WRITING SCIENTIFIC PAPER

SAPTAWATI BARDOSONO
TITLE

WHAT IS THE PAPER ABOUT

WORKING TITLES ARE RARELY SUITABLE FOR THE FINAL PAPER

SHOULD BE INTERESTING, CONCISE AND INFORMATIVE

NOT OVER 100 CHARACTERS, 10-12 WORDS
A STUDY OF CHIPMUNK MUSCLE TISSUE ION CHANNEL AMINO ACID ACTIVATION PARAMETERS (poor)

AMINO ACID ACTIVATION OF ION CHANNELS IN CHIPMUNK MUSCLE TISSUE (better)
TITLE

- POLLEN BETWEEN A ROCK AND A HARD PLACE: GERMAN AND AUSTRIAN SAXIFRAGES (risky choice)
- POLLEN MORPHOLOGY OF GERMAN AND AUSTRIAN SAXIFRAGA SPECIES (safer choice)
INTRODUCTION

- WHAT IS THE PROBLEM AND WHY SHOULD ANYONE CARE?
- WHY WAS THIS WORK DONE?
- DEAL WITH THE QUESTION BRIEFLY, INTERESTINGLY, AND AS SIMPLE AS POSSIBLE
INTRODUCTION

- FIRST, STATE THE GENERAL FIELD OF INTEREST
- CONCISELY PRESENT WHAT IS ALREADY KNOWN ABOUT THE SUBJECT OF YOUR INVESTIGATION, REFERENCING THE MOST IMPORTANT PUBLICATION
- IN 1-3 PARAGRAPHS
INTRODUCTION

- Next, present other’s findings that will be challenged or expanded
- Explain how you are hopping to extend or modify what is already known or believed
- Provide support for your argument
INTRODUCTION

- FINALLY, SPECIFY THE QUESTION WHICH THE PAPER ADDRESSES, AND HOW IT DOES SO
- OFTEN PHRASE IN HYPOTHESIS FORM
- INDICATE YOUR EXPERIMENTAL APPROACH
- POINT OUT WHAT IS NEW AND IMPORTANT ABOUT YOUR WORK
MATERIALS AND METHODS

- HOW WAS THE EVIDENCE OBTAINED?
- CHRONOLOGICAL ORDER IS A COMMON WAY TO PROCEED THROUGH THIS SEGMENT
- ALTERNATIVELY, PARALLEL THE SEQUENCE IN WHICH YOU PRESENT THE RESULTS
- A FLOW CHART MAY BE USEFUL FOR READERS
- CONCLUDE WITH A DISCUSSION OF ANY STATISTICAL PROCEDURES EMPLOYED
RESULTS

- WHAT WAS FOUND OR SEEN?
- DECIDE ON A LOGICAL ORDER FOR PRESENTATION
- PRESENT THE MOST IMPORTANT RESULTS FIRST, OR
- TO GO FROM SIMPLE RESULTS TO COMPLEX ONES, OR
- IN A CHRONOLOGICAL ORDER THAT PARALLELS THE WAY THE METHODS WERE APPLIED DURING THE STUDY
RESULTS

- Present the results that have a bearing on the question you are examining, but do not interpret them here.
- Exclude irrelevant findings, but never omit valid results that appear to contradict your hypothesis.
- Tables and figures are usually an integral part of this section.
- Do not use the text to parrot the information they contain, point out salient features and relationships between the various results.
DISCUSSION AND CONCLUSION

- WHAT DO THESE FINDINGS MEAN?
- THE PLACE TO ANSWER THE SPECIFIC QUESTION(S) STATED IN THE INTRODUCTION
- THEIR ORGANIZATION MAY PARALLEL THAT USED IN EARLIER SECTIONS OF THE PAPER, OR
- THE MOST SALIENT FINDINGS ARE PRESENTED FIRST
DISCUSSION AND CONCLUSION

- INTERPRET YOUR RESULTS AGAINST A BACKGROUND OF EXISTING KNOWLEDGE
- EXPLAIN WHAT IS NEW IN YOUR WORK, AND WHY IT MATTERS
- DISCUSS BOTH THE LIMITATIONS AND THE IMPLICATIONS OF YOUR RESULTS, AND RELATE OBSERVATIONS TO OTHER RELEVANT STUDIES
DISCUSSION AND CONCLUSION

- State new hypothesis when warranted
- Include recommendations when appropriate
- Watch for symptoms of megalomania:
  - Exaggerated/extravagant claims
  - Speculation
  - Extrapolating
- Indicate what the next steps might be to resolve any apparent conflicts
REFERENCES

- WHO DID WHAT?
- FIRST DRAFT, USING HARVARD SYSTEM – NAME AND YEAR SYSTEM, RATHER THAN USING CONSECUTIVE NUMBERS
ABSTRACT

- IS AN ABBREVIATED VERSION OF THE PAPER AS ACCURATE REPRESENTATION OF THE CONTENTS OF A DOCUMENT WITHOUT ADDED INTERPRETATION OR CRITICISM AND WITHOUT DISTINCTION AS TO WHO WROTE IT
- WRITTEN FOR PEOPLE WHO MAY never READ THE COMPLETE VERSION
ABSTRACT

- INCLUDE SOME DATA
- ADDRESS THE SAME QUESTIONS AS THE BODY OF THE PAPER BUT BRIEFLY AND WITHOUT SUPPORTING TABLES OR FIGURES
- TYPICALLY LIMITED 100-250 WORDS – A SINGLE PARAGRAPH
ABSTRACT

- STRUCTURED ABSTRACTS – 400 WORDS WITH HEADINGS:
  - OBJECTIVE
  - DESIGN, SETTING, PATIENTS, TREATMENT
  - RESULTS, CONCLUSIONS, AND
  - CLINICAL RELEVANCE
SUMMARY

- RESTATE THE MAIN FINDINGS AND CONCLUSIONS OF A PAPER
- WRITTEN FOR PEOPLE WHO HAVE ALREADY READ THE PAPER