Scientific Publications

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Scientific Publications

- Undergraduate Student
- Postgraduate Students
- Researcher
- Publications
- Journals (Cited – Not Cited)
- Citation Database: Thomson Reuter & Scupos
- Impact Factor
- Peer-Reviwers

How to write a research paper

Structure

- Title
- Abstract
- Key words
- Introduction
- Methods / Model
- Results
- Discussion
- References
- Acknowledgments

What is first?

First step

- **Methods / Model**
- **Results**

Second step

- **Introduction**
- **Discussion**

Last step

- **Title, Abstract, Key words, References Acknowledgments**

Title

- Convey the main topics of manuscript
- Be specific and concise
- Avoid jargon, abbreviations and acronyms
- Try writing three titles and picking the best

- تعبر عن الموضوعات الرئيسية للبحث
- أن تكون محددة وموجزة
- تجنب المصطلحات والاختصارات
- حاول كتابة ثلاثة عناوين واختار الأفضل

Examples

Effects of two-ion temperatures, magnetic field and higher order nonlinearity on the existence and stability of dust acoustic solitary waves in Saturn's F ring

Dust-ion-acoustic solitons in a strong magnetic field

Abstract

- The most important part → why?
- Should give an accurate summary of your research and conclusions reached
- 100-150 words → Be brief
- State the objectives and scope of the study/investigation
- Describe the methods employed

Abstract, cont.

- Summarize the results
- State the principal conclusions
- Avoid abbreviations unless necessary

Avoid references

Key words

- Title: **Direct observation of nonlinear optics in a isolated carbon nanotube**
- **KW: molecule; optics; lasers; energy**

  (too general)
- **KW: single-molecule interaction; Kerr effect; carbon nanotubes; energy level structure**

  (more specific)

Introduction

- After you select the journal
- Logical thinking
- Pyramid scheme
- Provide background information to put your work into context → reviews, historical survey

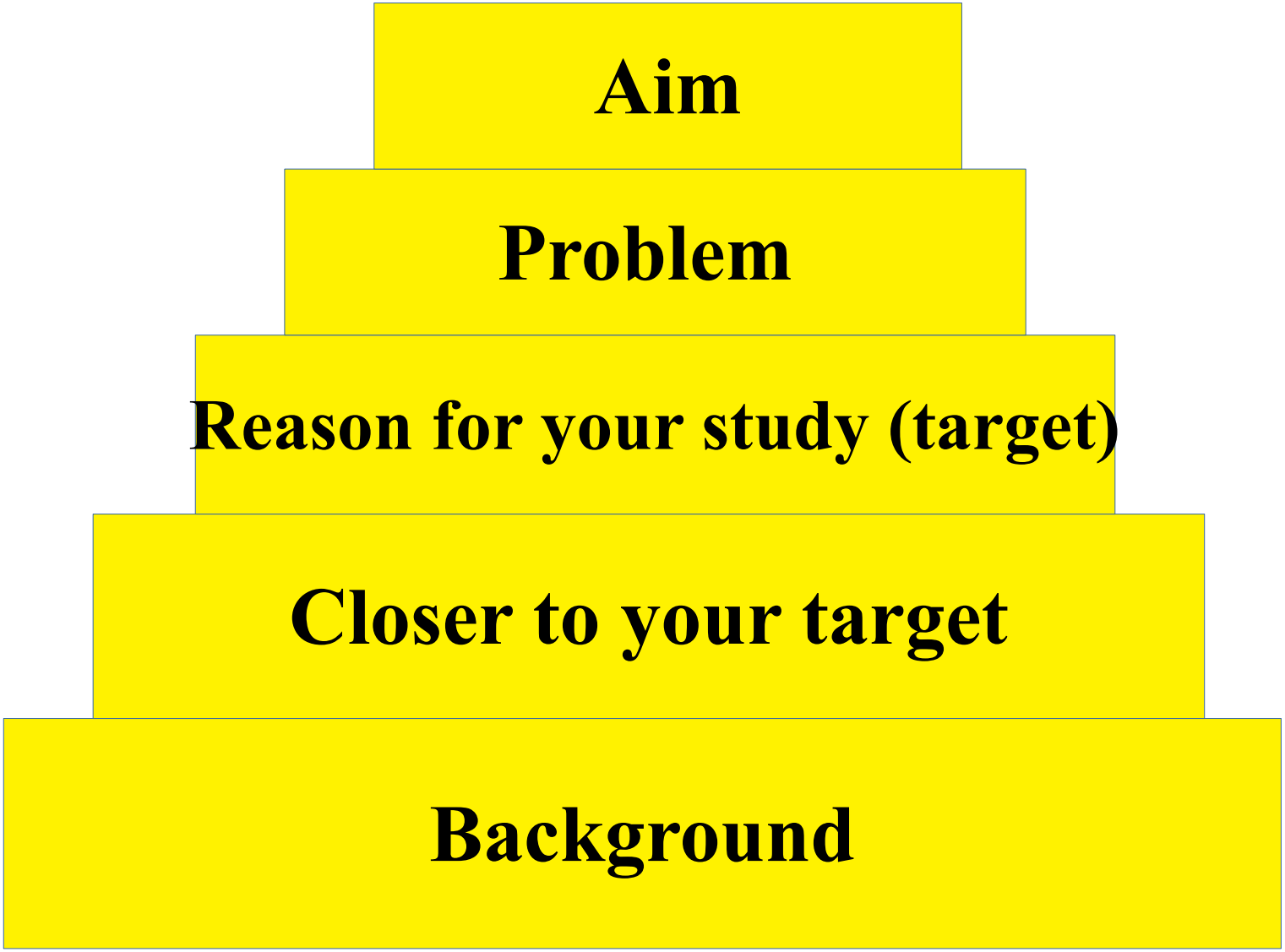
Introduction, cont.

- **What is the rationale/reason for your study?**
- **Explain how you addressed the problem (1–2 sentences)**
- **DO NOT state results from your study**

Introduction, cont.

- **Clearly state the aims of your study**
- **State the methods you will use to carry out your aims**
- **Ask yourself: are the citations balanced, current and relevant?**

Introduction, cont



Results

- Use subheadings
- Use past tense to describe results
- BUT refer to figures and tables in the present tense
- Present the facts, DO NOT discuss your results
- DO NOT duplicate data among figures, tables and text
- Include results of statistical analyses in the text

Tables & Figures

- **Figures and tables are VERY EFFECTIVE**
- **Keep it simple — use separate panels if necessary**
- **Avoid duplication with the text**
- **Label all parts of your figures**
- **Include trendlines, scale bars and statistical significance**
- **Legends must be able to 'stand alone'**

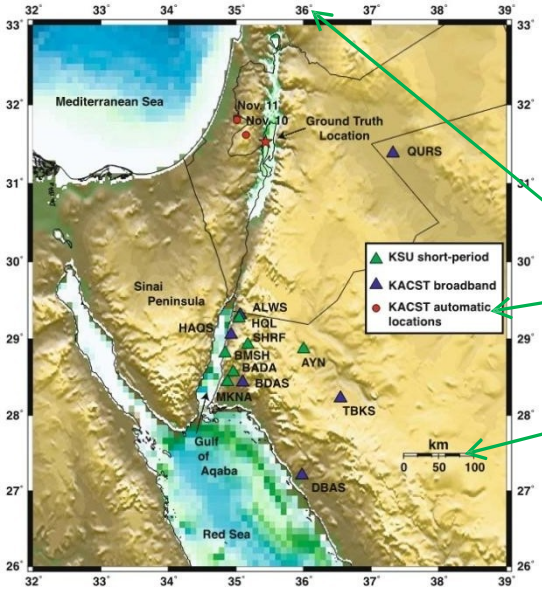
Table 1. Percentages of cells that were dead as indicated by propidium iodide staining within a single field-of-view (40,000 μm^2) using a 40x objective lens in hippocampal slices treated with a variety of concentrations of okadaic acid. Data are means±SD for 20 fields of view per treatment and region.

Data divided into categories for clarity

Treatment	CA1	CA2	CA3	DG
0 nM OA (medium only	1.5±0.7	1.7±0.3	1.2±0.9	1.6±0.4
10 nM OA	1.6±0.9	1.6±0.4	1.4±1.1	2.5±0.9
75 nM OA	1.9±1.1	1.9±0.6	2.1±1.2	11.9±2.1
150 nM OA	1.9±1.3	2.1±0.5	2.5±1.5	19.6±3.3
300 nM OA	2.1±1.2	2.1±0.5	3.0±1.2	26.7±4.5

OA=okadaic acid; CA1–CA3=the CA1–CA3 regions of the hippocampus; DG=the dentate gyrus of the hippocampus

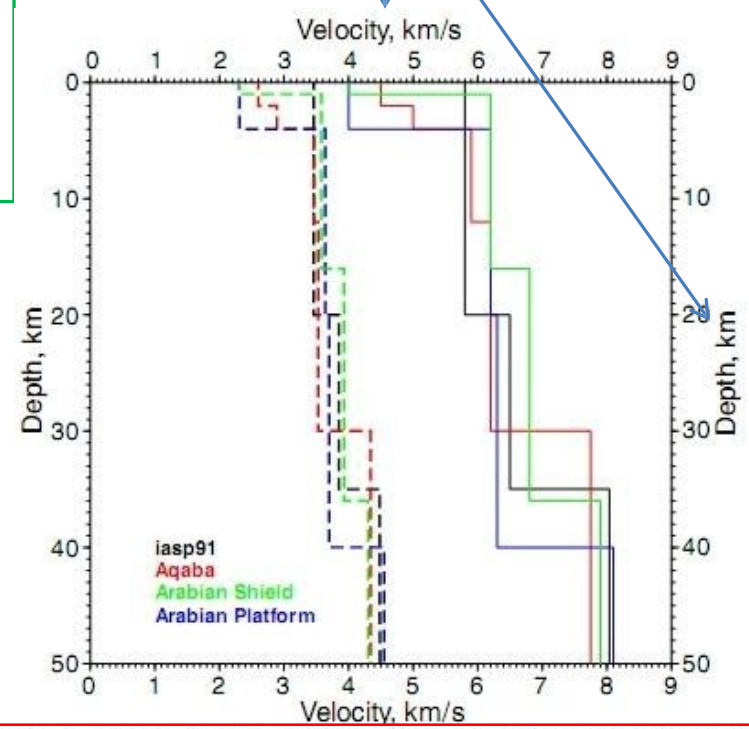
Abbreviations defined



Regional location map with major features. Longitude and latitude are indicated. Scale bar and legend to symbols included.

Fig. 1 Map of the Arabian Peninsula and surrounding regions. Major geographic and tectonic/geologic features are indicated. Approximate plate boundaries are indicated by *yellow lines*. Earthquakes and volcanic centers are shown as *red circles* and *yellow diamond*, respectively. The approximate boundary between the Arabian Shield and Arabian Platform is indicated by the *dotted line*

Axes clearly labeled



Clear, 'stand alone' legends

Fig. 3 Seismic P- and S-wave velocity models, *solid* and *dashed*, respectively, for the Arabian Peninsula from various sources described in the text

Arab J Geosci (2008) 1:1–15

Discussion

- **What do these findings mean?**
- **The answer to this question is in the Discussion**
- **Relationships shown by the results.**
- **Summarize and discuss your results → DO NOT just repeat them**
- **Past tense to describe results**
- **Present tense to describe their implications**

Discussion, cont.

Beginning

- **Answer the research question**
- **ALWAYS provide the major/main result first**
- **Give your conclusions, based on the results**

Discussion, cont.

Middle

- Explain the results
- One paragraph per idea
- What do your observations/results imply?
- Are there results from any previous studies relevant to your work?
- Compare your results with others'
- Same or different?
- Possible reasons why?

Discussion, cont.

- **Present ambiguous results and discrepancies with other studies objectively**
- **Explain unexpected findings to the best of your ability**
- **Briefly describe limitations**
- **If you do not, the reviewers will!**

Discussion, cont.

End

- **Repeat your conclusions**
- **Begin with a signal**

  In summary …

  In conclusion …
- **Mention possible applications, implications and speculation, if appropriate**
- **Suggest future work, if necessary**

References

- **ALWAYS format your references: check the Guide for Authors for the appropriate format**
- **Formatting is required *in text* for citations and for your references section**
- **Use reference management software (RefWorks, Mendeley, EndNote, Zotero, Papers)**
- **I highly recommend EndNote**

Cover letter

Dear Editor-in-Chief,

I am sending you our manuscript entitled “Improvement of performance of InAs quantum dot solar cell by inserting thin AlAs layers” by D. Hu, C. McPheeters, E. Yu, and myself. We would like to have the manuscript considered for publication in *Nanoscale Research Letters.*

Please let me know of your decision at your earliest convenience.

With my best regards,

Sincerely yours,
Daniel Schaadt,
PhD

Cover letter, cont.

- **Give the background to the research**
- **Explain what was done and what was found**
- **Explain why this is interesting to the journal's readership**
- **Conforms to the journal's requirements**

Cover letter, cont.

Dear Dr Lisberger,

Please find enclosed our manuscript entitled “Amyloid-like inclusions in the brains of Huntington’s disease patients”, by McGowan et al., which we would like to submit for publication as a Research Paper in *Neuroscience*.

Recent immunohistochemical studies have revealed the presence of neuronal inclusions containing an N-terminal portion of the mutant huntingtin protein and ubiquitin in the brain tissues of Huntington’s disease (HD) patients; however, the role of these inclusions in the disease process has remained unclear. One suspected disease-causing mechanism in Huntington’s disease and other polyglutamine disorders is the potential for the mutant protein to undergo a conformational change to a more stable anti-parallel β-sheet structure…

Give the background to the research

To confirm if the immunohistochemically observed huntingtin- and ubiquitin-containing inclusions display amyloid features, we performed Congo red staining and both polarizing and confocal microscopy on post-mortem human brain tissues obtained from five HD patients, two AD patients, and two normal controls. Congo red staining revealed a small number of amyloid-like inclusions showing green birefringence by polarized microscopy, in a variety of cortical regions....
….detected inclusions observed in parallel sections, suggesting that only a relatively small proportion of inclusions in HD adopt an amyloid-like structure.

Explain what was done and what was found

We believe our findings would appeal to a broad audience, such as the readership of *Neuroscience*. As a wide-reaching journal publishing original research on all aspects of neuroscience…

Explain why this is interesting to the journal’s readership

We confirm that this manuscript has not been published elsewhere and is not under consideration by another journal. All authors have approved the manuscript and agree with submission to *Neuroscience*. We have read and have abided by the statement of ethical standards for manuscripts submitted to *Neuroscience*. The authors have no conflicts of interest to declare.

Conforms to the journal’s requirements

Please address all correspondence to….

Thank you