



# Early Career Academics Series Episode #5

## April 11<sup>th</sup> 2022



**PROMOTE Your Paper!**  
**How To Write Amazing**  
**ABSTRACTS, TITLES,**  
**and KEYWORDS!**



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# About Dr. Dean Meyer



Dean has a background in environmental science with a specialist interest in toxicology and public health.

Her doctoral research work focused on molecular mechanisms of metal detoxification in an invertebrate model. Her other research interests include the mechanisms of toxicity and disease causation, and the occupational sources of xenobiotics and their physiological effects. Dr Meyer spent eight years working at the Centers for Disease Control and Prevention in Atlanta and has an extensive background in the areas of laboratory safety and environmental health.



Dr Meyer is a certified Editor in the Life Sciences (ELS) and joined Edanz Group as an editor in 2015.

# About Scott McCleary, M.Ed.Tech



嘉悦大学  
KAETSU UNIVERSITY

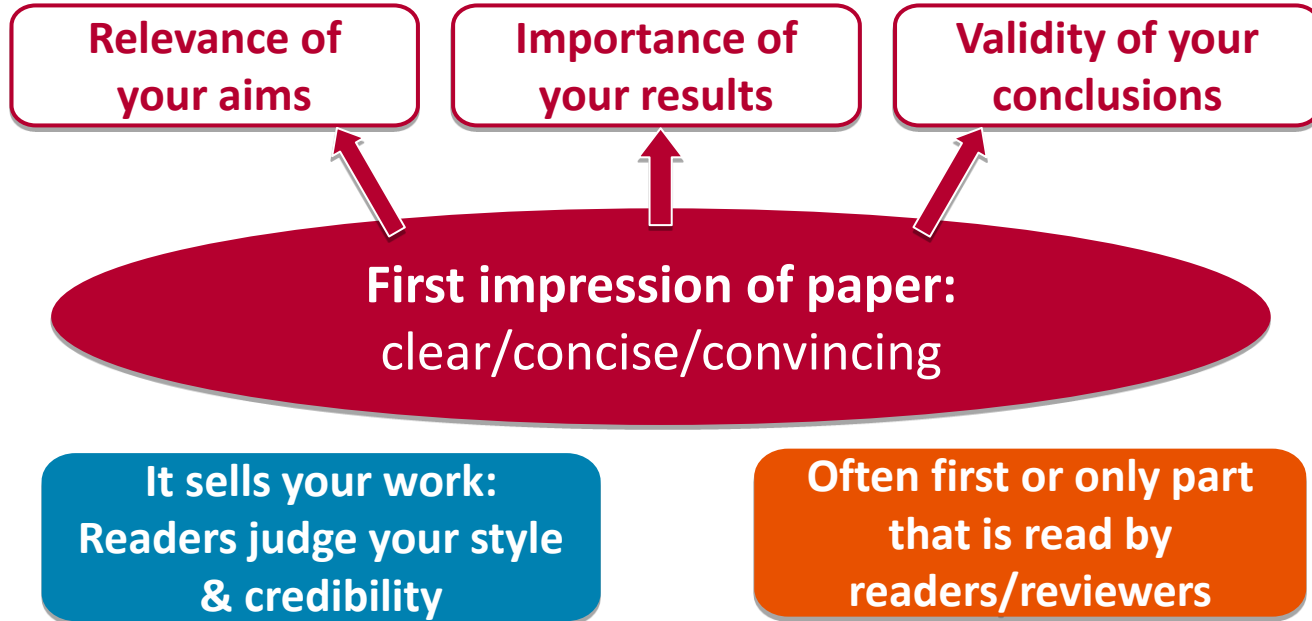
Scott specializes in online instructional design for professional development. He holds a master's degree in education from the University of Southern Queensland, with postgraduate certification in Education Technology.

Scott has developed and delivered training programs for more than 50 organizations worldwide in fields such as: medical/pharma (Merck, Pfizer, Banyu, NCGM hospital), business & finance (Deutsche Bank, Skandia, LEC Tokyo), big tech (Sony, Toshiba, Hitachi, Mitsubishi), government (The Japan Ministry of Foreign Affairs), K-12 (Benesse, Ochanomizu Seminar) and higher education (Komazawa University, Gakushuin University, Asia University, Kaetsu University, and the Berlin School of Economics and Law).

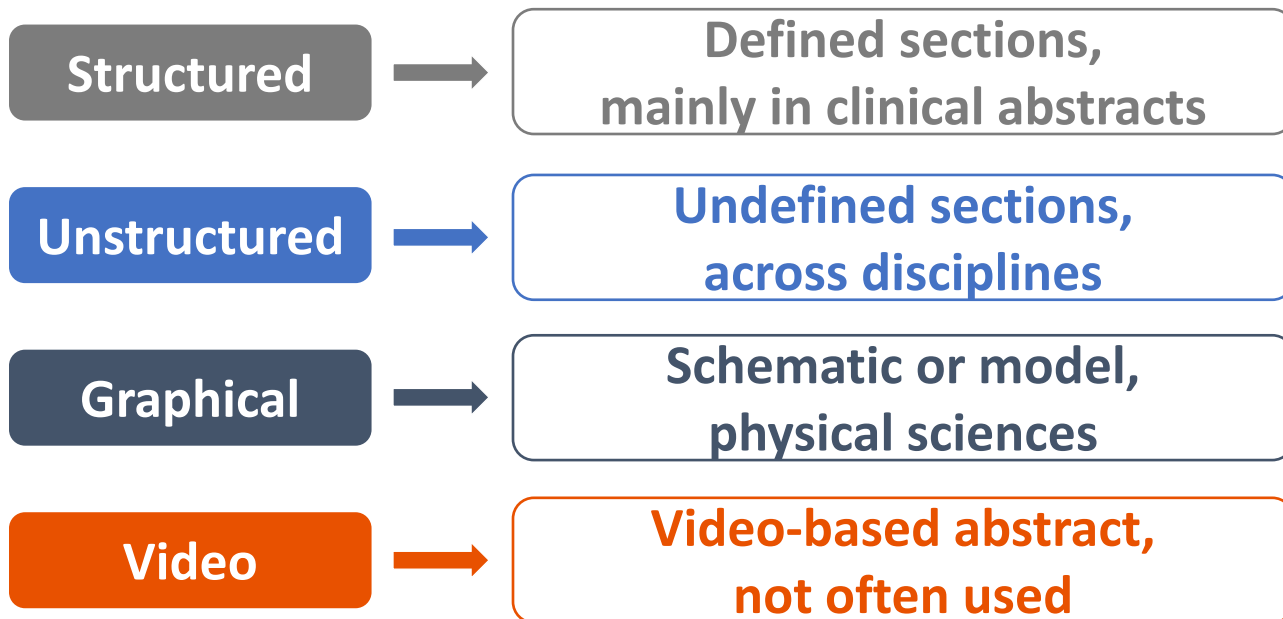
# Writing your ABSTRACT



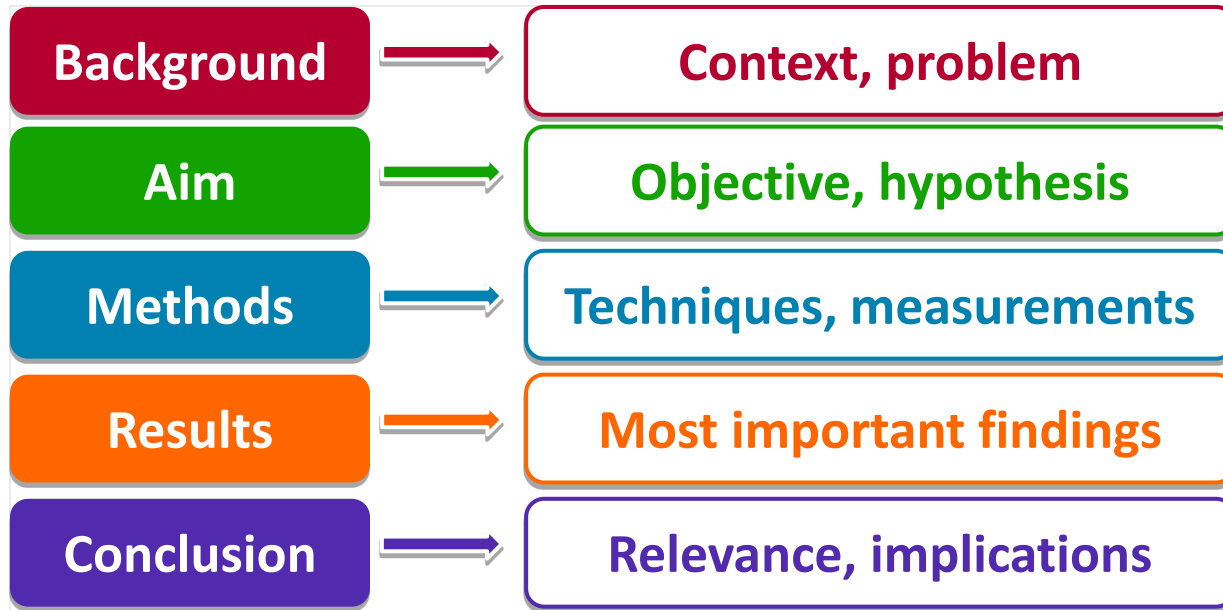
# Your Abstract and Title Should Attract Readers (and Journal Editors)



## Types of abstracts



## Structured abstracts



*No jargon, unusual abbreviations, figures/tables*

*Usually no references*

*(Health studies: Include funding source and clinical trial registration number)*



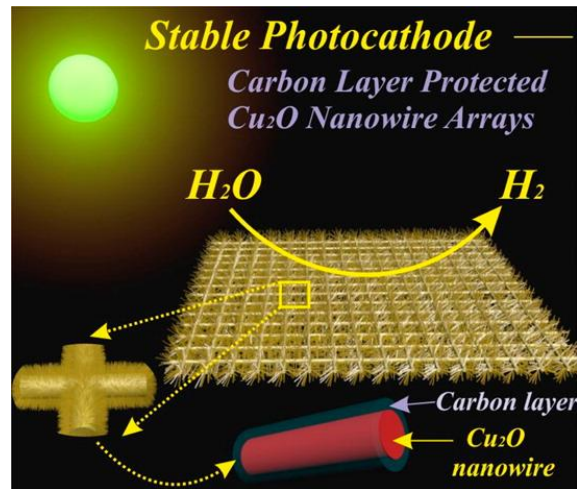
# Unstructured Abstracts

The international dialogue on responsible governance of nanotechnologies engages a wide range of actors with conflicting as well as common interests. It is also characterised by a lack of evidence-based data on uncertain risks of, in particular, engineered nanomaterials. The present paper aims at deepening understanding of the collective decision making context at international level using the grounded theory approach as proposed by Glaser and Strauss in “The Discovery of Grounded Theory” (1967). This starts by discussing relevant concepts from different fields including sociological and political studies of international relations as well as political philosophy and ethics. This analysis of current trends in international law making is taken as a starting point for exploring the role that a software decision support tool could play in multi-stakeholder global governance of nanotechnologies. These theoretical ideas are then compared with the current design of the SUN Decision Support System (SUNDS) under development in the European project on Sustainable Nanotechnologies (SUN, [www.sun-fp7.eu](http://www.sun-fp7.eu)). Through constant comparison, the ideas are also compared with requirements of different stakeholders as expressed during a user workshop. This allows for highlighting discussion points for further consideration.

- ✓ Visually demonstrate key features of the study
- ✓ Help readers quickly identify suitable articles

### Carbon-layer protected cuprous oxide nanowire arrays for efficient water reduction

In this work, we propose a solution-based carbon precursor coating and subsequent carbonization strategy to form a thin protective carbon layer on unstable semiconductor nanostructures as a solution to the commonly occurring photocorrosion problem of many semiconductors. A proof-of-concept is provided by using glucose as the carbon precursor to form a protective carbon coating onto cuprous oxide ( $\text{Cu}_2\text{O}$ ) nanowire arrays which were synthesized from copper mesh. The carbon-layer-protected  $\text{Cu}_2\text{O}$  nanowire arrays exhibited remarkably improved photostability as well as considerably enhanced photocurrent density. The  $\text{Cu}_2\text{O}$  nanowire arrays coated with a carbon layer of 20 nm thickness were found to give an optimal water splitting performance, producing a photocurrent density of  $-3.95 \text{ mA cm}^{-2}$  and an optimal photocathode efficiency of 0.56% under illumination of AM 1.5G ( $100 \text{ mW cm}^{-2}$ ). This is the highest value ever reported for a  $\text{Cu}_2\text{O}$ -based electrode coated with a metal/co-catalyst-free protective layer. The photostability, measured as the percentage of the photocurrent density at the end of 20 min measurement period relative to that at the beginning of the measurement, improved from 12.6% on the bare, nonprotected  $\text{Cu}_2\text{O}$  nanowire arrays to 80.7% on the continuous carbon coating protected ones, more than a 6-fold increase. We believe that the facile strategy presented in this work is a general approach that can address the stability issue of many nonstable photoelectrodes and thus has the potential to make a meaningful contribution in the general field of energy conversion.

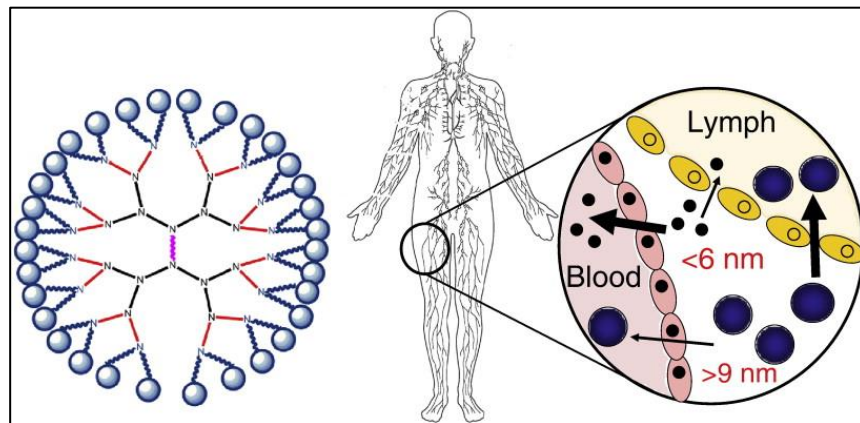


# Graphical abstracts

<http://www.elsevier.com/journal-authors/graphical-abstract>

- ✓ Visually demonstrate key features of the study
- ✓ Help readers quickly identify suitable articles

## Targeting the lymphatics using dendritic polymers



# Nanotechnology Abstract (Unstructured)

The international dialogue on responsible governance of nanotechnologies engages a wide range of actors with conflicting as well as common interests. It is also characterised by a lack of evidence-based data on uncertain risks of, in particular, engineered nanomaterials. The present paper aims at deepening understanding of the collective decision making context at international level using the grounded theory approach as proposed by Glaser and Strauss in “The Discovery of Grounded Theory” (1967). This starts by discussing relevant concepts from different fields including sociological and political studies of international relations as well as political philosophy and ethics. This analysis of current trends in international law making is taken as a starting point for exploring the role that a software decision support tool could play in multi-stakeholder global governance of nanotechnologies. These theoretical ideas are then compared with the current design of the SUN Decision Support System (SUNDS) under development in the European project on Sustainable Nanotechnologies (SUN, [www.sun-fp7.eu](http://www.sun-fp7.eu)). Through constant comparison, the ideas are also compared with requirements of different stakeholders as expressed during a user workshop. This allows for highlighting discussion points for further consideration.

# Nanotechnology Abstract (Unstructured)

The international wide range of a **Why did you do the study?** nanotechnologies engages a wide range of interests. It is also **characterised by a lack** of evidence-based data on uncertain risks of, in particular, engineered nanomaterials. **The present paper aims** at deepening understanding of the collective decision making context at international level using the grounded theory approach as proposed by Glaser and Strauss in “The Discovery of Grounded Theory” (1967). This starts by **What did you do?** different fields including sociological and political studies of international relations as well as political philosophy and ethics. This analysis of current trends in international law making is taken as a **starting point for exploring the role** that a software decision support tool could play in multi-stakeholder global **What did you find?** these theoretical ideas are then compared with the Support System (SUNDS) under development in the European project on Sustainable Nanotechnologies (SUN, [www.sund.eu](http://www.sund.eu)) with requirements **How does your study contribute to your field?**. This allows for highlighting discussion points **for further consideration.**

# Psychology Abstract (Unstructured)

There have been an increasing number of gaming operators that have incorporated on-screen pop-up messages while gamblers play on slot machines and/or online to help encourage responsible gambling. Accordingly, there has also been an increase in empirical research into whether such pop-up messages are effective, particularly in laboratory settings. However, very few studies have been conducted on the utility of pop-up messages in real-world gambling settings. The present study investigated the effects of normative and self-appraisal feedback in a slot machine pop-up message compared to a simple (non-enhanced) pop-up message. The study was conducted in a real-world gambling environment by comparing the behavioral tracking data of two representative random samples of 800,000 gambling sessions (i.e., 1.6 million sessions in total) across two conditions (i.e., simple pop-up message versus an enhanced pop-up message). The results indicated that the additional normative and self-appraisal content doubled the number of gamblers who stopped playing after they received the enhanced pop-up message (1.39%) compared to the simple pop-up message (0.67%). In conclusion, the data suggest that pop-up messages influence only a small number of gamblers to cease long playing sessions and that enhanced messages are slightly more effective in helping gamblers to stop playing in-session.

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Background

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Aims

The study was conducted in a real-world gambling environment by comparing the behavioral tracking data of two representative random samples of 800,000 gambling sessions (i.e., 1.6 million sessions in total) across two conditions (i.e., simple pop-up message versus an enhanced pop-up message).

Methods

The results indicated that the additional normative and self-appraisal content doubled the number of gamblers who stopped playing after they received the enhanced pop-up message (1.39%) compared to the simple pop-up message (0.67%).

Results

In conclusion, the data suggest that pop-up messages influence only a small number of gamblers to cease long playing sessions and that enhanced messages are slightly more effective in helping gamblers to stop playing in-session.

Conclusion

Implications

# Political Sciences Abstract (Unstructured)

Political thought and behavior play an important role in our lives, from ethnic tensions in Europe, to the war in Iraq and the Middle Eastern conflict, to parliamentary and presidential elections. However, little is known about how the individual's political attitudes and decisions are shaped by subtle national cues that are so prevalent in our environment. We report a series of experiments that show that subliminal exposure to one's national flag influences political attitudes, intentions, and decisions, both in laboratory settings and in “real-life” behavior. Furthermore, this manipulation consistently narrowed the gap between those who score high vs. low on a scale of identification with Israeli nationalism. The first two experiments examined participants' stance toward the Israeli–Palestinian conflict and the Jewish settlers in the West Bank. Experiment 3 examined voting intentions and actual voting in Israel's recently held general elections. The results portray a consistent picture: subtle reminders of one's nationality significantly influence political thought and overt political behavior.



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### Problem

We report a series of experiments that show that subliminal exposure to one's national flag influences political attitudes, intentions, and decisions, both in laboratory settings and in “real-life” behavior.

Furthermore, this manipulation consistently narrowed the gap between those who score high vs. low on a scale of identification with Israeli nationalism. The first two experiments examined participants' stance toward the Israeli–Palestinian conflict and the Jewish settlers in the West Bank. Experiment 3 examined voting intentions and actual voting in Israel's recently held general elections.

The results portray a consistent picture: subtle reminders of one's nationality significantly influence political thought and overt political behavior.

Background

Methods

Results

Conclusion

**Purpose** Influenza CD8<sup>+</sup> T-cell epitopes are conserved amongst influenza strains and can be recognized by influenza-specific cytotoxic T-cells (CTLs). An influenza peptide vaccine eliciting these CTLs would therefore be an alternative to current influenza vaccines, which are not cross-reactive. However, peptide antigens are poorly immunogenic due to poor delivery to antigen presenting cells. In this study, we investigated the potential of virosomes as a delivery system for influenza T-cell peptides.

**Methods** The conserved human HLA-A2.1 influenza T-cell epitope M1<sub>58-66</sub> was formulated with virosomes. We assessed the immunogenicity and protective effect of the peptide-loaded virosomes in HLA-A2 transgenic mice. Delivery properties of the virosomes were studied in mice and *in vitro* dendritic cell cultures.

**Results** Immunization of HLA-A2.1 transgenic C57BL/6 mice with peptide-loaded virosomes in the presence of the adjuvant CpG-ODN 1826 increased the number of peptide-specific CTLs. Vaccination with adjuvanted peptide-loaded virosomes reduced weight loss in mice after heterologous influenza infection. Association with fusion-active virosomes was found to be crucial for antigen uptake by dendritic cells, and subsequent induction of CTLs in mice.

**Conclusions** These results show that influenza virosomes loaded with conserved influenza epitopes could be the basis of a novel cross-protective influenza vaccine.

**Purpose** Influenza CD8<sup>+</sup> T-cell epitopes are conserved amongst influenza strains and can be recognized by influenza-specific cytotoxic T-cells (CTLs). An influenza peptide vaccine eliciting these CTLs would therefore be an alternative to current inactivated whole virus vaccines. However, peptide antigens are poorly immunogenic due to poor delivery to antigen presenting cells. In this study, we investigated the potential of virosomes as a delivery system for influenza T-cell peptides.

### Why needs to be done

**Methods** The conserved human HLA-A2.1 influenza T-cell epitope M1<sub>58-66</sub> was formulated with virosomes. We assessed the immunogenicity of M1<sub>58-66</sub> virosomes in HLA-A2 transgenic mice. Delivery properties of the virosomes were assessed in dendritic cell cultures.

### What you did

**Results** Immunization of HLA-A2.1 transgenic C57BL/6 mice with peptide-loaded virosomes in the presence of the adjuvant CpG-ODN 1826 increased the number of peptide-specific CTLs. Vaccination with adjuvanted peptide-loaded virosomes reduced viral titers in mice after influenza infection. Association with fusion-active virosomes increased the number of peptide-specific dendritic cells, and subsequent induction of CTLs in mice.

### What you found

**Conclusions** These results show that influenza virosomes loaded with conserved influenza epitopes could be the basis of a novel cross-protective influenza vaccine.

### How contributes to the field

# Physical Science Abstract (Unstructured)

Calcium carbonate ( $\text{CaCO}_3$ ) is widely used as an important model system for investigating inorganic precipitation reaction or crystallization. However, recent results show that the yield of vaterite  $\text{CaCO}_3$  microspheres is poor—up to 16 mM—in ethanol/water in the presence of polyelectrolyte poly(sodium 4-styrenesulfate) (PSS). We now report an approach to synthesize pure vaterite  $\text{CaCO}_3$  microspheres through improving the concentration of polymer PSS, improving the yield up to 80 mM. Our time-resolved experimental results revealed that the vaterite microspheres evolved gradually from an initial amorphous precursor, to poorly crystallized nanoparticles, to sphere-like aggregates, to vaterite microspheres embedded within the calcite rhombohedra, and finally to the vaterite microspheres with smooth surface. Our findings provide valuable insight into the formation of vaterite  $\text{CaCO}_3$  microspheres and demonstrate the possibility for large-scale synthesis of  $\text{CaCO}_3$  materials with controllable morphology and crystallographic structure in aqueous solution at room temperature.

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## Writing your abstract

### Write the results section first

- ✓ **Key findings that directly support your aims**
- ✓ **Will be interesting to the readers**

We found that when preinoculated with the nonpathogenic fungi *Erysiphe pisi* and *Colletotrichum orbiculare*, which were unable to penetrate a barley cell, the penetration of a bio-probe that was transferred by micromanipulation onto the same cell was completely blocked... ..Treatment with the actin polymerization inhibitor cytochalasin A or expression of the actin depolymerizing protein HvPro1 caused complete ablation of the induced penetration resistance triggered by either failed fungal penetration or artificial microwounds

# Writing your abstract

## Write the background section second

- ✓ Explain *why* this study needed to be done

Induced penetration resistance is triggered by failed penetration attempts of nonpathogenic fungi. The resistance mechanism is an important nonhost reaction in plants that can block the invasion of filamentous pathogens such as fungi and oomycetes. **Problem** However, it remains unclear whether the mechanical stimuli accompanying fungal penetration play a role in induced penetration resistance, whereas the perforation of the cell wall may provide significant stimuli to plant cells.

## Writing your abstract

### Write the methods/aims section third

General techniques used to achieve the study's objectives

#### Methods

Here, we used microneedles or biolistic bombardment to mimic fungal penetration pegs and a micromanipulation transfer technique of the bio-probe, a germling of *Blumeria graminis hordei*, to the wounded cells to demonstrate that microwounds derived from fungal penetration attempts may trigger induced penetration resistance in plant cells.

#### Aims



# Writing your abstract

## Write the conclusion section last

- ✓ Major conclusion that answers the problem
- ✓ Implications for the readers

However, it remains unclear whether the mechanical stimuli accompanying fungal penetration play a role in induced penetration resistance...

In conclusion these results strongly suggest that microwounding may trigger actin-dependent induced penetration resistance. Manipulation of induced penetration resistance may be a promising target to improve basic disease resistance in plants.

**Implications**

# Writing your Abstract

Induced penetration resistance is triggered by failed penetration attempts of nonpathogenic fungi. The resistance mechanism is an important nonhost reaction in plants that can block the invasion of filamentous pathogens such as fungi. **Why this study needed to be done** the mechanical stimuli accompanying fungal penetration play a role in induced penetration resistance, whereas the perforation of the cell wall may provide significant stimuli to plant cells. Here, we used microneedles or biolistic bombardment to mimic fungal penetration and a micromanipulation transfer technique of the bio-probe, a germling of *Blumeria graminis hordei*, **What you did** to determine whether microwounds derived from fungal penetration attempts may trigger induced penetration resistance in plant cells. We found that when preinoculated with the nonpathogenic fungi *Erysiphe pisi* and *Colletotrichum orbiculare*, which were unable to penetrate a barley cell, the penetration of a bio-probe that was transferred by micromanipulation onto the same cell was completely blocked. Fungal penetration was essential to the triggering of induced penetration resistance because a penetration attempt by the bio-probe blocked the ability to trigger resistance. The artificial microwounds significantly, but not completely, blocked the penetration of the bio-probe. Treatment with the actin polymerization inhibitor cytochalasin A or expression of the actin depolymerizing protein HvPro1 caused complete ablation of the induced penetration resistance triggered by either failed fungal penetration or artificial microwounds. **What you found** In conclusion, these results strongly suggest that microwounding may trigger induced penetration resistance. **How advances the field** Manipulation of induced penetration resistance may be a promising target to improve basic disease resistance in plants.

# DON'T Include These in Your Abstract

References

Abbreviations

**Don't  
include...**

Jargon & equations

Non-essential numbers  
& statistics

# Do not include a lot of numbers and statistics

## The effect of high vacuum on the mechanical properties and bioactivity of collagen fibril matrices

### Results

The cell area histogram and mean cell areas for the HV-treated fibril matrices ( $2030 \mu\text{m}^2 \pm 137 \mu\text{m}^2$ ) are comparable to the cell areas of untreated fibril matrices measured here ( $2165 \mu\text{m}^2 \pm 206 \mu\text{m}^2$ ) and elsewhere... Cells on LV-treated fibril matrices have larger average surface areas ( $3450 \mu\text{m}^2 \pm 175 \mu\text{m}^2$ ) than the control untreated matrices, and their spread area is significantly larger ( $4348 \mu\text{m}^2 \pm 287 \mu\text{m}^2$ ).

The modulus results for the HV-treated matrices are small, but statically significant ( $p < 0.001$ ). The HV-treated matrices had a modulus of  $8.1 \text{ kPa} \pm 2.2 \text{ kPa}$  and the LV-treated matrices are approximately  $34.7 \text{ kPa} \pm 4.9 \text{ kPa}$ . The modulus results for the second analysis (Table 2) indicate that LV-treated fibril matrices ( $34.7 \text{ kPa} \pm 3.7 \text{ kPa}$ ) are nearly as mechanically stiff ( $p = 0.20$ ) as the dehydrated matrices ( $36.4 \text{ kPa} \pm 4.2 \text{ kPa}$ ), and are considerably less compliant than the untreated matrices ( $11.2 \text{ kPa} \pm 3.7 \text{ kPa}$ ) in this experiment.

*Summarize and simplify  
your results*

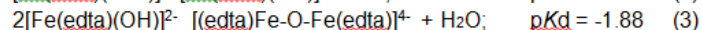
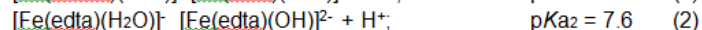
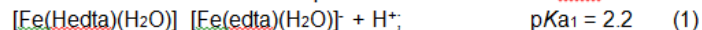
### Abstract

We find that HV exposure has an unappreciable affect on the cell spreading response and mechanical properties of these collagen fibril matrices. Conversely, low vacuum environments cause fibrils to become mechanically rigid as indicated by force microscopy, resulting in greater cell spreading.

# Avoiding Common Mistakes

## *Avoid equations, figures, and non-essential numbers*

molality of NaOH (component 1), Fe-edta (component 2), and DHPC (component 3),  $m = m_1 + m_2 + m_3$  and the compositions of the  $i$ th component,  $X_i = m_i / m$ . The following dissociation and association equilibria are known for Fe-edta.



Thus, the following thermodynamic equation where the above equilibria were taken into account was derived and applied to the experimental data.

$$-\frac{d\gamma}{RT\Gamma_i^H} = (BX_1^H + CX_2^H + DX_3^H) dm - (EX_1^H + FX_2^H) dX_1 + (HX_1^H + IX_2^H + JX_3^H) dX_3$$

Here,  $\Gamma_i^H$  and  $X_i^H$  are the total surface density and the interfacial composition of component  $i$ , respectively and  $B \sim J$  are quantities which depend on pH.

Ternary aq. solution of  $X_i$  shown in Fig. 1 were assayed. It was found that (1) the adsorbed amount of Fe-edta by the aq. sol. / air interface was about 10 times higher when DHPC was present than that without DHPC<sup>[1]</sup>; (2) more Fe-edta was found in the

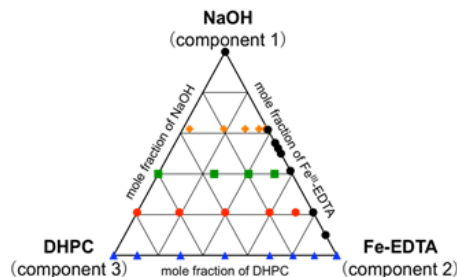


Fig. 1. Compositions of the aq. solutions studied.

# Avoiding Common Mistakes

Solution surface tension and pH were measured as functions of NaOH, Fe-EDTA, and DHPC, yielding the  $pK_{a_1}$  and  $pK_{a_2}$  for Fe-EDTA as well as the Fe-EDTA dimerization association constant ( $pK_d$ ) values at 2.2, 7.6, and  $-1.88$ , respectively. A thermodynamic equation for the three-part overall equilibria was derived and applied to the experimental data.

- **Concisely summarize your key findings for your reader**
- **Only *state* which equations were derived**

# Avoiding Common Mistakes

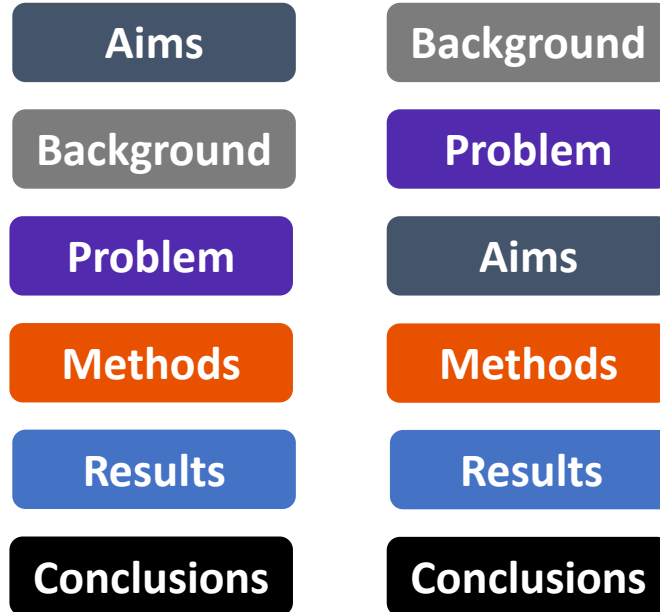
## ***Clearly establish the context***

“Alice Walker problematizes black families’ denial of women’s sexuality in two of her novels, *The Color Purple* and *By the Light of My Father’s Smile*. In these works, black men who are strongly influenced by the social norms for masculinity in male-dominated societies try to oppress female sexuality in their households. Such men exercise violence against their wives and daughters if they perceive the women as ‘dirty and evil.’”

- ***What is already known?*** What has been addressed regarding this topic?
- ***What is not known?*** How is the author’s paper different?

# Avoiding Common Mistakes

## *Logical flow of information*





# Avoiding Common Mistakes

## *Background*

## *Be concise!*

In the nineteenth century, Manchester was one of the fastest-changing cities in Britain, and consequently, the city faced problems stemming from an increase in population. Approximately 100,000 immigrants entered Manchester per day, resulting in food, housing, and job shortages. Volunteers organized many refugee shelters, subsidized by the local government, to house the growing number of immigrants. These shelters were also home to the children of the immigrants.

The problem of these immigrants, especially the increasing number of juvenile criminals, was a pressing matter for the Manchester elite, but in other cities, the urban elite had already experienced the same problem, whether the city was large or small. Many social reformers began to insist on the importance of promoting the education and general welfare of the lower classes of society. In particular, they emphasized the need to rescue and rehabilitate criminal and destitute juveniles, but there were no laws in place for the education or care of destitute children. Thus, in 1854 and 1857, respectively, the central government made new laws for reformatory schools and industrial schools. The former were intended for juvenile criminals aged 14 years and older, while the latter were for destitute children under 14 years of age, including criminal children or unmanageable children.

*202 words!*

# Avoiding Common Mistakes

## *Background*

## ***Be concise!***

In nineteenth century Britain, immigration caused rapid city growth and consequently new problems such as food, housing, and job shortages. To address these problems, along with the increasing number of juvenile criminals, many social reformers began to insist on the importance of promoting the education and general welfare of the lower classes of society. In particular, they emphasized the need to rescue and rehabilitate criminal and destitute juveniles. Therefore, the central government passed new laws for reformatory schools (juvenile criminals  $\geq 14$  years old) and industrial schools (destitute children  $< 14$  years old) in 1854 and 1857, respectively.

- Background should start ***broad*** (Britain, not Manchester)
- Manchester is a case study, not only example
- Only ***essential*** information necessary for abstract

## Avoiding Common Mistakes

***State information not further  
described in the abstract***

**“Parents of fourth graders who agreed to undergo  
blood testing participated in this investigation.”**

**What type of blood testing?  
Blood testing was no long mentioned in the  
abstract**

**Readers expect additional information  
or results related to blood testing**

## Avoiding Common Mistakes

### ***Avoid statements that require a reference***

“Previous studies have clarified the association between excess body weight and the development of both diabetes and arteriosclerosis in children. Thus, prevention of excess body weight in childhood is important.”

**“Preventing excess body weight in childhood is important because this is associated with the development of both diabetes and arteriosclerosis in children.”**

# Avoiding Common Mistakes

## ***Clearly state the implications***

### ***Background***

Seasonal variation in the incidence of cerebrovascular diseases has been reported in many countries. However, little is known about the relationship between meteorological changes and the incidence of stroke.

### ***Conclusion***

A higher incidence of intracranial hemorrhage was associated with cold days and lower temperatures 1 day before onset. Atherothrombotic stroke was associated with higher temperatures 1 day before onset. These findings suggest that meteorological changes may influence the frequency of stroke onset.

**Implications?**

# Avoiding Common Mistakes

## ***Clearly state the research problem***

### ***Background***

Accumulative evidence has suggested that omega-3 fatty acids, particularly eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), contribute to the prevention of coronary artery disease. Some progeroid syndromes caused by genetic DNA repair deficiency present with early-onset atherosclerosis, suggesting that DNA damage plays a causative role in the pathogenesis of atherosclerosis. We previously reported the presence of DNA damage in atherosclerotic lesions. In the present study, we investigated the effects of EPA and DHA on DNA damage in vascular endothelial cells to clarify the mechanisms by which EPA and DHA prevent coronary artery disease.

# Avoiding Common Mistakes

## ***Clearly state the research problem***

### ***Background***

DNA damage likely has a causative role in the pathogenesis of atherosclerosis. Although omega-3 fatty acids, particularly eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), contribute to the prevention of coronary artery disease, whether they do so by affecting DNA damage is currently unclear. In this study, we investigated the effects of EPA and DHA on DNA damage in vascular endothelial cells to clarify the mechanisms by which EPA and DHA prevent coronary artery disease.

- **Concisely state your ideas (developed in the main text)**
- **Clearly state research problem**

## Activity: What's Wrong With This Abstract?

In this work, the impact of  $\text{SiO}_2$  nanoparticles on the wettability of a carbonate reservoir rock was experimentally studied. The impact of these nanoparticles on the wettability of carbonate systems is still in its infancy. For this purpose, the effect of nanofluid's concentration on wettability and interfacial tension were investigated to determine the optimum concentration of nanofluid for injection into core samples, which had diameter of 3.84cm and the lengths ranging from 8–8.50 cm, with porosity and average permeability equal to 16% and 7mD, respectively. Surprisingly, the result suggests that a concentration of 4g/L of nanofluid could significantly alter the wettability of the rock from a strongly oil-wet to a strongly water-wet condition. Moreover, we studied the nanofluids' potential in enhanced oil recovery of oil-wet core plugs. The implications of these findings are discussed.



# Activity: What's Wrong With This Abstract?

Why? No context

In this work, the impact of the concentration of a carbonate reservoir rock was explored on the wettability of carbonate reservoir rock. For this purpose, the effect of nanofluid's concentration on wettability and interfacial tension

Too long (50 words)  
Unnecessary information?  
Spacing mistake  
En dash mistake

These samples had a diameter of 3.84 cm, lengths ranging from 8 to 8.50 cm, porosity of 16%, and average permeability of 7 mD.

ranging from 8–8.50 cm, with porosity and average permeability equal to 16% and 7mD, respectively. Surprisingly, the result suggests that a concentration of 4g/L of nanofluid could significantly alter the wettability of the rock from a strongly oil-wet to a water-wet condition. Interestingly, we studied the potential in enhanced oil recovery of oil-wet core plugs. The implications of these findings are discussed.

suggested  
Results?

spacing

No conclusion or implications

# Writing your TITLE



## Title

### Important points

- ✓ Only main idea
- ✓ Accurate, simple
- ✓ Population/model
- ✓ Include keywords
- ✓ Fewer than 20 words
- ✓ Include method/  
study type

### Avoid

- ✗ Unneeded words  
("A study of")
- ✗ Sensationalism,  
journalistic style
- ✗ Complex word order
- ✗ Abbreviations, jargon
- ✗ "New" or "novel"

# Types of Titles

**Interrogative**

Can efficiency of solar cells be improved by magnesium doping in metal oxide layers?

**Assertive/  
Declarative\***

**Magnesium doping in metal oxide layers improves solar cell efficiency** / Improved efficiency of solar cells by magnesium doping in metal oxide layers

**Indicative/  
Descriptive\***

**Effects of magnesium doping in metal oxide layers on efficiency of solar cells**

**\* + Method  
(subtitle)**

Xxxxxxx: **computer simulation model**

## Effective titles

***Articles with short titles describing the results are cited more often***

Paiva et al. Clinics 2012; 67: 509–513.

**Analyzed 423 research articles published in Oct 2008 and analyzed the citations in Dec 2011**

Higher citations

- ✓ Short titles
- ✓ Described results

Lower citations

- ✗ Questions
- ✗ Geographically restricted

## Activity: Which Title Is Best?

- A) Characterization of the physical properties of gold nanoparticles in oxygen-deprived environments
- B) Low oxygen environments reduce the biocompatibility of gold nanoparticles
- C) Do oxygen levels affect the biocompatibility of gold nanoparticles?
- D) Low oxygen environments promotes the inter-particle interaction of citrate-stabilized AuNPs causing them to aggregate and become toxic to biological tissues

## Activity: Which Title Is Best?

 A) Characterization of the physical properties of gold nanoparticles in oxygen-deprived environments

**Describes methodology**

B) Low oxygen environments reduce the biocompatibility of gold nanoparticles

C) Do oxygen levels affect the biocompatibility of gold nanoparticles?

D) Low oxygen environments promotes the inter-particle interaction of citrate-stabilized AuNPs causing them to aggregate and become toxic to biological tissues

## Activity: Which Title Is Best?

- A) Characterization of the physical properties of gold nanoparticles in oxygen-deprived environments
- B) Low oxygen environments reduce the biocompatibility of gold nanoparticles
- C) Do oxygen levels affect the biocompatibility of gold nanoparticles?
- D) Low oxygen environments promotes the inter-particle interaction of citrate-stabilized AuNPs causing them to aggregate and become toxic to biological tissues

Describes methodology

Summary of key finding



## Activity: Which Title Is Best?





- A) Characterization of the physical properties of gold nanoparticles in oxygen-deprived environments
- B) Low oxygen environments reduce the biocompatibility of gold nanoparticles
- C) Do oxygen levels affect the biocompatibility of gold nanoparticles?
- D) Low oxygen environments promotes the inter-particle interaction of citrate-stabilized AuNPs causing them to aggregate and become toxic to biological tissues

Describes methodology

Summary of key finding

Don't use questions

## Activity: Which Title Is Best?

- A)  Characterization of the physical properties of gold nanoparticles in oxygen-deprived environments
- B)  Low oxygen environments reduce the biocompatibility of gold nanoparticles
- C)  Do oxygen levels affect the biocompatibility of gold nanoparticles?
- D)  Low oxygen environments promotes the inter-particle interaction of citrate-stabilized AuNPs causing them to aggregate and become toxic to biological tissues

Describes methodology

Summary of key finding

Don't use questions

Too long, abbreviation

# Writing Your KEYWORDS for SEO (Search Engine Optimization)



# Search Engine Optimization

- ❖ Identify 7–8 keywords (include geographic region/ setting, approach, topic, concepts; use **standard terms**\*)
- ❖ Use 1-2 in your title; 5–6 in the keyword list: expand title abbreviations or use official synonym
- ❖ Use 2-3 keywords 3–4 times in your abstract
- ❖ Use keywords in headings, subheadings, illustration headings, and illustration legends when appropriate
- ❖ Use key words in the main text; be consistent throughout your paper

*\*Standard terms from PsycINFO, BIOSIS, ChemWeb, ERIC Thesaurus, HEP, IEEE, GeoRef, MeSH, etc*

## Examples of keywords

A systematic review and meta-analysis of the safety, feasibility and effect of exercise in women with stage II+ breast cancer

[Aerobic exercise](#); [Breast neoplasm](#); [Exercise oncology](#); [Resistance exercise](#)

Effect of various host characteristics on blue thermally activated delayed fluorescent devices

[Organic light-emitting diode](#); [Thermally activated delayed fluorescence](#); [Blue host](#); [Host polarity](#)

Beyond the Head: The Practical Work of Curating Contemporary Art

[Cultural sociology](#); [Distributed cognition](#); [Actor-network theory](#); [Object-interaction](#)



See you again in **FOUR WEEKS** for  
Early Career Academics Series  
Episode #6: **May 9<sup>th</sup> 2022**



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