

El negocio de la evaluación científica

Alternativas desde a comunidad académica y las instituciones

Pandelis Perakakis

pperakakis@ucm.es

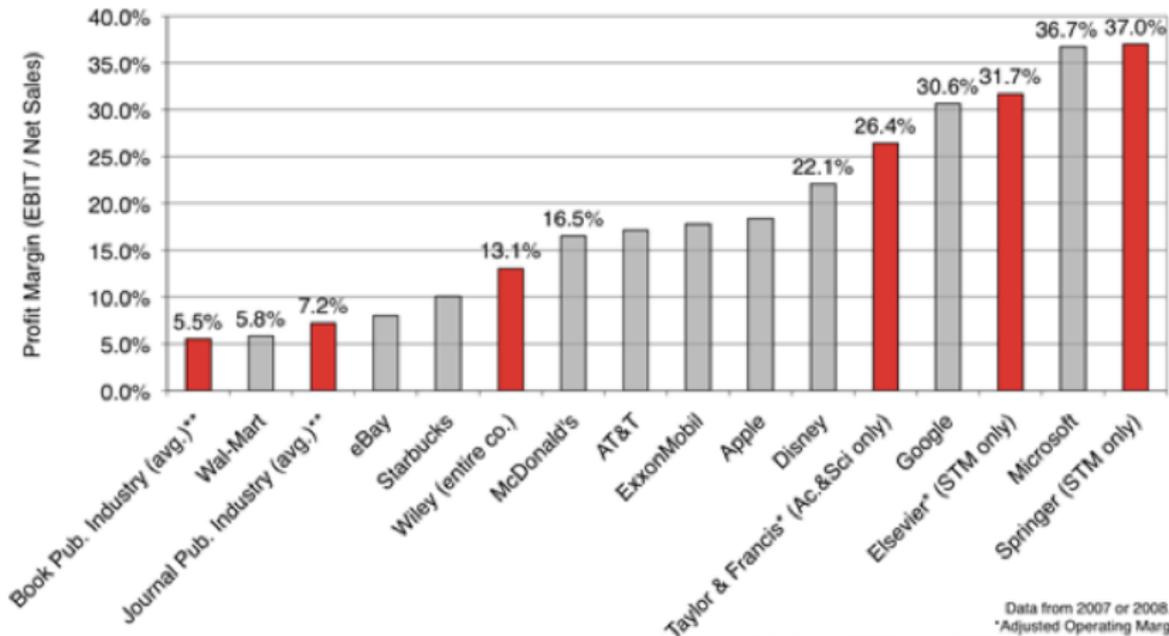
12 de Marzo, 2025

<https://pandelisperakakis.info>

<https://openscholar.info>

La realidad económica

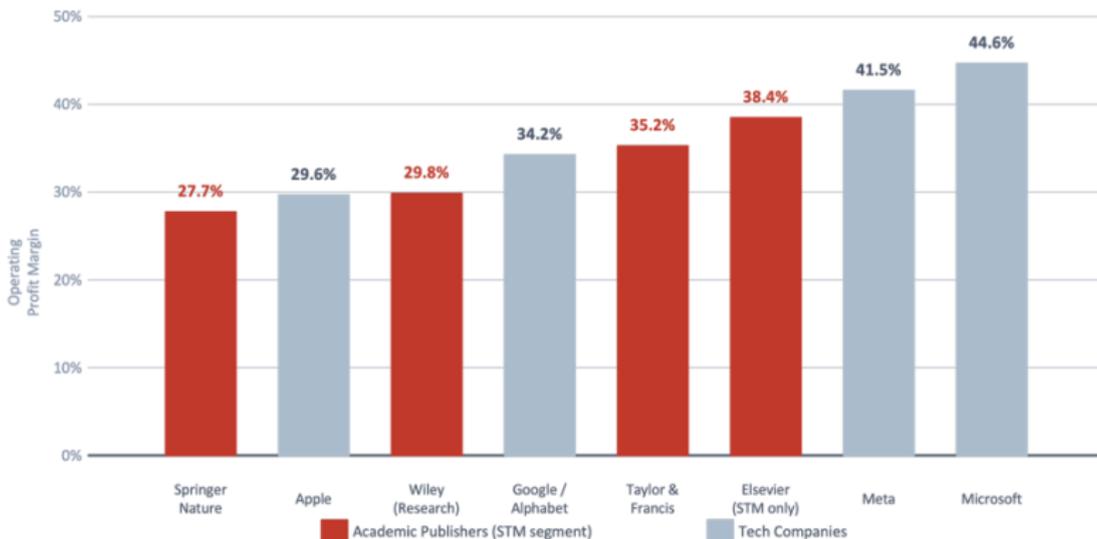
Profit Margins: Journal Publishers v. Other Companies



Data from 2007 or 2008.
*Adjusted Operating Margin

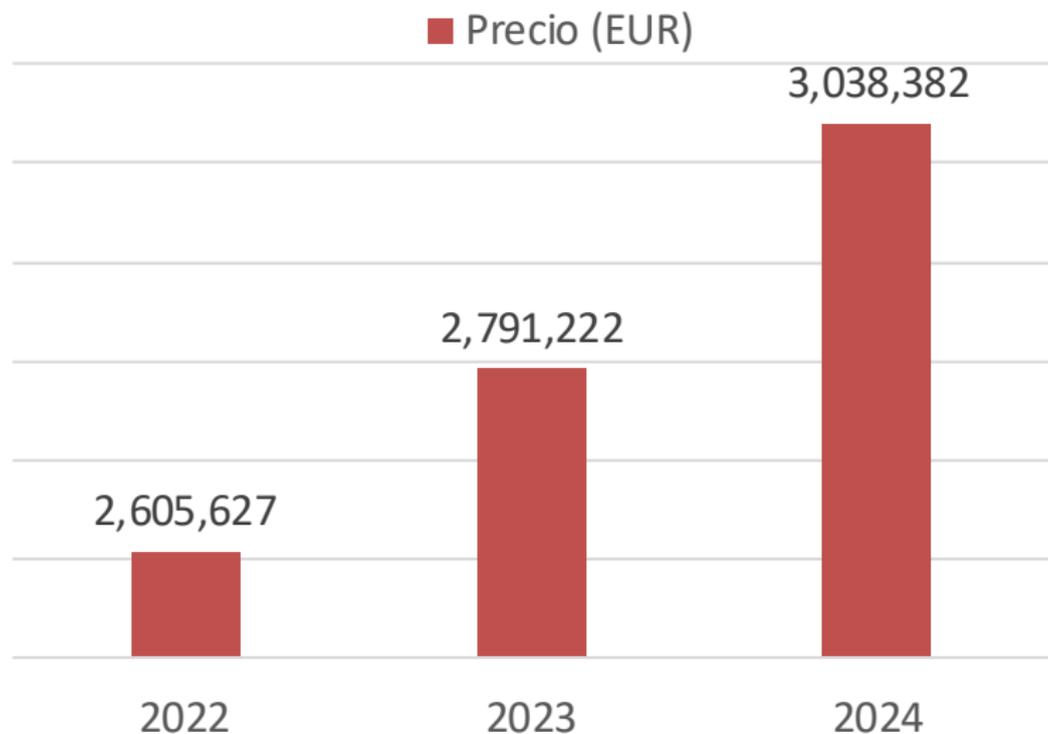
Data Source: MIT Libraries **RMA Annual Statement Studies, 2007

Profit Margins: Journal Publishers vs. Tech Companies (2024)

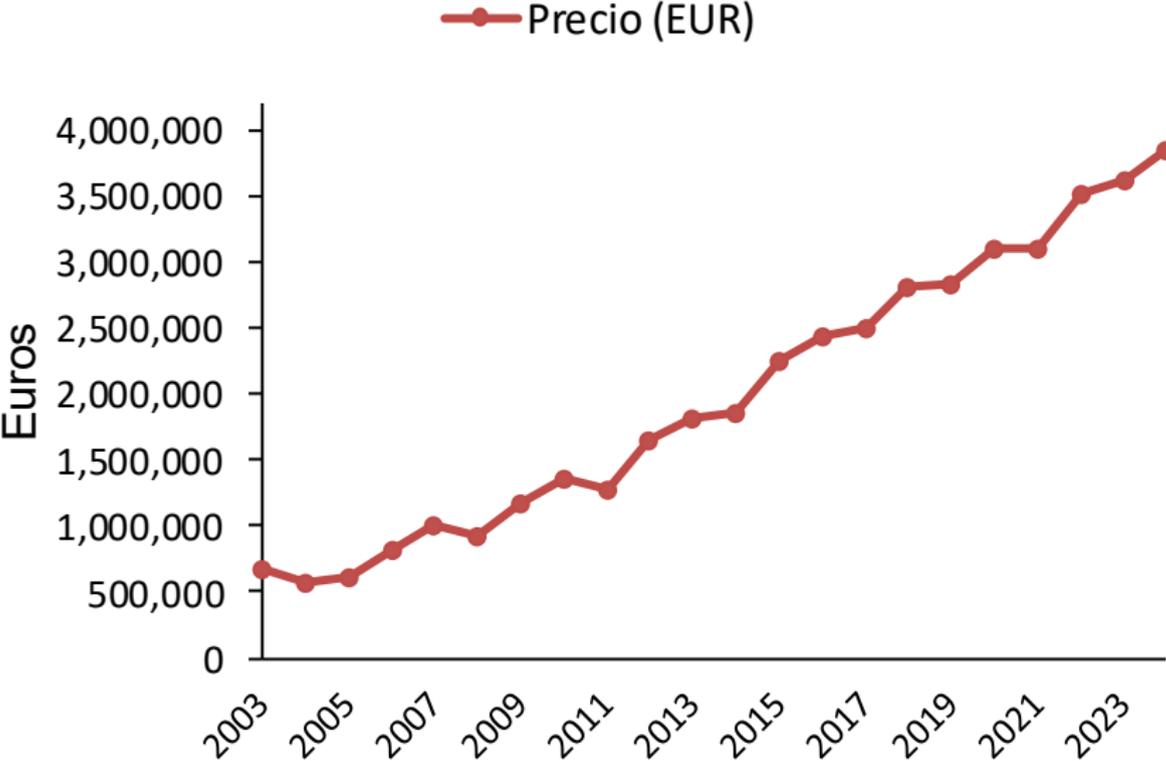


Data from 2024 annual reports. Publisher figures = STM/Research segment operating margin only.
Sources: RELX, Springer Nature, Informa, Wiley annual reports; MacroTrends; Yahoo Finance.

Libros, Revistas y Bases de Datos (UCM)



Gasto total en recursos electrónicos por año



Declaraciones financieras de Elsevier en 2018

- Beneficio neto: 1.107.876.427,69 euros
- Margen de beneficio: 37,1%.
- “En 2018 realizamos tres pequeñas adquisiciones en apoyo de nuestra estrategia de crecimiento orgánico, Via Oncology, Aries Systems y Science-Metrix, y nos deshicimos de un negocio farmacéutico menor en Japón.”
- “El entorno de nuestros clientes no ha cambiado mucho, y esperamos otro año de modesto crecimiento de ingresos.”

Las causas

processes

Validation

Evaluation

Dissemination

Current

2-3 anonymous reviewers
disclosed reviews

citation metrics (IF)
journal prestige
altmetrics

private servers
restrictive licenses
APCs or subscriptions

processes

Validation

Evaluation

Dissemination

Journal

2-3 anonymous reviewers
disclosed reviews

citation metrics (IF)
journal prestige
altmetrics

private servers
restrictive licenses
APCs or subscriptions

La validación

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 SAVOY,
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*.

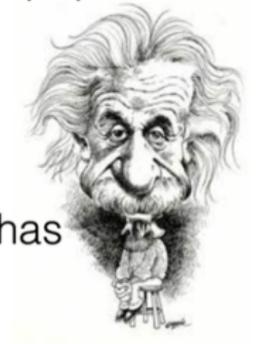
Presented by the Author May 30th 1667.

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.





The peer review drugs don't work

A process at the heart of science is based on faith rather than evidence, says Richard Smith, and vested interests keep it in place

Peer review is supposed to be the quality assurance system for science, weeding out the scientifically unreliable and reassuring readers of journals that they can trust what they are reading. In reality, however, it is ineffective, largely a lottery, anti-innovatory, slow, expensive, wasteful of scientific time, inefficient, easily abused, prone to bias, unable to detect fraud and irrelevant.

Perhaps the biggest argument against the peer review of completed studies is that it simply isn't needed. With the World Wide Web everything can be published, and the world can decide what's important and what isn't. This proposition strikes terror into many hearts, but with so much poor-quality science published what do we have to lose?

Richard Smith, former *British Medical Journal* editor

May 28, 2015

Effects of Editorial Peer Review

A Systematic Review

Tom Jefferson, MD

Philip Alderson, MBChB

Elizabeth Wager, MA

Frank Davidoff, MD

Conclusions Editorial peer review, although widely used, is largely untested and its effects are uncertain.

JAMA. 2002;287:2784-2786

www.jama.com



Cochrane

Trusted evidence.
Informed decisions.
Better health.

Editorial peer review for improving the quality of reports of biomedical studies

Published:

18 April 2007

Authors:

Jefferson T, Rudin M, Brodney

Folse S, Davidoff F

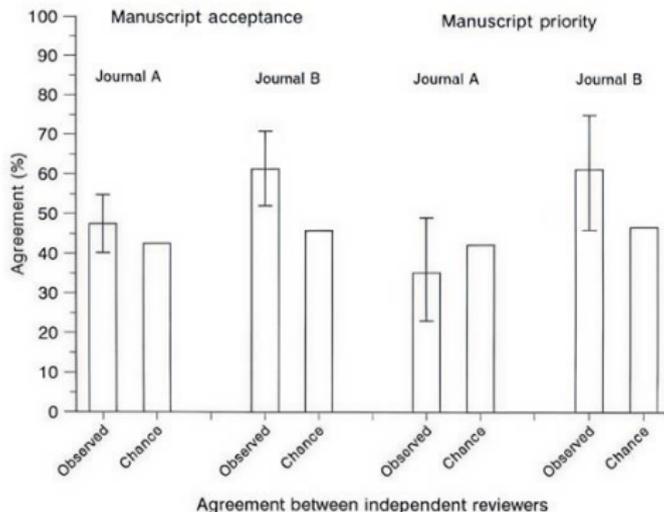
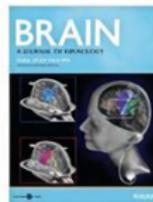
Authors' conclusions:

At present, little empirical evidence is available to support the use of editorial peer review as a mechanism to ensure quality of biomedical research.

Reproducibility of peer review in clinical neuroscience: Is agreement between reviewers any greater than would be expected by chance alone?

Peter M. Rothwell, Christopher N. Martyn

DOI: <http://dx.doi.org/10.1093/brain/123.9.1964> 1964-1969 First published online: 1 September 2000



News Feature

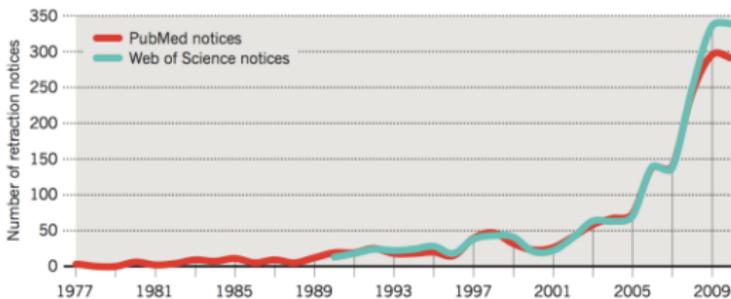
Science publishing: The trouble with retractions

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**).

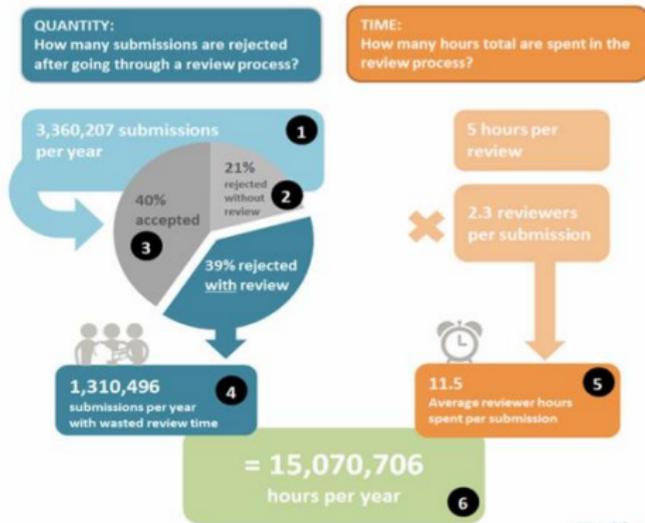


Rejecting and resisting Nobel class discoveries: accounts by Nobel Laureates

JUAN MIGUEL CAMPANARIO

Departamento de Física, Universidad de Alcalá, 28871 Alcalá de Henares, Madrid, Spain

I review and discuss instances in which 19 future Nobel Laureates encountered resistance on the part of the scientific community towards their discoveries, and instances in which 24 future Nobel Laureates encountered resistance on the part of scientific journal editors or referees to manuscripts that dealt with discoveries that later would earn them the Nobel Prize.



Unpaid peer review is worth £1.9bn

Study tallies 'hidden subsidy' of global scholarly communications system. Zoe Corbyn reports

Activities, costs and funding flows in the scholarly communications system in the UK
Report commissioned by the Research Information Network (RIN)



May 29, 2008

La evaluación

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)

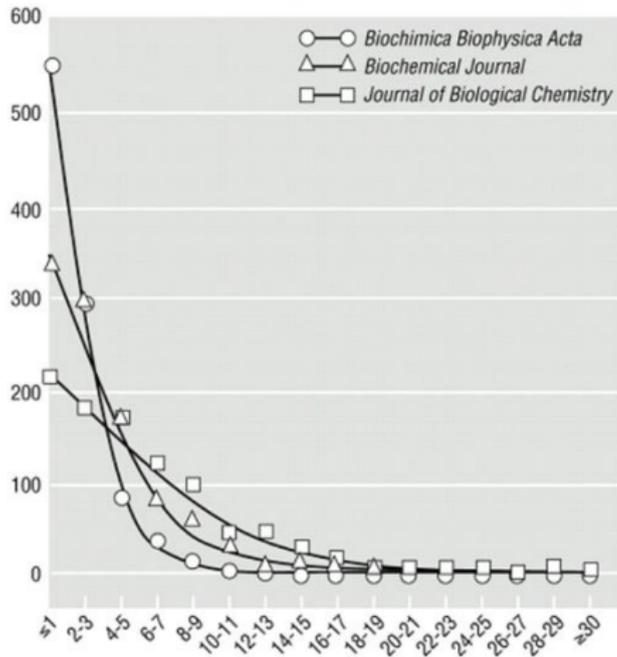
1992: ISI comprado por *Thomson_{TM}* por \$210 million

2016: Thomson comprado por *Onex Corporation* y *Baring Private Equity Asia* por \$3.550 millones *in cash*¹

[1. https://www.thomsonreuters.com/en/press-releases/2016/july/thomson-reuters-announces-definitive-agreement-to-sell-its-intellectual-property-science-business.html](https://www.thomsonreuters.com/en/press-releases/2016/july/thomson-reuters-announces-definitive-agreement-to-sell-its-intellectual-property-science-business.html)

*“Los factores de impacto de las revistas sólo se utilizan —y con cautela— para medir y comparar la influencia de **revistas enteras**, pero **no para evaluar artículos individuales** ni, desde luego, para evaluar **investigadores** o **programas de investigación**.”*

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



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

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>

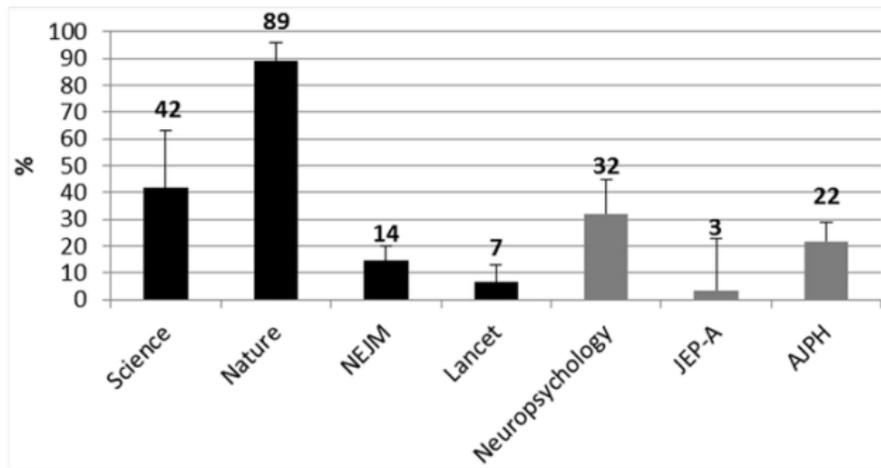
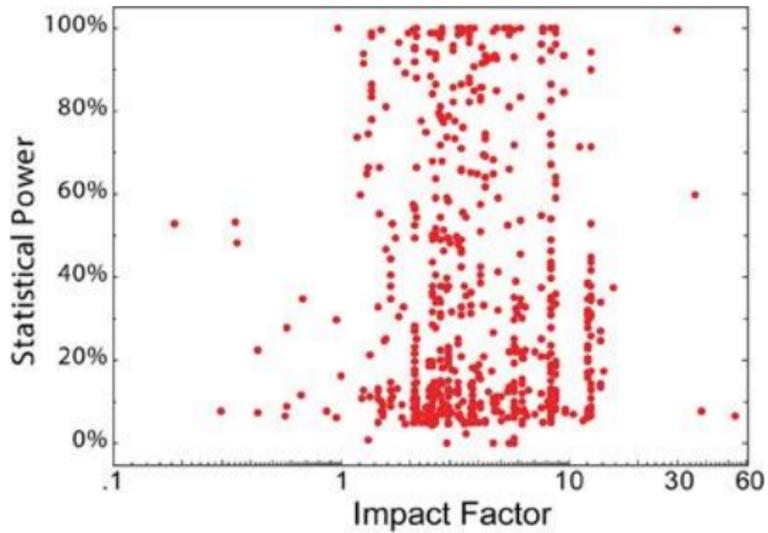
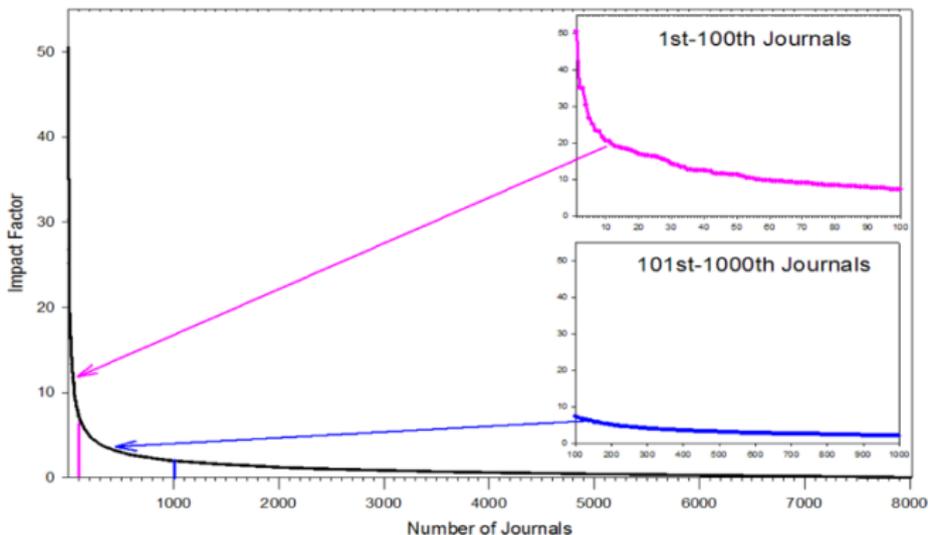


Figure 6. Percentages of selected articles in each journal that used NHST without CI, ES or Model and Power estimation.



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

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.

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.

“El modelo actual de publicación académica trata el conocimiento como un **bien material**. En lugar de colaborar... los académicos se ven obligados a **competir** por un número limitado de prestigiosos **espacios de publicación**... toda esta empresa se basa en la economía de la escasez, donde el valor se obtiene de la **exclusividad**.”

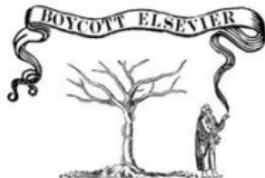
Perakakis, P. (2013). [New forms of open peer review will allow academics to separate scholarly evaluation from academic journals](#). London School of Economics. Impact of Social Sciences Blog.

“Una oleada de **adquisiciones** en el negocio editorial ha creado **empresas gigantescas** con el poder de extraer de las bibliotecas universitarias **precios cada vez más altos** por las revistas.”

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



La diseminación



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](#).

20060 people from have signed.

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](#)

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>



*“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:

1a 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: PlanS



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.



L. González

Departamento de Química Física,
Facultad de Ciencias Químicas.
Universidad Complutense de Madrid
E-mail: lgonzal@ucm.es
Received: 13/11/2023
Accepted: 30/11/2023
ORCID: 0000-0003-1900-1241

El verdadero coste de los Acuerdos Transformativos

Luis González 

Tabla 1. Coste de los Acuerdos Transformativos, desglosados por editorial y concepto. Datos aproximados estimados de la información limitada disponible en las referencias [10-14]. Los datos de la ACS no son en euros sino en dólares.

Editorial	Coste total (millones de €)	Número de APCs	Gasto en APCs (millones de €)	Coste por APC (en €)
Elsevier	101.721	26.436	65.058	2.461
Springer	24.943	8.757	21.346	2.438
Wiley	24.000	9.178	-	2.600
ACS	12.415	2.665	-	3.750
Total	163.078	47.118		

An. Quím., 1179 (34), 2023, 20938-23028

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.



5

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.

El problema real: Ciencia vs Academia

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..



"La mayoría de los investigadores actuales, sobre todo los que están al principio de su carrera, quieren ser científicos, pero se ven obligados a convertirse en académicos".

Drug development: Raise standards for preclinical cancer research

C. Glenn Begley & Lee M. Ellis

85 per cent of preclinical studies could not be replicated

Building a stronger system

What reasons underlie the publication of erroneous, selective or irreproducible data? The academic system and peer-review process tolerates and perhaps even inadvertently encourages such conduct⁵. To obtain funding, a job, promotion or tenure, researchers need a strong publication record, often including a first-authored high-impact publication. Journal editors, reviewers and grant-review committees often look for a scientific finding that is simple, clear and complete — a 'perfect' story. It is therefore tempting for investigators to submit selected data sets for publication, or even to massage data to fit the underlying hypothesis.

Nature **483**, 531–533 (29 March 2012) | doi:10.1038/483531a

Published online 28 March 2012

La solución



Tim Berners Lee



Paul Ginsparg

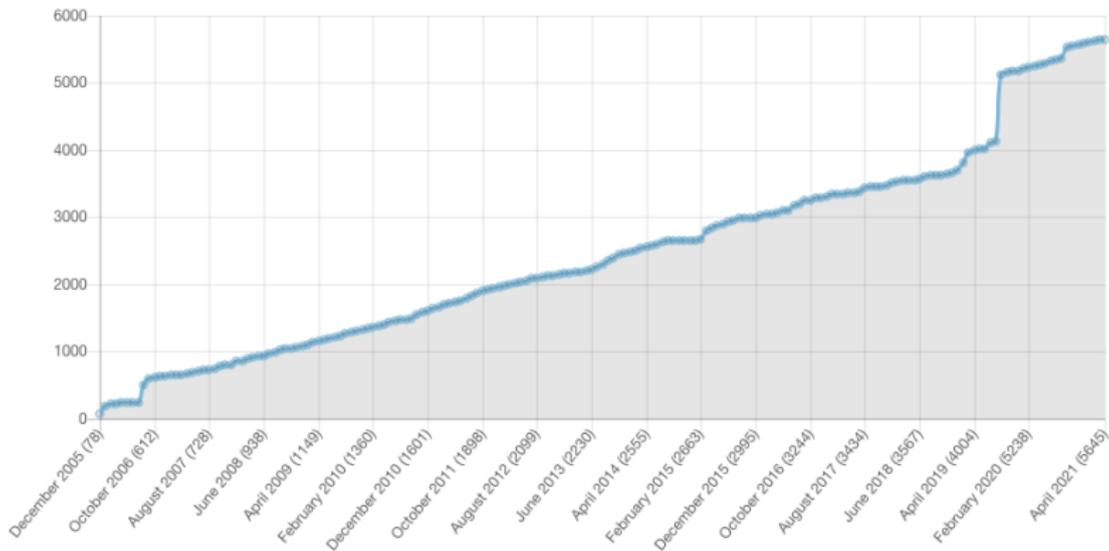


WorldWideWeb: Proposal for a HyperText Project

To: P.G. Jonsson/ECF, C. Koller/ECF, D.G. Williams/CN
Cc: R. Bray/CN, E. Grosse/ECF, R. F. Jones/ECF, T.H. Outhwaite/CN, P. Palazzi/ECF, N. F. Palfrey/CN,
B. W. Patterson/CN, J.M. F. Reiser/ECF
From: T. Berners-Lee/CN, R. Callaas/ECF
Date: 12 November 1990

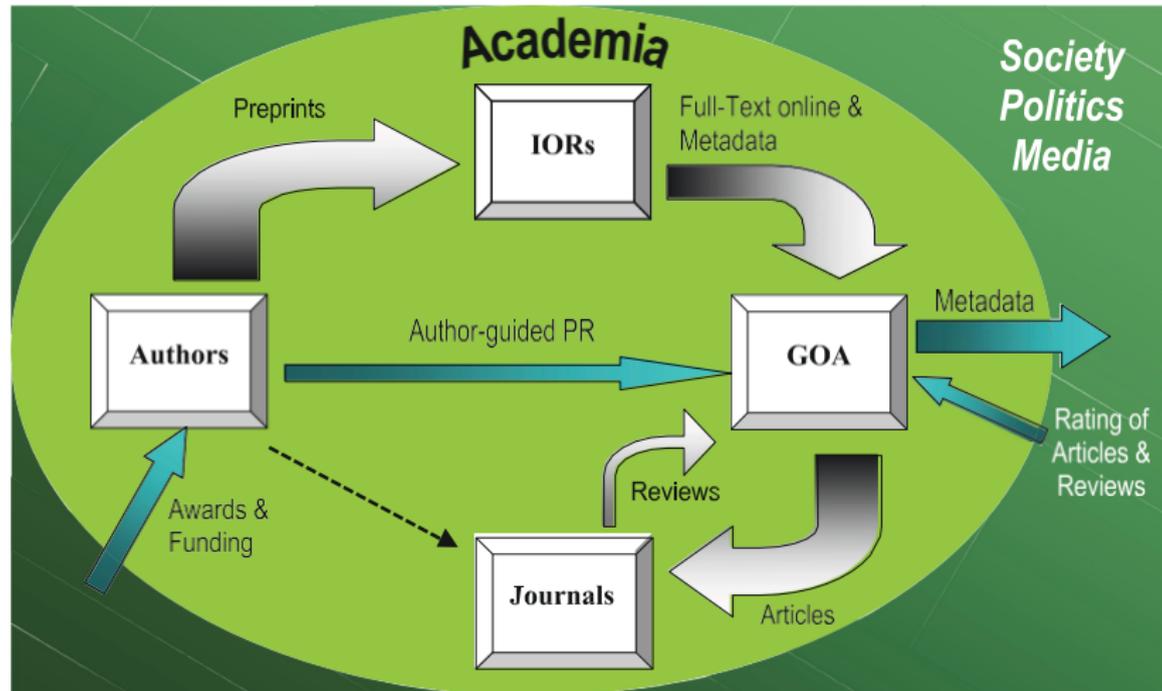
The attached document describes in more detail a Hypertext project.
Hypertext is a way to link and access information of various kinds in a web of nodes in which the user can browse at will. It provides a single user interface to large classes of information reports, notes, data bases, conference documents and on-line help. We propose a simple scheme for representing systems already available at CERN.
The project has two phases: first we make use of existing software and hardware as well as implementing single browsers for the user's workstations, based on an analysis of the requirements for information access made by experiments. Secondly, we extend the application area by also allowing the users to add new material.

Growth of Open Access Repositories



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

Natural Selection of Academic Papers (2010)



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

2023

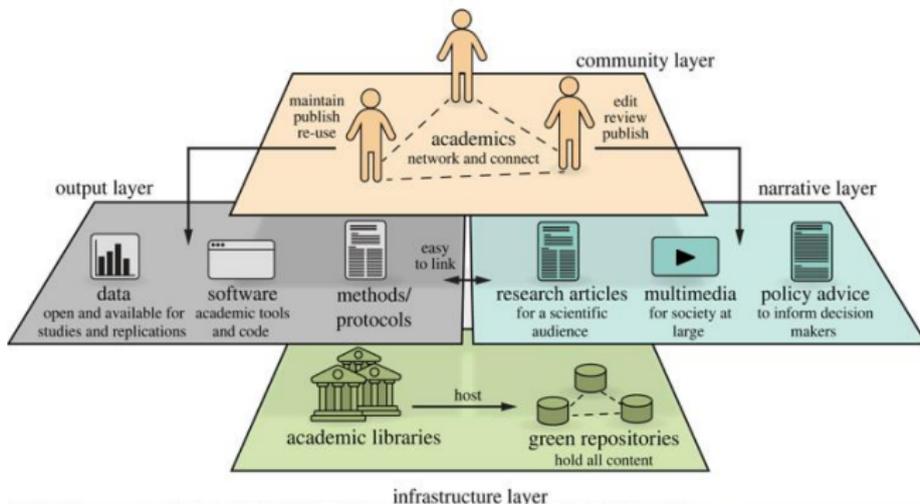
Perspective



Replacing academic journals

Björn Brembs¹, Philippe Huneman², Felix Schönbrodt³,
Gustav Nilsson⁴, Toma Susi⁵, Renke Siems⁶,
Pandelis Perakakis⁷, Varvara Trachana⁸, Lai Ma⁹ and
Sara Rodriguez-Cuadrado¹⁰

federated scholarly information network



Open Scholar (2012)



[Home](#) [About](#) [Projects](#) [News](#) [Resources](#) [Contact](#)

The Academia that Science Deserves

Anonymous reviewers.

Paywalls.

Publish or perish.

Journal metrics.

Subscription fees.

Publication costs.

...

We can, and must do better...



<https://www.openscholar.info>

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>

2022: Psicológica Journal

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 Hege, Inés María | 2022 | 2022-05-01, 10.4471/psic.22.02

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-Rodriguez-McDermott paradigm (DRM paradigms). 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...

By Hege, Inés María; García, Andrea; García, Juan Luis | 2022 | 2022-05-01, 10.4471/psic.22.02

<https://psicologicajournal.com>

Digital CSIC - Services Centres CSIC - 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 to support the publication of high quality articles spanning the entire spectrum of Experimental Psychology. Since 1998, Psicológica has been an electronic, 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, in its tool 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

Authors

- Acuña-Pardo, Carlos
- Araki, José A.
- Araya Martínez, José M.
- Calvo-Agüero, José E.
- Castillo-Pardo, Gabriela
- Comesaña, Montserrat
- Díez, Margarita
- Fraga, Isabel
- García, Inés María
- García, María
- Sánchez, María

Next >

Keywords

- Activation monitoring account
- Adoption
- Automated facial expression analysis
- Basic emotions
- Cued recall test
- Divided attention
- DRM paradigm
- Duration model
- Emotion
- Estimation performance

Next >

Date issued

- 2022

Issue Date	Author	Title	Keywords	Submit Date
2022	Gaburo, Alvin; Verschuif, Leon; Lovell, Koen	The Role of the Physical Environment and Size of Objects in Length Estimation		
2022	Araki, José A.; López, Miguel; Galán, Pedro M.; Calvo-Agüero, José E.; Rivas, Juan M.	Experiencing Extinction Facilitates Subsequent Acquisition of Fearless, but not Negative Preferring in Human Predictive Learning		
2022	Sánchez, Karacina; Isard, Jérémy; Sany, Mica-Orlita; Párraga, Gábor; José-Antoni, Montoya-García; Hervas, Inmaculada	Analyzing facial expressions of basic emotions with FaceReader: An experimental study		
2022	Hege, Inés María; García, Andrea; García, Juan Luis	Effects of Divided Attention and Cued Recall Test on True and Illusory Memories in the DRM Paradigm		

<https://digital.csic.es/handle/10261/228593>

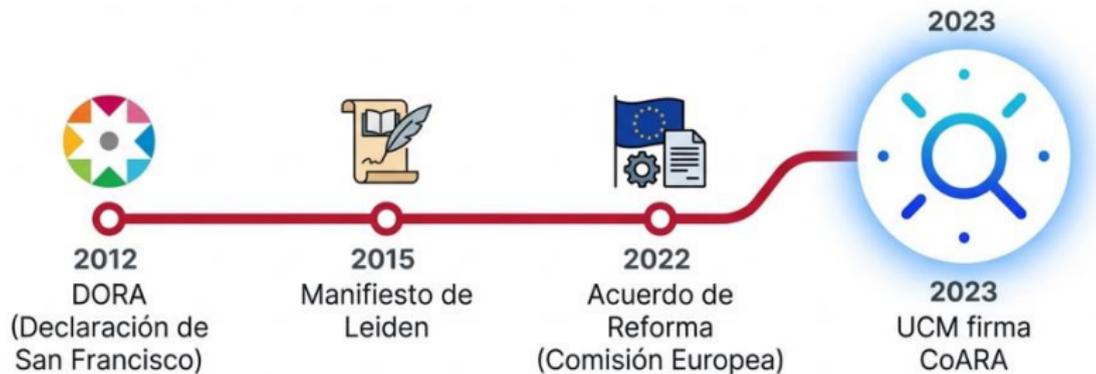
No-pay publishing: use institutional repositories

[Isabel Bernal](#) & [Pandelis Perakakis](#) 

Transferred in 2022 from a commercial publisher, *Psicológica* publishes about 50 articles, preprints and peer reviews annually. Publication costs are shared between the journal — which is financially supported by the society — and the publicly funded repository, which provides services such as archiving, DOI assignment and metadata curation. At an estimated cost of **€30 (US\$34) per publication**, *Psicológica* can increase its output without incurring substantial extra costs. This underscores the sustainability of such models.

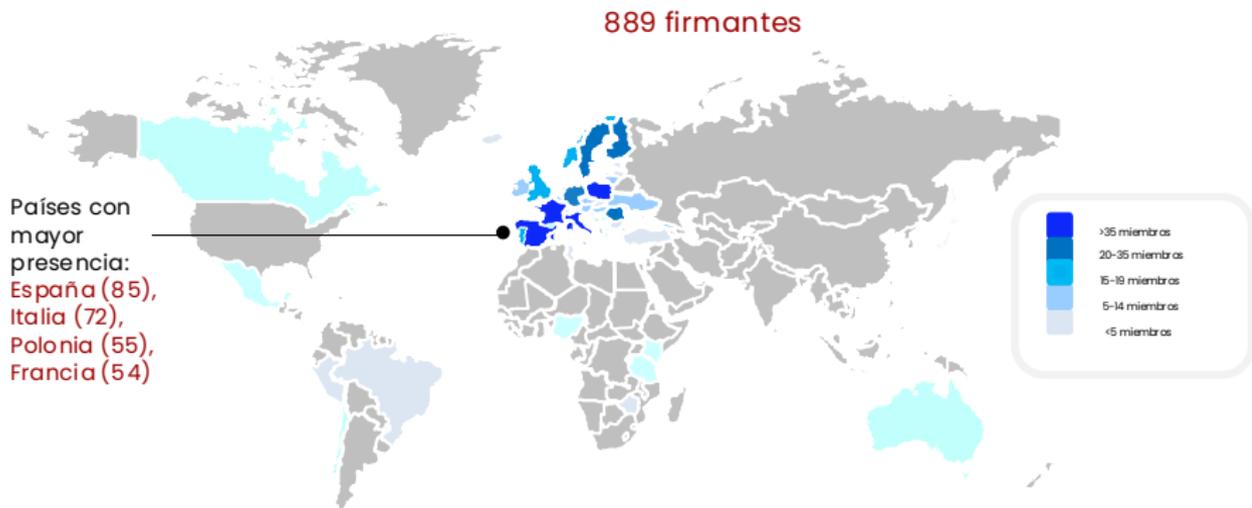
La reforma de la evaluación en la UCM

Un cambio de paradigma en la evaluación científica



Una coalición global: miembros CoARA

A fecha de 17 de octubre de 2025



Los 10 compromisos de la reforma

Compromisos Centrales



1. Reconocer la diversidad



2. Criterios cualitativos (Peer Review)



3. Abandonar uso inapropiado de JIF/h-index

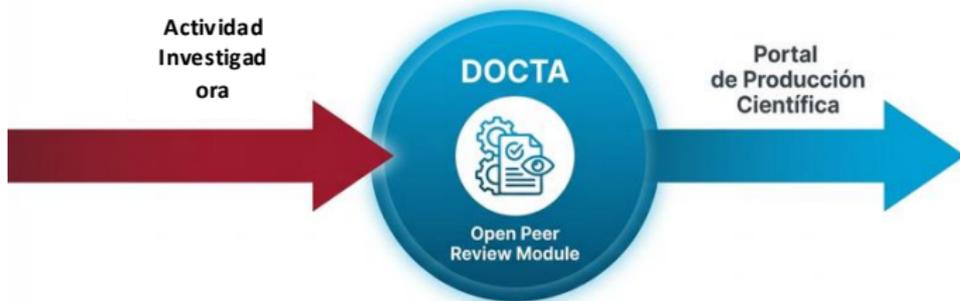


4. Evitar rankings en evaluación individual

Compromisos de Apoyo

Recursos • Revisión de Criterios • Formación • Intercambio • Comunicación

Visión estratégica UCM



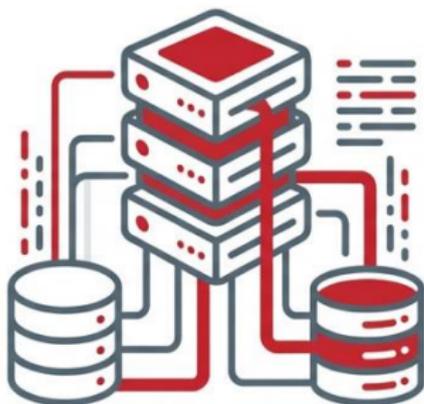
*“Esta infraestructura combinada permitirá implementar tanto la **revisión por pares cualitativa** como el **uso responsable de indicadores cuantitativos**, manteniendo los más altos estándares de **excelencia académica** y reconociendo la **diversidad de contribuciones** en todas las áreas de conocimiento”*

1. Comprobar recursos e infraestructura

Formalización: Creación oficial del Grupo de Trabajo CoARA UCM (2025).

Desarrollo Técnico: Integración del OPRM en el repositorio DOCTA (2025-2027).

Visibilidad: Lanzamiento de la web dedicada a CoARA-UCM (2026).



2. Revisar criterios y herramientas



Métricas Tradicionales (JIF, Índice-h)



Juicio Cualitativo

Estrategía incremental: Grupos de investigación, institutos, Convocatoria I3/R3.

CV Narrativo: Desarrollo de directrices adaptadas al contexto UCM.

Pilotos: Nuevos criterios en premios de doctorado.

Guías: Protocolos para una revisión por pares cualitativa.

3. Sensibilización y formación



Jornadas Institucionales:
Eventos oficiales sobre
evaluación responsable.



Escuela de Doctorado:
Nuevos módulos
formativos (2026-2027).



Recursos Biblioteca:
Creación de Biblioguías
CoARA y autoformación.

4. Intercambio de experiencias

- **Capítulo Nacional:** Participación activa en CRUE y CoARA España.
- **Infraestructuras Abiertas:** Colaboración con el Grupo de Trabajo de CoARA.
- **Modelo COAR:** Impulso a la iniciativa Publish, Review, Curate.
- **Difusión:** Compartir la metodología UCM con otras universidades.



5. Comunicación del progreso

Gobernanza: Informes a la comisión de investigación.

Acceso abierto: Publicación del plan de Acción en la comunidad CoARA de Zenodo.

Metodología: Comunicación abierta de los procesos y herramientas desarrollados.



6. Evaluación de la práctica

Monitorización: Seguimiento de la efectividad de la implementación.

Feedback: Encuestas periódicas.

Datos abiertos: Publicación de resultados para contribuir a la “investigación sobre investigación”.



Integración con estrategias existentes nacionales e institucionales



Grupo de trabajo

- Alba María Jiménez Rodríguez (Facultad de Filosofía)
- Luis González Mac-Dowell (Facultad de Ciencias Químicas)
- Marta Aránzazu Giménez Dasí (Facultad de Psicología)
- Roberto Cremades Andreu (Facultad de Educación)
- Antonio Calderón Rehecho (Dirección de Proyectos Bibliotecarios)
- Ana María Rodríguez Romero (Facultad de Ciencias de la Documentación)

Gracias por vuestra atención y
más por vuestras críticas,
comentarios, ideas,
aportaciones...