced 22% formales.
- Mid-mage (29°C) temperature produced 44% females.
- Fish named at high or low temperatures showed reduced growth compared to those at the mid-range temperature.
- Up to 245 days, no differences in growth asisted between serves

Conclusions

- These findings indicate that see determination in southern flounder is temperature-sensitive and temperature has a profound effect on growth.
- A mid-maps rearry supportant (2PC) appears to maximize the number of females and promote better growth in young southern flounder.
- Althrough adult females car known to grow larger than maken to difference in growth between askes secured in age-0 (< 1 year) searbern flounder

Acknowledgements

The orders advantation is determined for and Propose of the instant Matter Materia Service and the University of Short Carofine the Carof Calgor Propose for final as the research freehold matter in Law water and both propose for help with the work.

Poster Design

- Title
- Layout
- Text
- Colours
- Graphics
- Details

Poster Design-Title

Assessment of the Role of Protein Kinase B in the Regulation of Mitotic Genes and the Control of Mammalian Cell Cycle Completion

Protein Kinase B and the Mammalian Cell Cycle

Protein Kinase B is Necessary for Mammalian Cell Cycle Completion

Is Protein Kinase B Necessary for Mammalian Cell Cycle Completion?

1. Ensure sequence is easy to follow



1. Ensure sequence is easy to follow

2. Columns easier than Left \rightarrow Right



- 1. Ensure sequence is easy to follow
- 2. Columns easier than Left \rightarrow Right
- 3. Avoid wide panels

In vitro, IRAK-4^{-/-} T cells also showed modest responses to allogenic DCs (Fig. 2A) and superantigen Staphylococcal Enterotoxin E (SEE) (Fig. 2B). Consistent with the observed in vivo responses, primary responses of OT-II Tg/IRAK-4^{-/-} T cells to stimulation with OVA peptide–pulsed APCs were also markedly reduced (fig. S4). IRAK-4^{-/-} T cells also exhibited hypoproliferation upon TCR activation when stimulated by an antibody to CD3 (CD3), which could be overcome by adding exogenous IL-2 or phorbol 12-myristate 13-acetate (PMA), but not ionomycin (fig. S5).

- 1. Ensure sequence is easy to follow
- 2. Columns easier than Left \rightarrow Right
- 3. Avoid wide panels
- 4. Use a graphic hierarchy that reflects the relative importance of elements
- 5. Headings/Panels: can divide into Introduction/Background, Methods, Results, Discussion, Conclusions

BUT consider

- heading/panel = subject or technique
- heading/panel = take-home message





Design Commandments

Layout and Flow

- •Use "reader gravity" to facilit flow
- •Use "visual grammar" to lead the reader through and emphasize the important things



First, we expect . . . to proceed from left to right. . . . **Second**, we expect things to proceed from top to bottom, and, third, we expect things in the center to be more important than things on the periphery. Fourth, we expect things in the foreground to be more important than things in the background; fifth, we expect large things to be more important than small things; and **sixth**, we expect thick things to be more important than thin things. Note that type that is larger, thicker, or bolder than the surrounding type is usually more important: a heading, a title, or an especially important word in a passage. **Seventh**, we expect areas containing a lot of activity and information to contain the most important information. **Eighth**, we expect that things having the same size, shape, location, or color are somehow related to one another. . . . Finally, we see things as standing out if they contrast with their surroundings because of line thickness, type face, or color. (You should note that warm or hot colors-red, yellow, and orange-stand out more than cool colors-blue and green.)"

http://writing.colostate.edu/references/speaking/poster/pop13c.cfm

- 1. minimize
- 2. minimize
- 3. minimize
- 4. One rule of thumb: 20% text
 40% graphics
 40% empty space
- 5. A poster is NOT a paper

- Headings should be readable from 6 feet away 36⁺ font (title as much as 100)
- All text should be readable from 3-4 feet away 18-24 font size <u>minimum</u>, larger = better
- Use font that is easy to read
- Use consistent font/colour
- Use bullets or separate state
- M & M details can be in fig
- Use active voice

This font J would not use

This one cither, nor this one for that matter

Definitely not this one.

```
It's even less... easy to read...
```

- Headings should be readable from 6 feet away 36⁺ font (title as much as 100)
- All text should be readable from 3-4 feet away 18-24 font size <u>minimum</u>, larger = better
- Use font that is easy to read
- Use consistent font/colour
- Use bullets or separate statements when possible
- M & M details can be in figure legends
- Use active voice

It has been shown that X regulates Y. X regulates Y.

The mitotic cell cycle is controlled by X. X controls the mitotic cell cycle.

Low concentrations of SO₂ cause bronchoconstriction in asthmatic patients. Since low concentrations of SO₂ may be totally absorbed in the upper airways and since the upper airways appear to be very sensitive to SO_2 , we have explored the possibility that SO₂ evokes reflex effects by engaging afferent nerves in the upper airways.

Bronchoconstriction in asthmatic patients is caused by SO₂ in low concentrations.

Upper airways are sensitive to and totally absorb low concentrations of SO₂.

We hypothesized that SO₂ engages afferent nerves in the upper airways.

Low concentrations of SO₂ cause bronchoconstriction in asthmatic patients. Since low concentrations of SO₂ may be totally absorbed in the upper airways and since the upper airways appear to be very sensitive to SO_2 , we have explored the possibility that SO₂ evokes reflex effects by engaging afferent nerves in the upper airways.

- **Bronchoconstriction** in asthmatic patients is caused by SO₂ in low concentrations.
- **Upper airways** are sensitive to and totally absorb low concentrations of SO₂.
- We hypothesized that SO₂ engages afferent nerves in the upper airways.

Poster Design: Colours

• Better to use a light background and dark letters.

Light letters on dark is very tiring to read

- Use colours meaningfully, not arbitrarily.
- Don't use more than 2-3 colours as a theme.
- Don't use colours that are too bright-avoid red/green.



Poster Design: Graphics

- Image = 1000 words
- **RESOLUTION** is key Re-evaluate "cut & paste
- Make message clear; minimize distractions
- Information : ink ratio as high as possible
- Keep format uniform if possible consistency
- DON'T 3D, gridline, pattern or color axis planes unnecessarily





A and B Act Synergistically in a Hepatic Tumour Model

Style...

"Poster Sessions" group on Flickr Faculty of 1000 or F1000 Posters

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Title that hints at the underlying issue or question

Format in "sentence case." This means only the "t" in title" gets capitalized.

Your name(s) here Your address(es) here

All columns should have exactly the same width and be separated from each other by exactly the same amount of white space.

Introduction

c/posterdesign

This template has column widths and font sizes optimized for printing a 36 x 56" poster-just replace the "tips" and "blah, blah, blah" repeat motifs with actual content, if you have it. Try to keep your total word count under 500 (really). More tips can be found at "Designing conference posters" at

http://colinpurrington.com/tips/academi

To see examples of how others have abused this template to fit their presentation needs, perform a Google search for "colin purrington poster template.

Your main text is easier to read if you use a "serif" font such as Palatino or Times (i.e., people have done experiments and found this to be the case). Use a non-serif font for your title and section headings.



structure, or whatever...that might help lure people to your poster. Yes, I risked my life getting this photograph.

Figure 1. Photograph or

Materials

and methods

Be brief, and opt for photographs or drawings whenever possible to illustrate organism, protocol, or experimental design. Viewers don't want to read about the gruesome details, however fascinating you might find them.

Blah, blah, blah. Blah. blah, blah. Blah, blah, blah. Blah, blah, blah. Blah, blah, blah, Blah, blah, blah,



Figure 2. Illustration of important piece of equipment, or perhaps a flow chart summarizing experimental design. Scanned, hand-drawn illustrations are usually preferable to computer-generated ones. Just bribe or flirt with an artist to get them to help you out.

Results

The layout for this section should be modified from this template to best show off your graphs and other result-related illustrations. You might want a single, large column to accommodate a big map. Or perhaps you could arrange 6 figures in a circle in the center of the poster. Do whatever it takes to make your results graphically clear. And, for the love of God (or whoever), make your graphs big enough to read from 6' away.

Paragraph format is fine, but sometimes a simple list of "bullet" points can communicate results more effectively:

9 out of 12 brainectomized rats survived (fig. 3a)

Brainectomized rats ate less (fig. 3b)

Control rats completed maze faster, on average, than rats without brains (fig. 3c) (t = 9.84, df = 21, p = 0.032



Figure 3. Make sure legends have enough detail to explain to the viewer what the results are, but don't go on and on. Don't be tempted to reduce font size in figure legends, axes labels, etc.-your viewers are probably most interested in reading your figures and legends!

Often you will have some more text-based results between your figures. This text should explicitly guide the reader through the figures.

Blah, blah, blah (Figs. 3a,b), Blah, blah, blah. Blah, blah, blah. Blah, blah, blah. Blah, blah, blah. Blah, Blah,

blah, blah. Blah, blah, blah. Blah, blah, blah, blah, blah, blah. Blah, blah, blah, Blah, blah, blah (Fig. 3c). Blah, blah, blah. Blah, blah, blah. Blah, blah, blah. Blah, blah. Blah, blah, blah (data not shown).

Blah, blah, blah, Blah, blah, blah, Blah, blah, blah. Blah, blah, blah. Blah, blah, blah. Blah, blah, blah Blah, blah (God, personal communication).



Figure 4. Label the lines manually (as above) and then delete the silly key provided by your charting software. The above figure would also be greatly improved if I had the ability to draw mini rats with and without brains.

Be sure to separate figures from other figures by generous use of white space. When figures are too cramped, viewers get confused about which figures to read first and which legend goes with which figure. Cramped content just looks bad, too.

Figures are preferred but tables are sometimes unavoidable. A table looks best when it is first composed within Microsoft Word, then "Inserted" as an "Object." If you can add small drawings or icons to your tables, do so!

Table 1. ANCOVA examining the effects of water treatment, parasite treatment, and initial height of nettle on nettle dry weight.

	Source	df	Mean square	F-value	p-value	
	Water treatment	2	23.305	215.96	0.0001	
	Parasite treatment	1	0.049	0.455	0.5011	
	Nettle initial height	1	0.769	7.129	0.0084	
	Parasite treatment * nettle initial height	1	0.489	4.532	0.0348	
	Residual	163	0.108			
L 1				Put a figure here that explores one particular outcome in a complicated (and boring) table of results.		
	of this confin X is tr	band ms tha ue.	ıt			

Figure 5. You can use connector lines and arrows to visually guide viewers through your results. Adding emphasis this way is much better than making the point with words in the text section. Especially useful for when you cannot be at poster to guide viewer.

Putting titles on graphs makes your graph instantly understandable to your viewers. E.g., just TELL your viewer what's so cool or important about the graph...don't make them hunt for it.

Conclusions

You can of course start your conclusions in column #3 if your results section is "data light." Conclusions should not be mere reminders of your results. Instead, you want to guide the reader through what you have concluded from the results. What is the broader significance? Why should anyone care? This section should refer back, explicitly, to the "burning issue" mentioned in the introduction. If you didn't mention a burning issue in the introduction, go back and fix that -- your poster should have made a good case for why you did what you did. A good conclusion will also refer to the literature on the topic -- how does your research add to what is already published on the topic?

Blah, blah, blah. Blah, blah, blah. Blah, blah, blah. Blah.

Adhere to citation guidelines in your field exactly. People will find your mistakes. Trust mee.

Remember: no period after journal name (unless you use abbreviation).

Literature cited

Bender, D.J., E.M Bayne, and R.M. Brigham. 1996. Lunar
condition influences covote (Canis
latrans) howling. American Midland
Naturalist 136-113-417.
Brooks, L.D. 1988. The evolution of recombination rates.
Pages 87-105 in The Evolution of Sex,
edited by R.E. Michod and B.R. Levin.
Sinauer, Sunderland, MA.
Scott, E.C. 2005. Evolution vs. Creationism: an
Introduction. University of California
Press, Berkeley.
Society for the Study of Evolution. 2005. Statement on
teaching evolution. <
http://www.evolutionsociety.org/statem
ents html > Accessed 2005 Aug 9

Acknowledgments

We thank I. Güor for laboratory assistance, Mary Juana for seeds, Herb Isside for greenhouse care, and M.I. Menter for questionable statistical advice. Funding for this project was provided by the Department of Thinkology, a Merck summer stipend, and the person who claims she's my mom. [Note that people's titles are omitted. Titles are TMI.]

For further information

Please contact email@blahcollege.edu. More information on this and related projects can be obtained at www.yoursite.edu... (give the URL for laboratory web site). A link to an online, PDF-version of the poster is nice, too

Purrington, C.B. Designing conference posters. Retrieved Nov 15, 2011 http://colinpurrington.com/tips/academic/posterdesign.



Purrington, C.B. Designing conference posters. Retrieved Nov 15, 2011 http://colinpurrington.com/tips/academic/posterdesign.

Beyond the science

- Acknowledge funding
 Operating & personnel; Logos, emblems
- Acknowledge people
 Colleagues, summer students, COOP students. etc
- Intellectual property
 - Poster presentation = public disclosure
 - Where will your poster be seen? Website, camera
- Contact information

Poster Design: Details

- 1. Powerpoint vs. Adobe Illustrator vs. LaTex, FrameMaker
- 2. Beware the MAC-PC bug
- 3. Use full names of authors
- 4. Use references sparingly
- 5. Print a colour 11" x 17" proof (~ everything should be readable)
- Spell-check, have friends, colleagues proof-read your poster Lab/Hallway/lunch room post – leave post-its & pen Web: Flickr, Faculty of 1000, anonymous or not!

Presentation

Classic:

Poster up throughout the day Set 1-2 hour interval to "man" poster

New twists: Speed posters Virtual posters



Preparing to present

- Make sure you can sum up your poster's key points and conclusions in 2-3 sentences MAX
- Practice 1,3 & 5 (? 10)-minute versions of your poster presentation
- Practice starting your spiel from different sections of your poster
- Anticipate the challenges
- Anticipate questions and how you will answer them
- Optional:
 - supplemental handouts, computer for video, candy, pins?

KNOW YOUR POSTER

Presenting Your Poster

Check out the venue



Presenting your poster

- BE at your poster at assigned time
- Dress appropriately
- Greet people with a smile and enthusiasm for your work
- Position yourself appropriately
- Find out why they are interested in your poster BEFORE you begin-tailor to interests
- Maintain eye contact Reading or rambling signals "lack of knowledge" – no notes!



Cain Project

Presenting Your Poster

- Have a 1-3-5 minute presentation prepared for people who ask you to "walk them through the poster".
- Give the big picture, explain why the problem is important, use the graphics to illustrate your key points.
- Finish with a strong statement of conclusion and relevance
- Be **professional** irrespective of setting



Presenting your poster

- Catch them with a one/two liner
- Use hand gestures to illustrate and reinforce key concepts and relationships—take time on figures.
- Be specific not vague
- Summarize each section of the poster before moving on to the next section.
- Don't restart when someone new arrives (don't ignore--engage)

Presenting your poster

- Pay attention to non-verbal clues Are you being clear? Listen
- Maintain your professionalism
 - Criticism
 - Judges
 - Future collaborator employer reviewer Who were they?
- Watch and learn!

Rules for a good poster

- Poster acceptance means nothing

 not an endorsement of your work
- Cater to your target audience
- Define the purpose and style it accordingly
- Title is important
- Use good layout
 - avoid blocks of text
 - never use less than font 18-24
 - main points at eye level

Erren & Bourne (2007) PLoS Comput Biol 3(5):0777

Rules for a good poster/presentation

- Sell your work in 10 seconds
- Take advantage of unique features of posters
 - speculate on unpublished findings
 - distribute supplemental info
 - interact & ENJOY

Erren & Bourne (2007) PLoS Comput Biol 3(5):0777

Rules for a good poster/presentation

Keep it concise

use images, graphs, tables clear and obvious conclusions

- Impact happens during and after poster session
 don't badger but make eye contact
 opportunity to get feedback/critique
- Show your personality

Erren & Bourne (2007) PLoS Comput Biol 3(5):0777



Purrington, C.B. Designing conference posters. Retrieved Nov 15, 2011 http://colinpurrington.com/tips/academic/posterdesign.

Summary

Make it clear

Make it simple

Make it interesting

BE CLEAR, BE INTERESTING!

A twist of something new

Speed posters

45sec - 4 minute poster presentation

1-2 slides (max) as summary

Interest subgroups or selected topics (2-4 minute, selected)

Poster advertisement/preview to entire meeting (<1min)</p>

http://www.youtube.com/watch?v=QpNTzH0ZcUU

CARME 2 min. poster presentations

Full text access provided to University of British Columbia Lib nature 14.007 chemistry Search

nature.com > journal home > archive > issue > commentary > full text

NATURE CHEMISTRY | COMMENTARY

Virtual conferences becoming a reality

Christopher J. Welch, Sanjoy Ray, Jaime Melendez, Thomas Fare & Martin Leach Affiliations | Corresponding authors

Nature Chemistry 2, 148-152 (2010) | doi:10.1038/nchem.556

Virtual posters

Electronically displayed poster at a meeting Potential for live/internet session with attendees i.e. Society for Entomology/non US presenters

Online version of technical research papers

Journal home Subscribe Current issue E-alert sign 🔊 RSS fee For authors

Citations to this article Crossref (1) Scopus (0) Web (

previous art

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- Briscoe, MH. Preparing Scientific Illustrations. Springer-Verlag, New York, 1996.
- http://www.biology.lsa.umich.edu/research/labs/ktosney/file/ PostersHome.html
- http://www.owlnet.rice.edu/~cainproj
- http://cte.umdnj.edu/career_development/career_posters.cfm

Poster evaluation



Graduate Student Government Research Colloquium February 25th & 26th, 2010 Poster Evaluation Sheet

Presenter:

Judge:___

Max Points	Points Awarded	Judge's Comment
35 total	Market and	
15		
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	Max Points 35 total 15 10 10 10 40 total 5 15 10 10 25 total 10 5 5 5 5 5	Max Points AwardedPoints Awarded35 total151010101040 total5151010105555100

PATHOLOGY Graduate Studies – POSTER FEEDBACK RECORD

Section A: (This will not be communicated to the speaker)

Assessor Name : _____ Poster Author: _____

Section B: Please provide a score for each of the following statements 0: strongly disagree to 5: strongly agree

Please use only whole and half integers [i.e. 3.0, 4.5, 5.0 etc...not 3.75 or 3.2]

		score		
Abstract:	- Abstract was clear and contained relevant information			
Content:	it: - Topic and context were well described			
	- Sections organized appropriately			
	 Introduction/rationale section emphasizes the rationale of the study 			
	 Experimental approach/results are clearly conveyed including titles/legends 			
	- Conclusion section emphasizes the significance of the study			
	- "Level" of the poster is appropriate for the audience			
	- Poster can stand alone well, without "presentation"			
Visual:	 Title, author(s), affiliations, acknowledgements and contact info included 			
	- Poster design logical and easy to follow			
	- Text easy to read and understand, free of errors			
	- Graphics are clear and contribute to the presentation			
Overall:	I understood, the objectives of the presentation were met			
Overall assessment (out of 100) :				

Section C: Please comment on the strengths and challenges (at LEAST 3 for each)

List strengths of the poster and abstract Suggest changes for the next poster and abstract from this presenter

Small group poster review

- posters to review in foyer
- 2-3 students/poster
- Take 5 minutes to review/critique poster
- Note strengths & weaknesses /scoring not necessary
- Present poster with comments to group
 (2-3 min/poster)