SIPBS Seminar, Wed 24/02/2021

University of Strathclyde Glasgow

Pre-prints

A more affordable and quicker way to share research results

Pablo de Castro
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Pre-prints have a long history...

University of Strathclyde Glasgow

Published: 10 August 2011

ArXiv at 20

Paul Ginsparg

Nature **476**, 145–147(2011) | Cite this article

This automated repository and alert system for physics preprints, at hep-th@xxx.lanl.gov, was implemented shortly before the dawn of the web era. As I e-mailed to a colleague at CERN more than a year later: 'I know nothing of WWW, what is it?' The original plan was for roughly 100 full-text article submissions every year, each stored for three months until the existing paper distribution system could catch up. By popular demand, nothing was ever deleted.

The arXiv server in the early 1990s: a computer that helped to change the world of physics. Credit: J. FLOWER/LANL

https://www.nature.com/articles/476145a

Pre-prints have a long history...

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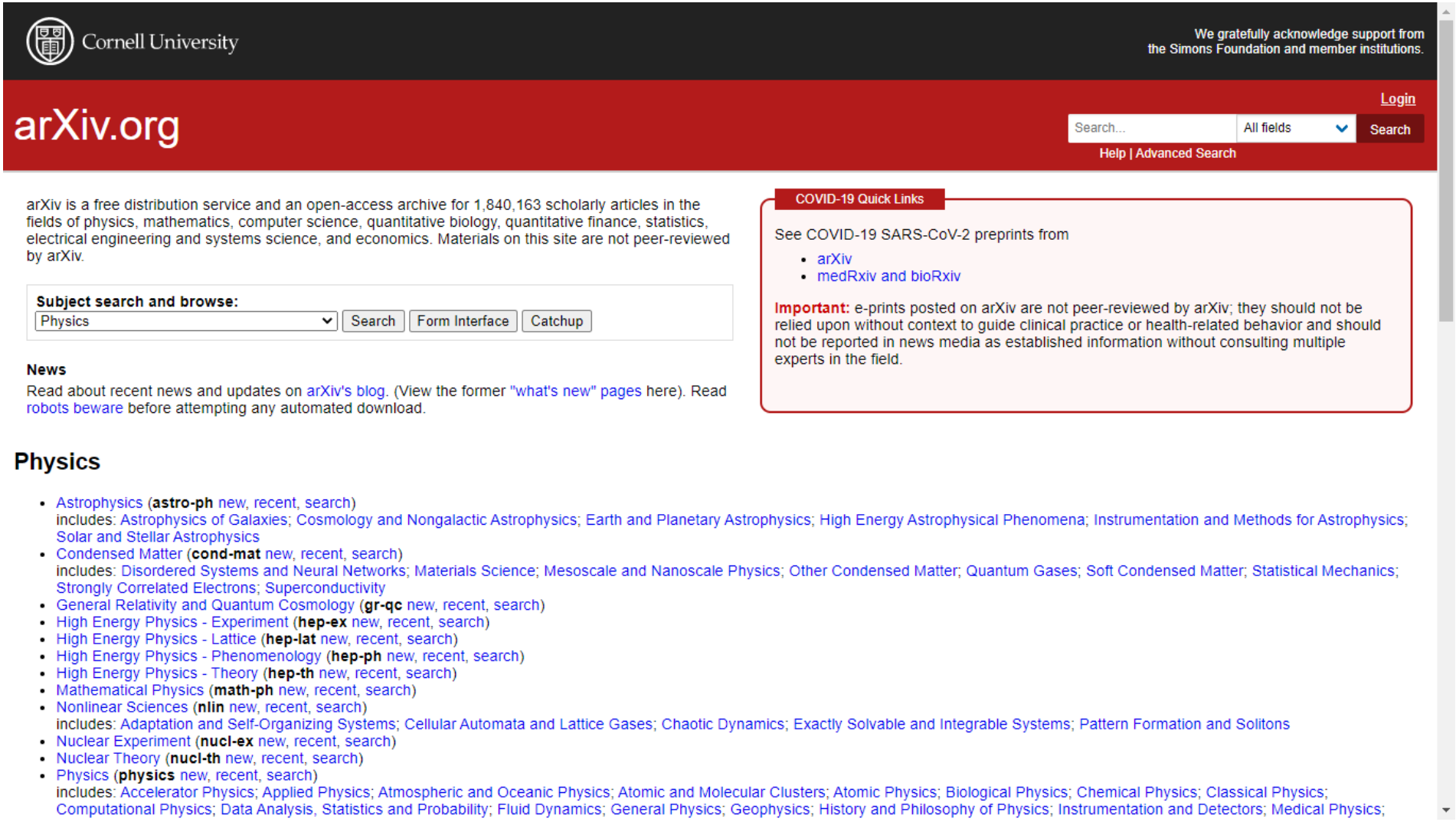

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We gratefully acknowledge support from the Simons Foundation and member institutions.

arXiv.org

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arXiv is a free distribution service and an open-access archive for 1,840,163 scholarly articles in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics. Materials on this site are not peer-reviewed by arXiv.

Subject search and browse:

Physics Search Form Interface Catchup

News

Read about recent news and updates on arXiv's blog. (View the former "what's new" pages here). Read robots beware before attempting any automated download.

COVID-19 Quick Links

See COVID-19 SARS-CoV-2 preprints from

- arXiv
- medRxiv and bioRxiv

Important: e-prints posted on arXiv are not peer-reviewed by arXiv; they should not be relied upon without context to guide clinical practice or health-related behavior and should not be reported in news media as established information without consulting multiple experts in the field.

Physics

- Astrophysics (**astro-ph** new, recent, search)
  includes: Astrophysics of Galaxies; Cosmology and Nongalactic Astrophysics; Earth and Planetary Astrophysics; High Energy Astrophysical Phenomena; Instrumentation and Methods for Astrophysics; Solar and Stellar Astrophysics
- Condensed Matter (**cond-mat** new, recent, search)
  includes: Disordered Systems and Neural Networks; Materials Science; Mesoscale and Nanoscale Physics; Other Condensed Matter; Quantum Gases; Soft Condensed Matter; Statistical Mechanics; Strongly Correlated Electrons; Superconductivity
- General Relativity and Quantum Cosmology (**gr-qc** new, recent, search)
- High Energy Physics - Experiment (**hep-ex** new, recent, search)
- High Energy Physics - Lattice (**hep-lat** new, recent, search)
- High Energy Physics - Phenomenology (**hep-ph** new, recent, search)
- High Energy Physics - Theory (**hep-th** new, recent, search)
- Mathematical Physics (**math-ph** new, recent, search)
- Nonlinear Sciences (**nlin** new, recent, search)
  includes: Adaptation and Self-Organizing Systems; Cellular Automata and Lattice Gases; Chaotic Dynamics; Exactly Solvable and Integrable Systems; Pattern Formation and Solitons
- Nuclear Experiment (**nucl-ex** new, recent, search)
- Nuclear Theory (**nucl-th** new, recent, search)
- Physics (**physics** new, recent, search)
  includes: Accelerator Physics; Applied Physics; Atmospheric and Oceanic Physics; Atomic and Molecular Clusters; Atomic Physics; Biological Physics; Chemical Physics; Classical Physics; Computational Physics; Data Analysis, Statistics and Probability; Fluid Dynamics; General Physics; Geophysics; History and Philosophy of Physics; Instrumentation and Detectors; Medical Physics;

Strathclyde works in arXiv

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We g
the Simons F

arXiv

Search...

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Showing 1–11 of 11 results for all: Strathclyde

Search v0.5.6 released 2020-0

Strathclyde | All fields

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1. arXiv:1704.05246 [pdf, other] physics.chem-ph cond-mat.stat-mech doi 10.5281/zenodo.495336

Can approximate integral equation theories accurately predict solvation thermodynamics?

Authors: Maksim Misin

Abstract: The thesis focuses on the prediction of solvation thermodynamics using integral equation theories. Our main goal is to improve the approach using a rational correction. We achieve it by extending recently introduced pressure correction, and rationalizing it in the context of solvation entropy. The improved model (to which we refer as advanced pressure correction) is rather universal. It can accura... ▽ More

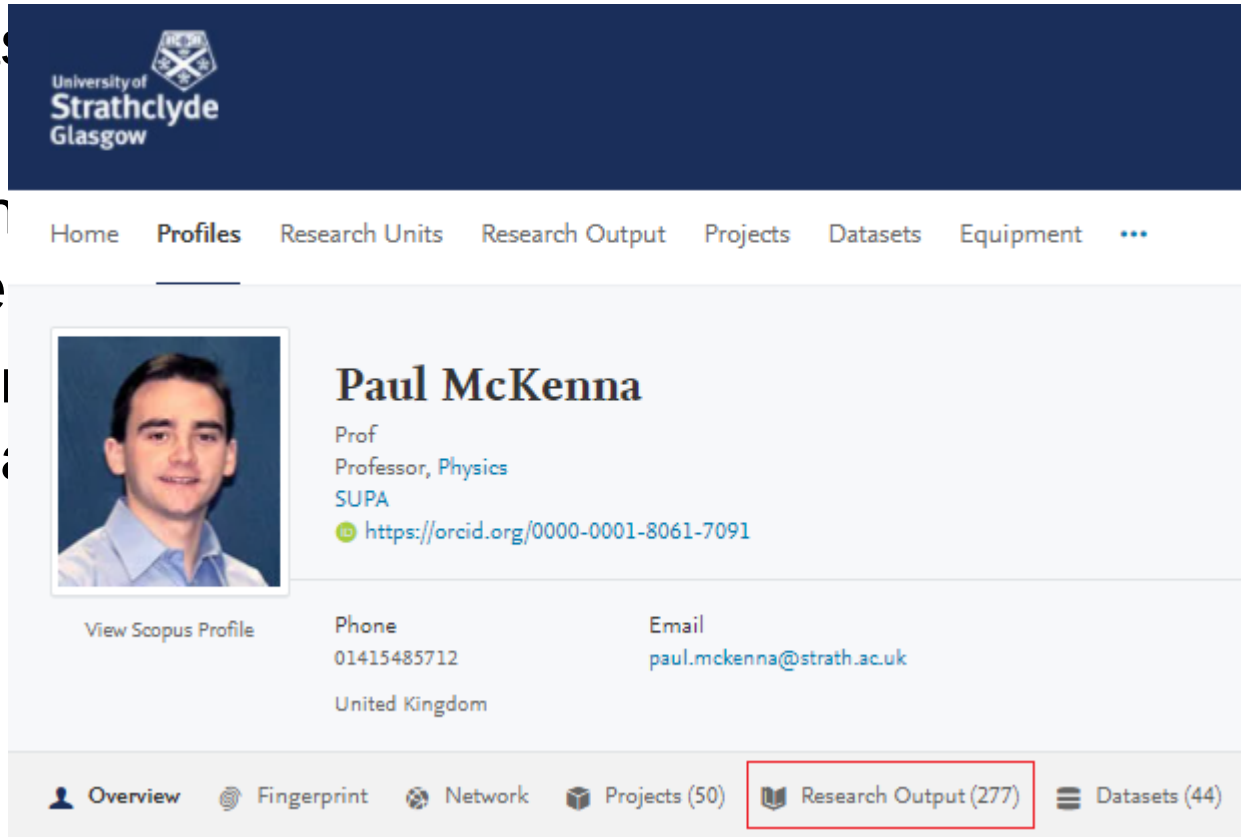
Submitted 18 April, 2017; **originally announced** April 2017.

Comments: Author's Ph.D. thesis (University of **Strathclyde**, 2016). Supervisors: Maxim V. Fedorov and David S. Palmer

2. arXiv:1704.01377 [pdf, other] math.PR

Why so few of them?

- Affiliation not the best field to search in a pre-print server (just basic metadata kept)
- Publisher may as
  to be removed
- As opposite to th
  dissertations/the
- Somewhat ‘theor
  which doesn’t ma



Strathclyde works in arXiv: Des Higham

University of Strathclyde Glasgow

Showing 1–12 of 12 results for author: Higham, D J

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Higham, D J | Author(s)

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50 results per page. Sort results by Announcement date (newest first) Go

1. arXiv:2101.06215 [pdf, other] cs.SI math.NA physics.data-an

Node and Edge Eigenvector Centrality for Hypergraphs

Authors: Francesco Tudisco, Desmond J. Higham

Abstract: Network scientists have shown that there is great value in studying pairwise interactions between components in a system. From a linear algebra point of view, this involves defining and evaluating functions of the associated adjacency matrix. Recent work indicates that there are further benefits from accounting directly for higher order interactions, notably through a hypergraph representation whe... ▽ More

Submitted 15 January, 2021; **originally announced** January 2021.

2. arXiv:2012.02999 [pdf, other] cs.SI math.NA

A Theory for Backtrack-Downweighted Walks

Authors: Francesca Arrigo, Desmond J. Higham, Vanni Noferini

Abstract: We develop a complete theory for the combinatorics of walk-counting on a directed graph in the case where each backtracking step is downweighted by a given factor. By deriving expressions for the associated generating functions, we also obtain linear systems for computing centrality measures in this setting. In particular, we show that backtrack-downweighted Katz-style network centrality can be co... ▽ More

Submitted 5 December, 2020; **originally announced** December 2020.

MSC Class: 05C50; 05C82; 68R10

Strathclyde works in arXiv: Ernesto Estrada

University of Strathclyde Glasgow

Showing 1–16 of 16 results for author: Estrada, E

Search v0.5.6 released 202

Searching in archive **cs**. Search in all archives.

Estrada, E | Author(s)

Show abstracts | Hide abstracts

50 results per page. Sort results by Announcement date (newest first) Go

1. arXiv:2011.06014 [pdf] cs.SI physics.soc-ph

Football tracking networks: Beyond event-based connectivity

Authors: J. M. Buldu, D. Garrido, D. R. Antequera, J. Busquets, E. Estrada, R. Resta, R. Lopez del Campo

Abstract: We propose using Network Science as a complementary tool to analyze player and team behavior during a football match. Specifically, we introduce four kinds of networks based on different ways of interaction between players. Our approach's main novelty is to use tracking datasets to create football tracking networks, instead of constructing and analyzing the traditional networks based on events. In... ▽ More

Submitted 11 November, 2020; **originally announced** November 2020.

Comments: 13 pages, 5 figures

Journal ref: Conference Analytics in Sports Tomorrow 2020, F.C. Barcelona

2. arXiv:1704.03943 [pdf, ps, other] physics.soc-ph cs.SI

Two-walks degree assortativity in graphs and networks

Authors: Alfonso Allen-Perkins, Juan Manuel Pastor, Ernesto Estrada

Abstract: Degree ssortativity is the tendency for nodes of high degree (resp.low degree) in a graph to be connected to high degree nodes (resp. to low degree ones). It is sually quantified by the Pearson correlation coefficient of the degree-degree correlation. Here we extend this concept to account for the effect of second neighbours to a given node in a graph. That is, we consider the two-walks degree of... ▽ More

Submitted 12 April, 2017; **originally announced** April 2017.

Comments: 15 pages, 5 figures, 2 tables

MSC Class: 05C82; 05C75; 91D30; 92C42

... but their popularisation is rather recent

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NATURE | NEWS

عربي

Preprints come to life

A dedicated website for sharing biology papers before peer review leaves journals divided.

Ewen Callaway

12 November 2013

PDF | Rights & Permissions

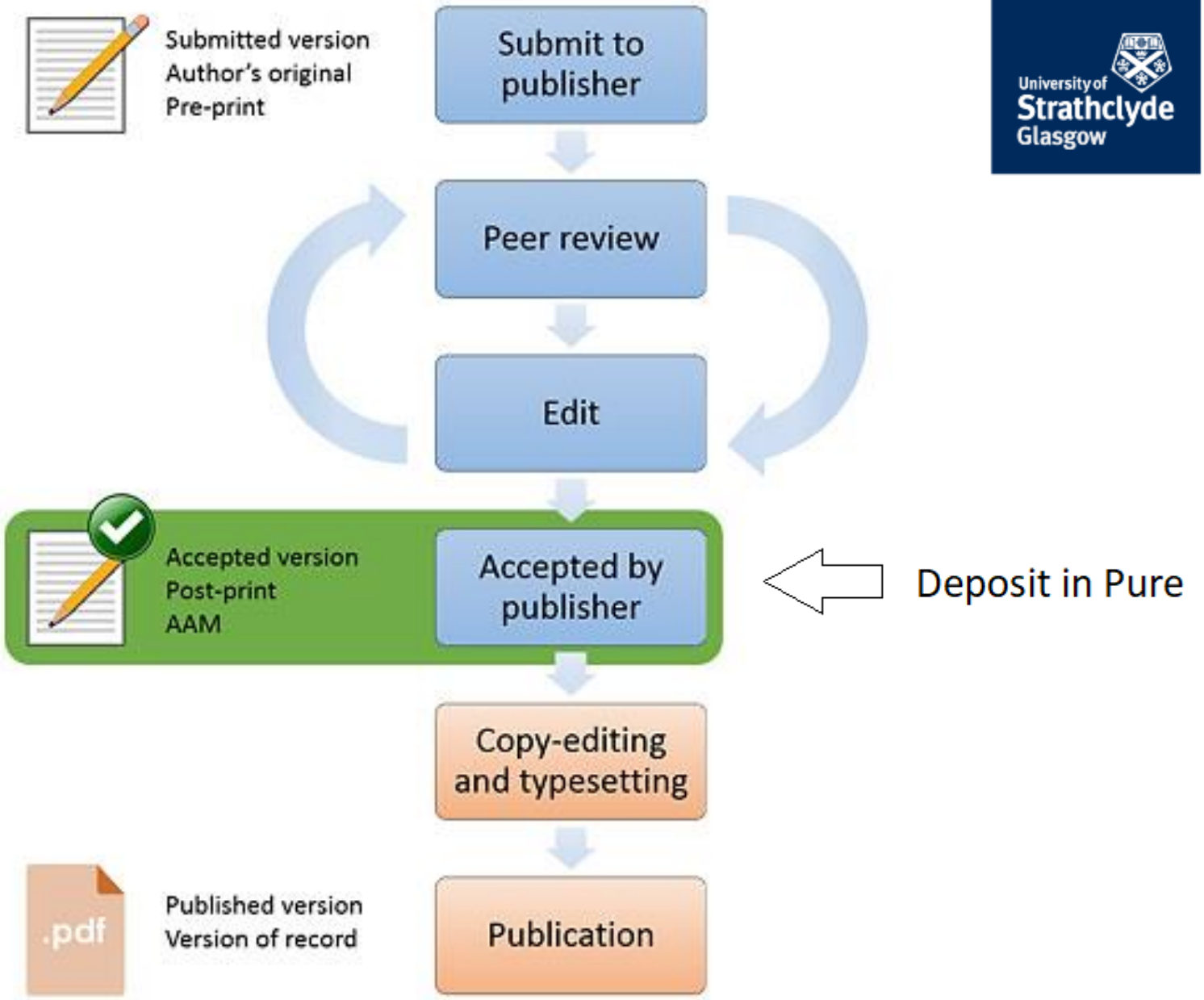
What are biologists so afraid of? Physicists, mathematicians and social scientists routinely post their research to preprint servers such as arXiv.org before publication, yet few life scientists follow suit.

A website that goes l
Cold Spring Harbor L
will operate similarly
them, weeks or mont

2017

ChemRxiv is an open access preprint archive for chemistry. It is operated by the American Chemical Society, Royal Society of Chemistry and German Chemical Society. The new preprint server was announced already in 2016, but was only **opened** online in 2017.

https://www.nature.com/news/preprints-come-to-life-1.14140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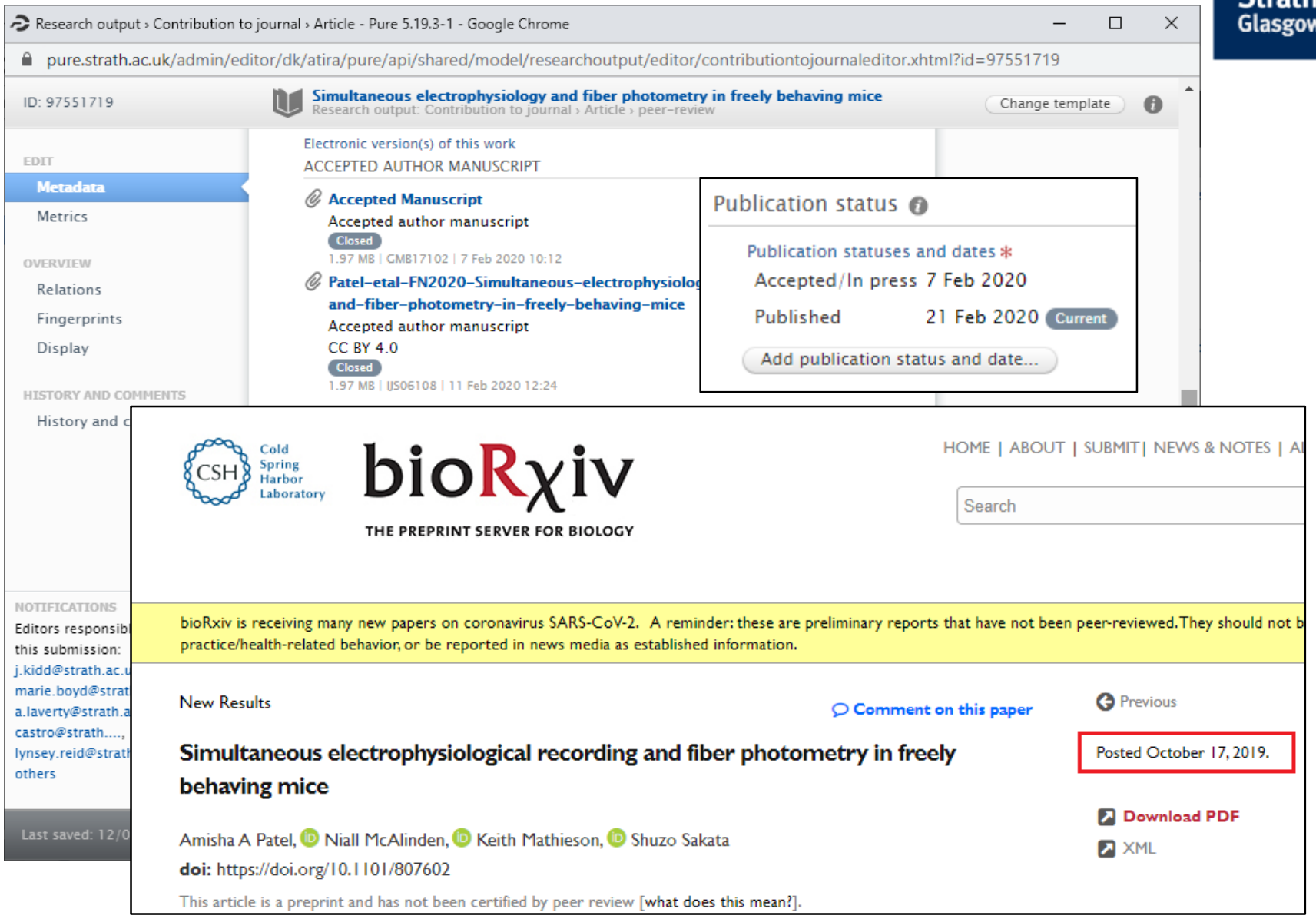
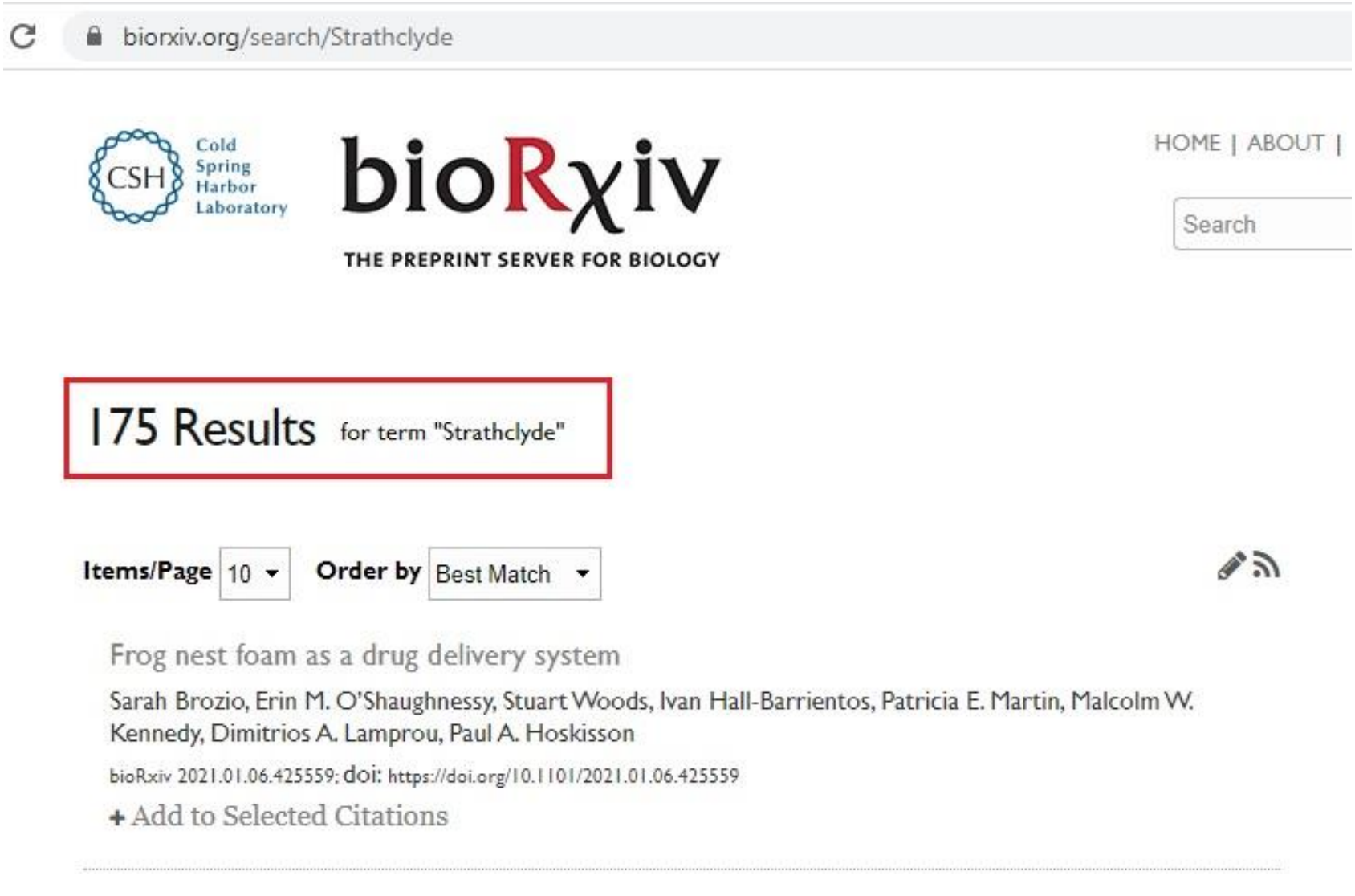
Author's original
Pre-print
Submit to publisher
Peer review
Edit
Accepted version
Post-print
AAM
Accepted by publisher
Deposit in Pure
Copy-editing and typesetting
.pdf
Published version
Version of record
Publication

How much of an earlier dissemination?



How frequently is this happening?



How frequently is this happening *for this [SIPBS] author*?

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CSH Cold Spring Harbor Laboratory

bioRxiv

THE PREPRINT SERVER FOR BIOLOGY

Publication status

Publication statuses and dates *

Accepted/In press 1 Feb 2019

Published 26 Feb 2019 Current

Add publication status and date...

CSH Cold Spring Harbor Laboratory

bioRxiv

THE PREPRINT SERVER FOR BIOLOGY

bioRxiv is receiving many new papers on coronavirus SARS-CoV-2. A reminder: these are preliminary reports that have not been peer-reviewed. They should not b practice/health-related behavior, or be reported in news media as established information.

New Results

Comment on this paper

Previous

Cre-dependent optogenetic transgenic mice without early age-related hearing loss

Posted September 13, 2018.

Daniel Lyngholm, Shuzo Sakata

doi: https://doi.org/10.1101/416164

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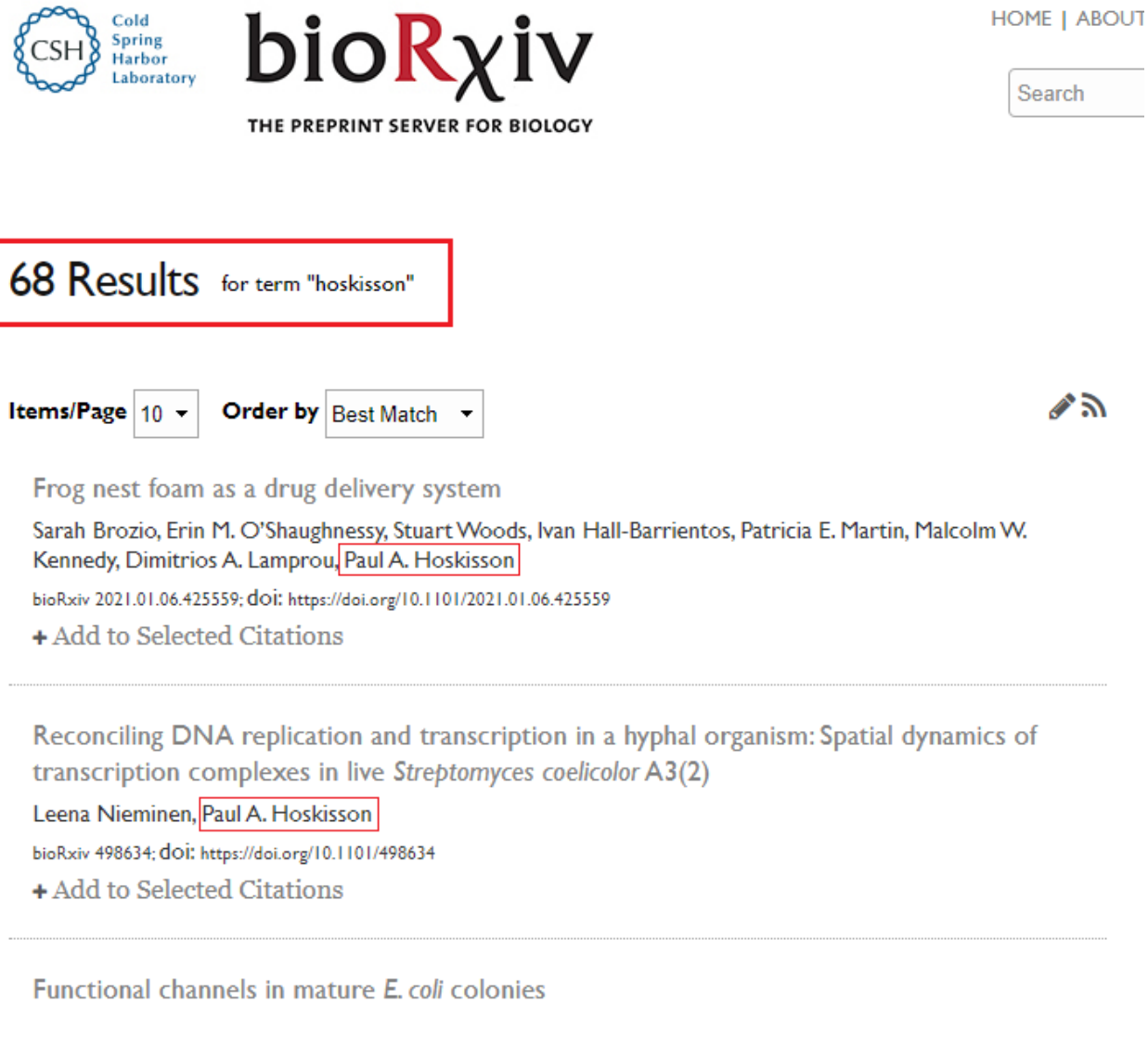
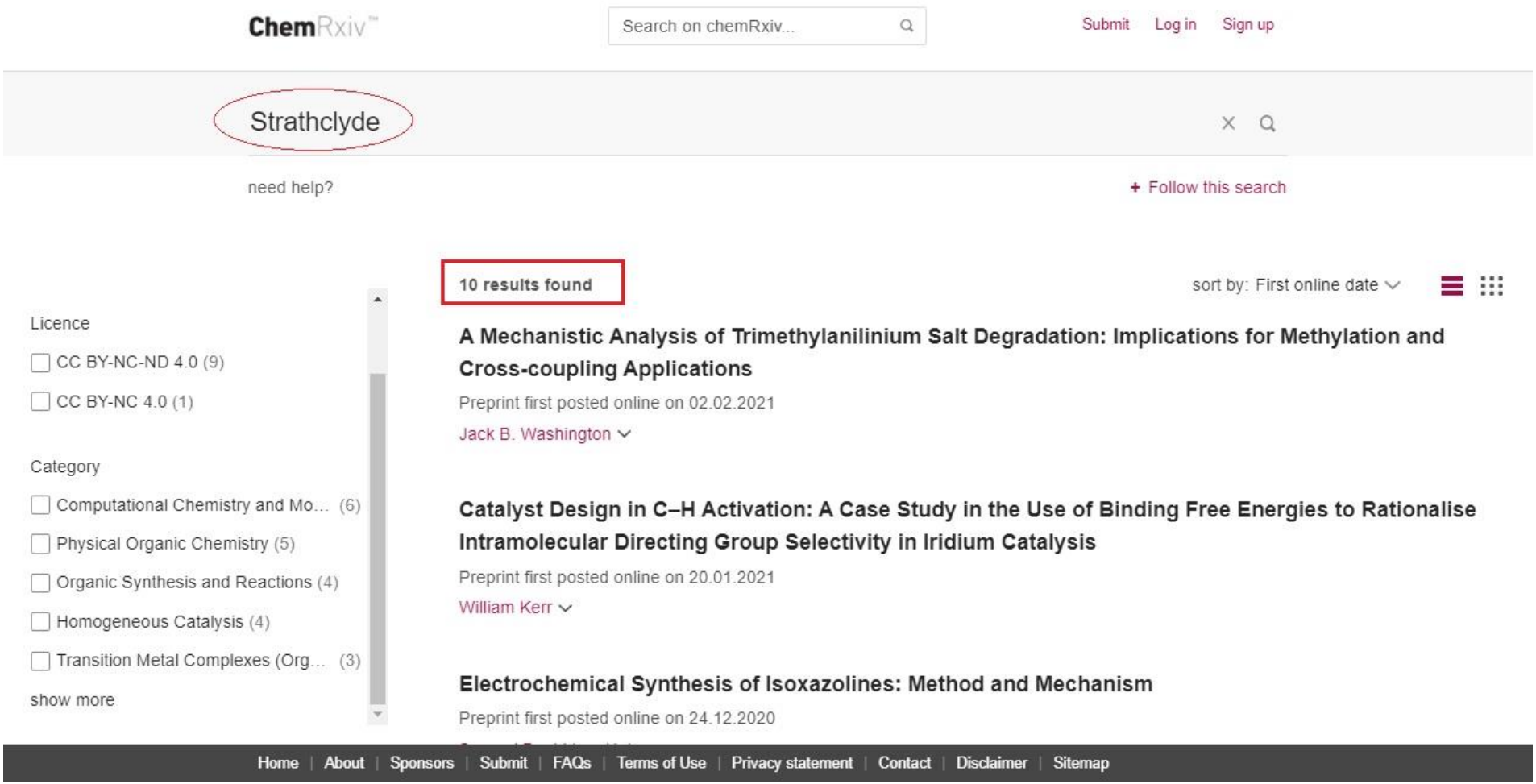
Now published in *Frontiers in Aging Neuroscience* doi: 10.3389/fnagi.2019.00029

What about other SIPBS authors?



Is ChemRxiv equally popular?



Marc Reid

0000-0003-4394-3132

UKRI Future Leaders Fellow (Analytical Chemistry; Catalysis; Chemical Education; Chemical Engineering and Industrial Chemistry; Organic Chemistry; Organometallic Chemistry; Theoretical and Computational Chemistry)

Glasgow

http://www.dr-marc-reid.com/bio

Research interests include:

- physical organic chemistry
- computer vision
- cheminformatics
- virtual reality
- process safety
- psychology of the imposter phenomenon.

Outside of academia, Marc is the co-founder of safety culture and accident readiness company Pre-Site Safety.

Publications

- http://www.dr-marc-reid.com/publications

ChemRxiv is newer => more sophisticated

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Marc Reid's public data

A Mechanistic Analysis of Trimethylanilinium…

Preprint posted on 02.02.2021 in ChemRxiv

Jack B. Washington

Catalyst Design in C–H Activation: A Case Study in the Use of…

Preprint posted on 21.01.2021 in ChemRxiv

William Kerr

Electrochemical Synthesis of Isoxazolines: Metho…

Preprint posted on 24.12.2020 in ChemRxiv

Samuel David Lee Holman

A Transferable Psychological Evaluation of Virtual…

Preprint posted on 21.09.2020 in ChemRxiv

Mathieu Poyade

ChemRxiv is newer => more sophisticated

University of Strathclyde Glasgow

A Transferable Psychological Evaluation of Virtual Reality Applied to Safety Training in Chemical Manufacturing

Cite | Download (2.47 MB) | Export as PDF | Share | Embed

1399 views | 247 downloads | 0 citations

Version 2 Preprint revised on 21.09.2020, 07:58 and posted on 21.09.2020, 12:54 by Mathieu Poyade, Claire Eaglesham, Jordan Trench, Marc Reid

High-profile accidents in the Chemical sector – across research and manufacturing scales – have provided strong drivers to develop a new benchmark in safety training and compliance. Herein, we describe the design, implementation, and standardised psychological evaluation of Virtual Reality (VR) applied to process safety training. Through a specific industrial case study, we show that testable learning of complex safety-specific tasks in VR is statistically equivalent to traditional slide-based video training. However, VR training presents a measurable positive improvement on trainees' perception of overall learning, and their feeling of presence in the task during training. It has also been shown that knowledge retention from video lectures can be overestimated, if not controlled. Through these results – and our transferable blueprint for robustly assessing any new VR training platform – we envisage a range of technologically-enabled efforts to enhance safety performance in both laboratory and plant-based activities. Implications for physical resource-saving projects are also described.

Read the published paper

A Transferable Psychological Evaluation of Virtual Reality Applied to Safety Training in Chemical Manufacturing

ChemRxiv™

ChemRxiv is newer => more sophisticated (-- but some things remain the same)

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Marc Reid's public data

ACS Publications
Most Trusted. Most Cited. Most Read.

Search text, DOI, authors, etc.

My Activit

RETURN TO ISSUE | < PREV **RESEARCH ARTICLE** NEXT >

A Transferable Psychological Evaluation of Virtual Reality Applied to Safety Training in Chemical Manufacturing

Matthieu Poyade, Claire Eaglesham, Jordan Trench, and Marc Reid*

Cite this: *ACS Chem. Health Saf.* 2021, 28, 1, 55−65
Publication Date: January 7, 2021
https://doi.org/10.1021/acs.chas.0c00105
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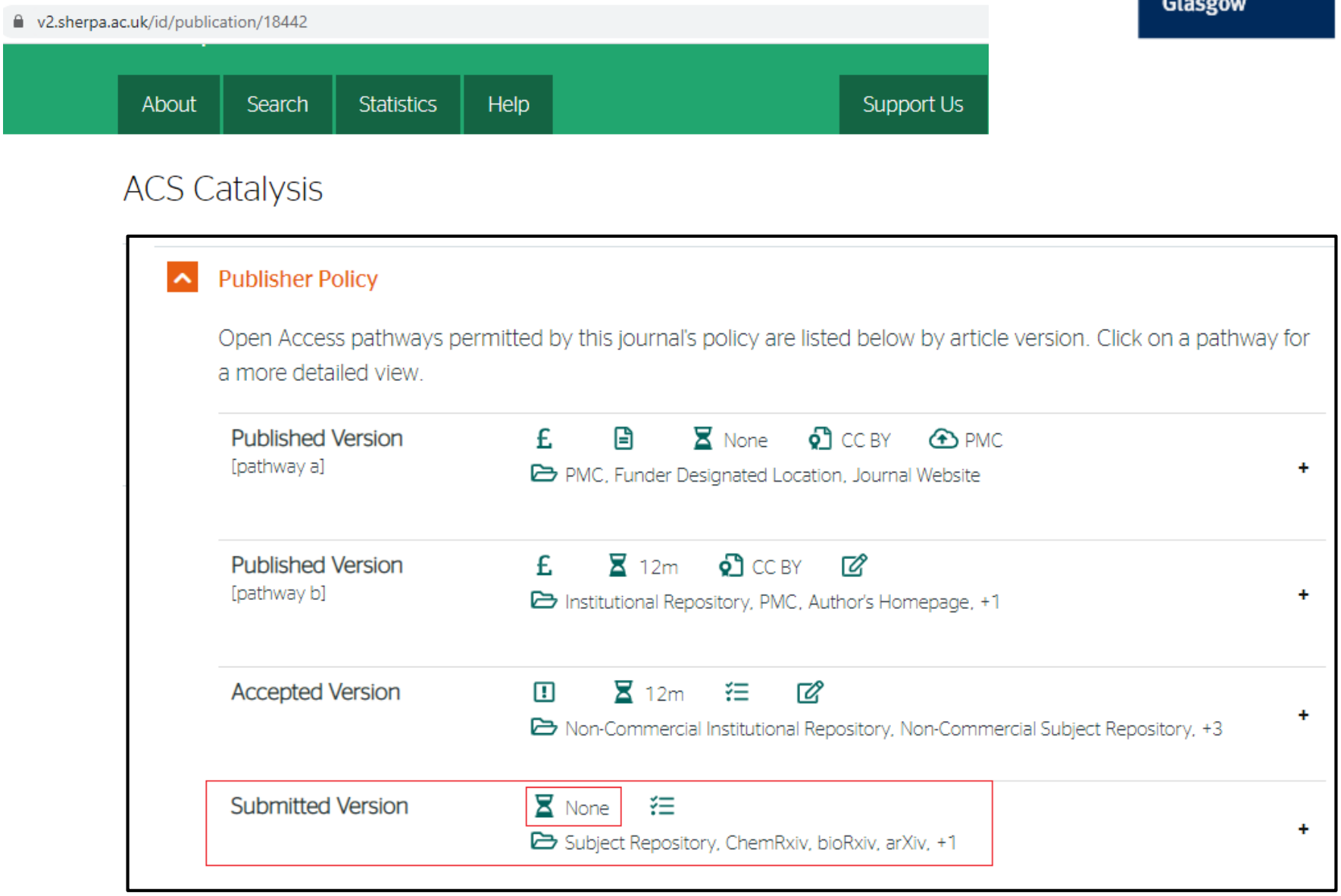
UBJECTS:
Testing and assessment, Safety,

Virtual...
21.09.2020

Publishers' attitude to pre-prints



Funders' attitude to pre-prints

University of Strathclyde Glasgow

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EDITORIAL

Ten simple rules to consider regarding preprint submission

Philip E. Bourne, Jessica K. Polka, Ronald D. Vale, Robert Kiley

Published: May 4, 2017 • https://doi.org/10.1371/journal.pcbi.1005473

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Funders' attitude to pre-prints

EDITORIAL

Ten simple rules to consider regarding preprint submission

Philip E. Bourne, Jessica K. Polka, Ronald D. Vale, Robert Kiley

Published: May 4, 2017 • https://doi.org/10.1371/journal.pcbi.1005473

Rule 1: Preprints speed up dissemination

Rule 2: Preprints should be licensed and formatted to facilitate reuse

Rule 3: Preprints provide a record of priority

Rule 4: Preprints do not lead to being scooped

Rule 5: Preprints provide access to scholarly content that would otherwise be lost

Rule 6: Preprints do not imply low quality

Rule 7: Preprints support the rapid evaluation of controversial results

Rule 8: Preprints do not typically preclude publication

Rule 9: Preprints can further inform grant review and academic advancement

Rule 10: Preprints—one shoe does not fit all

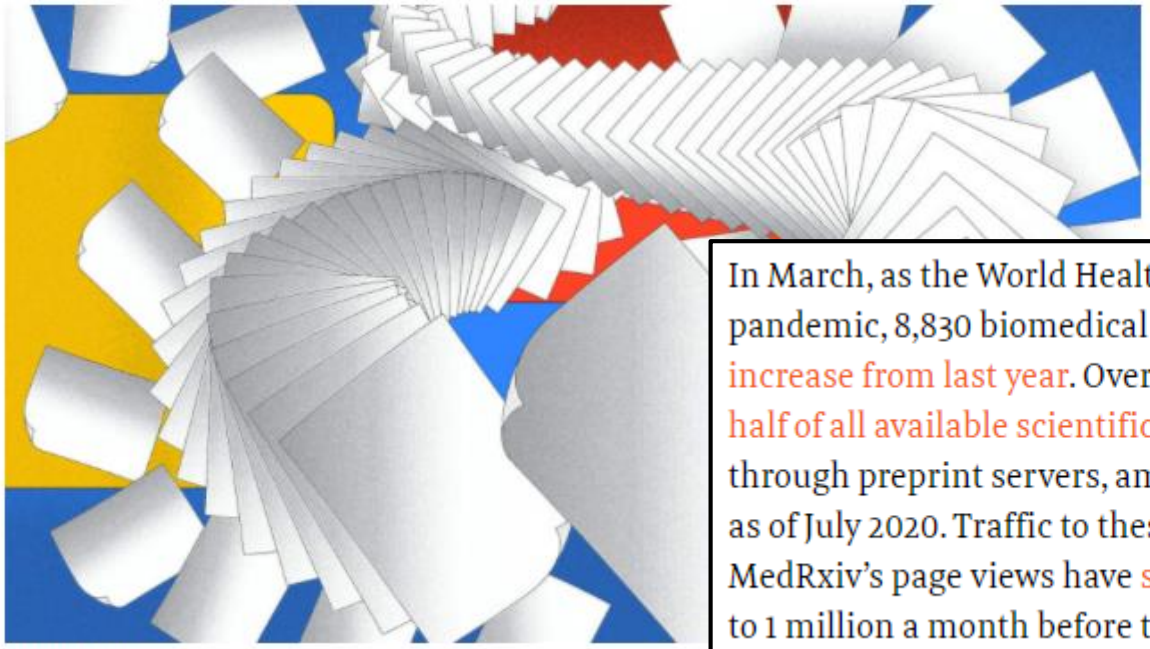
https://doi.org/10.1371/journal.pcbi.1005473

Massive Impact of Covid-19

08-05-20 | WORLD CHANGING IDEAS

How the COVID-19 crisis has prompted a revolution in scientific publishing

Preprint servers have existed for decades, but the fight against the coronavirus has seen their use soar. They're changing how science is done—but need important guardrails.



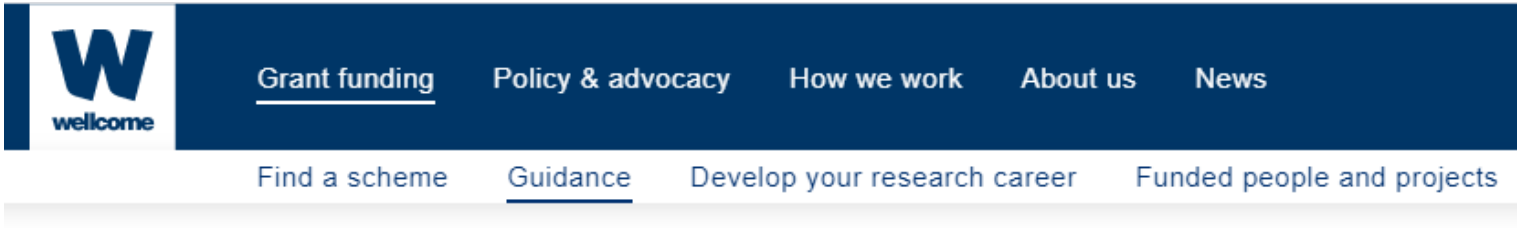
[Illustration: FC]

In March, as the World Health Organization declared COVID-19 a pandemic, 8,830 biomedical preprints were published, a 142% increase from last year. Over the past few months, approximately half of all available scientific work on COVID-19 has been published through preprint servers, amounting to more than 18,000 preprints as of July 2020. Traffic to these servers has jumped substantially too. MedRxiv's page views have spiked to 15 million a month, compared to 1 million a month before the pandemic began.

BY DARIO TARABORELLI 7 MINUTE READ

https://www.fastcompany.com/90537072/how-the-covid-19-crisis-has-prompted-a-revolution-in-scientific-publishing

Funders' policies towards pre-prints



Open access policy

Preprints

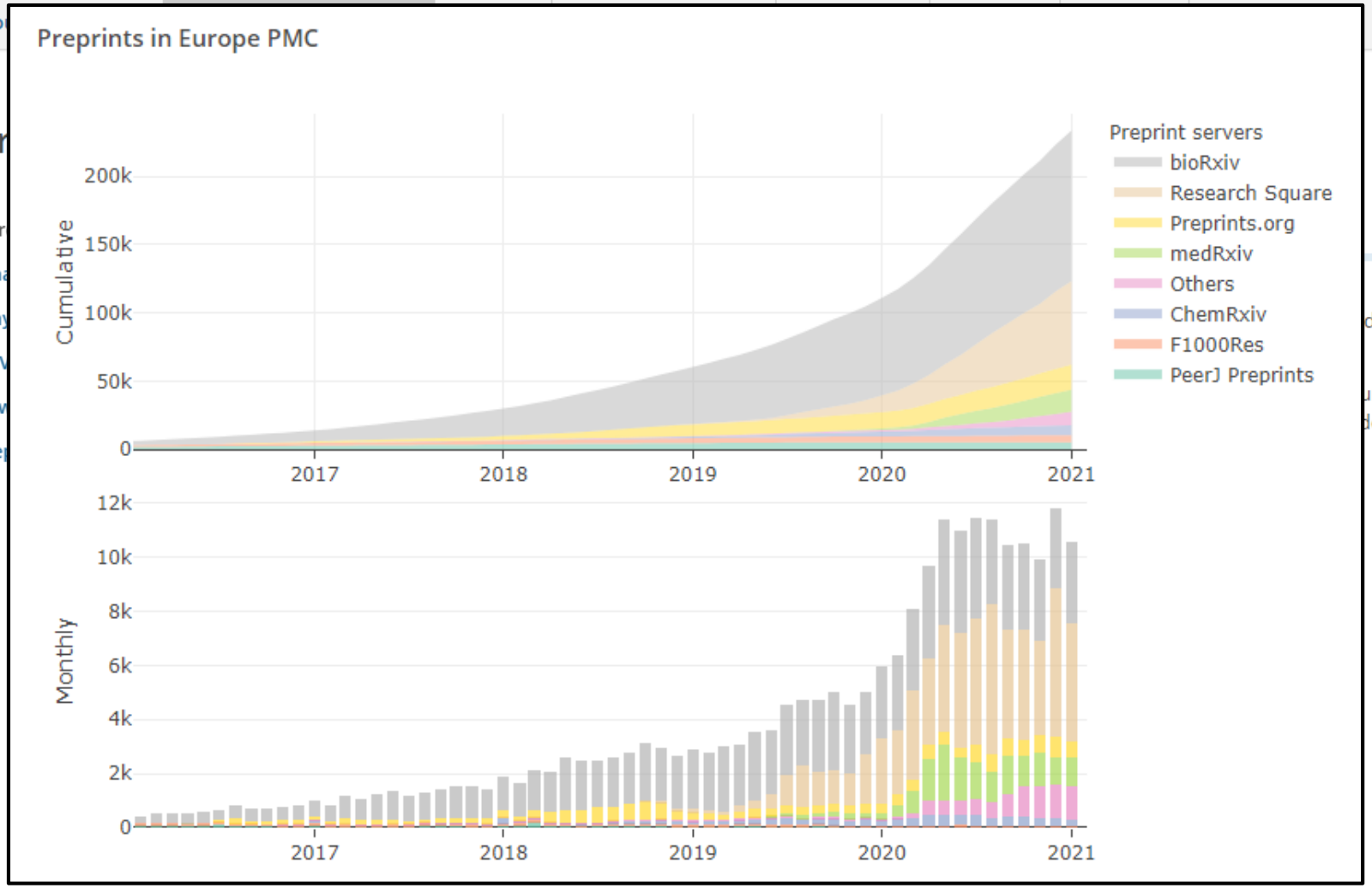
All Wellcome-funded researchers are strongly encouraged to:

- post preprints of their work
- publish them under a CC BY licence on a platform that is indexed in Europe PMC.

Where there is a significant public health benefit to preprints being shared widely and rapidly, such as a disease outbreak, we **require** the posting of preprints.

https://wellcome.org/grant-funding/guidance/open-access-guidance/open-access-policy

Funders' policies towards pre-prints



https://europepmc.org/Preprints

Institutional policies towards pre-prints

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UCL Library Services

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- Students
- Staff
- NHS
- Visitors
- Electronic resources
- Libraries and study spaces
- Opening hours
- Research Support

UCL Home » / Open@UCL Blog » / Understanding Preprints

Understanding Preprints

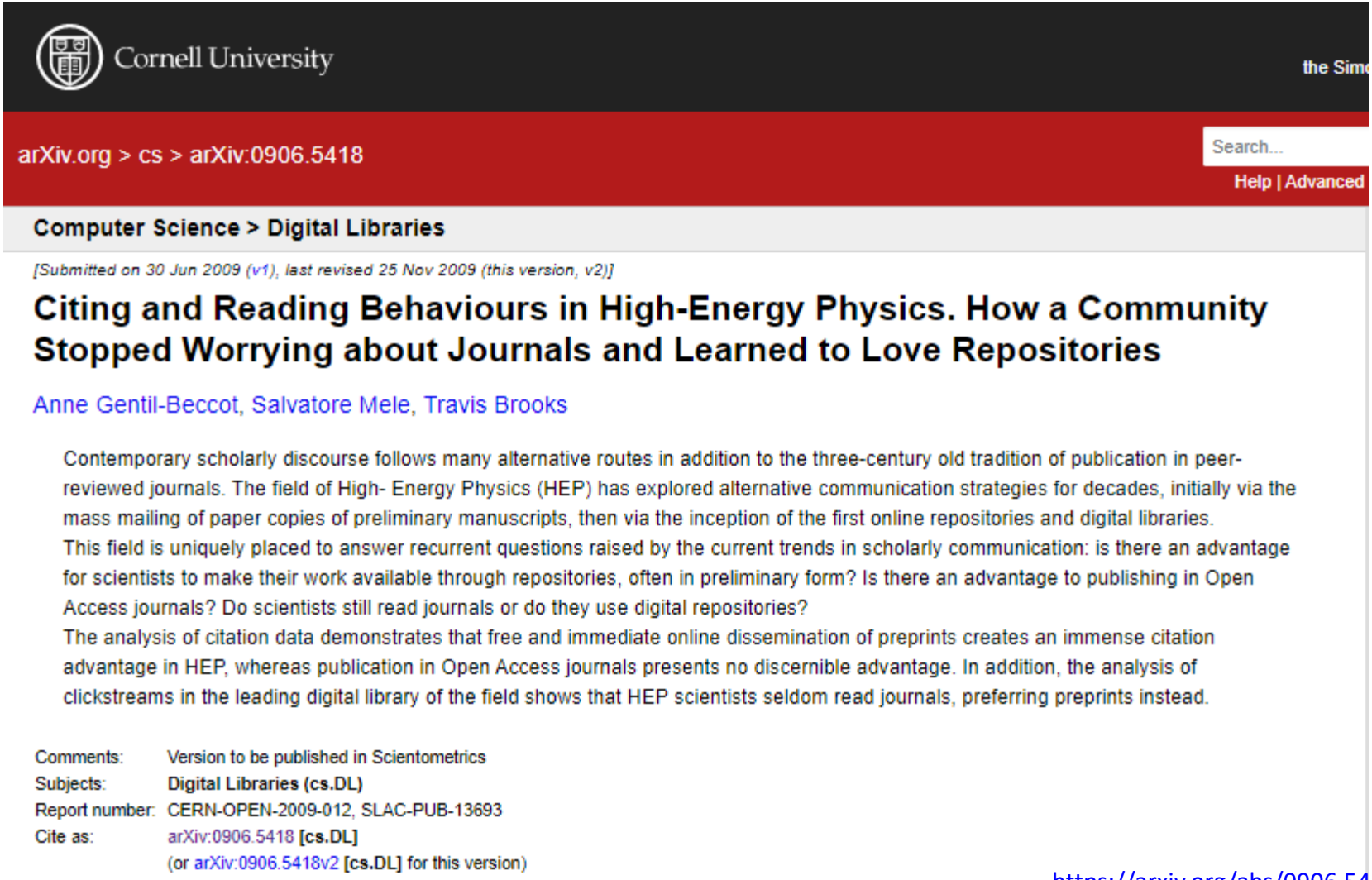
By Patrycja, on 29 April 2020

There are a **wide range of preprint repositories out there** including:

- arXiv – astronomy, mathematics, economics
- bioRxiv – biology
- ChemRxiv – chemistry
- earthArXiv – earth sciences
- engrXiv – engineering
- medRxiv – health sciences
- psyArXiv – psychological sciences
- RePEc – economics
- SocArXiv – social sciences
- SSRN – social sciences

https://blogs.ucl.ac.uk/open-access/2020/04/29/preprints/

A citation advantage?



Cornell University

arXiv.org > cs > arXiv:0906.5418

Search... Help | Advanced

Computer Science > Digital Libraries

[Submitted on 30 Jun 2009 (v1), last revised 25 Nov 2009 (this version, v2)]

Citing and Reading Behaviours in High-Energy Physics. How a Community Stopped Worrying about Journals and Learned to Love Repositories

Anne Gentil-Beccot, Salvatore Mele, Travis Brooks

Contemporary scholarly discourse follows many alternative routes in addition to the three-century old tradition of publication in peer-reviewed journals. The field of High- Energy Physics (HEP) has explored alternative communication strategies for decades, initially via the mass mailing of paper copies of preliminary manuscripts, then via the inception of the first online repositories and digital libraries.
This field is uniquely placed to answer recurrent questions raised by the current trends in scholarly communication: is there an advantage for scientists to make their work available through repositories, often in preliminary form? Is there an advantage to publishing in Open Access journals? Do scientists still read journals or do they use digital repositories?
The analysis of citation data demonstrates that free and immediate online dissemination of preprints creates an immense citation advantage in HEP, whereas publication in Open Access journals presents no discernible advantage. In addition, the analysis of clickstreams in the leading digital library of the field shows that HEP scientists seldom read journals, preferring preprints instead.

Comments: Version to be published in Scientometrics
Subjects: **Digital Libraries (cs.DL)**
Report number: CERN-OPEN-2009-012, SLAC-PUB-13693
Cite as: arXiv:0906.5418 **[cs.DL]**
(or arXiv:0906.5418v2 **[cs.DL]** for this version)

https://arxiv.org/abs/0906.5418

A citation advantage?

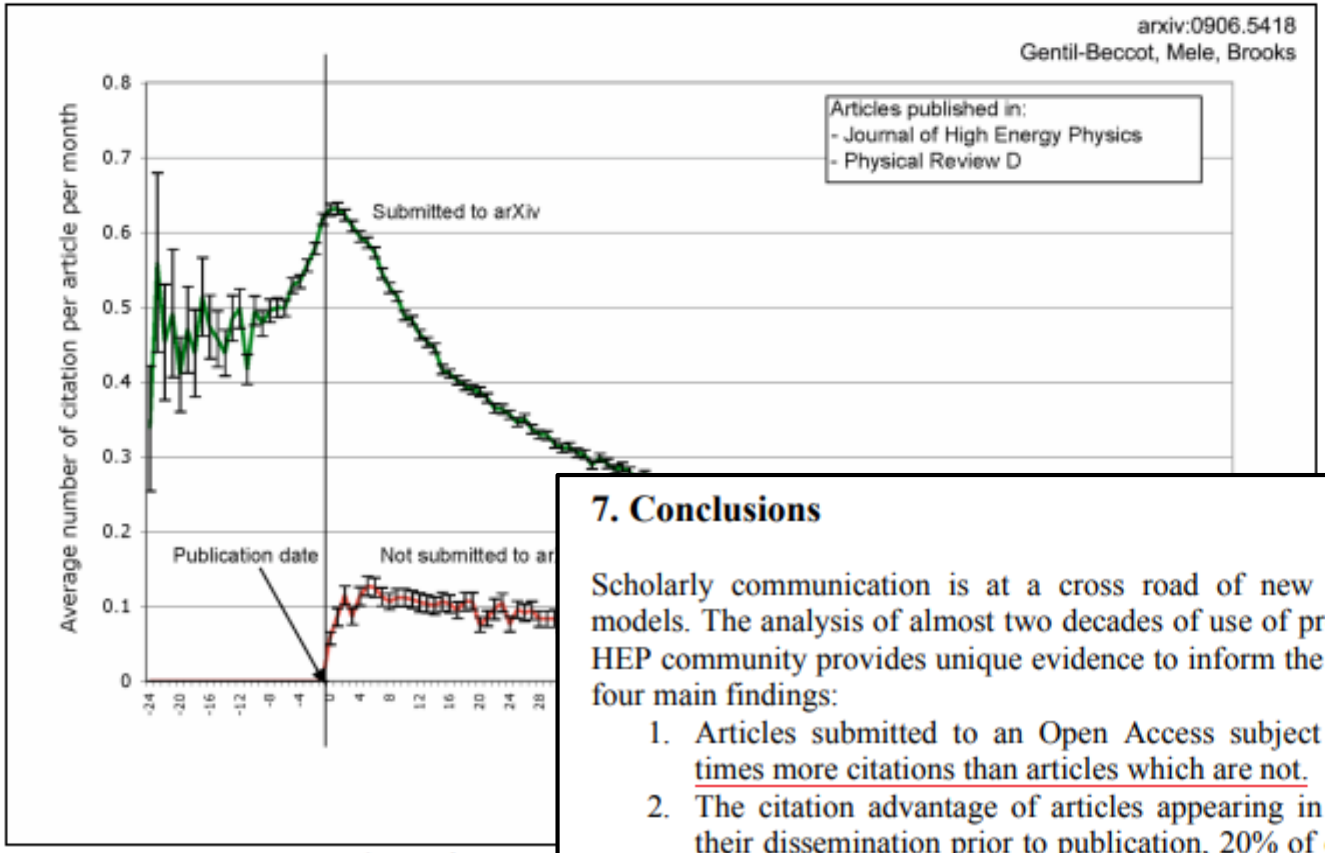


Figure 3. Average number of citatio
of the citation relative to the time of
while articles were in their preprint
publication of the articles. Data is
Energy Physics and Physical Revie

7. Conclusions

Scholarly communication is at a cross road of new technologies and publishing models. The analysis of almost two decades of use of preprints and repositories in the HEP community provides unique evidence to inform the Open Access debate, through four main findings:

1. Articles submitted to an Open Access subject repository, arXiv, receive 5 times more citations than articles which are not.
2. The citation advantage of articles appearing in a repository is connected to their dissemination prior to publication, 20% of citations of HEP articles over a two-year period occur before publication.
3. No discernable citation advantage can yet be observed in the statistically-limited sample of articles published in "gold" Open Access journals.
4. HEP scientists are between four and eight times more likely to download an article in its preprint form from arXiv rather than its final published version on a journal web site.

https://arxiv.org/abs/0906.5418

A few questions for discussion

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- May a publisher ask an author to remove a pre-print from a server upon publication of the final version?
- Would a [life-sciences] author welcome citations to a pre-print, or is the final published version the ‘official currency’ for the purpose?
- “What are biologists so afraid of?” – asks the Nature editorial about the launch of bioRxiv. Could pre-prints endanger any commercial follow-up for the research?
- Is there a specific licence that could be used to prevent this potential downside?
- Can pre-prints be used as publications references in project proposals and for promotion purposes at institutions?