



# PEER usage study findings

PEER End of Project Results Conference, Brussels, 29 May 2012

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# Aim of this presentation

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**What is the impact, if any, of PEER on use of the equivalent articles on the publisher's platforms? If there is an impact, what is the relative effect of**

- mandatory self-archiving (PEER `publisher deposit' model)
- voluntary self-archiving (PEER `author deposit' model)

**What are the effects of embargo periods, if any?**

**What are the key drivers of repository usage?**

# Two studies reported today

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**Descriptive statistics**

**Randomised controlled trial**

The findings in this presentation reflect the position at a relatively early stage in PEER's development, and they will be reported in detail in the next few weeks. PEER is fully operational but it has yet to settle into a natural rhythm of ingest so is probably atypical of many longer established green repositories.



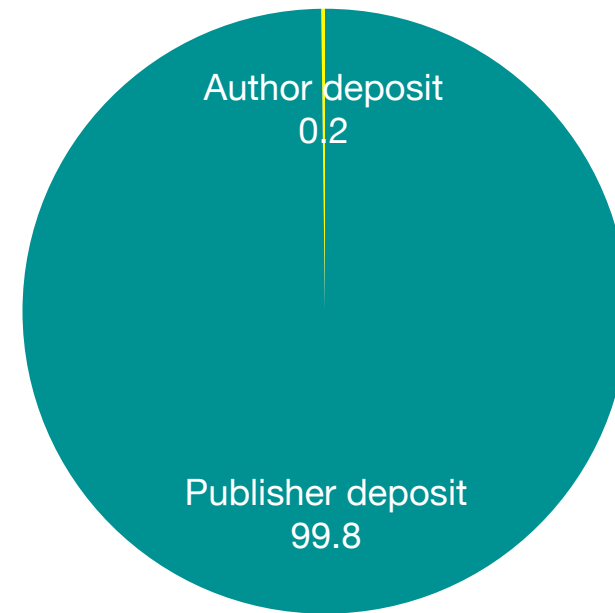
## PEER usage study findings I

Descriptive statistics

## Key finding: Voluntary and mandatory self-archiving

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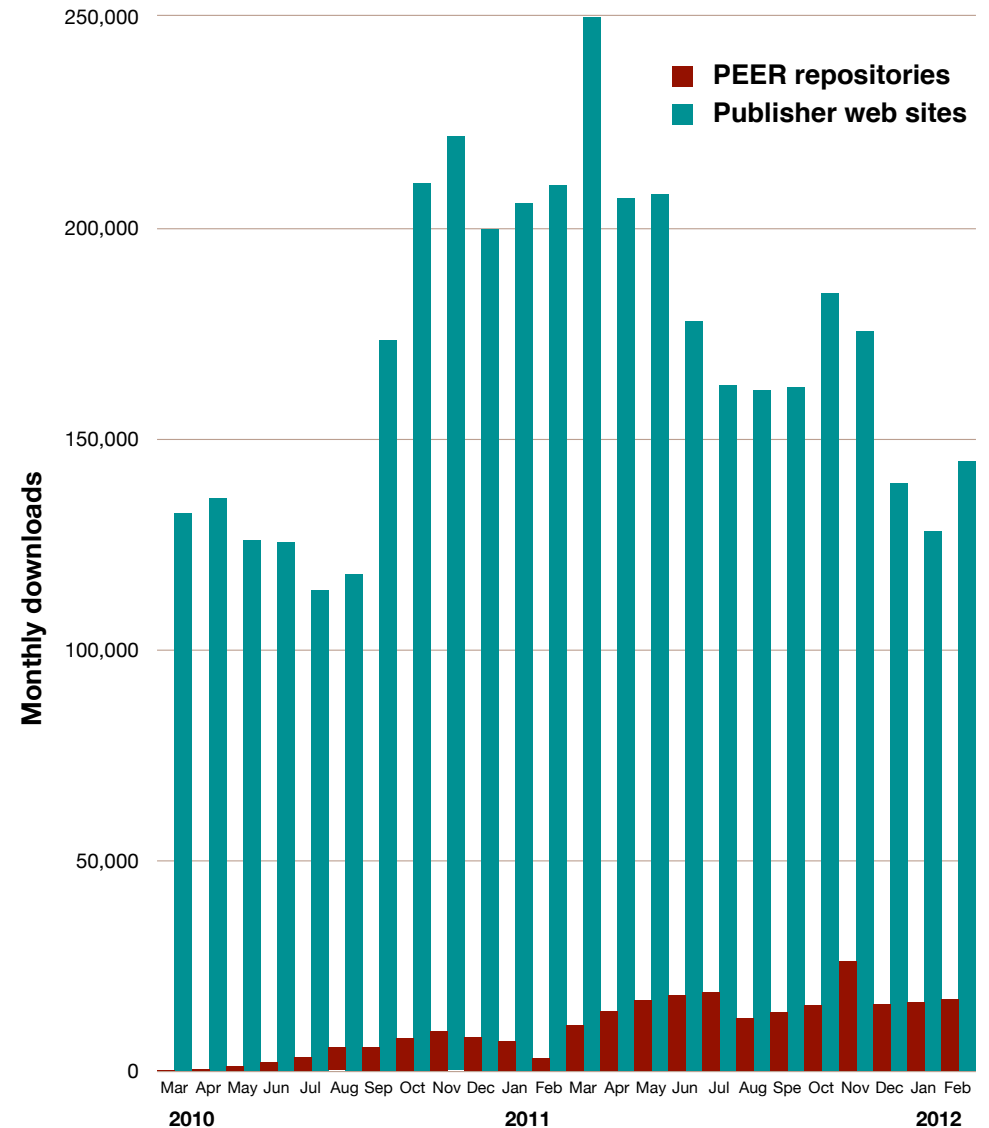
- Only a tiny minority (<1%) of authors self-archived, so the experiment is unable to shed any light on the first model: PEER under a voluntary self-archiving scenario. It simply didn't happen.
- So this presentation models the second scenario, what might happen under a comprehensive European Green OA mandate that makes available AFPRM (author's final peer-reviewed manuscript) by deposit.



**PEER deposits (%)**

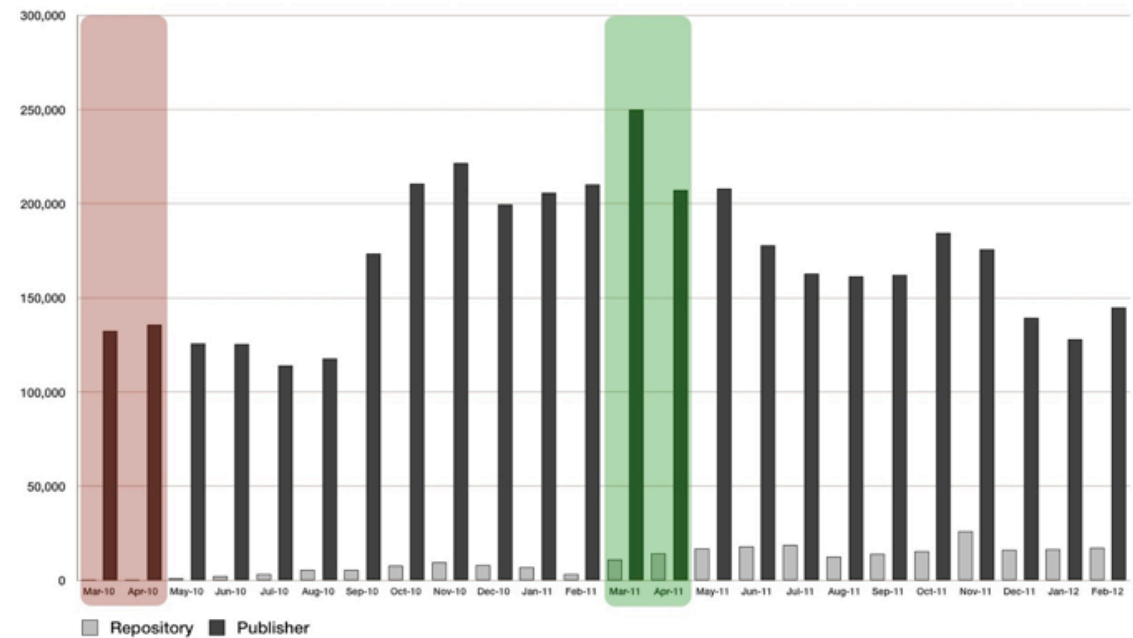
## Key finding: Monthly downloads

- This chart shows monthly full text downloads in all subjects for equivalent items (preprints on PEER, versions of record on the publishers' web sites)
- Towards the end of the period, PEER seems to be hovering around 7.8% as a ratio of publisher use (with considerable variation between publishers in the range 4.3% to 11.5%)
- Note similar seasonal variation in both cases



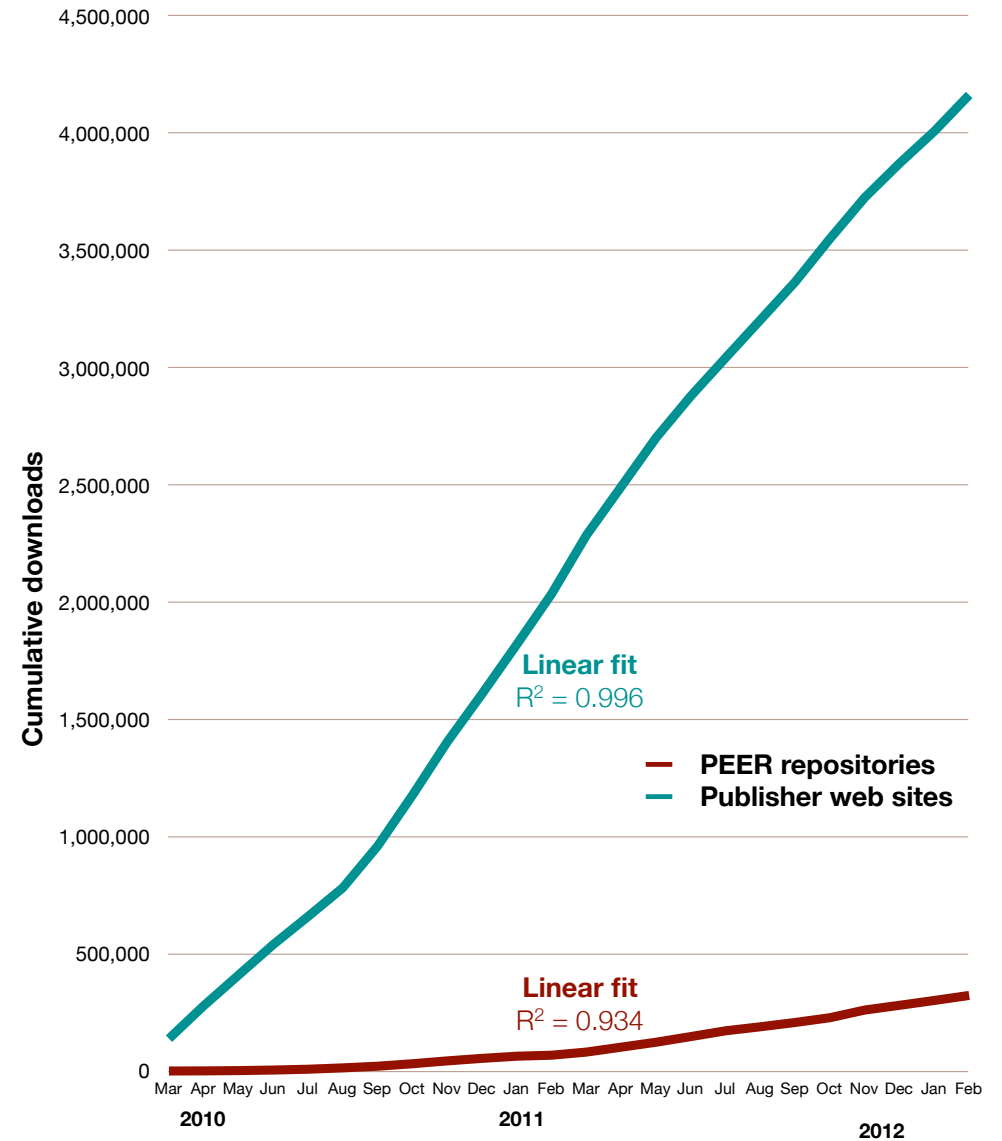
## Key finding: Before and after PEER

- In this chart we compare publisher use `before` and `after` PEER took off by comparing two periods: March-April 2010 (almost no PEER use) and March-April 2011 (beginnings of PEER critical mass)
- In all cases, publisher use is very significantly up and, at face value, you would be hard pressed to make the case that PEER had badly impacted publisher use
- However, as we noted earlier, publisher downloads are growing in any case, so we need to take a more rigorous look at the data ...



## Key finding: Cumulative downloads

- Looking at the same monthly data, this time cumulated, we find that the underlying model of growth is linear in both cases.
- Unless things change dramatically, it looks like these lines are not going to converge any time in the medium future.
- Publisher full text downloads are growing faster than PEER full text downloads and it follows that PEER's share of the market is likely to decline in real terms as we go forward,







PEER usage study findings II

Randomised controlled trial

# PEER randomised controlled trial

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## A short anecdote about finding stuff on the web

### *Zoological Science* meets Institutional Repositories Project

- Project Objectives:
  - To clarify the **details of usage** for articles deposited in IRs
  - To verify **whether IR deposit increases the number of article citations**
  - To verify **whether IR deposit decreases the number of publisher e-journal full-text downloads**

#### **ZS Project: *Zoological Science* Meets Institutional Repositories**

**Sho Sato<sup>1</sup>, Yuko Nagai<sup>2</sup>, Takashi Koga<sup>3</sup>, Shigeki Sugita<sup>4</sup>, Mika Saito<sup>5</sup> and Hiroshi Itsumura<sup>1</sup>**

<sup>1</sup> Graduate School of Library, Information and Media Studies, University of Tsukuba

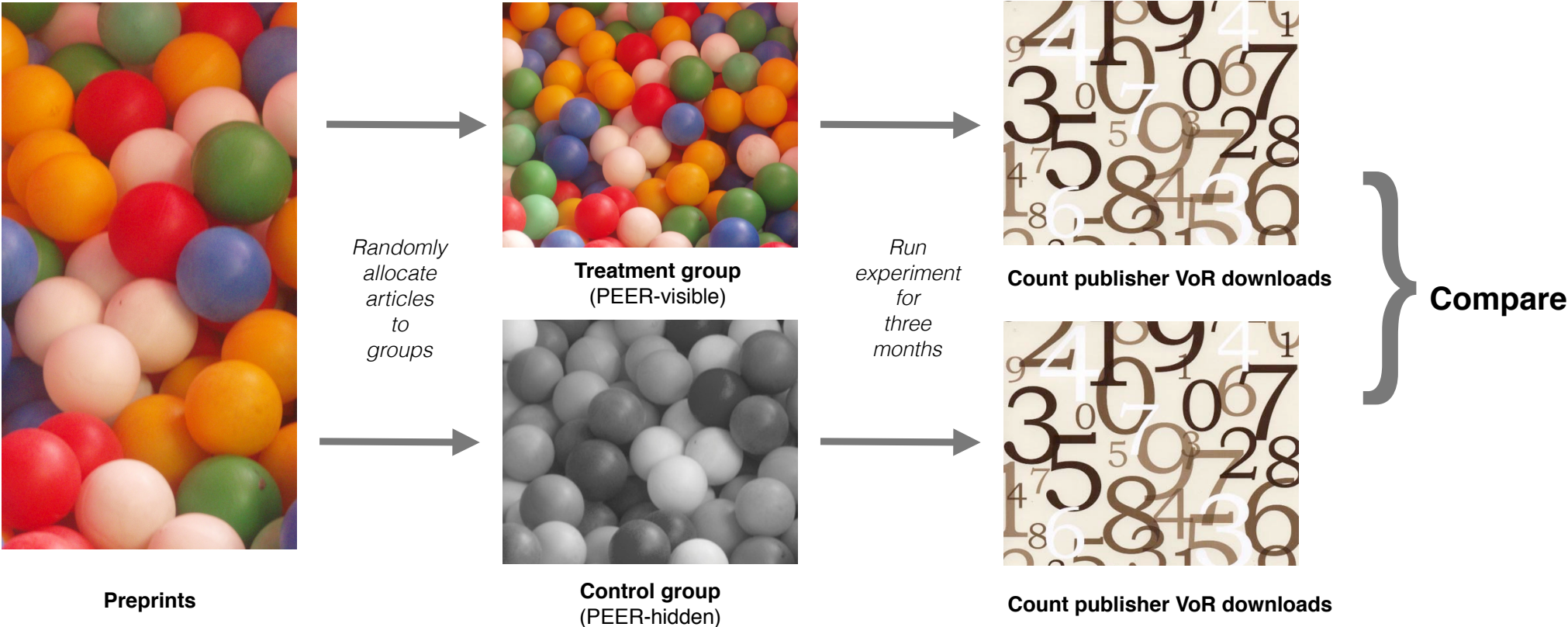
<sup>2</sup> The Zoological Society of Japan, Secretary-General

<sup>3</sup> Research and Development Laboratory, Kyoto University Library

<sup>4</sup> Library & Academic Information Section, Otaru University of Commerce Library

<sup>5</sup> Electronic Resources section, University of Tsukuba Library

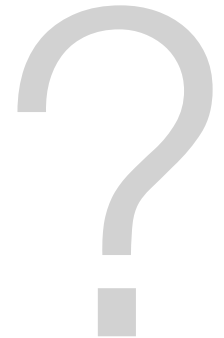
# PEER randomised controlled trial



## `No effect' publisher hypothesis

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There is no difference in downloads per version of record at the publisher sites if we compare items that are exposed or hidden within PEER.



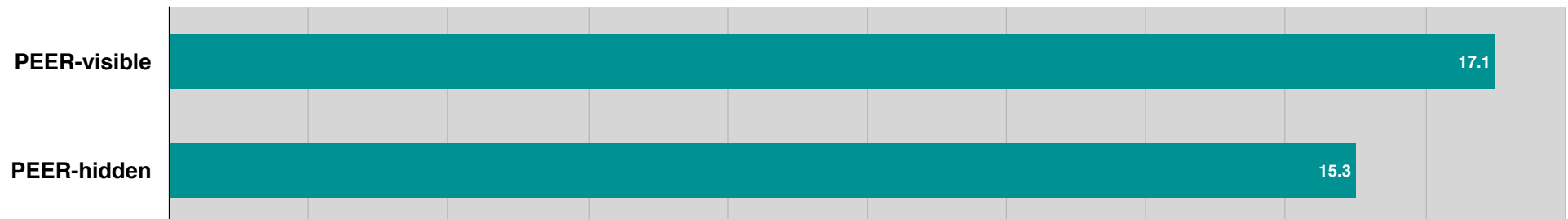
## `No effect' publisher hypothesis: key findings

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Making preprints visible in PEER is associated with more traffic to the publisher sites.

Publisher full text downloads increased by 11.4%

95% confidence intervals: 7.5% to 15.5%, highly statistically significant at  $p < 0.01$



*What is going on here?*

# Google Scholar

Google scholar

AcpA+Aspergillus+nidulans+cv312

Search

[Advanced Scholar Search](#)

Scholar

Articles and patents

anytime

include citations



[Create email alert](#)

[AcpA, a member of the GPR1/FUN34/YaaH membrane protein family, is essential for acetate permease activity in the hyphal fungus \*Aspergillus nidulans\*](#)

[\[PDF\] from cnrs.fr](#)

X Robellet, M Flipphi, S Pégot... - *Biochemical ...*, 2008 - [peer.ccsd.cnrs.fr](#)

... in the biochemical pathway for acetate utilization in the filamentous fungus *Aspergillus nidulans*.

The **acpA** gene is located on chromosome V but it is not closely physically linked to any of the five other loci involved in acetate metabolism that also reside on this chromosome: ...

[Cited by 4](#) - [Related articles](#) - [BL Direct](#) - [All 12 versions](#)



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AcpA+Aspergillus+nidulans+cv312

Search

A PEER preprint



Biochemical Journal Immediate Publication. Published on 27 Feb 2008 as manuscript BJ20080124

DOI : 10.1042/BJ20080124

**AcpA, a member of the GPR1/FUN34/YaaH membrane protein family, is essential for acetate permease activity in the hyphal fungus *Aspergillus nidulans***

**Xavier Robellet<sup>1</sup>, Michel Flipphi<sup>2</sup>, Sylvine Pégot<sup>1</sup>, Andrew P. MacCabe<sup>2</sup>  
and Christian Vélot<sup>1\*</sup>**

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CNRS - Université Paris-Sud XI, Centre Scientifique d'Orsay, Bâtiment 360, F-91405  
Orsay Cedex, France,**



# Google Scholar, All versions

Google

Scholar 12 results (0.39 sec)

All versions

[AcpA, a member of the GPR1/FUN34/YaaH membrane protein family, is essential for acetate permease activity in the hyphal fungus \*Aspergillus nidulans\*](#) [Leicester eLink](#)  
X Robellet, M Flippi, S Pégot... - Biochemical ..., 2008 - peer.ccsd.cnrs.fr  
In a previous study, alcS, a gene of the *Aspergillus nidulans* alc cluster, was shown to encode a protein that belongs to the GPR1/FUN34/YaaH membrane protein family. BLAST screening of the *A. nidulans* genome data identified additional genes encoding ...  
[Cited by 4](#) - [Related articles](#) - [BL Direct](#)

[AcpA, a member of the GPR1/FUN34/YaaH membrane protein family, is essential for acetate permease activity in the hyphal fungus \*Aspergillus nidulans\*](#) [Leicester eLink](#)  
X Robellet, M Flippi, S Pégot, A MacCabe... - Biochem. J, 2008 - biochemj.org  
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[\[PDF\] AcpA, a member of the GPR1/FUN34/YaaH membrane protein family, is essential for acetate permease activity in the hyphal fungus \*Aspergillus nidulans\*](#) [\[PDF\] from 82.45.151.66 Leicester eLink](#)  
X ROBELLETT, M FLIPPHI, S PÉGOT, AP MACCABE... - Biochem. J, 2008 - 82.45.151.66  
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[View as HTML](#)

## `No effect' publisher hypothesis: detailed findings

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Publisher downloads went up in all subject areas, but with variation:

### **Statistically *significant* increases in**

**life sciences: up 20.3%** (13.1% to 27.9%,  $p < 0.01$ )

**physical sciences: up 13.1%** (5.2% to 21.6%,  $p < 0.01$ )

### **Statistically *insignificant* findings in**

**medicine: up 5.2%** (-1.0% to 11.7%,  $p = 0.10$ )

**social sciences and humanities: up 4.1%** (-0.05% to 13.9%,  $p = 0.38$ )

## `No effect' publisher hypothesis: detailed findings

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Publisher downloads were up for all publishers, except one.

The effect varied by publisher size:

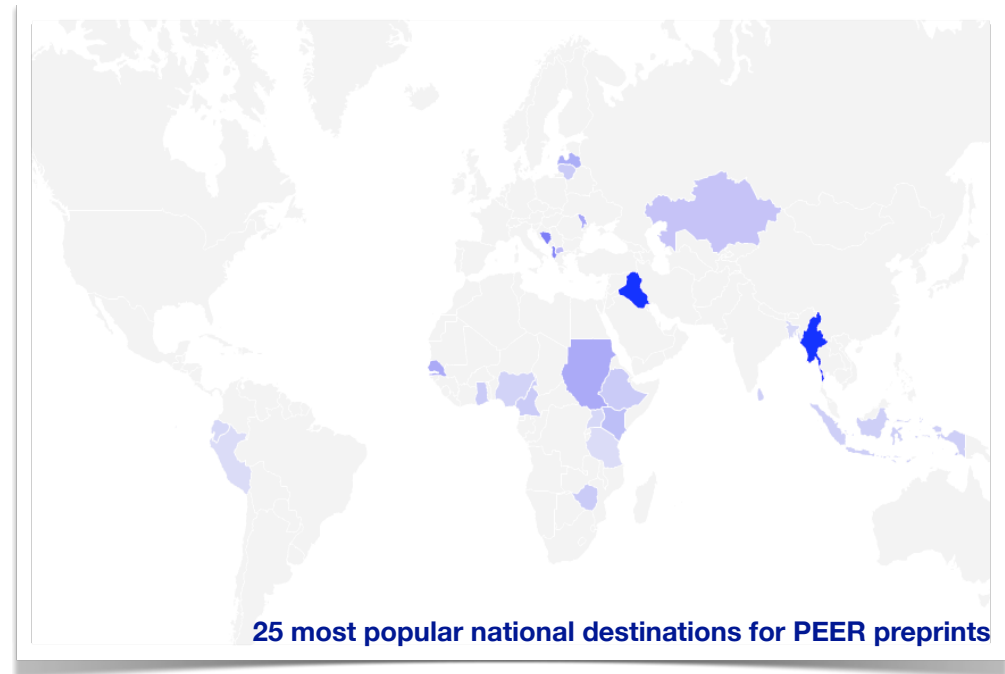
**Statistically *significant* increases for larger publishers: up 12.6%** (8.3% to 17.0%,  $p < 0.01$ )

**Statistically *insignificant* findings for smaller publishers up 3.3%** (-6.7% to 14.3%,  $p = 0.53$ )

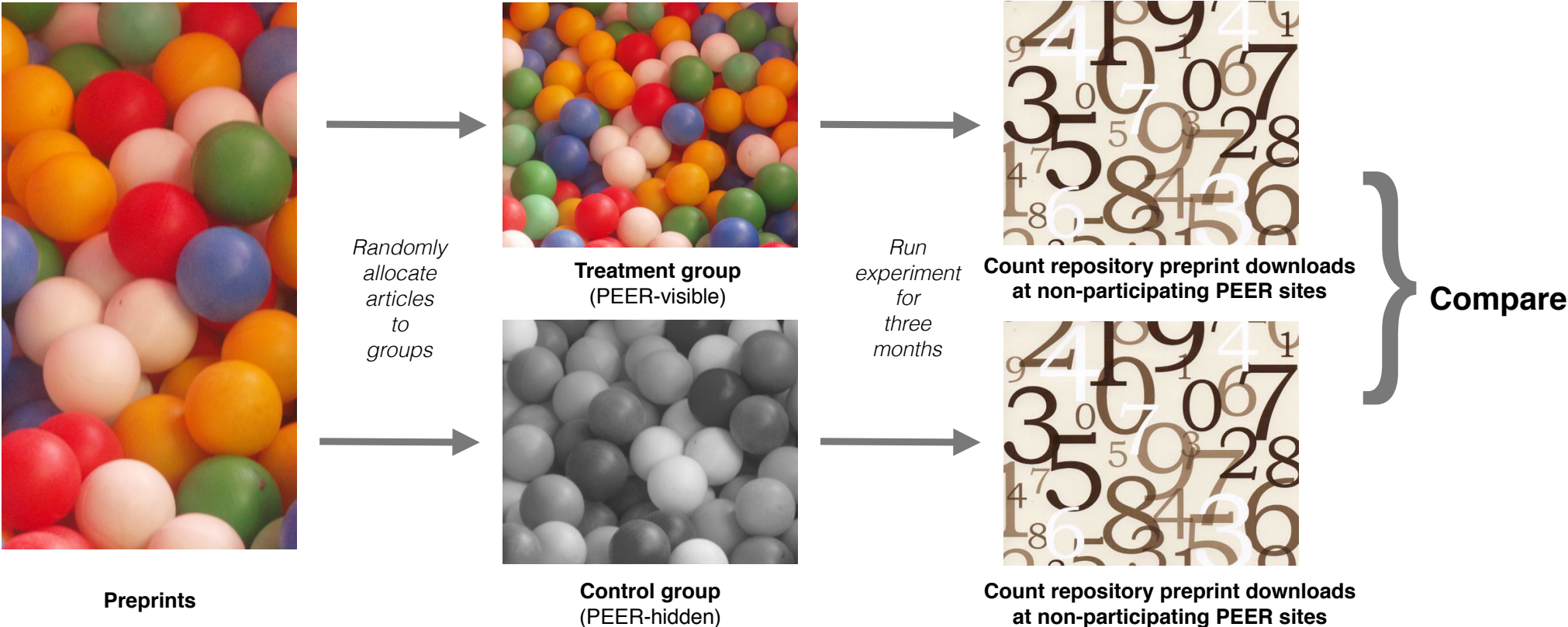
# Most popular destination for PEER preprints

Countries ranked in decreasing order of PEER to publisher downloads

Rank	Country
1	Myanmar
2	Iraq
3	Bosnia-Herzegovina
4	Albania
5	Moldova
6	Sudan
7	Senegal
8	Latvia
9	Macedonia
10	Kenya
11	Kazakhstan
12	Cameroon
13	Lithuania
14	Ethiopia
15	Ghana
16	Zimbabwe
17	Indonesia
18	Sri Lanka
19	Nigeria
20	Bangladesh
21	Ecuador
22	Uganda
23	Peru
24	Tanzania
25	Vietnam



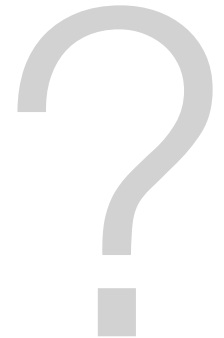
# PEER randomised controlled trial



`No effect' repository hypothesis

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There is no difference in downloads per preprint at non-participating PEER sites if we take down nearly half the content at the other sites.



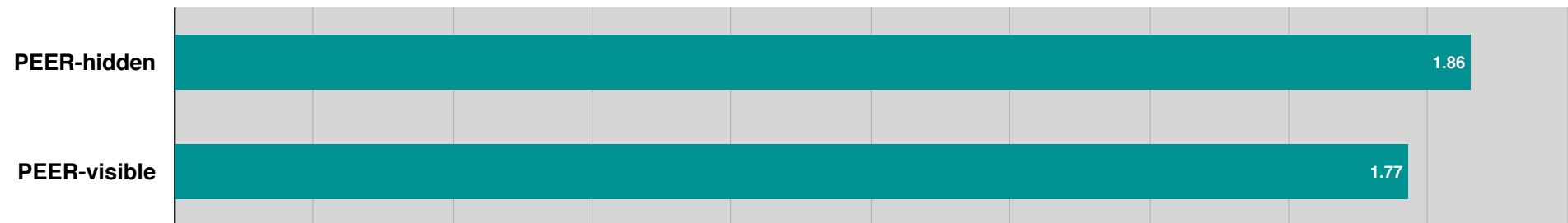
## `No effect' repository hypothesis: key findings

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Hiding preprints in some PEER repositories saw an increase in traffic to non-participating PEER sites.

PEER preprint downloads increased by 5.1%

95% confidence intervals: -1.7% to 12.4%, statistically insignificant at  $p=0.14$



## Conclusions

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**Overall, PEER is associated with a significant, if relatively modest, increase in publisher downloads, in the confidence range 7.5% to 15.5%.**

**The likely mechanism is that PEER offers high quality metadata, allows a wider range of search engine robots to index its content than the typical publisher, and thus helps to raise the digital visibility of scholarly content. There are variations as we zoom in on the detail and the jury is still out in medicine, the social sciences and humanities, and for smaller publishers, for reasons we do not understand yet.**

**Publisher downloads are growing at a faster rate than PEER downloads and unless there is a step change, PEER's share of the market is likely to decline gradually over time.**

**What this research tells us is that the scholarly web is a complex environment, one in which digital visibility is king. Researchers make little use of the search facilities on repository or publisher sites, relying heavily instead on third-party gateways and general search engines. They do not choose to `log on' to repository or publisher databases, they are simply swept there by Google and other agents which are the scholarly equivalents of the remote control TV handset. All the channels are on, 24/7, and they're watching it all!**



## Further research

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**For the average user, downloads come with no emotional or economic baggage nor much physical effort. We each download software, articles, files, images and other content many times every day without even thinking, let alone remembering or pondering over its meaning.**

**This research poses questions that go well beyond open access business models, of whatever colour. The web is a complex space and neither repositories nor publishers yet have any detailed grip on what the precise paths users actually take to their content.**

**Opening up your content to a search engine is just the beginning of the conversation.**

**Information providers need a much sharper and more detailed set of road maps to understand the importance of search engines, social media and digital visibility more generally, in shaping individual journeys.**