



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DAGRI
DEPARTMENT OF
AGRICULTURE, FOOD
ENVIRONMENT AND FORESTRY



When, why, and how to write a paper review

Daniele Penna

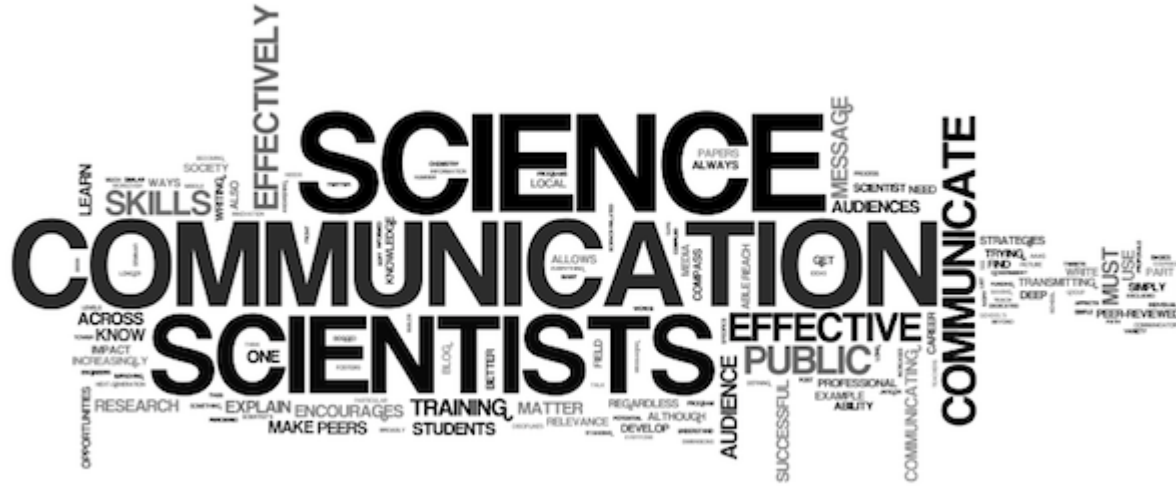
DAGRI Department, University of Florence

daniele.penna@unifi.it

Scientific writing and publishing seminar, Florence, Dec. 3rd, 2019

Why this talk?

- **Communication** in science is all!



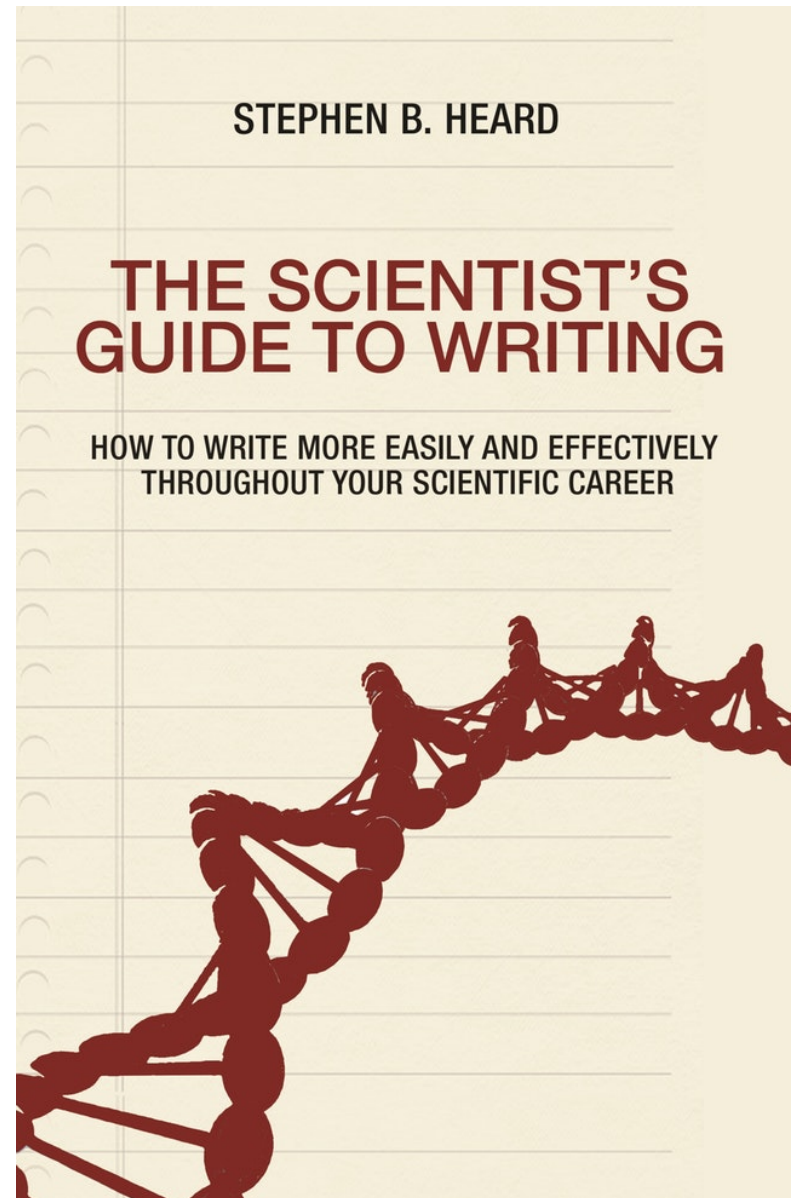
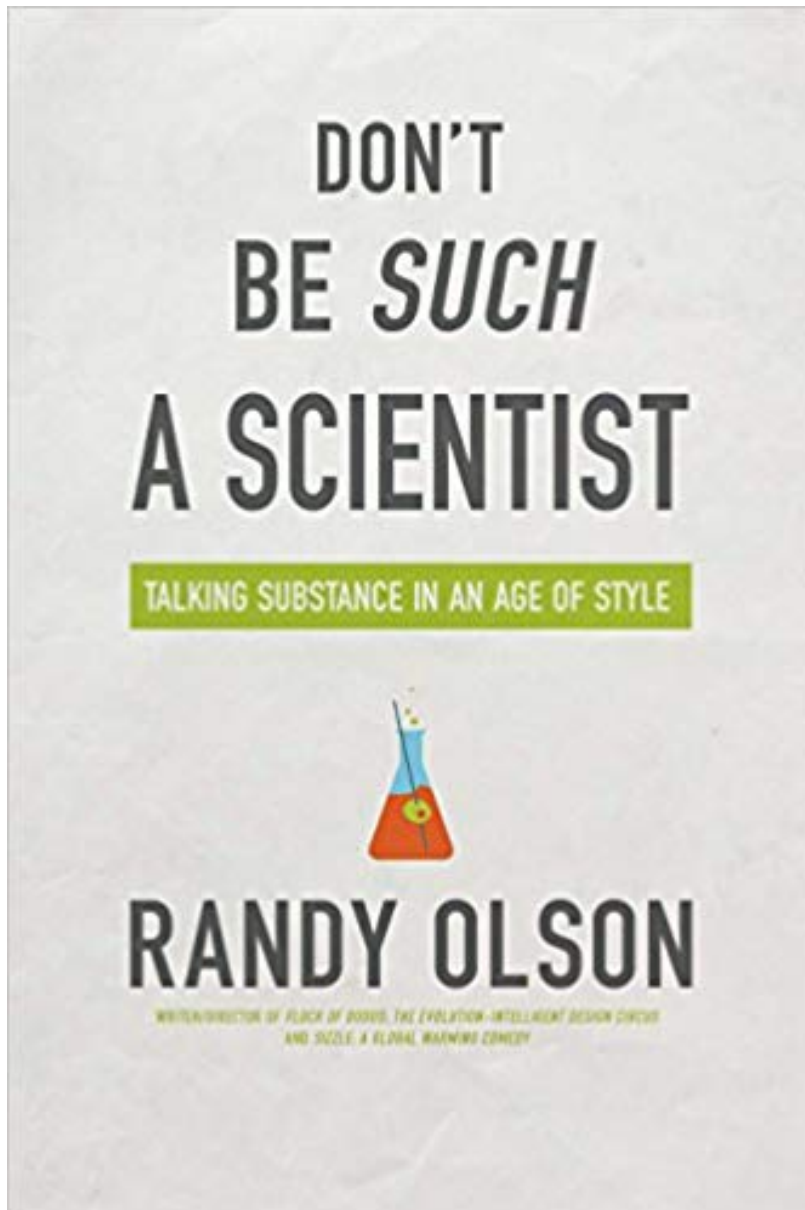
*Communication is the matrix in which **all** human activities are embedded.*

Jurgen Ruesch (1951)

***Nothing** in science has any value to society if it is not communicated.*

Anne Roe, *The Making of a Scientist* (1953)

Two worthwhile, inspiring books



Not an expert, just a bit of experience as:

- Author & Co-author
- Reviewer (174 reviews)
- Associate Editor
- Q1 journal
- 8th out of 266 journals in the Water Science and Technology sector



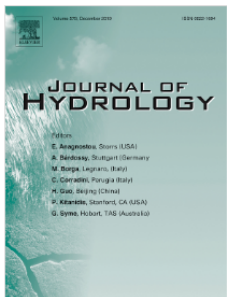
ScienceDirect

Journals & Books



Daniele Penna

Journal of Hydrology



4.9

CiteScore

4.405

Impact Factor

[View editorial board](#)

[View aims and scope](#)

Explore journal content

- [Latest issue](#)
- [Articles in press](#)
- [Article collections](#)
- [All issues](#)

[Edit my alert](#)

[RSS](#)

Featured partner journal



Journal of Hydrology X

[View partner journal](#)

Find out more

- [Submit your article](#)
- [Guide for authors](#)
- [About the journal](#)
- [Journal of Hydrology X](#)

The peer review process



What is peer review?

- A fundamental aspect of the integrity and accountability of science, as well as its **advancement**.

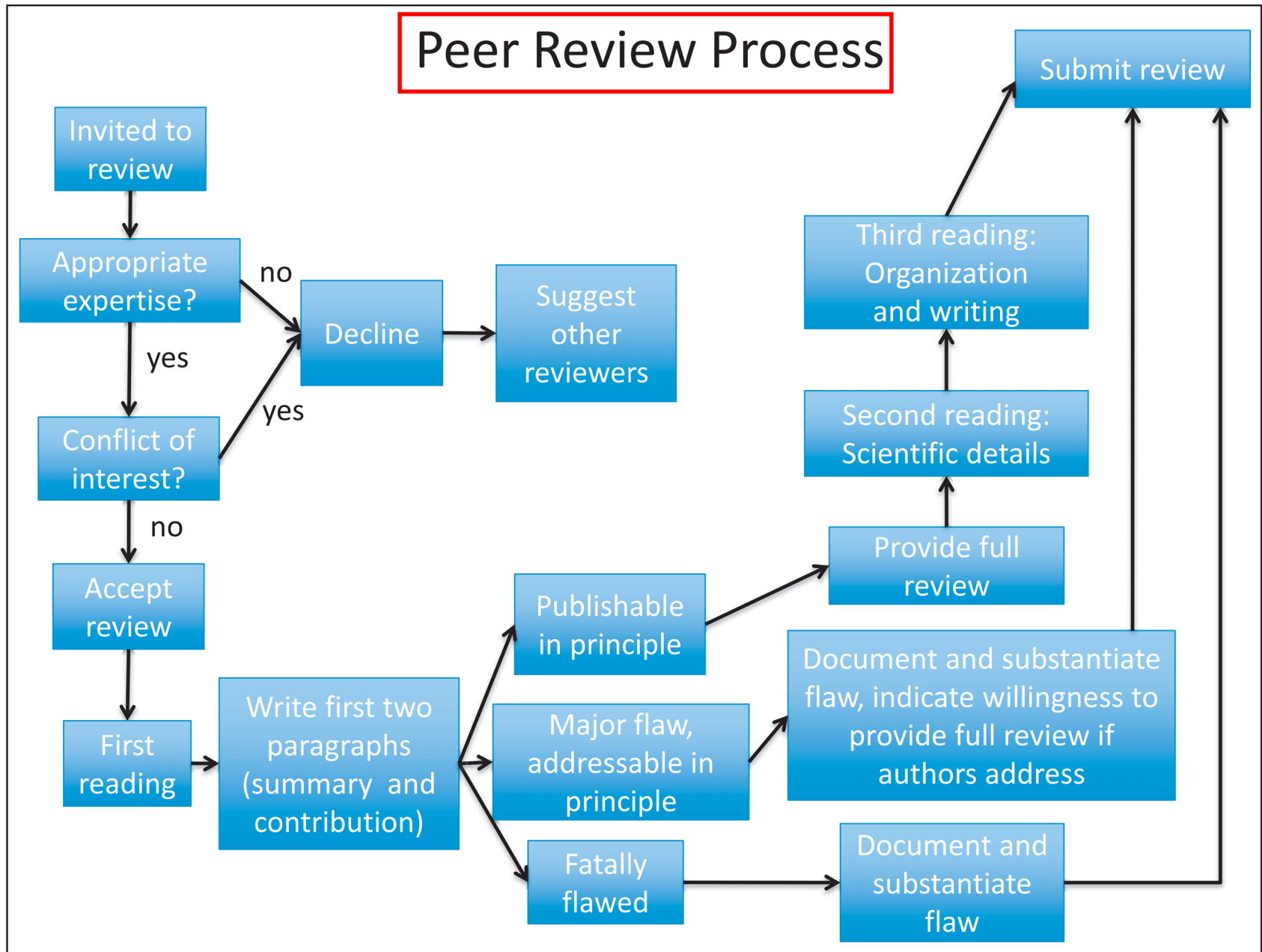
Main purpose of the peer review process:

- Help editors to select the best possible papers for advancing science within the scope of the journal.
- Help to guide the authors to improve and communicate the work.

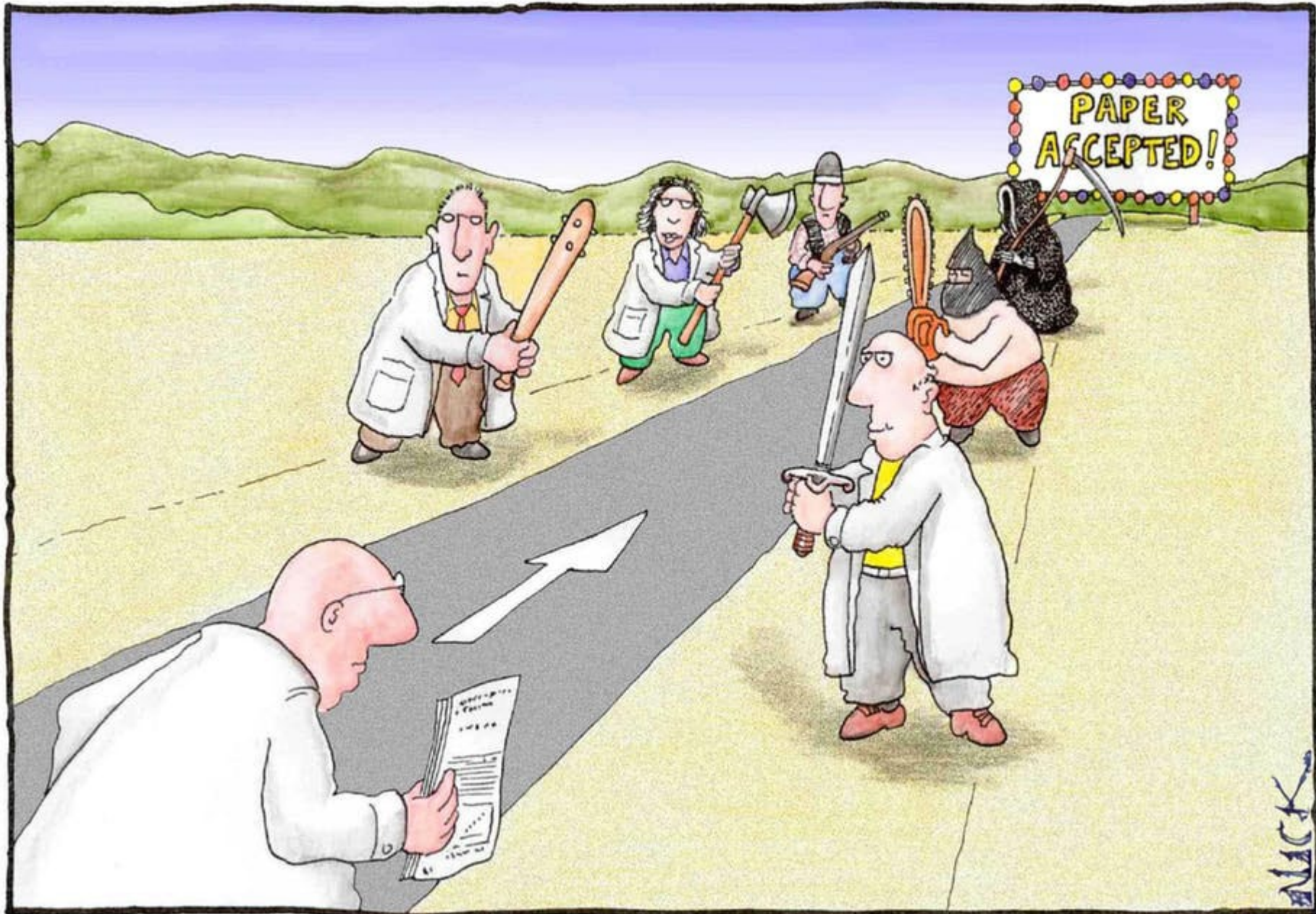
What peer review is NOT

- A place where to transfer your **frustration** for having one of your paper rejected the previous week.
- A place where to recommend authors to **cite your papers** (unless really relevant for their work).
- A place where to **humiliate** younger/less experienced colleagues.
- A place to show off.
- A place where to **steal** paragraphs from.

From invitation to submission



How reviewers are often perceived



When to start performing reviews? (1)



When to start performing reviews? (2)

- As soon as you have read **enough literature** and done some work to be confident on a certain topic (you are “expert”)...any review, also by early career scientists, is valuable to editors!
- **Engage with the literature** even before authoring yourself!
 - Even if you’ve not published a paper yet, there’s no reason why you can’t act as a reviewer.
 - You have insights into your area of expertise and it is this the editor of a journal will seek when asking you to review.

How to become a reviewer

- **Asking a colleague** who already reviews for a journal to recommend you.
- **Networking** with editors at professional conferences.
- Contacting **journals** directly to inquire if they are seeking new reviewers.
- Working with senior researchers who may then delegate peer review duties to you (**co-review**).
 - But don't write reviews for others who take credit for you!

Get credit for your peer reviews

- Reviews, publications, papers handled as editor

publons

BROWSE

COMMUNITY

FAQ























































DP ¹²

WEB OF SCIENCE

Researchers ▶ Daniele Penna

- Summary
- Metrics
- Publications
- Peer review

Verified reviews

 (19) Hydrological Processes 	 (11) Journal of Hydrology 
 (7) Water Resources Research 	 (6) Hydrological Sciences Journal 
 (6) Isotopes in Environmental and Health... 	 (5) Ecohydrology 
 (5) Wiley Interdisciplinary Reviews: Water 	 (4) Hydrology and Earth System Sciences Disc... 
 (4) Water 	 (3) Ecological Indicators 
 (3) Geoderma 	 (3) River Research and Applications 
 (3) Science of the Total Environment 	 (2) Environmental Earth Sciences 
 (2) Hydrology Research 	 (2) Hydrology and Earth System Sciences 
 (1) Annals of Forest Science 	 (1) Arctic, Antarctic, and Alpine Research 
 (1) Biologia 	 (1) Cuadernos de Investigacion Geograf... 
 (1) Earth Surface Processes and Landfo... 	 (1) INTERPRAEVENT Congress 
 (1) Journal of Hydrology and Hydromec... 	 (1) Journal of Mountain Science 
 (1) Journal of Soils and Sediments 	 (1) New Phytologist 

Why? Different reasons to review a paper (2)

FOR THE OTHERS

- It is a **service** to the authors and to the scientific community.
- Your opinion **influences the science**: you play an active role in determining what gets published, and in what form.
- Help prevent **bad science and plagiarism**.

Why? Different reasons to review a paper (2)

FOR YOU

- Stay at the **forefront**: remain in the vanguard of your field, you see the latest advances before others.
- Evolves and develops **critical thinking** (and criticism) skills.
- Improves your **own writing**: thinking as a reviewer gives you an advantage when writing your own paper.
- Network (with editors and journals): it is a good way of building up a **network of contacts**. Ultimately, it could lead to an invitation to an editorial board.
- It can be fun...(or at least interesting)!

Why reviewing a paper is beneficial for writing

- You see and learn from the common **mistakes**.
- You learn how authors **respond** to criticism.
- You become aware of the need for attention to **details**.
- You recognize the typical problems with figures.
- You appreciate more the importance of the **abstract**.

How: what should be in a review?

- **Intro paragraph:** Summarize the article in a short paragraph. This shows the editor you have read and understood the research.
- **Main assessment:** Give your main impressions of the article, including whether it is novel and interesting, whether it has a sufficient impact and adds to the knowledge base.
- **List of major and minor points:** Give specific comments and suggestions, including about layout and format, Title, Abstract, Introduction, Graphical Abstracts and/or Highlights, Method, statistical errors, Results, Conclusion/Discussion, language and References.

Provide page and line numbers

42
43 24 **Abstract**

44
45 25 The depth distribution of soil water contributions to plant water uptake is poorly known. Here
46
47 26 we evaluate the main water sources used by plants at the global scale and the effect of climate,
48
49 27 plant group, and soil texture on water uptake variability and depth distribution. We use meta-
50
51 28 analysis of published isotopic data ($\delta^2\text{H}$ and $\delta^{18}\text{O}$) for soil water and xylem water from 65 peer-
52
53 29 reviewed papers published between 1990 and 2017.

54
55 30 The isotopic composition of soil water was strongly related to climate. We applied a new direct
56
57 31 inference method to quantify the overlap between xylem water and soil water depth sources
58
59 32 used by plants. The median overlap between xylem water and soil water at different depths
60
33 were generally much larger than the overlap of xylem water with precipitation (up to $11\% \pm 11$
34 in the tropical zone) and groundwater (up to $71\% \pm 7$ in the arid zone but below 5% in all other

“Fake” page and line numbers

Ask the editor to provide you with a ms with line numbers
not automatically-generated!

7
8 This study aimed to test the “two water-worlds” hypothesis, which suggests that plants
9 preferentially access tightly-bound soil water over mobile soil water, in a sub-humid Prairie
10 environment. Two sites were used in south central Manitoba, Canada: a terrestrial hillslope site
11 adjacent to a large river as well as an aquatic mesocosm site. Rainwater, stream or tank water,
12 mobile soil water (from piezometers and lysimeters), tightly-bound soil water (extracted from
13 bulk soil samples) and plant (tree and shrub) water samples (extracted from twigs) were collected
14 from both sites and tested for stable water isotopes. Scatter plots of $\delta^{18}\text{O}$ versus $\delta^2\text{H}$ were
15 visually inspected to compare the isotopic signature of the different water types, assuming that
16 clustered water types originate from the same source. At the aquatic site, the isotopic signatures
17 associated with the different water types were overlapping, indicating a significant mixing of all
18
19
20
21
22
23
24
25
26
27
28
29
30

What to consider in a review (1)

- Innovative/novel aspects
- Clear research questions / testable hypothesis
- Do the data support the Authors' interpretation
- Clarity/readability (Text and figures)
- Reproducibility (Is it clear what has been done?)
- Linkages to previous work in the field
- Plagiarism, fraud or other ethical concerns
- Major comments, minor comments, and formal corrections

What to consider in a review (2)

- Does the **title** clearly reflect the contents of the paper?
- Does the **abstract** provide a concise and complete summary?
- Is the overall presentation well **structured** and clear?
- Is the **language** fluent and precise?
- Are mathematical formulae, symbols, abbreviations, and units correctly defined and used?
- Should any parts of the paper (text, formulae, figures, tables) be clarified, **reduced, combined, or eliminated**?
- Are the number and quality of **references** appropriate?
- Is the amount and quality of supplementary material appropriate?

When to decline a review

- When you have other deadlines/priorities and do not have time to perform a thorough review...be aware that **reviewing a manuscript takes time!**
- When it's outside your field of expertise (it happens that editors pick people with different expertise).
- If it's a multidisciplinary paper, and your expertise falls within only part of the topic, **do not pretend to be an expert** in the other parts as well...simply declare (even to authors) what you are not familiar with.
- When you have a conflict of interest. You should declare the conflict and let the editor decide whether this is relevant.
- **Suggest alternative reviewers!**

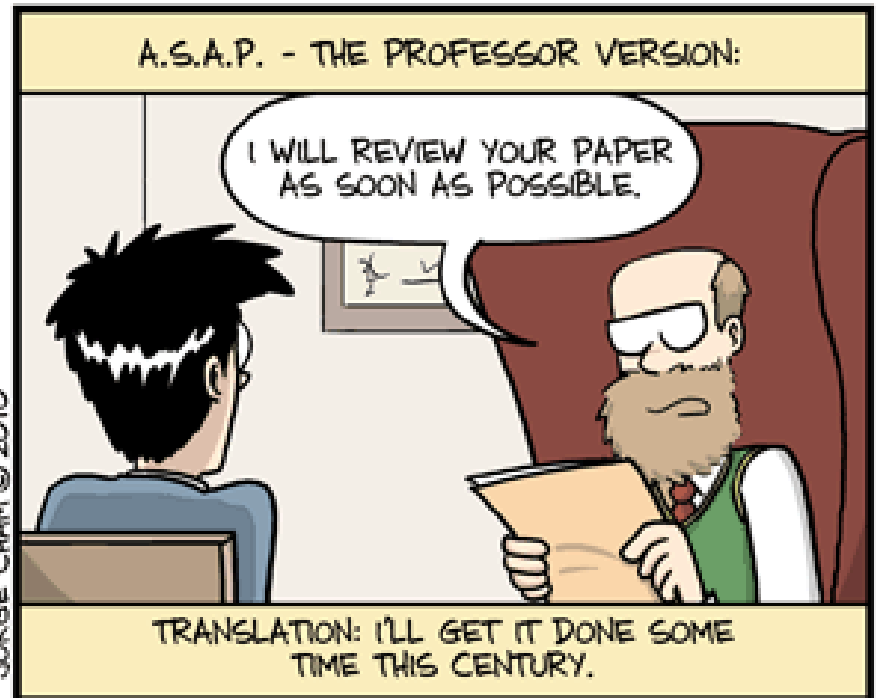
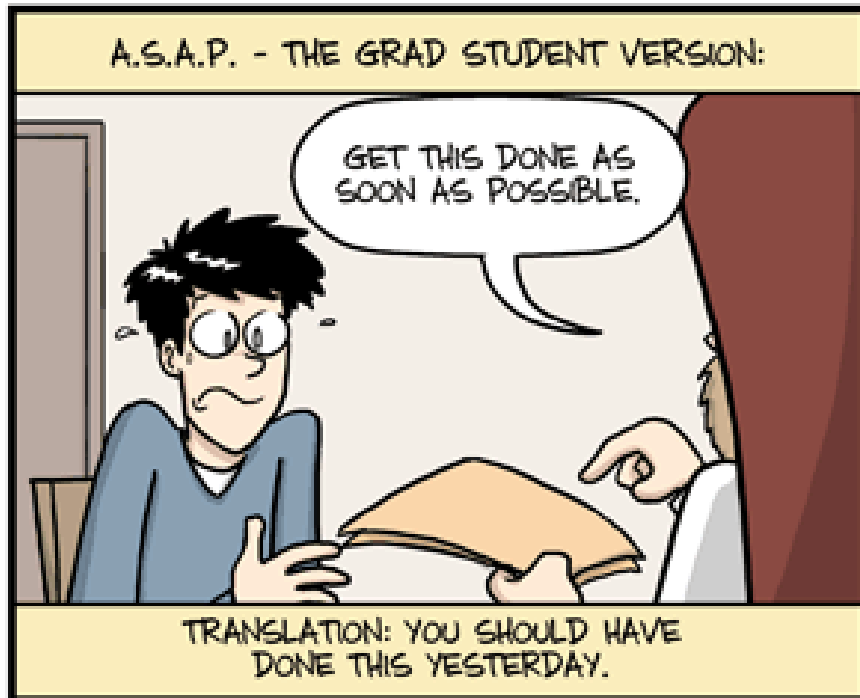
Important notes

- Read the journal's reviewers instructions.
- Respect the confidentiality.
- **Treat the review seriously.**
- Take time to read and write carefully.
- Be clear in your concerns, but use a friendly language: **be critical but kind!**
- **Be respectful, constructive and concrete.**
 - “This makes no sense” isn't helpful; instead: “It's not clear how Figure x leads to conclusion y” gives an author something to change.
 - Focus on the manuscript, not the author

Reviewer types (according to my experience)

As for time:

- Agrees and writes their review on time.
- Agrees and needs to receive reminders for writing their review.
- Agrees but never submits their review!



Reviewer types (according to my experience)

As for quantity:

- The long one: writes pages, corrects even commas.
- The short one: writes only a couple of paragraphs.
- The typical one: something in between (most of them).

As for quality:

- It's not important how much you write but how much sense what you write makes.

The good/bad reviewers list

The image shows a screenshot of a Microsoft Excel spreadsheet. The ribbon at the top includes 'File', 'Home', 'Insert', 'Page Layout', 'Formulas', 'Data', 'Review', and 'View'. The 'Home' ribbon is active, showing options for Clipboard, Font, Alignment, Number, and Conditional Formatting. A table is visible with columns labeled 'Name', 'Surname', 'Topic', and 'Submission(s)'. A large red text overlay reads 'Which list do you want to belong to?'. At the bottom, there are buttons for 'Very good' and 'Very bad'.

	A	B	C	D
1	Name	Surname	Topic	Submission(s)
2	Pauletta Eugenia	Pauletta	water chemistry	LIVDPO127471 - e-mail: pauletta@univ...
3	Tr			
4	M			
5	Re			
6	M			
7	Xi			
8	Ja			
9	M			
10	Fr			
11	Ke			
12	Su			
13	Xi			
14	Ca			
15	Ha			
16	M			
17	Jia			
18	Jir			
19	Br			
20				
21				
22				

Useful readings (1)

WILEY

HOME MY DASHBOARD AUTHORS ▾ REVIEWERS ▾ EDITORS ▾ HELP ▾



REGISTER

LOGIN

Reviewers > Journal Reviewers

- Author Resources
- ▼ Reviewers
 - ▼ Journal Reviewers
 - What is Peer Review
 - How to Perform a Peer Review
 - Becoming a Reviewer
 - Recognition for Reviewers
 - Peer Review Resources
 - Book Reviewers
- Editors
- Ethics Guidelines
- Help
- Open Research

Journal Reviewers

At Wiley we believe that peer review is the foundation for safeguarding the quality and integrity of scientific and scholarly research. We want to do everything we can to support reviewers (also sometimes known as "referees") and to recognize their contribution. This is why we've created these guidelines. They're part of our broader goal to facilitate the review experience for journals – and help safeguard the integrity of the research we publish.

What is Peer Review

- Learn about the peer review process
- Discover the different types of peer review

How to Perform a Peer Review

- Follow our step by step guide to reviewing a manuscript
- Read, watch, or download our top tips for peer reviewers

Becoming a Reviewer

- Let us advise you on becoming a reviewer
- Find out what peer review training is available

Recognition for Reviewers

- Explore how reviewers can get recognized
- Get credit for peer review with Publons

Reviewer

- View useful peer review resources

Useful readings (2)

- Why saying “yes” could prove an enriching and rewarding experience in more ways than one (C. Tancock, 2019)

<https://www.elsevier.com/connect/reviewers-update/ten-reasons-to-accept-your-next-invitation-to-review>

- A Quick Guide to Writing a Solid Peer Review

Eos, Vol. 92, No. 28, 12 July 2011

- How I Review an Original Scientific Article(F.G. Hopping, 2012)

<https://www.atsjournals.org/doi/full/10.1164/rccm.200204-3240E>

- Ethical guidelines for peer reviewers

<https://publicationethics.org/resources/guidelines-new/cope-ethical-guidelines-peer-reviewers>

**THANK YOU FOR
YOUR ATTENTION!**



daniele.penna@unifi.it