

## Reviewing

Justin Zobel,  
G. Buchanan

### Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

### Participants

Perspectives  
Audiences for  
reviews

### Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

### Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

## Reviewing

Justin Zobel,  
G. Buchanan

University of Melbourne, Australia

Semester 2, 2017

## Reviewing

Justin Zobel,  
G. Buchanan

# Overview

## Purpose and aims

### Reviewing & publication

Conferences &  
journals

Aims of reviewing

## Participants

Perspectives

Audiences for  
reviews

## Assessing a paper

Taking on a review

Outcomes

Overall assessment

Key questions

Looking at details

Making a decision

## Writing the review

Overall guidelines

Positive reviewing

Rejection

Ethics

## Process

## Motivations and participants

## Assessment of papers

## Response content, response style

Acknowledgement: Some slides were adapted from notes written by Lars Kulik.

## Reviewing

Justin Zobel,  
G. Buchanan

# Peer reviewing (a.k.a. refereeing)

## Purpose and aims

### Reviewing & publication

### Conferences & journals

### Aims of reviewing

Scientists undertake research; and they assess the research undertaken by others.

## Participants

### Perspectives

### Audiences for reviews

Peer reviewing provides (in an ideal world!) a level playing field in which everyone's work is scrutinized by chosen experts, to the same standards.

## Assessing a paper

### Taking on a review

### Outcomes

### Overall assessment

### Key questions

### Looking at details

### Making a decision

- ▶ Skepticism
- ▶ Independence
- ▶ Anonymity

## Writing the review

### Overall guidelines

### Positive reviewing

### Rejection

### Ethics

Reviewing is used for papers, theses, grant applications, workshop proposals, ...

# The publication process

## Purpose and aims

Reviewing & publication

Conferences & journals

Aims of reviewing

## Participants

Perspectives

Audiences for reviews

## Assessing a paper

Taking on a review

Outcomes

Overall assessment

Key questions

Looking at details

Making a decision

## Writing the review

Overall guidelines

Positive reviewing

Rejection

Ethics

## Journals:

- ▶ The editor receives the paper, identifies likely experts, sets expectations (timelines, acceptance criteria).
- ▶ Referees make recommendations. Editors use these recommendations and the evidence in the review to make a judgement.
- ▶ Poor but salvageable papers lead to a recommendation of major revisions; others are accepted or rejected.
- ▶ If a paper is resubmitted after major revisions, the reviewers examine it again. This may be the end of the cycle, or it may continue through multiple revisions.

Correctness, readability, and style have higher relative importance than for conference papers.

# The publication process ...

## Purpose and aims

Reviewing &  
publication

Conferences &  
journals

Aims of reviewing

## Participants

Perspectives

Audiences for  
reviews

## Assessing a paper

Taking on a review

Outcomes

Overall assessment

Key questions

Looking at details

Making a decision

## Writing the review

Overall guidelines

Positive reviewing

Rejection

Ethics

## Conferences:

- ▶ Conference management software receives the paper and
  - ▶ Automatically allocates the reviewing to program committee members based on information about expertise.
  - ▶ Allows the chair to choose referees.

Typically the chair has to process 100–300 papers in a day or so, thus a referee may have only low to moderate expertise in a paper's topic.

- ▶ Referees must return their judgement by a fixed date.
- ▶ Usually the referees discuss the paper via an online forum, perhaps guided by senior referees.
- ▶ The program committee decides to accept, reject, or, maybe, accept with shepherding by an expert (rare, because of the effort involved).

# Aims of the refereeing process

## Purpose and aims

Reviewing & publication

Conferences & journals

Aims of reviewing

## Participants

Perspectives

Audiences for reviews

## Assessing a paper

Taking on a review

Outcomes

Overall assessment

Key questions

Looking at details

Making a decision

## Writing the review

Overall guidelines

Positive reviewing

Rejection

Ethics

Accept papers with contributions that will have impact on other researchers.

Separate strong work from weak.

Endorse a paper as being scientifically valid.

Keep misleading material out of the literature.

Fill a conference proceedings or journal page budget. (Justify the existence of a conference, help guarantee income for publishers.)

Give feedback to researchers on their research (contributions, methods, and outcomes).

Remember – the referee is *the very last person* who will read the paper carefully before it is printed, other than (perhaps!) a typesetter with no technical knowledge of the discipline.



# At submission

## Purpose and aims

Reviewing & publication  
Conferences & journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

### The author feels:

- ▶ Proud – the work is precious, special, perfected. It is the culmination of months or years of effort.
- ▶ Sensitive – vulnerable to criticism; keen for respect and admiration.

### The referee and editor feel:

- ▶ Burdened – one more piece of work to examine.
- ▶ Unexcited – most submissions are dismal (rejected work is resubmitted and stays in circulation).
- ▶ Disbelieving – overly strong results are usually wrong.
- ▶ Sensitive – to typical, frustrating faults; to their own work being unduly criticized.

# Audiences for reviews

## Purpose and aims

Reviewing & publication

Conferences & journals

Aims of reviewing

## Participants

Perspectives

Audiences for reviews

## Assessing a paper

Taking on a review

Outcomes

Overall assessment

Key questions

Looking at details

Making a decision

## Writing the review

Overall guidelines

Positive reviewing

Rejection

Ethics

### Editors and chairs:

- ▶ Unlikely to carefully read the paper itself, but will read the reviews and check details.
- ▶ Use reviews to inform their summary comments (if any).
- ▶ Rely on diligent referees to make a clear, convincing case for or against acceptance.
- ▶ Are dismissive of lazy reviews.
- ▶ Know that some referees are careless.
- ▶ Are frustrated by referees that sit on the fence.
- ▶ Understand that referees may not be expert in the topic.
- ▶ Consider past reviewing effort when selecting committee and editorial board members.



## Reviewing

Justin Zobel,  
G. Buchanan

# Audiences for reviews ...

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

## Other referees:

- ▶ Vary widely in the amount of effort taken.
- ▶ Start from the premise that their review is “right” (and will be very reluctant to say “I got that wrong” when presented with a conflicting argument).
- ▶ May have subcontracted the refereeing to a student or associate.
- ▶ Are often much less objective than the editor would like.

# Audiences for reviews ...

## Purpose and aims

Reviewing & publication  
Conferences & journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

## Authors:

- ▶ Usually convinced that their papers are worth accepting and that negative comments are misguided.
- ▶ May not be working in the environment of a first-rate research centre or may never have had significant guidance from a more experienced researcher.
- ▶ Dislike being patronised.
- ▶ Appreciate positive guidance for change.
- ▶ Will seek ways to minimally address issues raised by referees.
- ▶ Need to be persuaded through convincing argument that the referees' views are reasonable.

# Agreeing to review

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

Put the task in your timetable; get to work on it more or less straight away.

Quickly decline an invitation if you really cannot do it.

Why do a review?

- ▶ Good refereeing, although it is altruistic and anonymous, is more influential (per hour) than paper writing and other research activity.
- ▶ Editors remember the contributions of good referees.
- ▶ Opportunity to see and learn from other submitted work, not just published work.

Expect to review 2 to 3 papers for every paper you write.

Do the review *by the deadline*. Or before.

# Review outcomes

## Purpose and aims

Reviewing & publication  
Conferences & journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for reviews

## Assessing a paper

Taking on a review

### Outcomes

Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

Reviewers recommend, but do not decide.

(For anything but a terrible paper, the referees are unlikely to be in agreement.)

- ▶ Accept – the paper is absolutely fine as is.

No-one needs to read it again before it goes into print, other than possibly to fix minor grammar and language errors.

Nothing needs to be clarified.

All technical elements are correct.

- ▶ Minor revisions (journals only) – the paper is more or less ready.

Any residual problems are small and the author's corrections can easily be checked by an editor who is time-poor and not expert in the specific topic.

## Review outcomes ...

### Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

### Participants

Perspectives  
Audiences for  
reviews

### Assessing a paper

Taking on a review

#### Outcomes

Overall assessment  
Key questions  
Looking at details  
Making a decision

### Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

- ▶ Major revisions (journals only) – the paper may be eventually be published in this venue, but only after further work.

Sometimes: work that seems good but with weaknesses or errors that need to be properly checked after revision.

Sometimes: work that is probably bad, but the referee is unsure because details are unclear, and is willing to give it another look after correction.

Should not be used as a nice way of saying ‘reject’. Most papers recommended for major revisions are ultimately accepted.

- ▶ Reject – not suitable for the venue.

Weak, wrong, incomplete, silly, trivial, insufficiently significant, out of area, out of date, unethical, plagiarised, unoriginal, boring, incomprehensible, errorful, mad.

# Getting started

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes

## Overall assessment

Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

Is it obviously unacceptable?

- ▶ Identify the reasons for this view, such as
  - ▶ No contribution;
  - ▶ Is a restatement of a well-known result, or indeed any previously published result;
  - ▶ No references, or at least grossly inadequate;
  - ▶ Claims that are outright wrong;
  - ▶ No evidence for key claims;
  - ▶ In the wrong field;
  - ▶ Written and assembled in complete disorder;
  - ▶ Much too long or too superficial for the venue.
- ▶ Construct a clear argument on each key shortcoming.



# Getting started ...

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

### Is it new?

- ▶ Guess: 2%–10% of submissions, depending on venue, have already been published.
- ▶ Use the obvious resources to see if there is a prior version of the same work.
- ▶ The referee's role is to determine if the work is new; it is the editor who decides if this is an obstacle to publication.

# Getting started ...

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

Do you understand the paper? If not,

- ▶ Analyse why: is the paper rich, or does it not make sense, or is it out of your key areas? (Don't rush to judgement.)
- ▶ Consider the elements you can easily assess: whether explanations are clear, references seem reasonable, conclusions are justified by the content, standard of writing is adequate.
- ▶ If the work has been undertaken to a good standard, take the effort to appreciate the main elements.

Plan to read (or skim) at least a couple of the paper's citations while doing a review.

# Changing your mind

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

First impressions of papers are often misleading.

While writing a review, be open to a change of mind, in either direction.

Reflect on the review; actively ask 'did I possibly get this wrong?' (The work is precious to somebody – give it every opportunity.)

Make notes on the paper a week or more before writing the review.

Write the review a few days before you plan to submit it.

# Key questions to be answered

## Purpose and aims

Reviewing &  
publication

Conferences &  
journals

Aims of reviewing

## Participants

Perspectives

Audiences for  
reviews

## Assessing a paper

Taking on a review

Outcomes

Overall assessment

**Key questions**

Looking at details

Making a decision

## Writing the review

Overall guidelines

Positive reviewing

Rejection

Ethics

(From the 'Reading Research Papers' lecture)

- ▶ What are the researchers trying to find out?
- ▶ Why is it an interesting or useful problem?
- ▶ How original is the approach?
- ▶ What things were proposed?
- ▶ What things were measured?
- ▶ What were the results, that is, what do the authors conclude and what is the evidence?
- ▶ What other papers should it be classed with?
- ▶ Are the results current or superseded by newer work?

# Value, presentation

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

Is it interesting?

Is it relevant to the audience?

Does the content justify the length?

What is missing? What is unnecessary?

Are there any serious ambiguities or inconsistencies?

Can the paper be understood? Is it clearly written? Is the presentation at an adequate standard?

Have all key references been cited? How many references are just padding? How many self-references are there?

Is the presentation of competitor work accurate and fair?

# Accuracy, plausibility

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

(C.f. the 'Reading Research Papers' lecture)

How were the claims evaluated or validated?

What are the questionmarks over the experiments?

Were appropriate baselines used?

Are the proposals and results critically analyzed?

Are appropriate conclusions drawn from the results? Are the authors' claims reasonable or inflated?

Are all the technical details accurate? Are they sensible?

Was the work really carried out as described? Is anything truly wierd or implausible?



## Reviewing

Justin Zobel,  
G. Buchanan

# Making a decision

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

Principal criterion: strength, significance, importance, timeliness of the contribution.

Parberry's taxonomy: breakthrough; ground-breaking; progress; reprise; tinkering; debugging; survey.

What is the paper's likely impact on other researchers?

What about impact on practice?

Other key criteria: correctness, completeness, readability, honesty.

# Constructing a review

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

Open with a simple summary of your assessment.

Write to notional headings: contribution, clarity, background and references, robustness of results.

Recognize positives as well as discussing negatives.

Note the elements in the paper that seem worth pursuing.

Highlight critical failures.

Admit to areas or issues where you do not have the expertise to make a definitive comment.

Write clearly. Be friendly.

Write as if the author may eventually find out who you are.

Provide references.

## Helping the author

### Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

### Participants

Perspectives  
Audiences for  
reviews

### Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

### Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

Expect author-provided evidence of novelty and innovation, especially via the right citations. Where this is missing, make clear what is required.

Where it is reasonable to do so, suggest to the authors a path forward to more publishable research.

But don't slip into doing the research for the author. It's someone else's research program.

- ▶ If the work is inept, step back;
- ▶ If the work is strong, your contribution isn't needed;
- ▶ If simple changes will make a real difference, suggest them, but it is the author's job to take them to completion.

Hints, directions, suggestions, and helpful advice are expected.

When suggesting major revisions, don't make unnecessary work for the authors.

### Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

### Participants

Perspectives  
Audiences for  
reviews

### Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

### Writing the review

Overall guidelines  
**Positive reviewing**  
Rejection  
Ethics

# Helping the editor

Present your arguments in reasonable detail; your writing and presentation may not be to the standard of a paper, but the rigour of argument should be similar.

Be ready to back up claims. If you can't back it up, don't say it.

Remember that the editor will tend to trust your judgement ahead of that of the author. Do not abuse that trust.

Many review forms have 'confidential' entries for material the author doesn't see.

- ▶ It is unjust to use the 'confidential' space to make criticisms the author might be able to rebut.
- ▶ It is reasonable to use this space to tell the editor about your own limitations.

# Fair rejection

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing

Rejection  
Ethics

If the research is hopeless, say so. You may help the author to stop wasting their time.

That is – be direct, but fair. It is not rude or offensive to offer a soundly justified opinion.

In writing a recommendation for rejection, don't dwell on minor issues. They are a distraction.

Reflect on the content, not the author – but do comment on inappropriate behaviour, such as a sloppy approach to the literature.

Think about how you would react to receiving the review. Be kind to the author; their hopes will be high.

# Unfair rejection

## Purpose and aims

Reviewing & publication  
Conferences & journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing

## Rejection

Ethics

Don't reject due to minor nit-picks.

Many ideas are obvious in retrospect; obviousness is not a reasonable ground for rejection.

Arbitrary criticisms are a shelter behind which lazy referees hide.

- ▶ 'The work could have been taken further.'
- ▶ 'What about parallelism?'
- ▶ 'This work will be out of date if hard disks become obsolete.'
- ▶ 'I think this has been looked at in other fields.'
- ▶ 'Work on [some other problem] would be more interesting.'

A paper is acceptable even if you would have done the research a bit differently – or would have done it on something else.



# Refereeing ethics

## Purpose and aims

Reviewing &  
publication  
Conferences &  
journals  
Aims of reviewing

## Participants

Perspectives  
Audiences for  
reviews

## Assessing a paper

Taking on a review  
Outcomes  
Overall assessment  
Key questions  
Looking at details  
Making a decision

## Writing the review

Overall guidelines  
Positive reviewing  
Rejection  
Ethics

Know and follow guidelines for refereeing.

Recognize and act on conflicts of interest.

Respect double-blind reviewing:

- ▶ It can be difficult for an author to entirely erase their identity.
- ▶ Don't try to discover who the author is.

Authorial breaches of ethics: alert the editor, but it is the editor's decision, not yours, to reject if a breach has occurred.

Maintain objectivity and be aware of sources of bias.

Treat material under review as **CONFIDENTIAL**.

Parberry's list: objectivity, fairness, speed, professionalism, confidentiality, honesty, courtesy.