Research Evaluation and Publication Culture in CS

ECSS 2016 Panel

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Research evaluation in CS – the good way:

• Evaluating individuals:
  • Evaluate just a few times (hiring, tenure, promotion) and deeply.
  • By a group of experts.
  • Reading the papers, assessing significance and impact, . . .
  • Taking into account, e.g., significant artifacts, tech. transfer, . . .

• Evaluating departments, institutes
  • By a group of experts.
  • In person: presentations, interviews, lab visits, artifact demos, . . .
  • Talking to "clients": students, graduates, industry.

Bibliometry not really appropriate (at least not by itself) here!

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However, bibliometry inevitably creeps in:

- People also want to evaluate and rank:
  - Many researchers (tens of thousands).
  - All departments in a country.
  - All universities in the world.

- In those cases:
  - The good alternative (deep evaluation) is costly and thus *unscaleable*.
  - Standard (JCR) bibliometry becomes the norm.
  - University presidents, politicians, etc. rely on it more and more.
  - And assign funds, awards, etc. based on it.
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- This is a serious problem for CS:
  - Only Thompson ISI indexed journals really count in practice.
  - Our (conference) papers and citations are invisible to this system.
  - I.e., this kind of bibliometry is fundamentally flawed for CS.
  - No alternative bibliometric mechanism that other sciences will accept.

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Evolution of Gent U. in Shanghai (less is better)

After requiring 2 papers in top indexed journals for PhD:

(Thanks to: K. DeBoeschere)
The value of our conference papers beyond CS

• The value of conference papers is often OK at the CS dept level:
  • E.g., pushing a tenure case up with few or no journal papers: often OK with explanations (and some contempt from other departments).
    (but worrying trend in opposite direction, e.g.: many universities in the EU)

• But problems start when something is at stake that crosses disciplines:
  • A university award / a distinguished professor position / a national prize . . .

Then:
• The low number of journal papers of the CS candidates quickly becomes an issue.
• Colleagues from other disciplines quickly turn less understanding here with our "publication culture" –seen as just an excuse vs. someone with 100 "real" papers.
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• This is not a problem that is "just regional" or "solved":
  • Even where "solved" it often gets "unsolved" over and over again –will not go away.
  • In the cases where bibliometry is used we offer no viable alternative.
  • We cannot be there to fight every time, in every place.
We need to publish in journals our conference papers

- We need to switch ASAP to publishing all CS papers in indexed journals.
- And this has to be done while preserving the conference model:
  - Our culture will simply not change overnight.
  - And it is not a good idea either: the CS model does work for us!
  - Our communities will not give up their excellent conferences with a long tradition.
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• A promising current trend:

Publish the papers of the conference directly in an (indexed) CS journal, acting as conference proceedings.

• The papers in our better conferences are equivalent to journal publications of other sciences in length, speed of refereeing/publication, number of reviews. . .
• Not talking about our 50-page CS-style journal papers, which close a topic—different purpose: monographs.
Some models:

Keeping Conference deadline/PC/etc.

- Yearly **call for papers** issued ahead of the conference (same lead time).
- Joint for submission to journal **special issue** and presentation at the conference.
- Keeps submission deadline, dates for notification, etc.
- PC chair is editor of special issue.
- PC meeting held as usual, but two rounds of refereeing.
- The journal special issue (the proceedings) is ready by conference start.
- Short/poster papers not published in journal.

Used successfully by, e.g., ICLP w/papers published in TPLP (Cambridge U. Press).

In this line, **new**: Proceedings of the ACM (c.f., Michael Hicks)

- Common journal for proceedings of ACM flagship conferences.
Some alternatives:

Very good too: PVLDB, ACM TACO – similar, but:

- Continuous submission to the journal all year round.
- Accepted papers of previous year invited to present at conference.

Definitely interesting, but maybe too radical a change for *widespread* adoption?: no meeting comparing *all* papers, no single deadline, no PC?, …

Special issue after conference / recommending papers to journal.

This is really the current model, which is obviously not working – why?:

- Normally new editor/reviewers – double work, uncertain results.
- Turning 15-page paper into a traditional CS (i.e., /long) journal publication in a short time is not realistic.
- You are either creating a *double publication* or forcing people to produce a different paper in a rush – mixes issues!

Thus, only a small percentage of papers go through this process.
A longer note on this position statement can be found here:
http://dagstuhl.de/mat/Files/12/12452/12452.
HermenegildoManuel.Paper.pdf