Presentation Seminar I: Publishing in Science

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Research Incentives

- Life as a researcher starts with great expectations
  - "think out of the box", "be innovative", "make an impact"

- What if things don’t turn out as planned?
  - Give up ambitious ideas that don’t work (yet) for ideas that can give us a few "easy" publications?
  - How much should we insist in incremental work?
  - "If life gives you lemons, squeeze them until you get a paper out of them"

- What is our goal eventually?
  - Producing papers?
  - Get a job in the industry after PhD?
  - Spread knowledge?
Who do we do research for?

- Ourselves?
  - Publications
  - Citations
- The science?
  - If knowledge is the most important part of research, why competing with other groups?
  - Is it unethical to strive for the credit?
  - Invention more important than inventors
Publish or Perish

- Requires to publish a lot
- Requires to publish fast
- Only benefits: higher employability, better visibility, etc.
- No penalties for wrong results
The result

- Klein et al. POPL 2012 “Run your research: on the effectiveness of lightweight mechanization”
- Approach: mechanized 9 papers from ICFP 2009
- Found bugs in all of them!
- Problems ranged from simple typos to false main theorems
- Ethical question: whether to publish wrong results?
What to publish?

- Sufficient quality
  - Originality
  - Relevance to subject
  - Quality of data
- Consequences of publishing
  - Dangerous results
  - Controversial results
- Withholding articles
  - Dividing and merging articles
  - Career benefits versus scientific progress
Where to publish?

Traditional Journals

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► Peer-reviewing often not working.
Peer Review

PROBLEMS:

▶ A researcher’s work is often reviewed by his or her colleagues ⇒
   Cases of peer reviewers abusing the trust:

- Stealing ideas from submitted manuscripts
- "Sitting on" manuscripts for a long time
- Trying to prevent the publication of colleagues’ work
- Many manuscripts submitted to journals ⇒ difficult to find willing and competent reviewers

John Bohannon submitted 304 versions of wonder drug paper. More than half of the journals failed to notice its fatal errors. "Sting operation reveal the contours of an emerging Wild West in academic publishing."
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Awarding greater merit to the reviewer than is given today?