

2014 UCSC STEM SUMMER PROGRAM WORKSHOP

WRITING A SCIENTIFIC ABSTRACT

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WHAT IS AN ABSTRACT?

Abstracts are tightly compressed summaries of a research project that allow the reader to quickly grasp the objective, methods, results and conclusion in a single paragraph. Abstracts have several uses, and may appear at the beginning of a research paper, on a scientific poster, or in an abstract book for a conference. The information in an abstract should be comprehensive, but boiled down to essentials.

ESSENTIAL PARTS OF AN ABSTRACT

- **Title**
- **Authors**
- **Objective/Purpose** of the study - hypothesis, overall question (Why?)
- **Materials and Methods** -- a description of the experiment that gives specific information about procedure, equipment, and quantities (How?)
- **Results**, including specific data - if the results are quantitative in nature, report quantitative data; results of any statistical analysis should be reported. (What?)
- **Conclusion/Significance** --Important conclusions or questions that follow from the experiment(s) (So what?)

STYLE & FORMAT OF AN ABSTRACT

Always follow the style guidelines and formatting instructions given by the publication or conference you are submitting to. Use clear, straightforward language and short sentences.

- Single paragraph, and concise—limit to about 250-300 words
- Written in past tense, 1st person plural (“we”)
- An abstract should stand on its own, and not refer to any other part of the paper such as a figure or tables
- Focus on summarizing results - limit background information, give only enough to contextualize
- Make sure that what you report in your abstract is consistent with what you report your poster or paper
- Correct spelling, clarity of sentences and phrases, and proper reporting of quantities (proper units, significant figures) are just as important in an abstract as they are in other forms of writing

AN ABSTRACT SHOULD:

- Be concise, but not overly abbreviated
- Assume the reader has some knowledge in the subject area
- State the research question or hypothesis
- Present the approach used to answer the questions
- Report the most important results (but don't cite tables, etc)
- Offer a conclusion explaining the significance of the results

SOME KEY PHRASES

- ✓ *The main purpose of the study was to...*
- ✓ *To address this question we usedapproach [rationale]*
- ✓ *The findings suggest that...*
- ✓ *These results support the conclusion that....*

REFERENCES AND RESOURCES

David R. Caprette, Rice University
www.ruf.rice.edu/~bioslabs/tools/report/reportform.html

SACNAS
<http://sacnas.org/content/presentations-resources>

UCSC Undergraduate Research Symposium
<http://sacnas.org/events/national-conf/student-postdoc-research-presentations>