Publication Strategies

Axel van Lamsweerde
University of Louvain
B-1348 Louvain-la-Neuve

New Software Engineering Faculty Symposium
ICSE ’03, Portland, May 5, 2003
Publish or Perish:
Variations on a Theme

Axel van Lamsweerde
University of Louvain
B-1348 Louvain-la-Neuve

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Motivation

Share principles & experience accumulated as ... 

- researcher
- editor-in chief of top journal (TOSEM)
- program (co-)chair (ICSE, ESEC, ...)
- PC member for many years (10 ICSE's, 5 FSE's, 6 ESEC's)
- “teacher” of tech writing course at UCL
Outline

- Publish... why?
- Publish... where?
- Publish... who? for whom?
- Publish... how?
- Publish... what?
- Publish... when?
Publish... why?

- To communicate new findings
  - publication = ultimate result of scientific research
  - research work is never finished until it is published
- To let the community know about your work
  ⇒ recognition
  ⇒ contacts, fruitful collaborations
- To get useful feedback from peers
  - external, independent, frank (anonymous)
- To embellish your CV (+ CV of colleagues)
Publish... where?

**Int'l journal**
- different quality standards, selectiveness & impact
- research articles, letters, surveys, “comments on”, magazine articles

**Int'l conference proceedings**
- different quality standards, selectiveness & impact
  (e.g. ICSE vs SEKE)
- research paper, experience report, (poster)
Publish... where? (2)

- **Journal vs. proceedings**
  - **journal** ...
    - more impact (especially long-term impact)
    - more highly rated by promotion committees
    - (much) deeper reviews
    - more space
    - wider target audience (usually)
    - fast-track special issues
  - **proceedings** ...
    - faster process
    - direct contacts & discussions + community awareness
    - sometimes more selective
    - selection of best papers for journal
Publish... where? (3)

- **Journal vs. Conference:** not necessarily exclusive
  - expanded version of conference paper can be submitted to journal (with spec of differences)

- **Avoid ...**
  - poor-quality journals/conferences (e.g. needing papers, lack serious reviewing process)
  - low-impact journals/proceedings
  
  check impact factor
Publish... where? (4)

To decide which conference, check
- “submission topics” of CFP
- who is in the PC (appropriate reviewers for your topic?)

For good, selective conferences make sure the ratio
\[
\text{\texttt{NumberOfAcceptedPapers / NumberOfSubmissions}}
\]
is mentioned in your pub list (usually available from PC chair’s foreword in proceedings)
Publish ... who?

- Each author should have contributed in some way
- Order of authors normally ± reflects weight of contribution...
  - in producing results
  - in writing paper
- Every author must be aware of being an author (!!)
- Set of authors should be invariant throughout the review process (to avoid conflict-of-interest problems)
- Advice: in case of doubt/problem, discuss it with authors/colleagues
Publish ... for whom?

- For reader (in particular, the reviewer :-) ... NOT for you!

- Paper...

  = pedagogical explanation of results

  "you and me together"
Publish ... for whom? (2)

- Golden rules
  - identify what the reader’s background is
  - imagine yourself as the reader
  - ask yourself questions ...
    - is this interesting?
    - is this comprehensible here?
    - is this relevant?
    - what questions are coming to reader’s mind?
  - do not speak highly of yourself / your work ...
    - leave it to the reader to do that
  (cf. “democratic republic” syndrom)
Publish... how?

From your perspective ...

- submit + cover letter
  contact info, relation to other papers (if any)
- wait for editorial/PC decision
- study reviews do not blame reviewers
- revise accordingly
- resubmit
  + detailed response to reviewers on how revision addresses concerns
- if paper accepted: correct proofs rapidly
Publish... how? - the paper lifecycle

One typical scenario:

Author

Editor or PC chair

Reviewer

Paper+CoverLetter

ack

Expert?

Conflict?

ReviewRequest (deadline)

OK (ddl)

Reminders

Decision

Repeat 1, 2, 3 times

variant: editors + EiC
Publish... how? - the paper lifecycle (2)

- Many exception scenarios (e.g., abnormal reviewer behavior)
- 3-4 reviewers (most often disagree)
- Decision: binary for conference; n-ary for journal:
  - accept (never at 1st round)
  - minor revision (most favorable case)
    no second round of reviewing, revision checked by editor
  - major revision (most frequent case)
    new round of reviewing by external reviewers
  - reject = new work to be done to address reviewers' concerns
- Hopefully 1 iteration on major revision, at most 2
Publish... how?

- Don't use reviewers as “debuggers”

- Do NEVER suggest referee names !!

For journal submission:
what if... you feel that the process is too slow?
  - ask the editor/EiC for an update BUT do it wisely and
  NOT too often (e.g., every 3 months)
What if... you don’t agree with...

- the editorial/PC decision

NEVER ask to reconsider unless you have irrefutable evidence of unfair decision

For journal: you may ask the resubmit a fully revised version of a rejected paper but it’s anyway going to be handled as a submission covering new work

- reviewers comments

if this may help in your work, ask the editor to forward your (polite) questions to the reviewer -- e.g. for clarification of some points she made
Corollary:

As you benefit from a system, you must contribute to it

⇒ you should not decline review requests in your area unless very specific/serious reasons

do reviews as good as those you would like to receive
Publish... what?

- Two types of research contributions:
  - invention of model, method, technique, tool to ...
    develop, structure, restructure, reuse
    analyze
    evaluate
    measure
    understand ...
    software artifact or process
  - experiment-based discovery
    of phenomenon, law, structure, ... about software artifact or process
Publish... what? (2)

Evaluation criteria for research papers:

- Original contribution
- Significant...  - problem
  - solution
  + in SE context: useful, scaleable
- Sound results
  + replicable
- High-quality presentation
Publish... what? (3)

Implications on presentation:

- to convince reader of originality...
  - specify objectives & contribution carefully
    [ abstract, intro, conclusion ]
  - compare with related work carefully
    [ paper introduction, special section ]
  - implement objectives carefully
    [ paper body ]
Publish... what? (4)

- **To convince reader of significance ...**
  - **discuss why this problem is significant**
    [ abstract, introduction, conclusion ]
  - **discuss why your result is significant**
    [ introduction, discussion section, conclusion ]

  *in particular: what it may be useful for, why/how it scales up*
Publish... what? (5)

To convince reader of soundness ...

- make paper technically readable, verifiable
- for experiment-based research papers:
  
  describe the experimental method carefully so that it can be assessed & replayed
  
  do not mix results (data) & their interpretation

cf. IMRAD structure of experimental papers
(Introduction Method Results And Discussion)
Publish... what? (6)

- To allow replicability ...
  - provide sufficient technical details (possibly with reference to further details in report available on the web)
Publish... what? (7)

◆ to convince reader of good presentation ...
  - high cohesion: one paper, one result
    don't try to say too much ...
    ... but don't try to say too little
      (cf. LPU problem)
  - self-contained paper
    put anything needed to understand results
    [ background section ]
  - no "Agatha Christie" sort of writing
To convince reader of good presentation (cont'd):
- tree-structured presentation (goal-subgoals)
- clear presentation, good technical style
- in particular:
  - say what you're going to do before doing it
  - avoid mere description of work done
    cf. “we-did-this” papers
  - avoid the 7 sins of novice writers:
    omission, inconsistency, inadequacy, ambiguity,
    uncontrolled redundancy, forward reference, remorse

Check tech writing books/courses
A few typical comment patterns

- "the objectives are unclear"
- "too little beef"
- "the authors seem to ignore ..."
- "... so what?"
- "the paper fails to deliver what is promises"
- "unsubstantiated claims"
- "opinion paper..."
- "premature...
- "the paper provides little evidence that the results do apply in real settings", "scaleability is questionable", etc
- "evaluation is weak"
- "rambling discussion..."
- [to editor/PC:] "boring", "unexciting", "substance-free"
Submit ... when?

- Not too soon... & not too late
- Not too often (unless you are genious) ?
- Advice:
  - refrain from submitting half-baked ideas --keep them for workshops
(Commonsense) Conclusion

- Publish (& not perish) ...
  - good work
  - in good journals & conferences
  - with good people
  - at good time

repeated publication of weak papers
may severely damage your reputation...

- Be a good reviewer

- Good luck, and have fun!
For fruitful bedtime reading

- D. Knuth, T. Larrabee, P.M. Roberts, Mathematical Writing. Report STAN-CS-88-1193, Department of Computer Science, Stanford University, 1988
- AvL, Tech Writing, Course Notes, UCL