

Scientific Presentations and Posters

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Scientific Presentations



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Outline

- Introduction to scientific presentations
- Importance
- Presentation content
- Presentation structure
- Presentation delivery
- Examples



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What is a scientific presentation?

“**Scientific presentation** is a professional way of disseminating research, make peers aware of novel approaches, findings or problems”

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Why are scientific presentations important?



- ❖ Sharing your work and achieving recognition
- ❖ Ability to advocate for your science
- ❖ Learn how to talk about your research
- ❖ Contribute to your overall research profile
- ❖ Meet other researchers in your field

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Where to start?



- What is the objective of your presentation?
- Which main points do I want to present?
- Key message for audience to remember?

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Preparing for a presentation

❖ Three major facets to a presentation:

- The content
- How it is packaged/structured
- How it is presented/delivery



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[A] Presentation Content



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1] Know your audience

❖ Gear your presentation to the audience

- Are they colleagues?
- Researchers in a related field?
- General public?
- Donors?



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2. Set the stage

- ❖ Use an informative title
- ❖ General > focused
- ❖ Why is this important?
- ❖ Define the objective of the presentation
- ❖ Specify exactly what you want your audience to learn



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3. Tell your story

- ❖ A presentation or poster is *your* story.
 - A logical unfolding of information
 - An imprecise speaker is an unfocused thinker



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Your story...



Beginning

- Context
- What was the problem

Middle

- Highlight what was done succinctly and logically

End

- Sum up key points
- Where you are today

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4. Summarize - Keep it simple

- ❖ The goal is to communicate
- ❖ Brief definitions
- ❖ Explanations of terminologies and processes
- ❖ Distil your work to its essence



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[B] Presentation Structure *(Dos and don'ts of PowerPoint slides)*



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Leading mistakes

- ❖ Poor choice of font and size
- ❖ Poor choice of colours for background and text
- ❖ Too much data
- ❖ Too many lines of text



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What font to use

- ❖ Serif fonts take longer to read...
 - This font is Times New Roman.
 - This font is Courier.
- ❖ Use a Sans Serif font:
 - This font is Arial.
 - This font is Comic Sans.



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Font size

❖ Font size should be 18 points or larger:

18 point

20 point

24 point

28 point

36 point

* References can be in 14 point font



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FONTS Cont.

**AVOID USING ALL CAPITAL LETTERS
BECAUSE IT'S MUCH HARDER TO READ!**



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Examples – Font Style and Size

Fonts - Bad

- If you use a small font, your audience won't be able to read what you have written
- CAPITALIZE ONLY WHEN NECESSARY. IT IS DIFFICULT TO READ
- **Don't use a complicated font**

Fonts - Good

- Use at least an 18-point font
- Use different size fonts for main points and secondary points
 - this font is 24-point, the main point font is 28-point, and the title font is 36-point
- Use a standard font like Times New Roman or Arial

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Colour

- ❖ Dark letters against a light background
 - Best for smaller rooms and for teaching
- ❖ Light colours against a dark background
 - Best for large rooms



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Colour cont.

- Avoid red-green combinations
 - A large fraction of the human population is red-green colour blind.

Lots of people can't read this -
and even if they could, it makes the eyes hurt

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Choose colours carefully



Slide backgrounds, font sizes and colour

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Examples – Colour

Colour - Bad

- Using a font colour that does not contrast with the background colour is hard to read
- Using colour for decoration is distracting and annoying.
- Using a different colour for each point is unnecessary
- Trying to be creative can also be bad

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Colour - Good

- Use a colour of font that contrasts sharply with the background
 - Ex: blue font on white background
- Use colour to reinforce the logic of your structure
 - Ex: light blue title and dark blue text
- Use colour to emphasize a point
 - But only use this occasionally

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Structure/Layout

- ❖ Keep the layout and style as consistent as possible.
- ❖ Every slide should have a heading.
- ❖ Try to limit bullets to no more than 7 lines.

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Structure/Layout cont.



The reason for limiting text blocks to two lines is that when the text block goes on and on forever, people in the audience are going to have to make a huge effort to read the text, which will preclude them from paying attention to what you are saying. Every time you lose their focus, your presentation suffers!

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Examples - Structure/Layout



Slide Structure - Bad

- This page contains too many words for a presentation slide. It is not written in point form, making it difficult both for your audience to read and for you to present each point. Although there are exactly the same number of points on this slide as the previous slide, it looks much more complicated. In short, your audience will spend too much time trying to read this paragraph instead of listening to you.

Slide Structure – Good

- Use 1-2 slides per minute of your presentation
- Write in point form, not complete sentences
- Include 4-5 points per slide
- Avoid wordiness: use key words and phrases only

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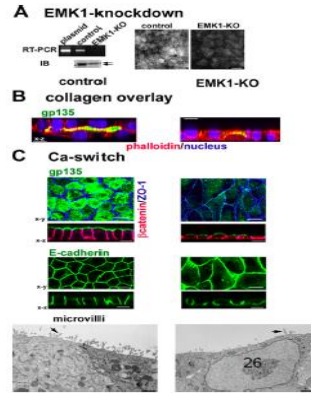
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Visuals

- Do not cram too much into a slide.
- Try to include a simple image on every slide.



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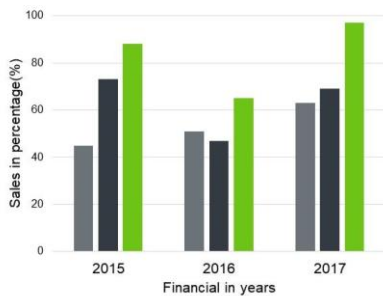


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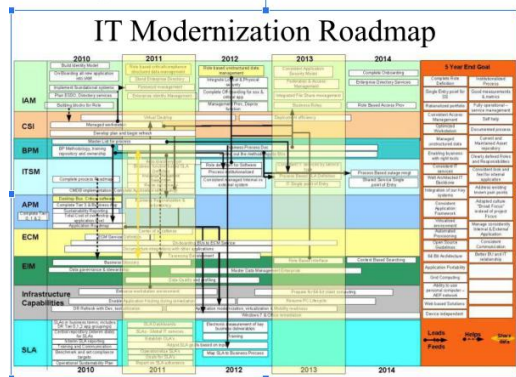
Examples - Visuals



Product 01
This slide is 100% editable. Adapt it to your needs and capture your audience's attention.

Product 02
This slide is 100% editable. Adapt it to your needs and capture your audience's attention.

Product 03
This slide is 100% editable. Adapt it to your needs and capture your audience's attention.



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Animation



- ❖ It is often effective to “unveil” a list point by point.
- ❖ Do not overuse animations and do NOT have screeching sounds as text enters!

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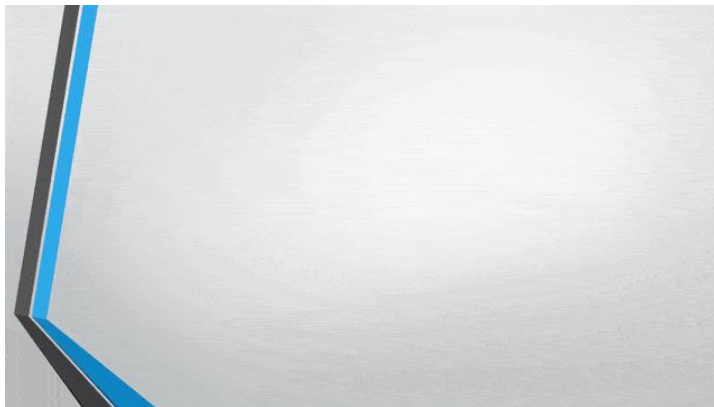


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Example - Animation



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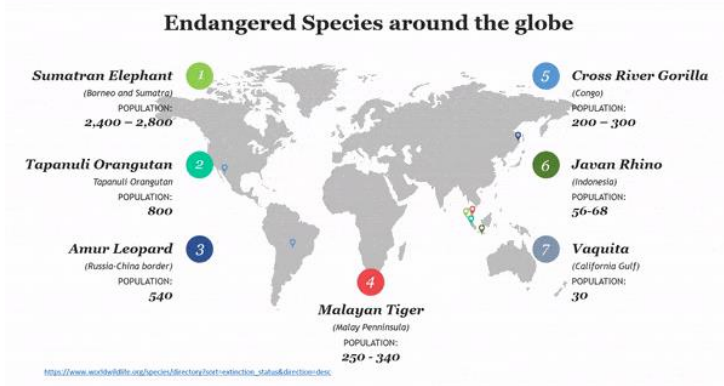


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Example - Animation - Good



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[C] Presentation Delivery



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1. Be prepared

- ❖ Familiarise yourself with the venue/online platform
- ❖ Get the equipment ready
- ❖ Run through your slides



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2. Get ready to present

- ❖ Prepare and know your lines and subject
 - Focus on the key points
- ❖ Improvise different ways of communicating
- ❖ Articulation and eye contact are most important
- ❖ Enthusiasm prevents monotony



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3. Questions

- ❖ Don't repeat the question, rephrase it
- ❖ Acknowledge good questions
- ❖ Keep answers brief and to the point



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Summary

- A descriptive title for each slide
- One main message per slide
- Keep to ≤ 7 bullet points per slide if possible
- Avoid sentences
- Use simple fonts
- Size – font big enough to read, small enough so that you are not SHOUTING!
- Use contrast



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Summary Cont.

- Keep it simple – get rid of clutter
- Simple imagery
- Good use of graphics, graphs
- Use colour wisely
- Avoid pointless animation
- Check spelling and grammar



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Take home message

Well organized and effective slides reinforce your message and help you communicate effectively



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Scientific Posters



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Outline

- Introduction to scientific posters
- Where to start
- The basics
- Scripting
- Visuals
- Examples



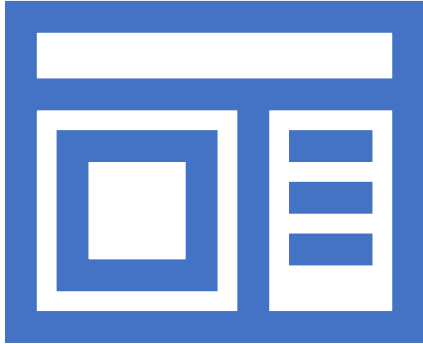
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What is a scientific poster,
and how is it used?



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What is a scientific poster?

- ❖ An illustrated summary of research
- ❖ A communication and networking tool



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How is a scientific poster used?



- ❖ Research posters summarize information or research.
 - Displayed at events such as symposiums, conferences and meetings.
 - To show new discoveries, new results and new information.
- ❖ A poster should use **visuals** to draw people in from a distance.

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Poster session at conferences



- ❖ The technical posters are popular at conferences and events.
- ❖ The researcher stands by their poster to engage viewers in conversation about the research.



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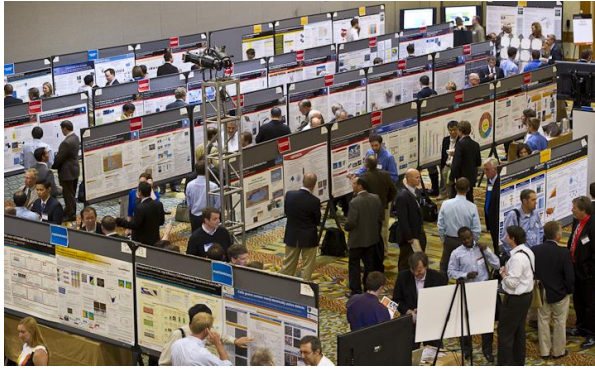


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Poster sessions at conferences



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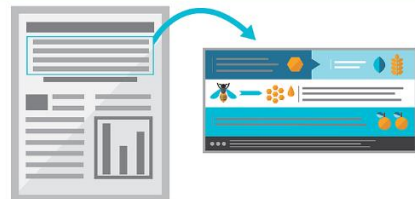
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Why a scientific poster?



- ❖ A visual representation of scientific research
- ❖ A poster should not look like a paper!
- ❖ It is a **VISUAL** representation of an abstract, with minimal text
- ❖ It has a **MAIN** message.

A poster is a visual abstract of your research



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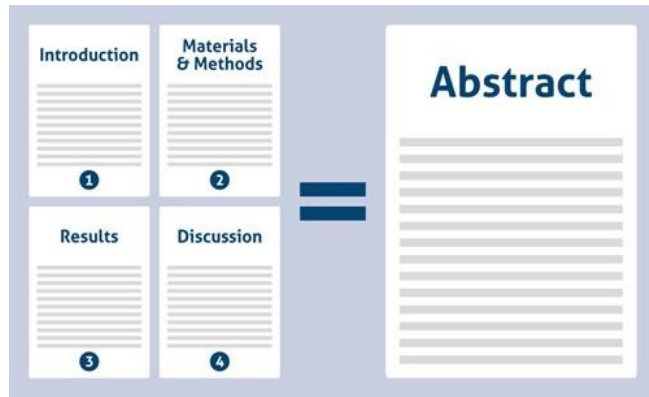


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What is an abstract



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How do you write an abstract?



1. Introduction: "What is the subject



2. Materials and methods: Describe the research methods (also include data analysis).



3. Results: Describe the results/findings.



4. Discussion and further directions: conclusions and recommendations.



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Scripting



- ❖ Use the abstract as the starting point for scripting.
- ❖ Use **bullet points**: a poster should not look like a paper.
- ❖ Avoid wordy paragraphs
- ❖ Bullet points are less intimidating
- ❖ Try to keep to less than 750-1000 words in total (less is better!)
[this slide has 50 words]

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The Visuals



- ❖ Select only essential visual - support the main message.
- ❖ Your visuals must be easy to understand.
- ❖ Complex graphs? Then highlight the most important information.
- ❖ Use graph and table formats that portray the data.
- ❖ Use flow diagrams for methods
- ❖ Images should be high quality (not pixelated).

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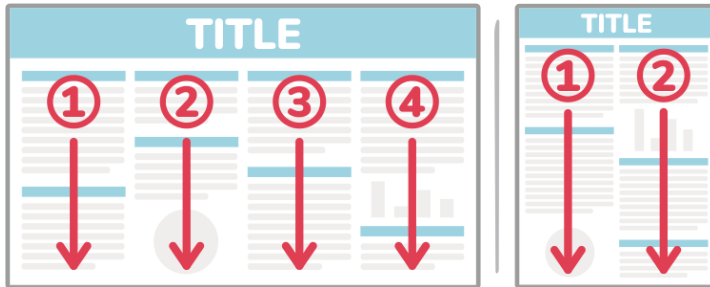


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Some basics



- ❖ Use sections with headers: Large, easy-to-read headings
- ❖ Logical flow of the sections as easy as possible for the viewer to follow.

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Examples – Logical Flow

IN PIECES:

FOOD IS MORE FILLING WHEN PRE-CUT INTO PIECES

Aner Tal & Brian Wansink
CORNELL UNIVERSITY

ABSTRACT

To investigate if cutting a food into pieces has an effect on satiety, students were given a bagel that was either (1) whole, (2) cut into 4 pieces which were kept together, or (3) cut into 4 pieces which were spread out. A general linear model revealed that overall satiety was the highest when food was cut into pieces, but only when the pieces were kept together.

METHODS

- 43 college students
- Asked to finish a mini bagel with cream cheese
- Assigned to 1 of 3 conditions:

- Measured hunger, fullness, and satiety levels on 9 point likert scales

CONCLUSIONS

- Participants reported greater satiety when eating a food that was cut into several pieces, but only when those pieces remained close together.
- We suspect that cutting a food into several pieces increases satiety because it increases the number of units being eaten, hence increasing the psychological sense of satiety.
- However, if the food is spread out, its volume might appear lower, therefore counteracting the positive effects of eating pieces.

Funding provided by Food and Brand Lab
For more information, contact: Aner Tal or at423@cornell.edu

OBJECTIVES

- Is food more filling when people receive it pre-cut into several pieces?
- Is it the space the pieces fill on the plate or the number of pieces that increase satiety?

RESULTS

OVERALL SATIETY

2.18

3.75

4.77

Cornell University Food and Brand Lab

Created by: Patrick Heald | 2015 Summer Intern | Food and Brand Lab | Cornell University

Modification of Titanium Surfaces to Enhance Bacteriostatic Properties

Oscar J. Jansson¹, Saheli Gunraj¹, Shweta Pujari-Palmer¹, Marjan Karlsson Öst¹, Ken Wikström¹, Håkan Engqvist¹

¹Division of Applied Material Science, Department of Engineering Sciences, The Swedish Institute of Space Research, Uppsala, Sweden
²Division of Microbiology and Functional Materials, Department of Engineering Sciences, The Swedish Institute of Space Research, Uppsala, Sweden

BACKGROUND

- Bacterial biofilm formation on dental implants causes problems for many patients with dental or orthopaedic implants and can lead to implant failure.
- Several methods are employed to make the surface of the implants more resistant to bacterial colonization.
- The problem with current methods is that they are either expensive or non-effective.

RESULTS

SEM images Degradation of adherence after 7 days

AIM OF THE STUDY

- Modify the surface of cp titanium (grade 2) coupons by immersion in H₂O₂, NaOH, and Ca(OH)₂.
- Investigate the biocytivity, biocompatibility and antibacterial properties of the modified surfaces.

MATERIALS & METHODS

	Heat Treatment	H ₂ O ₂	NaOH	Ca(OH) ₂
Temp. (°C)	200	200	200	200
Time (min)	1h	10 min	10 min	10 min
Time (min)	1h	10 min	10 min	10 min
Time (min)	1h	10 min	10 min	10 min
Time (min)	1h	10 min	10 min	10 min
Time (min)	1h	10 min	10 min	10 min
Time (min)	1h	10 min	10 min	10 min
Time (min)	1h	10 min	10 min	10 min
Time (min)	1h	10 min	10 min	10 min

HA Bacterial biofilm Cells

CONCLUSIONS

- Calcium increased the biocytivity.
- The modified surface reduces bacterial growth both uncoated and coated in SBF.
- The surfaces do not have a harmful influence on Human dermal cells and MC3T3 cells.

Acknowledgement: Vinnova

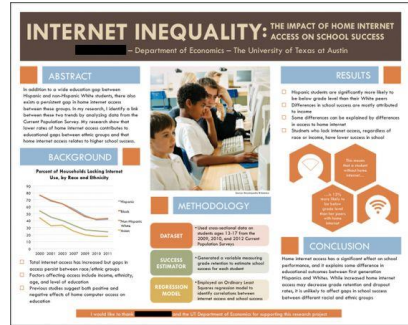
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Some basics Cont.



- ❖ Keep it simple
- ❖ Layout and size: vertical or horizontal? Size? Check with the conference organisers.
- ❖ Panels: How do we read: Left to right & Top-down.
- ❖ Make sure you have a clear directional flow.
- ❖ Leave space at the edges of the poster



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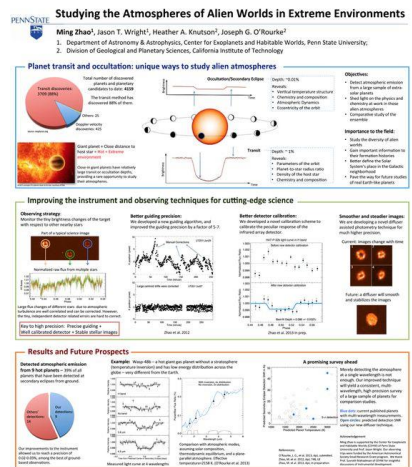
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Some basics

- ❖ **Colour:** Use a limited number of colours (three-to-five, Graphs included).
- ❖ **Background:** None
- ❖ **Fonts:** Arial
Calibri



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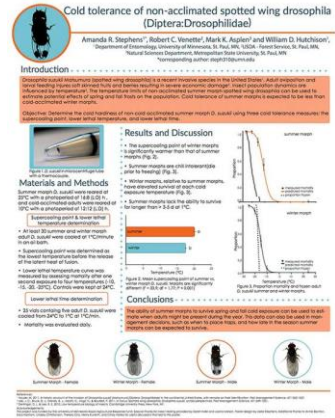
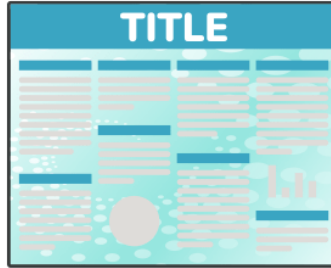
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Some Basics - Background

Good Background



Bad Background



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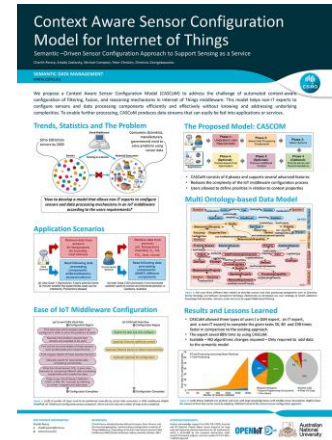
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Some basics – Font Sizes.

- ❖ The whole poster should be legible from 4 feet.



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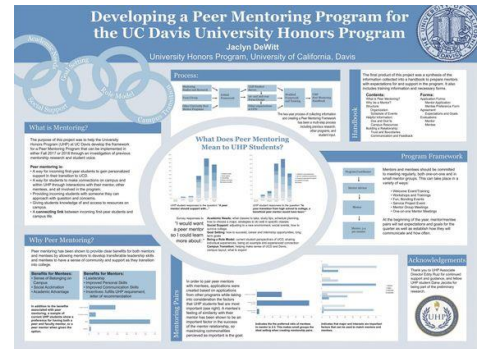
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Tips

- ❖ Make **important** information stand out.
- ❖ Use a poster template.
- ❖ Avoid abbreviations that most people won't understand.
- ❖ Check spelling, grammar and punctuation.
- ❖ Align text left (easier to read).
- ❖ Remove unnecessary spaces between words.



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Check

Print	Print an A4 version and check it yourself.
Feedback	Get feedback from your supervisor and/or colleagues before printing the final poster.
Pitch	Prepare pitch! Practice summarizing your poster in about a minute or two. Remember who your audience is.

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Poster Samples

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Development of methods to optimize gold recovery and minimize waste and environmental hazards: Rwanda and Nigeria



Jeanne Pauline Munganyinka, Adelaya Adetunji, Abdulganiyu Alabi
Pan African Materials Institute (PAMI) - African Center of Excellence (ACE), Materials Science and Engineering Department, African University of Science and Technology, Abuja, Nigeria

INTRODUCTION

Natural resources which processed are the major contributors to economic growth in most countries of the world. Nigeria and Rwanda are African countries endowed with solid minerals including gold ore deposits (Mudd, 2007). Nigeria is among the ten African countries that are listed in the top hundred gold rich countries globally (Mofase, 1999). Rwanda, in addition to the IT (T), Tantalum, and Tungsten) as the dominant mineral deposits, is also blessed with gold deposits, but almost all these mineral endowments are exploited without value addition.

Current methods used in the processing of gold include the use of harmful materials such as cyanide and mercury, which are highly toxic to people – including mine workers – and are a great risk to the environment including groundwater (Adetunbi et al., 2005).

With growing environmental and occupational safety concerns over the use of cyanide and mercury in gold processing, more acceptable alternatives are receiving increased interest.

The most promising of the possible safer alternatives is thiosulfate (S₂O₃²⁻) leaching and biological methods, but requires more research. Optimal use of thiosulfate should provide a cheaper and faster method to maximize recovery of gold concentrate with reduced environmental and safety risks (Baba et al., 2013).

METHODS

Gold samples will be collected in 3 selected regions in Rwanda and Nigeria and taken to the laboratory for characterization. The properties and microscopic chemical composition of minerals will be determined using various techniques such as X-ray diffraction (XRD), scanning electron microscope (SEM), electron probe micro analyzer (EPMA), and whole rock fluorescent X-ray (XRF). Gold ore content will be analyzed by using an atomic absorption spectrophotometer (AAS). Biological method using bacteria that are able to oxidize sulphide mineral to release gold particles.

Thiosulfate leaching method will be applied to each of the collected gold ores to determine which is more effective for a particular ore type. Addition of thiosulfate to solution to allow formation of gold complex which is soluble and stable in dilute acid solution. Ag and Cu remains as precipitate and are separated.

Factors affecting recovery shall be studied.
Environmentally-friendly method of gold recovery shall be developed.

FLOW DIAGRAM



OBJECTIVES

The aim of the research is to develop an environmentally safe method for gold recovery.
The specific objectives of the research are to:
➢ Characterize gold ores from different locations in the two countries.
➢ Review and assess the different factors affecting gold recovery using different methods.
➢ Develop an environmentally-friendly method for gold recovery.

Gold in raw form and processed form



EXPECTED RESULTS

Relative estimate and characteristics of gold ores from Rwanda and Nigeria.
By using the advanced biological methods and thiosulfate recovery leaching process providing above 90% pure gold will be obtained.
A new efficient and environmentally friendly method for gold ore beneficiation will be determined.
Next phase of the work shall include, field work for sampling, comparative study of recovery methods and development of new method.

IMPACT

The use of advanced and non-polluting technologies that reduce waste during gold recovery will improve the quality and ensure environmental protection. Application of environmentally friendly recovery methods will contribute much in human health, economic development, reduction of waste as well as environmental protection. Value addition to gold will increase foreign exchange in two countries.

CONCLUSION

Using an advanced environmentally-friendly method to recover gold will overcome the issues of using cyanide and mercury, which adversely affect the environment and the health of workers involved in. The new method to be developed will address the health and environmental issues with existing methods.

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Genomic analysis of African swine fever virus from the 2018 outbreak in Burundi



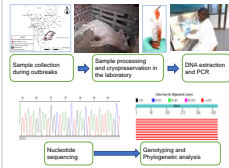
J. N. Hakizimana^{1*}, L. Nyabongo², J. B. Ntirandekurwa³, C. Yona⁴, D. Ntakirutimana⁵, O. Kamana¹, H. J. Nauwynck⁶, G. Miszko⁷

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INTRODUCTION

African swine fever (ASF) is a highly contagious viral disease of swine which causes high mortality, approaching 100% in domestic pigs, making ASF the most serious constraint for domestic pig production, food security, and livelihood. The disease has no cure nor vaccine. It is caused by the ASF virus (ASFV), the only member of the *Afropolydnaviridae* family, genus *Afripolydnavirus* and the only known DNA alphavirus. Twenty four ASFV genotypes (p.0000) are known to date and all these 24 genotypes are present in Africa (Quembo et al., 2018; Penith et al., 2019). The epidemiology of ASF is complex, transmission is direct and vector-borne, and the disease has well recognized sylvatic and domestic cycles. African swine fever is endemic in Burundi and several outbreaks have been reported in the country and continues to impact negatively on farmers economically.

METHODS



IMPACT

The presence of ASFV in Eastern and Southern Africa impacts negatively to rural household income and hinders regional development. Therefore, understanding the genetic variation and molecular epidemiology of ASFV provides relevant information crucial for designing reliable diagnostic tools, vaccine and developing efficient and sustainable disease control strategies with an ultimate increase in animal production, food security and improved livelihood.

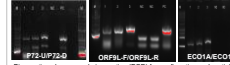
CONCLUSION

Phylogenetic analysis of the Burundian 2018 ASFV strain grouped the virus within p72 genotype A.
High similarity with strains previously reported in neighboring countries indicates cross-boundary distribution of this ASFV strain.
It would be interesting to extend the analysis of the interspecific region between F78R and I226L genes to other Burundian isolates and to strains from neighboring countries to facilitate a better understanding of ASFV genetic and epidemiology in Eastern and Southern Africa.

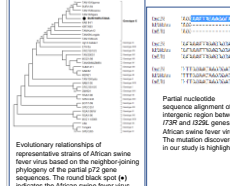
OBJECTIVES

In August 2018, an outbreak of a hemorrhagic and fatal disease affecting domestic pigs suspected to be ASF occurred in Rutana region in South-Eastern Burundi. The aim of this study was to (i) confirm the ASF outbreak of 2018 in Burundi by performing diagnostic polymerase chain reaction (PCR), (ii) genotypes and characterize the 2018 outbreak ASFV in South-Eastern Burundi by sequencing the C3' end of the B646L gene encoding the C-terminal of the major capsid protein and a random repeat sequence (RRS) located between the F78R and I226L genes and (iii) determine the relationship of the 2018 strain with previous isolates from Eastern and Southern Africa.

RESULTS



Diagnostic polymerase chain reaction (PCR) for confirmation and partial molecular characterization of ASFV from the 2018 outbreak in Burundi.



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UNIVERSITY OF VIRGINIA

Doctor of Philosophy | Mechanical & Aerospace Engineering | May 2019

Methods to Integrate Interspecies Data for Developing Tissue-Level Human Brain Injury Tolerance

Taotao Wu advised by Dr. Matthew Panzer & Dr. Jeff Crandall (MAE)

MOTIVATION
Traumatic brain injuries (TBI) remain a significant public health issue. Understanding the mechanism and biomechanical tolerances of TBI is challenging due to the lack of well-characterized human brain injury data. Animal data would be valuable for studying human TBI, but the lingering question is how do scientists relate the animal-derived relationship between the loads and neurological responses to humans.

OBJECTIVES
To develop methods for integrating animal brain injury data with human data and advance the understanding of tissue-level injury metrics and tolerance.

METHODOLOGY
A method was developed to explicitly model axial stress in FE models of the human and NHP brain.

RESULTS: Injury Tolerance
Established tissue-level injury tolerance through the equivalence of tissue-level metrics across primates.

RESULTS: Frequency Scaling
What is the scaling relationship between different load magnitudes to same tissue responses in different brains?

APPLICATION
This research will guide the technical innovation of more effective safety countermeasures, reducing the incidence, consequences, and societal burden of TBI.

CONTRIBUTIONS
A framework for integrating interspecies brain injury data to derive human tolerances for TBI.
A novel cross-species scaling method.
A novel modeling technique to explicitly model anisotropic skull microtopography in multi-scale FE brain models.

SELECTED PUBLICATIONS
"Interspecies Cross-Species Scaling Method for Traumatic Brain Injury Risk Assessment" by T. Wu, J. Crandall, M. Panzer, et al. *Journal of Biomechanical Engineering*, 2021.
"A Novel Modeling Technique to Explicitly Model Anisotropic Skull Microtopography in Multi-Scale FE Brain Models" by T. Wu, J. Crandall, M. Panzer, et al. *Journal of Biomechanical Engineering*, 2021.

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UCONN INSTITUTE OF MATERIALS SCIENCE

Cryogenic Temperature Effects on Superelasticity of the Novel Intermetallic Compound CaFe₂As₂ at Small Length Scales

John T. Srygall¹, Christopher R. Weasberger¹, Paul C. Canfield², Sergey L. Bul'fin³, Seok-Woo Lee¹

Introduction
Materials properties of CaFe₂As₂ are sensitive to process and environment.
Superelastic phase transformation is reversible.
The mechanical response is sensitive to strain rate.
Superelasticity is sensitive to temperature.
Superelasticity is sensitive to grain size.
Grain size and strain rate effects are coupled.
Grain size and strain rate effects are coupled.
Grain size and strain rate effects are coupled.

Results
1) Superelasticity of 0.6 μm CaFe₂As₂ under compression (200 K)
2) Decreasing on-set stress with decreasing temperature
3) Phase transition temperature (T₀) vs. grain size
4) Superelasticity of 0.6 μm CaFe₂As₂ under compression (40 K)

Discussion
1) Superelasticity of 0.6 μm CaFe₂As₂ under compression
Phase transition from O (0) to CT
Under loading, the CaFe₂As₂ phase transition from O (0) to CT is reversible.
The transition from O (0) to CT is reversible.
The transition from O (0) to CT is reversible.

Concluding Remarks
The results show that the superelasticity of CaFe₂As₂ is sensitive to grain size and temperature.
The results show that the superelasticity of CaFe₂As₂ is sensitive to grain size and temperature.
The results show that the superelasticity of CaFe₂As₂ is sensitive to grain size and temperature.

Noisy Beam Alignment Techniques for Reciprocal MIMO Channels

Dennis Ogbé¹, David J. Love², Vasanthan Raghavan¹

1. Background
5G technologies (mmWave & massive MIMO) rely on beamforming gains to realize data rate requirements.
However, optimal beamforming weights depend on the channel matrix.

2. Dividing beam alignment
Divide each channel into K into two time slots.
Communication nodes sound beams in their half of the slots.
Fringe: Node 1 sounds beam f₁[k] as y₁[k] = √P₁H₁[k] + n₁[k].
Fringe: Node 2 sounds beam z₁[k] as y₂[k] = √P₂H₂[k] + n₂[k].

3. Power Method
We propose new beam alignment algorithms based on the power method.
Good performance for the noiseless case.
Convergence can slow down dramatically under additive noise.

4. Proposed Algorithms
Sequential Least-squares (SLS) Power Method
Summed Power Method
Least-squares initialized Summed Power Method (LSP method)

5. Numerical Studies
Metric of interest: Normalized effective beamforming gain |x^HH²x|.
Varying SNR, iteration count, and antenna dimensions.
Proposed algorithms outperform state-of-the-art techniques at -10 dB pre-beamforming SNR.

6. Publications

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ANTIOXIDANT ACTIVITY OF ANTHOCYANINS OF *Syzgium cumini* FRUIT

Priyanka Bhat¹, E. Manjula², Divyashree Subramanian¹, Eswara Rajagopal¹

ABSTRACT
The aim of the study was to determine the potential of jambian anthocyanins for use in food packaging by evaluating their antioxidant activity using in vitro assays. Several different extracts of the antioxidant activity (DPPH, nitrite-scavenging assay, hydroxyl radical-scavenging assay, superoxide radical-scavenging assay, and iron-reducing assay) from the fruits of *Syzgium cumini* were investigated. The results indicate that the antioxidant activity of the extracts was significantly higher than that of the controls. The antioxidant activity of the extracts was significantly higher than that of the controls. The antioxidant activity of the extracts was significantly higher than that of the controls.

INTRODUCTION
Jambian (*Syzgium cumini*) fruit is rich in anthocyanin pigments especially in its peel part. Anthocyanins of jambian fruit have been studied extensively in our laboratory. Jambian anthocyanins have been identified as 3,5-dihydroxybenzoic acid derivatives (DHBA), anthocyanins (AN), and anthocyanins (AN).

RESULTS
Contribution of Jambian Anthocyanins as Antioxidant
Antioxidant Activity of Extract and Anthocyanin Fractions
Antioxidant Activity of Model Coverage

CONCLUSION
The antioxidant activity of jambian fruit was mainly contributed by anthocyanins. The phenolic content and antioxidant activity of jambian fruit were affected both by the anthocyanin content and the phenolic content. Jambian anthocyanins are potential natural antioxidants for food packaging.

Ineffective posters



❖ Many ineffective posters suffer from easy-to-fix problems:

- Poor title
- The main message is not clear
- Text too small
- Poor graphics
- Poor organization
- Too crowded

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Why is this a bad poster?

PIGS IN SPACE: EFFECT OF ZERO GRAVITY AND AD LIBITUM FEEDING ON WEIGHT GAIN IN CAVIA PORCELLUS
Colin B. Pummigorn*
6673 College Avenue, Swarthmore, PA 19081 USA

ABSTRACT: This abstract is too small and contains too much text. It is difficult to read.

INTRODUCTION: The current study is too long and contains too much text. It is difficult to read.

MATERIALS AND METHODS: This section is too long and contains too much text. It is difficult to read.

RESULTS: This section is too long and contains too much text. It is difficult to read.

CONCLUSIONS: This section is too long and contains too much text. It is difficult to read.

ACKNOWLEDGEMENTS: This section is too long and contains too much text. It is difficult to read.

LITERATURE CITED: This section is too long and contains too much text. It is difficult to read.

Soil Microbial Diversity
Mongolian Climate Change Experiment
Authors: Nicholas Crayth*, Brenda Colwell*, Peter Nyren*, Batsumaraa Bayar
Department of Biology, University of Pennsylvania, Philadelphia, PA 19104

ABSTRACT: This abstract is clear and concise, summarizing the key findings of the study.

INTRODUCTION: The introduction is well-structured and provides a clear context for the study.

MATERIALS AND METHODS: The methods section is clear and easy to follow, detailing the experimental design and data collection.

RESULTS: The results are presented in a clear and concise manner, supported by several graphs and diagrams.

CONCLUSIONS: The conclusions are well-structured and provide a clear summary of the study's findings.

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Question and Answer
Question et réponse
Pergunta e resposta

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