

Open Science

El papel de las revistas académicas

Pandelis Perakakis

pperakakis@ucm.es | @ppandelis

Junio 16, 2022

#JornadaOpenScienceCOP22



Open Concepts & Principles



Open Research Data & Materials



Open Research Software & Open Source



Open Education Resources



Open Peer Review, Metrics & Evaluation



Open Licensing & File Formats



Open Science Policies



Reproducible Research & Data Analysis



Open Concepts &
Principles



Open Research
& Materials



Open Access to
Published Research
Results



Review,
&
Discussion



Open Research
Software & Open
Source



Open Education
Resources



Open Science
Policies



Open Licensing &
File Formats



Reproducible
Research & Data
Analysis

PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings, Studies, and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD.

Vol I.

For *Anno 1665*, and *1666*.

In the *SAVOT*,
Printed by *T. N.* for *John Martyn* at the Bell, a little with-
out *Temple-Bar*, and *James Allestry* in *Duck-Lane*,
Printers to the *Royal Society*.

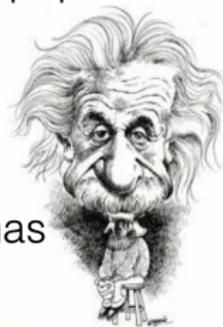
Presented by the Author May. 30th 1667.

Dear Sir,

We (Mr. Rosen and I) had sent you our manuscript for publication and had not authorized you to show it to specialists before it is printed. I see no reason to address the in any case erroneous comments of your anonymous expert. On the basis of this incident I prefer to publish the paper elsewhere.

Respectfully,

P.S. Mr. Rosen, who has left for the Soviet Union, has authorized me to represent him in this matter.



Citation indexes for science; a new dimension in documentation through association of ideas

E GARFIELD

1958: Fundación del ISI (Institute for Scientific Information)

1961: Publicación del SCI (Science Citation Index)

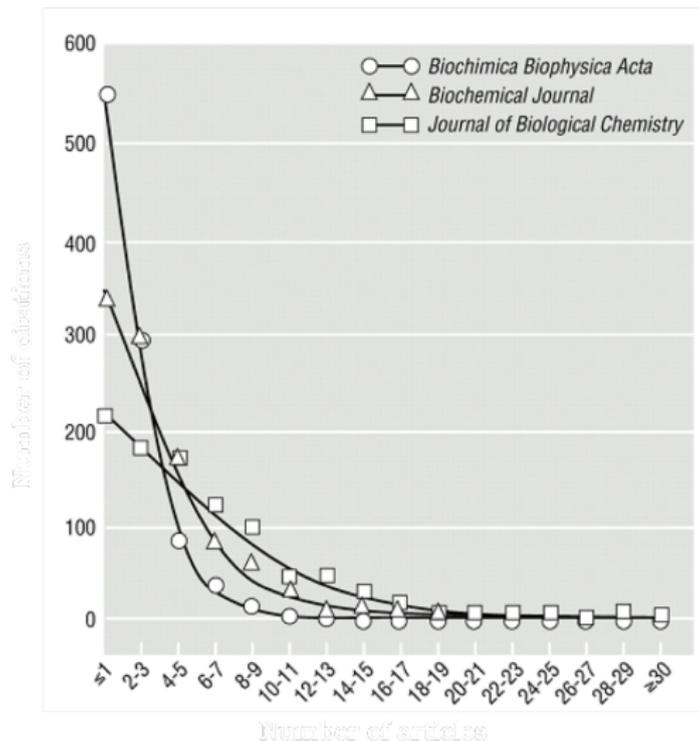
1992: ISI comprado por ThomsonTM por \$210 million

“Journal impact factors are used only - and cautiously - for measuring and comparing the influence of entire journals, but not for the assessment of single papers, and certainly not for the assessment of researchers or research programs either directly or as a surrogate.”

European Association of Science Editors (EASE)*

Garfield E (2006). The history and meaning of the journal impact factor, The Journal of the American Medical Association, 295: 90-93.

*EASE statement on inappropriate use of impact factors



Taylor M., Perakakis P., Trachana V. (2008). The Siege of Science. Ethics in Science and Environmental Politics. 8(1), pp. 17-40.

Cell

nature

Science
AAAS

Psychological
Science



PNAS
Proceedings of the National Academy of Sciences of the United States of America www.pnas.org

New forms of open peer review will allow academics to separate scholarly evaluation from academic journals.

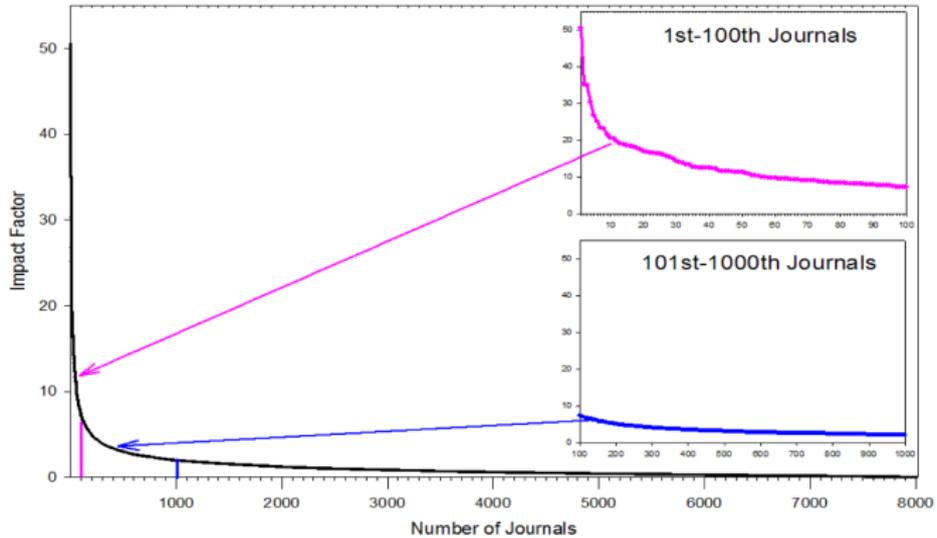


Today's academic publishing system may be problematic, but many argue it is the only one available to provide adequate research evaluation. **Pandelis Perakakis** introduces an open community platform, LIBRE, which seeks to challenge the assumption that peer review can only be handled by journal editors. By embracing a new culture of open, transparent and independent research evaluation, the academic community can more productively contribute to global knowledge.

*“Today’s academic publishing model treats knowledge as a **material good**. Instead of collaborating... scholars are **forced to compete** for a limited number of prestigious publication slots... this whole enterprise is based on the **economics of scarcity** where value is accrued from exclusivity.”*

Perakakis, P. (2013). **New forms of open peer review will allow academics to separate scholarly evaluation from academic journals.** London School of Economics. Impact of Social Sciences Blog.

Journal Impact Factors (1974-2001): 8011 ISI Journals



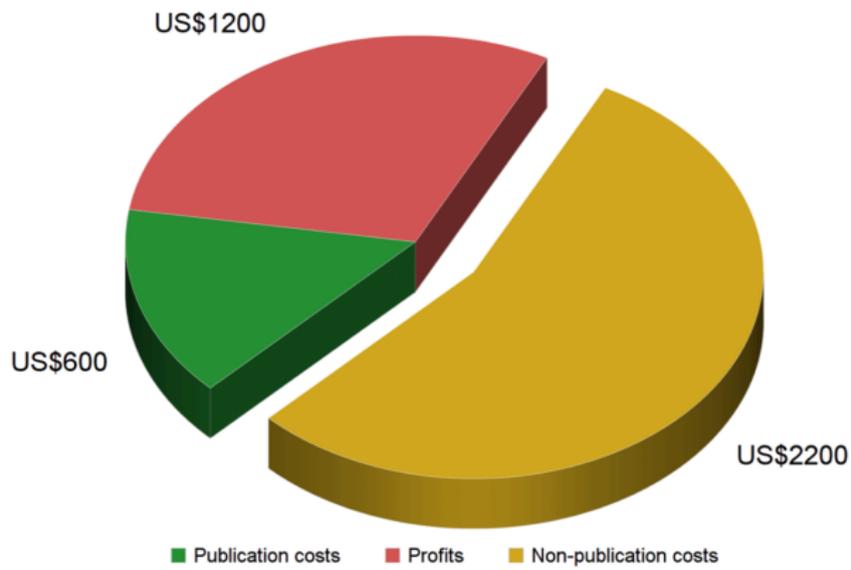
Taylor M., Perakakis P., Trachana V. (2008). The Siege of Science. *Ethics in Science and Environmental Politics*. 8(1), pp. 17-40.

Presupuesto 2020

- Universidad Complutense de Madrid **2.846.040,62 €¹**
- Universidad de Granada **1.045.250,00 €²**

¹<https://www.ucm.es/portaldetransparencia/informacionpresupuestaria>

²https://gerencia.ugr.es/pages/vger_eco/presupuestos/presupuesto2020ugr

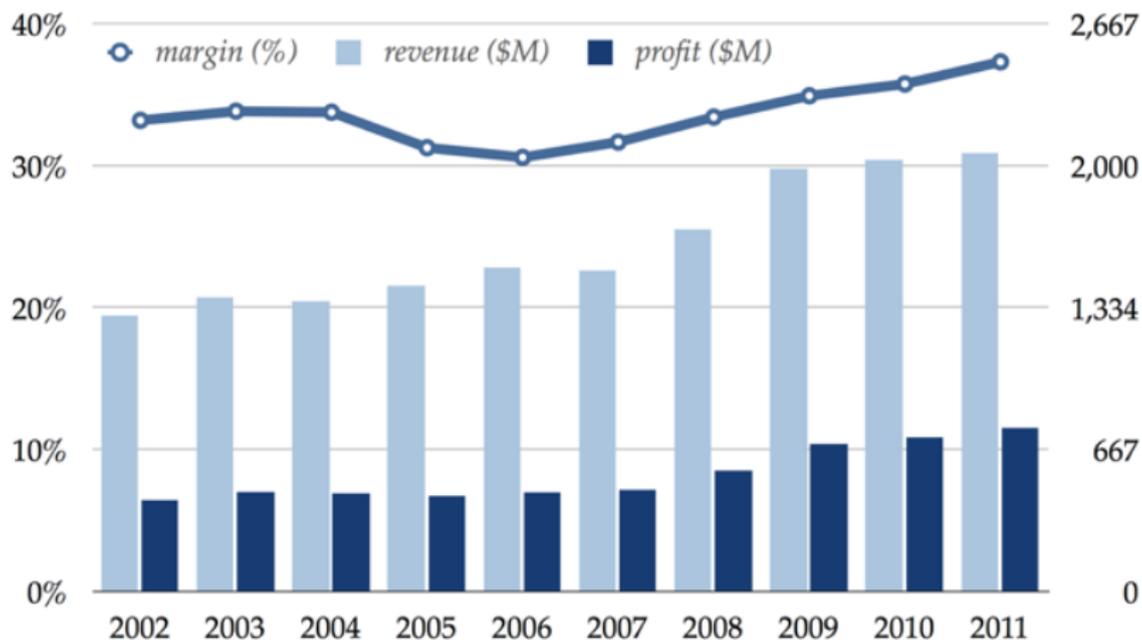


Grossmann, A. and Brembs, B. Current market rates for scholarly publishing services. F1000Research 2021, 10–20.

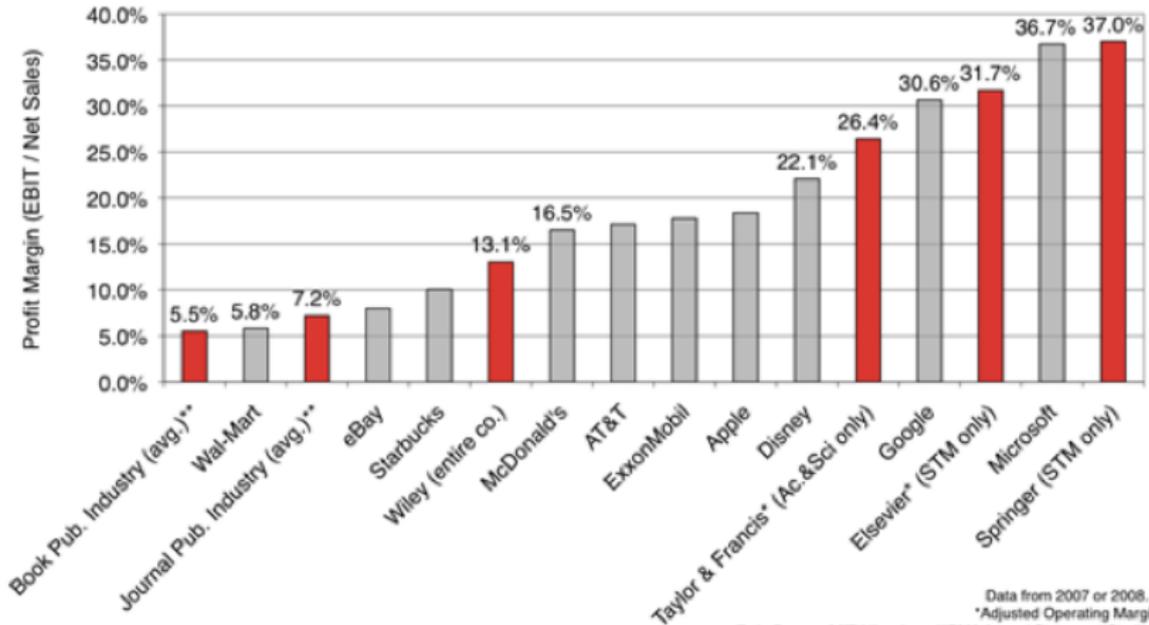
Declaraciones financieras de Elsevier en 2018

- Net profit: **1,107,876,427.69 €**
- Operating profit margin: **37,1%**
- “In 2018 we made three small acquisitions in support of our organic growth strategy, Via Oncology, Aries Systems and Science-Metrix, and disposed of a minor pharma business in Japan.”
- “Our customer environment remains largely unchanged, and we expect another year of modest underlying revenue growth.”

Elsevier historical profit margin



Profit Margins: Journal Publishers v. Other Companies



Data from 2007 or 2008.

*Adjusted Operating Margin

Data Source: MIT Libraries **RMA Annual Statement Studies, 2007

scholarly communication

processes

Validation

Evaluation

Dissemination

ideal

many expert reviewers
no conflicts of interest
argumentation

many expert reviewers
no conflicts of interest
argumentation

preservation
licencing
visibility

Journal dependent

2-3 anonymous reviewers
disclosed reviews

citation metrics (IF)
journal prestige
altmetrics

private servers
restrictive licenses
APCs or subscriptions

Scientist

Academic

| | |
|------------------------------|--|
| Open-minded | Content journal editors |
| Sceptical | No replications, negative results, reviews |
| Consider all data | Inaccessible articles, data, software code |
| Collaborate | Compete for scarce resources |
| No investment in the outcome | p-hacking |

Perakakis, P. (2017). **Open scientists in the shoes of frustrated academics.**
Euroscientist

19th century
scientist

I must find the
explanation for this
phenomenon in order
to truly understand
Nature...



21st centurt
~~scientist~~
academic

I must get the
result that fits my
narrative so I can
get my paper into
Nature..



facebook.com/pedromics

“La mayoría de los jóvenes investigadores entran en la escena con el deseo de ser científicos, pero rápidamente se ven obligados a convertirse en académicos.”

Perakakis, P. (2017). **Open scientists in the shoes of frustrated academics.**
Euroscientist

News Feature

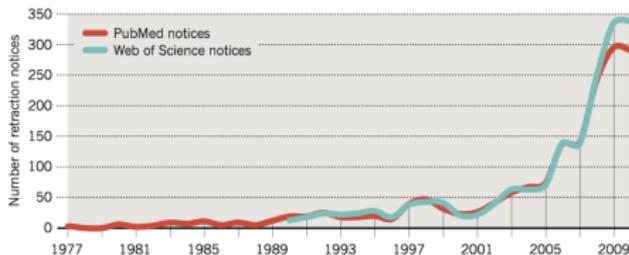
Science publishing: The trouble with retractions

A surge in withdrawn papers is highlighting weaknesses in the system for handling them.

Richard Van Noorden

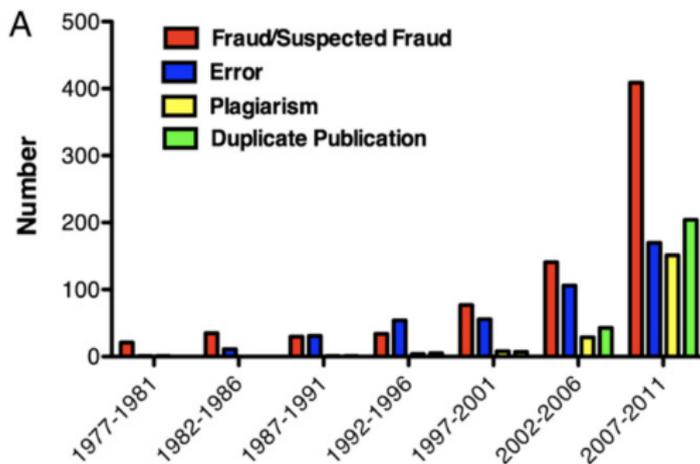
RISE OF THE RETRACTIONS

In the past decade, the number of retraction notices has shot up 10-fold (**top**), even as the literature has expanded by only 44%. It is likely that only about half of all retractions are for researcher misconduct (**middle**). Higher-impact journals have logged more retraction notices over the past decade, but much of the increase during 2006–10 came from lower-impact journals (**bottom**).

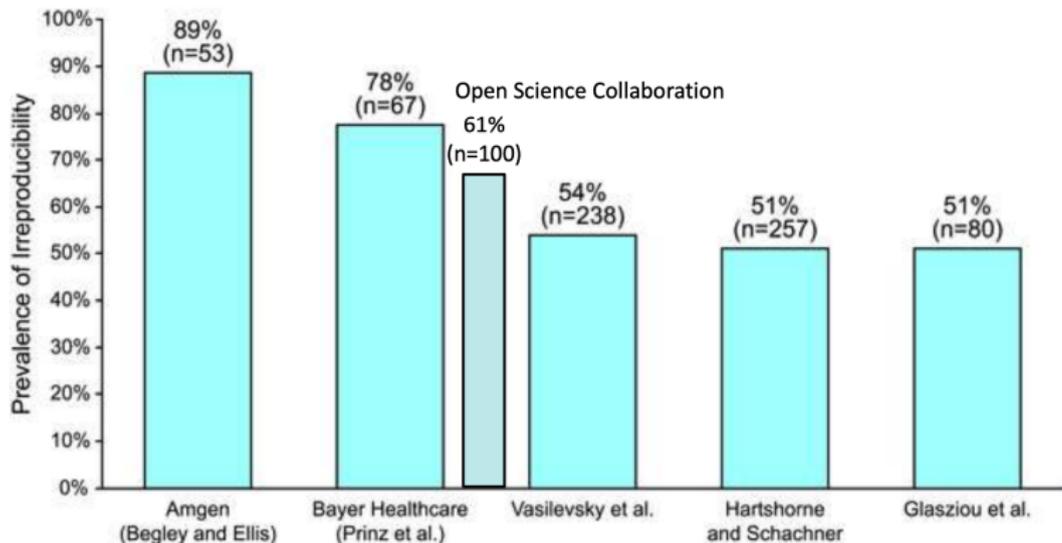


Misconduct accounts for the majority of retracted scientific publications

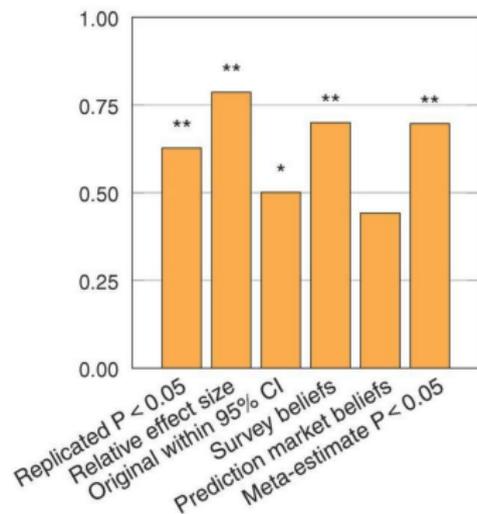
Ferric C. Fang^{a,b,1}, R. Grant Steen^{c,1}, and Arturo Casadevall^{d,1,2}



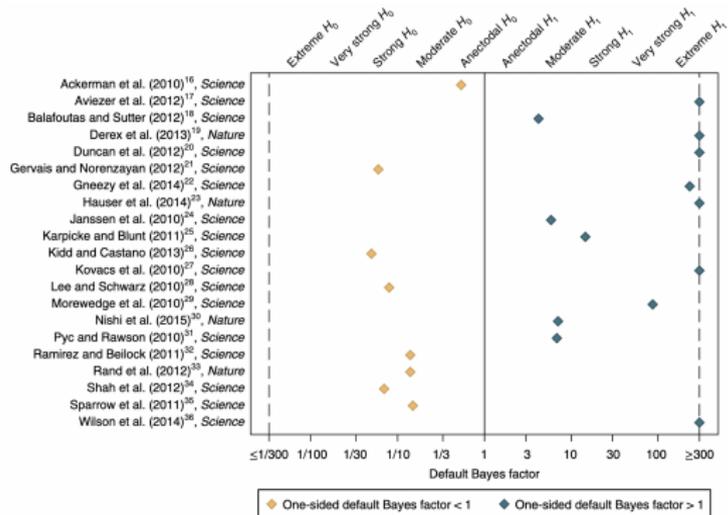
Investigación clínica



Freedman, LP., Cockburn, IM., Simcoe, TS (2015).



Successful: 11/18 = 61%



Successful: 13/21 = 62%

High Impact = High Statistical Standards? Not Necessarily So

Patrizio E. Tressoldi , David Giofré, Francesco Sella, Geoff Cumming

Published: February 13, 2013 • <http://dx.doi.org/10.1371/journal.pone.0056180>

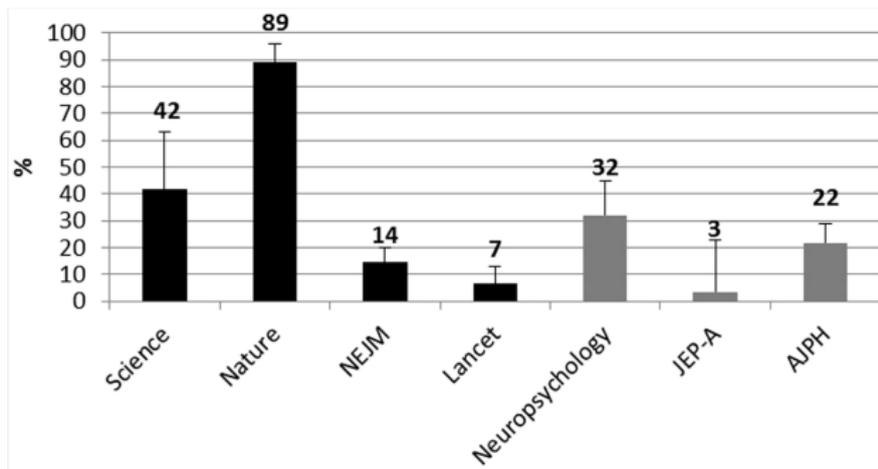
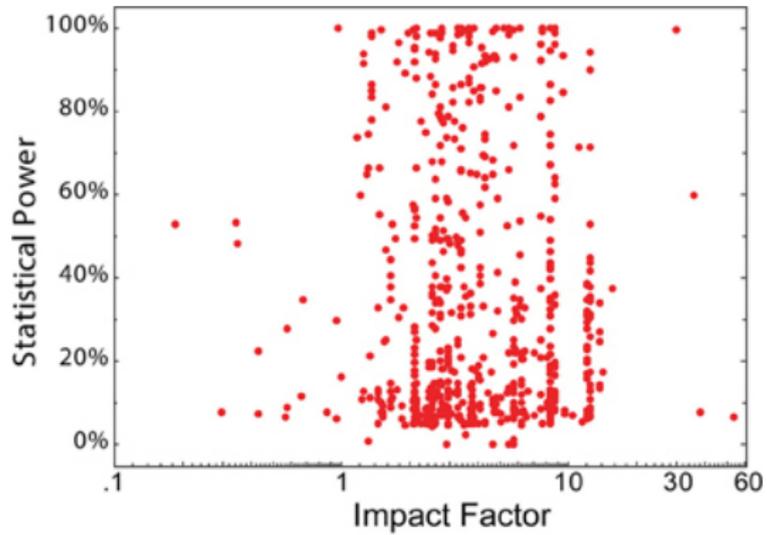


Figure 6. Percentages of selected articles in each journal that used NHST without CI, ES or Model and Power estimation.



Brembs, B., Button, K., & Munafo, M. (2013). DOI:10.3389/fnhum.2013.00291

REVIEW ARTICLE

Front. Hum. Neurosci., 20 February 2018 | <https://doi.org/10.3389/fnhum.2018.00037>



Prestigious Science Journals Struggle to Reach Even Average Reliability

 Björn Brembs*

Institute of Zoology—Neurogenetics, Universität Regensburg, Regensburg, Germany

REVIEW ARTICLE

Front. Hum. Neurosci., 20 February 2018 | <https://doi.org/10.3389/fnhum.2018.00037>



P **PLOS BIOLOGY**

R ⁶ OPEN ACCESS
PERSPECTIVE



Inst **Current Incentives for Scientists Lead to Underpowered Studies with Erroneous Conclusions**

Andrew D. Higginson , Marcus R. Munafò 

Published: November 10, 2016 • <https://doi.org/10.1371/journal.pbio.2000995>

REVIEW ARTICLE

Front. Hum. Neurosci., 20 February 2018 | <https://doi.org/10.3389/fnhum.2018.00037>



PLOS BIOLOGY
ROYAL SOCIETY
OPEN SCIENCE



Inst

Cu
St
And
Pub



Open Access



View PDF



Too



Share

Is

Research article

vered

The natural selection of bad science

Paul E. Smaldino and Richard McElreath

Published: 01 September 2016

<https://doi.org/10.1098/rsos.160384>

MICHAEL SCHULSON

SCIENCE 04.28.2018 09:00 AM

Science's "Reproducibility Crisis" Is Being Used as Political Ammunition

A report from the National Association of Scholars takes on the reproducibility crisis in science. Not everyone views the group's motives as pure.

Trump's budget director pick: "Do we really need government-funded research at all"

Mick Mulvaney suggested Zika science is uncertain, so we shouldn't bother to fund it.

By Julia Belluz | @juliabelluztoronto | julia.belluz@voxmedia.com | Updated Jan 24, 2017, 11:07am EST

f t  SHARE



Rep. Mick Mulvaney, R-S.C., asked during Congress' Zika budget gridlock: "Do we really need government funded research at all." | Tom Williams/CQ Roll Call



Office of Management and Budget

The Office of Management and Budget (OMB) serves the President of the United States in overseeing the implementation of his vision across the Executive Branch. Specifically, OMB's mission is to assist the President in meeting his policy, budget, management and regulatory objectives and to fulfill the agency's statutory responsibilities.

Mick Mulvaney

Director of OMB



Mick Mulvaney is the current director of the Office of Management and Budget (OMB). He was nominated to the post by President Donald J. Trump in December 2016 and confirmed by the Senate on February 16, 2017.

Massive cuts to science and medicine in Trump budget

Roger Collier

CMAJ June 12, 2017 189 (23) E812-E813; DOI: <https://doi.org/10.1503/cmaj.1095437>



NEWS | 11 March 2019

Trump seeks big cuts to science funding – again

The US president wants to cut spending at the National Institutes of Health and Environmental Protection Agency, but it's not clear whether Congress will go along.

Indicators and Weights for ARWU

| Criteria | Indicator | Code | Weight |
|------------------------|---|--------|--------|
| Quality of Education | Alumni of an institution winning Nobel Prizes and Fields Medals | Alumni | 10% |
| Quality of Faculty | Staff of an institution winning Nobel Prizes and Fields Medals | Award | 20% |
| | Highly cited researchers in 21 broad subject categories | HiCi | 20% |
| Research Output | Papers published in Nature and Science* | N&S | 20% |
| | Papers indexed in Science Citation Index-expanded and Social Science Citation Index | ESI | 20% |
| Per Capita Performance | Per capita academic performance of an institution | PCP | 10% |
| Total | | | 100% |

* For institutions specialized in humanities and social sciences such as London School of Economics, N&S is not considered, and the weight of N&S is relocated to other indicators.

| Scientist | Academic |
|------------------------------|--|
| Open-minded | Content journal editors |
| Sceptical | No replications, negative results, reviews |
| Consider all data | Inaccessible articles, data, software code |
| Collaborate | Compete for scarce resources |
| No investment in the outcome | p-hacking |



The Cost of Knowledge

20060 Researchers Taking a Stand. *See the list*

Academics have protested against Elsevier's business practices for years with little effect. These are some of their objections:

1. They charge exorbitantly high prices for subscriptions to individual journals.
2. In the light of these high prices, the only realistic option for many libraries is to agree to buy very large "bundles", which will include many journals that those libraries do not actually want. Elsevier thus makes huge profits by exploiting the fact that some of their journals are essential.
3. They support measures such as SOPA, PIPA and the Research Works Act, that aim to restrict the free exchange of information.

The key to all these issues is the right of authors to achieve easily-accessible distribution of their work. If you would like to declare publicly that you will not support any Elsevier journal unless they radically change how they operate, then you can do so by filling in your details on this page.

More information:

- [Statement of Purpose](#)
- [PolyMath journal publishing reform page](#)

[Read our blog](#), and follow the boycott on Twitter [here](#).

Add your name to the list.

First and Last Name

Affiliation

Email
only used once to verify your identity; never displayed, never shared

Subject

Comments (optional)

Link (optional)
such as a link to a blog post of yours explaining your position

I plan to refrain from:

- publishing refereeing editorial work

Add My Name



Please [email me](#) if you have any questions about this page, or if you would like to remove your name from the list.

[about us](#)

20060 people from have signed.

BUDAPEST OPEN ACCESS INITIATIVE

The original Declaration and guidelines to make research free and available to anyone with internet access and promote advances in the sciences, medicine, and health.

By “open access” to this literature, we mean its **free** availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, **crawl them for indexing, pass them as data to software**, or use them for any other lawful purpose, without financial, legal, or technical barriers.

BUDAPEST OPEN ACCESS INITIATIVE

The original Declaration and guidelines to make research free and available to anyone with internet access and promote advances in the sciences, medicine, and health.

By “open access” to this literature, we mean its **free** availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, **crawl them for indexing, pass them as data to software**, or use them for any other lawful purpose, without financial, legal, or technical barriers.

To achieve open access to scholarly journal literature, we recommend two complementary strategies.

1. Self-Archiving
2. Open-access journals

<https://www.budapestopenaccessinitiative.org/read>

GOLD

GREEN

Create or convert 23,000 open-access journals

Find funding support for open-access publication costs

Persuade the authors of the annual 2,500,000 articles to publish in new open-access journals instead of the existing toll-access journals

Persuade the authors of the annual 2,500,000 articles they publish in the existing toll-access journal to also self-archive them in their institutional open-access archives



*“Green OA has no promise of delivering augmented revenues to the publisher, but **Gold OA opens up a new customer**, the author him or herself, who in many instances pays for the article to be OA. **Gold OA**, in other words, represents a **business opportunity**, whereas **Green OA** represents a **business problem**.”*

Joseph Esposito, Publishing consultant

2012: The Finch report



Recommendations:

1. a clear policy direction should be set towards support for publication in open access or hybrid journals, funded by APCs, as **the main vehicle** for the publication of research, especially when it is publicly funded.

Key actions:

1. Make a clear commitment to **support the costs** of an innovative and sustainable research communications system, with a **clear preference for publication in open access or hybrid journals**.

2018: Plan S



cOAlition S endorses several strategies to **encourage subscription publishers** to transition to full and immediate Open Access (OA). These approaches are referred to as “Transformative Arrangements” and include Transformative Agreements, Transformative Model Agreements and Transformative Journals.

Publicar en acceso abierto

LOS ACUERDOS TRANSFORMATIVOS EN LA UCM

2 ¿Por qué publicar en acceso abierto?



- Se obtienen más **citas**,
- los artículos se **descargan** más cuando se publican en acceso abierto,
- se logra más **impacto**,
- tu investigación cumplirá con los mandatos de las entidades **financiadoras**,
- conservarás los derechos de autor sobre tu trabajo al publicarlo bajo una licencia **Creative Commons**,
- incrementa la **visibilidad** del autor y la institución.



1 ¿Qué son los acuerdos transformativos?

Son un sistema para fomentar la publicación en **acceso abierto**: las instituciones pagan a la editorial por el acceso a las revistas y en la misma licencia se incluyen los gastos de proceso de los artículos (**APC**), de modo que parte del precio abonado por la suscripción se convierte en crédito en APCs.



3 ¿Con qué editoriales?

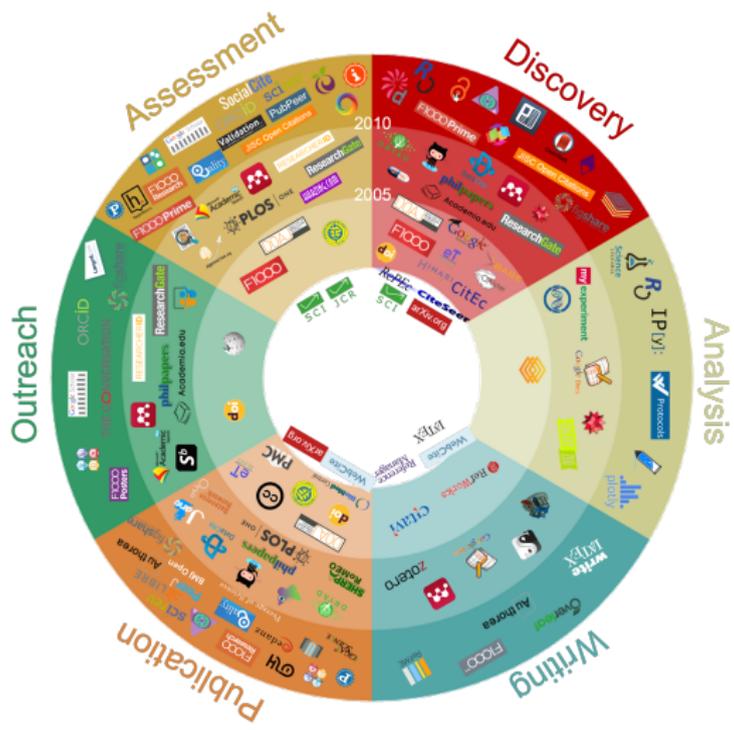
- American Chemical Society
- Cambridge University Press
- Elsevier
- Springer
- Wiley

Además hay condiciones ventajosas para publicar en abierto con las revistas MDPI y SCOAP3.



Autoarchivo en E-Prints Complutense

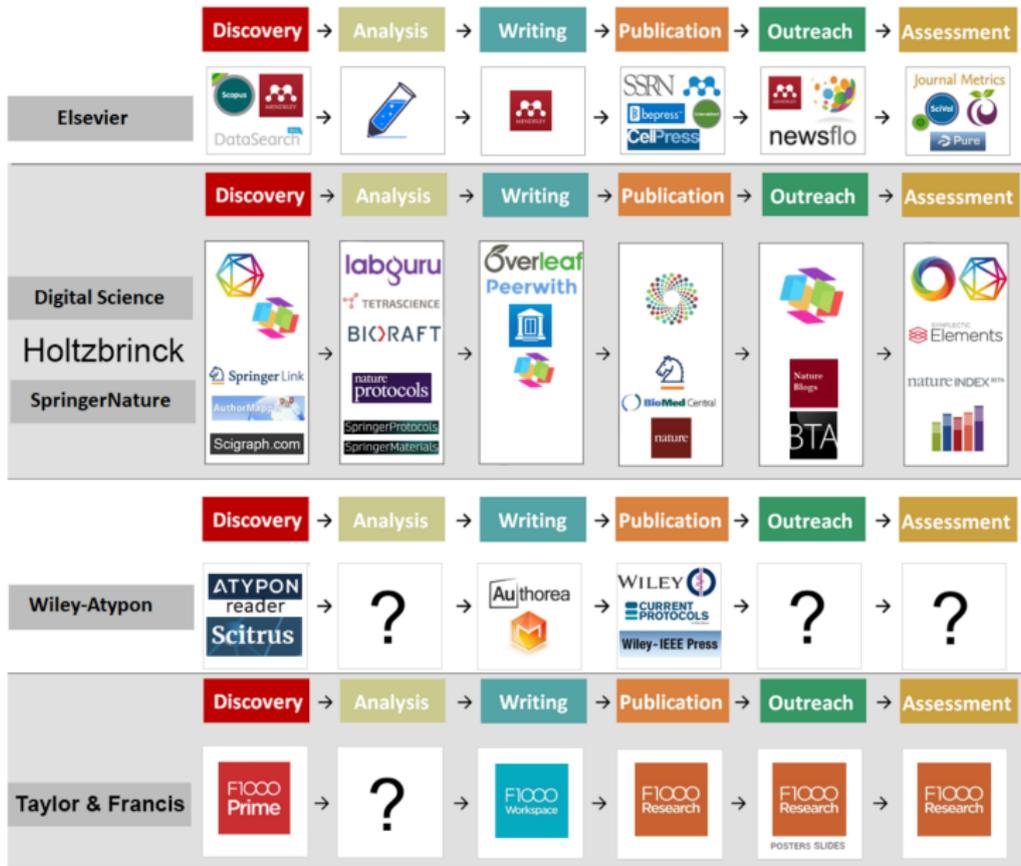
Si el manuscrito es aceptado por la editorial y cumple las condiciones para recibir la financiación de los gastos de publicación, es requisito que el documento se deposite en **E-Prints Complutense**, el repositorio institucional de la UCM.



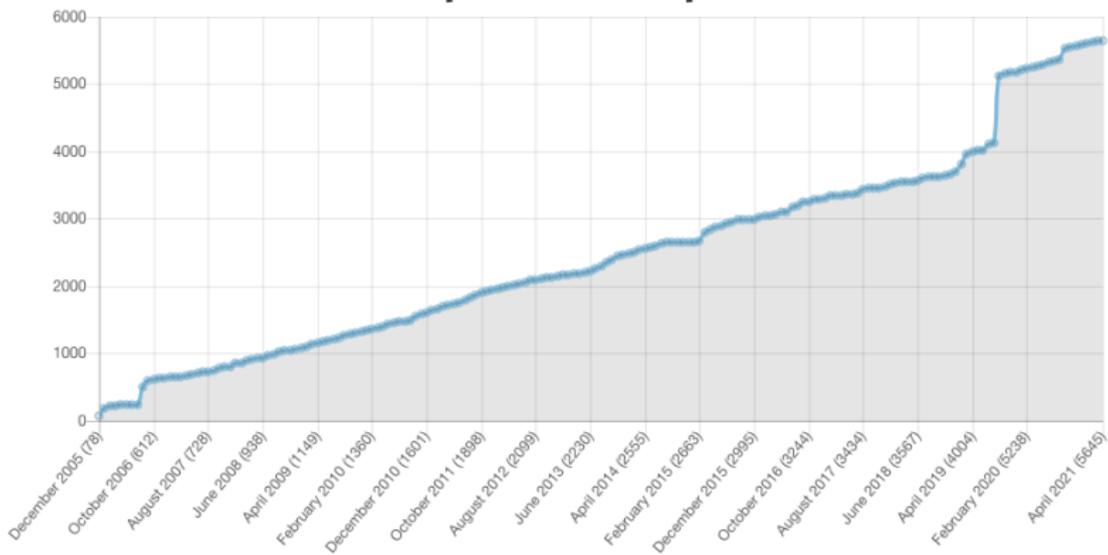








Growth of Open Access Repositories

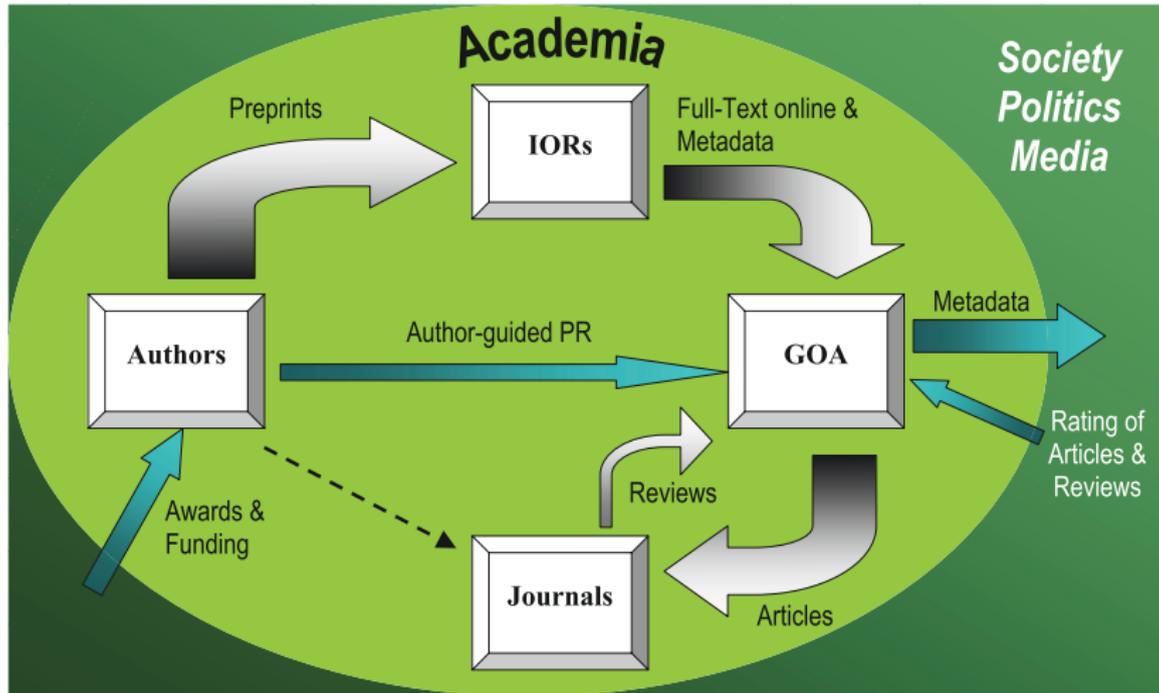


https://v2.sherpa.ac.uk/view/repository_visualisations/1.html

DIGITAL.CSIC

- Clasificado como el 5º mayor repositorio europeo
- 120 Instituciones
- Equipo de bibliotecarios expertos
- Más de 130,000 artículos en acceso abierto
- Perseverancia digital, DOIs
- Almacenamiento de datos y código

NSAP (2010): Una propuesta disruptiva



Perakakis, P., Taylor, M., & Trachana, V. (2010). **Natural Selection of Academic Papers**. *Scientometrics*, 85(2), 553-559.



The Academia that Science Deserves

Anonymous reviewers.

Paywalls.

Publish or perish.

Journal metrics.

Subscription fees.

Publication costs.

...

We can, and must do better...



Open Peer Review Module (2015)

Open Peer Review Module

Open Scholar coordinated a consortium of five partners to develop an open source module that can be installed on institutional repositories to enable overlay open peer review.



OUR PROJECT PARTNERS



<https://www.openscholar.org.uk/open-peer-review-module-for-repositories/>



November 28, 2017

Other Open Access

Next Generation Repositories: Behaviours and Technical Recommendations of the COAR Next Generation Repositories Working Group

Rodrigues, Eloy; Bollini, Andrea; Cabezas, Alberto; Castelli, Donatella; Carr, Les; Chan, Leslie; Humphrey, Chuck; Johnson, Rick; Knoth, Petr; Manghi, Paolo; Matizirofa, Lazarus; Perakakis, Pandelis; Schirrwagen, Jochen; Selematsela, Daisy; Shearer, Kathleen; Walk, Paul; Wilcox, David; Yamaji, Kazu

<https://doi.org/10.5281/zenodo.1215014>

Notify: Repository and Services Interoperability Project



<https://www.coar-repositories.org/notify/>

Journal of the Spanish Society for Experimental Psychology

PSICOLÓGICA Journal

ARTICLES About FOR AUTHORS FOR REVIEWERS SUBMIT MANUSCRIPT



Evidence that numerical estimates of subjective ratios may be numerical ratings of subjective differences

The hypothesis that people can make non-learned numerical estimates of ratios [...]

By Sergio Garcia-Hoz, 31 MAR 2022 | 2019-2022, 104.45 (1), 1014.9 (2022) [Read More >](#)

Spatial interference triggered by gaze and arrows. The role of target background on spatial interference

Recent evidence with a spatial interference paradigm has shown that arrows [...]

By Rafael Ferrás-Cabrera, Andrea Martín, Juan Lupatkin, 28 MAR 2022 | 2019-2022, 104.42 (2), 1014.92 (2022) [Read More >](#)

Effects of Divided Attention and Cued Recall Test on True and Illusory Memories in the DRM Paradigm

In this study, we were interested in examining how the reduction of attentional resources during the encoding of word lists and the type of recall test affected true and false memories in the Deese-Roediger-McDermott paradigm (DRM paradigm). Three DRM lists were presented visually under full attention conditions or while participants had to monitor a concurrent auditory task of letters and digits. After the presentation of each list, participants completed a [...]

<https://psicologicajournal.com>

CSIC Research - Pasarela - Noticias - Contact

PSICOLÓGICA Journal

English español

Psicológica Journal : [7]



The journal Psicológica was born in 1982 as the flagship journal of the Spanish Society for Experimental Psychology: its mission the publication of high quality articles spanning the entire spectrum of Experimental Psychology. Since 1988, Psicológica has been an electronically-open access journal.

Starting from 2022, all journal contents, including articles, peer reviews, data, and software code will be published exclusively at DIGITAL_CSIC, the institutional open access repository of the Spanish National Research Council, at no cost for authors or readers.

The journal is financially supported by the Spanish Society for Experimental Psychology and the University of Valencia in Spain. The implementation of the journal's innovative publication and peer review model is supported by the organization Open Scholar and the OJSR software.

psicologicajournal.com

Discover

- Activa
- Activa-Palacio, Carlos
- Alcalá, José A.
- Alcázar Martínez, José M.
- Calhoun-Agüero, José B.
- Castillo-Pérez, Gabriela
- Compañea, Mercedes
- Díez, Margarita
- Fraga, Isabel
- García, Yolanda
- Galkowski, Maria

Keywords

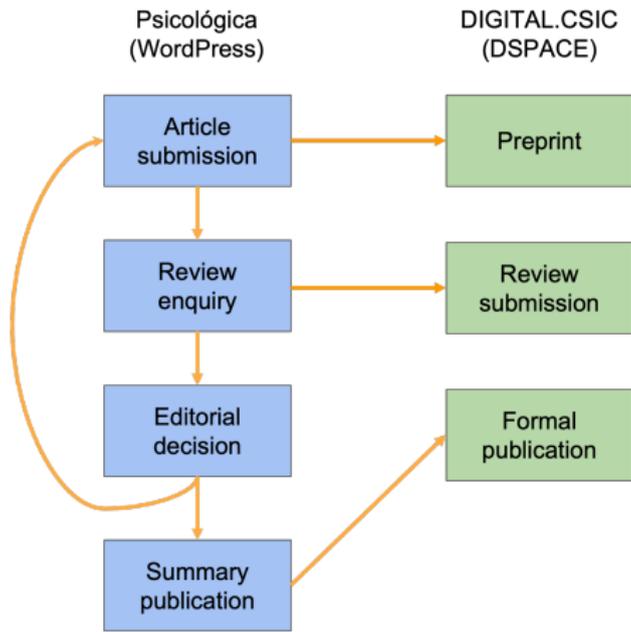
- Activation monitoring
- Attention
- Automated facial expression analysis
- Basic emotion
- Cued recall test
- Divided attention
- DRM paradigm
- Dual-task model
- Emotion
- Estimation performance

Collection's Items (Sorted by Submit Date in Descending order): 1 to 7 of 7

| Rights | Preview | Issue Date # | Title | Author(s) | Type |
|--------|---------|--------------|---|---|----------------------|
| | | 2022 | The Role of the Physical Environment and Size of Objects in Length Estimation | Galkowski, Maria; Verschufer, Lieve; Luvón, Aitor | documento de trabajo |
| | | 2022 | Experiencing Extinction Facilitates Subsequent Acquisition of Fearless, but not Negative Following in Human Prefrontal Learning | Alcalá, José A.; Gómez Melián, Gabriel; Peña M. Calhoun-Agüero, José B.; Alcalá, Juan M. | documento de trabajo |
| | | 2022 | Analyzing Facial Expressions of Basic Emotions with FaceReader, an experimental study | Schwarz, Konstanze; Valet Jiménez, David; Mora-Soria, Patricia; Gil-Soms, José-Antoni; Montoya-Castillo, Inmaculada | documento de trabajo |
| | | 2022 | Effects of Divided Attention and Cued Recall Test on True and Illusory Memories in the DRM Paradigm | Ferrás, Rafael; Martín, Andrea; Lupatkin, Juan | artículo |

2022

[https:// digital.csic.es/handle/10261/228593](https://digital.csic.es/handle/10261/228593)



<http://hdl.handle.net/10261/264625>

The Notify Project receives a \$4 million grant from the Arcadia Foundation



<https://www.openscholar.org.uk/the-notify-project-receives-a-4-million-grant-from-the-arcadia-foundation/>

Conclusiones

- Conflicto de intereses entre el negocio editorial y los procesos básicos de la ciencia.
- Los repositorios institucionales ofrecen una infraestructura editorial superior.
- Las revistas académicas no necesitan a las editoriales (al revés).
- El control de los procesos de la validación, evaluación, diseminación (...) permitirá adecuarlos a los intereses de la ciencia y la sociedad.

Sugerencias

- Redirigir la financiación de las editoriales a las infraestructuras públicas y abiertas.
- Sustituir los acuerdos transformativos por procesos de licitación estándar.
- Las agencias de financiación pueden exigir unos estándares mínimos de infraestructuras y políticas en las organizaciones que realizan investigación como condición para las subvenciones.
- El control de los procesos de la validación, evaluación, diseminación (...) permitirá adecuarlos a los intereses de la ciencia y la sociedad.
- Dejar de depender de métricas de prestigio y desarrollar sistemas nuevos, modernos y adaptables para evaluar la calidad de los trabajos de investigación.

¡Gracias por su atención!

