

Methods for Improving Academic Procedures

The Overseer

For simplicity, we will use the word overseer to describe the function of a public institution or private individual which provides infrastructure for scientific research.

Transparent Collaboration

Collaboration is fully transparent only if it is written and available online in a machine-readable format. Other methods which do not grant easy access to information are not transparent.

The overseer should ensure a working environment capable of closely monitoring the work process. The work process is transparent when:

1. the tools used in creating the research paper give open access to anyone interested for (at least) viewing the paper and the whole process behind it (see following points)
 - 1.1. it should also provide peer-reviewing for the paper and the process
 - 1.2. open-source tools are preferred when they match the requirements.
2. the authors use a versioning system for the actual paper
 - 2.1. this gives information about every change made to the paper, including the person responsible for that change
 - 2.2. tools available now: Google Docs, GitHub [!]
 - 2.3. preferred tools: [!]
3. all materials used in writing the paper are organised and attached to the actual paper
 - 3.1. raw data
 - 3.2. citations
 - 3.2.1. link to excerpts from publications used as citations in the present paper, if the publications are available online
 - 3.2.1.1. the link should be to the page from which the citation was extracted
 - 3.2.1.2. if the publication is not freely available, one should acquire permission to include the actual page or excerpt with enough background details to ensure correct usage.
 - 3.2.2. scanned copy of the page used for citation in the present paper, if the publication is not available online.
 - 3.3. any image used in the paper

- 3.4. data processing protocol and actual data obtained
 - 3.4.1. all data processing should be made with versioning
 - 3.4.1.1. this gives information about every change made, including the person responsible for that change
 - 3.4.1.2. tools available now: Google Docs, GitHub, CouchDB [!]
 - 3.4.1.3. preferred tools: [!]
 - 3.4.2. all data obtained in the process should be included, even if it is not included in the actual paper.
4. all discussions regarding the paper should be attached
 - 4.1. all discussions should be written
 - 4.1.1. recommended tools to use: official emails, official forums, official groups - assigned, maintained by the overseer
 - 4.1.1.1. official emails must be used, in order to clarify status and not involve or disclose personal information to the public.
 - 4.2. one should also provide a link to the public forum/group on which the discussions took place (link to exact topic)
 - 4.3. "discussions" include:
 - 4.3.1. written collaboration invitations
 - 4.3.2. scheduling face-to-face meetings
 - 4.3.3. summaries for every verbal discussion, especially when decisions have been made
 - 4.3.3.1. any verbal discussion should have at least a witness *, if it is not recorded or filmed
 - 4.3.4. all written collaboration which cannot be done through versioning
 - 4.3.4.1. advices, forwarded materials etc.
5. logs for off-computer work should be maintained, with:
 - 5.1. proof for scheduling the work, if this cannot be done freely
 - 5.1.1. delay logs, if the schedule is not respected, with motifs and actual time lost
 - 5.2. date, start and end hours
 - 5.3. exact protocol and obtained data
 - 5.3.1. if one cannot use only written text, pictures or video footage can be taken, to demonstrate work.
6. author importance should be visible
 - 6.1. timestamps and/or numbers of hours worked should be provided for each collaborator

- 6.1.1. these should be given by the tools used for creating, editing the work
- 6.1.2. graphs with the amount of hours spent working should be done for every collaborator
- 6.2. the importance of the task done should be provided for each collaborator
 - 6.2.1. the importance scale should be an official one, generally accepted, referring to: idea authors for the thesis, protocol authors, writing the thesis, background researching the subject etc.
- 6.3. the order of the authors in the final paper should be given by an official formula, based on the hours worked and task importance.

* Public witness workflow

It is preferred to use a witness with academic background, from another institution. Therefore, public institutions can verify each other's protocols and assure mutual quality and transparency.

- 1. each coordinator should be a witness at a 1:1 ratio (meetings with coordinator status : meetings with witness status)
- 2. after each meeting, there should be a summary of the meeting, followed by confirmation from the witness

Infrastructure provided by the overseer:

- 1. official emails
 - 1.1. for public institutions, the address should be the exact title of the member or representative
 - 1.1.1. the official email for that title/position should be passed down to the successors, along with all archived discussions and activities done through that email address.

(in work)