

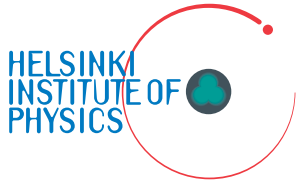
Open publishing: lessons from particle physics

Syksy Räsänen

Helsingin yliopisto, fysiikan laitos
ja Fysiikan tutkimuslaitos

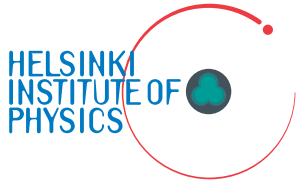


arXiv



<http://www.arxiv.org>

- Internet preprint archive from 1991. Covers physics, mathematics, statistics, computer science, quantitative biology and quantitative economics.
- Articles appear in one day, accessible permanently.
- Free to publish and read.
- Low operating costs.
 - 2014 total budget \$643 274, published 97 517 articles: \$6.6 per article
 - 91 million downloads in 2014



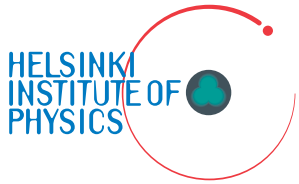
What scientists need from journals

- From the point of view of scientists, journals have served four main purposes. Through them, research has been

- | | |
|-----------------------------|----------|
| 1. registered, | arXiv |
| 2. communicated, | arXiv |
| 3. archived, | arXiv |
| 4. peer reviewed. | journals |



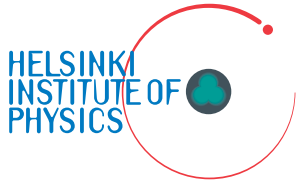
Science publishing today



0. Article is published on arXiv for free.
 1. Author gives article to the journal for free.
 2. Referee reviews article for free.
 3. Editor decides on publication. (Editor may get paid.)
 4. The author may have to pay to publish.
 5. The journal republishes the article and sells it to the scientists' institutes.
- Many science journals are published by commercial publishers, and are very expensive.
 - Nobody reads the journals.



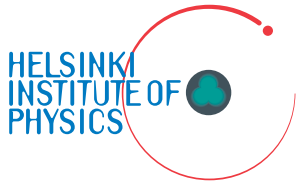
What publishers need from journals



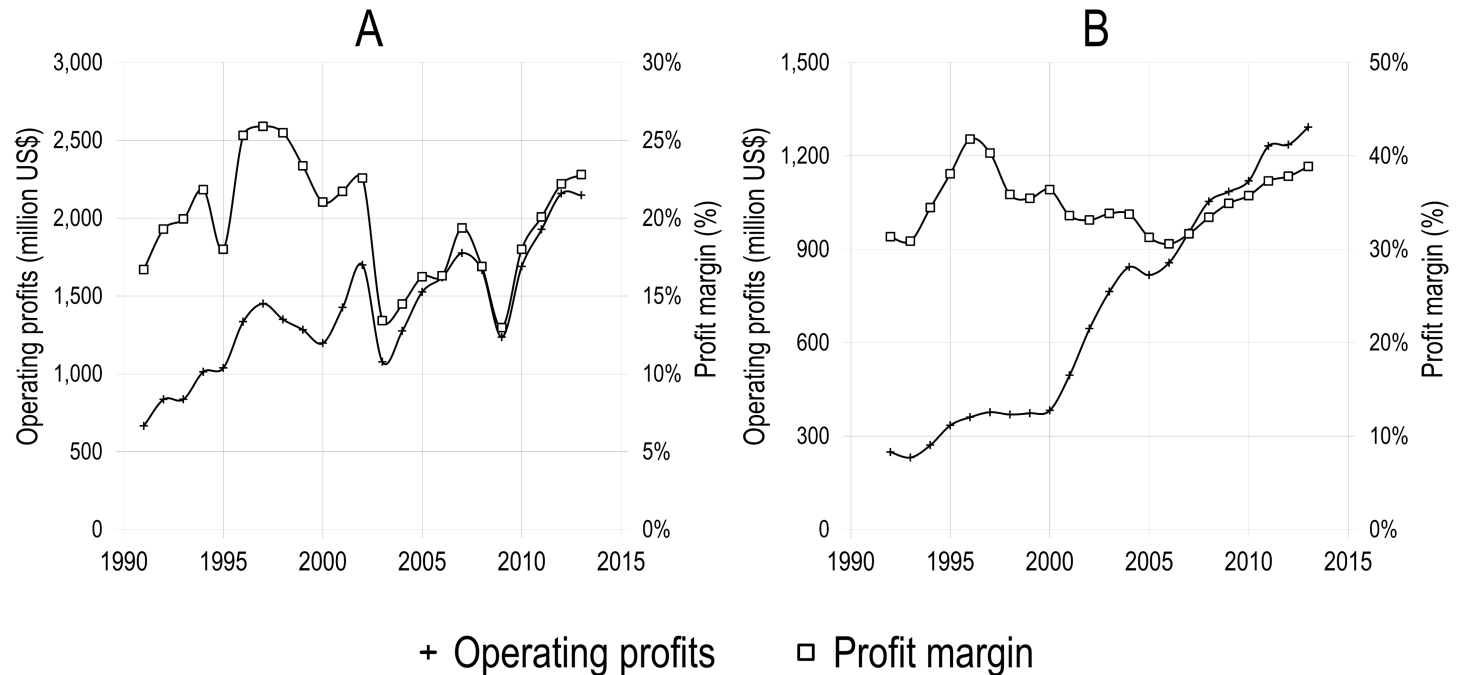
1. Profit
 2. PR (i.e. brand creation)
 3. Supporting science (in case of scientific societies)
- The goals of publishers are not well aligned with the goals of scientists.



Better than Microsoft



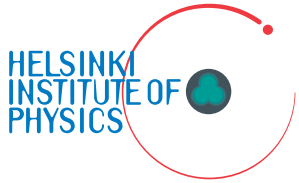
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0127502>



- Comparison profit margins from 2013: Apple 22%, Google 20%, Microsoft 28%.



Future threats here today



*Disrupting the subscription journals' business model for the necessary large-scale transformation to open access

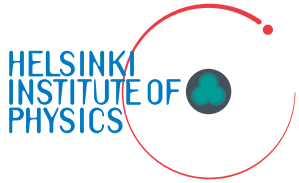
Schimmer, Geschuhn, Vogler

<http://dx.doi.org/10.17617/1.3>

- Open access (OA)
 - Gold: publish in OA journal.
 - Green: publish in non-OA journal, store in public repository.
- Academic journal revenue*: 7600 million € per year
 - Cost: 3800 € to 5000 € per article.
 - Cost of publisher-centric OA: 2000 € to 1100 € per article.
- OA has focused on the question: who pays? Institution's publishing budget or library budget?
- The real question is: what are you paying for?



Phantom menace: open access in old journals

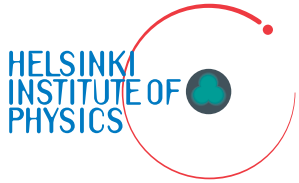


[http://
www.scoap3.org/](http://www.scoap3.org/)

- SCOAP³ agreement with publishers.
 - “Guarantees” open access by paying publishers about 1100 € per article ($\sim 10^7$ €/year).
 - Main problem: articles are already available for free.
 - Secondary problem: incentive to publish regardless of quality.
- We don’t need to transform the business model of journal publishing, but to abandon it.



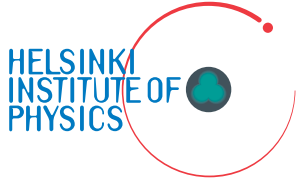
New hope: free publishing in arXiv overlay journals



<http://www.ucl.ac.uk/ls/rioja/about/>

<https://gowers.wordpress.com/2015/09/10/discrete-analysis-an-arxiv-overlay-journal/>

- Open access diamond: publish in overlay journal.
- Cost \$10/article. (Nobody gets paid extra).
- Articles published on arXiv, journal does peer review.
- Responsibility is on the researchers.
- Pioneer: Repository Interface for Overlaid Journal Archives (RIOJA).
- Example: Discrete analysis. (Editors include 2 Fields medalists.)

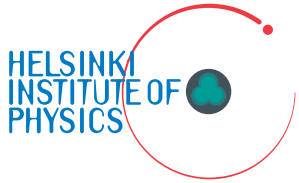


What libraries should do

- Stop supporting SCOAP³ and other unnecessary and harmful open access schemes.
- Stop subscribing to unnecessary journals.
- Support arXiv, support overlay journals and other measures to rearrange peer review.
- Communicate with researchers.



Lessons from particle physics



http://www.tiede.fi/blogit/maailmankaikkeutta_etsimassa/hedelmien_jalleenmyyntiarvo

http://www.tiede.fi/blogit/maailmankaikkeutta_etsimassa/hedelmapeli

- arXiv has rendered traditional journals unnecessary for distributing research.
- Open access problem has been solved, peer review is the issue.
- Publisher-centric open access drive is hurting science by siphoning money into corporate profits.
- Solutions for replacing old journals exist and start being applied.
- Libraries should coordinate with researchers.