

English Academic Writing

Unit 3: Writing in academic genre

Module 3.1: Overview of the writing process

Process writing

- Divide the task into different stages

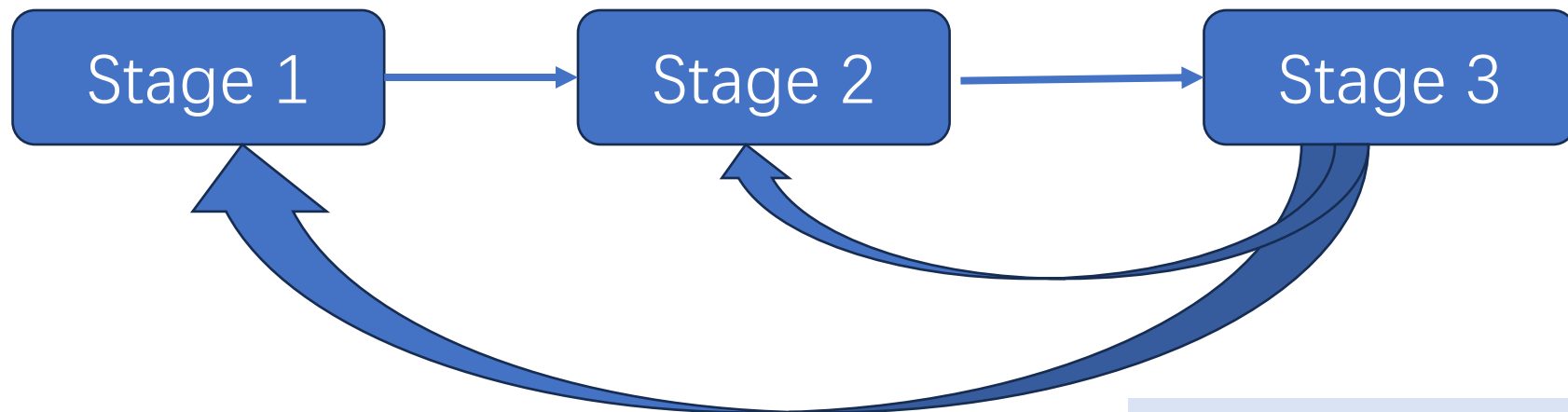


what to do? where shall we start?

Process writing

- Divide the task into different stages

a writing task
a challenging
topic



Process writing help you go back in order to rewrite for improvement

Steps in the writing process:

1. Prewriting

- Define, collect, and organize information
- Brainstorm the main points
- Work out ideas away from the computer
- Develop a road map/outline

Convolute Stage 1&2:

Gathering information while writing

-- Inefficient and painful

Lack of the whole scope of the story

-- disorganized and unfocused

2. Writing the first draft

- Putting your facts and ideas together in organized prose

3. Revision

- Read your work out loud
- Get rid of clutter
- Do a verb check
- Get feedback from others

Convolute Stage 2&3:

write and revise at the same time

-- Inefficient and painful

Lack of the whole scope of the story

-- disorganized and unfocused

What does your writing process look like now?

Proportionally, how much time do you think you spend on each step?

1. Prewriting
2. Writing
3. Revision

What I think it should be (roughly!):

1. Prewriting (70%)
2. Writing the first draft (10%)
3. Revision (20%)

Write in a more efficient way:

1. get ready beforehand
2. do not try to revise and write at the same time

You can write much more quickly!

English Academic Writing

Module 4.2: The Pre-writing Stage

Prewriting Stage

Find the solutions to three questions:

- Who do you write for?
- What you will write about?
- How you will write about it?

Common activities in this stage:

- Reading of background material
- Algorithm design and theoretical analysis
- Experiments and other kinds of verification
- Confirm a writing outline and the main points

Research

Choose a topic

- Clearly articulate the problem you aim to address
- Establish the objectives and expected contribution of your research
- Academic essays
 - identify one or more specific problems or questions to address
 - look for the answer to your question or solve your problem
- Research questions
 - identifying a gap in knowledge
 - interesting & significant to your target audience
- Thesis statement(central idea)
 - a sentence that presents your position on the topic and predicts how the topic will be developed
 - Roadmap: predicts the scope, the purpose, and the direction of your writing

Research

Reading the literature

- **Predatory reading** -- First reading understand the structure
 - how scholarly books and articles are structured ?
 - how different parts of the text are related ?
 - what their functions are?
 - Books: Table of contents, indexes, introductory chapter
 - Journal articles: abstract, list of the key words, introduction section
- **Close reading** – engage the text on an analytical level
 - Make notes, write annotations or comments --interact to understand
 - What parallels are there?
 - How has the author chosen to present his or her argument.
 - What references have been used, and in what way?



Research work and analysis

Using invention techniques (generate ideas)

Brainstorming

- Work independently or in group (10-20min)
- Formulate some rough ideas
- Do not care about the structure or relevance
- Identify useful approaches afterwards



Clustering (Mind mapping)

- start by writing a key word of the paper
- branch out by adding other, related, words and concepts
- a graphic presentation – structure of the project, the relationship between different parts



Organising your thoughts...

My organizational system

- A Word document containing key information:
 - statistics, details, ideas, and maybe good quotes
 - Allocated to different sections of my story
- A folder collecting all original source
 - data, figures, codes, reference papers

Do you have an organisational system?

If you don't, create one that suits you!

- Spend more time organising and less time writing.
- It's just plain less painful!

Compositional organization:

- Like ideas should be grouped.
- Like paragraphs should be grouped.
- Don't "Bait-and-Switch" your reader too many times.

When discussing a controversy

arguments A
counter-arguments A
rebuttals counterargument A
arguments B
counter-arguments B
rebuttals counterargument B

Repeat the sequence for C, D, ...

hard for the readers!

arguments (all)
counter-arguments (all)
rebuttals (all)

easier for the readers!

Research Presentation

- A visual version of your research
- Organize the ideas in your mind
- Check the logic, the correctness
- Authors of conference papers have to present their paper
- Typically 10-20 min

Research Presentation

- Title slides (1 slide)
 - Title of the work (probably the same as your paper), the names of all group members, the class and university names, and the date the talk is given.
- Introduction (typically 3 - 4 slides)
 - Explain why your work is interesting and important.
 - Literature review – how does it relate to / follow from the scientific literature on this subject
 - Clarify the research gap (what is not known)
 - Clearly state your research question

Research Presentation

- Materials and Methods (typically 3-6 slides).
 - Clearly describe the process of your design.
 - Flowcharts can help!
 - Explain why they can address the research questions.
 - Analyse necessary characteristics of your method, e.g. robustness, stability, computational complexity
- Results (typically 3-4 slides).
 - State the conditions of the experiment set up
 - Display the results in clear graphical form
 - simple, clearly labeled graphs with proper axis labels
 - If you have multiple results, state them in a logical order.

Research Presentation

- Implications and Conclusions (typically 1-2 slides)
 - Correctly interpret your work and the contribution
 - Identify the difficulties and the solution
 - State the limitation of the work if there is any
 - Draw implications on the research
 - Suggest the future prospects

Tips for research presentations

- Spent most of the time on your research

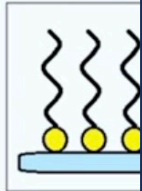
Focus on your work rather than what others have achieved!

Background: Fundamentals

Superhy
sur

Superhydrophilic
 $\theta < 5^\circ$ in 0.5 Sec.

Common



Nanoparticle
modified with
silane

Silver (Ag)

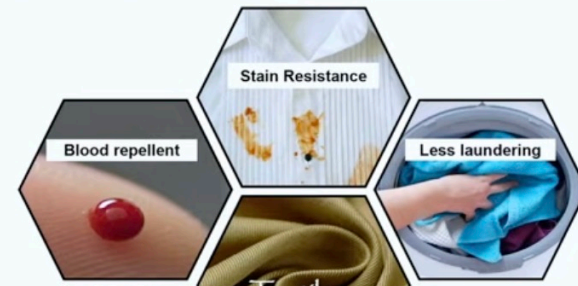
Copper (Cu)

Zinc oxide
(ZnO)

Titanium
dioxide (TiO₂)

Background: Research motivation

Synthesis of superhydrophobic antibacterial fabrics



Literature review



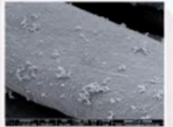
Advantage:
Economical
and white
appearance

Disadvantage:
Moderate
antibacterial
activity (< ZnO)

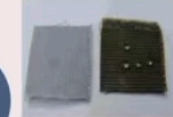
Literature report: Complex
synthesis procedures and no
durability
measurements
reported

Titanium
dioxide
(TiO₂)

Advantage: Very high
antibacterial activity



Disadvantage:
Uneconomical
and dark colour



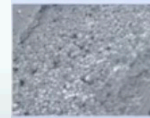
Literature report: Poor
durability and lack of self-
cleaning ability

Silver
(Ag)

Nanoparticle
types

Copper
(Cu)

Advantage:
Economical
and white
appearance



Literature report: No
durability measurements
and self-cleaning behavior
reported.

Disadvantage:
Moderate
antibacterial
activity

Zinc
oxide
(ZnO)

Advantage:
High
antibacterial
activity and
economical

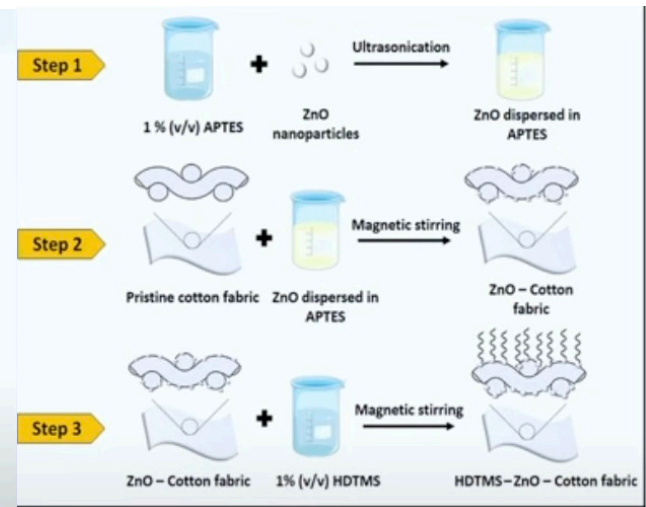
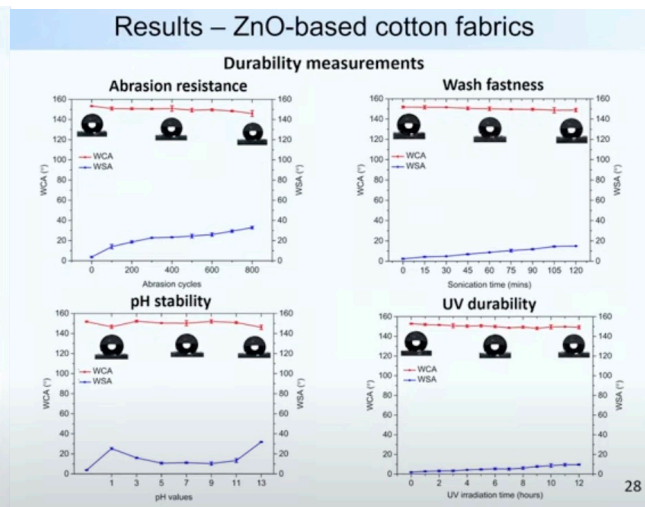
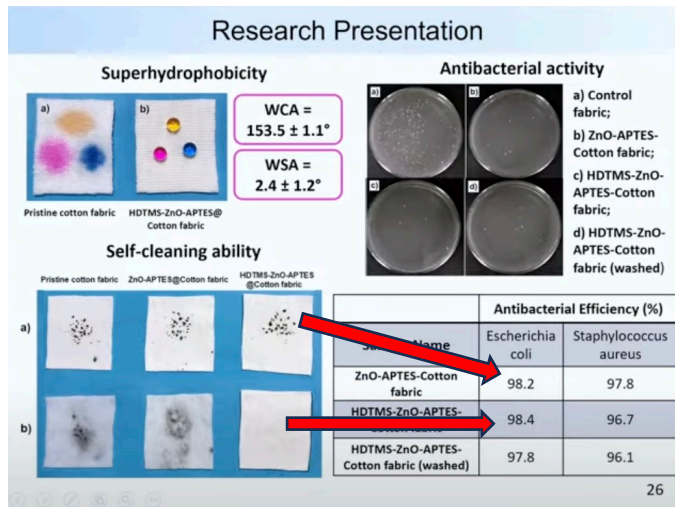


Disadvantage: Dark colour
Literature report: Loss of
superhydrophobicity and
lack of self-cleaning ability



Tips for research presentations

- Graphs should be of the highest quality
 - visualize your thoughts and attract the audience attention
- Only include things you can explain
 - Use symbols to make things easy to understand



Tips for research presentations

- Don't include a lot of text

Results & Discussion

Surface Morphology

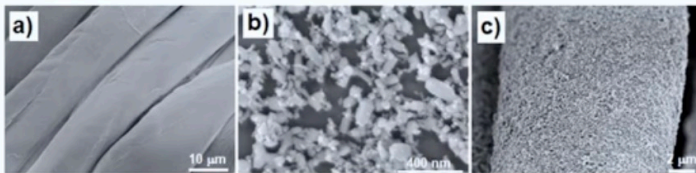


Figure 1. FE-SEM images of a) pristine cotton fabric, b) ZnO nanoparticles, c) HDTMS-ZnO-APTES-Cotton fabric,

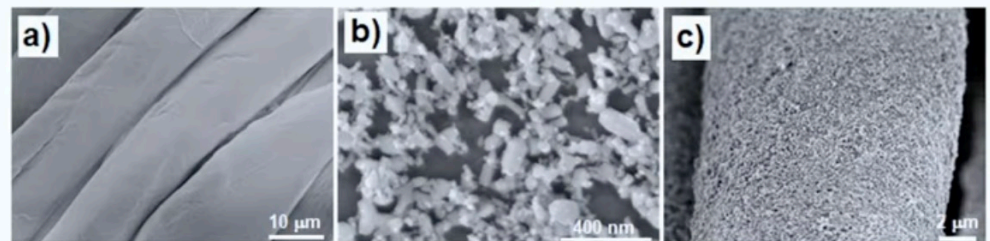
Contact angle analysis was conducted to determine the surface wetting properties of the fabric before and after the coating. A pristine cotton fabric consists of hydroxyl groups on its surface owing to the cellulose structure, and, therefore, absorbs water displaying surface hydrophilicity

The chemical composition of the HDTMSZnO-APTES-Cotton fabrics by the energy dispersive X-ray spectroscopy (EDS) spectra (Figure 1e,f) found that four main elements, C, O, Si, and Zn, were evenly distributed over the fabric surface. Gold was detected due to sputter coating for conducting surface for the scanning electron microscope (SEM) observation, along with a small percentage

- Nobody read the so much text word by word during your presentation

Results & Discussion

Surface Morphology



Pristine cotton fabric

ZnO nanoparticles

ZnO nanoparticles coated cotton fabric

- Deliver key points, key results and key insights (in phrases)

- 20g/m² ZnO nanoparticles uniformly distributed over fabric surface
- No visible agglomeration of nanoparticles

Tips for research presentations

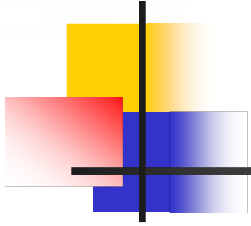
- Deliver the presentation with simple language
- reading papers – check references
- Presentation -- only chance to understand
- simple and easy language
 - Ok to use technical terminologies
 - With a conversational tone

Presentation practice (group work):

1. 4-people group
2. Prepare a presentation for a given paper (14min)
3. Present in turn or present by one student ?
 - your choice, but let me know the work division
4. Last lecture (24 April)

If you don't like any of the suggested papers, you are very welcome to find other alternatives that interest you.





English Academic Writing

Module 4.4: The Writing Step

Framing the text: Title

- informative and attractive
- gain prospective readers' attention

Aim for clarity

- A short and to-the-point title is usually more efficient
- A compound title (with a colon) – relevant and necessary

Use informative words

- Include keywords in the title – inform readers, easy to be found
- Describe what kind of discussion the text comprises
- E.g. 'investigation', 'exploration', 'discussion', or 'comparison'

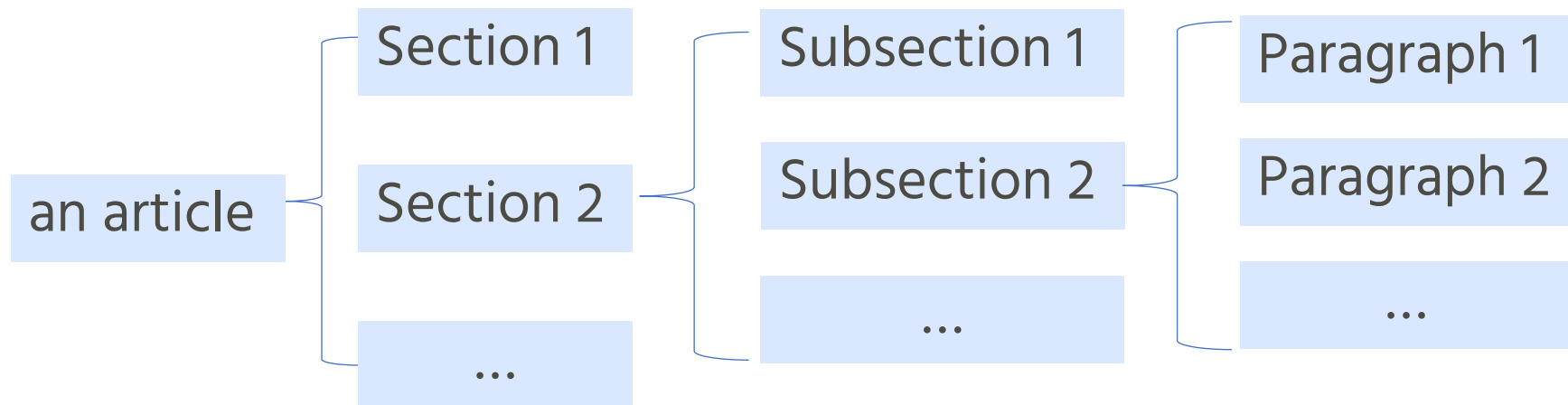
Be honest

- make sure your title does not indicate something that is not actually discussed in the article

Structure

A well-structured text

- communicates the writer's intentions and results to the reader
- presents the material in a coherent and logical manner



Text structure on different levels

- Structure of the whole text
- Structure within sections of the text
- Structure within paragraphs

focus on the academic article format
also applies to other texts formats

Structure of the whole text

Three-part essay

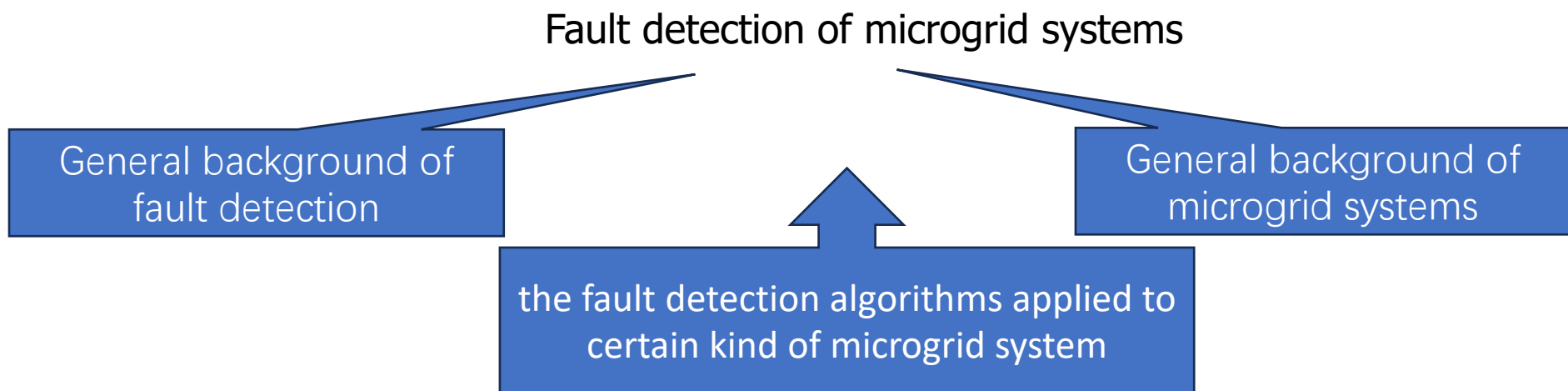
- Introduction
- Body
- Conclusion

IMRaL

Section heading	Questions to ask	Content of section
Introduction	•What did you study and why?	Introduce your study Include research question and thesis statement.
Method	•How did you carry out your investigation?	Describe the method & the experiments.
Results	•What did you find out? •What were the results?	Present your results.
Discussion	•What are the implications of your results? •How can your results be used in further studies? •What are the practical applications?	Discuss the implications of your study and e.g., further use of the results.

Imrad - Introduction

- Good News: The introduction is easier to write than you may realize!
- Follows a standard format
- Typically 3 paragraphs long
 - Recommended range: 2 to 5
- It is **not** an exhaustive review of your general topic
 - should focus on the specific hypothesis/aim of your study



Structuring the introduction

CARS: Creating a research space

Move 1. Establishing a research territory

- By showing that the research area is important
- By reviewing previous research

Move 2. Establishing a niche

- By showing a gap in previous research
- By asking questions about previous research

Move 3. Occupying the niche

- By outlining and stating the purpose of the study
- By announcing findings / By indicating the structure of the text



Tips for writing an Introduction

- Keep paragraphs short
- Write for a general audience
 - clear, concise, non-technical
- Take the reader step by step from what is known to what is unknown. End with your specific question.
 - Known→Unknown→Question/hypothesis
- Explicitly state your research question/aim/hypothesis:
 - How your study will fill the gap
 - “We address ... problem by ...”; “We aim to”
- Do not answer the research question (no results or implications).
- Summarize at a high level! Leave detailed descriptions, speculations, and criticisms of particular studies for the discussion.

Introduction Practice Exercise

Identify sentences that belongs to each move in the CARS model?

- Scholarly publications are among the most important indicators of academic achievement. While the quantity of papers authored certainly matters, simple publication count is not the only important metric. The reputation of the journal in which a paper is published (often gauged using impact factors), along with the number of citations that a paper receives (i.e., other articles that reference that particular work), are together often seen as proxies for a publication's importance and influence.
- Self-citation may have a consequential impact on scholarly careers by both directly and indirectly increasing an author's citation counts. Each additional self-citation yields an additional three citations (though not necessarily to the same paper) from other scholars over a five-year period (Fowler and Aksnes 2007). Given the importance of metrics of scholarly influence in academic hiring, tenure and salary decisions, examining gender differences in citation patterns may shed light on persisting gender discrepancies in faculty hiring and promotion. More broadly, academic publishing provides an illustrative case for gender differences in evaluation metrics and workplace advancement.
- Papers authored by women receive fewer citations than do papers by men, even controlling for tenure status, institution, and journal (Larivière et al. 2013). Fewer citations to female-authored papers could be due in part to gender differences in self-citations (when an author cites his or her own previously published work). Research analyzing 12 journals in the field of international relations from 1986-2000 showed men cite their own papers more than one and a half times as often as women (Maliniak, Powers, and Walter 2013).
- To date, studies of self-citation have been few in number and confined to a limited number of disciplines and a relatively small number of papers. Here we examine gender differences in self-citations across 24 broad academic fields with hundreds of subfields and several million scholarly papers, with over a million self-citations. We further examine how the gender ratio self-citation patterns changed over time.

Move 1: Establishing a research territory

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Move 2. Establishing a niche

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Move 3. Occupying the niche

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iMrad - Method

Convince your readers:

The way collecting your results,

The materials that you used to support your main claim

The possible subclaims

are valid

- What did you do?
- How did you do it, and what materials did you use?
- Did you have any problems?
- And if you did, how did you solve them?

STAR critertia (sufficiency, typicality, accuracy, and relevance)

➤ Materials should be

- Enough to truly support your claims
- Representative and typical of what you are studying
- Accurate and up-to-date
- Relevant to the claims that you're making

Ok to use the past tense in the passive voice

Make life easy for your reader!

1. Break into sub-sections with informative subheadings

A matching problem between two decoupled multi-agent systems with reference tracking capabilities

- Matching on the tangent of a curve
- Matching in a radial way
- Reference frames mapping
- Model properties in the virtual reference frame
- Applications to multiple multi-agent systems

Make life easy for your reader!

1. Break into sub-sections with informative subheadings

Data-Driven Adaptive Unscented Kalman Filter for Time-varying Inertia and Damping Estimation of Utility-scale IBRs Considering Current Limiter

- Virtual Frequency Estimation
- Parameter Estimation Model Derivation
- VBAUKF-based Inertia and damping factor Estimation
- Inertia Estimation Framework with Current Limiter

Make life easy for your reader!

2. Cite a reference for commonly used methods or previously used methods rather than explaining all the details...

Each peptide was covalently coupled to agarose (AminoLink Kit, Pierce Chemical), and 30-to-200-ml quantities of each crude polyclonal antiserum were affinity-purified with the use of the appropriate immobilized peptide, **as previously described.**^{[13](#)}

Immunoprecipitations, SDS-PAGE on 10% polyacrylamide gels, and phosphorimaging analysis were **performed as described previously** ([Berson et al., 2000](#)).

Make life easy for your reader!

3. Use flow diagrams or tables to help simplify explanations of methods!

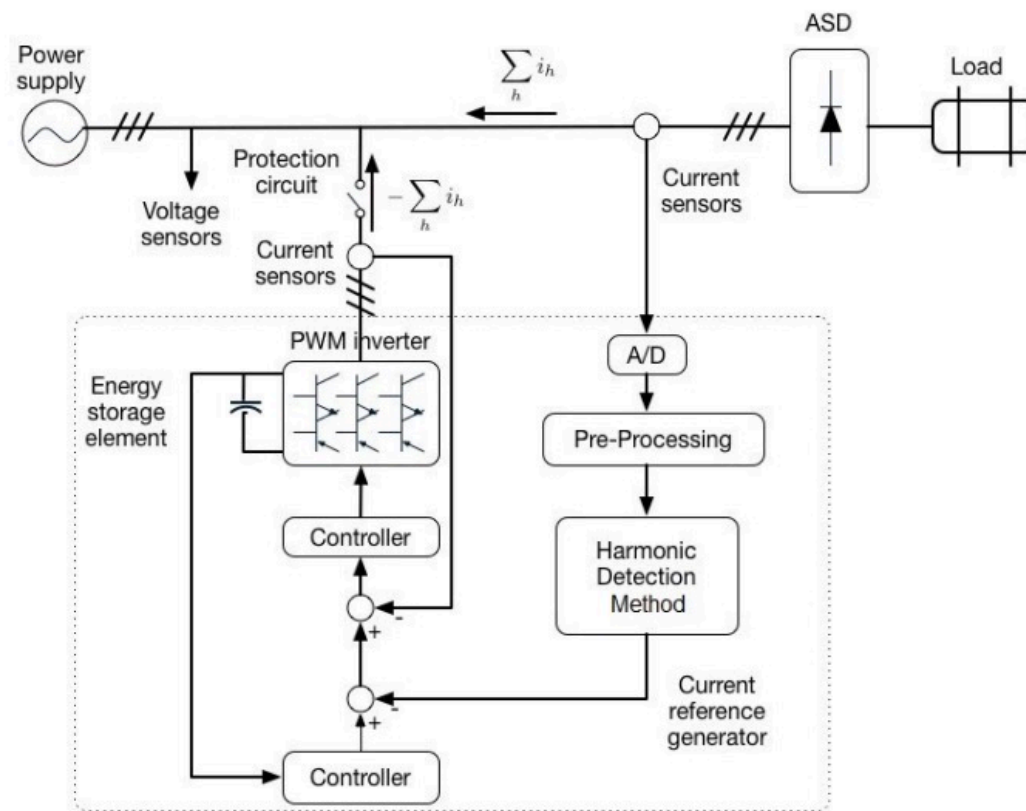


Fig. 1. Typical setup of an APF.