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A GUIDE TO WRITING A PAPER

Goal: To write a technical paper (or report or thesis) that **attracts, captivates, and convinces** the reader!

STEP 1: FIRST THINK AND CLARIFY YOUR PURPOSE

(don't write yet, just scribble down your ideas!)

What is the message of your paper?
What is the new result or contribution that you want to describe?
What do you want to convince people of?

STEP 2: MAKE AN OUTLINE

A paper must have three parts to be complete and successful!

Part A: **INTRODUCTION**

i. What is the general context, or existing problem, or former deficiency, that prompted your work?
ii. What solutions or improvements are needed? Who needs these?
iii. What is the prior state-of-the-art? Provide a short critical review of the literature. (This is not needed if a more extensive review is given in Part B.)
iv. What is your new contribution? Give a very brief summary of methods and results.
v. A short overview of the paper.

Part B: **MAIN TEXT**

i. Review of previous work.
ii. Adopted approach and procedures:
Theoretical development (if any)
Experimental work (if any)
iii. Results with critical discussion: How do the results compare with earlier work? What is new and significant?

Part C: **CONCLUSIONS**

i. Optional: Repeat briefly the problem statement and general context.
ii. Give a short summary of the adopted approach and procedures.
iii. Stress the significance of your results: In which way are they new and different from earlier work? What advantages do they offer? What new fundamental understanding or implications for improved practice do they present?
iv. Are there any limitations of your results? Where do they not apply?
v. Optional: Recommendations for further or alternative work, especially if the

method has many promises.

STEP3: THE ACTUAL WRITING

Follow a few simple rules:

Within each paragraph, write from the general to the specific. Thus, a more general, broadly valid statement is followed by a more specific, detailed and amplifying statement.

One sentence must lead logically to the next sentence. A convincing train of thought must carry the reader along without contradiction or omission.

Use the active mode; avoid the passive mode. Don't write: "Transition in pipe flow has been described first by Reynolds (1878).", but: "Reynolds (1878) first described transition in pipe flow.".

Figures and illustrations are like windows that give a quick and important insight into a technical paper. They must be neat and clear, and contain a sufficiently detailed legend. Moreover, the figure caption must be complete and understandable in itself; one or more sentences should be used to provide sufficient explanation to those readers who may be quickly scanning the paper.

Abstract: Write this last. Summarize Parts A, B, and C with one to three sentences each (may be more for a report or thesis).