

Conferences vs. Journals in CS, what to do?

Evolutionary ways forward and the ICLP/TPLP Model

Manuel Hermenegildo

IMDEA Software Institute and T.U. Madrid



Position presentation at Dagstuhl meeting 12452:
Publication Culture in Computing Research
November 8, 2012

Outline

- 1 The problem
- 2 The solution
- 3 The ICLP/TPLP model
- 4 Other models
- 5 Acknowledgments

- Professor in both US and Europe
- In research institutes in both US and Europe
- President of scientific society (Association for Logic Programming)
- Head of the Spanish science funding agency (government agency)
- Other policy bodies (e.g., ISTAG)
- ...

CS publication culture very different from other sciences

CS	Other sciences
publish mostly in conferences	journals are the norm
proceedings fully refereed publications	just communication vehicles, abstracts
perceived to be of better quality, more prestigious than most journals	conference papers worthless
top-level CS researchers publish sparsely in journals	all publications are in journals
journal papers very long (40-50 pages!)	short
journal publication takes years	takes a few months
no problem: results already published in conference	speed important, no other venue!
role of journal paper is to complete work: proofs, comprehensive experimental results, etc.	done in monographs / books?

Is there a problem?

- Tempting to see no problem in our **singularity**:
 - We have great conferences, better than any journal
 - So publishing in proceedings no problem
 - Model has worked well so far (at least at certain levels)
 - Perhaps even attractive to be different
- If we consider the outside context I believe the CS model has serious problems that strongly motivate a change.

PROBLEM 1: Perceived value of conference proceedings papers vs. journal papers **beyond our discipline.**

- Value of conference papers often OK at CS dept level (but worrying trend in opposite direction, e.g., many univ in EU)
- Pushing a tenure case up with few or no journal papers: often OK with explanations (but probably rest of depts really feel we are “cheating” and pushing someone useless, with no “real” publications –our problem in any case).
- Problems start when something at stake that crosses disciplines, e.g.,
 - University award
 - Distinguished professor position
- Then:
 - Low number of journal papers of CS candidate quickly becomes issue
 - Colleagues from other disciplines less understanding now with our atypical “publication culture” –seen as just excuse to go over someone with 100 “real” (journal) papers.

PROBLEM 2: widespread use of raw bibliometric evaluation using standard databases (i.e., Thompson ISI/JCR)

- Why worry about this? Bibliometry is seriously flawed! – I agree!!!!
 - I am **opposed** to evaluating frequently and in a mechanical way (via paper numbers and citation counts)
 - I **support** infrequently and deeply –i.e., by *reading papers* (wow!), looking at impact of work in technical terms, etc.
- Yes, BUT everyone uses raw bibliometry, more and more, everywhere!
 - Alternative (really looking at and understanding significance of people's work) more costly and **unscalable**
 - Thus, bibliometric comparisons norm for evaluating/ranking departments, schools, universities, research centers, countries, etc.
 - Used in all comparative tables at all levels of **science policy**.
 - Even for individuals, hard to avoid when large numbers of candidates.
- In Thompson SCI really only (indexed) journals count.
(Do not believe anything else!)

Implication of bibliometric craze: **invisibility**, that **we cannot fix**

- CS culture makes our papers **invisible** to bibliometric evaluation.
- Puts us in very unfavorable situation:
 - Ranking CS researchers using these databases: clearly invalid results.
 - Surely comparing CS researchers, institutions, etc. to those of other disciplines equally invalid, but done all the time!
 - CS departments perceived as not contributing to, e.g., U. rankings.
 - Funding: perhaps not worth investing in CS (no “scientific results”!)

“This is only a regional (e.g., European or whatever) problem and in my department/university/funding agency/country the battle has been won.”

- Very dangerous!
 - Many cases where after apparently winning argument and establishing special case for CS *later* dean / university president / funding agency director / policy maker *changes*, and reverts to “the standard.”
 - We simply cannot be there to fight every time.
 - We have no alternative bibliometric mechanism to offer that will be accepted *by other sciences* (and why would they change?)

The solution: switching to journals –but how?

Inevitable conclusion:

Start publishing ASAP **all** CS papers in good, **indexed** journals (i.e., all papers we now publish in conferences).

- Only way for CS to compete on equal terms in comparisons.
- But, can we make everyone switch?
 - Culture will simply not change overnight.
 - Not a good idea either, the CS model does work!
 - Communities will not give up excellent conf with long tradition
- What would definitely not work and be an error: stop conference papers and do only “CS-style” journal papers –completely different beasts! (useful, but at odds with rapid communication)
- A solution that has widespread acceptance must:
 - Keep traditional conferences, but reconciled with journal publication,
 - while also preserving our long (even 50+ pp) journal papers.

A way forward: merging conferences and journals

- Key point: “our” conference papers are like “their” journal papers
Similar in length, speed of refereeing/publication, number of reviews, quality in general. . .
- Key point: a few CS journals have “rapid publication papers”
 - Guaranteed to be reviewed and published in a short time.
 - More limited in length (typically around 15 pages).
 - Can very clearly be considered journal papers in equal terms to those of other sciences.
 - Quite similar to CS conf papers in length/reviewing/publication timing.

Publish CS conference papers as “rapid publication” papers in (indexed) CS journals instead of in conference proceedings.

- Ensures correct indexing – makes things comparable to other sciences.
 - Allows keeping our conferences.
 - Longer journal arts can remain, filling their different, CS-specific role.
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- How to implement it not completely obvious
(so, different solutions proposed).

The ICLP/TPLP model – Background / submission

- ICLP premier conference in Logic Programming.
- TPLP premier journal (CUP), indexed by Thompson SCI, **OA** (papers also in CoRR, list in ALP site) – moved away from Elsevier.
- Model proposed and discussed (ALP EC, TPLP Editor+Board, ...) over several years.
- Implemented first in 2010, currently 4th edition.
- Submission
 - Yearly **call for papers** issued ahead of the conference (same lead time)
 - Joint for the submission to a **special issue** of the journal and presentation at ICLP
 - Submission deadline, dates for notification, etc.
 - PC chair is editor of special issue. PC members area editors.

The ICLP/TPLP model – Reviewing

PC members review papers themselves or delegate to sub-reviewers.

- **First round** (three referees, full reports)
 - Once reviews in, PC discusses all papers.
 - Outcome can be reject, revise, or accept.
- Papers needing revision are resubmitted with explanation of how reviewer's comments addressed to the **second round** (again, 3 referees, typically same ones, faster/easier).
 - PC discusses all papers again.
 - Outcome now reject or accept.
- Accepted papers go through final, **proofreading round** (single PC member for this). Can include additional 'shepherding' if required.

Longer reviewing process possible because no printing time any more.

- Useful (takes care of **dissemination**), but not essential to the model:
 - Rejected papers can be invited to poster/short paper track.
 - Not published in the journal (LIPICs/Dagstuhl or other solutions)
 - Direct submission to this track also possible (and to the workshops).

ICLP/TPLP model – Publication, conference presentations

- All full papers are published in TPLP, as regular ('rapid publication') journal papers, in a special issue.
 - No conference proceedings in traditional sense.
- All accepted papers (full/journal or posters) presented at conference.
 - Posters/short papers typically have shorter time.
- CUP creates, just before start of conference, standard web page for this TPLP issue complete with volume and issue numbers, table of contents, page numbers, and the papers themselves.
 - Actual physical issue may be printed and reach libraries well after that.
- All registered attendants at conference get password for "lifetime" on-line access to this web page.
- CUP goes from final version of papers to this in much less than the ~2-3 months required by standard publisher to deliver proceedings.
 - This allows the extra time for the refereeing and copy editing steps.

- Submission of **extended version** of *rapid publication* papers allowed.
 - To TPLP (as regular papers) or to another journal,
 - ACM's policy also allows it.

But *significant* amount of new material must be added.

- Allows publishing version with full results, proofs, experiments, ...
- Clearly distinguishable by length (no “cheating” / double publication).

Alternative models

- Special issue after conference / recommending papers to journal
Current model, obviously not working –why?
 - Normally new editor/reviewers – double work, uncertain results!
 - Turning 15-page paper into *long* journal pub in short time not realistic
 - In order to be indexed you are either creating a *double publication* or forcing people to do a *different* paper –mixes issues!
- PVLDB – similar in many ways to ICLP/TPLP model, but:
 - PVLDB is a (special?) journal.
 - Accepted papers of last year invited to present at conference.
 - Submission all year but guaranteed response time (in time for conf).

Loses too much of the conference flavor? No PC meeting comparing *all* papers, real CFP/deadlines, . . . too radical for widespread use?
- SIGGRAPH and ACM ToG
 - ACM ToG papers may be presented at SIGGRAPH or SIGGRAPH Asia.
 - SIGGRAPH / SIGGRAPH Asia not changed (reviewing, etc.).
 - Proceedings printed as ToG special issues (indexed?).

Lots of people helped develop the ICLP model or supported it:

- Ilkka Niemela as TPLP editor in Chief and David Tranach from CUP.
- ALP steering committee members, ALP community as a whole.
- Torsten Schaub co-chair with me of first (2010) edition of new ICLP/TPLP publication model.
- PC members of 2010 ICLP and the PC chairs and members of subsequent editions.
- Manuel Carro, conference coordinator for the ALP.
- Gopal Gupta, current President of the ALP.
- Andrei Voronkov, EasyChair.