Peer Review in Computing

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Why Peer Review Matters
Why Peer Review Matters

Pushing the Frontiers of a Field
Why Peer Review Matters

Pushing the Frontiers of a Field

Excellence in Research
Why Peer Review Matters

Pushing the Frontiers of a Field

Excellence in Research

Quality
Why Peer Review Matters

- Pushing the Frontiers of a Field
- Excellence in Research
- Quality
- Experts
Why Peer Review Matters

Pushing the Frontiers of a Field

Excellence in Research

Quality

Experts ≈ "Peers"
Why Peer Review Matters

Pushing the Frontiers of a Field

Excellence in Research

Quality

Experts $\approx$ “Peers”

Merit (“Peer”) Review Process
Why Peer Review Matters

- **Pushing the Frontiers of a Field**

- **Excellence in Research**

- **Quality**

- **Experts ≈ “Peers”**

- **Merit (“Peer”) Review Process**

- **Integrity of Science**
Why Peer Review Matters

Pushing the Frontiers of a Field

Excellence in Research

Quality

Experts \approx \text{“Peers”}

Merit (“Peer”) Review Process

Integrity of Science \rightarrow \text{Public Trust}
In an Ideal World
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The merit review process is
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- To discover scientific truth by building on past knowledge, by sharing results with others
  - Conference and journals document this progress
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- To move the field forward, often in big ways through big ideas
  - Program committees, journal editorial boards, and funding agencies identify these ideas and the people qualified to pursue them.
However,
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The Real World is not the Ideal World
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We live in a world of limited resources
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The Real World is not the Ideal World

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space and time in a conference
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space and time in a conference \(\leftrightarrow\) space in a journal
However,

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We live in a world of limited resources

space and time in a conference  space in a journal

money for funding
However,

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space and time in a conference

money for funding

time of the research community
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The Real World is not the Ideal World

We live in a world of **limited resources**

- space and time in a conference
- space in a journal
- money for funding
- time of the research community

And increasing demand for these resources

- Research community grows in number ⇒ lower success rate, increase in # of conferences, journals, ...
- Research community overburdened to do reviews ⇒ slower turnaround, harder to find reviewers.
Implications?
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- Reviewers become conservative
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- We pass this value system onto the next generation
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The Real Problem
Breaking the Cycle
[Wing, BLOG@CACM, August 21, 2009]
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conference deadlines
Breaking the Cycle
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conference papers
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tenure and promotion

conference papers

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tenure and promotion

conference papers

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incrementalism, unscholarly
Breaking the Cycle
[Wing, BLOG@CACM, August 21, 2009]

administrators

senior faculty

junior faculty

grad students

undergraduates

tenure and promotion

conference papers

conference deadlines

incrementalism, unscholarly
Breaking the Cycle

[Wing, BLOG@CACM, August 21, 2009]

administrators

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conference deadlines

proposal deadlines
Breaking the Cycle
[Wing, BLOG@CACM, August 21, 2009]

- Tenure and promotion
- Conference papers
- Panel and ad hoc reviews
- Conference deadlines
- Proposal deadlines
- Incrementalism, unscholarly
Breaking the Cycle

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administrators

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tenure and promotion
funding recommendations

conference papers
panel and ad hoc reviews

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tenure and promotion
corporate authors

conference deadlines
proposal deadlines

conference papers
panel and ad hoc reviews

funding recommendations
incrementalism, unscholarly

administrators
senior faculty
junior faculty
grad students
undergraduates

funding agencies
program directors
reviewers
researchers

Jeannette M. Wing
Breaking the Cycle
[Wing, BLOG@CACM, August 21, 2009]

tenure and promotion
funding recommendations
conference papers
panel and ad hoc reviews
incrementalism,
unscholarly
conference deadlines
proposal deadlines

administrators

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funding agencies

program directors
reviewers
researchers
Ideal: Long-term vision, long-lasting impact, high-risk research
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Say “No” to dead-line driven research!
What Can We Do?
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- Attack the resource limits (but this does not Break the Cycle)
  - Increase space, e.g., have more sessions, hold parallel tracks, have poster/abstract/short papers sessions, get more money, use cyberspace, ...
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• Use our own technology in creative ways
  - Recommendation and reputation systems work for consumer products and services. Can it for scholarly work too?
  - Web service a la wikipedia (not quite the right analogy)
    - People post papers
    - People post reviews
    - People rate reviews
    - People rate people who review
    - People rate people who rate ...
    - People help categorize
  - On-line journals
  - <your idea goes here>
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• Provide incentives for experts to participate, and in a
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We need to Break the Cycle!
Thank You!