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.

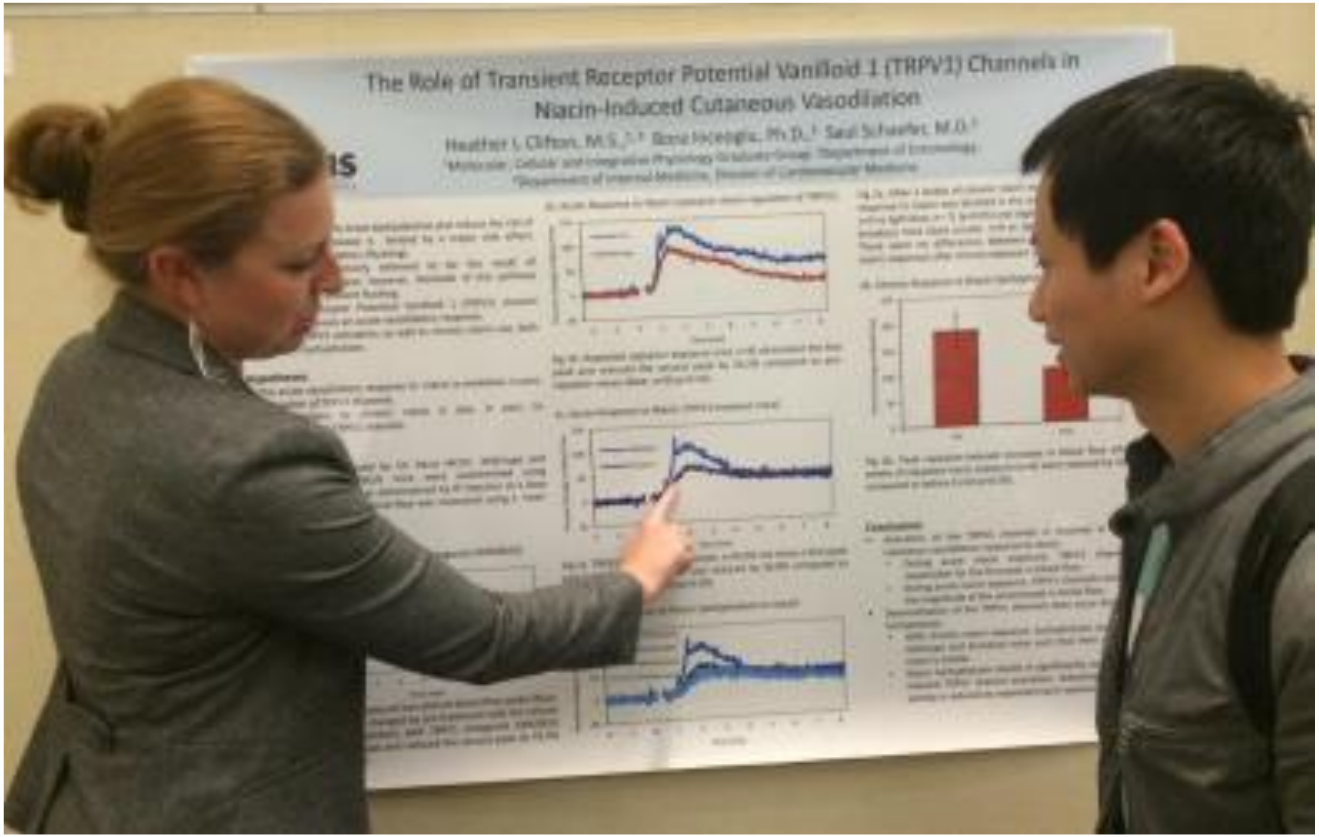
Periodically remind yourself about the fundamentals of science and about successful communication.

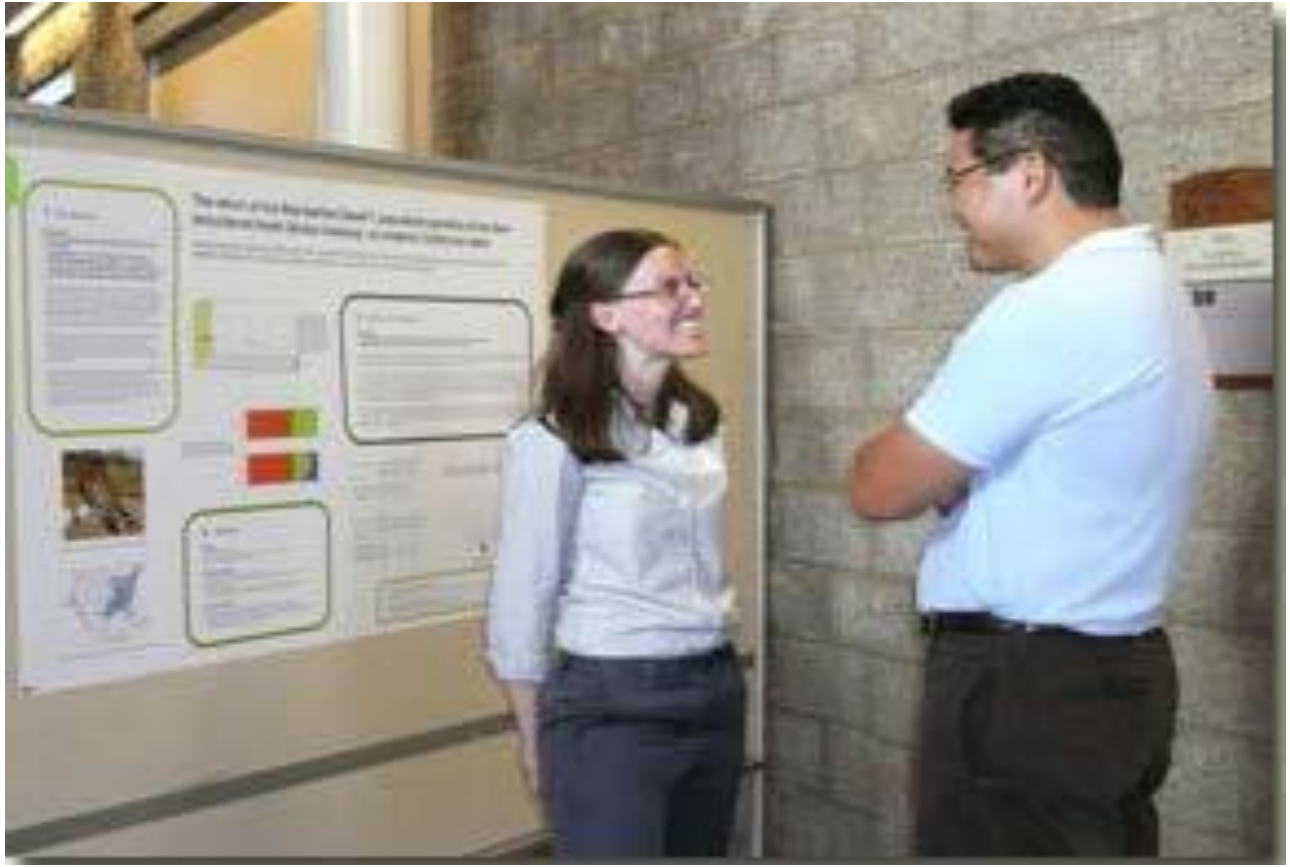
THE CHRONICLE OF HIGHER EDUCATION A.J. TOOS

"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



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

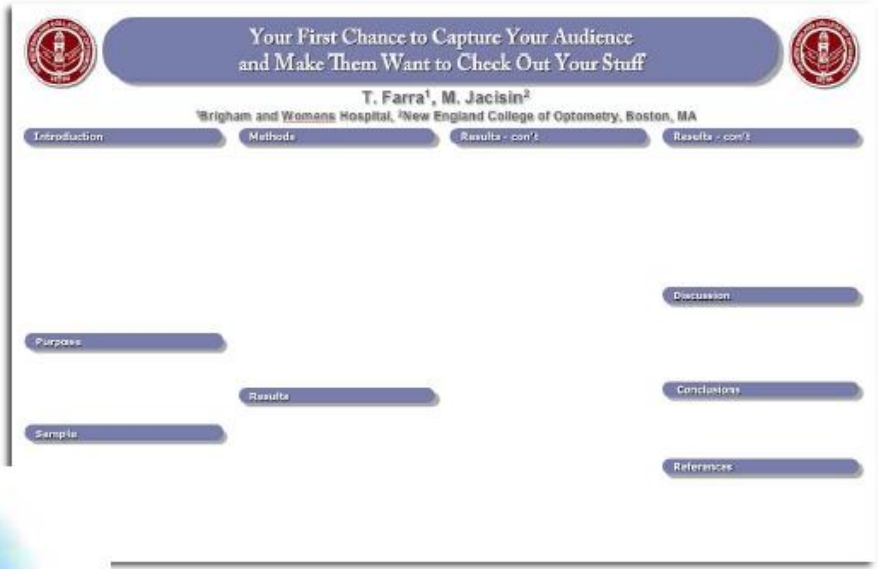
Rule 8: Content Is Important, but Keep It Concise

Rule 9: Posters Should Have Your Personality

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

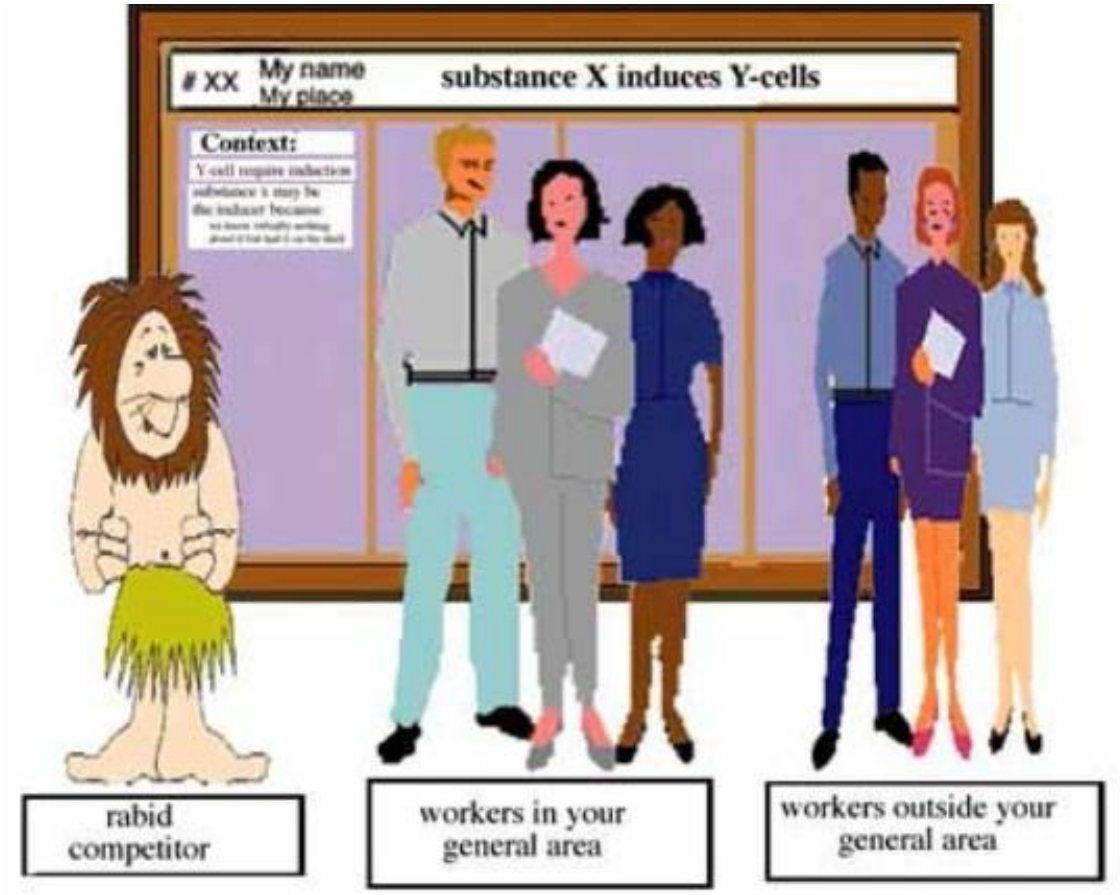
Practical work for Poster Development

Simplify your paper into poster format

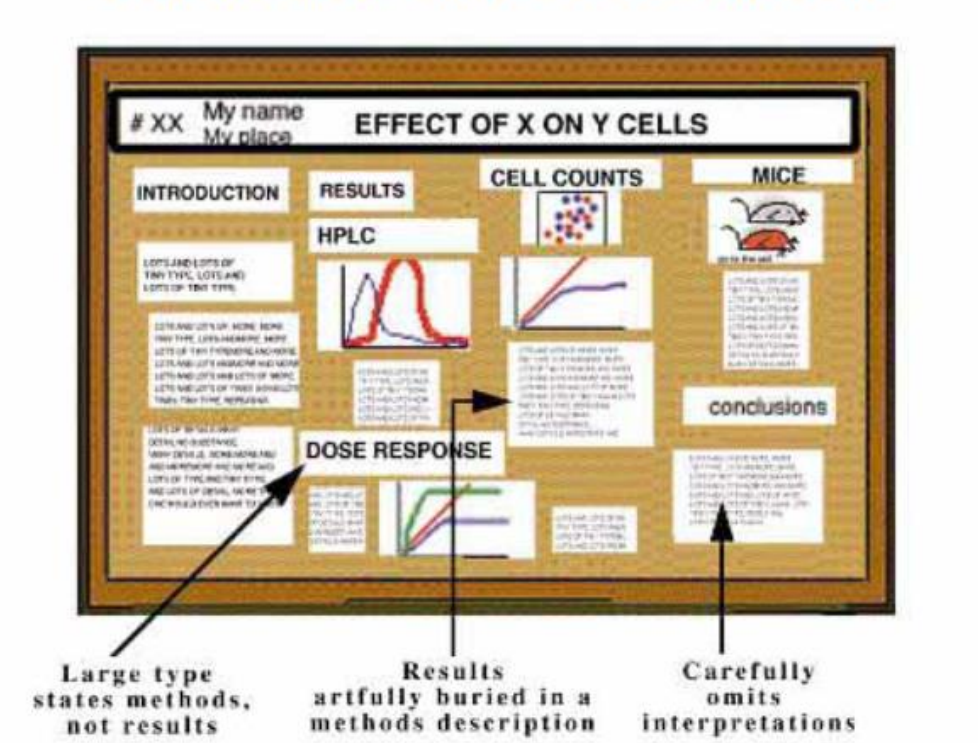


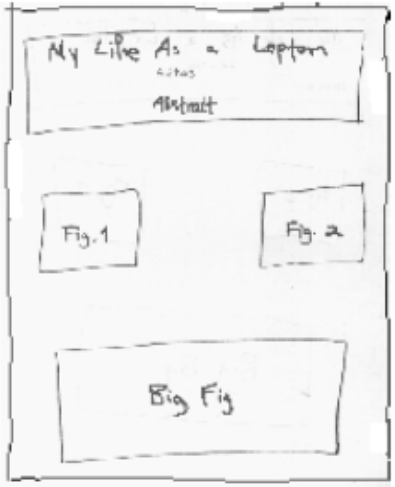
Find out the size required!

Who are my audiences ?



Remember, most of these "scientists" come for the free booze

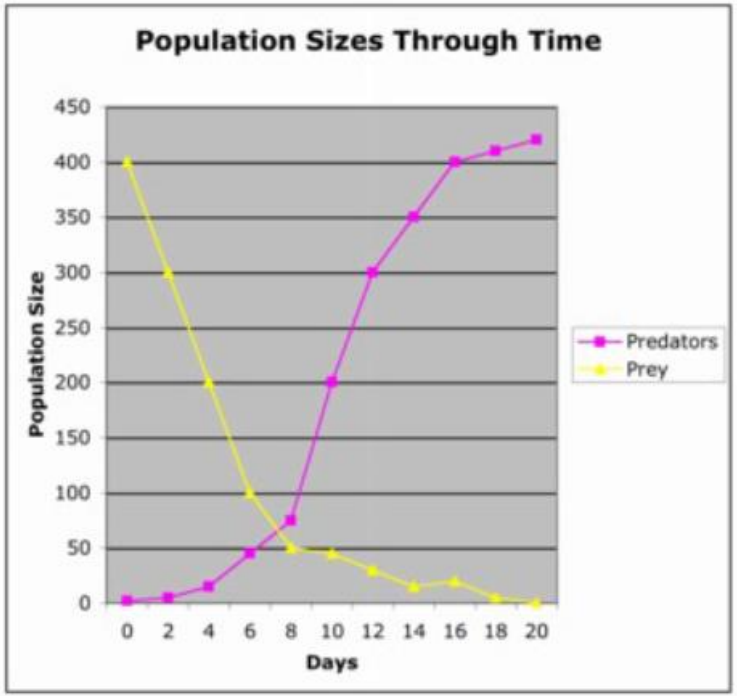


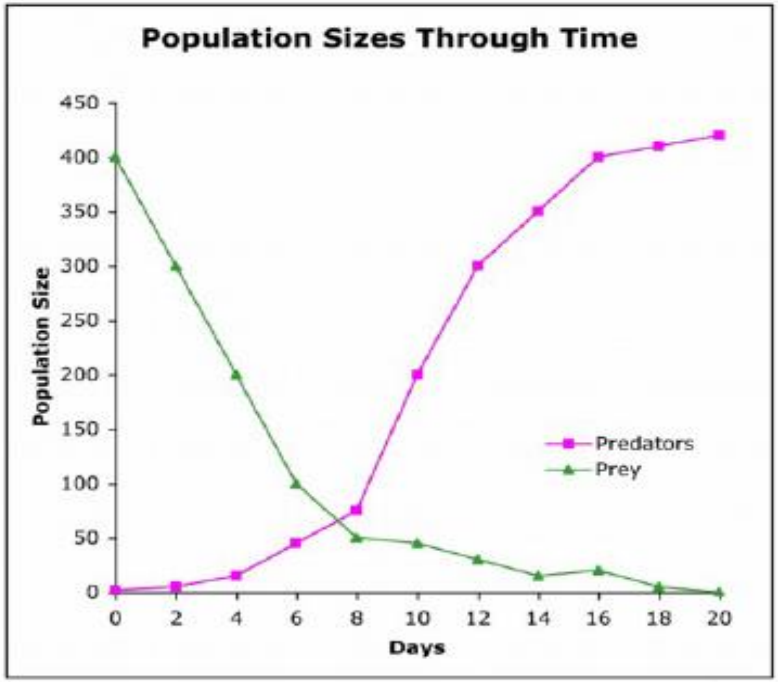


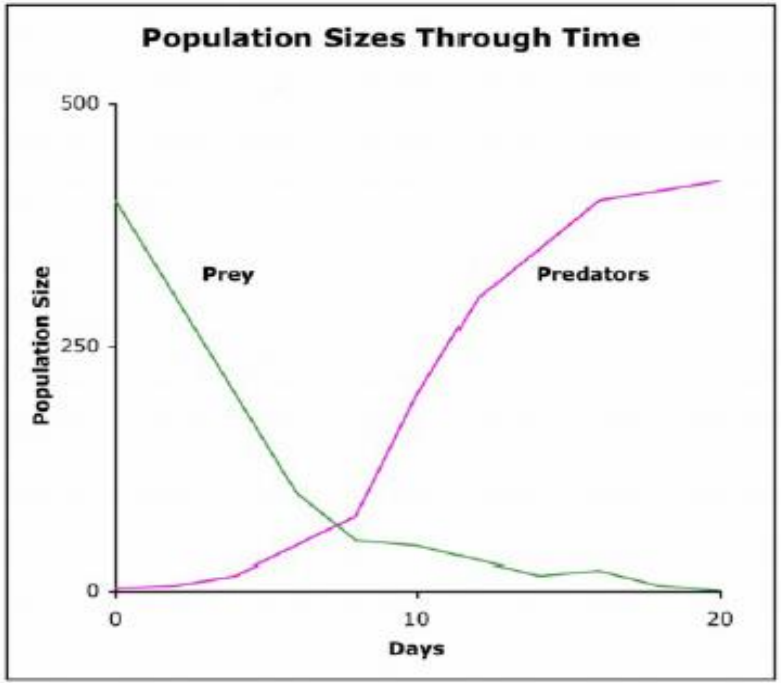
Start putting together your 2 main elements

1) Simple, effective data displays

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



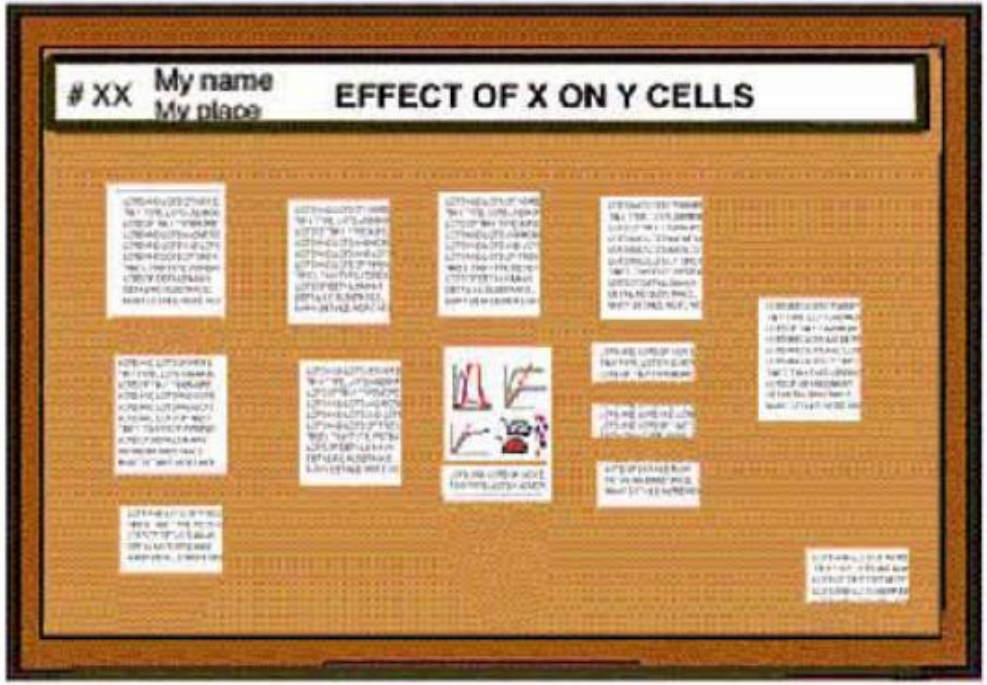

Population Sizes Through Time
Population Size
450
400
350
300
250
200
150
100
50
0
0
2
4
6
8
10
12
14
16
18
20
Days
Predators
Prey


Population Sizes Through Time
Population Size
500
250
0
0
10
20
Days
Prey
Predators

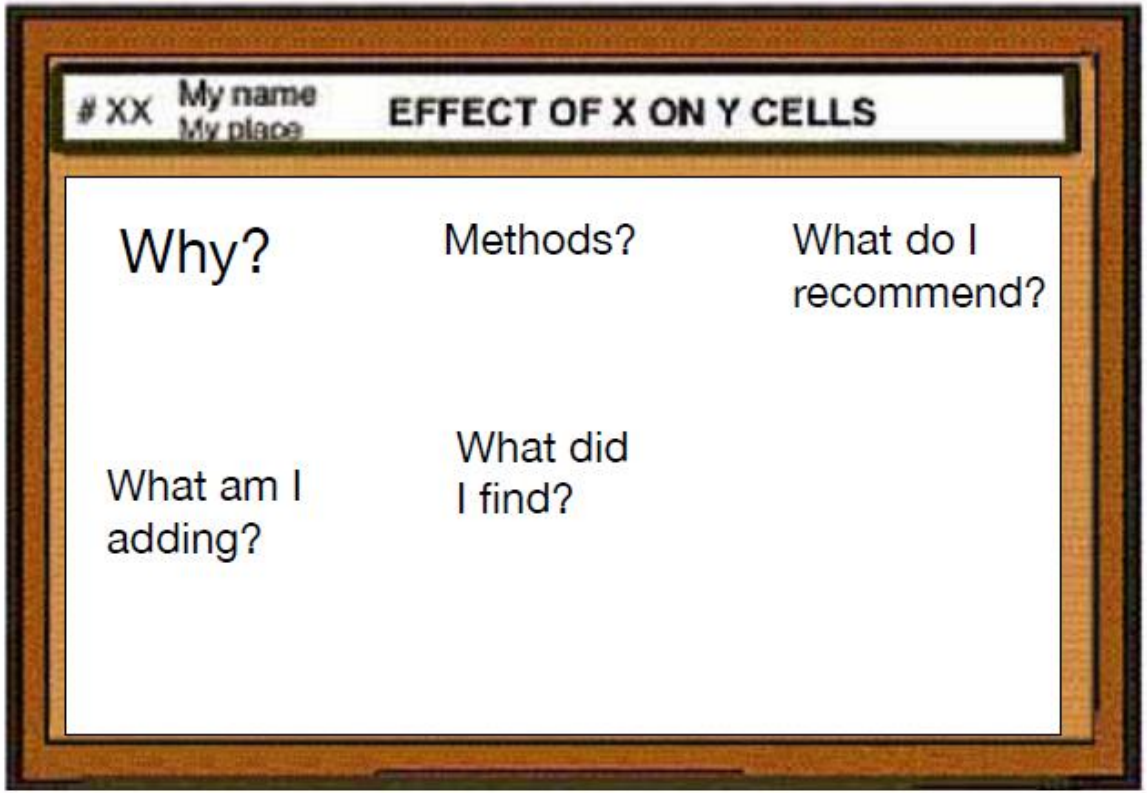

Keep it simple
but effective

2) Small blocks of supporting text

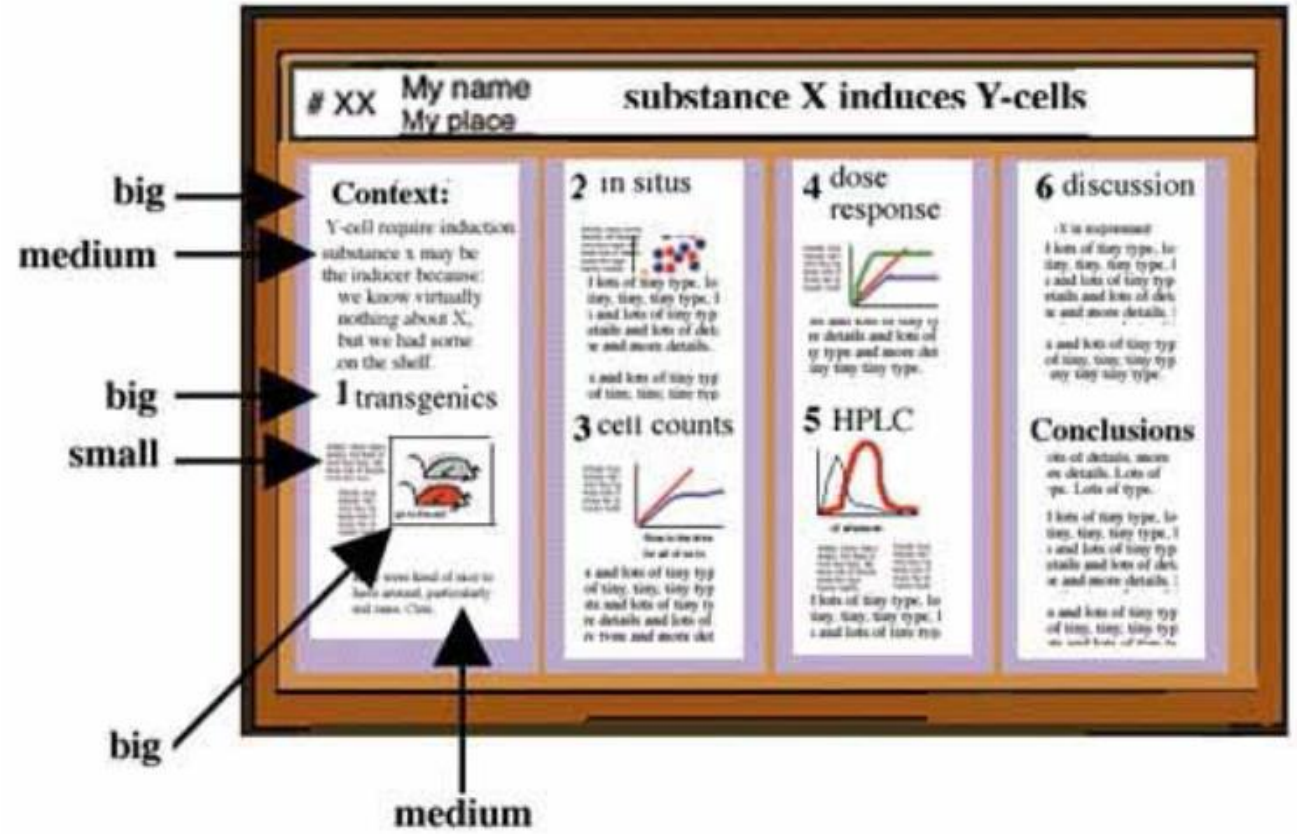
The need for chairs in front of your poster will not go over well

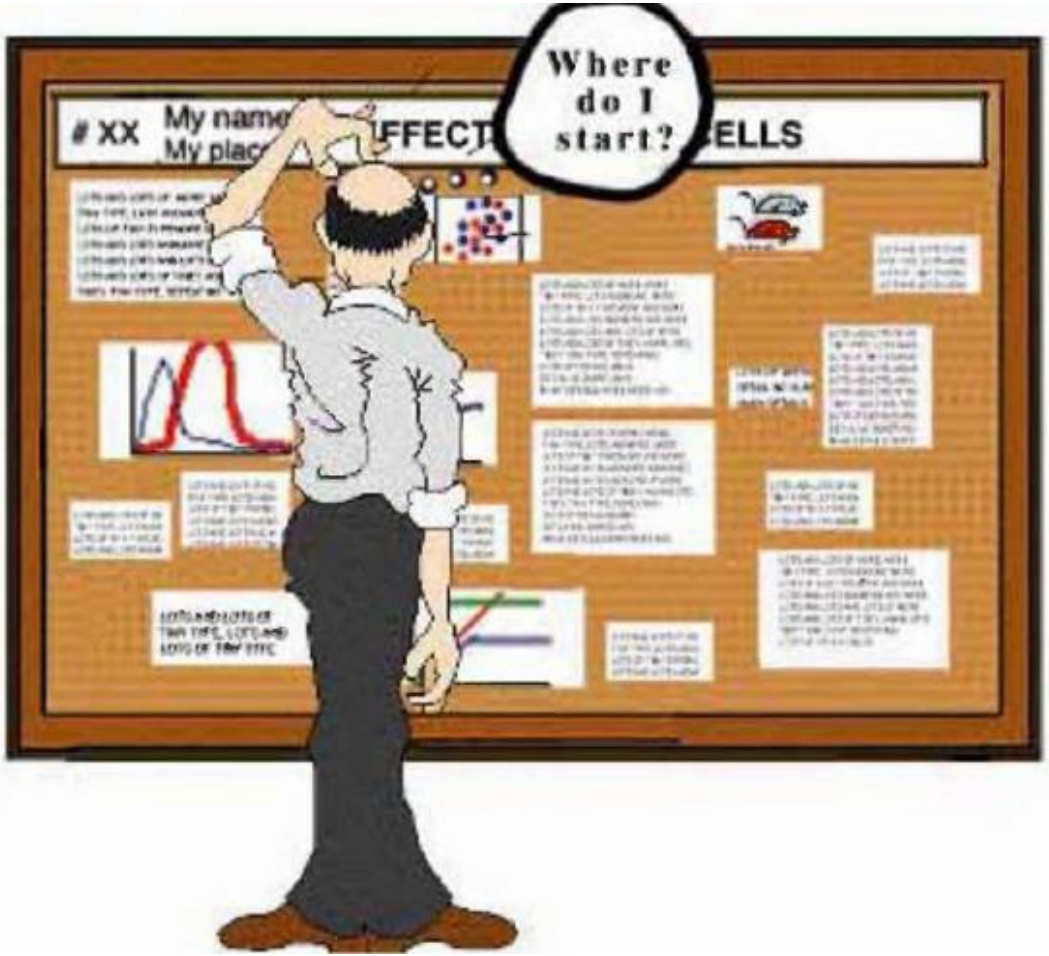


Your copy should answer...



I could actually read this




Where do I start?
XX

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.

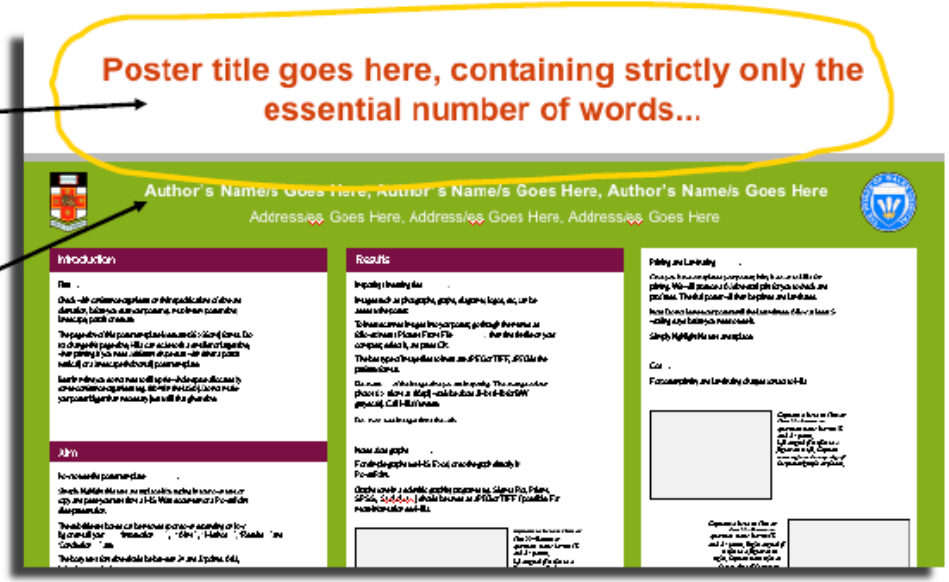
Let's design a poster!

Your poster title:

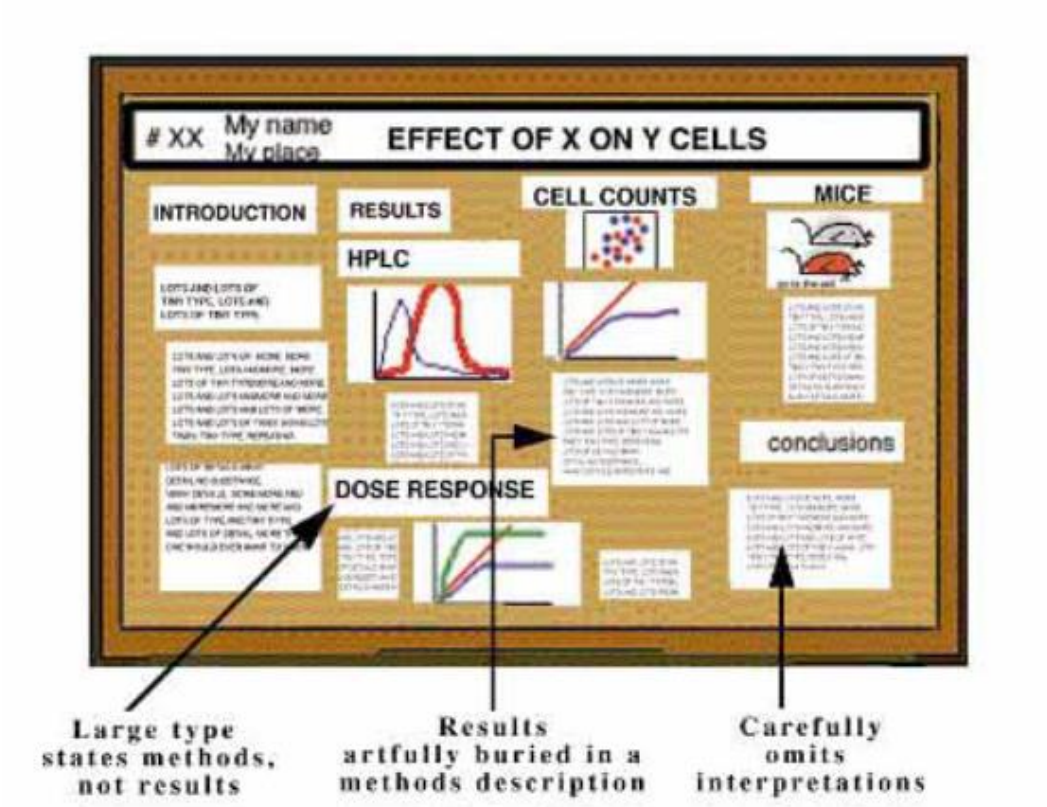
Think BIG! Really Big!

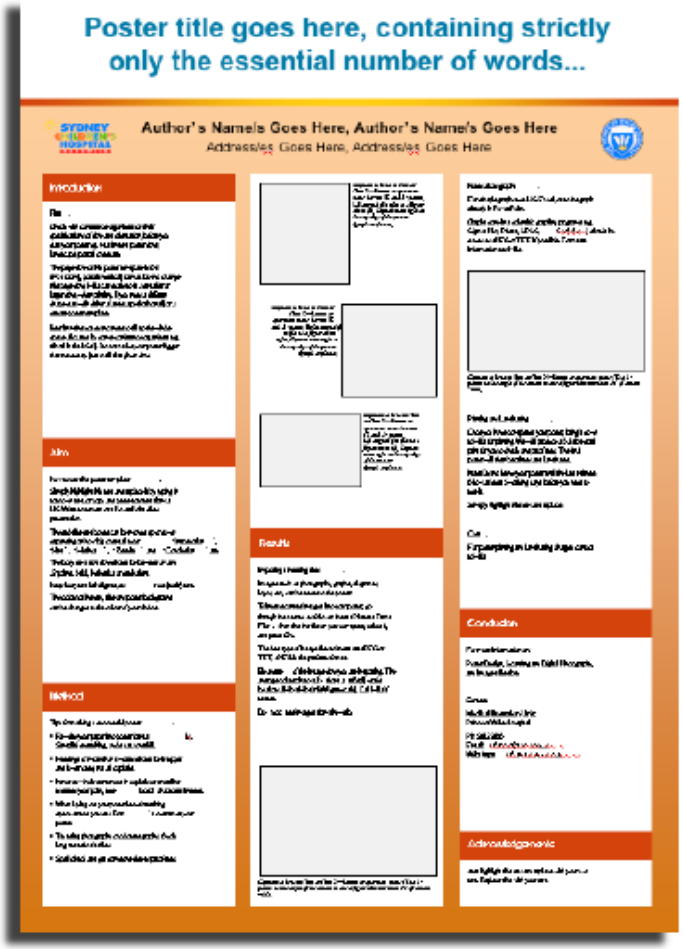
Your biggest impact!
Boldface type
Not all caps!

Group authors names and affiliations



The Secrets of Readable Text:



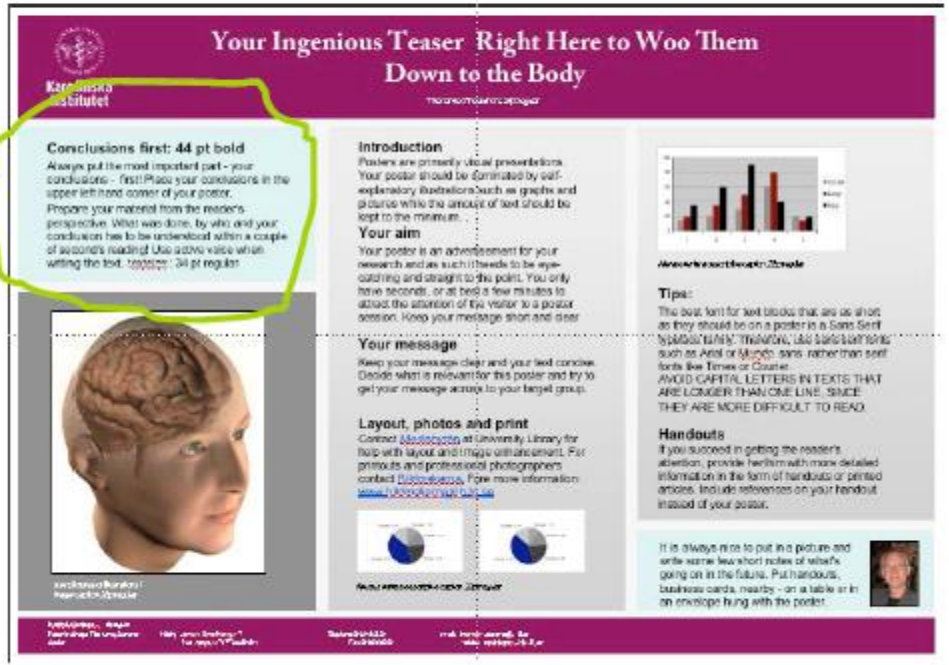


- Leave breathing space around your text
- Plain fonts even serif here
- Same size and style
- Left-aligned

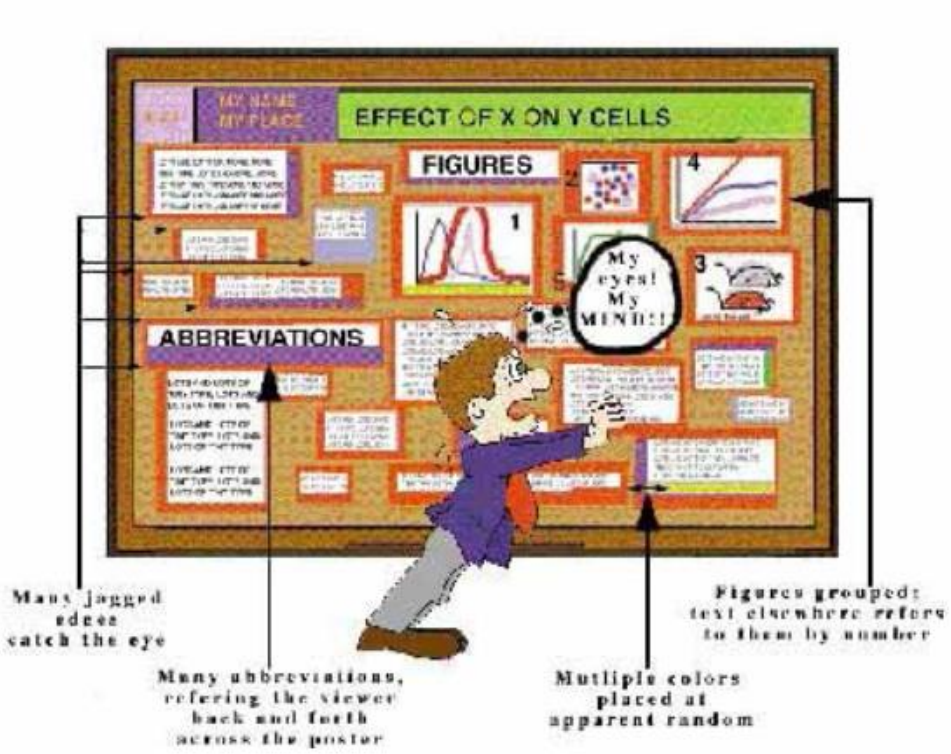
  The reason is…

Conclusions first!

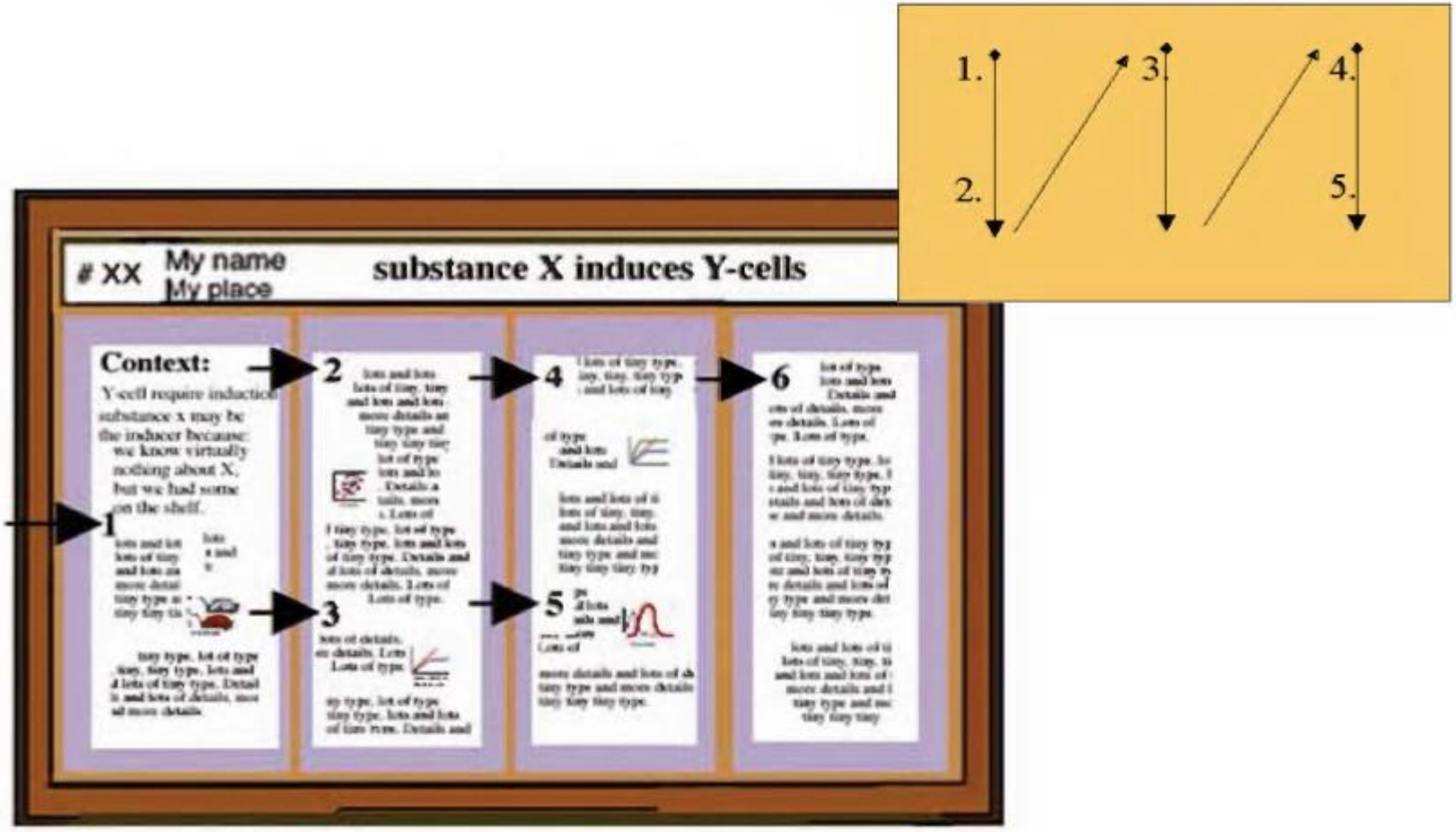
- Put the most important part first!
- Short and to the point!
- Upper left hand corner



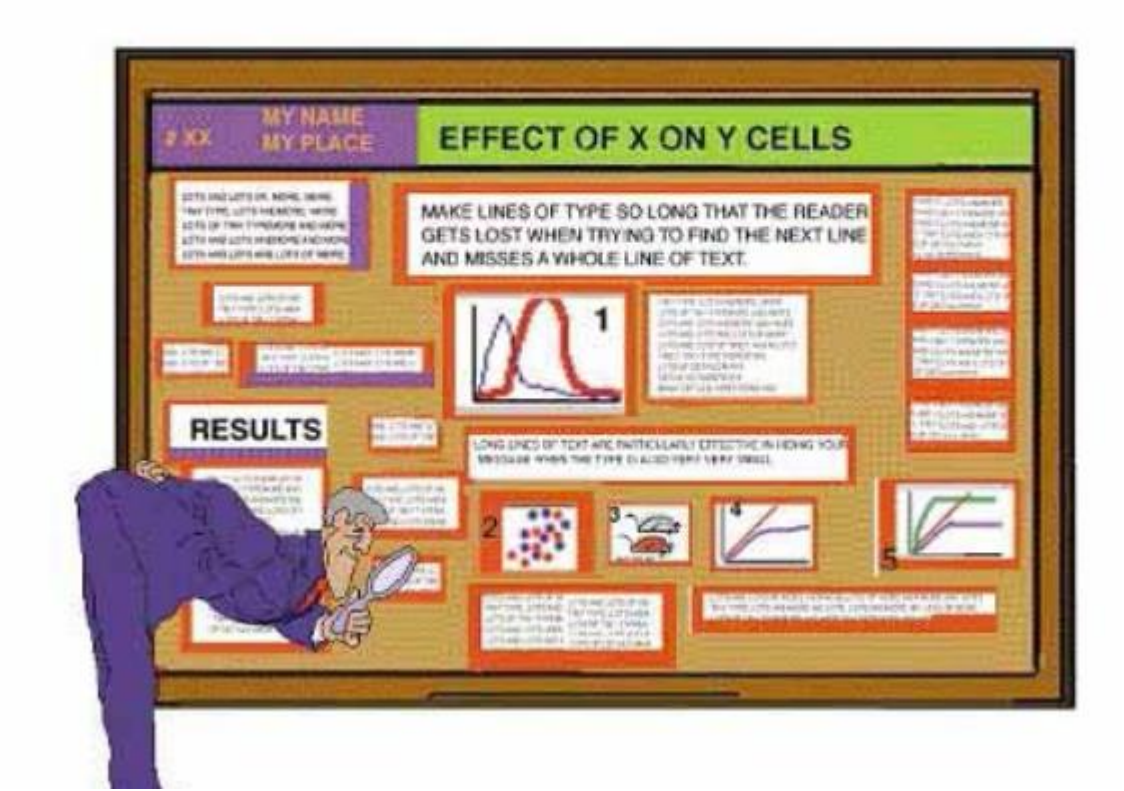
Easy for the eye to follow



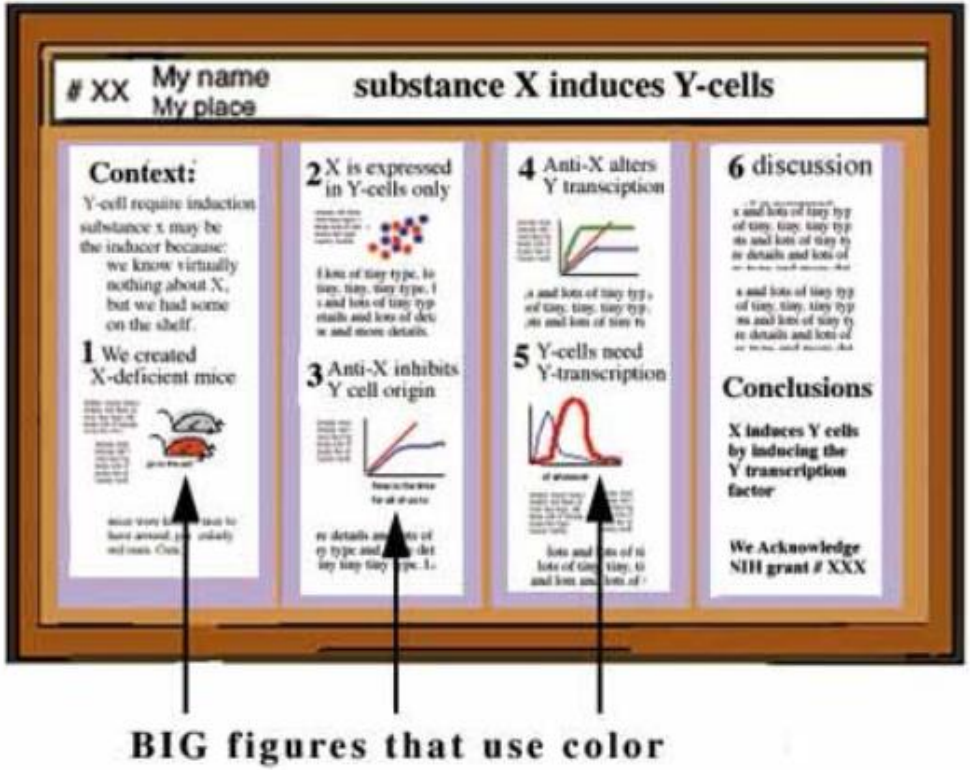
Utter chaos will make folks dizzy!


1.
2.
3.
4.
5.
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
2
3
4
5
6

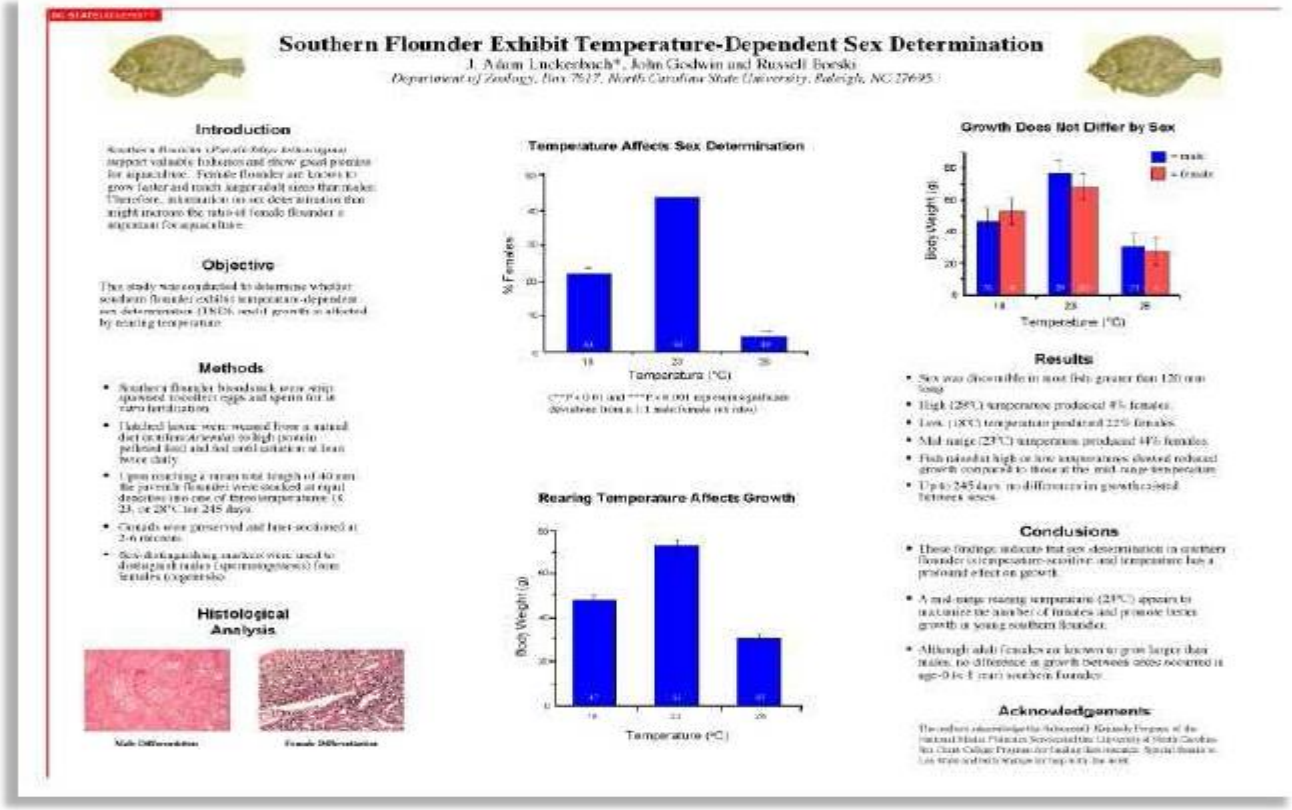
Can anyone read your body text?



Images and graphs say much more than words



Keep posters visual!



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

Objective

Methods

- Southern flounder broodstock were strip spawned to collect eggs and sperm for in vitro fertilization.
- Fertilized larvae were reared from a natural diet (rotifers/artemia) to high protein pelleted feed and fed until initiation of lean tissue daily.
- Upon reaching a mean wet weight of 40 mg, the juvenile flounders 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 (spermatogenesis) from females (oogenesis).

Histological Analysis

Male Differentiation

Female Differentiation

Temperature Affects Sex Determination

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 faster 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 to 1 year) southern flounder.

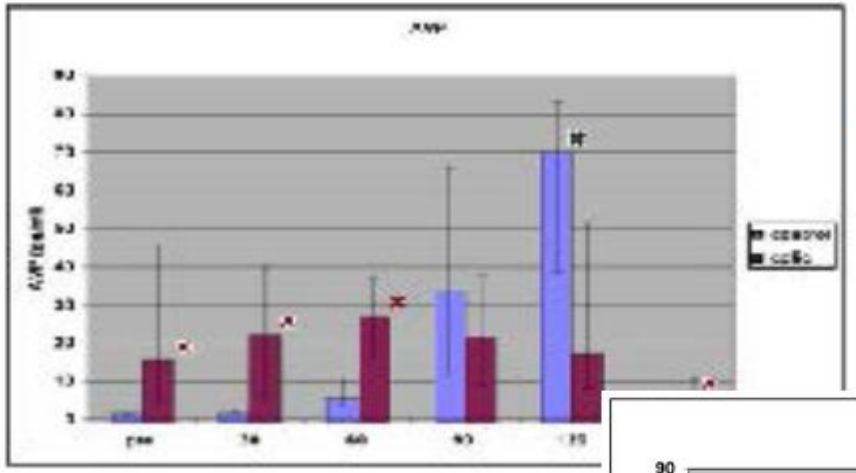
Acknowledgements

Picture perfect photos

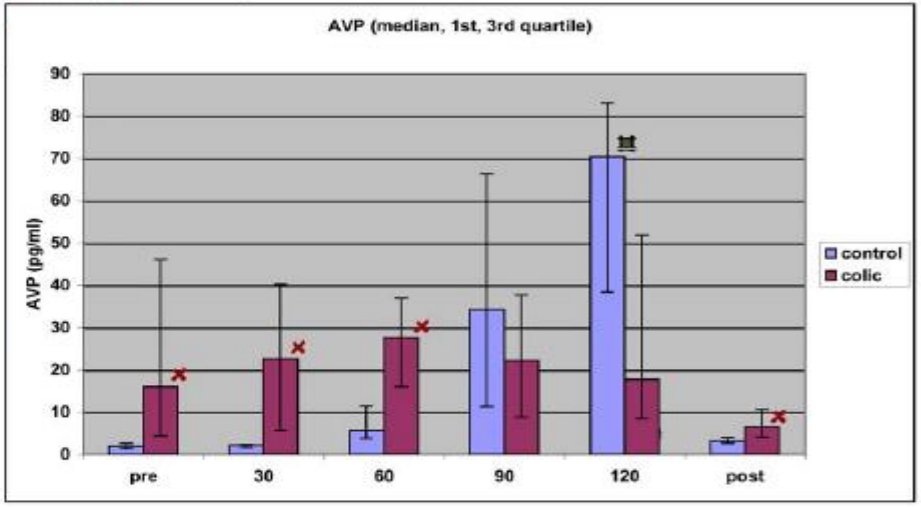
- Avoid resolution overkill!
  At least 150 dpi, but no more than 300 dpi

- Save photos as jpg or png
  Line art as a png (graphs)

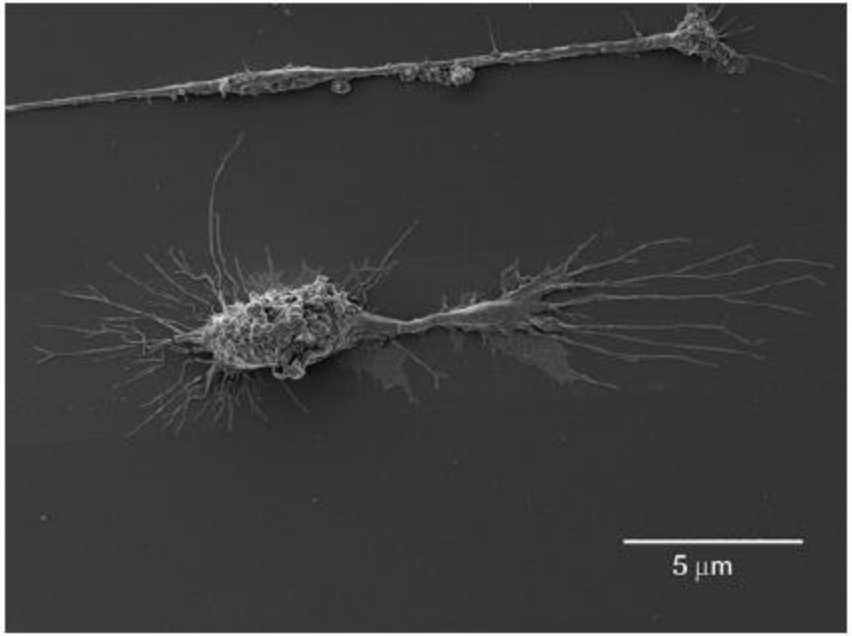
- Web images are usually
  poor resolution



jpg


AVP (median, 1st, 3rd quartile)
AVP (pg/ml)
90
80
70
60
50
40
30
20
10
0
pre
30
60
90
120
post
control
colic

png

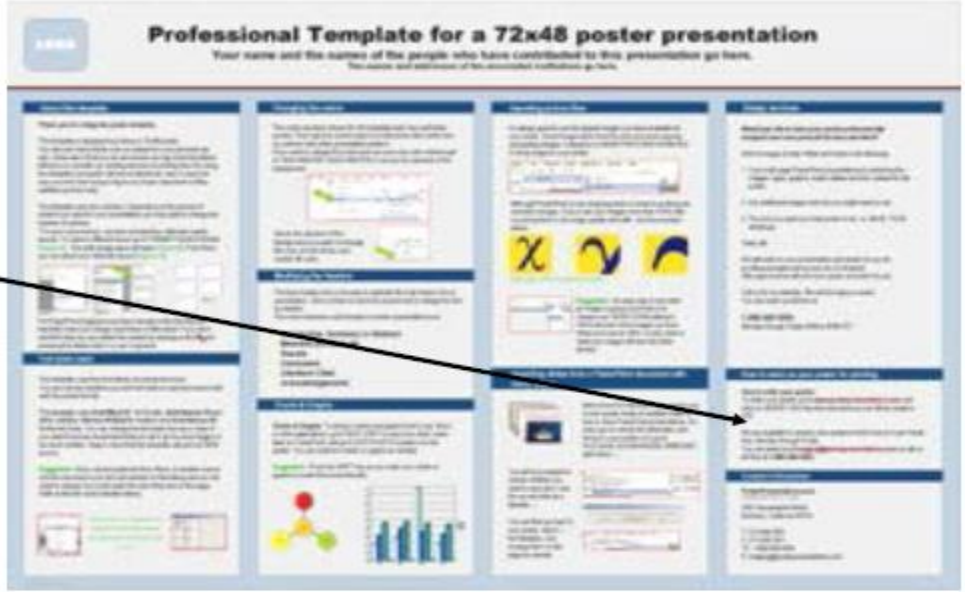


Your cool images mean nothing without a scale bar or description

Don't forget your funding acknowledgements

CNF-NSF-BMR, etc

Your department can provide you with the required wording

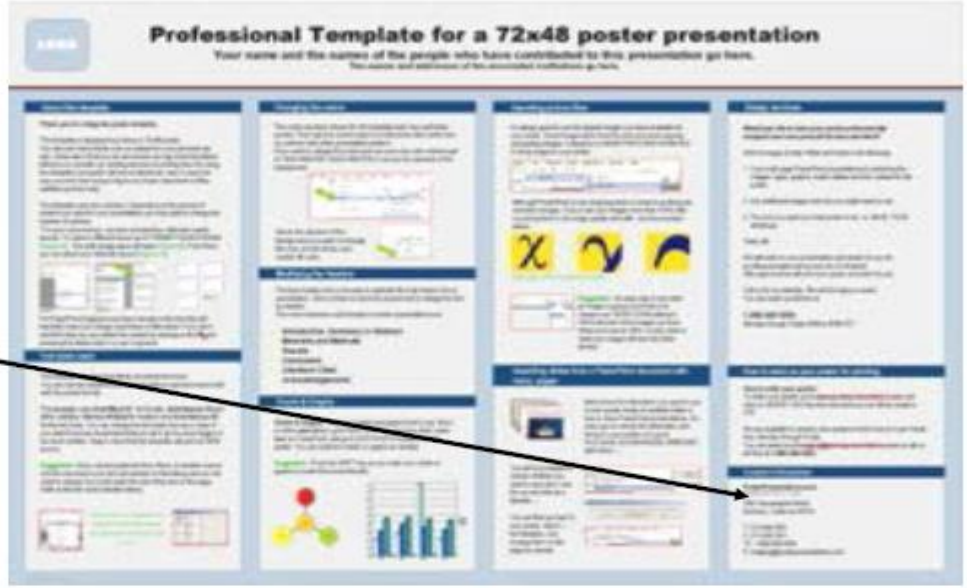


Your contact info!!!

Without it you' ll become
"ya know, those guys with the awesome poster"

Include all contact info:

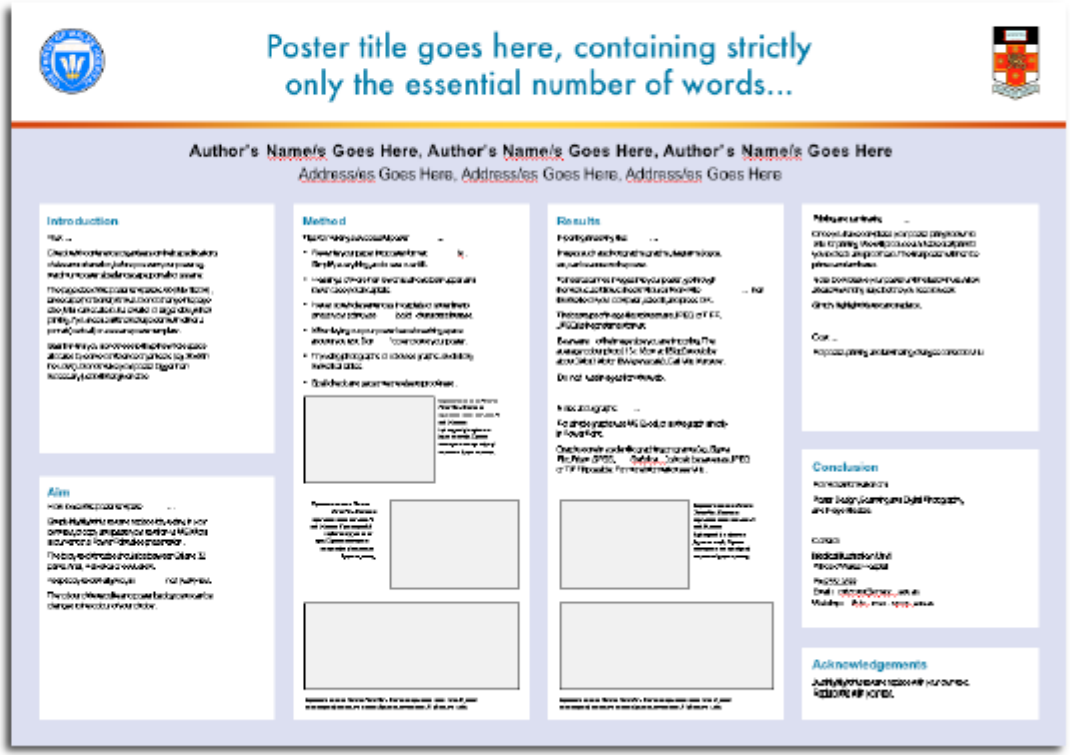
- Mail address
- Phone
- E-mail



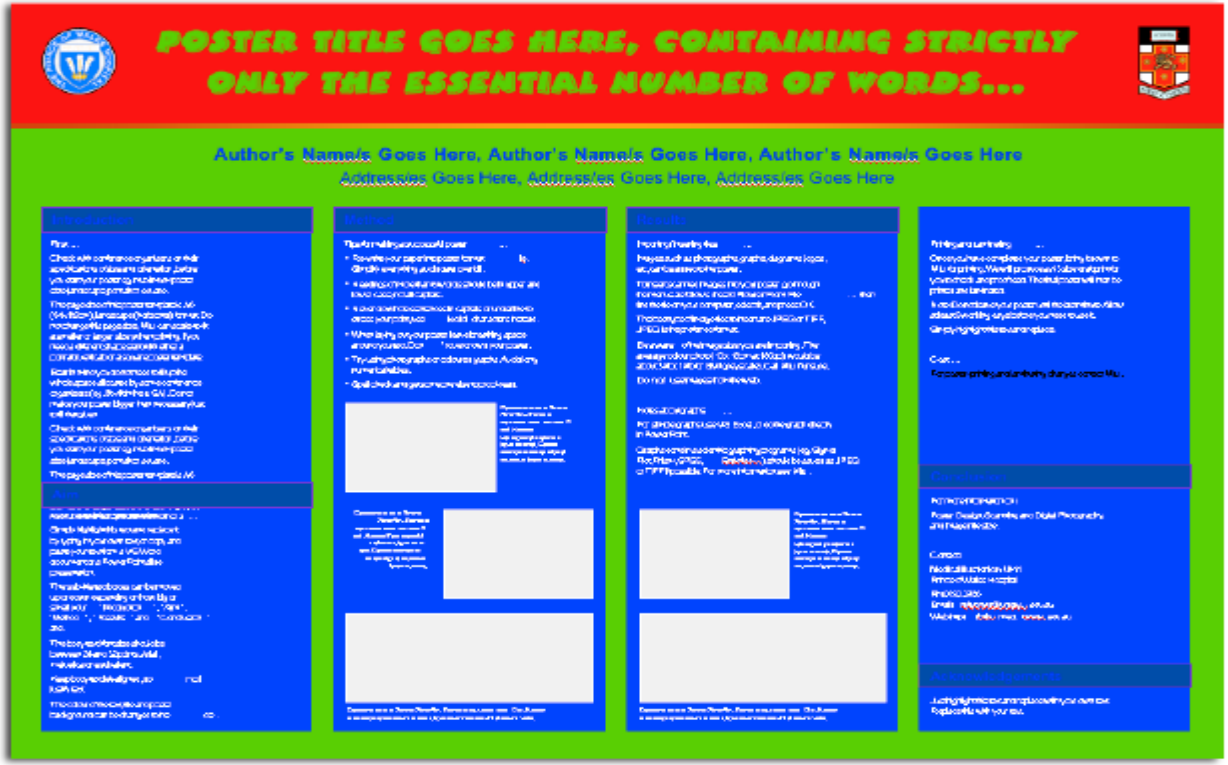
Using color to engage your readers

2-3 colors, no more!

Dark type on
light color background

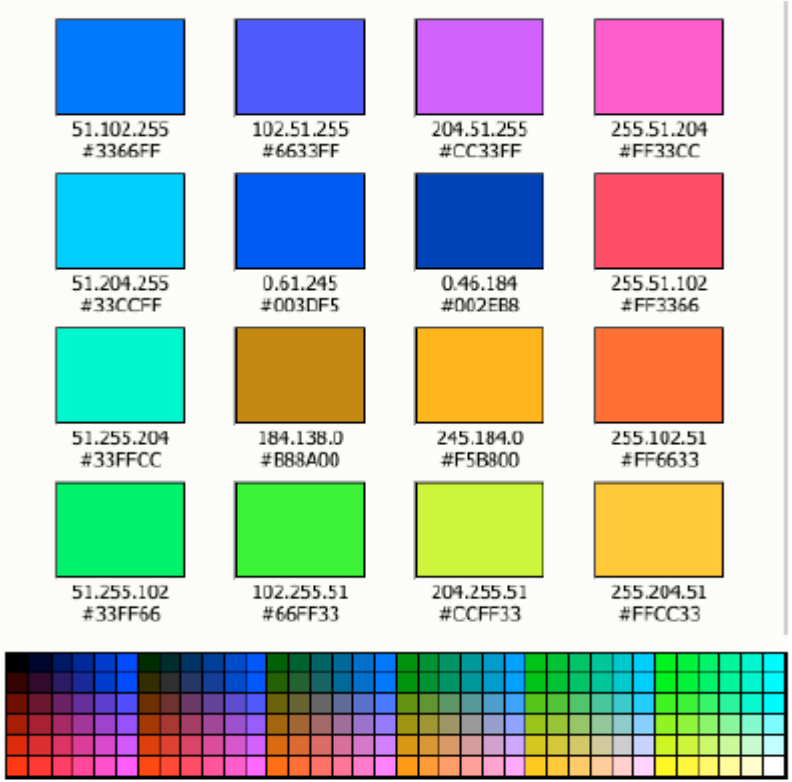


Whoa! Where's my sunglasses?



This attracts attention but tires out the eye

Be carefull 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

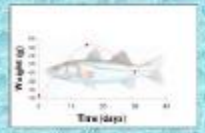
STUDY SITES

METHODS

1. Juvenile snook are reared in mesocosms (100-250 mm) in the aquaculture facility
2. All snook are tagged with identifying markers for individual growth measurements
3. Fish are placed in cages within shield-habitats at the research sites for 60 days
4. Fish are weighed and measured for growth

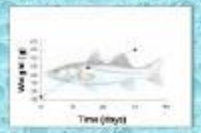
RESULTS

North Creek Lower (High Variability)

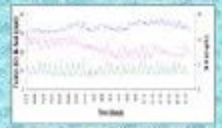


Negative Growth:
Dissolved Oxygen (mg/L)
0-22
Salinity (ppt)
2-21
Temp (°C)
25-34

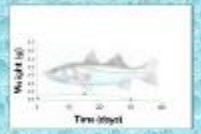
North Creek Middle (Medium Variability)



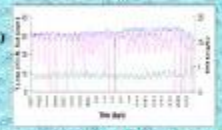
Positive Growth:
Dissolved Oxygen (mg/L)
0-8
Salinity (ppt)
16-28
Temp (°C)
30-35



North Creek Upper (Low Variability)

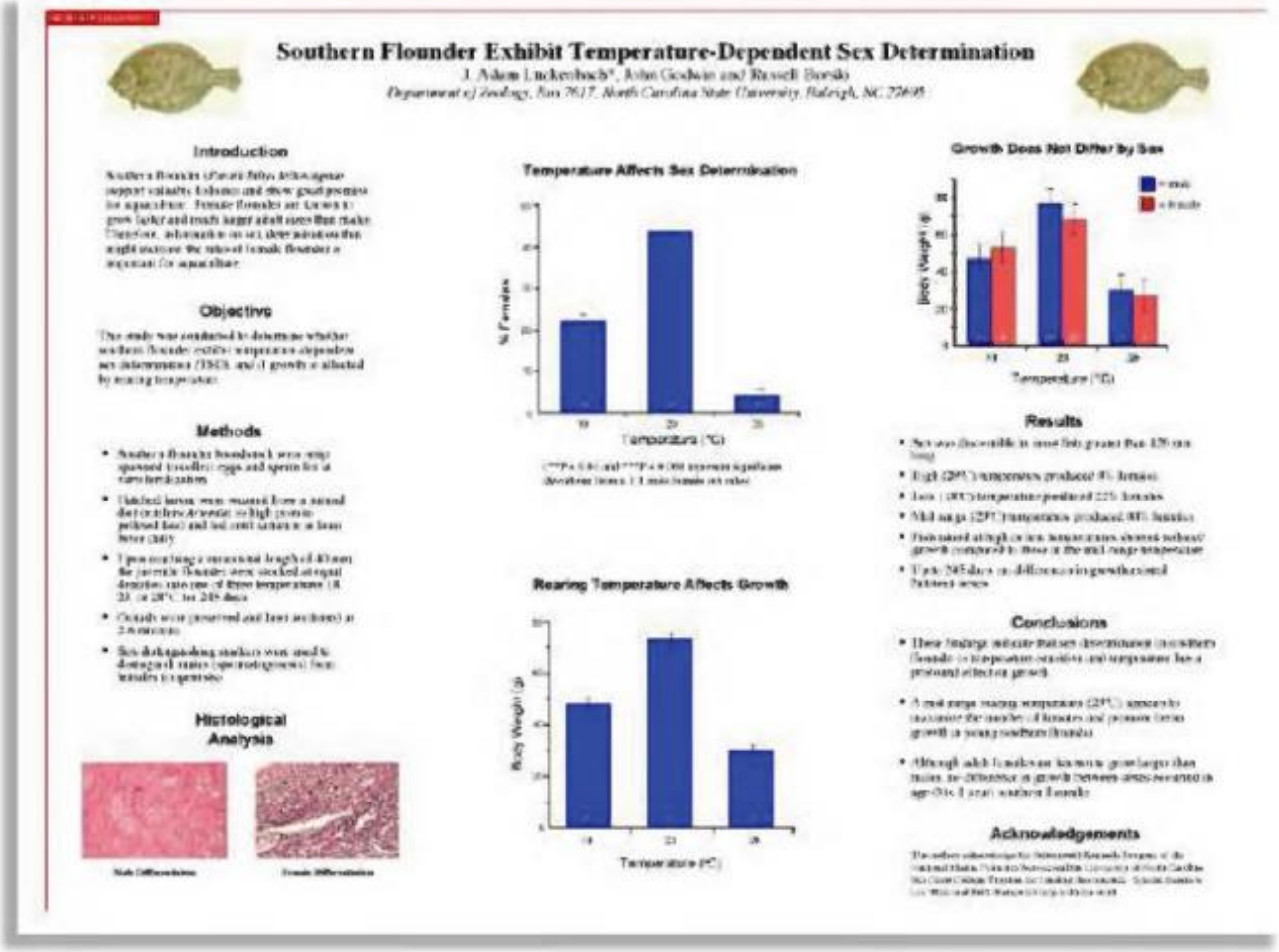


Slow Growth:
Dissolved Oxygen (mg/L)
0-4
Salinity (ppt)
16-30
Temp (°C)
26-33



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



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
Objective
Methods
Histological Analysis
Temperature Affects Sex Determination
% Females
Temperature (°C)
Rearing Temperature Affects Growth
Body Weight (g)
Temperature (°C)
Growth Does Not Differ by Sex
Body Weight (g)
Temperature (°C)
Results
Conclusions
Acknowledgements

A little different!

NC STATE UNIVERSITY

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

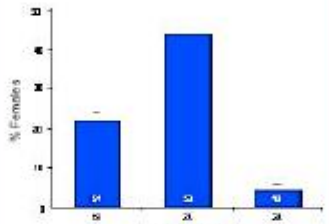
- Southern flounder broodstock were strip spawned to collect eggs and sperm for in vitro fertilization.
- Hatched larvae were weaned from a natural diet (rotifers/Artemia) to high protein pelleted feed and fed until satiation at least twice daily.
- Upon reaching a mean total length of 40 mm, the juvenile 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 (spermatogenesis) from females (oogenesis).

Histological Analysis

Male Differentiation

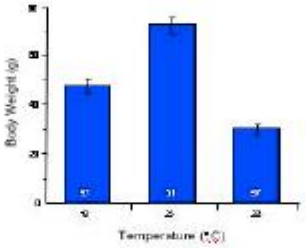
Female Differentiation

Temperature Affects Sex Determination

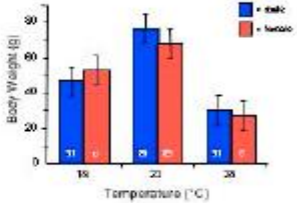


[illegible] represent significant differences between [illegible]

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 differences in growth existed between sexes.

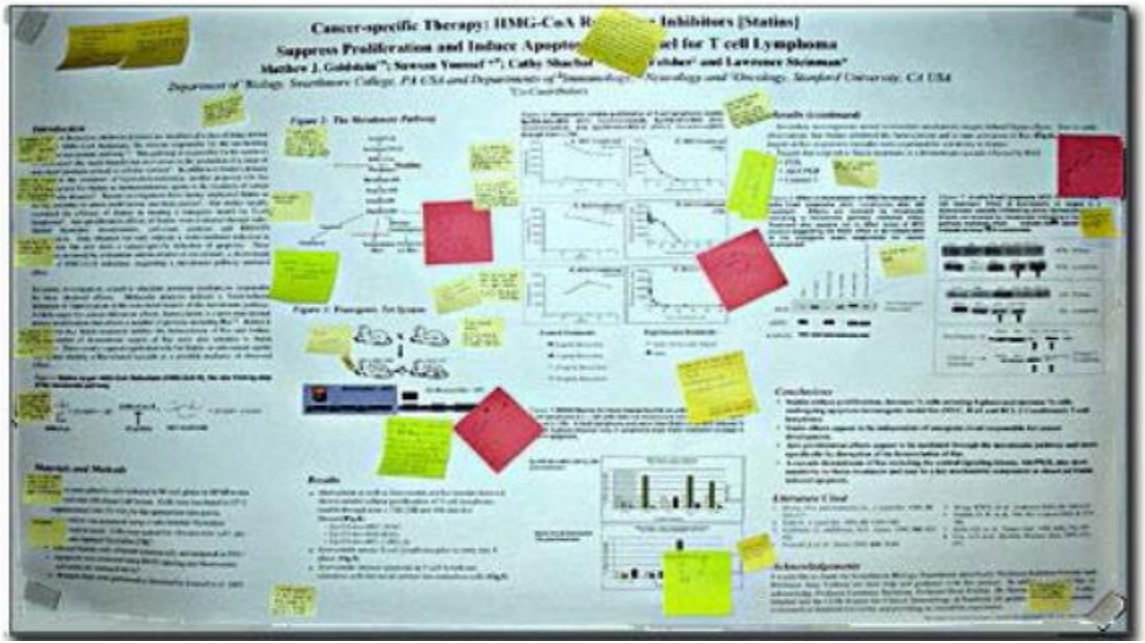
Conclusions

- 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 promotes 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

[illegible]

Edit, Edit, Edit and Evaluate!



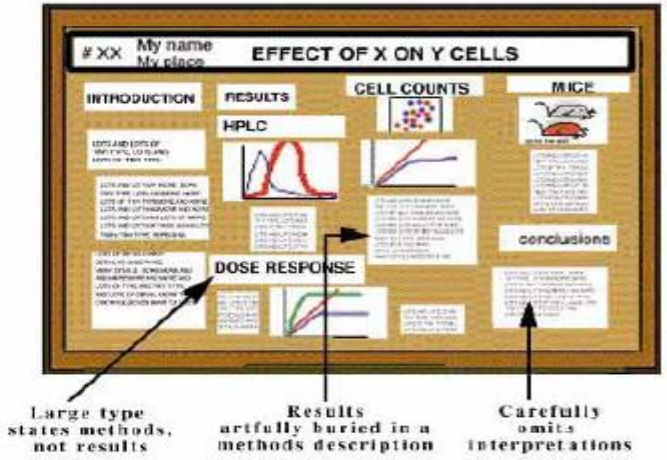
Print out a letter size draft

Can you read the type?

Are these the colors you really want?

Does it look too busy?

Do my main points pop?



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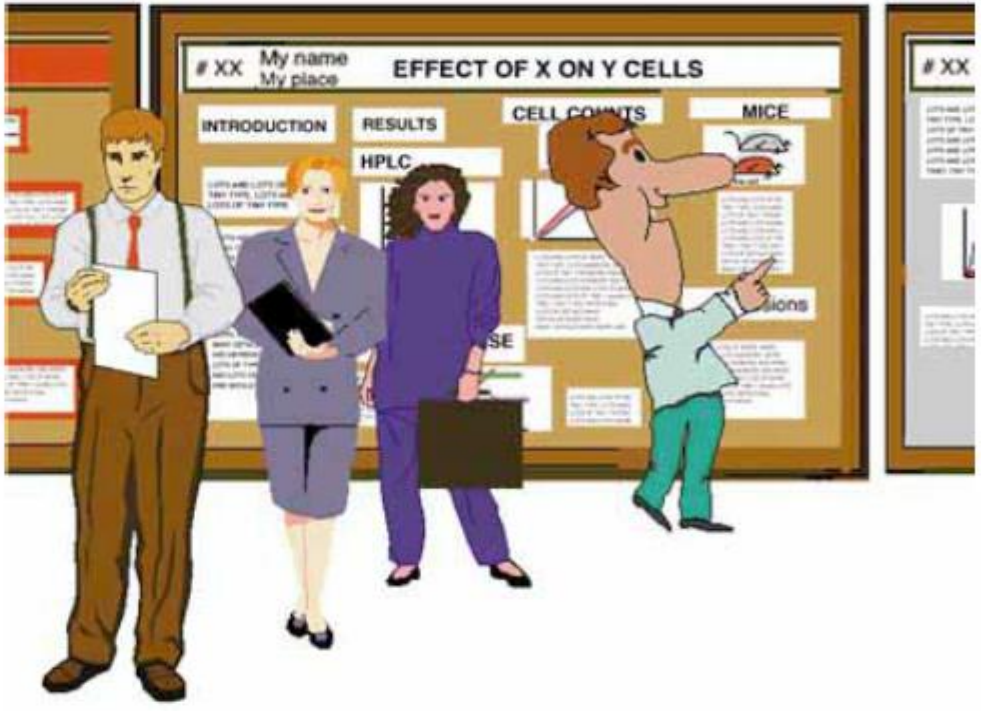
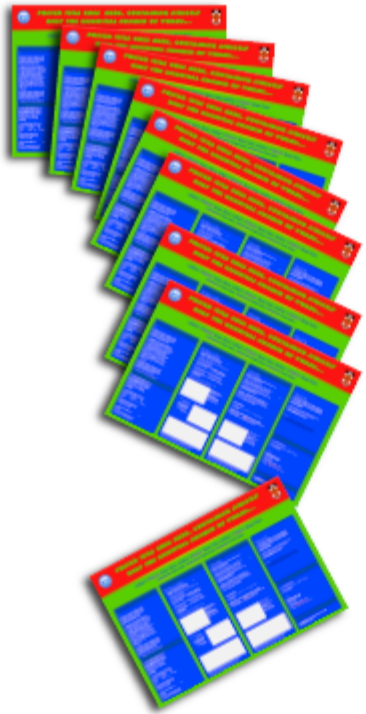
You're not done yet...

Prepare a 3-5 minute verbal explanation

Is he ever going to SHUT UP???

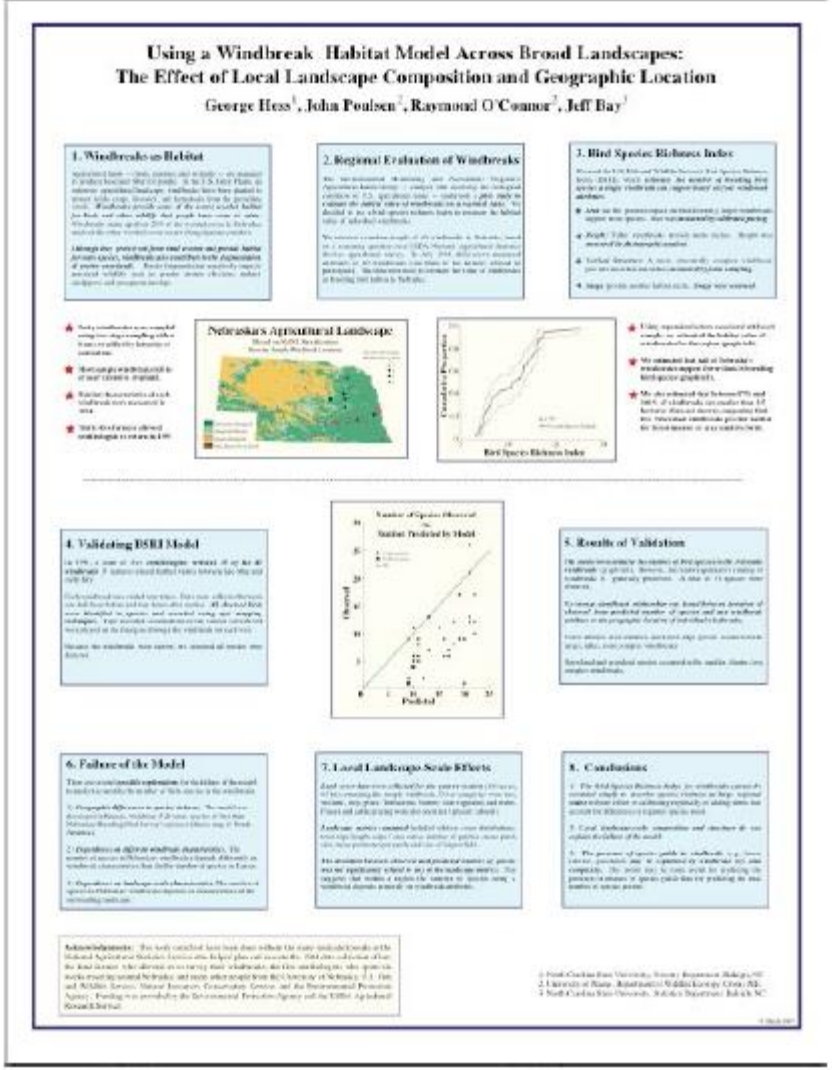


Prepare mini size poster handouts

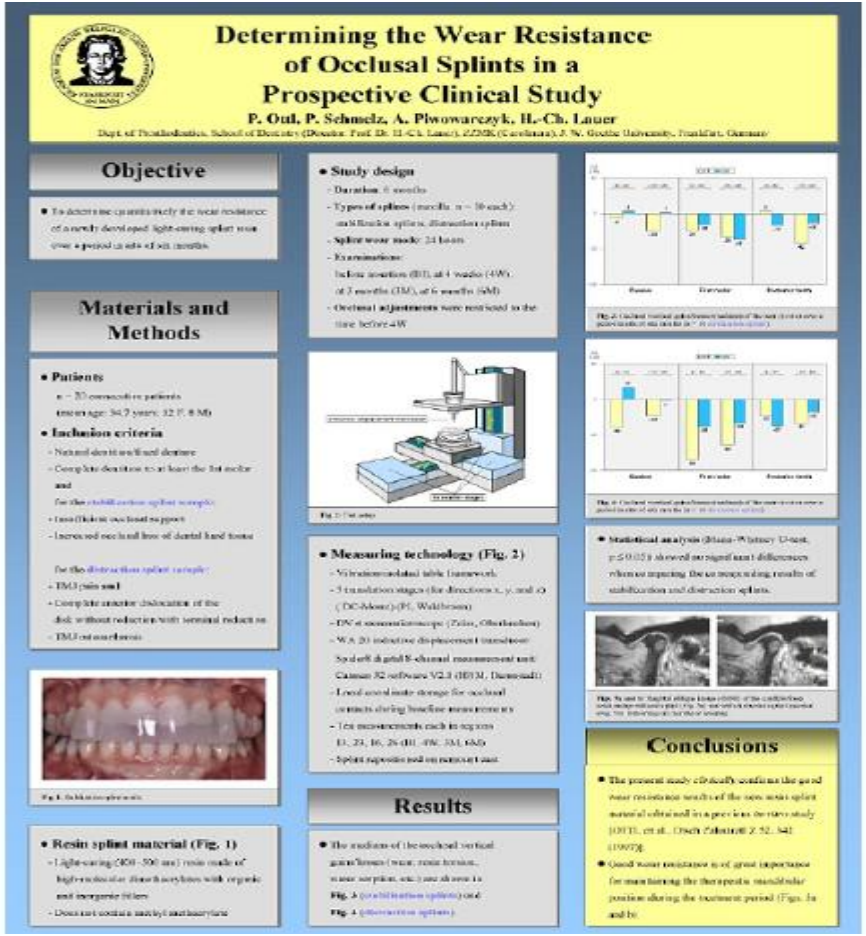


- Provides a written record for interested folks
- Makes you look together
- Be sure to include complete contact information
- Might even get you a job!

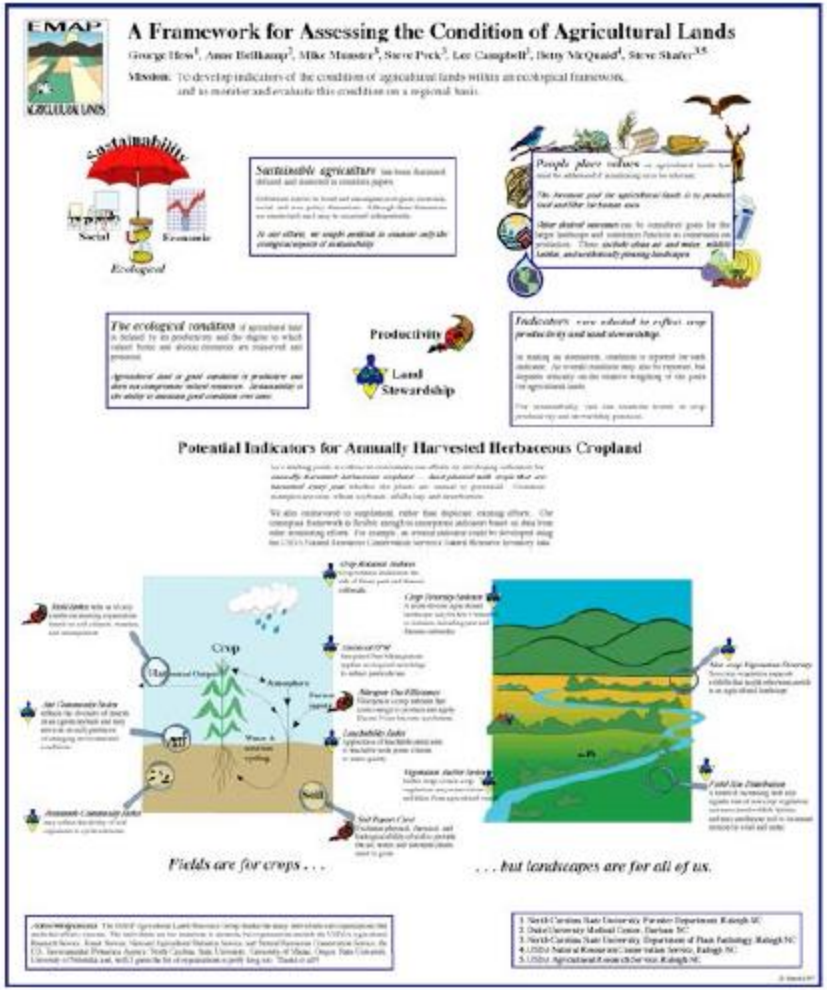
Examples



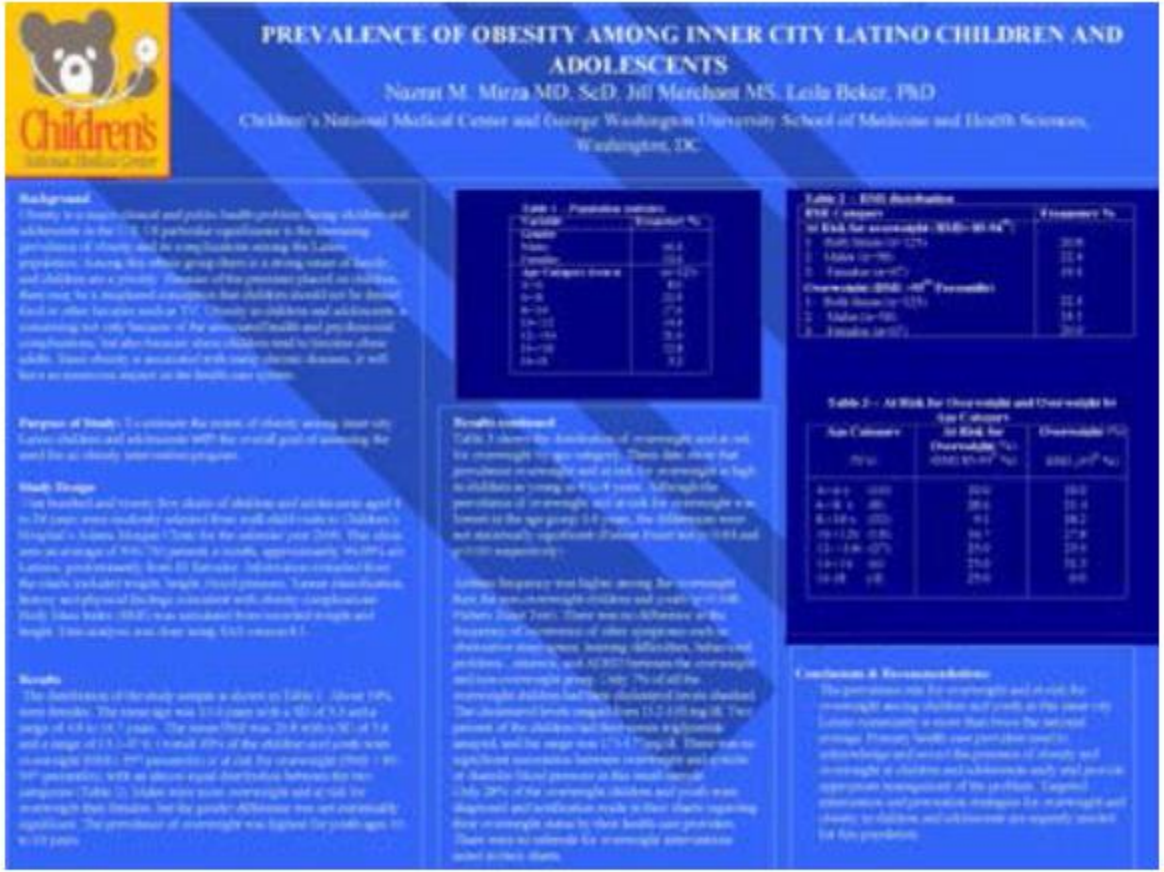
A bit text heavy
but not too bad.


Determining the Wear Resistance of Occlusal Splints in a Prospective Clinical Study
P. Out, P. Schmelz, A. Piwowarczyk, H.-Ch. Lauer
Dept. of Prosthodontics, School of Dentistry (Director: Prof. Dr. H.-Ch. Lauer), JUNIK (Coordinator), J. W. Goethe University, Frankfurt, Germany
Objective
Materials and Methods
Patients
Inclusion criteria
Resin splint material (Fig. 1)
Study design
Measuring technology (Fig. 2)
Results
Statistical analysis
Conclusions

Nice poster



Where do I begin?



PREVALENCE OF OBESITY AMONG INNER CITY LATINO CHILDREN AND ADOLESCENTS

Nazrat M. Mirza MD, ScD; Jill Marchant MS, Leila Beker, PhD

Children's National Medical Center and George Washington University School of Medicine and Health Sciences, Washington, DC

I' m feeling sleepy

Early Outcomes of the First 1471 Consecutive Kyphoplasty Procedures in the United States for the Fixation of Painful Osteopenic Vertebral Body Compression Fractures (VCF)

Steven R. Garfin[1], M.D., Isador H. Lieberman[2], M.D., Mark A. Reiley[3], M.D., Joseph M. Lane[4], M.D., Frank M. Phillips[5], M.D., Haleh S. Mathews[6], M.D., Hansen A. Yuan[7], M.D., Barton H. Sachs[8], M.D., for the Kyphoplasty Study Group
[1]University of California, San Diego, Medical Center, San Diego, CA; [2]Cleveland Clinic, Cleveland, OH; [3]Berkeley Orthopaedic Medical Group, Berkeley, CA; [4]Hospital for Special Surgery, New York, NY; [5]University of Chicago Spine Center, Chicago, IL; [6]Mid-Atlantic Spine Specialists, Richmond, VA; [7]State University of New York Health Sciences Center, Syracuse, NY; [8]Albany Medical Center, Albany, NY

BACKGROUND

- 700,000 VCF's per year
- 275,000 diagnosed, >80% due to pain
- Spinal deformity associated with
  - Significant morbidity
  - 23% increased mortality (Kado, Ann Int Med 1999)
- Current treatments ineffective
  - Open surgeries fail
  - Medical management palliative
- Vertebroplasty
  - Bilateral transpedicular cement fill
  - Relieves pain
  - Requires high pressure and runny cement
  - High risk of cement leaks
    - Up to 73% where documented (Weill et al., Radiology 1997)
  - Major complications (Chiras, J Int Neurorad 1997)
    - 1.3% in osteoporosis
    - 10% in metastatic cancers

KYPHOPLASTY

Kyphoplasty is a minimally invasive orthopedic procedure for reducing and fixing painful vertebral body compression fractures secondary to osteopenia. Using a posterior approach, one or two Inflatable Bone Tamps (Fig. 1) are inserted into the fractured vertebral body, generally using a bilateral transpedicular approach (Fig. 2). The surgeon carefully inflates the balloon tamps (Fig. 3) using radiopaque contrast medium with image, volume and pressure control. The increased balloon tamp volume compacts the inner cancellous bone as it pushes the fractured outer cortical bone back toward its normal position. The inflation path is also controlled by placement, volume and balloon design. After reduction, the balloon tamp is removed, and the resulting void is filled with thick PMMA under fine manual control and low pressure. The steps of Kyphoplasty are illustrated in Fig 3.

Fig. 1

Fig. 2

Fig. 3

STUDY DESIGN AND METHODS

A retrospective multi-center review to assess early outcomes with Kyphoplasty. Pain was localized by physical examination. The presence of marrow edema and collapse was confirmed on MRI. General or deep local anesthesia was chosen based on anatomy, number of levels and patient status. The first 135 patients at our centers were asked to characterize their back pain as improved, the same or worse 24 hours post-op and at last follow-up. Fractured and nearest normal vertebral body heights were measured anterior, midline and posterior in the first 27 vertebral body fractures treated by one surgeon (MAR). The height of the nearest normal vertebral body was used to calculate the % of predicted height for all the vertebral bodies (Fig. 4A) and for the sub-set where which had lost 15% or more of height before treatment (Fig. 4B).

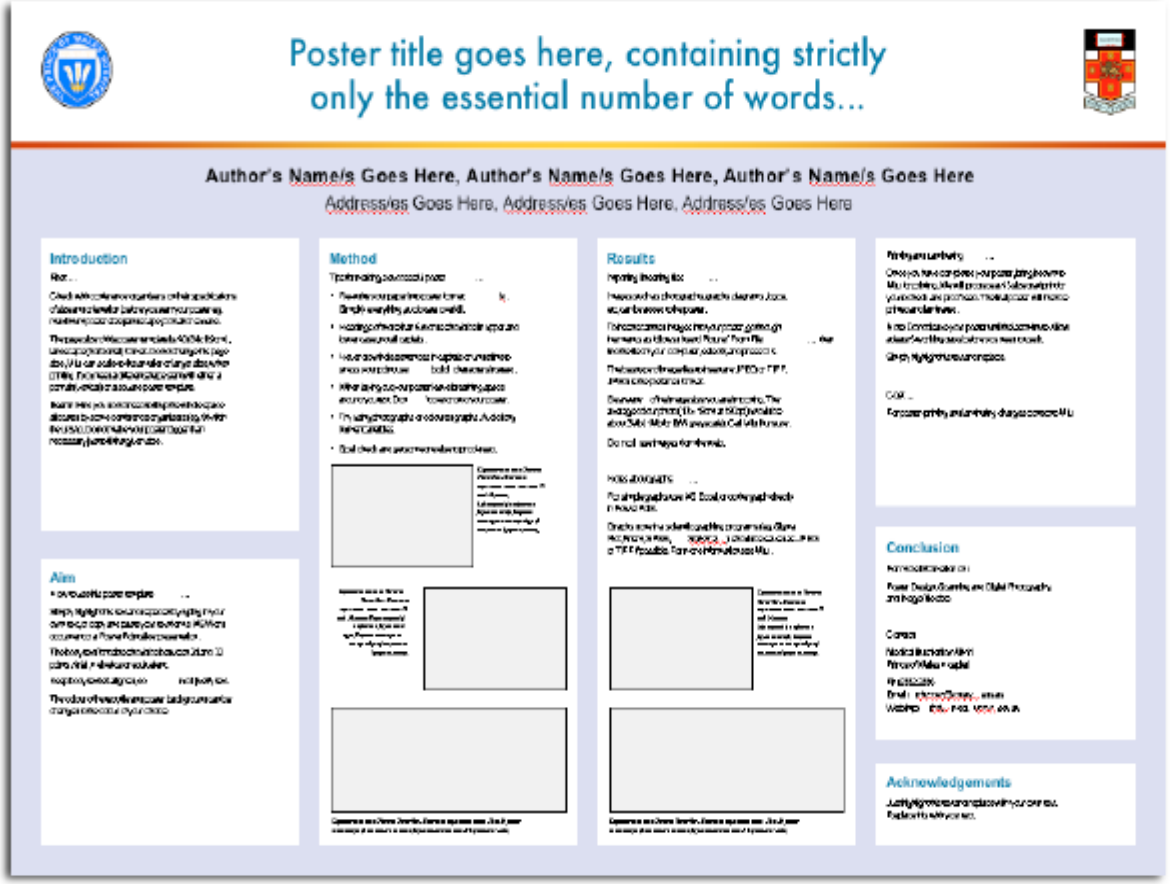
The pre-treatment height was subtracted from the predicted height, then divided by the post-treatment height subtracted from the predicted height, to find the percentage of lost height restored. One set of X-rays by one surgeon (FMP) are used to show an example height restoration (Fig. 5A), and deformity correction (Fig. 5B). Device-related major complications from all procedures are reported. PMMA leaks in the first 70 procedures performed by one surgeon (HL) were assessed with X-ray and MRI.

PRELIMINARY RESULTS

CONCLUSIONS

Kyphoplasty is an important treatment option that provides immediate stability and return to activities of daily living to patients with acutely painful vertebral body compression fractures secondary to osteopenia. Kyphoplasty facilitates fracture reduction and deformity correction. While reduction is more likely in acute fractures (four months or less), it has been seen in fractures over one year old. Kyphoplasty also provides rapid pain relief in the acutely ill patients, and this result is independent of fracture reduction. The safety profile of kyphoplasty compares favorably to the published safety profile of vertebroplasty.

OK, but which way do I go?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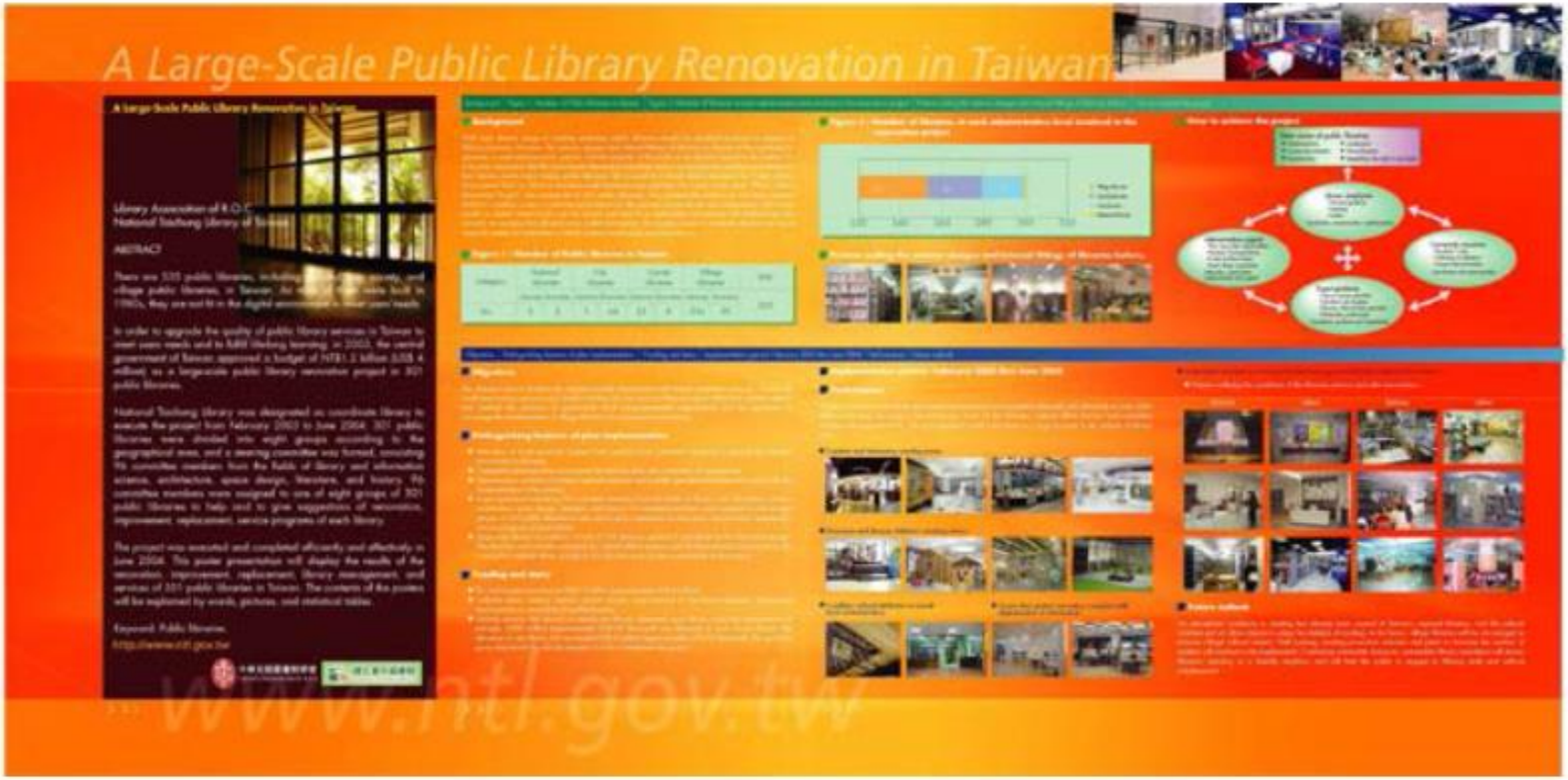
Address/es Goes Here, Address/es Goes Here, Address/es Goes Here
Introduction
Aim
Method
Results
Conclusion
Acknowledgements

Perfect!


A Large-Scale Public Library Renovation in Taiwan
ABSTRACT
www.ntl.gov.tw

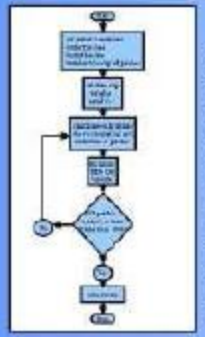
Oh my gawd!

WHICH IS MORE IMPORTANT: NUMBER OF PATCHES OR CONNECTIVITY?

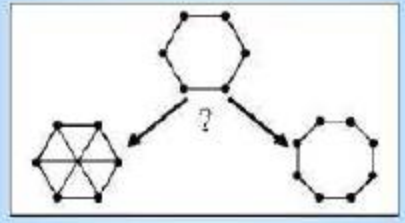
Darin Kalisek, FIS Student

INTRODUCTION AND OBJECTIVES

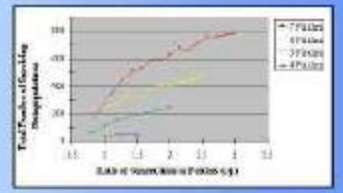
THE PROGRAM



THE ISSUE

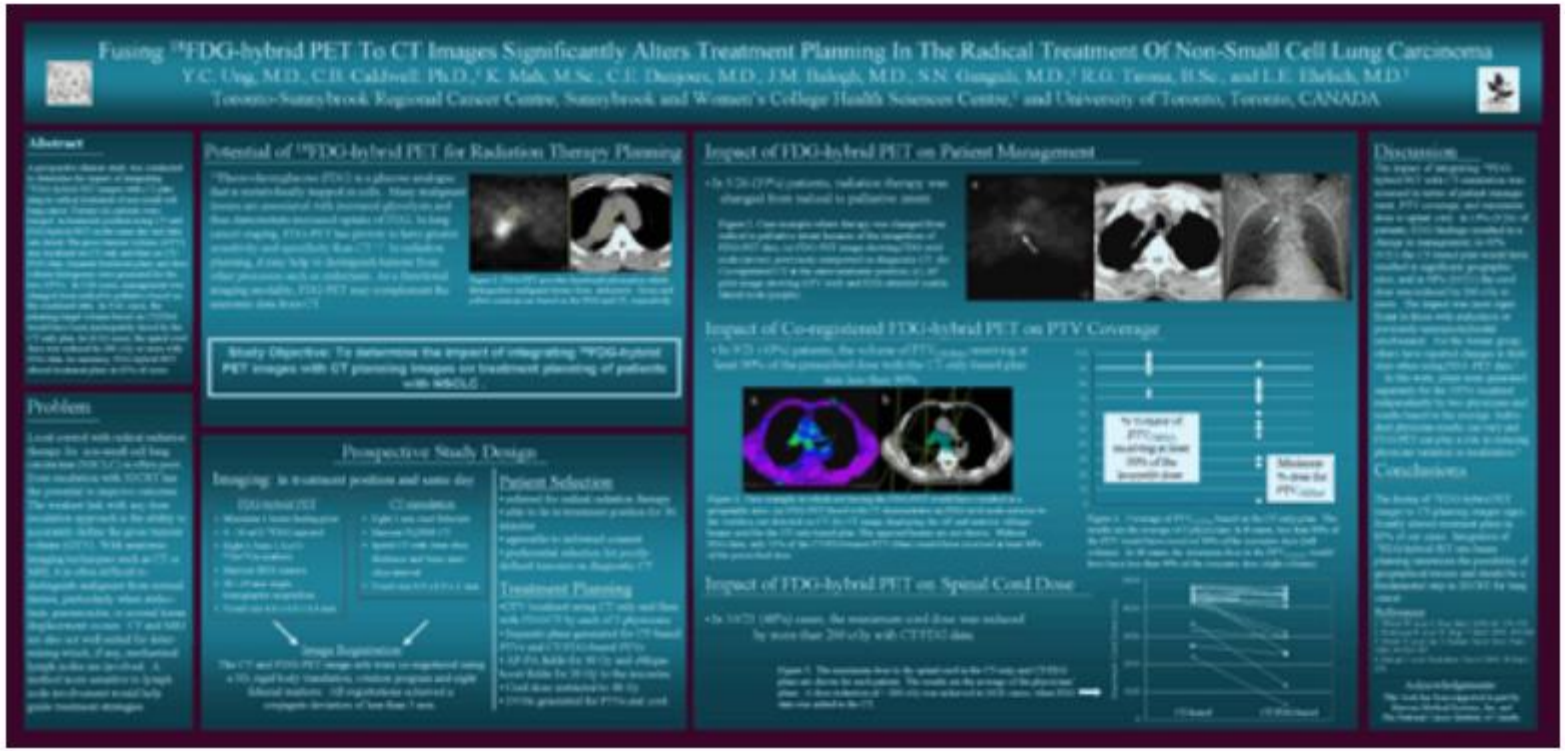


RESULTS

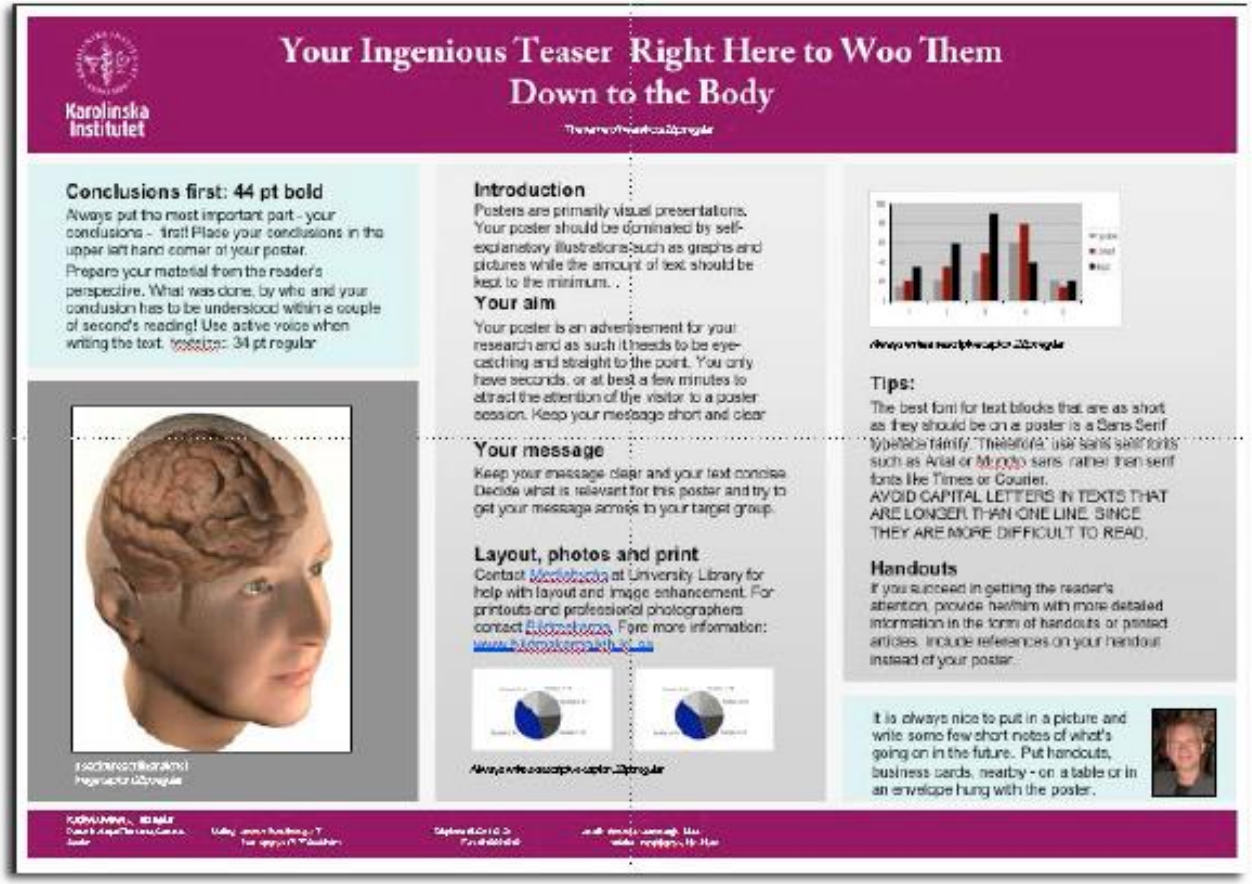


CONCLUSIONS

Nice flow, but too metallic



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


Karolinska Institutet
Your Ingenious Teaser Right Here to Woo Them Down to the Body
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. Text size: 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 Medieburken at University Library for help with layout and image enhancement. For printouts and professional photographers contact Bildmakarna. Fore more information:
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 Myriad 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 her/him 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 write 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!

LESSONS LEARNED FROM AIRWAY PRESSURE RELEASE VENTILATION (APRV)

Lewis J. Kaplan, MD[1,2], Heatherlee Bailey, MD, FAAEM[1]
Medical College of Pennsylvania-Hahnemann University
Departments of Surgery[1] and Emergency Medicine[2], 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 presented a single institution's experience with APRV to determine safety, complication detection, and efficacy at resolving hypoxemia and hypercarbia.

METHODS

Consecutive patients transitioned from either volume or pressure targeted ventilation to APRV (Dräger Evita 4 Pulmonary Workstations) at a University hospital surgical ICU were retrospectively reviewed. Patients initially ventilated with APRV were excluded. Initial ARPV settings to correct for hypoxemia ($pO_2 \leq 60$ torr on $FIO_2 \geq 0.9$) were a P_{high} at the prior plateau pressure, a T_{high} of 6.0 sec and a T_{low} of 0.8 sec. For hypercarbic ($pCO_2 \geq 55$ torr and $pH \leq 7.3$) 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 $p < 0.05$ [3].

RESULTS

Demographics

APRV

Element	Value
% Hypoxemia	89%
% Hypercarbia	42%
Time to $S_pO_2 \geq 92\%$	7 ± 4 min
Time to $FIO_2 \leq 0.6$	5.2 ± 6.9 hr
Time to $pCO_2 \leq 40$ torr	42 ± 7 min
Time to max. Δ pCO_2	76 ± 12 min
Mean change in V_E	-3.3 ± 0.9 L/min[-1]

Transport Safety

Complications

CONCLUSIONS

1. APRV is a safe rescue mode for hypoxemic or hypercarbic respiratory failure and requires a significantly lower V_E 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_{high} required for oxygenation and ventilation. Patients requiring a $P_{high} > 20$ cm H_2O should be transported on the ventilator.

Welcome to the 80's

Fer sure!

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/es Goes Here, Address/es Goes Here, Address/es Goes Here

Introduction

Aim

Methods

Results

Conclusion

Acknowledgements

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