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# Research Students

## Creating an effective conference poster

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Academic Writing and Language

Learning Enhancement Team

# Creating an Effective Conference Poster

## Plan for the workshop

1. Introductions
2. Spot the differences
3. Structure – layout
4. Structure – content
5. Purpose
6. Top Tips
7. Resources
8. Guidelines for poster presenters

From RSSC committee

## Questions and Comments

# Creating an Effective Conference Poster

**Introductions:** Please tell us the following

Name  
School  
Department

# Creating an Effective Conference Poster

**Spot the differences:**

examine the two posters

Think about:

What are the differences?

content

layout

Which poster is more effective?

Why?

How easy is it  
for you to read?





SPACEEXES

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

Colin B. Purrington

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## 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.

## LITERATURE CITED:

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.



Source: <https://colinpurrington.com>





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# Influence of Thermal Treatments on Calcium and Magnesium Distribution in BOVINE CHEESE-MAKING MILK

Edgardo Rosas, C. Germán Acosta, E. E. and Teófilo, R. R.†

## 1 Abstract

Calcium and magnesium in milk are distributed into three main groups: micellar, soluble, and ionic. This distribution is relevant to technical purposes since it defines some functional properties, such as heat and acid coagulation properties. Thermal processes used in the industry modify the balance of minerals hence modifying the technical properties of milk.

The aim of this research was to assess the change on the Ca and Mg distribution in the milk phases after thermal treatments.

Soluble calcium and magnesium were affected by thermal treatments. High temperatures solubilized Mg and unsolubilized Ca ions. Ca concentration is lowered by higher treatment temperatures while ionic Mg increases. At treatment temperatures over 60°C the behavior of SM and SC does not change (p > 0.05). However the proportions between ionic and no ionic forms of each mineral in the soluble phase continue changing at higher temperatures, suggesting that Mg dissociates in the soluble phase allowing Ca to associate with the released anions. SC and SM contents do not significantly varied with treatment time.

## 2 Introduction

Calcium and Magnesium are present in different forms in milk, in the soluble phase of milk, associated to different anions, or dissociated as an ionic form, and included in the colloidal phase in milk<sup>1-4</sup>.

The balance of the diverse forms in which calcium is present in milk is extremely important since it defines major properties of milk, which are relevant in the production of cheese<sup>5</sup>.

Thermal treatments applied to milk prior to manufacture of dairy products play an important role modifying the technical properties of milk. Calcium and Magnesium concentrations in the micellar and soluble phases are modified by thermal treatments hence modifying the ability of milk to coagulate.

## 3 Objective

The objective of this research was to assess the changes on the calcium and magnesium distribution in the soluble phase (ionic and no ionic form) and micellar phase of milk after thermal treatments at different temperatures.

## 4 Materials And Methods

Raw whole bovine milk was obtained from a local farm immediately after milking. Milk was stored and proximate composition was assessed.

Table 1		
Moisture (g / 100g)	90.5	± 0.1
Fat (g / 100g)	0.9	± 0.4
Protein (g / 100g)	3.3	± 0.1
pH	6.6	± 0.02
Na (mg / L)	406	± 27
K (mg / L)	1125	± 36
Ca (mg / L)	1240	± 29
Mg (mg / L)	74	± 6

Note: L: Lower standard deviation.

Milk samples were subjected to different thermal treatments (3, 2, 25, 33, 50, 60, 70, and 80 °C). Immediately after treatments temperature was reached the samples temperature was adjusted to 20 °C.

Dispensed and soluble phases of milk were separated by ultrafiltration centrifuging in a 20 µm ultrafilter acetate tube filters at 20,000 x g for 20 min just after thermal treatment conditions were reached.

Soluble calcium (SC) and magnesium (SM) were measured by atomic absorption spectrometry from the ultrafiltration permeate. Ionic calcium (IC) and ionic magnesium (IM) were measured employing a calcium and calcium/magnesium selective ion electrode, respectively. All measurements were carried out at controlled room temperature.

A total of three replicates of the experiment were assessed. Analysis of variance was conducted using Minitab version 14 (Minitab Ltd., Coventry, UK). Tukey's multiple means comparison was conducted at a 95% confidence level.

## 5 Results

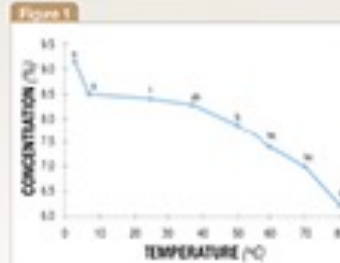


Figure 1. Total calcium percentage in milk heated by different temperatures. L.S.D. values with a common superscript are not significantly different (P < 0.05). Values are expressed as a percentage of the total calcium content in raw milk (1240 mg/L).

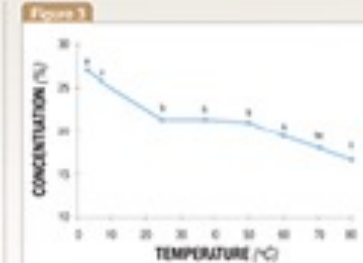


Figure 3. Soluble calcium percentage in milk heated by different temperatures. L.S.D. values with a common superscript are not significantly different (P < 0.05). Values are expressed as a percentage of the total calcium content in raw milk (1240 mg/L).

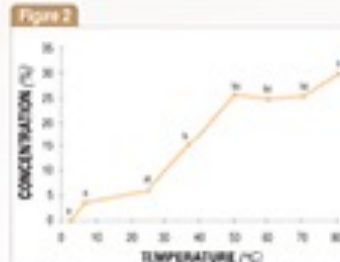


Figure 2. Total magnesium percentage in milk heated by different temperatures. L.S.D. values with a common superscript are not significantly different (P < 0.05). Values are expressed as a percentage of the total magnesium content in raw milk (74 mg/L).

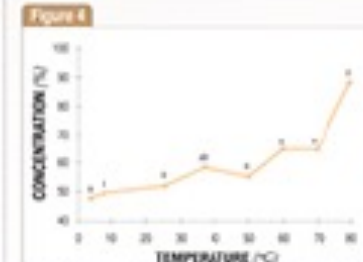


Figure 4. Soluble magnesium percentage in milk heated by different temperatures. L.S.D. values with a common superscript are not significantly different (P < 0.05). Values are expressed as a percentage of the total magnesium content in raw milk (74 mg/L).

## 6 Conclusions

The present study characterizes the interaction between calcium and magnesium after thermal treatments, suggesting an interaction between these two cations, which may play a relevant role defining rennetability and thermal stability.

The findings of this study show that the decrement on the IC concentration when temperature is increased is proportional to the increment on the IM concentration, suggesting that both cations can transfer anions between them to maintain milk soluble phase equilibrium.

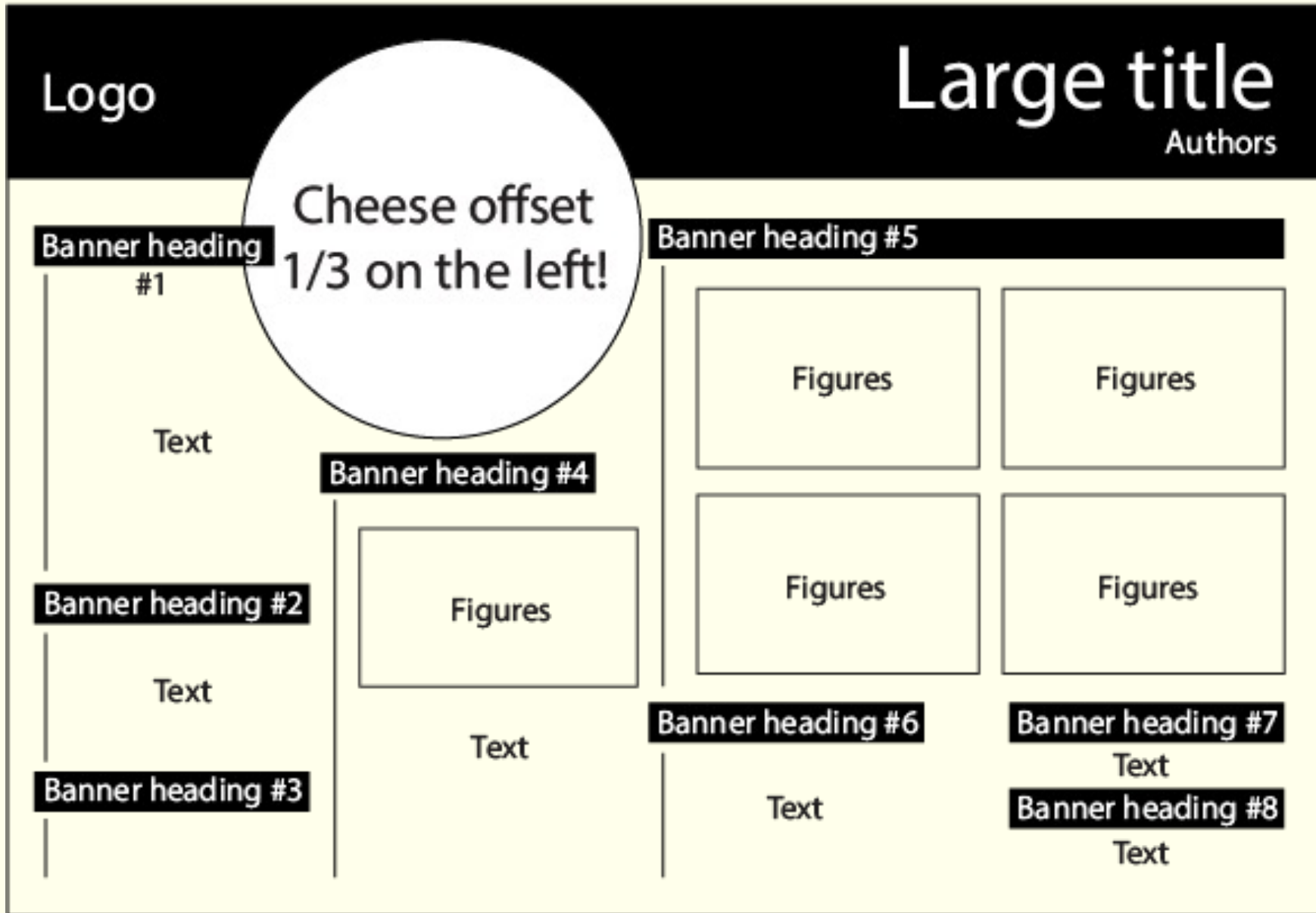
## Acknowledgments

This authors thank Miguel Aguilar, Oscar Valencia, Carlos Guerrero and Javier Méndez for their technical assistance. The work was supported by the Mexican National Council of Science and Technology (CONACYT) and the Sinaloa State Government, through PROMEX and number 046-2012-1-0000.

## References

1. Hildner F, Wessels G, Daulton T. 2008. *Dairy Science and Technology*. 2nd Edition. CRC Press, Boca Raton, Florida, Florida.
2. Bost, M., Lecoq, R., & Guéhenno, C. (2005). *Acta Dairy Technol*, 58(3), 10-18.
3. Lopez-Fernandez, G., de la Haza, M.A., Ramos, M., & Somo, M. (1998). *J. Soc. Res. 45*, 101-105.

Source: <https://www.animateyour.science/post>



Source: <https://www.animateyour.science/post>

# Creating an Effective Conference Poster

Typical structure for scientific research poster

## IMRAD

- Introduction
- Methods
- Results
- Analysis
- Discussion

Other common types of structures

## Thematic

Groups sections by theme

## Narrative

Tell a story about your topic

## Questions & answers

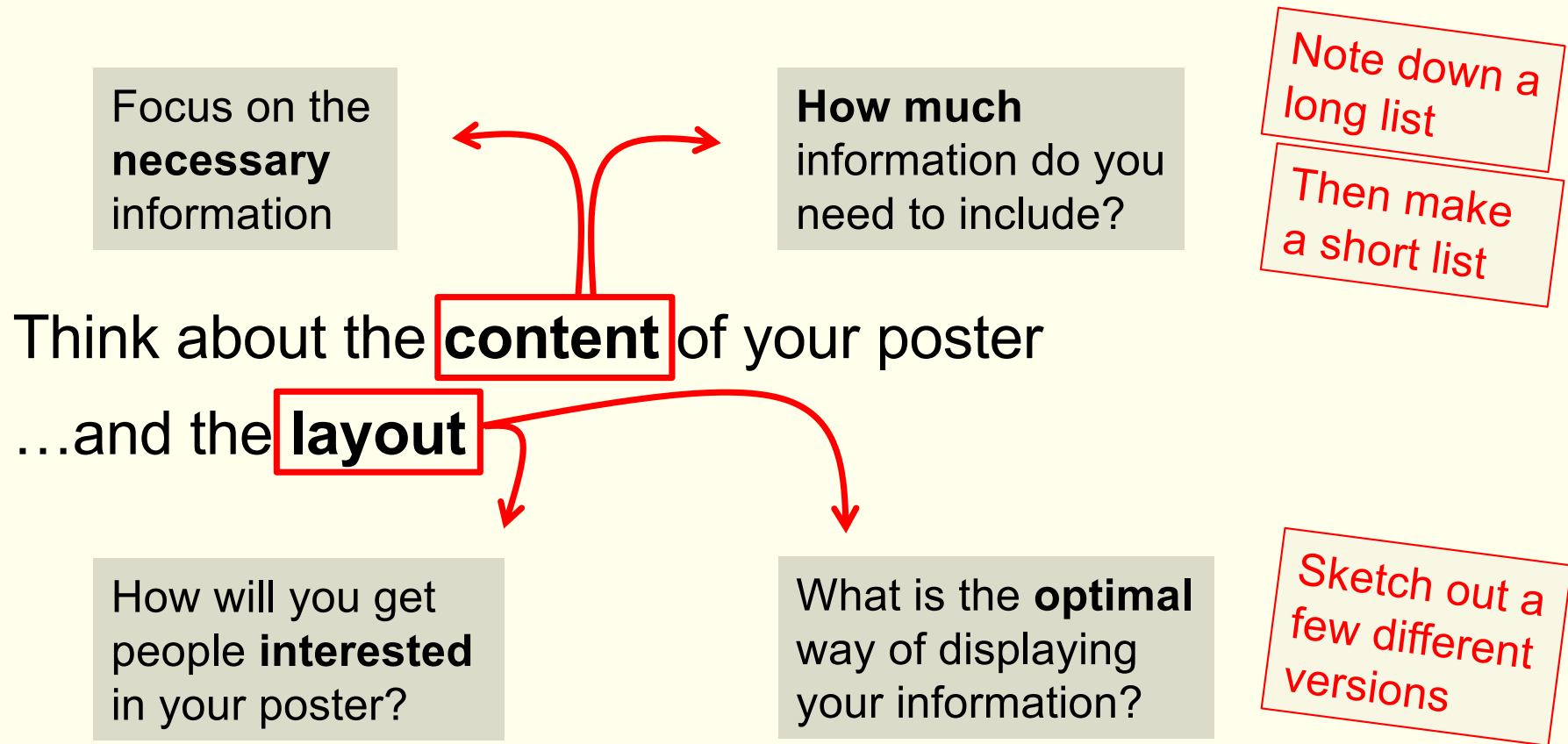
Research questions and how you answered them



# Creating an Effective Conference Poster

## Poster presentation: What's the purpose?

A way of promoting and communicating ideas at a conference



# Creating an Effective Conference Poster

## Things to consider

Ask someone else to read it through

Does it communicate as you want it to?

- Correct grammar, spelling and syntax (word order)
- Be sure visuals are clear and labelled
- Not text heavy – no one will read everything
- Use colour to emphasise the sections
- Keep the design clear and simple

Titles or description  
Sources of images

Short paragraphs  
Bullet points

Harmonious colours  
or contrasting?

But try to find ways to  
make it stand out

<https://summerconferencemdxc.wordpress.com>

## Guidelines for poster presenters (1)

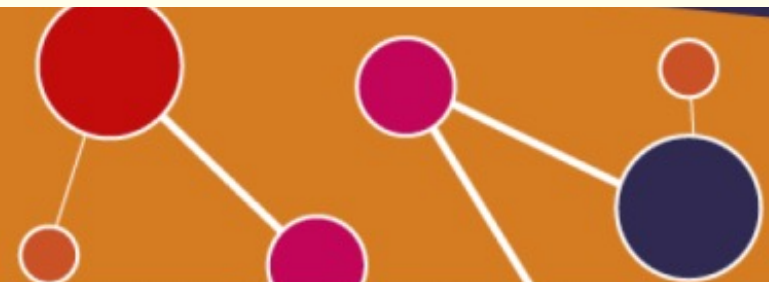
### What poster can I submit?

- Create a digital poster
- A1 size, 300dpi resolution
- Orientation can be portrait or landscape.
- Not very text-heavy and the font is large enough to be legible on a full screen.
- Convert your poster to PDF before you send it.

*PowerPoint  
is good for this*

**KNOWLEDGE**

**z ACTION**



<https://summerconferencemdxdx.wordpress.com>

## Guidelines for poster presenters (2)

### Send poster pdfs to:

- Nicola Skinner [n.skinner@mdx.ac.uk](mailto:n.skinner@mdx.ac.uk)
- by Monday the 13th June 2022

### Label the pdf document with:

- your name
- 22<sup>nd</sup> June or 23<sup>rd</sup> June

The day you signed up for on  
EasyChair with your Abstract

**KNOWLEDGE**

**z ACTION**





<https://summerconferencemdxx.wordpress.com>

## Guidelines for poster presenters (3)

### Printing

For the 'in person' posters, the University can print your poster for free through the University services.

On campus  
in Hendon  
on 23<sup>rd</sup> June

**KNOWLEDGE**

**z ACTION**



<https://summerconferencemdxdx.wordpress.com>

## Guidelines for poster presenters (4)

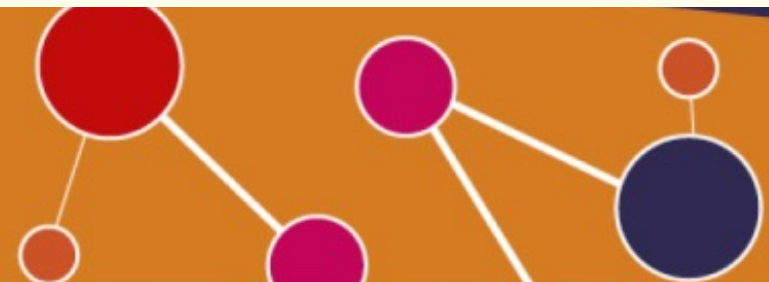
### **Poster: layout / content**

- Poster title – submitted Abstract title
- White boarder
- Include your name
- Do not print white text on black backgrounds or Green text on red background (or vice versa)

**KNOWLEDGE**



**ACTION**



<https://summerconferencemdxd.wordpress.com>

## Guidelines for poster presenters (5)

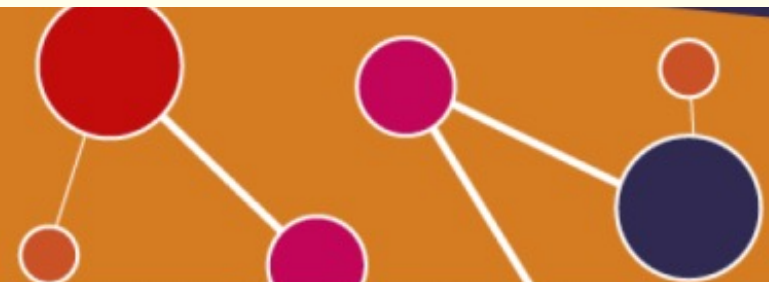
### **Poster: Middlesex Logo**

- Use one of the Middlesex logos attached to email from RSSC admin.
- Place at the top left hand side of the poster.
- Do not change the aspect ratio of the image and distort the logo.

**KNOWLEDGE**



**ACTION**



<https://summerconferencemdxdx.wordpress.com>

## Guidelines for poster presenters (6)

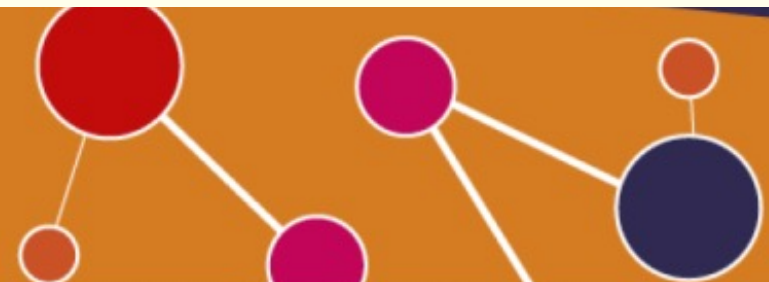
### **Poster: Font**

- Arial, Times New Roman, or Calibri
- Keep font size variations to a minimum.
- The font must be visible from 1 metre away.

**KNOWLEDGE**



**ACTION**





<https://summerconferencemdxdx.wordpress.com>

## Guidelines for poster presenters (7)

### Recordings

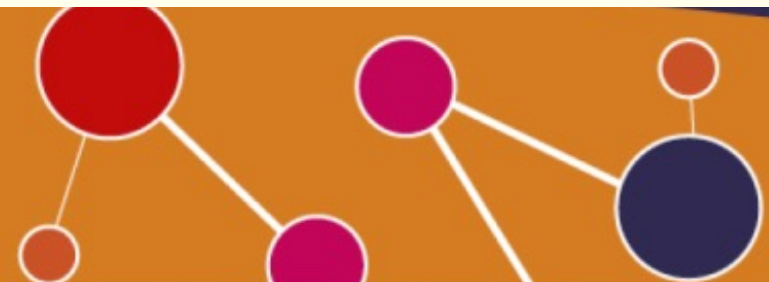
- Record a 2-3 minute video or audio presentation.
- These will be made available on the conference website, along with your digital poster.
- Delegates can watch the videos during the conference week.
- A dedicated Q&A session happens on the 23rd of June for interaction with poster presenters

summarise  
your poster



**KNOWLEDGE**

**z ACTION**



<https://summerconferencemdxdx.wordpress.com>

Guidelines for poster presenters (8)

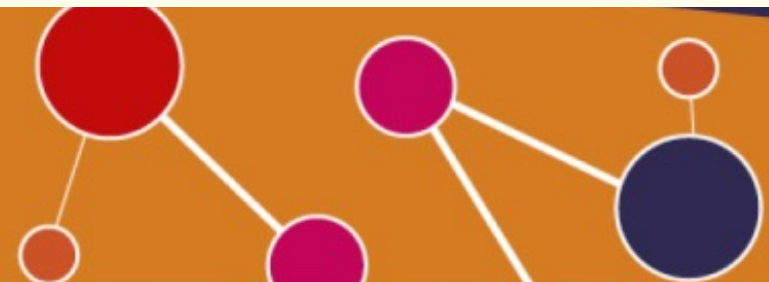
**What kind of video/audio can I submit?**

- A narrated PowerPoint (the PowerPoint should ideally be the poster)
- A video of yourself speaking
- An audio of yourself speaking

**KNOWLEDGE**



**ACTION**



<https://summerconferencemdxc.wordpress.com>

## Guidelines for poster presenters (9)

### How long should my recording be?

- 2-3 minutes long.

### Do I need any special software for video recording?

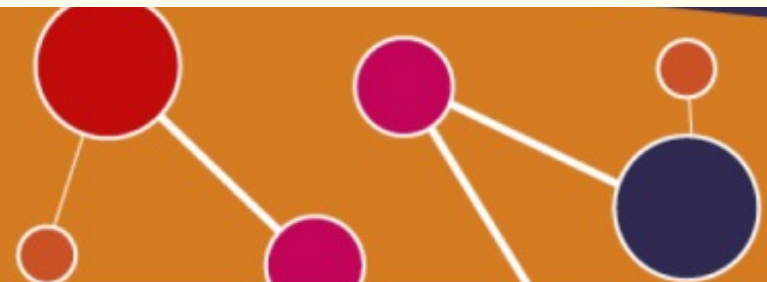
- You can use PowerPoint,
- any lecture software (e.g. Zoom, Panopto),
- an audio recording device (including your phone).

online guides  
are available



**KNOWLEDGE**

**z ACTION**



# Creating an Effective Conference Poster

## Poster templates

*...and many others available online*

<https://ugs.utexas.edu/our/poster/templates>

## Examples of Posters

<https://ugs.utexas.edu/our/poster/samples>

## Analysis of successful (science) posters

<https://www.animateyour.science/post/best-examples-of-scientific-posters>

## Youtube tutorial on designing a poster in PowerPoint

[https://youtu.be/\\_WnholbfcoM](https://youtu.be/_WnholbfcoM)



# Creating an Effective Conference Poster

