

# Your First Year Poster & YOU.

Tips and Tricks for a successful 1<sup>st</sup>-year poster  
(and beyond)

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BLACK  
HOLE  
DIET PLANS

# PIGS IN SPACE: EFFECT OF ZERO GRAVITY AND AD LIBITUM FEEDING ON WEIGHT GAIN IN CAVIA PORCELLUS



SPACEEXES

## ABSTRACT:

One ignored benefit of space travel is a potential elimination of obesity, a chronic problem for a growing majority in many parts of the world. In theory, when an individual is in a condition of zero gravity, weight is eliminated. Indeed, in space one could conceivably follow ad libitum feeding and never even gain an gram, and the only side effect would be the need to upgrade one's stretchy pants("exercise pants"). But because many diet schemes start as very good theories only to be found to be rather harmful, we tested our predictions with a long-term experiment in a colony of Guinea pigs (*Cavia porcellus*) maintained on the International Space Station. Individuals were housed separately and given unlimited amounts of high-calorie food pellets. Fresh fruits and vegetables were not available in space so were not offered. Every 30 days, each Guinea pig was weighed. After 5 years, we found that individuals, on average, weighed nothing. In addition to weighing nothing, no weight appeared to be gained over the duration of the protocol. If space continues to be gravity-free, and we believe that assumption is sound, we believe that sending the overweight — and those at risk for overweight — to space would be a lasting cure.

## INTRODUCTION:

The current obesity epidemic started in the early 1960s with the invention and proliferation of elastane and related stretchy fibers, which released wearers from the rigid constraints of clothes and permitted monthly weight gain without the need to buy new outfits. Indeed, exercise today for hundreds of million people involve only the act of wearing stretchy pants in public, presumably because the constrictive pressure forces fat molecules to adopt a more compact tertiary structure (Xavier 1965).

Luckily, at the same time that fabrics became stretchy, the race to the moon between the United States and Russia yielded a useful fact: gravity in outer space is minimal to nonexistent. When gravity is zero, objects cease to have weight. Indeed, early astronauts and cosmonauts had to secure themselves to their ships with seat belts and sticky boots. The potential application to weight loss was noted immediately, but at the time travel to space was prohibitively expensive and thus the issue was not seriously pursued. Now, however, multiple companies are developing cheap extra-orbital travel options for normal consumers, and potential travelers are also creating news ways to pay for products and services that they cannot actually afford. Together, these factors open the possibility that moving to space could cure overweight syndrome quickly and permanently for a large number of humans.

We studied this potential by following weight gain in Guinea pigs, known on Earth as fond of ad libitum feeding. Guinea pigs were long envisioned to be the "Guinea pigs" of space research, too, so they seemed like the obvious choice. Studies on humans are of course desirable, but we feel this current study will be critical in acquiring the attention of granting agencies.

## MATERIALS AND METHODS:

One hundred male and one hundred female Guinea pigs (*Cavia porcellus*) were transported to the International Space Laboratory in 2010. Each pig was housed separately and deprived of exercise wheels and fresh fruits and vegetables for 48 months. Each month, pigs were individually weighed by duct-taping them to an electronic balance sensitive to 0.0001 grams. Back on Earth, an identical cohort was similarly maintained and weighed. Data was analyzed by statistics.

## RESULTS:

Mean weight of pigs in space was 0.0000 +/- 0.0002 g. Some individuals weighed less than zero, some more, but these variations were due to reaction to the duct tape, we believe, which caused them to be alarmed push briefly against the force plate in the balance. Individuals on the Earth, the control cohort, gained about 240 g/month ( $p = 0.0002$ ). Males and females gained a similar amount of weight on Earth (no main effect of sex), and size at any point during the study was related to starting size (which was used as a covariate in the ANCOVA). Both Earth and space pigs developed substantial dewlaps (double chins) and were lethargic at the conclusion of the study.

## CONCLUSIONS:

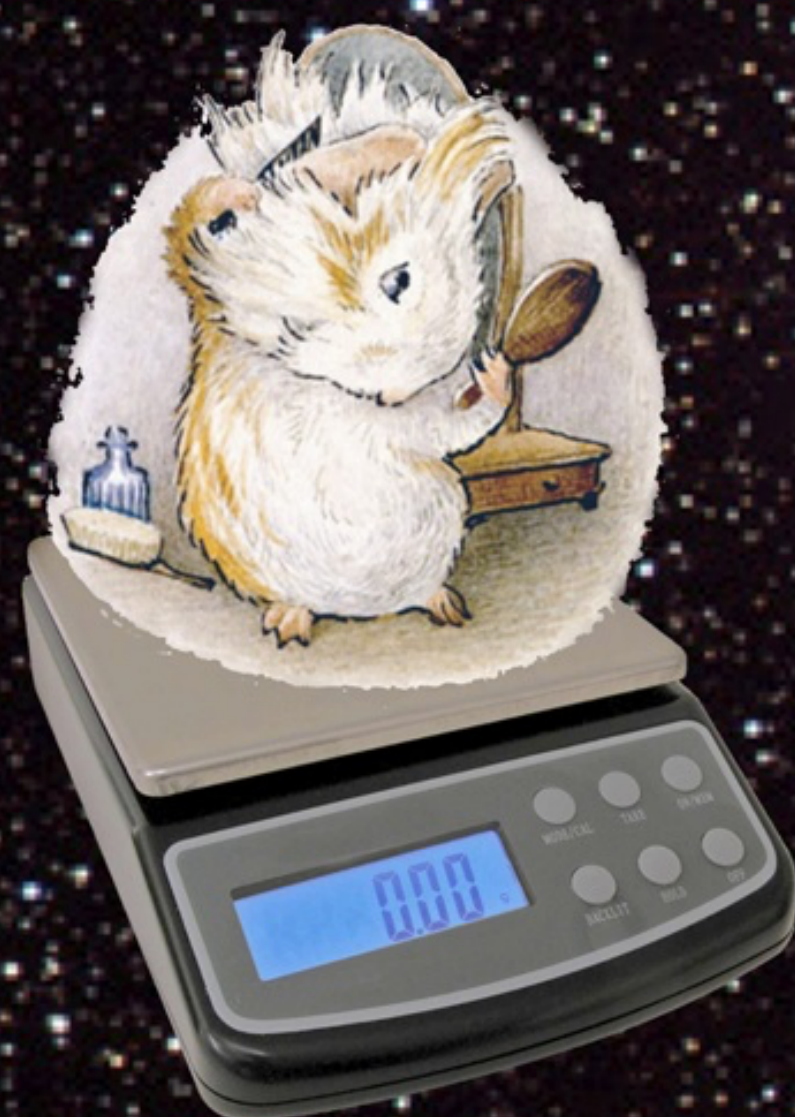
Our view that weight and weight gain would be zero in space was confirmed. Although we have not replicated this experiment on larger animals or primates, we are confident that our result would be mirrored in other model organisms. We are currently in the process of obtaining necessary human trial permissions, and should have our planned experiment initiated within 80 years, pending expedited review by local and Federal IRBs.

## ACKNOWLEDGEMENTS:

I am grateful for generous support from the National Research Foundation, Black Hole Diet Plans, and the High Fructose Sugar Association. Transport flights were funded by SPACE-EXES, the consortium of wives divorced from insanely wealthy space-flight startups. I am also grateful for comments on early drafts by Mañana Athletic Club, Corpus Christi, USA. Finally, sincere thanks to the Cuy Foundation for generously donating animal care after the conclusion of the study.

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NASA. 1982. Project STS-XX: Guinea Pigs. Leaked internal memo.  
Sekulić, S.R., D. D. Lukač, and N. M. Naumović. 2005. The Fetus Cannot Exercise Like An Astronaut: Gravity Loading Is Necessary For The Physiological Development During Second Half Of Pregnancy. *Medical Hypotheses*. 64:221-228  
Xavier, M. 1965. Elastane Purchases Accelerate Weight Gain In Case-control Study. *Journal of Obesity*. 2:23-40.







BLACK  
HOLE  
DIET PLANS



SPACEEXES

# PIGS IN SPACE: EFFECT OF ZERO GRAVITY AND AD LIBITUM FEEDING ON WEIGHT GAIN IN CAVIA PORCELLUS

Colin B. Purrington  
6673 College Avenue, Swarthmore, PA 19081 USA

**Busy**

**All over the place**

**Difficult to follow**



## INTRODUCTION:

The current obesity epidemic started in the early 1960s with the invention and proliferation of elastane and related stretchy fibers, which released wearers from the rigid constraints of clothes and permitted monthly weight gain without the need to buy new outfits. Indeed, exercise today for hundreds of millions of people involves only the act of wearing stretchy pants in public, presumably because the constrictive pressure forces fat molecules to adopt a more compact tertiary structure (Xavier 1965).

We studied this potential by following weight gain in Guinea pigs, known on Earth as fond of ad libitum feeding. Guinea pigs were long envisioned to be the "Guinea pig" of space research, too, so they seemed like the obvious choice. Studies on humans are of course desirable, but we feel this current study is more critical in the long term.

## CONCLUSIONS:

Our view is that the results of this study are confirmed. All of the weight gain observed in the Guinea pigs was mirrored in the human subjects. The results are currently being used in the process of obtaining necessary human trial permissions, and should have our plan implemented within 80 years, pending expected review by local and Federal IRBs.

## ACKNOWLEDGEMENTS:

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## MATERIALS AND METHODS:

One hundred male and one hundred female Guinea pigs (*Cavia porcellus*) were transported to the International Space Laboratory in 2010. Each pig was housed separately and deprived of exercise wheels and fresh fruits and vegetables for 48 months. Each month, pigs were individually weighed by duct-taping them to an electronic balance sensitive to 0.0001 grams. Back on Earth, an identical cohort was similarly maintained and weighed. Data was analyzed by statistics.

## RESULTS:

Weight gain of nine Guinea pigs was 0.0001 g/month. The remaining 191 Guinea pigs gained zero weight. Some of the reasons for this are due to the fact that we have, while using a similar methodology, a force plate in the balance. Individuals on the Earth, the control cohort, gained about 240 g/month ( $p = 0.0002$ ). Males and females gained a similar amount of weight on Earth (no main effect of sex), and size at any point during the study was related to starting size (which was used as a covariate in the ANCOVA). Both Earth and space pigs developed substantial dewlaps (sagging skin) and were lethargic at the conclusion of the study.





# SPACE EXES

One ignored benefit of elimination of obesity, a majority in many parts of individual is in a condition eliminated. Indeed, in spite of ad libitum feeding and no other side effect would stretchy pants ("exercise" schemes start as very good) be rather harmful, we tested term experiment in a porcellus) maintained on 100g. Individuals were housed in pairs, amounts of high-calorie food and vegetables were not available. Every 30 days, 100g. After 5 years, we found they weighed nothing. In a second weight appeared to be maintained protocol. If space continues to believe that assumption is that the overweight — and that space would be a lasting

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s with the invention and proliferation of extremely rigid constraints of clothes and permitted motion. It is not only the case today for hundreds of million people involved in the fashion industry, but also because the constrictive pressure forces fat mass to accumulate in the abdominal region.

As the race to the moon between the United States and the Soviet Union turned out to be a dead end, the goal to non-existent. When gravity is zero, or near zero, astronauts had to secure themselves to their ships and equipment. As noted immediately, but at the time it was not fully appreciated, the space race was also a race to pursue. Now, however, multiple options are available for space travel, and potential travelers are beginning to emerge. Together, they will afford a new era of space exploration and normalcy.

weight gain in Guinea pigs. The authors of the rat study seemed like the  
to be the "Guinea pigs" of the study. The authors of the rat study  
are of course desirable, but we feel that the current study will be critical in  
encies.

## RESULTS AND METHODS:

On 10 October 2010, 100 male and one hundred female Guinea pigs (*Cavia porcellus*) were transported to the International Space Station (ISS) and housed in the Large Animal Rack System (LARS) facility. Each pig was housed separately and had access to food wheels and fresh fruits and vegetables for 48 h. After 48 h, pigs were individually weighed by duplicate on a 10 kg electronic balance sensitive to 0.0001 gram. The control and ISS identical cohort was similarly maintained and analyzed by statistics.

RES

Mean weight change in space was  $0.0000 \pm 0.0002$  g. Some individuals lost weight, some less than zero, some more, but these variations were due to reaction to the duct tape, we believe, which caused them to be alarmed push briefly against the force plate in the balance. Individuals on the Earth, the control cohort, gained  $40$  g/month ( $p = 0.0002$ ). Males and females gained the same amount of weight on Earth (no main effect of sex). At any point during the study was related to start weight was used as a covariate in the ANCOVA). Both cohorts of pigs developed substantial deaplays (double the control) and lethargic at the conclusion of the study.

## CONCLUSIONS:

Our view that weight and weight gain would be zero in space was confirmed. Although we have not replicated this experiment on larger animals or primates, we are confident that our result would be mirrored in other model organisms. We are currently in the process of obtaining necessary human trial permissions, and should have our planned experiment initiated within 80 years, pending expedited review by local and Federal IRBs.

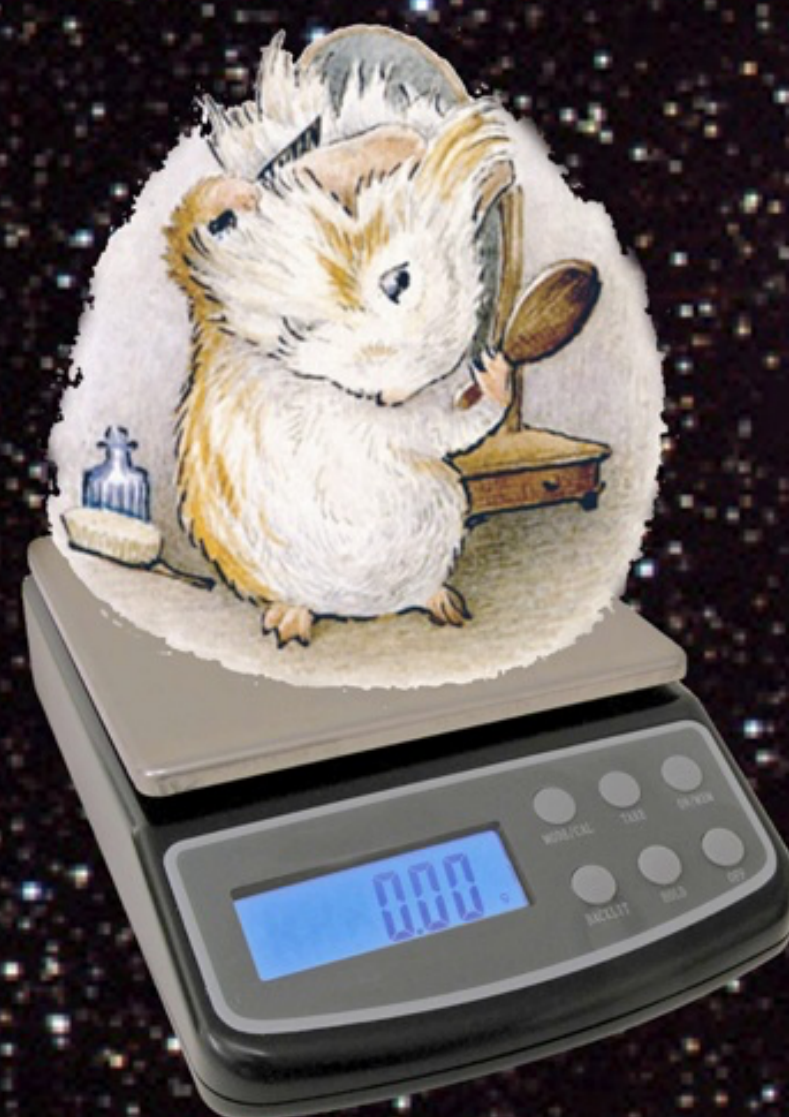
## ACKNOWLEDGEMENTS

# Don't even

# LITERATURE

entry it.

# Don't even try it.





# Main title at least 50 pts. and in bold

## Subtitle at least 35 pts (bolding and different color optional)

Your name and other authors at least 25 pts. and in bold

Institution Name

### Font Size and Types & Text

- Bar Titles at least 30 pts and bolded
- Bullet-points at least 25 pts
- Try to use just one or two font types and play around with **bolding** and *italicizing*, sparingly
- Overall, using a limited font type make for a consistent look
- Helvetica, Arial, **Futura**, Times New Roman, Garamond, Charter, and **Verdana** are common font types, but you can try other ones. **Don't use anything ostentatious.**
- You don't have to write full sentences; no need for periods
- References can be number notated<sup>1,2</sup>
- Limit each bullet-point to two lines; exceptions are quotations

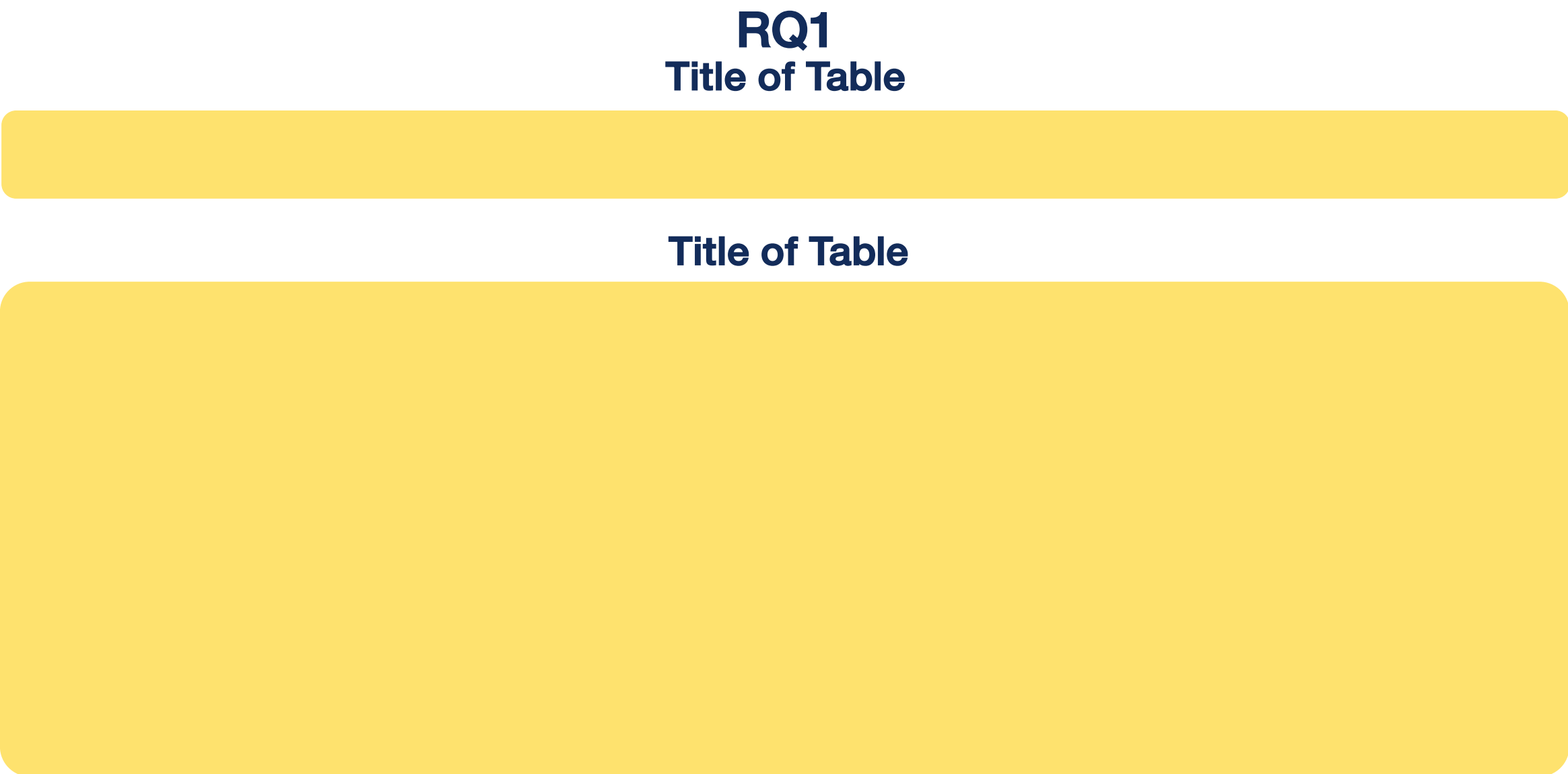
**RQ1:** Research question section should be distinct enough for people to quickly hone in on

**RQ2:** You don't have to make it its own section, but make sure it doesn't get lost in your poster!

### Powerpoint is your friend

- You can align well by using GUIDES that you can move:
  - Go To View-> Guides -> Guides
- Change the size of your Presentation:
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  - Powerpoint cannot be sized to a 6 ft x4 ft (72 in x 48 in) poster, so you have to use a presentation size commensurate to those dimensions.
  - To avoid having a HUGE file size that slows down Powerpoint, make the size of your presentation ½ of the required dimensions. The printing company will resize it.
- Send your poster as .pdfs to Julie Hahm!
  - Remember to get it approved by your advisor
  - She will email you when it's ready to be picked up!

### Results



### The Overall Look

- You can always use a template! It makes life easier!
- Well-used color palettes are what makes your poster your own and aesthetically eye-catching!
- Stick with simplicity and focus on **color contrasts!**
  - A white background is a cleaner, roomier look
  - Use bright colors to accentuate your presentation
  - Use dark colors for titles bars
- You should NOT use gradients. Or if you do, make it subtle. Don't go crazy.
- Images should be HIGH resolution (300DPI)
  - Anything less than 300 DPI will look blurry and pixelated
- If you also want to present this at a specific conference, look at their specific guidelines (they will vary by conference).

### The Presentation Talk

**Elevator pitch! You have about 1 ½ 2 min to explain your poster**  
Tell the story.... *You set out to find something out, you already knew some things, you collected and/or analyzed some data and this is what you found, this is important because...*

Keep jargon at a minimum. Be conversational and “user-friendly”  
Most people that you present to may not know much about your specific topic

**Get to the data and findings as quickly as possible**  
*(We found we spent too much time on background and method)*

**You're talking to an expert?** Consider a more technical second talk for a more academic talk! Some jargon here is fine.

Be prepared for very general and very specific questions, it all depends on who you are taking to.  
*Most people are just going to want to know the broad strokes.*

Need a moment to thoughtfully answer a difficult question? Use something like, *“That's a really great question. Not a lot of people have asked me that before, so thank you,”* to have some think time



# Resources

- **Color Relationships**  
<https://www.liverpool.ac.uk/media/livacuk/computingservices/printing/making-an-impact-with-your-poster.pdf>
- **Color Palettes (Use with Caution) GO BEYOND BLUE AND YELLOW!**
- <http://www.colourlovers.com/palettes>
- **Templates**
- **SoE DECADE Team DRIVE!**
- <http://colinpurrington.com/tips/poster-design>
- <https://www.genigraphics.com/templates>
- <https://brand.cfaes.ohio-state.edu/research-poster-templates>
- Or use images of posters online and “trace” over it to create a skeleton of your poster



# Poster Title Goes Here: Exactly As Was Submitted on Abstract

Your Logo

Author1, AB; Author2 CD; Author3 EF

Departments (sometimes superscripts are used on author names to match with different departments)

NAME OF INSTITUTION(S)

## Section 1

This is usually the Introduction or Rationale.  
But, sometimes the instructions are to put an Abstract here.  
Try to keep this no more than a short paragraph, two max.

*Click here to reveal the text box.*

Start by figuring out how wide your poster should be for this meeting. Adjust columns accordingly.

## Section 2

These blue section headers are a text box inside a shape box. Stretch both to fit the text, and keep the text box centered horizontally and vertically in the shape. You can also change the color of the boxes.

Often this is the Methods section – tell your audience what you did.

- Use bulleted lines
- Make it easy for the readers
- Not too much heavy-text reading.

*Click here to reveal the text box.*

Go to View- Gridlines,  
to snap on gridlines to help with centering

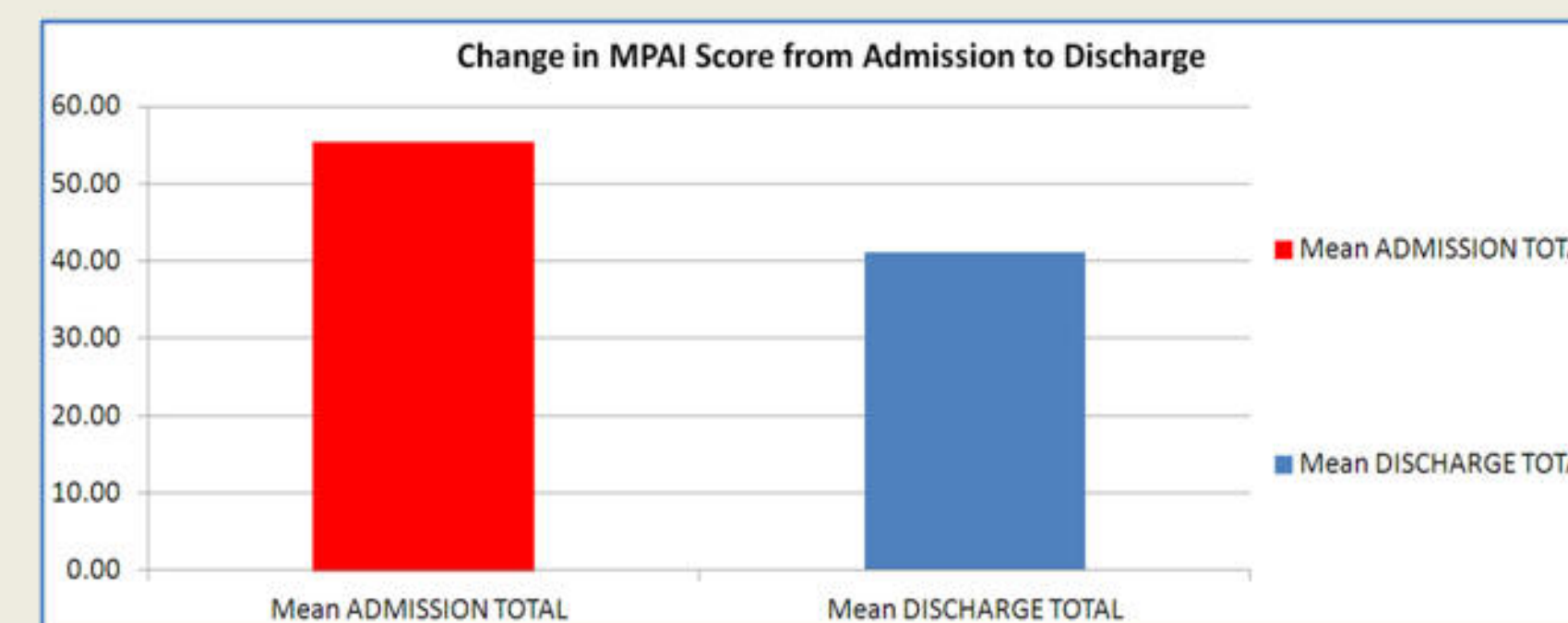
## Section 3

Often this is the **Results** section – the meat of your work. Remember, a poster is not a “manuscript on the wall.” Avoid making the poster too text-heavy. Ways to do this include:

- Use bulleted lines
- Use as few words as possible to make the point
- Add images or graphs or tables
- Present the most important findings, not necessarily every finding.
- Don't be too afraid of white spaces

Insert a shape or text box  
for added interest and highlighting

*Click here to reveal the text box.*



If appropriate and possible, present some of your findings in an image. This adds visual interest and helps tell the story of your work. Visitors to your poster do not want to read too much; they want to ‘get the story fast.’

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## Section 4

Usually **Summary , Conclusions, or Significance** go here

Sometimes “**Next Steps**” or “**Future Plans**”

*Click here to reveal the text box.*

We recommend a sans serif font: (no tails on the letters)  
Arial, Calibri, Microsoft Sans Serif

rather than a serif font (tails)  
Times New Roman



Here is an extra text box, if you need one somewhere.  
Grab it and move it where you need it.

*Click here to reveal the text box.*

Name your funding or sponsor source here. Add their Logos if you like.

This poster template brought to you by **pEDI.edtech**, faculty development program in Pediatrics, University of Texas Medical Branch  
sponsored by US Dept. Health & Human Services, Health Resources & Services Administration.



# Beyond the Blue and Yellow:

## Examining the Associations between Novel Color Schemes and Perceived Memorability of Cohort 11 Posters

### Introduction

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### Research Questions

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### Method

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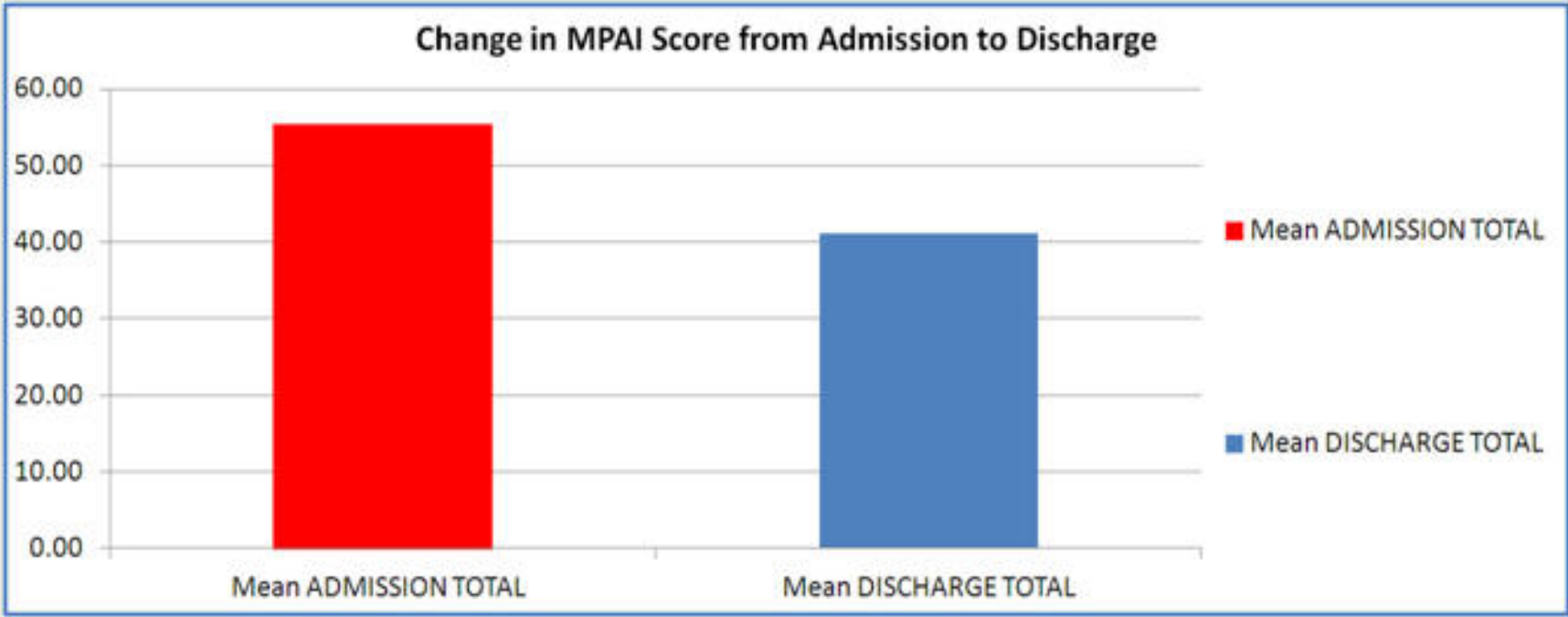
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Beyond the Blue and Yellow

Examining the Associations between Novel Color Schemes and Perceived Memorability of Cohort 11 Posters

Introduction

Findings

Discussion

Research Questions

Method

References



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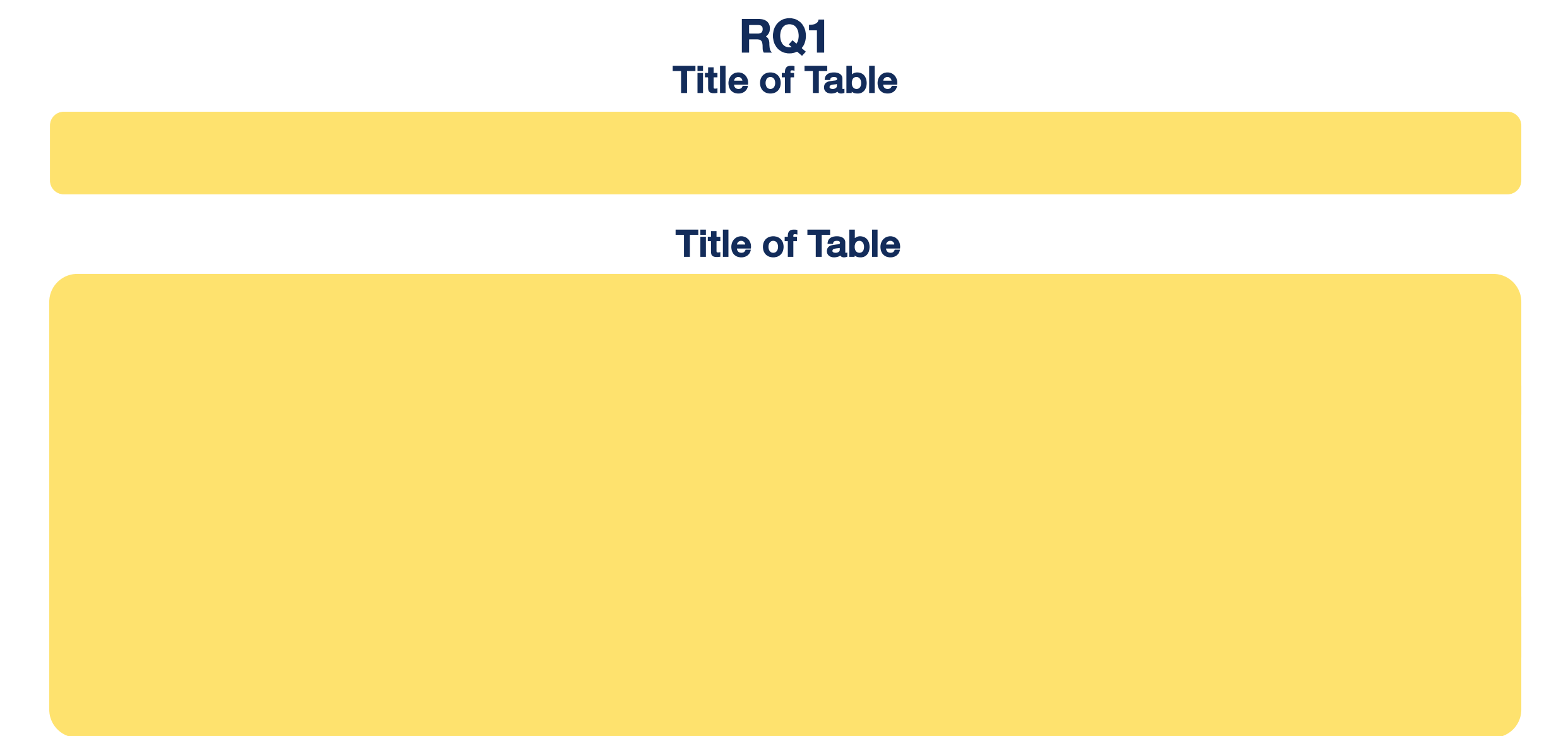
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# Printing Companies

You DO NOT have to print your 1st Year Poster by yourself, but it is up to you to print your own posters thereafter.

Here are some suggestions from people from SOE.

**Remember, you can get reimbursed for these! =D**

- **Makesigns.com**
  - High quality and cheap. Delivery only, as they are based off of Illinois
- [http://www.makesigns.com/SciPosters\\_Home.aspx](http://www.makesigns.com/SciPosters_Home.aspx)
- **Irvine Printing Company**
  - Locally trusted, but can get pricey.
- <https://www.irvineprinting.com/customer/account/login/>
- **Local print businesses with relatively quick turn-around**
- Office Depot (on Campus Drive near the airport; **very cheap!**)
- Fedex Kinkos (UTC)



# Nestor Tulagan

Ntulagan@uci.edu

Room 3381