How to Referee a Technical Paper

should I referee? is this paper any good?

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The Message

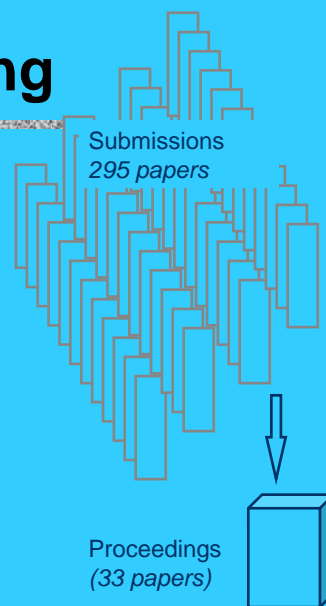Refereeing is excellent practice for

- developing critical appraisal skills
- understanding how good (and bad) papers are written

Many articles on refereeing

– Parberry: A Guide for New Referee in Theoretical Computer Science
– Forscher: Rules for Referees
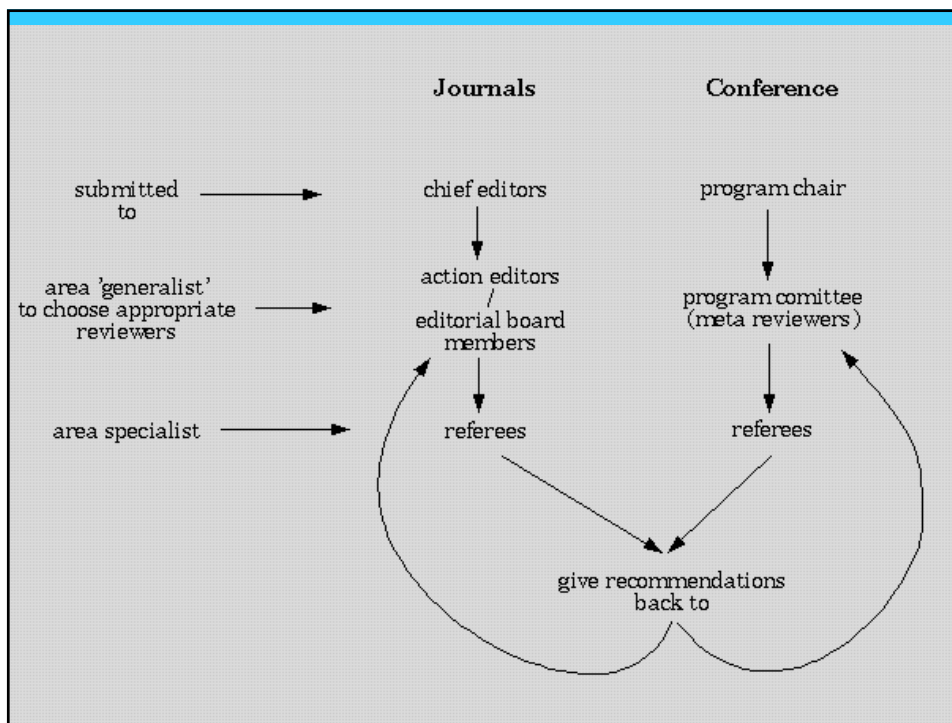– Guidelines that accompany referee requests

Refereeing

Submissions
295 papers

- Purpose of Refereeing
  – quality control
    • eliminate bad papers

  – choose best papers from a good set
    • competition for space

Proceedings
(33 papers)

Referee Process

- a peer review process

	Journals	Conference
submitted to →	chief editors	program chair
area 'generalist' to choose appropriate reviewers →	action editors / editorial board members	program comittee (meta reviewers)
area specialist →	referees	referees

give recommendations back to

People involved.

- Author
  - correctness of argumentation and results
  - sound grounding in the literature
  - good quality of presentation
  - appropriate for the intended audience/venue

People Involved

- Editor
  - whether paper should go out for review
  - choosing appropriate referees
  - acceptance/rejection decision
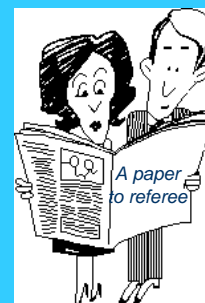 - explanation letter

People Involved

- Editorial support
  - good record keeping (copies of paper, reports)
  - tracking and distributing referee reports, reminding referees

People involved

- Referee
  - critical appraisal of the paper's contents
  - opinion, rationale, changes, suggested action
  - usually 3 referees/paper

A paper to referee

Referee types

- topic specialists
  - is/has worked on similar problem
  - knows literature, other work very well
  - understands methodologies
  - considers nuances of your work/contribution

- area specialists
  - knows general area, and how topic fits within it
  - considers contribution of work to the general area
  - evaluates comprehensibility by non-specialists

Why Referee?

- Fairness
  - all your papers will be refereed
  - expected duty of all researchers/academics

Why Referee?

- Good practice !!
- Other upsides
  - enhance reputation
  - expedites processing of your own papers
  - get on editorial board or program committee
  - 'previews' to the state of the art

- Downside
  - more work!

Quality Control: Research...

- Correctness
  - of argument/method/algorithm/ mathematics/proof... (is a fix necessary?)
- Significance
  - does it work on a valid problem?
  - will these results make a difference?
  - is it significant to area/journal, etc...?
  - will it stimulate further work in the area?
  - is it more than an obvious/trivial solution?

Quality Control: ...Research

- Innovation
  - original, creative, novel, inventive
  - not trivial extensions, or combination of old work with no added value
- Interesting
  - well motivated
  - relevant (when & where & to whom)

Quality Control: ...Research

- Replication
  - can the work be reproduced from the description by an experienced person in the area?
- Timeliness
  - of current interest to the community
  - but account for:
    - publication delay

Quality Control: ...Research

- Previous publications
  - by other authors
  - by this author
    - www publication,
    - minor conferences
    - minor variations of the theme...

Quality Control: Writing

- Succinct
  - message and arguments should be
    - clear, compelling, to the point
  - *not*
    - hand-waving
    - obscure/hidden behind jargon, etc.

Quality Control: …Writing

- Accessible
  - is it appropriate to the audience?
    - specialists & range of generalists
    - is there something for both?
- Language & organization
  - readable, good grammar/structure reflects care
    - people do not have the time to read badly written papers

Quality Control: …Writing

- Use of figures/tables
  - supports the story
- Title & abstract
  - indicates content, summarizes main points
- English as a 2nd language?

Ethics: Professionalism

- Act in the best interest of the author & paper

Ethics: ...Professionalism

- Constructive critique
  - if acceptable, explain how it can be improved
  - if paper is unacceptable, explain why & where, but politely
- Specific rather than vague criticism, e.g.
  - 'what' is wrong with the algorithm, rather than 'the algorithm is wrong'
  - what related work is missing
  - key examples of numerous errors

Ethics : Speed

- Speed
  - fast turnover
  - you are on a critical path!
  - affects timeliness & publication delays
  - turnover times:
    - conferences: deadlines
    - journals: approx. 3-6 weeks

Ethics : Objectivity

- Fairness
  - author may use point of view/methodology/ arguments different from your own
  - judge from their school of thought
  - remove personal prejudice
    - e.g. field, institution, author, nationality, author, association (colleague, friend, rival)
- Conflict of interest
  - discuss with editor
  - if you cannot be objective, return the paper

Ethics : Confidentiality

- Do not circulate submitted papers
  - except for other reviews/comments (publication-dependent)
- Never use/discuss results
  - but can ask for permission from the authors

- Protecting your identity
  - anonymous reviewing the norm
  - you may reveal your identity if you wish...

Ethics: Honesty & Courtesy

- Honesty
  - judge your own expertise,
  - give your own confidence in your appraisal
- Courtesy
  - constructive criticism
  - non-inflammatory language
  - no put-downs

I was rejected
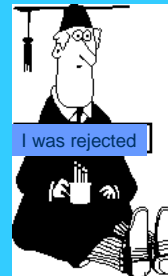
Ethics: Dilemmas

- How many papers to submit/referee?
  – 1 paper submitted -> 3 referees (minimum)

- How much time should I spend reviewing
  – enough to give fair treatment
  – don't rush, the author deserves a fair hearing

Ethics:…Dilemas

- What if a similar paper has been published?
  – journal papers can be reasonable expansions of conference papers
  – can be republished if obscure (eg, workshop)

-
  What if I am working on the same problem?
  – be honest & open -> consult with the editor
  – be aware of the race for independent co-discovery

A Template for Reviewing

- Paper Title
- Author(s)
- Manuscript Number

A Template for Reviewing

- Briefly summarize the paper (2-3 lines)
  - can you extract a main message from your paper?
    - lets author know if you understood the main message

  - "If you can't, there is probably something wrong with the paper"
    - --- CHI FAQ

A Template for Reviewing

- What is NEW and SIGNIFICANT in the work reported?
  - New:
    - has it been done before?
    - is it a rehash / republication of old stuff (yours or others)?

  - Significance
    - in five years time, would the work have an identifiable impact? (rare)

A Template for Reviewing

- ...What is NEW and SIGNIFICANT
  - Survey/discussion piece
    - does it add value?

  - Would it stimulate further work in this area?
    - is it a reasonable increment that keeps the research area going (frequent)?
    - does it have innovations?
    - is it interesting?
    - is it timely to the community?

A Template for Reviewing

- Describe the QUALITY of the RESEARCH

  - How sound is the work?
    - quality of algorithms, analyses, evaluation methods, etc.

  - How appropriate/reliable are the methods used?
    - are they adequate to support the conclusions
    - is it correct?

A Template for Reviewing

- Describe the QUALITY of the RESEARCH

  - How reasonable are the interpretations?
    - good arguments
    - alternative interpretations explored/left out

  - How does it relate to existing work?
    - bibliographies, background, important omissions…

A Template for Reviewing

- Describe the QUALITY of the RESEARCH

  – Can an experienced practitioner in the field duplicate the results from the paper and the references?
    - are there details sufficient?

A Template for Reviewing

- Describe the QUALITY of the WRITING
  – is the message clear?
  – is the paper easy to follow and understand?
  – is its style exciting or boring?
  – is it well organized?
  – is there a good flow of logic/argumentation?

A Template for Reviewing

- Describe the QUALITY of the WRITING

  – is it grammatically correct?
  – are figures and tables used well and integrated into the text?
  – if it is a foreign writer, how can it be improved?

A Template for Reviewing

- How RELEVANT is the work to the expected readers?
  – domain
  – depth of treatment
  – degree of specialization
  – accessible to expected range of expertise of readership

A Template for Reviewing

- Provide any OTHER COMMENTS you believe would be useful to the author
  - constructive suggestions on repairing problems
  - pointers to missing / relevant work
  - minor typos/flaws

A Template for Reviewing

- Provide any OTHER COMMENTS
  - If revisions were possible, what should the author do to make this paper publishable?
    - concrete, very specific suggestions on what
      - must be done
      - optional work

A Template for Reviewing.

- Rate the papers ACCEPTABILITY
    and
  summarize why you gave this rating
    Conference:
      - Definitely reject
      - Probably reject
      - Could go either way   *Note: equivalence class!*
      - Probably accept
      - Definitely accept

A Template for Reviewing

- Rate the papers ACCEPTABILITY
    - Journal:
      - Definitely reject
      - Major revisions
        - additional work, major reworking of arguments
        - subject to a careful check by editor/reviewers
      - Minor revisions
        - typos, minor changes
      - Accept as is

A Template for Reviewing

- Using the scale

  1 = Know virtually nothing about this area

  2 = Not too knowledgeable, but I know a bit

  3 = Know a moderate amount, about average

  4 = Not my main area of work, but I know a lot about it

  5 = My area of work, I know it well

- rate your EXPERTISE in the area addressed by the paper

A Template for Reviewing

- Provide comments that you feel are relevant to the review process but that you do NOT want forwarded to the author(s)
  - try to avoid using this
  - conflict of interests
  - pointers to things that would reveal identity
  - harsher things that would be mis-interpreted
  - suggestions on how to phrase acceptance/rejection letters...

Summary

Refereeing is excellent practice for

- developing critical appraisal skills
  - templates, typical flaws

- understanding how good (and bad) papers are written
  - apply understanding to your own work