



Effective Poster Presentation

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Outline

- Introduction
- A Poster
- Ten Rules for a Good Poster Presentation
- Practical work for Poster Development
- Examples
- Summary and conclusion

Introduction

- Scientific communication is essential for helping us use and take care of this earth.
- Researchers who discover the wonders of science must tell someone about their findings in clear, complete, and concise terms.
- To add to the pool of scientific knowledge, scientists must synthesize available information with what they discover.
- If a scientist garbles words or leaves out important points, messages become unclear, and the progress of science suffers.

Periodically remind yourself about the fundamentals of science
and about successful communication.



THE CHRONICLE OF HIGHER EDUCATION

A.J. TOOS

*“Class, who can tell me what Mr. Billingsley did wrong,
in addition to majoring in this discipline?”*

A Poster

- Posters are a key component of communicating your science and an important element in a successful scientific career.
- Posters, while delivering the same high-quality science, offer a different medium from either oral presentations or published papers, and should be treated accordingly.
- Posters should be considered a snapshot of your work intended to engage colleagues in a dialog about the work, or, if you are not present, to be a summary that will encourage the reader to want to learn more.
- ***Many a lifelong collaboration has begun in front of a poster board***

The Role of Transient Receptor Potential Vanilloid 1 (TRPV1) Channels in Niacin-Induced Cutaneous Vasodilation

Heather L. Clifton, M.S.^{1,2}, Bone Inceoglu, Ph.D.¹, Saul Scharf, M.D.¹

¹Molecular, Cellular and Integrative Physiology Laboratory Group, ²Department of Entomology,
³Department of Internal Medicine, ⁴Division of Cardiovascular Medicine

TRPV1 channels are known to be involved in the regulation of cutaneous vasodilation. We have investigated the role of TRPV1 channels in niacin-induced cutaneous vasodilation using a TRPV1 antagonist, A-967081.

Results

TRPV1 channels are known to be involved in the regulation of cutaneous vasodilation. We have investigated the role of TRPV1 channels in niacin-induced cutaneous vasodilation using a TRPV1 antagonist, A-967081.

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Fig. 1. Effect of A-967081 on niacin-induced cutaneous vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by niacin.



Fig. 2. Effect of A-967081 on TRPV1-mediated vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by TRPV1 activation.



Fig. 3. Effect of A-967081 on TRPV1-mediated vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by TRPV1 activation.

Fig. 1. Effect of A-967081 on niacin-induced cutaneous vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by niacin.



Fig. 4. Effect of A-967081 on niacin-induced cutaneous vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by niacin.

Fig. 5. Effect of A-967081 on TRPV1-mediated vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by TRPV1 activation.

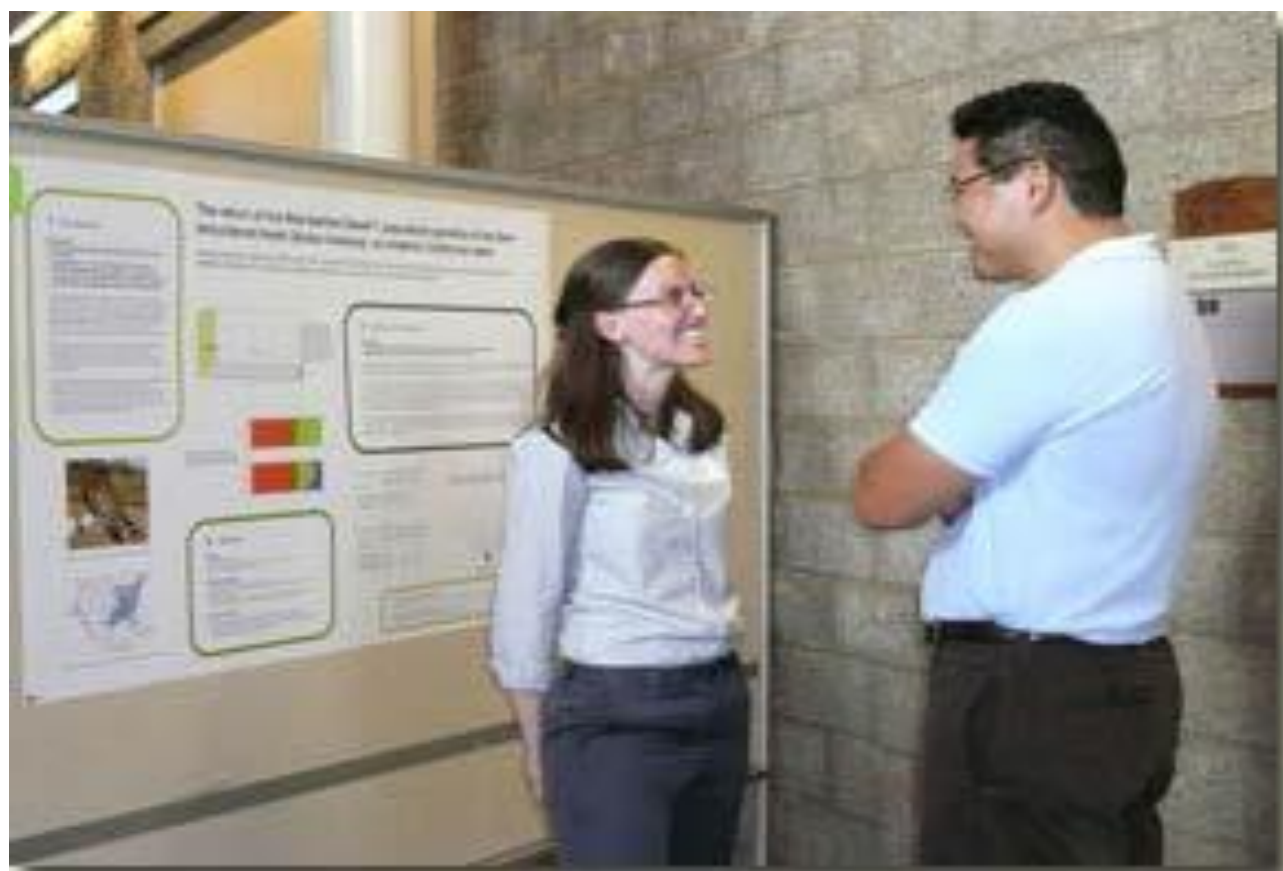
Fig. 6. Effect of A-967081 on TRPV1-mediated vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by TRPV1 activation.

Fig. 7. Effect of A-967081 on TRPV1-mediated vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by TRPV1 activation.

Fig. 8. Effect of A-967081 on TRPV1-mediated vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by TRPV1 activation.

Fig. 9. Effect of A-967081 on TRPV1-mediated vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by TRPV1 activation.

Fig. 10. Effect of A-967081 on TRPV1-mediated vasodilation. The graph shows that A-967081 significantly reduces the increase in cutaneous blood flow induced by TRPV1 activation.



Purpose of a Poster

- Communicate research
- To illustrate key points in a visually stimulating manner
- To represent yourself and your work to peers and colleagues
- To network with leaders in your field of interest

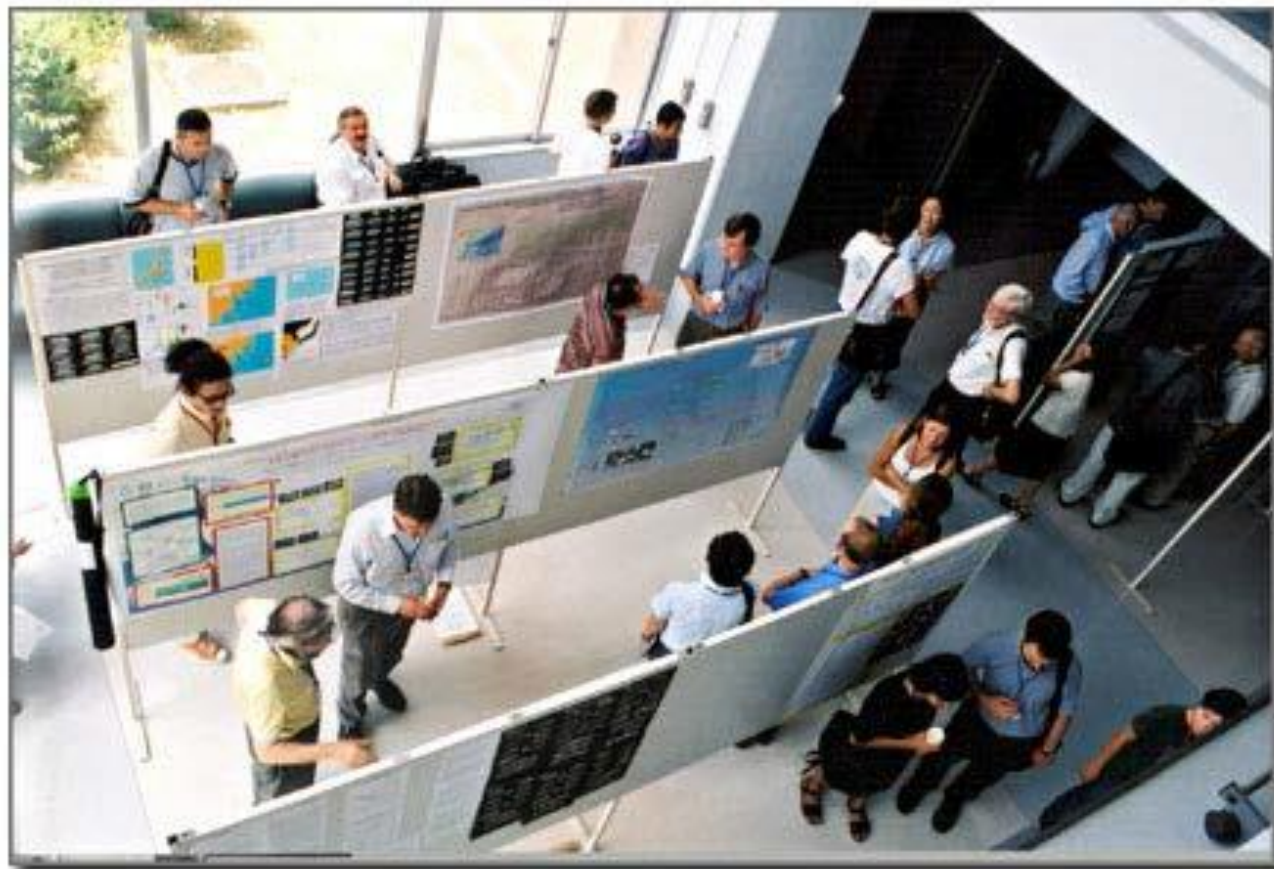
Academic Poster?

- A form of Academic Expression
- Summary of Research (5 – 10 minutes)
- Visually augmented discussion/interaction
- At conferences viewers come to you (or you can invite)
 - People search published abstracts
 - Posters may be grouped by field & folks may wander
- New Information
- Characteristic Fields
- Appearance/Content varies by
 - Field or Lab

Why are Academic Posters Important?

- Represents you and you sponsor's research at:
 - Conferences
 - Symposia
 - Hallways
 - Informational Days
- Demonstrate expertise
- Demonstrate attention to detail
- Practice public speaking
- Learn about most current results in field
- Deepens understanding of topic
- Opportunity for teaching and learning
- Share ideas
- Create collaborations





A poster can be better than giving a talk

More efficient because:

- you totally bomb at giving talks
- can be viewed while you nap
- can hang in the department for years
- can reach folks not in your field of research

Posters serve as...

An advertisement of your hard work



Kool, wow!, check
this out!, you must
be smart!

Ten Rules for a Good Poster Presentation

Rule 1: Define the Purpose

Rule 2: Sell Your Work in Ten Seconds

Rule 3: The Title Is Important

Rule 4: Poster Acceptance Means Nothing

Rule 5: Many of the Rules for Writing
a Good Paper Apply to Posters, Too

Ten Rules for a Good Poster Presentation

Rule 6: Good Posters Have Unique
Features Not Pertinent to Papers

Rule 7: Layout and Format Are Critical

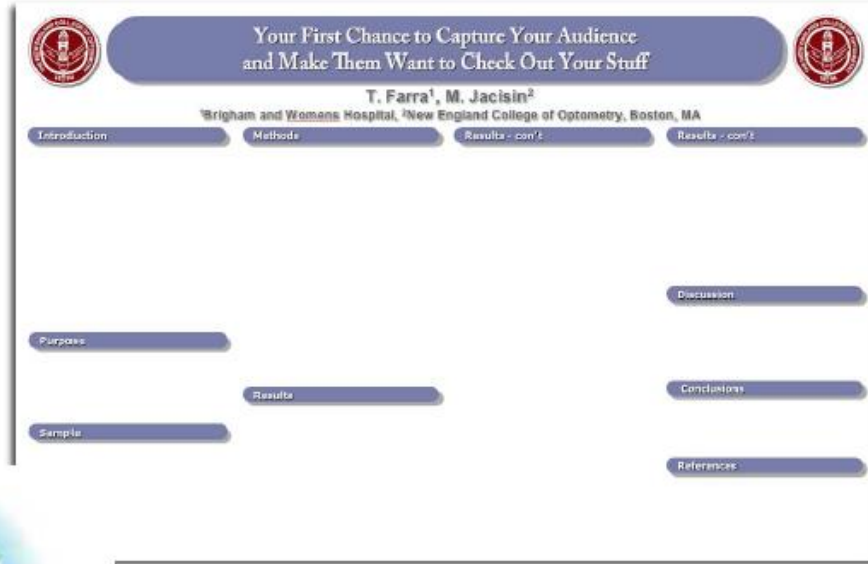
Rule 8: Content Is Important, but
Keep It Concise



Rule 9: Posters Should Have
Your Personality

Rule 10: The Impact of a Poster
Happens Both During and After the
Poster Session

Practical work for Poster Development

Simplify your paper into poster format



 **Your First Chance to Capture Your Audience
and Make Them Want to Check Out Your Stuff** 

T. Farra¹, M. Jacisin²
¹Brigham and Womens Hospital, ²New England College of Optometry, Boston, MA

Introduction Methods Results - con't Results - con't

Purpose Discussion

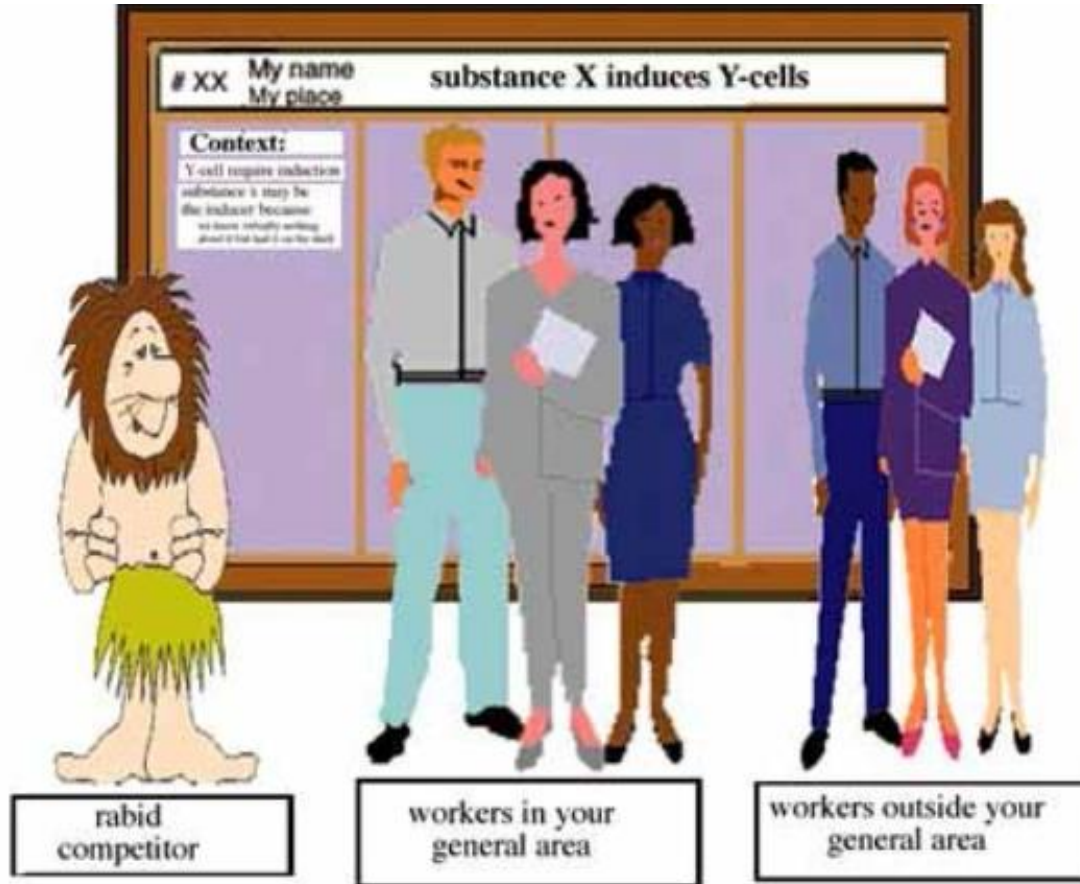
Sample Results Conclusions

References



Find out the size required!

Who are my audiences ?

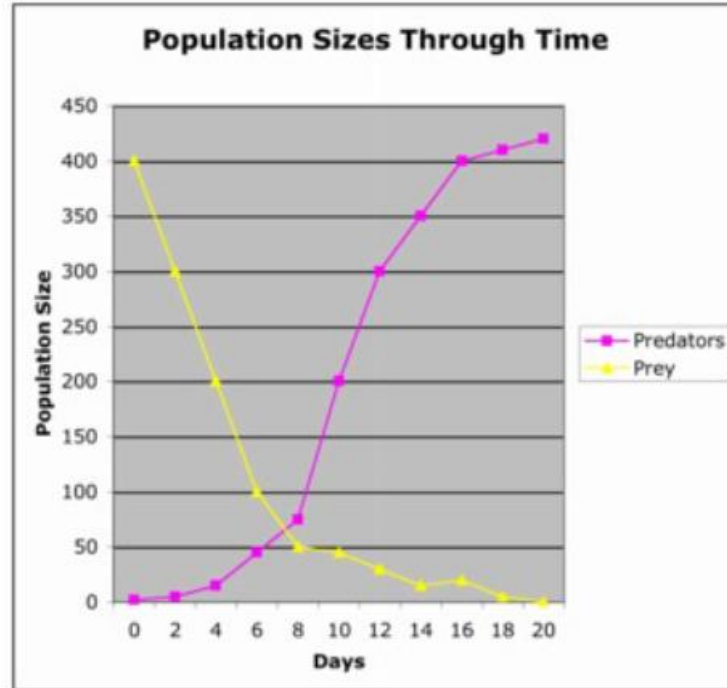


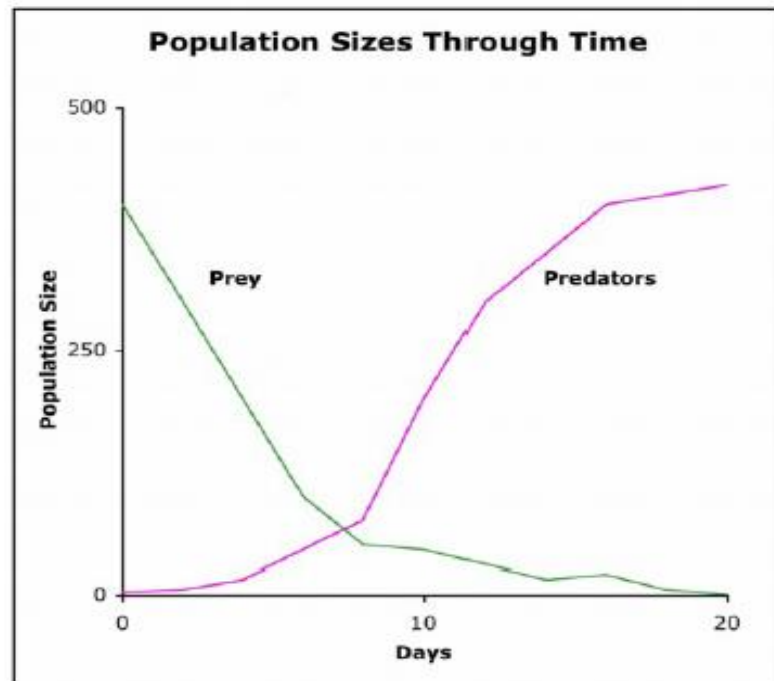
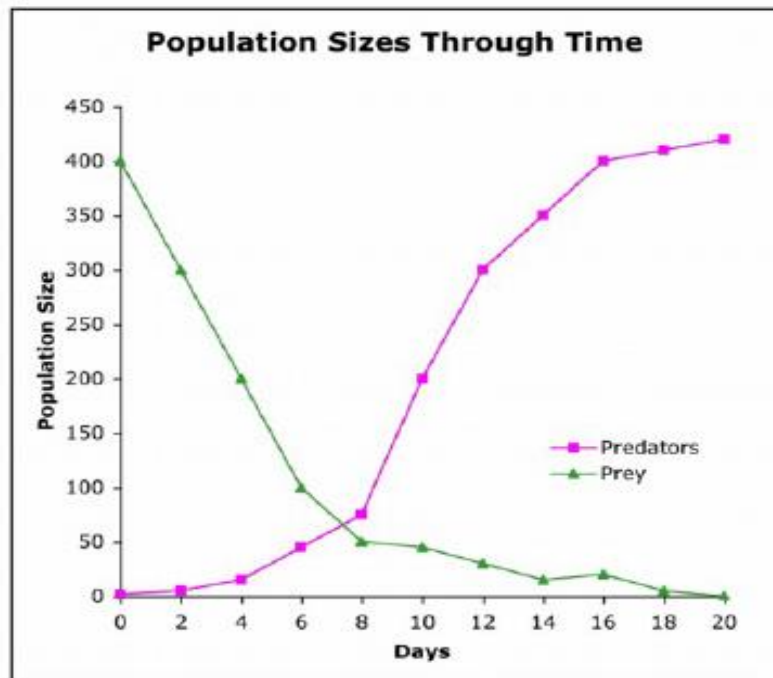


Start putting
together your
2 main elements

1) Simple, effective data displays

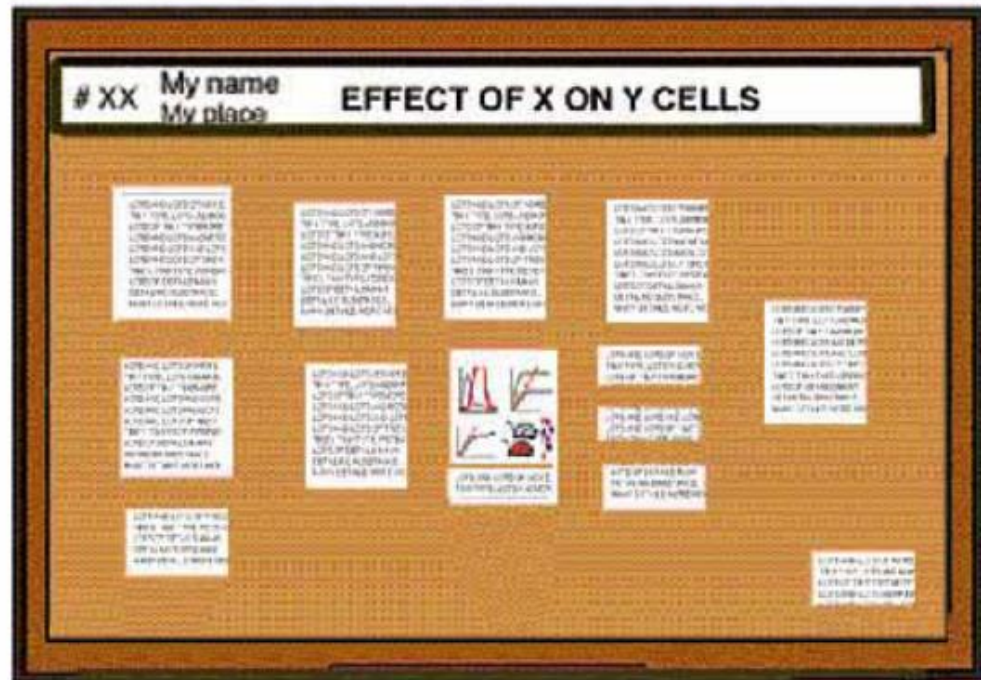
Don't make them stand on their heads to read your data!





2) Small blocks of supporting text

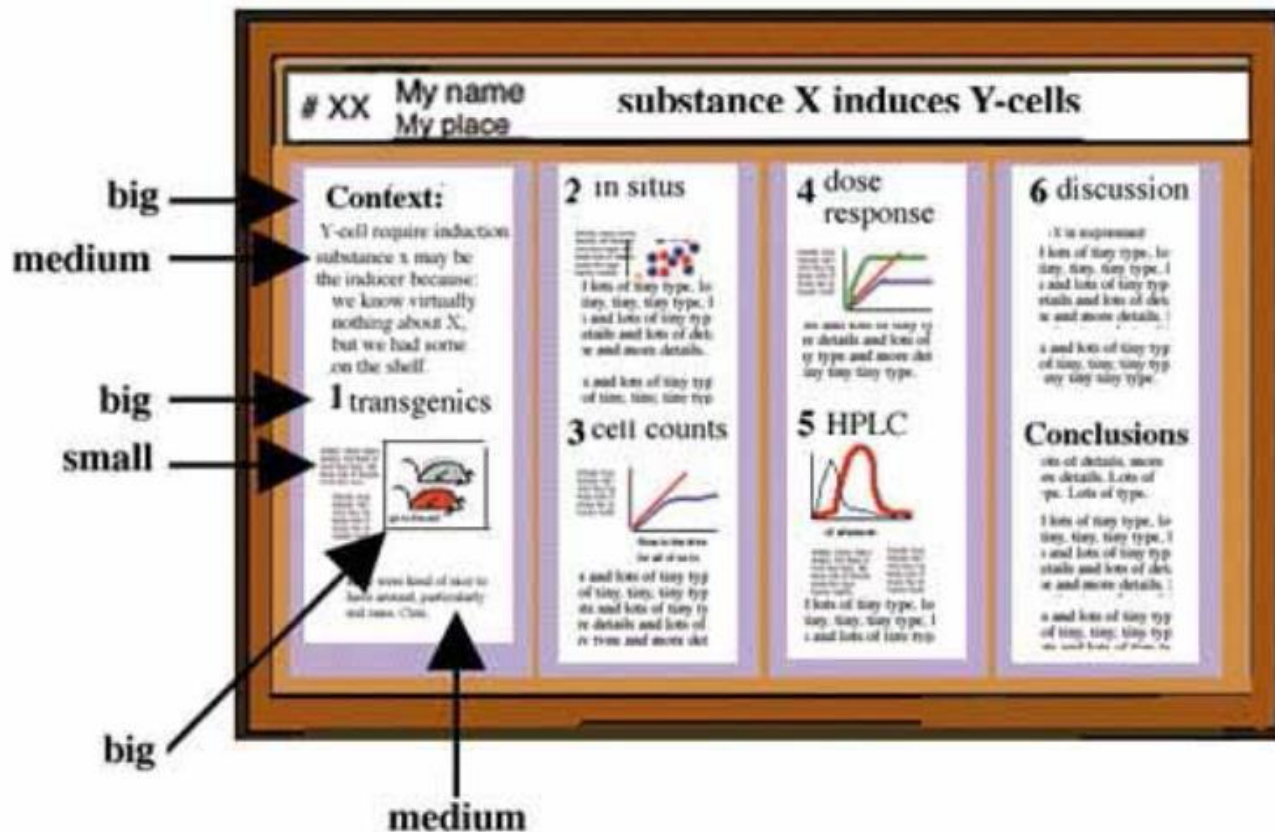
The need for
chairs in front
of your poster
will not go
over well

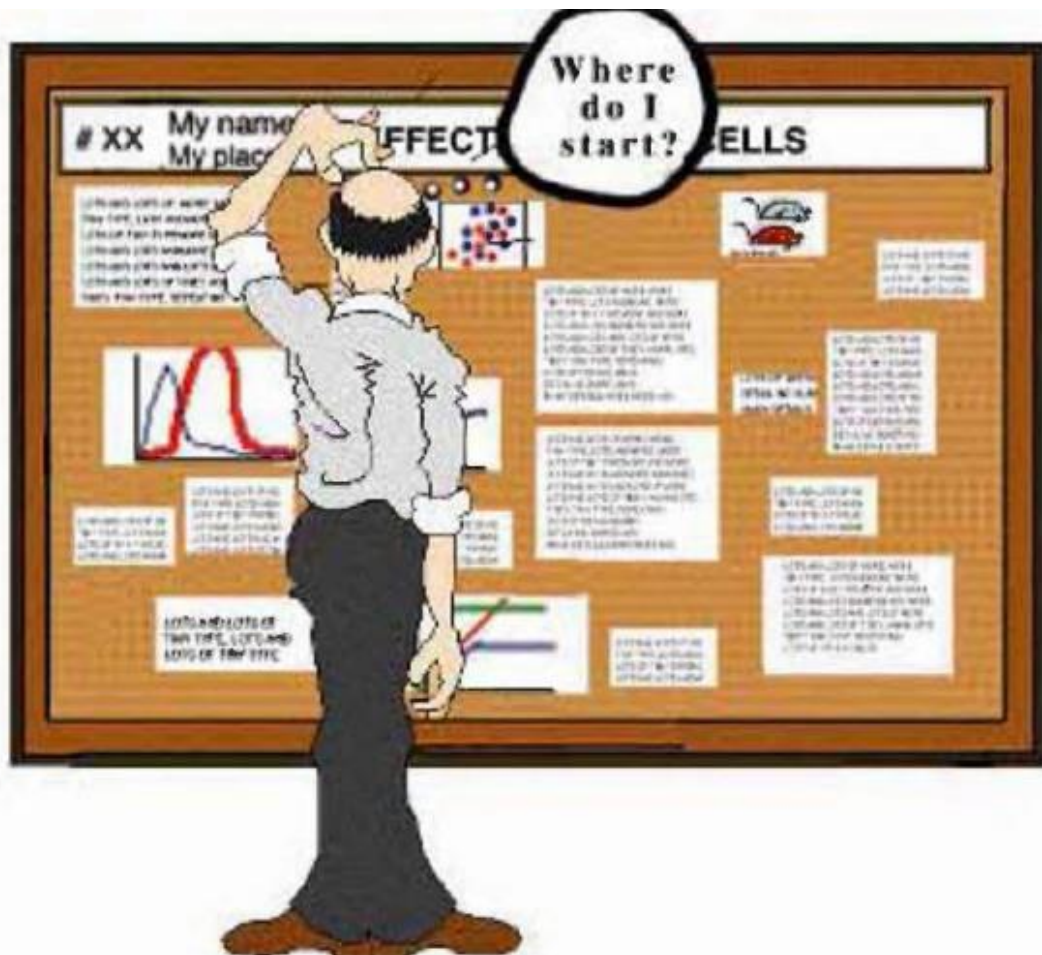


Your copy should answer...

# XX	My name My place	EFFECT OF X ON Y CELLS	
Why?	Methods?	What do I recommend?	
What am I adding?	What did I find?		

I could actually read this





Pick a software program

Although you'll probably gravitate towards PowerPoint,
consider a true design program.

PowerPoint



- OK, but the colors will fool you
- Easy to use
- Inflexible
- Designed for overhead projection

Adobe Illustrator or InDesign



- Excellent
- More difficult to learn
- What you see is what you get
- Others: Canvas, Publish-It, Corel Draw, LaTeX, etc.



Let's design a poster!

Your poster title:

Think BIG! Really Big!

Your biggest impact!

Boldface type

Not all caps!

Group authors
names and
affiliations

Poster title goes here, containing strictly only the essential number of words...

Author's Names Goes Here, Author's Name/s Goes Here, Author's Name/s Goes Here
Address/es Goes Here, Address/es Goes Here, Address/es Goes Here

Introduction

Results

Funding and Acknowledging

Abstract

Conclusions first!

- Put the most important part first!
- Short and to the point!
- Upper left hand corner

Your Ingenious Teaser Right Here to Woo Them Down to the Body

maximizing impact



Conclusions first: 44 pt bold

Always put the most important part – your conclusions – first! Place your conclusions in the upper left hand corner of your poster.

Prepare your material from the reader's perspective. What was done, by who and your conclusion has to be understood within a couple of seconds reading! Use a bold voice when writing the text. 10-12pt – 34 pt regular

Introduction

Posters are primarily visual presentations. Your poster should be dominated by self-explanatory illustrations such as graphs and pictures while the amount of text should be kept to the minimum.

Your aim

Your poster is an advertisement for your research and as such it needs to be eye-catching and straight to the point. You only have seconds, or at best a few minutes to attract the attention of the visitor to a poster session. Keep your message short and clear.

Your message

Keep your message clear and your text concise. Decide what is relevant for this poster and try to get your message across to your target group.

Layout, photos and print

Contact karlinska@karolinska.se at University Library for help with layout and design assistance. For printouts and professional photographs contact karlinska@karolinska.se. For more information www.karolinska.se/eng/visiting



Handouts

The best form for text blocks that are as short as possible on a poster is a Sans Serif typewriting. Therefore, use sans serif fonts such as Arial or Helvetica rather than serif fonts like Times or Courier.

Avoid capital letters in texts that are longer than one line, since they are more difficult to read.

Handouts


If you succeed in getting the reader's attention, provide her/him with more detailed information in the form of handouts or printed articles. Include references on your handout instead of your poster.



www.karolinska.se/eng/visiting



www.karolinska.se/eng/visiting

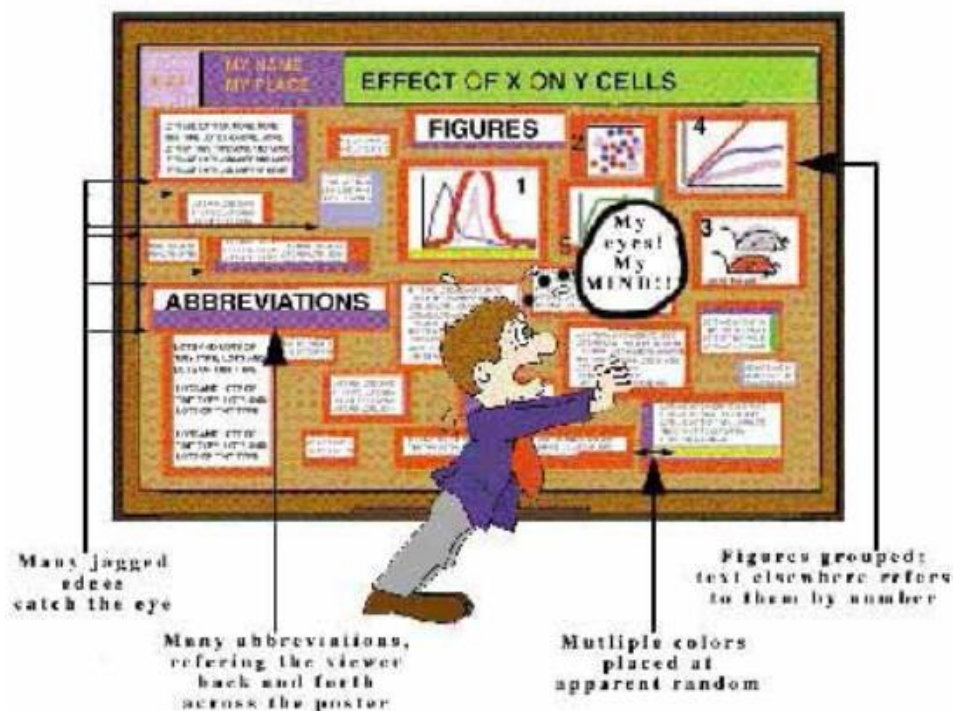


Event contact: design@karolinska.se
For more information: karlinska@karolinska.se

Help: karlinska@karolinska.se
For more information: karlinska@karolinska.se

Print: karlinska@karolinska.se
For more information: karlinska@karolinska.se

Easy for the eye to follow



Utter chaos
will make
folks dizzy!

XX My name
My place

substance X induces Y-cells

Context:

Y-cell require induction
substance x may be
the inducer because:
we know virtually
nothing about X,
but we had some
on the shelf.

1
lots and lots
lots of tiny
and lots of
more detail
tiny type is



tiny type, lot of type
tiny, tiny type, lots and
lots of tiny type. Detail
is and lots of details, most
all more details.

2

lots and lots
lots of tiny, tiny
and lots and lots
more details on
tiny type and
tiny tiny tiny
lot of type
lots and lots
Details a
tiny, more
s. Lots of



1 tiny type, lot of type
tiny type, lots and lots
of tiny type. Details and
lots of details, more
more details. Lots of
lots of type.

3

lots of details,
or details. Lots
Lots of type.



tiny type, lot of type
tiny type, lots and lots
of tiny type. Details and

4
lots of tiny type,
tiny, tiny, tiny type
and lots of tiny

of type
and lots
Details and



lots and lots of it
lots of tiny, tiny,
and lots and lots
more details and
tiny type and me
tiny tiny tiny type

5

lots of tiny
lots of tiny
lots of tiny



more details and lots of it
tiny type and more details
tiny tiny tiny type.

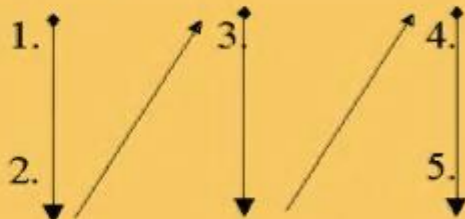
6

lots of type
lots and lots
Details and
lots of details, more
or details. Lots of
type. Lots of type.

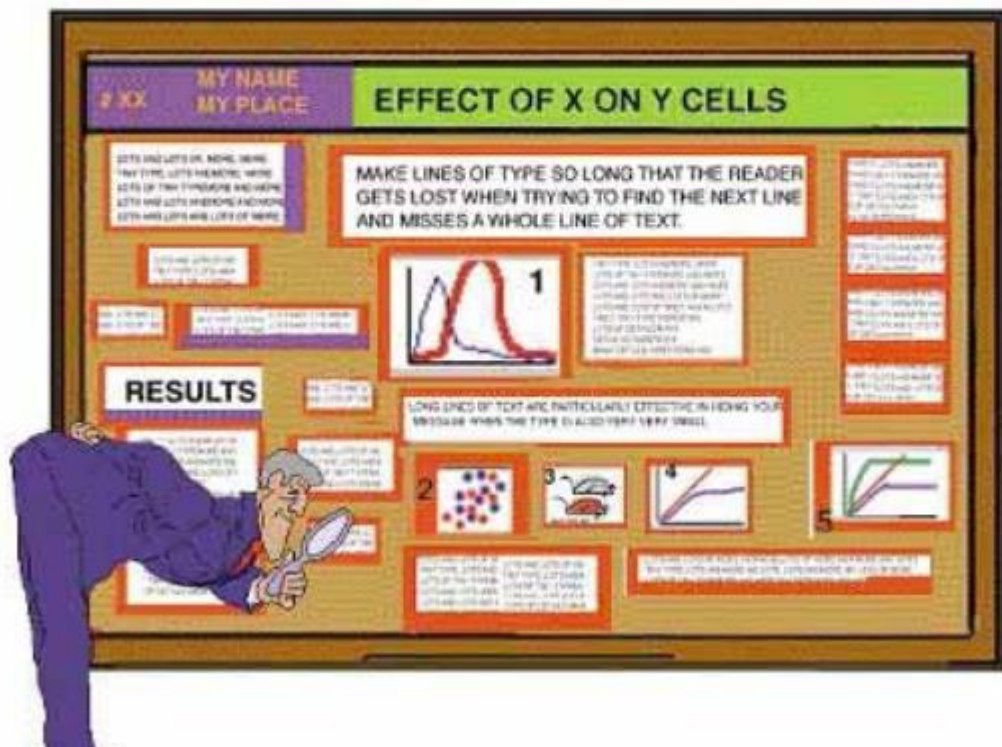
lots of tiny type, to
tiny, tiny, tiny type, I
s and lots of tiny type
stalls and lots of details
or and more details.

s and lots of tiny type
of tiny, tiny, tiny type
or and lots of tiny type
or details and lots of
tiny type and more details
tiny tiny tiny type.

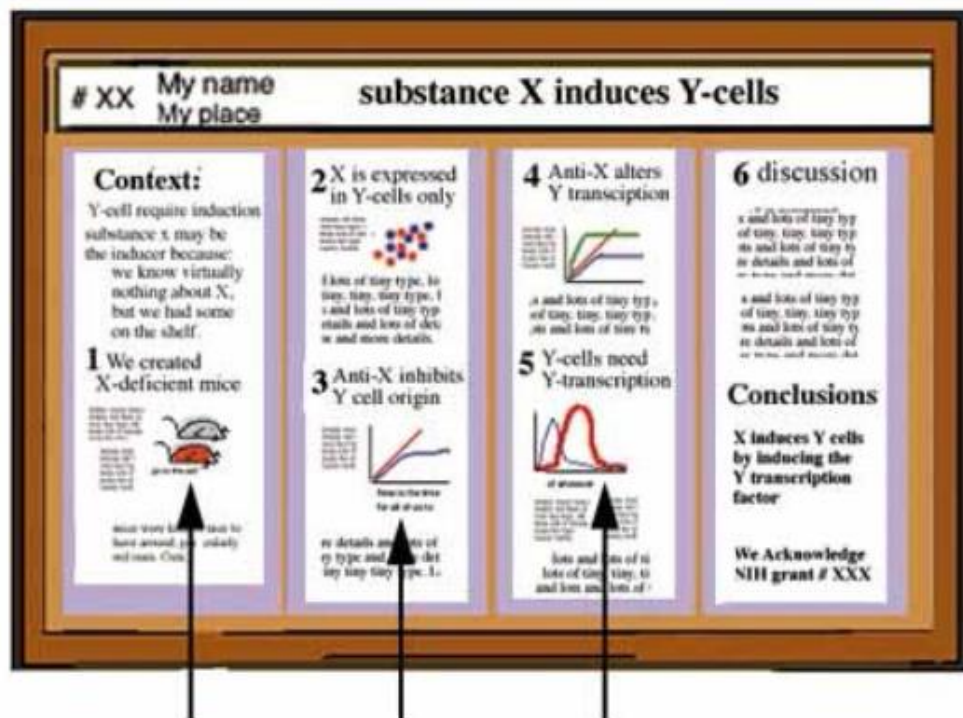
lots and lots of it
lots of tiny, tiny, to
and lots and lots of
more details and I
tiny type and me
tiny tiny tiny



Can anyone read your body text?



Images and graphs say much more than words



BIG figures that use color

Keep posters visual!

Southern Flounder Exhibit Temperature-Dependent Sex Determination

J. Adam Luckerbach*, John Godwin und Russell Boeski

Department of Zoology, Box 7517, North Carolina State University, Raleigh, NC 27695.



Introduction

Studies in flounder in *Paralichthys lethostigma* support valuable fisheries and show good promise for aquaculture. Female flounder are known to grow faster and reach larger adult sizes than males. Therefore, information on sex determination that might increase the ratio of female flounder is important for aquaculture.

Objective

This study was conducted to determine whether southern flounder exhibit temperature-dependent determination (TSD), and if growth is affected by rearing temperature.

Methods

- Feathered offspring blood samples were sent approved to collect eggs and sperm for *in vitro* fertilization
- Feathered larvae were reared from a natural diet (cornmeal-based) until high protein (protein-based) and fed until immature or adult before study
- Upon reaching a mean total length of 40 mm the juvenile fishlings were stocked at equal densities in one of three temperatures (5, 23, or 28°C) for 245 days
- Growth were preserved and later sectioned at 2-µm intervals
- Sex-differentiating markers were used to determine the sex of the experimental fish (from <http://www.elsevier.com/locate/yarab>)

Histological Analysis

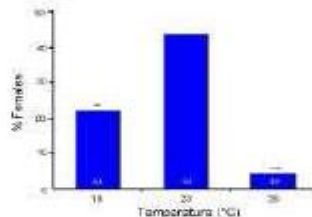


Math. 100

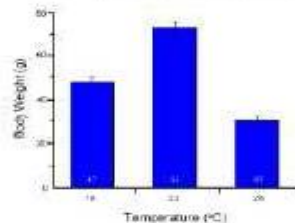


Keywords: self-esteem, self-esteem threat, self-esteem threat, self-esteem threat

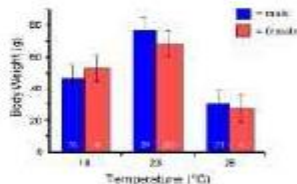
Temperature Affects Sex Determination

^{***}*P* < 0.001 and ^{***}*P* < 0.001 represent significant differences between 100 and 1 mole (male and female).

Rearing Temperature Affects Growth



Growth Does Not Differ by Sex



Results

- Sex was discernible in most fish greater than 120 mm long.
- High (28°C) temperature produced 8% females.
- Low (18°C) temperature produced 22% females.
- Mid range (23°C) temperature produced 40% females.
- Fish reared at high or low temperatures showed reduced growth compared to those at the mid range temperature.
- Up to 245 days, no differences in growth existed between sexes.

Conclusions

- These findings indicate that sex desertion in southern flounder is temperature-sensitive and temperature has a profound effect on growth.
- A mid-range rearing temperature (24°C) appears to maximize the number of females and promote better growth in young southern flounder.
- Although adult females are known to grow larger than males, no difference in growth between sexes occurred at any of the three southern flounder.

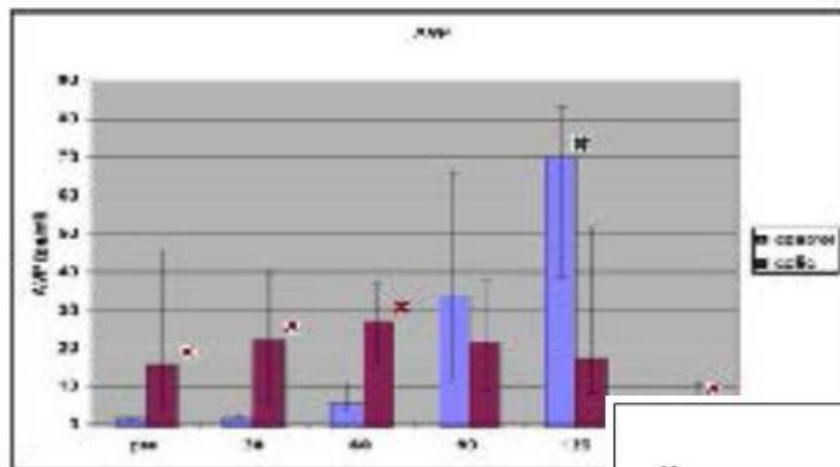
Acknowledgements

The authors acknowledge the (Scholarly) Research Program of the National Endowment for the Humanities, the University of North Carolina, the Christ College Program, for funding this research. Special thanks to Lisa Stein and her staff for her help with the work.

Picture perfect photos

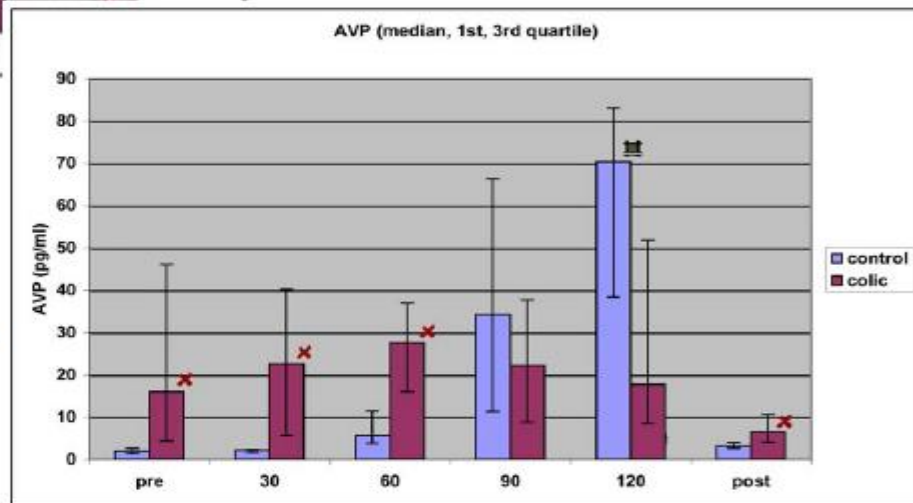
- Avoid resolution overkill!
At least 150 dpi, but no more than 300 dpi
- Save photos as jpg or png
Line art as a png (graphs)
- Web images are usually
poor resolution

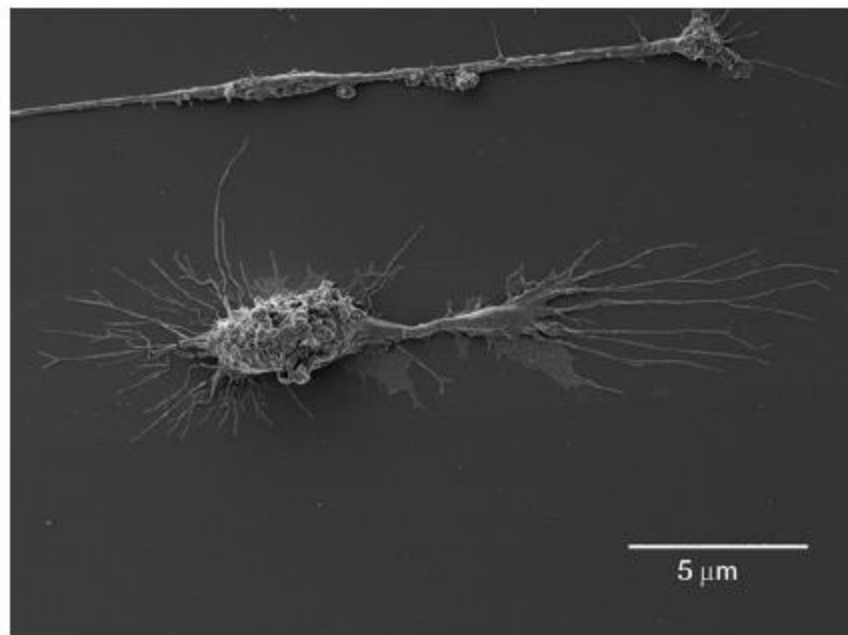




jpg

png

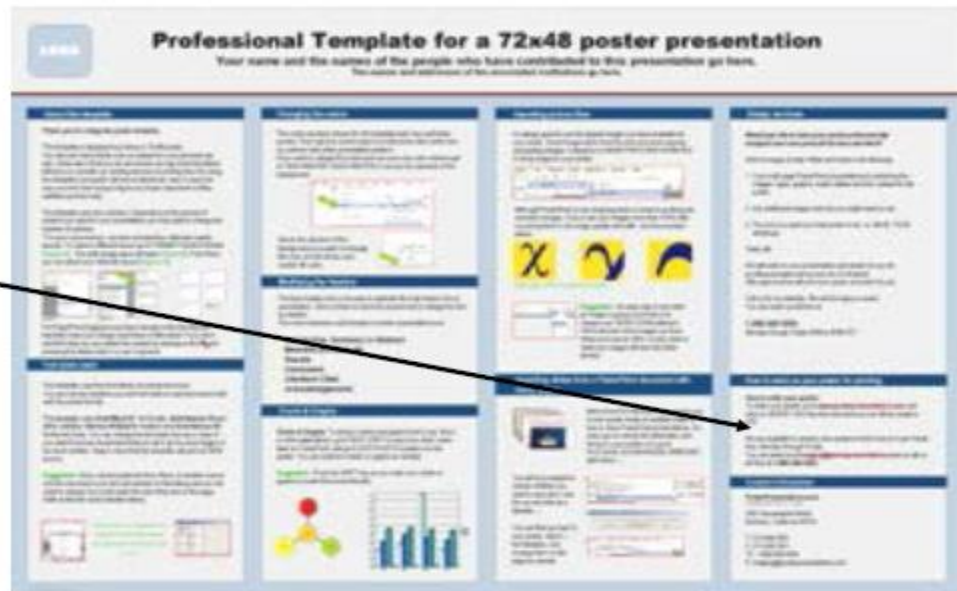




Your cool images
mean nothing
without a
scale bar or
description

Don't forget your funding acknowledgements

CNF-NSF-BMR, etc
Your department can provide you with the required wording



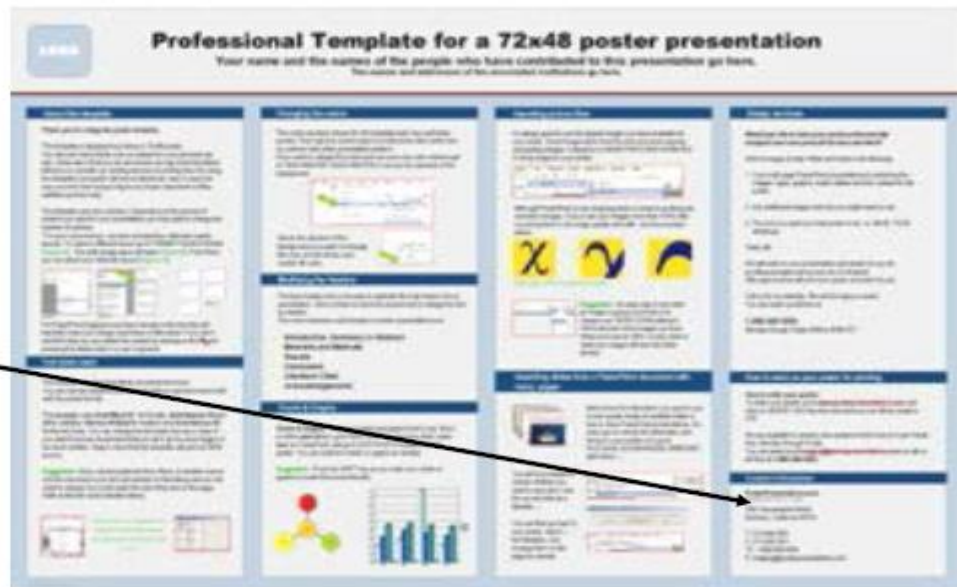
Your contact info!!!

Without it you' ll become

“ya know, those guys with the awesome poster”

Include all
contact info:

- Mail address
- Phone
- E-mail



Using color to engage your readers

2-3 colors, no more!

Dark type on
light color background

Poster title goes here, containing strictly only the essential number of words...

Author's Name/s Goes Here, Author's Name/s Goes Here, Author's Name/s Goes Here
Address/s Goes Here, Address/s Goes Here, Address/s Goes Here

Introduction

Placeholder text for the introduction section.

Method

Placeholder text for the method section.

Results

Placeholder text for the results section.

Discussion

Placeholder text for the discussion section.

Conclusion

Placeholder text for the conclusion section.

Acknowledgements

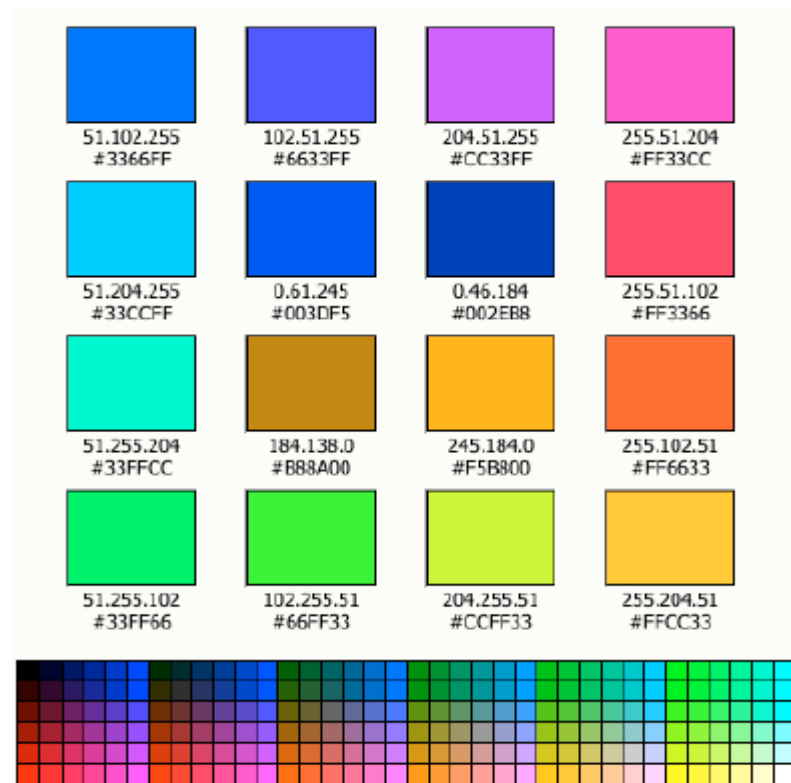
Placeholder text for the acknowledgements section.

Whoa! Where's my sunglasses?

[illegible]

This attracts attention but tires out the eye

Be careful with the primary colors



Blue on Red appears blurry to the human eye.

Yellow on white is hard to read

Red on Blue appears blurry to the human eye.



• aeiko



• Peach Green & Seeds



• Rust



• dollar



<http://www.colorschemer.com/online.html>

Be aware of busy backgrounds

NC STATE UNIVERSITY

Snook Growth in Habitats with Differing Abiotic Variability

Alesia Read, North Carolina State University, anread@unity.ncsu.edu



PROPOSED OBJECTIVE

To create a useful tool for assessing potential stocking habitats based on degree of variability in water quality.

- Snook are a popular game fish found in the estuarine creeks of Florida
- Snook population has been on the decline due to overfishing and habitat degradation
- Numerous stock enhancement endeavors are currently underway without sufficient preliminary research
- Abiotic variability is a prominent feature of these estuaries
- Temperature, dissolved oxygen and salinity might play influential roles in the survivorship of the juvenile snook

STUDY SITES



METHODS



1. Juvenile snook are placed in (fracturing) (100-200 mm) in the aquaculture facility



2. All snook are tagged with identifying markers for individual growth measurements



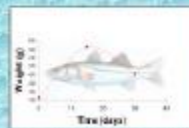
3. Fish are placed in cages within variable habitats at the research sites for 60 days



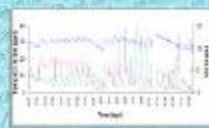
4. Fish are weighed and released for growth

RESULTS

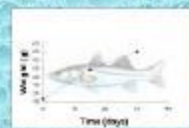
North Creek Lower (High Variability)



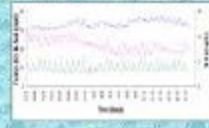
Negative Growth:
Dissolved Oxygen (mg/L)
0-22
Salinity (ppt)
2-21
Temp (°C)
25-34



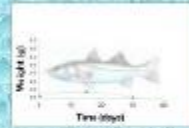
North Creek Middle (Medium Variability)



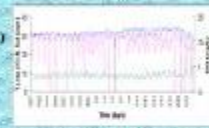
Positive Growth:
Dissolved Oxygen (mg/L)
0-8
Salinity (ppt)
16-25
Temp (°C)
30-35



North Creek Upper (Low Variability)



Slow Growth:
Dissolved Oxygen (mg/L)
0-4
Salinity (ppt)
16-20
Temp (°C)
26-35



Diss (mg/L) Sal (ppt) Temp (°C)

CONCLUSION

- Snook exhibit increased growth in habitats with a medium degree of abiotic variability
- Stock enhancement projects will be more efficient by releasing juvenile snook primarily in nursery habitats with a medium degree of abiotic variability

A little different!



Southern Flounder Exhibit Temperature-Dependent Sex Determination



J. Adam Luckenbach*, John Godwin and Russell Borski
 Department of Zoology, Box 7617, North Carolina State University, Raleigh, NC 27695

Introduction

Southern flounder (*Paralichthys lethostigma*) support valuable fisheries and show great promise for aquaculture. Female flounder are known to grow faster and reach larger adult sizes than males. Therefore, information on sex determination that might increase the ratio of female flounder is important for aquaculture.

Objective

This study was conducted to determine whether southern flounder exhibit temperature-dependent sex determination (TSD), and if growth is affected by rearing temperature.

Methods

- Southern flounder ~~eggs~~ were strip spawned to collect eggs and sperm for ~~in vitro~~ fertilization.
- Hatched larvae were reared from a natural diet (*Artemia*) to high protein gel-based feed and fed until saturation at least twice daily.
- Upon reaching a mean total length of 40 mm, the juvenile flounder were stocked at equal densities into one of three temperatures: 18, 23, or 28°C for 245 days.
- Gonads were preserved and later sectioned at 2-6 microns.
- Sex-distinguishing markers were used to distinguish males (prometagenesis) from females (~~metagenesis~~).

Histological Analysis

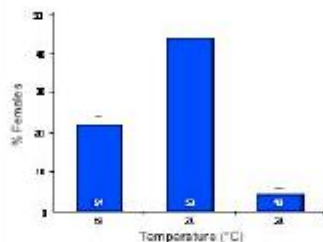


Male Gonadoblast



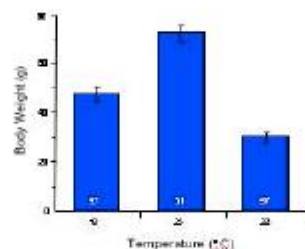
Female Oögonoblast

Temperature Affects Sex Determination

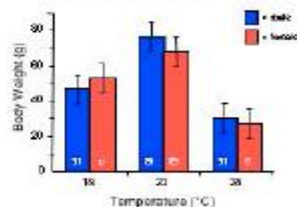


--- P < 0.05 and --- P < 0.001 represent significant deviations from 1:1 male:female sex ratio

Rearing Temperature Affects Growth



Growth Does Not Differ by Sex



Results

- Sex was discernible in most fish greater than 120 mm long.
- High (28°C) temperature produced 4% females.
- Low (18°C) temperature produced 22% females.
- Mid-range (23°C) temperature produced 44% females.
- Fish raised at high or low temperatures showed reduced growth compared to those at the mid-range temperature.
- Up to 245 days, no difference in growth existed between sexes.

Conclusions

- These findings indicate that sex determination in southern flounder is temperature-sensitive and temperature has a profound effect on growth.
- A mid-range rearing temperature (23°C) appears to maximize the number of females and promote better growth in young southern flounder.
- Although adult females are known to grow larger than males, no difference in growth between sexes occurred in age-0 (<1 year) southern flounder.

Acknowledgements

Funding provided by the National Science Foundation (NSF) and the North Carolina Sea Grant Program (NCSG) through the Sea Grant Program (NCSG) and the North Carolina Sea Grant Program (NCSG) and the North Carolina Sea Grant Program (NCSG).

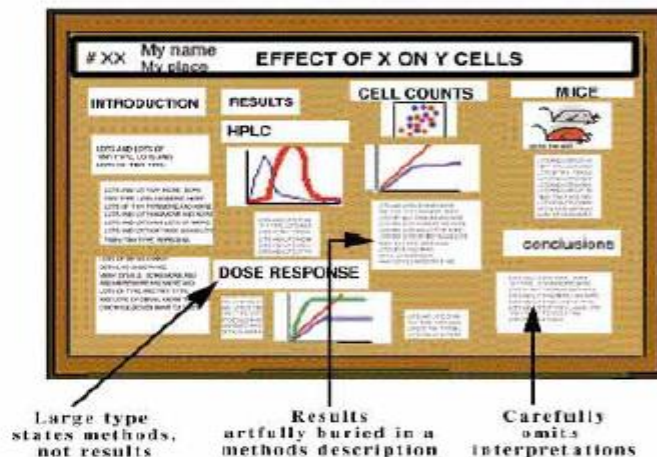
Print out a letter size draft

Can you read the type?

Are these the colors you really want?

Does it look too busy?

Do my main points pop?



Results

Carefully
omits
interpretations

CCMR has 2 poster printers!

Our wonderful computing facilities offers
state of the art poster printing



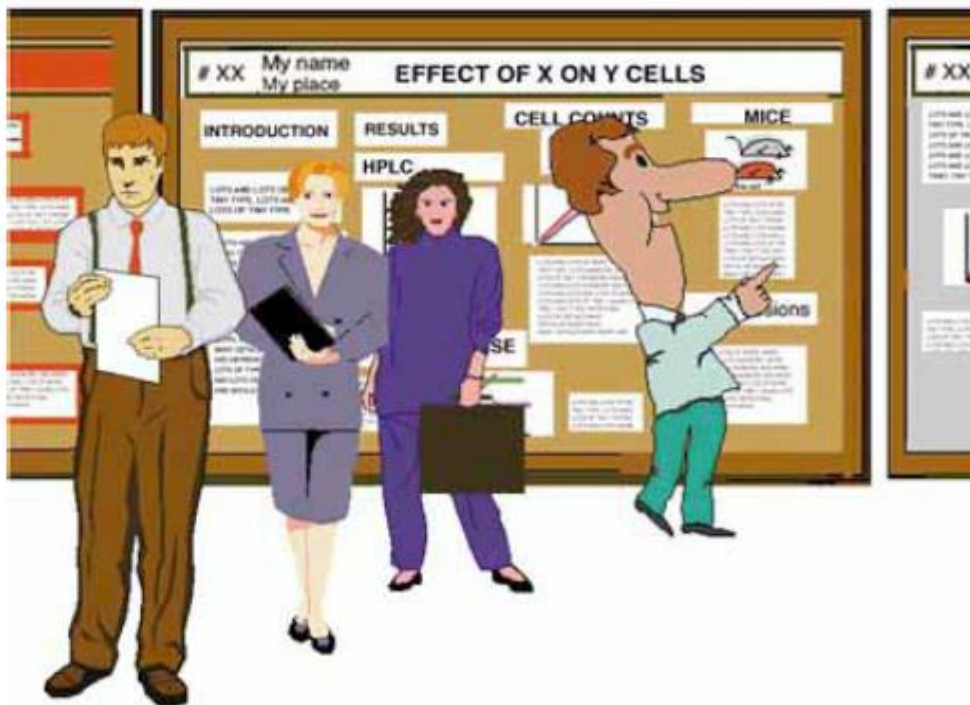
The secret of a good poster:
“Ugly design print ugly poster”

http://cf.ccmr.cornell.edu/cf_newsite/poster_print/index.html

You're not done yet...

Prepare a 3-5 minute verbal explanation

Is he ever
going to
SHUT UP???



Prepare mini size poster handouts



- Provides a written record for interested folks
- Makes you look together
- Be sure to include complete contact information
- Might even get you a job!

Examples

Using a Windbreak Habitat Model Across Broad Landscapes: The Effect of Local Landscape Composition and Geographic Location

George Hess¹, John Poulsen², Raymond O'Connor³, Jeff Bay¹

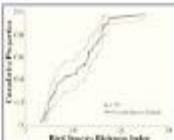
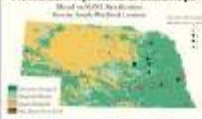
1. Windbreaks in Habitat

Windbreaks have a wide range of effects on wildlife, and are studied in order to understand the effects of wind on wildlife. Windbreaks can be natural or man-made, and can be studied in order to understand the effects of wind on wildlife. Windbreaks can be studied in order to understand the effects of wind on wildlife.

Windbreaks can be studied in order to understand the effects of wind on wildlife. Windbreaks can be studied in order to understand the effects of wind on wildlife. Windbreaks can be studied in order to understand the effects of wind on wildlife.

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- Windbreaks can be studied in order to understand the effects of wind on wildlife.

Nebraska Agricultural Landscape



3. Bird Species Richness Index

1. The Bird Species Richness Index (BSRI) is a measure of the number of bird species in a given area.
2. The BSRI is calculated by dividing the number of bird species by the number of habitats.
3. The BSRI is a measure of the number of bird species in a given area.
4. The BSRI is a measure of the number of bird species in a given area.

- The BSRI is a measure of the number of bird species in a given area.
- The BSRI is a measure of the number of bird species in a given area.
- The BSRI is a measure of the number of bird species in a given area.
- The BSRI is a measure of the number of bird species in a given area.

4. Validating BSRI Model

The BSRI model was validated by comparing the predicted values with the observed values.

The BSRI model was validated by comparing the predicted values with the observed values. The BSRI model was validated by comparing the predicted values with the observed values.

6. Failure of the Model

The BSRI model failed to predict the number of bird species in some areas. The BSRI model failed to predict the number of bird species in some areas.

The BSRI model failed to predict the number of bird species in some areas. The BSRI model failed to predict the number of bird species in some areas.

7. Local Landscape Scale Effects

The BSRI model failed to predict the number of bird species in some areas. The BSRI model failed to predict the number of bird species in some areas.

The BSRI model failed to predict the number of bird species in some areas. The BSRI model failed to predict the number of bird species in some areas.

8. Conclusions

1. The BSRI model failed to predict the number of bird species in some areas.
2. The BSRI model failed to predict the number of bird species in some areas.
3. The BSRI model failed to predict the number of bird species in some areas.
4. The BSRI model failed to predict the number of bird species in some areas.

Acknowledgements: This study was supported by the Nebraska Agricultural Experiment Station. The authors would like to thank the following people for their assistance: [names].

¹ South Carolina State University, Forestry Department, Milledgeville, SC
² University of Nebraska, Wildlife Management, Lincoln, NE
³ North Carolina State University, Wildlife Department, Raleigh, NC
⁴ South Carolina State University, Wildlife Department, Milledgeville, SC



A bit text heavy
but not too bad.



George How¹, Anne Bellkamp², Mike Munster³, Steve Peck³, Les Campbell¹, Betty McQuaid⁴, Steve Shafer^{3,5}

Mission. To develop indicators of the condition of agricultural lands within an ecological framework, and to monitor and evaluate this condition on a regional basis.



Sustainable Agriculture has been defined
defined and described in various ways.

Continued tables in front and inside back cover, continue next and page facing. *Continued* 4. (Through New American) are considered and 1 may be assumed subsequently.

It can often be argued that the focus on the economic aspects of sustainability



Purple plague ravages an agricultural health has
not the attention of politicians even in Britain.

After physical assessment, to conduct a quiz for the large language and sentence features in concrete or provision. These include *what is and more, which, lastly, and architecturally growing language*.

The ecological condition of agricultural land is defined by its productivity and the degree to which natural flora and fauna prosper, are preserved, and

Agricultural land is paid according to production and does not incorporate natural resources. Irrigation is also subject to demand and limited resources.



Indicators were selected to reflect crop productivity and land ownership.

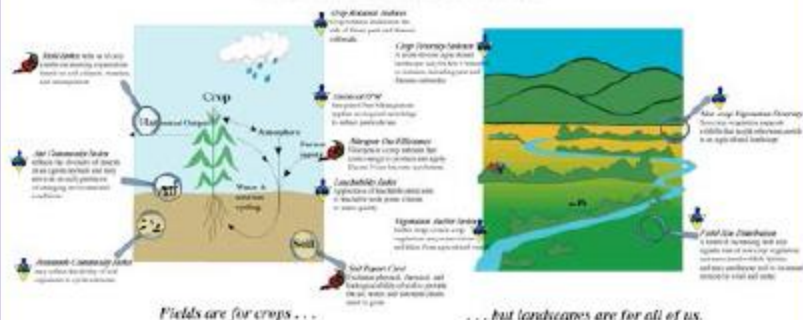
in making an investment, investors is reported in each column. As with conditions may also be reported, but depends directly on the nature of the policy of the investment bank.

The personally, yet less scientific trend to stop producing and marketing products.

Potential Indicators for Annually Harvested Herbaceous Cropland

but a striking parallel is obvious to students who identify an underlying metaphor for *morally corrupt behavior* (aphor 1). And placed with steps that are numbered *every* four whether the phrase is moral or personal. (Students sometimes confuse what is moral, what is not, what is and what is not.)

We also intend to implement other low-budget, existing efforts. One important network is *Arabic*, a highly respected address list in the Arab world promoting efforts. For example, an annual address could be developed and the UN's United Nations Development Program (UNDP) could be used.



Fields are for crops . . .

... but landscapes are for all of us.

[illegible]

1. North Carolina State University, Forester Department, Raleigh NC.
2. Duke University Medical Center, Durham NC.
3. North Carolina State University, Department of Plant Pathology, Raleigh NC.
4. USDA National Wildlife Research Service, Raleigh NC.
5. USDA Agricultural Research Service, Raleigh NC.

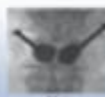


Where do I
begin?

Steven R. Garber, M.D., Isaac R. Lachman, M.D., Mark A. Roney, M.D., Joseph W. Lane, M.D., Pierre W. Phillips, M.D., Halbert S. Matthews, M.D., Harriet A. Year, M.D., Barton H. Sachs, M.D., for the Psychoplasty Study Group

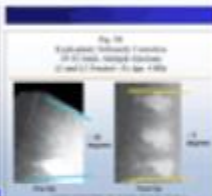
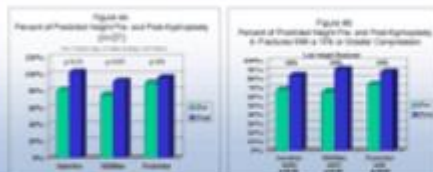
- 350,000 (2.5% per year)
- 275,000 diagnosed, 160% rise in pain
- Spinal deformity associated with
 - Significant disability
 - 22% associated mortality (Spine, Ann Int Med 1998)
- Current treatments ineffective
 - Open surgeries fail
 - Medical management palliative
- Unmet needs
 - Minimal transoperative current SO
 - Reduced pain
 - Reduced high pressure and nursing demand
 - High rate of current failure
 - Up to 73% where documented (Hoff et al., Radiology 1997)
 - Major complications (Chow, J Int Neurosurg 1995)
 - 1.3% in retroperitoneum
 - 0.6% in retrocranium

completing a 10-minutely event. The inflating procedure for individualized lying gaited artificial body compression bandages secondary to the inflation of the bandage is shown in Figure 2. The inflation pressure (in mmHg) is measured into the bandaged extremity, generally using a manual sphygmomanometer (Figure 2). The subject carefully inflates the bandage target (Fig. 2) using continuous manual contact with the inflation and pressure control. The inflated target lying volume corresponds the target inflation point as 4 points the bandaged area (inflated target) back into its normal position. The inflation point is also controlled by placement, volume and inflation device. After inflation, the inflation target is lowered, and the subject and in their own back (HBM) are given more control and less pressure. The shape of the bandage is illustrated in Figure 2.



A retrospective multi-center study to assess early outcomes with Kyphoplasty. Pain was measured by physical examination. The presence of nerve root deficits and collapse of vertebral bodies were noted. Data were analyzed using Fisher's exact test. Mean age, number of levels and patient status. The first 125 patients at our centers were assessed to characterize their back pain as improved, the same or worse 24 hours post-op and at last follow-up. Pre-treatment and baseline normal vertebral body heights were measured anterior, middle and posterior in the first 27 vertebral body fractures treated by one surgeon (MM). The height of the nearest normal vertebral body was used to calculate the % of pre-treatment height for all the vertebral bodies (Fig. 4A) and for the sub-set where only had less than 10% or more of height before treatment (Fig. 4B).

The pre-treatment height was subtracted from the predicted height, then divided by the post-treatment height subtracted from the predicted height, to find the percentage of total height restored. One set of X-rays by one surgeon (JMP) are used to show an example height restoration (Fig. 5b) and deformity correction (Fig. 5b). Correlation-related major complications from all procedures are reported. All cases in the first 70 procedures performed by one surgeon (JLS) were assessed with X-rays and MRI.



4071 Analysis (cont'd) Table 3
 Average (Median) age: 46 (44) years
 Range: 20 (46) to 63 (65) years
 All operations
 Operations (per Table 2):
 Average (Median) duration: 177 (160) min
 Average (Median) blood loss: 1500 (1000) ml
 Average (Median) intraoperative events: 1 (range 0-10) s
 Mean (SD) postoperative pain score:
 Mean (Median) score:
 97% reported pain management on arrival
 85% satisfaction of length of stay: 40 (40) to 50
 56% satisfaction of quality of patient care
 100% patient satisfaction with consultation
 4 (satisfaction)
 1 (satisfaction)
 1 (satisfaction)
 1 (satisfaction)

Keywords: Cervical dystonia; Botulinum toxin; Spontaneous remission; Pain management



OK, but
which way
do I go?

A Large-Scale Public Library Renovation in Taiwan



A Large-Scale Public Library Renovation in Taiwan

Library Association of R.O.C.
National Tsinghua University of Science

ABSTRACT

There are 321 public libraries, including university and college public libraries, in Taiwan. In 2003, the central government of Taiwan approved a budget of NT\$1.5 billion (US\$ 4 million) to a large-scale public library renovation project in 321 public libraries.

In order to upgrade the quality of public library services in Taiwan to meet years reach and to fully library learning, in 2003, the central government of Taiwan approved a budget of NT\$1.5 billion (US\$ 4 million) to a large-scale public library renovation project in 321 public libraries.

National Tsinghua University was designated as coordinate library to execute the project from February 2003 to June 2004. 321 public libraries were divided into eight groups according to the geographical area, and a steering committee was formed, consisting 78 committee members from the fields of library and education, science, architecture, urban design, literature, and history. 78 committee members were assigned to one of eight groups of 321 public libraries to help and to give suggestions of renovation, improvement, replacement, service programs of each library.

The project was executed and completed efficiently and effectively in June 2004. This poster presentation will display the results of the renovation, improvement, replacement, library management, and services of 321 public libraries in Taiwan. The contents of this poster will be explained by words, pictures, and statistical tables.

Keywords: Public Libraries,
<http://www.ntl.gov.tw>



Background

NTL has been planning to upgrade various public libraries in order to improve the quality of public library services in Taiwan to meet years reach and to fully library learning, in 2003, the central government of Taiwan approved a budget of NT\$1.5 billion (US\$ 4 million) to a large-scale public library renovation project in 321 public libraries.

Figure 1: Number of libraries in each administrative level involved in the renovation project



Figure 2: Number of Public Libraries in Taiwan

Category	Number	Ratio	Count	Ratio	Count	Ratio	Count	Ratio	Count	Ratio
University	1	0.31%	1	0.31%	1	0.31%	1	0.31%	1	0.31%
College	1	0.31%	1	0.31%	1	0.31%	1	0.31%	1	0.31%
Public	1	0.31%	1	0.31%	1	0.31%	1	0.31%	1	0.31%
Total	3	0.92%	3	0.92%	3	0.92%	3	0.92%	3	0.92%

Figure 3: Number of Public Libraries in Taiwan



Objectives

The objectives of this project are to upgrade the quality of public library services in Taiwan to meet years reach and to fully library learning, in 2003, the central government of Taiwan approved a budget of NT\$1.5 billion (US\$ 4 million) to a large-scale public library renovation project in 321 public libraries.

Background/History of the Project

The project was executed and completed efficiently and effectively in June 2004. This poster presentation will display the results of the renovation, improvement, replacement, library management, and services of 321 public libraries in Taiwan. The contents of this poster will be explained by words, pictures, and statistical tables.

Results and Data

The project was executed and completed efficiently and effectively in June 2004. This poster presentation will display the results of the renovation, improvement, replacement, library management, and services of 321 public libraries in Taiwan. The contents of this poster will be explained by words, pictures, and statistical tables.

Figure 4: Number of Public Libraries in Taiwan

The objectives of this project are to upgrade the quality of public library services in Taiwan to meet years reach and to fully library learning, in 2003, the central government of Taiwan approved a budget of NT\$1.5 billion (US\$ 4 million) to a large-scale public library renovation project in 321 public libraries.

Figure 5: Number of Public Libraries in Taiwan



Figure 6: Number of Public Libraries in Taiwan



How to promote the project



Figure 7: Number of Public Libraries in Taiwan

The objectives of this project are to upgrade the quality of public library services in Taiwan to meet years reach and to fully library learning, in 2003, the central government of Taiwan approved a budget of NT\$1.5 billion (US\$ 4 million) to a large-scale public library renovation project in 321 public libraries.

Figure 8: Number of Public Libraries in Taiwan



Figure 9: Number of Public Libraries in Taiwan



Oh my gawd!

Fusing ¹⁸FDG-hybrid PET To CT Images Significantly Alters Treatment Planning In The Radical Treatment Of Non-Small Cell Lung Carcinoma

Y.C. Ung, MD, C.D. Caldwell, PhD,¹ K. Mah, M.Sc., C.J. Desrosiers, MD, J.M. Balogh, MD, S.N. Ganguli, MD,² R.G. Tsema, B.Sc., and J.E. Hiebel, MD³

Toronto-Sunnybrook Regional Cancer Centre, Sunnybrook and Women's College Health Sciences Centre,¹ and University of Toronto, Toronto, CANADA



Abstract

Advances in cancer care have led to a need for better methods of assessing disease extent and response to therapy. PET/CT imaging offers a unique opportunity to combine the strengths of PET and CT. PET/CT imaging offers a unique opportunity to combine the strengths of PET and CT. PET/CT imaging offers a unique opportunity to combine the strengths of PET and CT.

Problem

Local control with radical radiation therapy for non-small cell lung carcinoma (NSCLC) is often poor. There is a need for better methods of assessing disease extent and response to therapy. PET/CT imaging offers a unique opportunity to combine the strengths of PET and CT. PET/CT imaging offers a unique opportunity to combine the strengths of PET and CT.

Potential of ¹⁸FDG-Hybrid PET for Radiation Therapy Planning

¹⁸Fluorodeoxyglucose (FDG) is a glucose analogue that is widely used in PET imaging. Many tumours have an increased uptake of FDG, and this property is used to detect and stage cancer. PET/CT imaging offers a unique opportunity to combine the strengths of PET and CT. PET/CT imaging offers a unique opportunity to combine the strengths of PET and CT.



Figure 1. PET/CT scan showing a lung lesion with increased FDG uptake.

Study Objective: To determine the impact of integrating ¹⁸FDG-hybrid PET images with CT planning images on treatment planning of patients with NSCLC.

Prospective Study Design

Imaging: In treatment position and same day

- FDG-hybrid PET
 - 1. Minimum 1 hour before CT
 - 2. 4-6 MBq ¹⁸F-FDG injected
 - 3. 15-20 min rest
 - 4. 10-15 min CT scan
 - 5. 10-15 min PET scan
 - 6. 10-15 min PET/CT scan
- CT simulation
 - 1. 15-20 min rest
 - 2. 10-15 min CT scan
 - 3. 10-15 min PET scan
 - 4. 10-15 min PET/CT scan

Patient Selection

- confirmed for radical radiation therapy
- able to be in treatment position for 30 min
- no prior radiation therapy
- no prior chemotherapy
- no prior surgery
- no prior PET/CT scan

Treatment Planning

- CT simulation using CT only and then with FDG PET/CT
- PET/CT images used for PTV definition
- PET/CT images used for PTV definition
- PET/CT images used for PTV definition
- PET/CT images used for PTV definition

The CT and PET/CT images were co-registered using a 3D rigid body translation, rotation, and scale algorithm. The registration was evaluated using a composite deviation of less than 1 mm.

Impact of FDG-hybrid PET on Patient Management

- In 526 (77%) patients, radiation therapy was changed from initial to palliative intent.



Impact of Co-registered FDG-hybrid PET on PTV Coverage

- In 375 (71%) patients, the volume of PTV coverage meeting at least 95% of the prescribed dose with the CT only based plan was less than 95%.



Figure 2. PET/CT scan showing a lung lesion with increased FDG uptake.



Figure 3. Percentage of PTV coverage meeting at least 95% of the prescribed dose with the CT only based plan.

Impact of FDG-hybrid PET on Spinal Cord Dose

- In 375 (71%) patients, the maximum cord dose was reduced by more than 20% with CT PET/CT data.



Figure 4. Maximum cord dose with CT only and CT PET/CT data.

Discussion

The impact of integrating ¹⁸FDG-hybrid PET with CT simulation was assessed in terms of patient management. PET/CT imaging and simulation were compared with CT only for the purpose of radiation therapy planning. PET/CT imaging and simulation were compared with CT only for the purpose of radiation therapy planning.

Conclusions

The findings of ¹⁸FDG-hybrid PET imaging in CT planning suggest that PET/CT imaging and simulation were compared with CT only for the purpose of radiation therapy planning.

The findings of ¹⁸FDG-hybrid PET imaging in CT planning suggest that PET/CT imaging and simulation were compared with CT only for the purpose of radiation therapy planning.



I've fallen,
and I can't get up



Karolinska
Institutet

Your Ingenious Teaser Right Here to Woo Them Down to the Body

Theme of the conference

Conclusions first: 44 pt bold

Always put the most important part - your conclusions - first! Place your conclusions in the upper left hand corner of your poster.

Prepare your material from the reader's perspective. What was done, by who, and your conclusion has to be understood within a couple of second's reading! Use active voice when writing the text. **Fontsize: 34 pt regular**



3D model of a human brain
Image credit: iStockphoto

Introduction

Posters are primarily visual presentations. Your poster should be dominated by self-explanatory illustrations such as graphs and pictures while the amount of text should be kept to the minimum.

Your aim

Your poster is an advertisement for your research and as such it needs to be eye-catching and straight to the point. You only have seconds, or at best a few minutes to attract the attention of the visitor to a poster session. Keep your message short and clear.

Your message

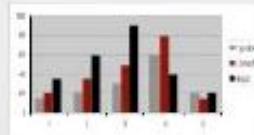
Keep your message clear and your text concise. Decide what is relevant for this poster and try to get your message across to your target group.

Layout, photos and print

Contact Media@karolinska.se at University Library for help with layout and image enhancement. For printouts and professional photographers contact Print@karolinska.se. For more information: www.karolinska.se/press



Always include descriptive captions



Always include descriptive captions

Tips:

The best font for text blocks that are as short as they should be on a poster is a Sans Serif typeface family. Therefore use sans serif fonts such as Arial or Helvetica sans, rather than serif fonts like Times or Courier. AVOID CAPITAL LETTERS IN TEXTS THAT ARE LONGER THAN ONE LINE, SINCE THEY ARE MORE DIFFICULT TO READ.

Handouts

If you succeed in getting the reader's attention, provide them with more detailed information in the form of handouts or printed articles. Include references on your handout instead of your poster.

It is always nice to put in a picture and while some few short notes of what's going on in the future. Put handouts, business cards, nearby - on a table or in an envelope hung with the poster.



Gorgeous!

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LESSONS LEARNED FROM AIRWAY PRESSURE RELEASE VENTILATION (APRV)

Lentini J, Kaplan, MD^{1,2}, Heatherlee Bailey, MD, FFAEMPI¹

¹Medical College of Pennsylvania-Hahnemann University

²Departments of Surgery¹ and Emergency Medicine², Philadelphia, PA USA

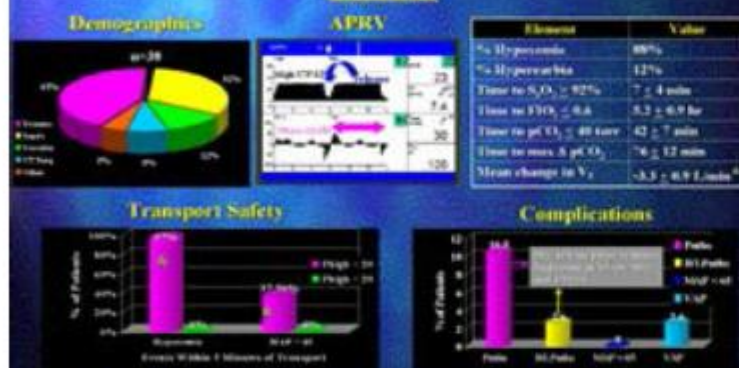
INTRODUCTION

Airway Pressure Release Ventilation (APRV) (a.k.a. BiPAP) has been previously demonstrated to be a useful modality to manage patients with acute lung injury (ALI) or the acute respiratory distress syndrome (ARDS). As this is a fundamentally different mode than conventional cyclic ventilation, we reviewed a single institution's experience with APRV to determine safety, efficacy of use detection, and efficacy at resolving hypoxemia and hypercarbia.

METHODS

Consecutive patients transitioned from either volume or pressure targeted ventilation to APRV (Dräger E30) 4 Pulmonary Wackatrons at a University hospital surgical ICU were retrospectively reviewed. Patients initially ventilated with APRV were excluded. Initial APRV settings to achieve $\text{pO}_2 \geq 60$ torr on $\text{FIO}_2 \geq 0.5$ were a P_{high} at the prior plateau pressure ± 2 cmH₂O and a T_{low} of 0.5 sec. Hypercarbia ($\text{pCO}_2 \geq 55$ torr and $\text{pH} \leq 7.3$) patients were set at a T_{high} of 5.0 sec and a T_{low} of 1.0 sec. Settings were adjusted to resolve hypoxemia and hypercarbia. IRB approved abstracted data included principal diagnoses, ventilation parameters, laboratory values and ventilator associated complications. Data before and after APRV were compared using a two-tailed paired t-test or Chi-square as appropriate; significance was assumed for $p < 0.05$ (¹).

RESULTS



CONCLUSIONS

1. APRV is a safe rescue mode for hypoxemic or hypercarbic respiratory failure and requires a significantly lower V_T than conventional ventilation.
2. Decreasing release phase volumes and a rising pCO_2 are strong indicators of pneumothorax in a patient on APRV. Routine end-tidal CO_2 monitoring is recommended.
3. Preparation for safe intra-hospital transport may be keyed to the P_{max} required for oxygenation and ventilation. Patients requiring a $\text{P}_{\text{max}} > 20$ cm H₂O should be transported on the ventilator.



Welcome to
the 80's
Fer sure!

This works!

“If it dies, it’s biology, if it blows up, it’s chemistry,
if it doesn’t work, it’s physics.”

JOHN WILKES