

Scientific Peer Reviewing

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Practical Hints and Best Practices

 Springer

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Preface

Problem Statement

Although peer reviewing forms an integral part of science as a quality control and assessment process, hardly any formal education and training material can be found—unlike for the related activity of scientific writing and presenting. Training mostly happens “on the job” and results after some time in mastering some widely shared good practices and acquiring an implicit “value reference framework” that is more or less common to mostly all researchers.

Even if some literature discusses peer reviewing from a theoretical point of view (pros and cons of the “process” as such, quality issues, etc.), until now very few practical guidelines or introductions are available for young or starting researchers¹ who are looking for some background material on peer reviewing (as already is available, e.g., on how to prepare and write a Ph.D. thesis). Most of the material available covers the medical domain (see Appendix). In particular, as—at least in the European Union—more emphasis is being put on innovative doctoral training, a practical introduction on peer reviewing is useful.

Some information can be found on blogs or websites of editorial companies (but mainly on how the reviewing process for the in-house journals is organized or as instructions/background information to editors²). Their target group is not so much potential reviewers but rather submitting authors to whom it is explained how the peer reviewing process works in a concern of transparency and clarity. Even though, as a beneficial side effect, this information and supporting training sessions can help to acquire good reviewing skills, a structured approach to actual peer

¹ For example, Springer provides an online course (<http://academy.springer.com/peer-review-academy>) but it is password protected.

² For example, <https://www.springer.com/gp/authors-editors/editors/publishing-ethics-for-journals/4176>

reviewing practice for young or starting researchers and Ph.D. students is still largely lacking.

Book Content

This booklet aims to tackle this problem by providing a practical introduction to the practice of peer reviewing. Although it mainly focuses on paper reviewing for scientific events in the domain of computer science and (business) informatics, many of the principles, tips, tricks, and examples are generalizable to journal reviewing and other scientific domains. Some of the principles and tips can also be applied when reviewing proposals for research projects or grants. In addition, many aspects of this booklet will also benefit authors of scientific papers (even outside computer science) as they will gain more insight into how papers are reviewed and hence where they have to pay attention to when writing their papers.

This volume is organized as follows.

- The first chapter contains a short, broad perspective on science policy, discussing why peer reviewing is considered as a quality control instrument of scientific activities. The most prominent advantages and flaws of the peer reviewing practice as well as some recent attempts to organize peer reviewing in a different way are described.
- The second chapter elaborates on the main principles a good reviewer should adhere to, namely, honesty, objectivity, fairness, and confidentiality. Subsequently, a list of specific items concerning a scientific paper that a good reviewer has to examine is provided with accompanying explanations. Also, the most important aspects of personal attitude that a good reviewer should pay attention to when writing his/her review are discussed.
- The third chapter contains a series of (anonymized) real-life examples of actual reviewing practice. The examples illustrate practical tips and tricks regarding the most common “do’s” and “don’ts” of peer reviewing. Each example is accompanied by comments and some anecdotal material to explain why the example should be considered as a “do” or rather a “don’t.” All the examples are review excerpts of actual submissions to conferences or workshops. As journal reviews are much more detailed and specific, they are much less suited as generalizable examples.
- The appendix includes selected references to papers discussing the practical aspects of the peer reviewing process as well as some important articles on more theoretical aspects of peer reviewing. For all papers, a link to the online available publication was added.

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In addition, we would like to acknowledge our “yearly colleagues for a few days” and other participants at the OnTheMove Academy,³ which is the Ph.D. symposium or doctoral consortium associated with the OnTheMove Federated Conferences.⁴ They all contributed without knowing it to this volume by providing us inspiration through their reviews (the OTMA program committee), comments (the OTMA faculty), and the OTMA review exercise (OTMA participating Ph.D. students). During the OTMA review exercise, the participating students review each other’s submissions. These student reviews are commented on during the OTM Academy (OTMA) to train the students in how to peer review. This helps them improve their papers as well. This volume can thus be considered as the extended “printed course text” of the OTMA review exercise session.

Finally, we express our thanks to the general chairs of the OTM conferences, in particular Em. Prof. Dr. Robert Meersman, as they are still willing to support the OTM Academy (even after having provided support for more than 10 years).

We wish you an interesting, inspiring, and above all useful read. Anybody willing to share his/her experiences, examples, tips, etc., is invited to contact us at Peter.Spyns@gmail.com.

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³The OTMA (<http://www.onthemove-academy.org/>) is a highly tutored and interactive (some might call it “shepherded”) workshop where Ph.D. students present their work, receive critical comments and tailored suggestions on their paper and poster and writing and presentation skills, and participate in a peer reviewing exercise. Background material (e.g., general tips and tricks, an example poster template) as well as a comparison with other Ph.D. workshops, are available (cf. <http://www.onthemove-academy.org/index.php/otma-downloadables>).

⁴www.onthemove-conferences.org

Contents

1	The Concept of “Peer Reviewing”	1
1.1	What Is Peer Reviewing About?	1
1.1.1	The Role and Function of Peer Reviewing	1
1.1.2	The Importance of Peer Reviewing	2
1.2	How Does Peer Reviewing Work?	3
1.2.1	Blind Reviewing	3
1.2.2	Arguments in Favor	4
1.2.3	Arguments Against	5
1.2.4	New Trends	6
1.3	To Conclude	10
2	Characteristics of a Good Reviewer	11
2.1	Some Good Review Principles	11
2.1.1	Be Honest About	11
2.1.2	Be Objective and Fair	15
2.1.3	Respect Confidentiality	17
2.2	Issues to Pay Attention To	17
2.2.1	The Review Object (Paper Under Review)	18
2.2.2	The Review Subject (The Reviewer Himself/Herself)	24
2.3	To Conclude	27
3	Tips and Tricks	29
3.1	Good Reviewers Keep the Following in Mind	29
3.1.1	Do Not Waste Your Time on Sloppy Authors	29
3.1.2	Avoid Repetitions	30
3.1.3	Never Include Details of a Personal Nature	31
3.1.4	Elaborate Your One/Two-Liners	32
3.1.5	Check on Student Reviews	34
3.1.6	Structure Your Review Comments According to the Evaluation Criteria and Make Them Correspond to Your Marks (If Applicable)	35

3.1.7	Always Mention Some Positive Aspects (Strengths) of the Paper as well as Some Weak Points as Suggestions to Improve the Quality of the Paper	36
3.1.8	Include Specific Questions to the Authors	37
3.1.9	Check the List of References	39
3.1.10	Search the Internet Using the Title and/or Abstract	41
3.1.11	Differentiate Your Reviews	42
3.1.12	Give Accurate and Specific Comments	43
3.1.13	Review Independently	44
3.2	Some Miscellaneous Issues	45
3.2.1	How to Review a Submission by (Students of) the Chair or Organizer?	45
3.2.2	What to Summarize?	46
3.2.3	How to Organize Your Review?	47
3.2.4	How to Meta-Review a Paper?	49
3.3	To Conclude	50
4	Conclusion	51
	Appendix: Selected Literature and Links	53
	Some Papers on Reviewing in General	53
	Some Guidelines for Reviewers with Practical Suggestions	54
	Papers That Discuss Possible Future Trends in Peer Reviewing	56
	Examples of Bad Practice	57