Peer-Review Checklist
by Adina E. Pusok, Postdoctoral Researcher

Review structure:
- R0. Review details
- R1. Introduction (3 paragraphs)
- R2. Major issues (numbered items)
- R3. Minor issues (indicate line, figure, table numbers)
- R4. Other suggestions (optional)
- Notes (not included in final review)

Review details:
- Title:
- Authors:
- Journal:
- Editor:
- Deadline:

Step 1: Pre-Read – Invitation to review

☐ Read abstract.
☐ Appropriate expertise. Does my area of expertise and experience qualify me to critically evaluate the manuscript?
☐ Conflict of interest. Can I provide a fair and unbiased review of this work?
☐ Time and deadline. Do I have time to write a complete review?
☐ Check journal guidelines and adjust your workflow.
☐ Respond as soon as possible: Accept/Decline. Explain to editor the reason for decline, and offer, if possible, suggestions for other reviewers.

Step 2: First Read - Gaining an overview

☐ Set up the structure of review. Prepare a text file with the structure of review.
☐ Read the entire paper. Take notes as you go. Get an overall impression of the paper: motivation, approach, overview of results and conclusions.
☐ Go through all figures and tables. Do they complement the approach, results section and conclusions?
☐ Readability. Is the English/writing so bad that you can't understand the arguments? Reply to Editor you cannot give the paper a fair review at this stage, and suggest the paper to be withdrawn until the English is improved.
☐ Identify goals, method, findings, and relevance
  ☐ What is the main question addressed by the research?
  ☐ Is this question interesting and important to the field of study? How, specifically, will the paper contribute to the science?
  ☐ Do the Abstract and Introduction clearly identify the need for this research, and its relevance?
  ☐ Does the Method target the main question(s) appropriately?
  ☐ Are the Results presented clearly and logically, and are they justified by the data provided?
  ☐ Are the figures clear and fully described?
  ☐ Do the Conclusions justifiably respond to the main questions posed by the author(s) in the Introduction?
  ☐ Is the paper within the scope of the journal?
  ☐ Is the paper potentially publishable based on its contribution to the field?

☐ Write introductory paragraphs (Section R1) ["The study investigates/uses/finds/contributes"]
First paragraph: state the main question, summarize goals, approaches, and conclusions of the paper (1 sentence each).
Second paragraph: contribution of the paper to the journal.
☐ Evaluate whether the manuscript is publishable/or not (Section R1, Third paragraph)
["I recommend the manuscript not/to be published in Journal X with minor/major modifications, and I provide below the reason for my decision and some comments that are necessary to address...."]

Step 3: Second Read - The science

☐ Take detailed Notes indicating section, line, figure and table numbers.
☐ Read the manuscript in detail from start to finish.
  ☐ Check every section individually (my preferred order): Introduction, Methods, Results, Discussion, Conclusions, Abstract, Other (e.g., Key points, Appendices).
  ☐ Check method (i.e., equations if necessary, setting the experiment, data collection, details needed for reproducing results, and if that is not possible, is it stated why?).
  ☐ Check all figures and tables, so that you understand all units, axes, and symbols. Do the figures reflect the main text?
  ☐ Check References/referencing is done correctly.
  ☐ Check any supplementary material.
  ☐ Remind yourself the journal's guidelines. Most importantly, does the manuscript comply with the journal's data policy and best practices?
☐ Identify major and minor points (Sections R2, R3)
  ☐ Sort all notes in 2 categories: major (Section R2) and minor (Section R3) issues.
  ☐ Organize major points clearly and logically, using separate numbered paragraphs.
☐ Add Other Points (Section R4 – optional suggestions)

☐ Check organization and flow of arguments
  ☐ Was the paper hard to read because the paragraphs did not flow together? Did the authors use excessive and confusing acronyms or jargon?
☐ Read and polish your own review (check tone)
☐ Upload your review using the link provided
☐ Answer specific questions regarding the manuscript and its presentation
☐ Remarks to the editors (optional)
☐ Submit review to editor (Done!)