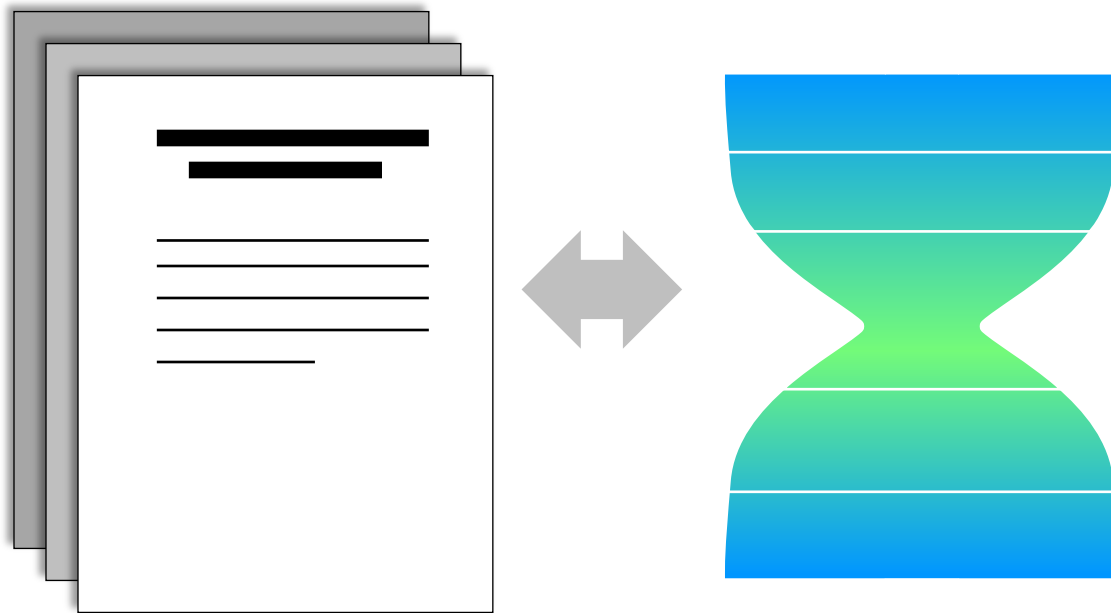


Abstracts and Titles

20.109 Communication Workshop 3



Today's agenda:



Tips for effective abstracts

Crafting an “hourglass-shaped” message

Draft the abstract of your paper

Leave with outline based on provided template

Brainstorm and revise a title for your paper

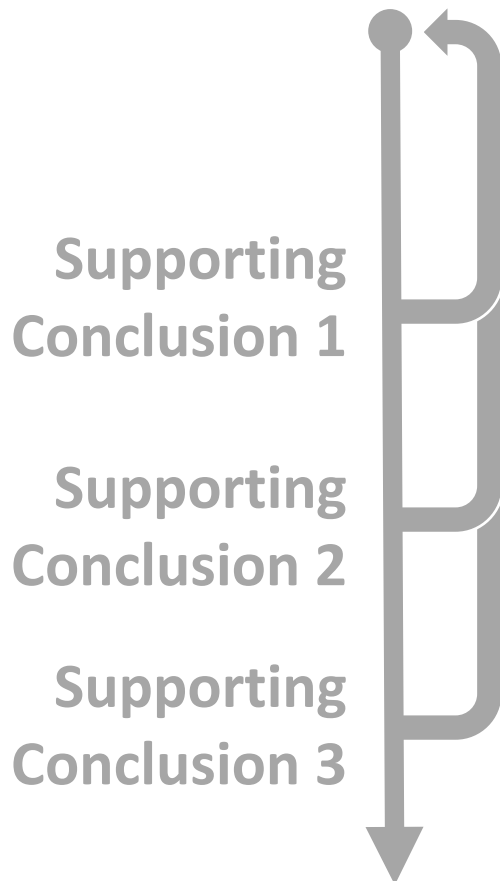
Leave with a concise take-home message

Your title and abstract convey your take-home message

WHAT

Take-home message

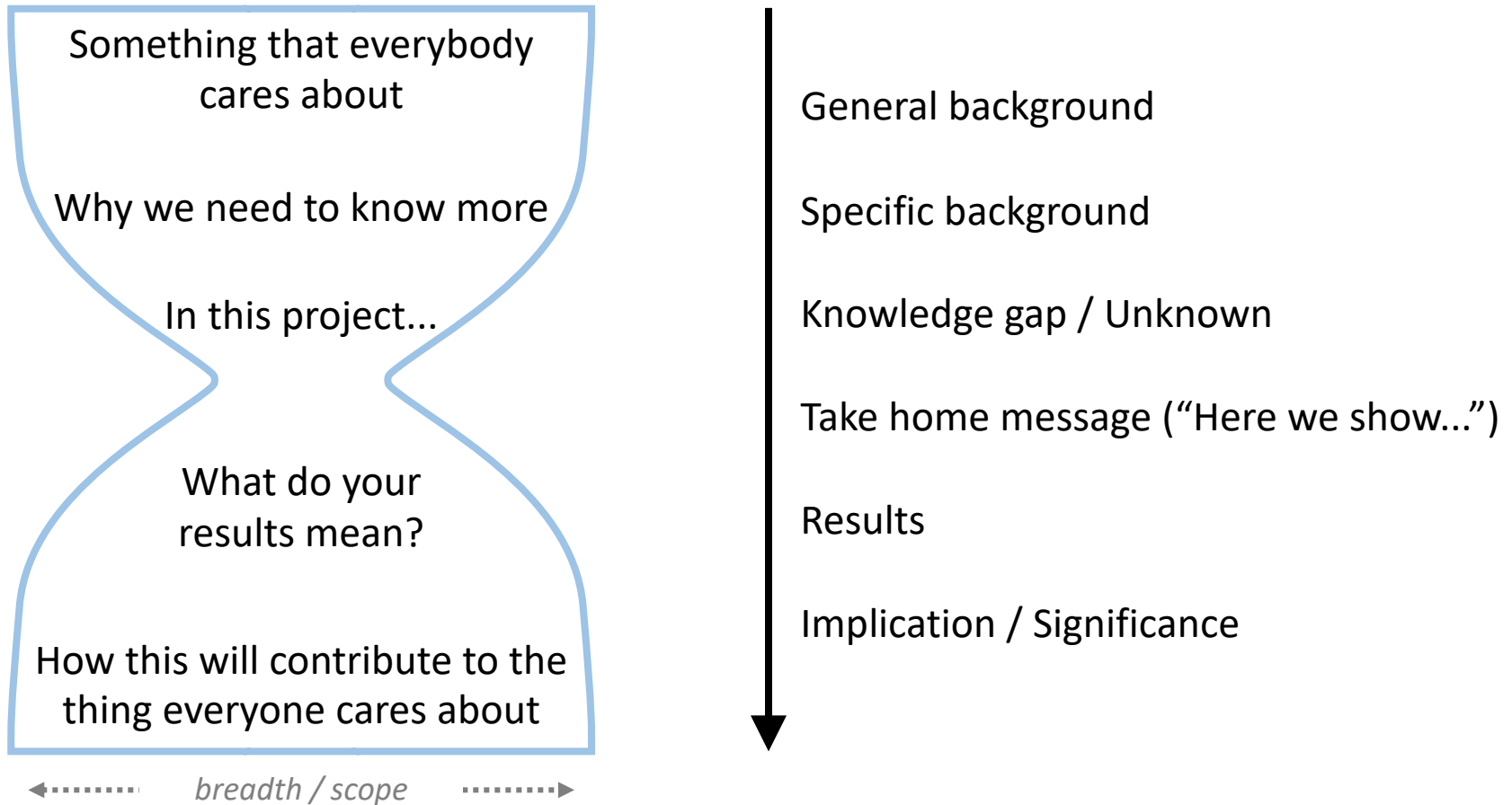
Take-home message



A reader should be able answer the following questions from reading your abstract:

- Why was this study important?
- How does it further scientific thinking?
- Why should anyone read this paper?

An effective abstract is an hourglass-shaped message



NOTE: parallels *Nature* journal [guidelines](#) for formatting the summary paragraph of research articles

Example abstract

Interleukin-4 (IL-4) is a multifunctional cytokine and an important regulator of inflammation. When deregulated, IL-4 activity is associated with asthma, allergic inflammation, and multiple types of cancer. While antibody-based inhibitors targeting the soluble cytokine have been evaluated clinically, they failed to achieve their end points in trials. Small-molecule inhibitors are an attractive alternative, but identifying effective chemotypes that inhibit the protein–protein interactions between cytokines and their receptors remains an active area of research. As a result, no small-molecule inhibitors to the soluble IL-4 cytokine have yet been reported. Here, we describe the first IL-4 small-molecule inhibitor identified and characterized through a combination of binding-based approaches and cell-based activity assays. The compound features a nicotinonitrile scaffold with micromolar affinity and potency for the cytokine and disrupts type II IL-4 signaling in cells. Small-molecule inhibitors of these important cell-signaling proteins have implications for numerous immune-related disorders and inform future drug discovery and design efforts for these challenging protein targets.

Background

Knowledge gap

“Here we”
takeaway

Results

Implication /
Significance

ACTIVITY – 10-15 minutes

Working individually, use the provided template to outline your abstract

Outline your abstract | 20.109 Communication Workshop 3

Background What important scientific question/need does this work connect to?	
Knowledge Gap What is the specific unknown that this paper will address?	
Here We Show What is the take-home message of this paper?	
Major Approach and Major Results What did you do/find, and how did this allow you to reach the take-home conclusion?	
Implication How do your findings connect to the larger problem? to future work?	

Structure diagram: an effective abstract is an "hourglass-shaped" message.

The diagram is an hourglass shape with four sections. The top wide section contains the text 'Something that everybody cares about'. The narrow middle section contains 'Why we need to know more'. The narrow bottom section contains 'In this project...'. The bottom wide section contains 'What do your results mean?' and 'How this will contribute to the thing everyone cares about'. Below the diagram, there are two dotted lines pointing outwards with the text 'breadth / scope' in the center.

Remember to answer these questions for your reader:

- what is the **problem**?
- where is the **gap**?
- what did you **do**?
- what is the **implication**?

Article Titles

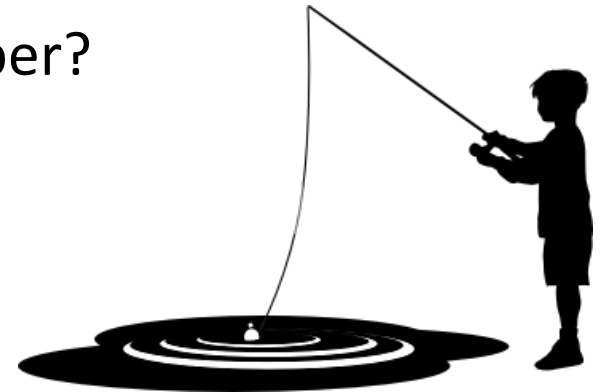
Why do they matter?



Attracting your audience: first judgment

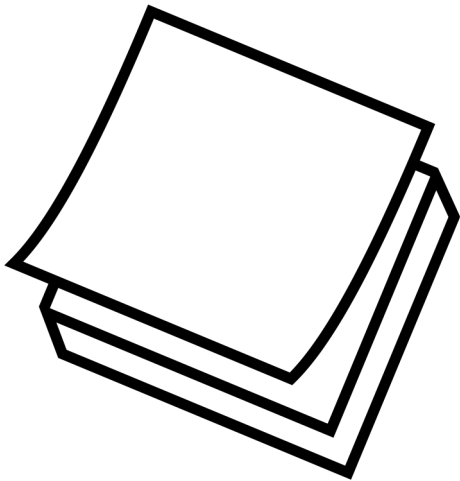
Influencing whether someone will read or cite your paper

Indexing – will readers even find your paper?



ACTIVITY – 5 minutes

Brainstorm keywords associated with your project



Imagine a reader is going to keyword search to find relevant papers—what keyword tags would you want your paper to have?

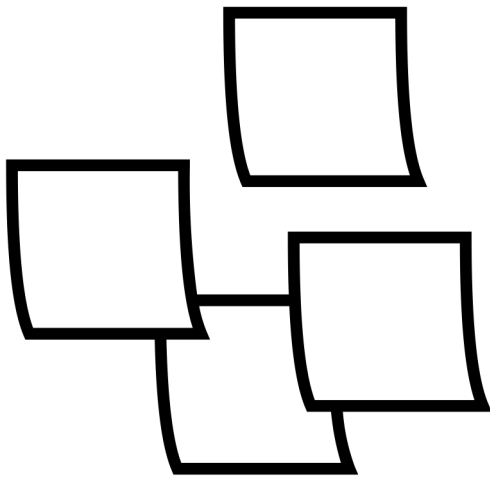
You always can refer to your abstract draft for inspiration!

Your title should reflect your “here we show” take home message claim

- Effective titles are **messages**, and the main message of a manuscript is its novel “here we show” **claim**
- goal for a title is to be **concise** and **accessible**
 - avoid jargon
 - include key terms
 - most positive framing of results within limits of fair representation

ACTIVITY – 15 minutes

Select and rearrange keywords to craft a title for your data summary



What combination of keywords is **compelling** and conveys your take-home message?

How does this compare to the “here we show” statement in your abstract?

After finishing your own, walk around to see what other teams have come up with—leave suggestions/feedback!

Abstract reminders:

- **highlight your take home message:**
identify your research question & *your* contribution
- focus on **findings**, not methods
- be **succinct**
- be **quantitative**
- write your titles as **messages**

new!



(usually)
not new!



Checklist: six key aspects of effective abstracts

- Establish a clear argument, using Claim-Evidence-Reasoning (CER)
- Your title and “here we show” statement convey the same message
- Your problem statement and “here we show” statement are next to each other
- Your results reflect your take home message
- Use your “here we show” to guide the type of background you include
- The subject of each sentence should lead to the subject of the next sentence

Next steps

- slides and additional resources posted on the wiki (“Communication” tab)
 - use the checklists to refine your titles/abstracts and figures
- start thinking about presentations, slide design, and how we discuss journal articles as you go to other classes and talks
- next workshop: practice your slide design and oral presentation skills to prepare for your journal article presentation

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