How to Review a Paper
What’s the point behind peer reviewing?

- Maintain standards of quality
- Improve performance
- Provide credibility to results
Elements of a Review

• Short summary of the text
• Contribution statement
• Strengths and weaknesses
• Typical questions to ask
  • How relevant is this work?
  • How is the argument flow?
  • What is new about this work?
  • Which problem is this work trying to solve?
  • Which other works does it extend?
  • What did the authors do?
  • How did they do it?
  • How valid is their approach?
  • How relevant are the results?
Critical Review

- A review is NOT about personal interests or personal criticism of the author.
- The review should focus on content and presentation.

Ethics in Scientific Communication

- It is ok to consider a contribution to be superfluous or of no need for the scientific community.
- It is not ok to personally judge or insult the author.
REJECTED

Shit My Reviewers Say

Collecting the finest real specimens of reviewer comments since 1456

@yourpapersucks
“The paper comes with proofs, but – at a first glance – they seem to be more cute than useful.”

“Recommendation: Publish elsewhere
Comments: [none]”

“Figure 6. This figure is silly.”

“Why chase a gene in this ridiculous organism?”

“Unless the authors performed some clever pagan ritual before euthanizing the animals I would use ‘killed’ (or ‘euthanized’) instead of ‘sacrificed”
Don’t do this!

The authors have put a lot of effort in their submission, and they might be still learning. Be accommodating and respecting, and help them improve their work.

That’s why we do reviews: to ensure high quality
Tasks of a Reviewer

- Analyse for
  - Correctness → did the authors design a valid study?
  - Originality → is this work novel? What’s new in this work?
  - Significance → is this work useful? Does it have an impact?
  - Quality → is the analysis well done? Are the conclusions justified?
  - Improvements → Does it improve over what’s already out there?
When does a paper merit publication?

• A paper merits publication if there is a scientific contribution
  
  Examples:
  
  • new and significant results
  • new knowledge through synthesis of known results
  • helpful surveys and tutorials
  • combinations of these categories
  
  • Worth to publish: small, surprising results that stimulate a new direction for future research or has interesting applications
  • Not worth to publish: results with flaws in methodology, repetition of previous work without significant improvement (debatable!)
Reviewers provide the following

- Decision in the form of a recommendation
  - accept
  - (accept with minor revision)
  - (accept with major revision)
  - reject
- Justification for the recommendation
- Ways for improvement (particularly in case of rejection)
Typical Review Report

- Overall judgement (usually scale from 1-5)
- Summary (1-5 sentences)
- Strengths and weaknesses in:
  - Originality and significance
  - Quality (methodology, precision, errors, presentation)
- Justification for the rating

A so-called “meta reviewer” revises all reviews, and summarizes them
Possible Verdicts (Smith, 1989)

- Major results - very significant
- Good, solid, interesting work; a definite contribution
- Minor, but positive, contribution to knowledge
- Elegant and technically correct but useless
- Neither elegant nor useful, but not actually wrong
- Wrong and misleading
- The paper is so badly written that a technical evaluation is impossible
Some Final Issues

• Multiple submissions at different conferences is not allowed
• Plagiarism results in immediate rejection (and possibly banning)
• Anonymity is sometimes important
• Conflict of interests: Reviewers should not review papers of people they worked with
• Reviewed papers should remain confidential
You’re going to be a reviewer!

- Read the paper you are asked to review
- Write a review, guided by these slides and your own intuition on how to improve the paper you are reading
- Don’t worry! Your review won’t influence any grades! It will only help the authors improve their work.
- Be nice 😊