DEPARTMENT OF CIVIL ENGINEERING
TRIBHUVAN UNIVERSITY, INSTITUTE OF ENGINEERING, PULCHOWK CAMPUS

MANUSCRIPT WRITING: KEY TO EFFECTIVE SCIENTIFIC COMMUNICATIONS

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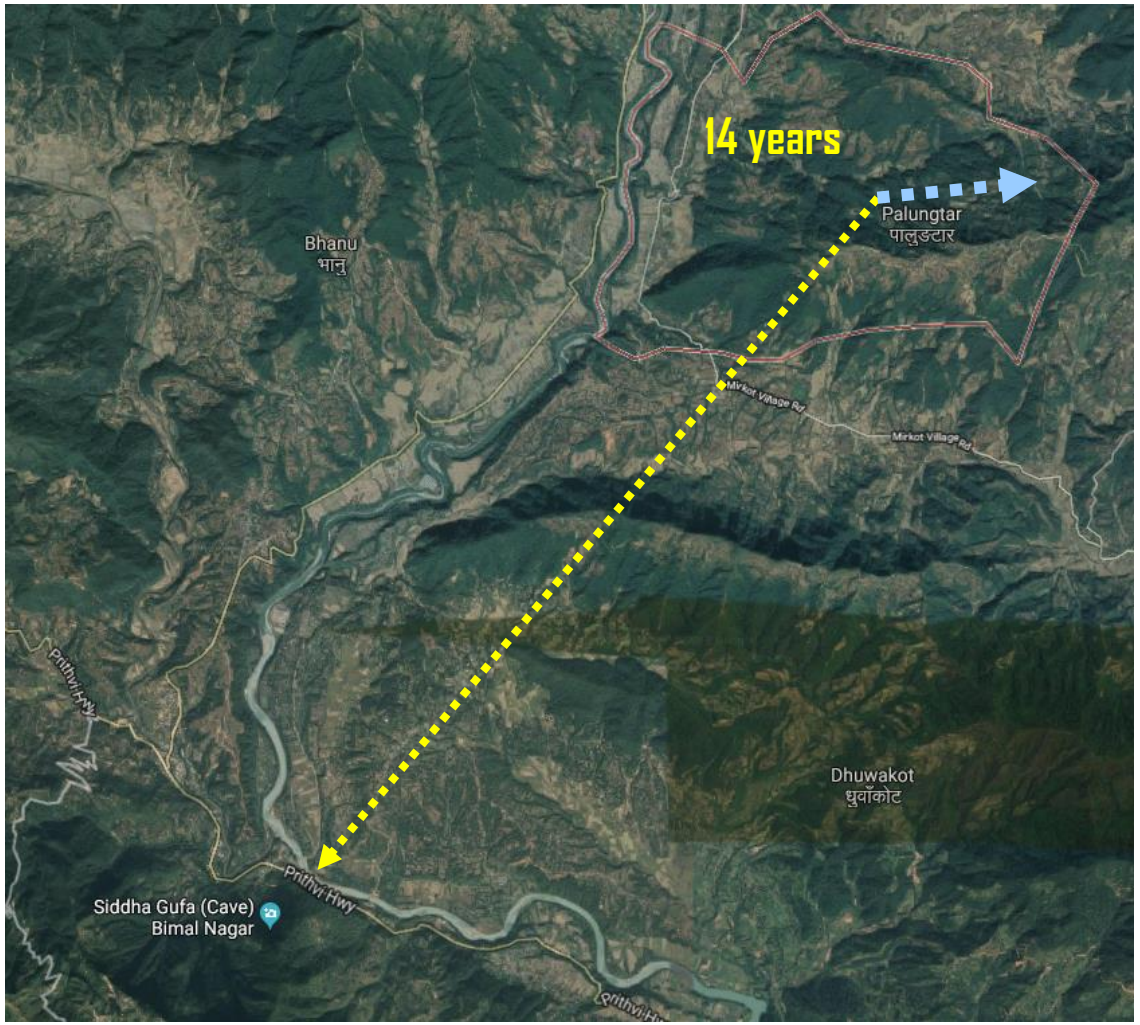
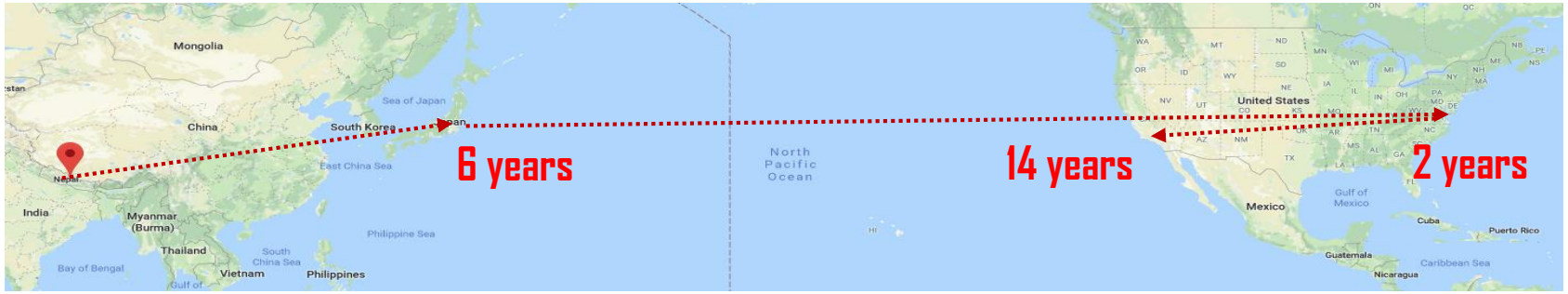
CALIFORNIA STATE UNIVERSITY, FULLERTON

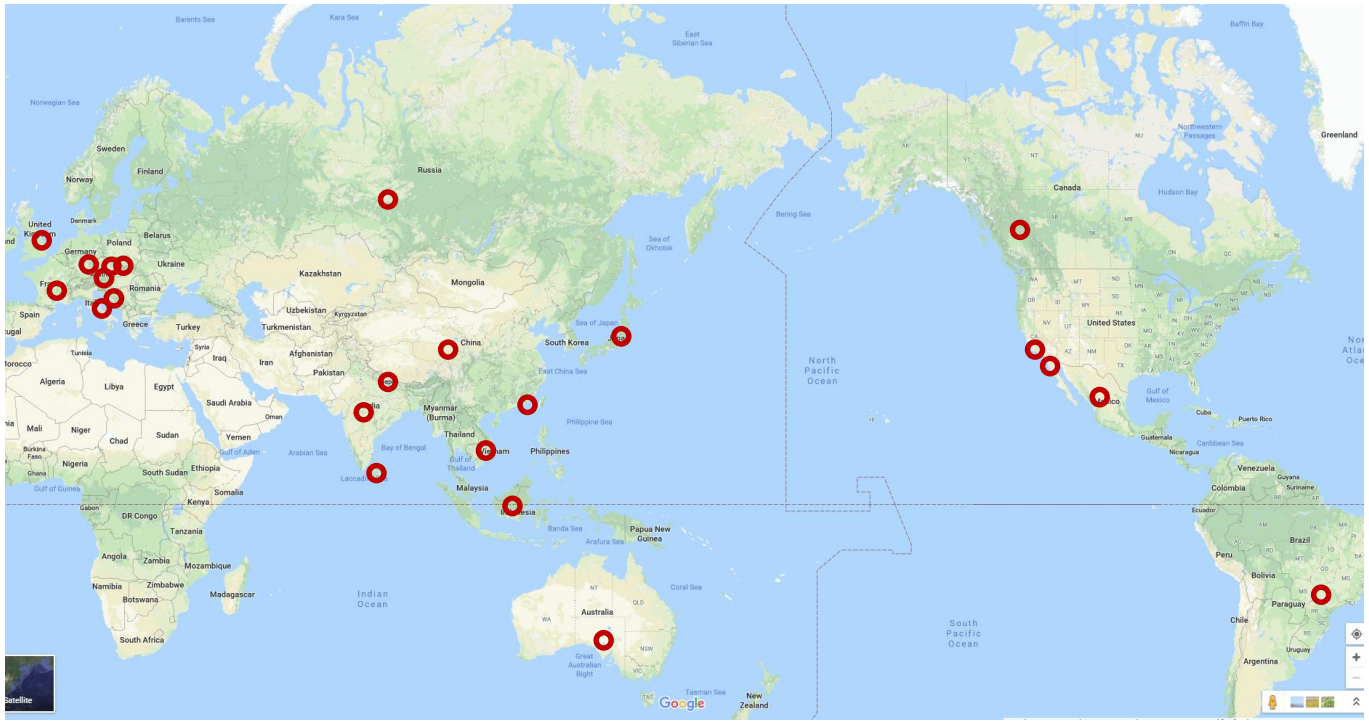
About the Presenter



1984-1986
Intermediate of Engineering
1987-1991
Bachelor's in Engineering
1992-2004
Transportation Engineer, Department of Roads

About the Presenter





- Collaboration

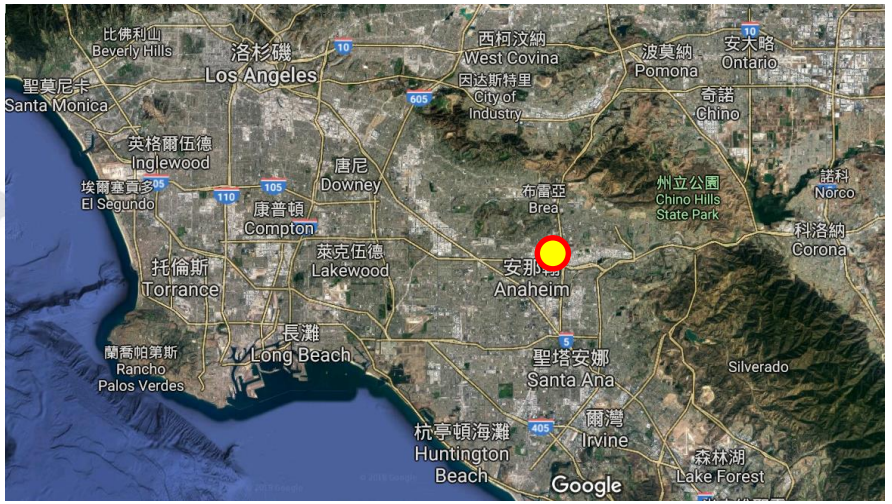
2006-2012
Assistant Professor

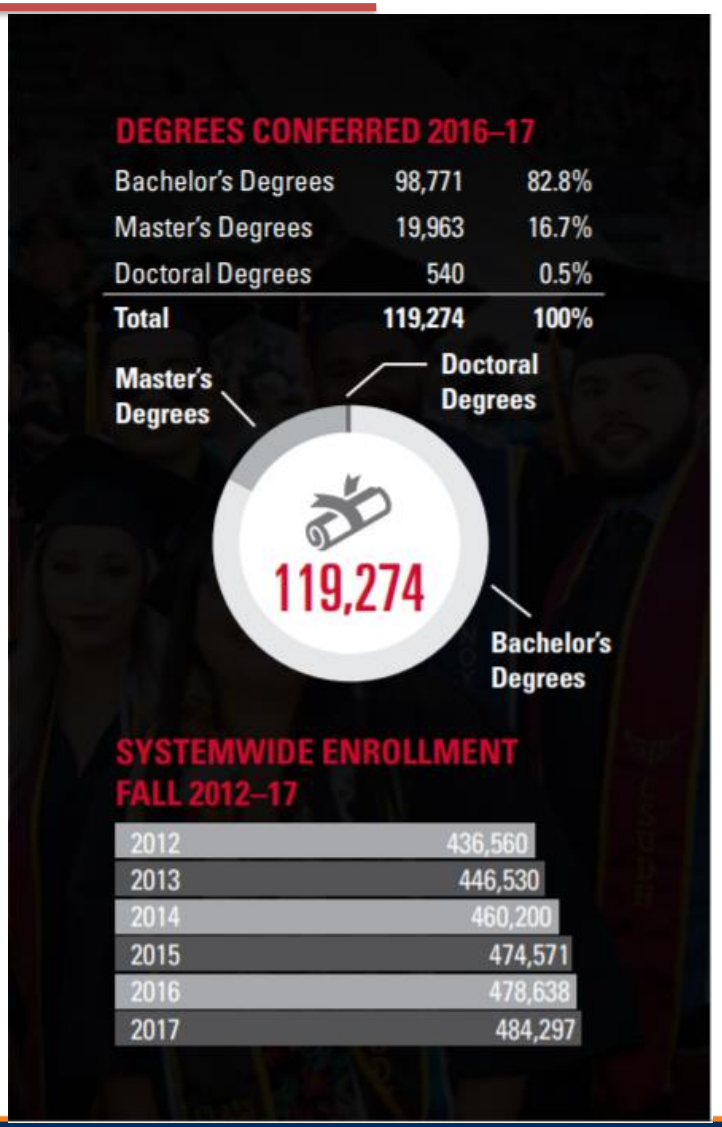
2012-2015
Associate Professor

2015-
Professor

2019-
Associate Vice President

CALIFORNIA STATE UNIVERSITY, FULLERTON





Involvement in Professional Societies

ASCE American Society of Civil Engineers

G-I Geo-Institute ASCE

ICL

CUR™

ICGdR

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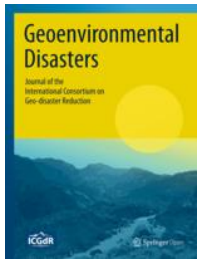
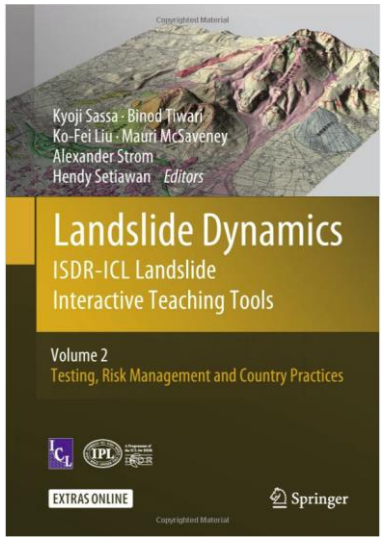
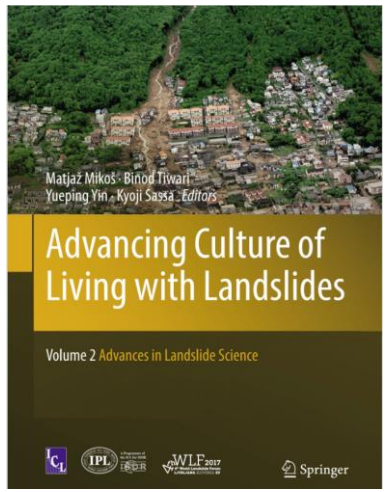
IF 4.252





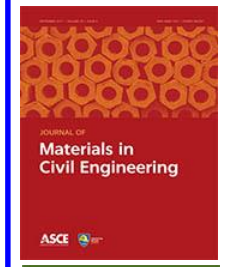


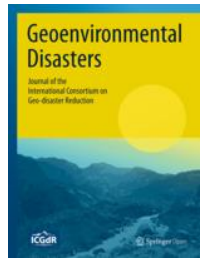
17 Books and Chapters

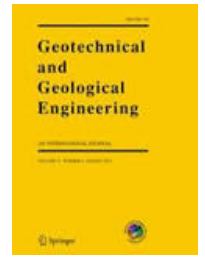
83 Journals and Sp. Pub.

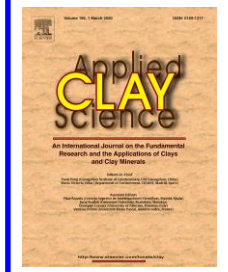
148 Conference Proceedings

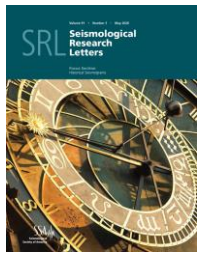
85 Keynote/In. Presentations











Web of Science Publication (2019)

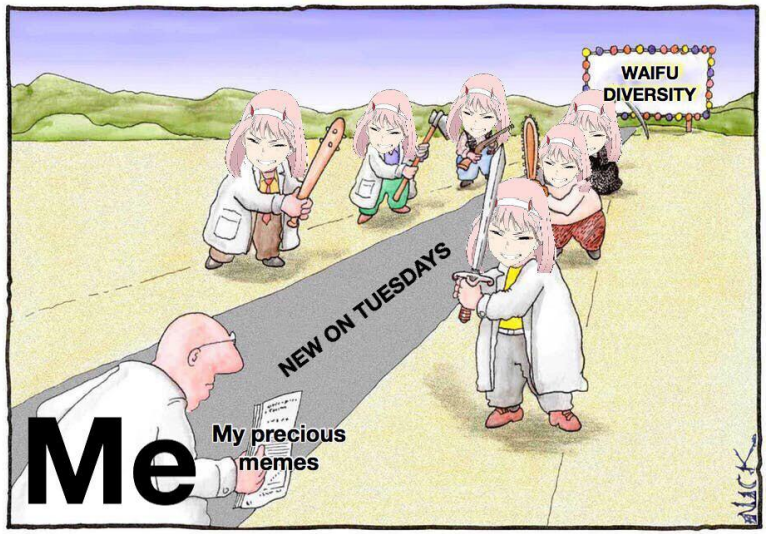
Institution	Total WoS Publication	Total WoS Journal Articles
California State University System	8,264	6,224
California State University Fullerton	632	475
Tribhuvan University	423	371
Tribhuvan University Institute of Engineering	26	21
Kathmandu University	107	82
Indian Institute of technology, Delhi	2,340	1,914
Indian Institute of Technology, Bombay	2,477	1,994
Indian Institute of Science	2,638	2,091
Indian Institute of Technology, Patna	477	401
Indian Institute of Technology, Gandhinagar	372	305
Bangladesh University Engineering & Technology	378	299
National University of Sciences & Technology - Pakistan	1,397	1,118

Contents of This Presentation

- Journal review process
- Before you start your research
- Before you start writing a research manuscript
- Structures of a manuscript
- Specifics within the structure
- To do and not to do
- Summary and Conclusion

Journal Review Process

- **Manuscript Submission**
  - 1 Week
- **Executive Editors Review**
  - 1 – 2 Week
- **Assign Handling Editors**
  - 1-2 Weeks
- **Assign 2-3 Reviewers**
  - 4-12 Weeks
- **Handling Editor Makes Decision**
  - 1-4 Weeks
- **Editor Makes Decision**
  - 1-3 Weeks



Before You Start Your Research

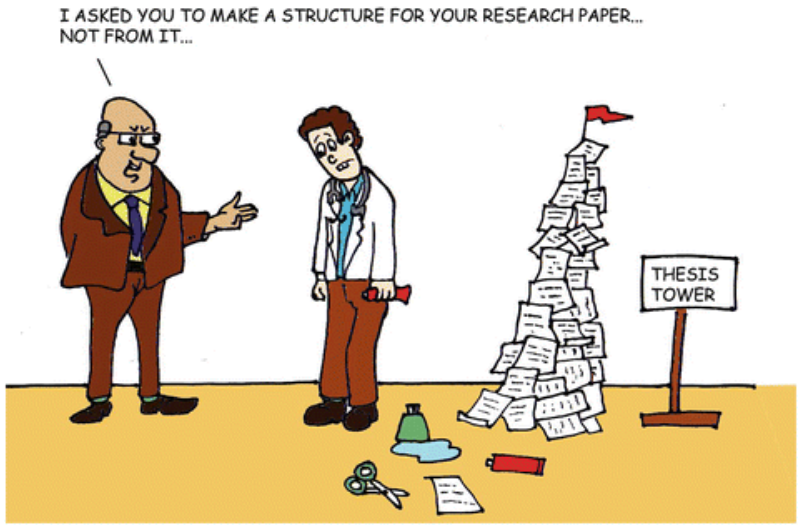
- Check your interest, strength, expertise, capacity
- Do search – what has already been done and what needs to be done
- How will it contribute our current knowledge/ understanding
- How do you conduct it?
- Timeframe and resources needed – issues may not be relevant after some time
- Is teamwork involved?
- Make a solid research and publication plan

Before You Start Writing a Research Manuscript

- Complete your analyses
- Review whether your results are complete to tell a story
- Check the journals that your study best fits into
- Review the journal submission guidelines
- Check what has been published
- Think about the story you are telling
- Rethink about the novel contribution of your study to current science/ engineering practice

Structures of a Manuscript

- Conceptualize a general flow of your manuscript
- Develop objective of the study and set up theory
- Set up a general structure of your manuscript
- Start filling in bullet point details what you will be writing
- Indicate where you will be filling in supporting information
- Emphasize the main take away of your work that you want to deliver to your peers/ practitioners



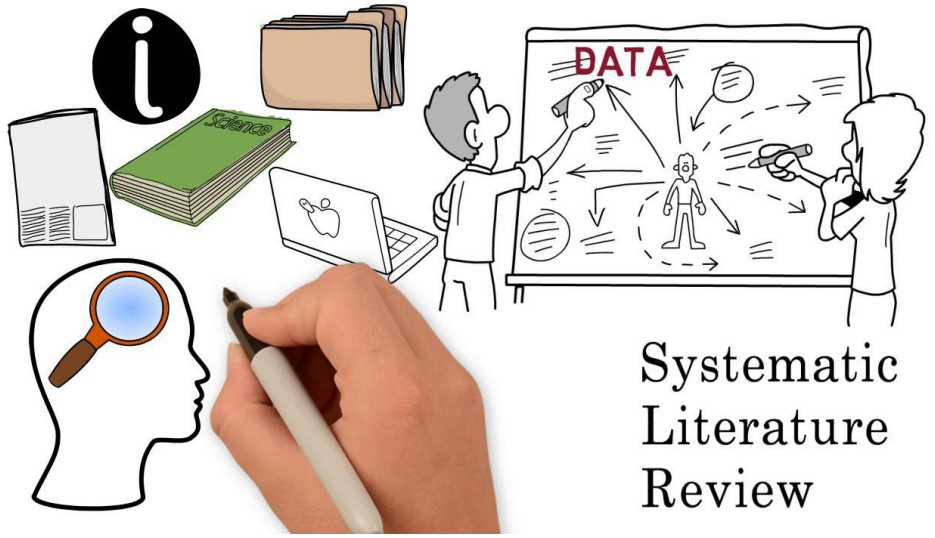
Structures of The Manuscript

- Example of Structure
  - Abstract
  - Key words
  - Background Information/ Introduction
  - Materials and Methods
  - Results
  - Discussion/ Interpretation
  - Summary and Conclusion
  - Acknowledgement
  - References

Specifics Within the Structure

Abstract

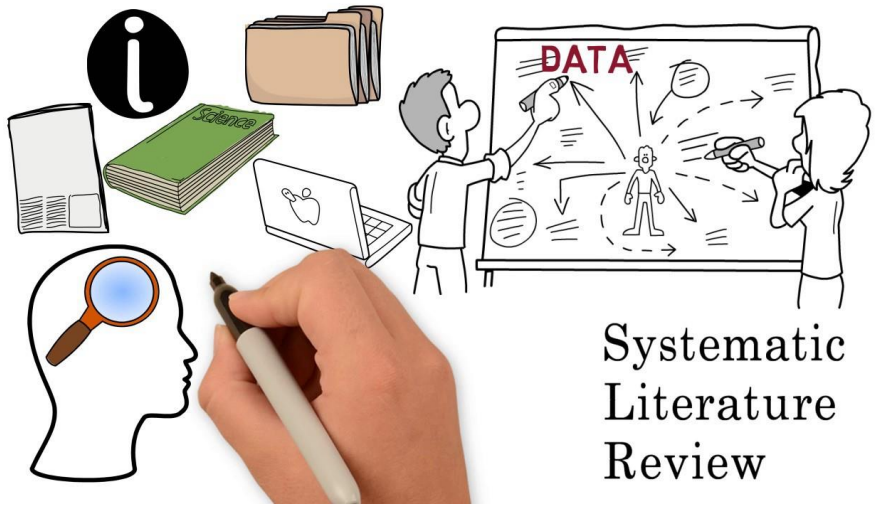
- Very succinct write-up of the entire story
- Write within the word limit of the journal
- Start with - why is this study needed?
- Follow with - what were the objectives?
- Then - how were the studies conducted?
- And - what were the findings?
- Close with - main conclusion



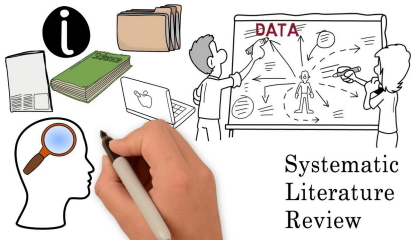
Specifics Within the Structure

Key words

- 4-8 key-words
- Should be selected very carefully as these keywords will be helpful for the manuscript to be searched by other researchers after publication
- Be specific and use commonly understood terms (e.g. slope stability, shear strength, Finite Difference method etc.)



Specifics Within the Structure



Background Information/ Introduction

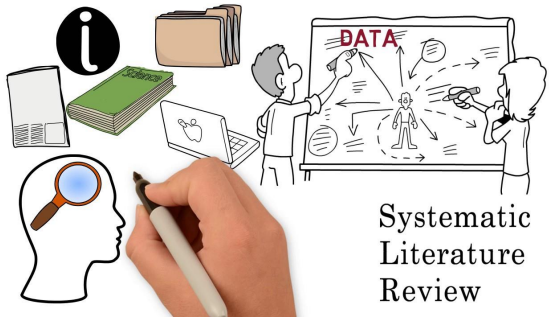
- This will help the readers to understand the context – warm up part
- Start with the main focus of the study; make the flow smooth and interesting to bind the focus of the reviewers and readers to your article
- Write what has been done and what still needs to be known – key question
- Supplement with sufficient background information through current literature review
- Tell about the information literature does not cover regarding what we still need to know on the subject that your study will contribute to
- End with a paragraph with the objective of your study, specifically to provide answers to our knowledge gap

Specifics Within the Structure

Materials and Methods

- Depending on whether it is experimental work or numerical work or case study, sub headings of this section changes
- Outline the processes of your study
- Mention in detail how were the studies conducted if they are not standard methods (e.g. ASTM) so that other researchers can replicate your work easily
- Write the sources of materials/ documents/ software used
- If available, provide enough references for some tests to save space
- Sometimes providing schematic diagram saves space and increases clarity
- Providing information in a tabular form may save your space; try that option

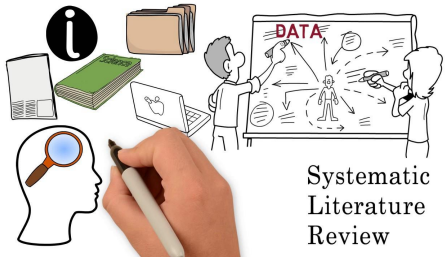
Specifics Within the Structure



Results

- This is the most important section of your manuscript
- Finish your analysis first and select the most representative and relevant figures and tables from your detailed analyses prior to writing this section
- Write in detail what you observed from your study and support each statement with representative figures and tables; proper validation of your hypothesis with the study results is the key
- Accurately perform your analysis – any error in your analysis may lead to rejection
- There is no need to present everything you have; just select the information that is the most relevant to your discussion and conclusion; you can provide supplemental info.

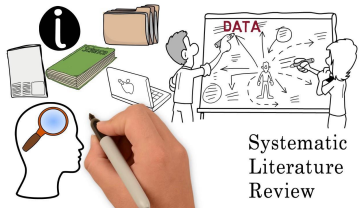
Specifics Within the Structure



Discussion/ Interpretation

- This section is very important to prove why your work is novel
- Interpretations of your results with proper validation are provided in this section
- While discussing, please cite other literature as needed to justify what makes your results unique and what novel contribution this study has to our knowledge
- If your work does not provide information that contribute our current body of knowledge or it can not be generalized, it will be rejected
- If your work is incremental (not complete), then it will be rejected.
- Mention the limitations of the study if there are any
- Clearly mention how this work will help us in engineering science and/or practice

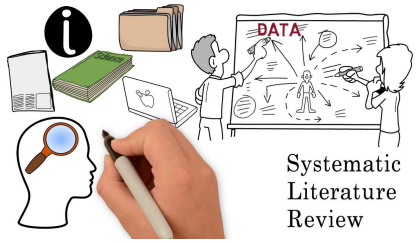
Specifics Within the Structure



Summary and Conclusion

- Authors have their own ways of writing summary and/or conclusion; but make sure that you are presenting captivating conclusions
- Start very briefly with what and how you have performed this study
- Next - write what you found
- Bullet point only 3-4 major take away from your study (THREE is the key word)
- Write the limitations of your study
- Avoid citing references in the conclusion
- Please note that all conclusions you mentioned should have been discussed previously in the manuscript

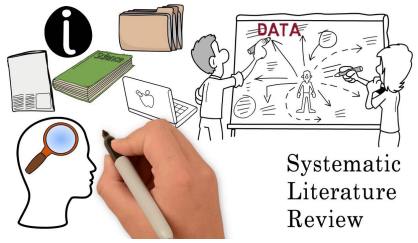
Specifics Within the Structure



Acknowledgement

- If some researchers have very limited contribution in the study, they may not fit into co-authorship; co-authorship requires significant contribution
- Make sure that you acknowledge everyone who is directly or indirectly involved in developing the manuscript
- Properly acknowledge the funding source, if any
- There is no need to acknowledge the editors and reviewers as it is their job

Specifics Within the Structure



References

- Each journal has its own formatting guideline for references, please follow the submission guideline
- Make sure that only relevant references are cited
- Accurately cite the information picked from the literature in the body of the manuscript
- Number of references should be balanced with the contents of the manuscript; quality of references cited is more important than the number of references cited
- Your reference list should be current – otherwise your manuscript may be rejected
- Don’t overcite your own articles
- avoid citing references that are in non-English or are not easily available

A Few Major Reasons for Paper Rejection

- Errors in English grammar and syntax
- Paper very hard to read and weak flow of the manuscript contents
- Poor quality figures and tables including illegible labels
- Contents out of scope of the journal
- Contents significantly overlapped with already published articles
- Poorly articulated results and interpretations
- Lack of relevant literature review
- Lack of novel contribution to the research field pertinent to the study
- Unnecessarily long background and misbalance of contents

To Do and Not To Do

Do

- Perform detailed analysis of the results
- Select the best journal for the scope of the study and read papers typically published in that journal
- Write, review, revise and rereview; have it reviewed by your peers for second opinion
- Check technical English and presented data as well as figures for accuracy
- Complete extensive literature review prior to starting writing the manuscript
- Write the manuscript succinctly to tell the story you want to deliver within provided length limit
- Write 3-4 take away only in the conclusion

Don't

- Submit already published contents
- Cite irrelevant literature or articles without reading them properly
- Cite Non-current and unavailable literature
- Exceed the allowable paper length of the manuscript and word count for the abstract
- Make any English grammar and syntax errors
- Include poor quality figures
- Use inconsistent unit of measurement system
- Copy and paste phrases from published articles or documents – plagiarism
- Use figures and tables from published articles

Summary and Conclusion

- Journal review process
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- Summary and Conclusion


TERIMA KASIH
GRACIAS
KIITOS
DZIĘKUJĘ
DANK U
감사합니다
DANKIE
TƏŞƏKKÜR
ありがとう
ÞAKKA ÞÉR
MERCI
TAKK
OBRIGADO
SALAMAT
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СПАСИБО
GRAZIE
謝謝
БЛАГОДАРЯ
DANKE
MULŢUMESC
TACK
FALEMNDERIT