

XPE045SCWR Scientific Writing Course, Czech Technical University, Chang-hee Won, Ph.D.

STRATEGIES FOR REVIEWING AND REVISING A SCIENTIFIC PAPER

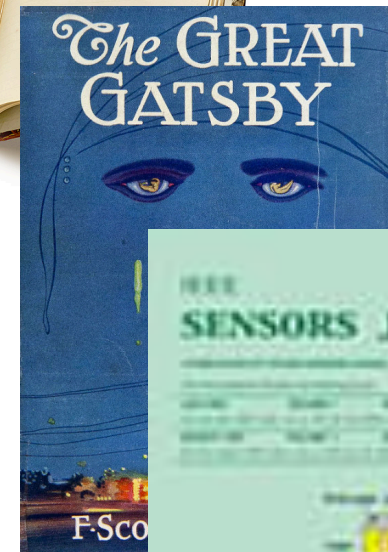
Courtesy of Nathan Sheffield, Judy Swan, Jeff Frolik , George Ponchak, Gaurav Sharma

ANNOUNCEMENTS

- ▶ Collect HW#3 (slides)
- ▶ Return HW#2
- ▶ Assign HW#4
- ▶ April 23rd Tuesday, Individual Consultation
- ▶ There will be a class on May 28th. Presentation.
- ▶ Explain grading

HOW DO YOU GET BETTER IN WRITING PAPERS?

- ▶ Emulation
- ▶ Being "Constructively Critical"
- ▶ Practice



REVIEWING OTHER PEOPLES WORK

- ▶ Is The Idea Technically Sound?
- ▶ Is The Work Well-Motivated? (Important)
- ▶ Is The Work Relevant? (Timely)
- ▶ Is The Work Novel?
- ▶ Is The Content Appropriate For The Audience?

REVIEWING THE WORK'S PRESENTATION

- ▶ Is The Manuscript Well-Organized?
- ▶ Is Prior Work Made Clear?
- ▶ Are The Methods Presented Clearly?
- ▶ Are Equations Presented With Minimal Notational Complexity?
- ▶ Is A Figure Presented That Describes The Method?
- ▶ Are The Results Presented Clearly?
- ▶ Are Figures Discussed?
- ▶ Are Figures Clearly Presented?

PROCESS (MY PREFERENCE)

- ▶ Mark On Document Any Corrections And Questions/Comments (+/-) As You Read
- ▶ Read Title/Abstract
- ▶ Looks At All Figures And Read Their Captions
- ▶ Read Conclusion
- ▶ Read Methods
- ▶ Read Results
- ▶ Read Introduction

SUMMARIZE

- ▶ First - Provide A Brief Summary Of The Contributions Of The Manuscript
- ▶ And Your Overall Assessment (Good, Needs Some Improvement, Has Significant Flaws).
- ▶ + What Is Good About The Paper?
- ▶ +/- What Has Promise But Needs To Be Improved?
- ▶ What Is Wrong About The Paper?
- ▶ In Each Category Start With Big Picture Concerns Then Move To Specifics.

TONE

- ▶ There Is A Very Good Chance Who Ever Wrote The Paper Spent A Lot Of Time Doing The Work.
- ▶ Try To Look At The Positive In Terms Of The Technical Aspect.
- ▶ There Is A Chance That Not Enough Time Was Spend On Writing Up The Work.
- ▶ For Conferences, Your Feedback Will Be Minimal (2-3 Items) So It Needs To Be Reasonably Good For Acceptance.
- ▶ For Journals, You Feedback Is Expected To Be More Substantial And Your Goal Is To Provide Feedback So That The Work Is Publishable.

REVISION

- ▶ Create A New Document That Starts With The Reviewer Comments
- ▶ Create Text Thanking The Reviewers. Realize They Spent Time Doing This For Free!
- ▶ Organize The Comments By Reviewer 1.A, 1.B.. 2.A, 2.B, Etc.
- ▶ Respond To Each And Every Comment
- ▶ You Agree, Thank Your For Catching This, Making Change (Where?)
- ▶ You Sort Of Agree, You Could Have Explained This Better, Text Has Been Revised (Where?)
- ▶ You Don't Agree, Here You Will Have To Put A Lot Of Work Into Your Reply To Convince The Reviewer That Your Initial Point Is Valid.
- ▶ Once You Are Happy With Your Reply, Update The Manuscript Accordingly. Also Reread For Organization, Typos, Grammar.
- ▶ Ideally You'll Only Need One Round Of Reviews But That Is If You Are Lucky!

“NOT” TEXT

- ▶ Your Work Is Of A Quantitative Nature And Probably The Best Way To Concisely Summarize Your Work Will Involve
- ▶ Images
- ▶ Drawings
- ▶ Equations
- ▶ Tables
- ▶ Plots
- ▶ However, Each Of The Above Needs Text To Describe And/Or Provide Context. If You Don't Reference It, Don't Include It!!!



REVISING SUBMITTED PAPERS

LETTER FROM EDITOR AFTER REVIEW

- ▶ Dear Dr. Jan Hus
- ▶ Your manuscript entitled, "Coupling Between Microstrip Lines With Finite Width Ground Plane Embedded in Thin Film Circuits," by Dr. Jan Hus, et. al., is rejected in its current form. We ask you to revise your manuscript in response to the Associate Editor's/reviewers' comments which are at the end of this letter.
- ▶ Thank you for submitting your paper to the IEEE Transactions on Advanced Packaging.
- ▶ Sincerely yours, Editor
- ▶ This is a good review. It is very rare that a paper is accepted without reviewers comments that need to be addressed. Read all reviews and address each comment. Note that reviewers comments are meant to help you strengthen your paper. If the reviewers did not like your paper, they would state this to the editor in a separate letter.

REVIEWERS COMMENTS

- ▶ This paper investigates the modes that occur in multilayer MCM-D structures when the grounds of two microstrip lines are not connected. The conclusion is that the two lines perform better (less coupling) when the grounds are connected than they do if the grounds are not connected. This is not much of a surprise.
- ▶ Additional comments.
- ▶ The field plots are interesting
- ▶ The possibility of a dielectric mode is interesting, but there needs to be more investigation of it. Presumably the dielectric mode is related to a lossy mode in the low resistivity silicon.
- ▶ There needs to be more explanation of how E_{eff} is extracted for the various modes.
- ▶ At the beginning of Section 5, the increasing attenuation of W2 is blamed on radiation. This seems unlikely for the small size of the structure, and with no resonances. More likely is that the W2 mode is extending its currents into the low resistivity Silicon. Thus the loss increases.

AUTHOR'S REPLY WITH RESUBMISSION

- ▶ Write a polite response to each point that the reviewers identified. Include a description of how you revised the paper to improve it based on the reviewers' comments.
- ▶ "At the beginning of Section 5, the increasing attenuation of W2 is blamed on radiation. This seems unlikely for the small size of the structure, and with no resonances. More likely is that the W2 mode is extending its currents into the low resistivity Silicon. Thus the loss increases."
- ▶ Response: The authors appreciated your comments and we reexamined the field plots. We deleted our previous assumption on why the loss increased and added "FDTD simulations show that the magnitude of the electric fields excited into the silicon wafer from the edges of the ground planes increases with frequency. Furthermore, microstrip lines with thicker substrates, such as W2, have greater excitation of electric fields in the silicon than lines on thinner substrates. Therefore, since the silicon is a lossy substrate, this is probably the reason for higher loss for line W2 at higher frequency."
- ▶ In the revised paper, **highlight all revisions.**

IF PAPER IS REJECTED

- ▶ IEEE and IEE transactions and letters reject between 80 and 50% of papers submitted. Do not take it personal.
- ▶ If your paper is rejected, read all of the reviewers' comments. The reviewers and the editors are experts in the field and the comments should help strengthen the paper.
- ▶ Revise your paper to address all of the relevant comments. Note that reviewers often review for many journals. If they are the expert in the field of your paper, they may be asked to review it again, even if submitted to a different journal. In revised paper, highlight all revisions made.
- ▶ If invited to resubmit the paper by the editor, then resubmit the revised paper within 1 to two months.
- ▶ If editor does not invite resubmission, suggest selecting a different journal or sending the editor a letter asking if a resubmission would be welcome. IEEE allows for resubmitted papers, but the editor does not have to send them for review if the paper was not revised.

TIPS FOR PUBLISHING

- ▶ Reviewers look for reasons to reject a paper- Do not give them any.
- ▶ Do not assume that you can fix the figures and text if the paper is accepted. Submit the best version that you can.
- ▶ Write papers in 3rd person.
- ▶ Do not overuse acronyms, use acronyms that are not common to the journal you are submitting to, or invent new acronyms.
- ▶ Reference all relevant papers, especially your own.
- ▶ Reviewers will do a literature search on all of the papers' authors.
- ▶ Be patient; although the editors try hard to return papers to authors as quickly as possible, some papers may take longer. Reviews to IEEE journals can take one year.
- ▶ Keep Writing and Submitting Papers
- ▶ Revise and Resubmit

WARNING

- ▶ All IEEE journals now use software to check for plagiarism. If caught copying someone's work, submitting the same paper to multiple journals/conferences in parallel, or fabricating data, IEEE can put the author on a "banned author list" which prevents the author from submitting to any IEEE publication for a period of 1 year to lifetime.



REVISION TECHNIQUES

REVISION TECHNIQUES

- ▶ Omit unnecessary words
- ▶ Put actions in verbs
- ▶ Place verbs near subjects
- ▶ Put familiar information first

REVISION TECHNIQUES: OMIT UNNECESSARY WORDS

- ▶ It is absolutely vital that...
 - ▶ We must...
- ▶ At the same time...
 - ▶ Simultaneously/furthermore...
- ▶ There were five mice receiving antibiotics...
 - ▶ Five mice received antibiotics.

REVISION TECHNIQUES: PUT ACTIONS IN VERBS

- ▶ We performed an analysis...
 - ▶ We analyzed...
- ▶ The quantification of the atoms was done.
 - ▶ The atoms were quantified.
- ▶ We managed the measurement and identification of the proteins.
 - ▶ We measured and identified the proteins.

REVISION TECHNIQUES: PLACE VERBS NEAR SUBJECTS

- ▶ **DNA** in repeat regions or with long stretches of the same base or small microsatellites **causes** problems for next-gen sequencers.
- ▶ **DNA causes** problems for next-gen sequencers when it is in repeat regions or has long stretches of the same base or small microsatellites .

REVISION TECHNIQUES: PUT FAMILIAR INFORMATION FIRST

- ▶ We searched the database of sequences to look for similar structures. A protein involved in the regulation of the BRCA1 gene in humans was found by the search.
- ▶ We searched the database of sequences to look for similar structures. This search found a protein involved in the regulation of the BRCA1 gene in humans.



EXERCISES

MAIN CLAUSE AND END PLACEMENT*

- ▶ Although Fred is a nice guy, he beats his dog.
- ▶ Although Fred beats his dog, he is a nice guy.
- ▶ Fred is a nice guy, but he beats his dog.
- ▶ Fred beats his dog, but he is a nice guy.

*Courtesy of Judy Swan https://www.youtube.com/watch?v=jLPCdDp_LE0

EXAMPLE 1: WHAT WOULD YOU DO?

- ▶ This component will chiefly involve a description and quantitative analysis of the study's data collection process.
- ▶ Put actions in verbs

This component describes and quantitatively analyzes the data collection process.

- ▶ ***The sentence is more concise (10 vs 16 words).***
- ▶ ***The meaning is clearer.***

EXAMPLE 2: WHAT WOULD YOU DO?

- ▶ Detailed analyses of the evolutionary features of different types of regulatory elements are an important area for future research.
- ▶ Put actions in verbs
- ▶ **Consider *implied actions* vs. *verb*:**
- ▶ **Detailed *analyses* of the *evolutionary features* of *different* types of *regulatory* elements *are* an important area for *future research*.**

EXAMPLE 2: POSITIVE CONSEQUENCES

- ▶ Detailed analyses of the evolutionary features of different types of regulatory elements are an important area for future research.
- ▶ Future research should analyze the evolutionary features of different types of regulatory elements.
 - ▶ The sentence is more concise (13 vs 19 words).
 - ▶ The subject is clearer.
 - ▶ The subject and verb are closer together.

EXAMPLE 3: WHAT WOULD YOU DO?

- ▶ Improvements are expected in the predictive power of all the scores being computed on multispecies alignments.

EXAMPLE 3: WHAT WOULD YOU DO?

- ▶ Improvements **are** expected in the predictive power of all the scores **being** computed on multispecies alignments.
- ▶ ***We suggest: Use active voice, omit unnecessary words***
- ▶ ***[We expect to/Model changes should] improve the predictive power of our multispecies alignment scores.***
- ▶ ***[We expect to] **improve** the predictive power of our multispecies alignment scores.***
 - ▶ ***The sentence is more concise (12 vs 16 words).***
 - ▶ ***Prepositions no longer disrupt flow.***
 - ▶ ***Sentence is more direct.***

EXAMPLE 4: WHAT WOULD YOU DO?

- ▶ Some astonishing questions about the nature of the universe have been raised by scientists studying the nature of black holes in space. The collapse of a dead star into a point perhaps no larger than a marble creates a black hole.

EXAMPLE 4: WE SUGGEST: PUT FAMILIAR INFORMATION FIRST, OMIT NEEDLESS WORDS

- ▶ Scientists studying ~~the nature of~~ black holes in ~~space~~ have raised some astonishing questions about the nature of the universe. ~~The collapse of a dead star into a point perhaps no larger than a marble creates a black hole.~~ **A black hole is created by the collapse of a dead star into a point perhaps no larger than a marble.**



EXAMPLE 4: POSITIVE CONSEQUENCES

- ▶ New: Scientists studying black holes have raised some astonishing questions about the universe. A black hole is created by the collapse of a dead star into a point perhaps no larger than a marble.
- ▶ The link is clearer; these sentences are more cohesive.
- ▶ Old: Some astonishing questions about the nature of the universe have been raised by scientists studying the nature of black holes in space. The collapse of a dead star into a point perhaps no larger than a marble creates a black hole.

SUMMARY OF REVISION TECHNIQUES

- ▶ Omit unnecessary words: use find.
- ▶ Put actions in verbs
- ▶ Place verbs near subjects: check for subject verb distance
- ▶ Put familiar information first: check each sentence for old and new information.

QUESTIONS?