GG610
Spring 2012
Friday, 1:30-2:20
Steve Martel
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Class Roster (18)

- Tayro Acosta
- Alice Colman
- Benjamin Czeck
- Emily First
- Patrick Gasda
- Sam Howell
- Christine Jilly
- Haunani Kane
- Jacque Kelly

- Malin Klawonn
- Sarah Maher
- Matthew Markely
- Carolyn Parcheta
- Mary Tardona
- David Trang
- Christine Waters
- Jonathan Weiss
- Jessica Zais-Bowman
Topics

- Main theme*
- Goals and objectives
- Logistics
- Writing Tips
- Good References
- Conclusions

Main Theme for a Good Presentation

- Define a potent central theme, stick to it, and develop it - relentlessly
### Goals vs. Objectives

**Goals**
- Broad
- General
- Intangible
- Can't be validated
- Example
  - Become a well-prepared geologist

**Objectives**
- Narrow
- Specific
- Tangible
- Can be validated
- Example
  - Complete my thesis on Kilauea by March 30

### Class Goals and Objectives

**Goals**
- Develop ability to communicate in short formats by practice
  - Pop Ups (mini-presentations)
  - AGU-style talks
  - Abstracts
  - Posters
- Provide pointers for better writing

**Objectives**
- Present one 2-minute “Pop Up” mini-presentation
- Present one 15-minute AGU-style talks
- Prepare (1) and critique (3-4) one-paragraph abstracts
- Constructively critique 17 peer presentations
Course Logistics

Schedule

<table>
<thead>
<tr>
<th>Week(s)</th>
<th>Topic(s)</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction / Writing organization &amp; style</td>
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<tr>
<td>2</td>
<td>Oral presentations</td>
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<tr>
<td>3</td>
<td>Abstracts</td>
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<td>4</td>
<td>Posters and Figures (Brooks Bays)</td>
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<td>5</td>
<td>Expert witness presentation</td>
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<tr>
<td>6</td>
<td>Pop Ups (2 minutes/person)</td>
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<tr>
<td>7-16</td>
<td>15-minute talks (2/session)</td>
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Grades

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Oral Presentation</td>
<td>40%</td>
</tr>
<tr>
<td>Abstract</td>
<td>20%</td>
</tr>
<tr>
<td>Critiques of peer presentations</td>
<td>15%</td>
</tr>
<tr>
<td>Critiques of peer abstracts</td>
<td>15%</td>
</tr>
<tr>
<td>Pop Up (mini-presentation)</td>
<td>10%</td>
</tr>
</tbody>
</table>

Writing Tips

1. It was a dark and stormy night.
2. Your new novel has an exciting beginning.
3. Thank you!
4. Good luck with the second sentence!
Key Attributes of a Good Presentation

- Value
- Focus
- Clarity
  - In writing
  - In illustrations
- Good organization

Key Attributes of a Good Presentation

- Value
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- Conciseness
- Economy
- Humility
- Acknowledgement
- Memorability
Generic Scientific Outline

- Abstract
- Introduction
- Procedure
- Data
- Analysis
- Discussion
- Conclusions
- Acknowledgements
- References
- Figures

Establish a Theme or a Thread

http://upload.wikimedia.org/wikipedia/commons/2/26/Crystbeads.jpg

Better Scientific Outline

- Abstract
- Introduction
- Procedure
- Data
- Analysis
- Discussion
- Conclusions
- Acknowledgements
- References
- Figures

Abstract

“Scrutiny of the Abstract, II”)

http://www.ees.nmt.edu/outside/Geop/Classes/Geop592/Landes[1].pdf

- “in terms of market reached, ... the most important part of the paper” (Landes, 1966)

- Tip: Write this first to focus.
  Then rewrite, rewrite, and rewrite...

- To be continued...
Introduction
(From “Scrutiny of the Introduction”)
http://sep.stanford.edu/sep/prof/Intro.html

• Purpose: invite readers to invest in your paper

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(From “Scrutiny of the Introduction”)
http://sep.stanford.edu/sep/prof/Intro.html

• Purpose: invite readers to invest in your paper
• Organization
  1 Review
  2 Claim
  3 Agenda
Introduction
(From “Scrutiny of the Introduction”)
http://sep.stanford.edu/sep/prof/Intro.html

• Purpose: invite readers to invest in your paper
• Organization
  1 Review: Relevant background to motivate paper
  2 Claim: Your central thesis/purpose/hypothesis
  3 Agenda: Road map
    • Explain how paper works to fulfill claim
    • Don’t merely recite topics
    • Agenda should clarify claim

Example of an Agenda: Gudmundsson, 1998
Formation and development of normal-fault calderas and the initiation of large explosive eruptions

The first objective of this paper is to provide a model for the initiation and development of the boundary faults of normal-fault calderas. This model is based on, firstly, the results of a boundary-element study on the stress field around shallow magma chambers of different shapes and subject to various loading conditions, and, secondly, analytical solutions on the doming (bending) of elastic plates. A second objective is to use this model as an explanation for large explosive eruptions in general and the empirical relation between collapse and large eruptions in particular. This is done by considering the effect of slip in normal-fault calderas on the potential fluid excess (driving) pressure in the magma chamber associated with the calderas.
Paragraph

• “A self-contained unit dealing with a particular point or thought”
• Topic sentence – Introduces the thought
• Development of the thought
• Concluding sentence
  – Wraps up the thought
  – Relates to the topic sentence
  – Leads into the next paragraph

Expressions of Degree of Confidence

• Know (High confidence)
• Determine
• Establish
• Ascertain
• Understand
• Conclude
• Deduce
• Judge
• Infer
• Suspect
• Guess (Low confidence)
• Believe (Avoid because of “faith-based” connotations)
Phrases to Avoid & Alternatives

- At depths up to 20m
- *It is* most likely that...
- There are many reasons ...
- A number of papers ...
- A significant difference
- The planet is very small
- At depths as great as 20m
- Most likely ...
- For many reasons...
- Several papers
- A difference of 10%
- The planetary radius is 6400 km

Good References

- Suggestions To Authors (Bishop et al., 1978)
- Scrutiny of the Abstract, II (K.K. Landes, 1966)
- The Elements of Style (Strunk and White, 1999)
  - http://www.bartleby.com/141/
- The Nuts and Bolts of College Writing (Harvey, 2003)
- Tips for Good Scientific Writing
  - http://www.soest.hawaii.edu/GG/FACULTY/ITO/
- Tips on Scientific Writing (Go to Teaching->GG410 Undergraduate Seminar)
- Writing Scientific Manuscripts
- From “The Writing Center” at the University of North Carolina (esp. for paragraphs)
  - http://writingcenter.unc.edu/resources/handouts-demos/specific-writing-assignments/scientific-reports
  - http://writingcenter.unc.edu/resources/handouts-demos/writing-the-paper/paragraphs
- Words of Estimative Probability
- Glossary of Critical Thinking Terms
Conclusions

• Set and develop a potent theme*
• Accompanying activities
  – Focus
  – Be economical
  – Support theme by structure, content, and clarity
  – Revise
  – Practice