



## Papers and Journals

## What to do before starting to write your manuscript ...

- Focus and scope:
  - Think carefully about what the main message of the paper will be: why are you writing this paper?
  - What is the key advance your paper makes over other papers?
  - Try to keep the topic focused and make sure the main message is conveyed clearly.
  - Think about your intended readership: who are you trying to reach?
  - How do your contributions relate to the long-term vision/goals in this field?
- Learn from reading other papers: which papers did you find especially readable and why? Which were hard to read and understand, and why?

## Manuscript structure ...

- Introduction
  - outlines general context and cites relevant related work
  - explains scope and goals of current paper
  - summarizes key findings and results
  - puts results into broader perspective
  - outlines structure of paper
- Sections with main results, proofs, simulations, ...
  - clear logical structure and flow of arguments
  - what is essential and what can be omitted?
- Summary, conclusions, discussion, open problems, ...
  - puts paper in broader context
- References
  - list all relevant references cited in paper in consistent format
  - use bibtex to organize references and ensure consistent format
- Appendices
  - is sometimes used for technical details that distract from main content

## What makes a good manuscript ...

- **Accessibility and readability:**
  - start the paper broadly and as accessible as possible
- **Introduction:**
  - motivate your results: why did you write this paper?
  - clearly convey main results and findings, as well as methods used or developed
- **State clearly how your paper relates to others:**
  - Give an example that illustrates the advance your paper makes compared with other work. If you wrote 5 papers on this topic, what distinguishes this paper from your previous ones?
  - Cite related work: check the literature carefully, quote papers with related results, and compare their approaches and results meaningfully to yours
- **General comments:**
  - check that arguments flow naturally and logically
  - is all notation explained before it is used? Are arguments and reasoning complete?
  - convey information in different ways: use examples and figures, give intuition and motivation

## Which journal to submit to ...

- **Quality: Balance quality of paper and journal**
  - Reputation of journals (ask your advisor/collaborator)
  - Citation index (view with caution)
- **Audience: Does readership of the journal and the intended audience of the paper match?**
  - Check your own reference list to see where papers in your area have appeared
  - Check editorial board
  - Check a few papers in recent issues for style and content
- **Backlog: Check the time between submission and actual publication for a few papers that appeared in the journal. Alternatively, check the AMS Notices for backlog information.**

## Submission process ...

- Depends strongly on the journal:
  - Most journals have their own dedicated electronic submission system
  - Some allow email submissions to individual editors on the editorial board (make sure you get an email confirmation ...)
  - Many allow or encourage authors to suggest editors or referees (make use of both, if appropriate)
- Editors will:
  - send the manuscript to referees (usually between one and three) for evaluation
  - make a decision
  - send you the referee reports and inform you of the decision (acceptance, minor or major revision, rejection)
- FAQ:
  - **Never ever** submit the same paper simultaneously to different journals
  - If you have not heard from the editor for a long period (say 6-8 months), you can contact them with a polite request for an update
  - Appeals are rare for mathematics journals, but are much more common in other areas

## How to respond to referee reports ...

- Always respond professionally and politely (even if the report is offensive)
- Always take suggestions made by referees seriously
- Do not take referee reports personally
- Sometimes you may disagree with some of their comments, sometimes the comments made by the referees may be contradictory ... In these cases, use your judgement and explain carefully in detail in a letter to the editor and the referees which changes you made and which ones you did not make (and include the reasons for not doing so)
- Explaining all changes carefully might speed up the process: if the editor can check changes quickly, the revised manuscript may not need to be sent back to the referees
- Mea culpa: if the referees (who are most likely experts in your area) misunderstand your paper or find it hard to read, chances are that others will too:  
Thus never write "The referee clearly misunderstood the point of the paper..."



## How to write referee reports ...

- You are not responsible for the correctness of the paper but should have some confidence in the results it contains
- Suggested structure:
  - Give a brief objective summary of the content
  - State your opinion of the manuscript (novelty and originality of results, correctness, potential impact, readability, completeness of references, ...)
  - List strengths and weaknesses as appropriate
  - Say what you base your recommendation on: eg "I did not check all proofs but believe that the results are correct ..."
  - State an explicit recommendation (accept, revise, reject): different journals have different standards, so align your recommendation accordingly
  - Optional: add list of minor comments
- Comments:
  - Be timely, polite and professional: think how you would perceive your report as an author
  - Be thorough: it is better to review fewer papers but do a good job with each of these.
  - Avoid vague reports!



## How to write reviews for the AMS Math Reviews ...

- The AMS Math Reviews contain brief reviews of published papers and books
- Writing reviews is a very valuable service to the community
- Reviews are listed on MathSciNet and include the reviewer's identity
- Reviews should help readers decide whether to read the paper:
  - Length ranges from a few lines to 600 words
  - Reviews should be as accessible and nontechnical as possible
  - Brief summaries of techniques or ideas behind proofs could/should be included if feasible
  - Include references to other papers or reviews if appropriate
  - Quoting the paper's abstract is usually not very helpful

- Reviews should be objective:

**It is generally not a good idea to include a positive or negative evaluation, but if you do, then the reasons for your evaluation should be well documented in the review (authors do not have the option to comment on reviews)**

**The Weil-Petersson visual sphere. (English summary)**

*Geom. Dedicata* **115** (2005), 1–18.

Let  $S$  be a compact surface of negative Euler characteristic, let  $\mathbf{T} = \mathbf{T}(S)$  be the Teichmüller space of  $S$  equipped with its Weil-Petersson metric and let  $X$  be a point in  $\mathbf{T}$ . In this paper, the author calls the visual sphere at  $X$  (denoted by  $\mathcal{V}_X$ ) the set of geodesic rays emanating from  $X$ . By work of Scott Wolpert, who showed that there is a unique Weil-Petersson geodesic joining any two points in  $\mathbf{T}$ ,  $\mathcal{V}_X$  is homeomorphic to a sphere and there is a compactification of  $\mathbf{T}$  by  $\mathcal{V}_X$  obtained by adjoining to each ray a point on the boundary of  $\mathbf{T}$ . The main objective of this paper is to compare this compactification with Bers's compactification. The author proves the following results:

Theorem 1 : The natural action of the mapping class group of  $S$  on  $\mathbf{T}$  does not extend continuously to the Weil-Petersson visual sphere (except in the case of some special surfaces).

Theorem 2: The subset of  $\mathcal{V}_X$  consisting of finite rays is in bijection with the frontier of the metric completion of  $\mathbf{T}$ .

Theorem 3: The finite rays are dense in  $\mathcal{V}_X$ .

Theorem 4: The natural change-of-basepoint homeomorphisms of  $\mathbf{T}$  do not extend to homeomorphisms of the visual spheres.

Theorem 5: Let  $WP_X$  be the space of Weil-Petersson geodesics joining  $X$  to points in  $\mathbf{T}$ . Then, the natural mapping from  $WP_X$  to the Bers slice  $B_X$  does not extend to a homeomorphism between  $WP_X \cup \mathcal{V}_X$  and the closure of the Bers slice.

The proofs of these results use old and recent work of Wolpert as well as the work of Bers. Of course, the results are motivated by work of Thurston and Kerckhoff concerning other compactifications of Teichmüller space.

Reviewed by *Athanase Papadopoulos*