Validation, Evaluation, Dissemination: Academia's gravest problems show the way to the Next Generation Repositories

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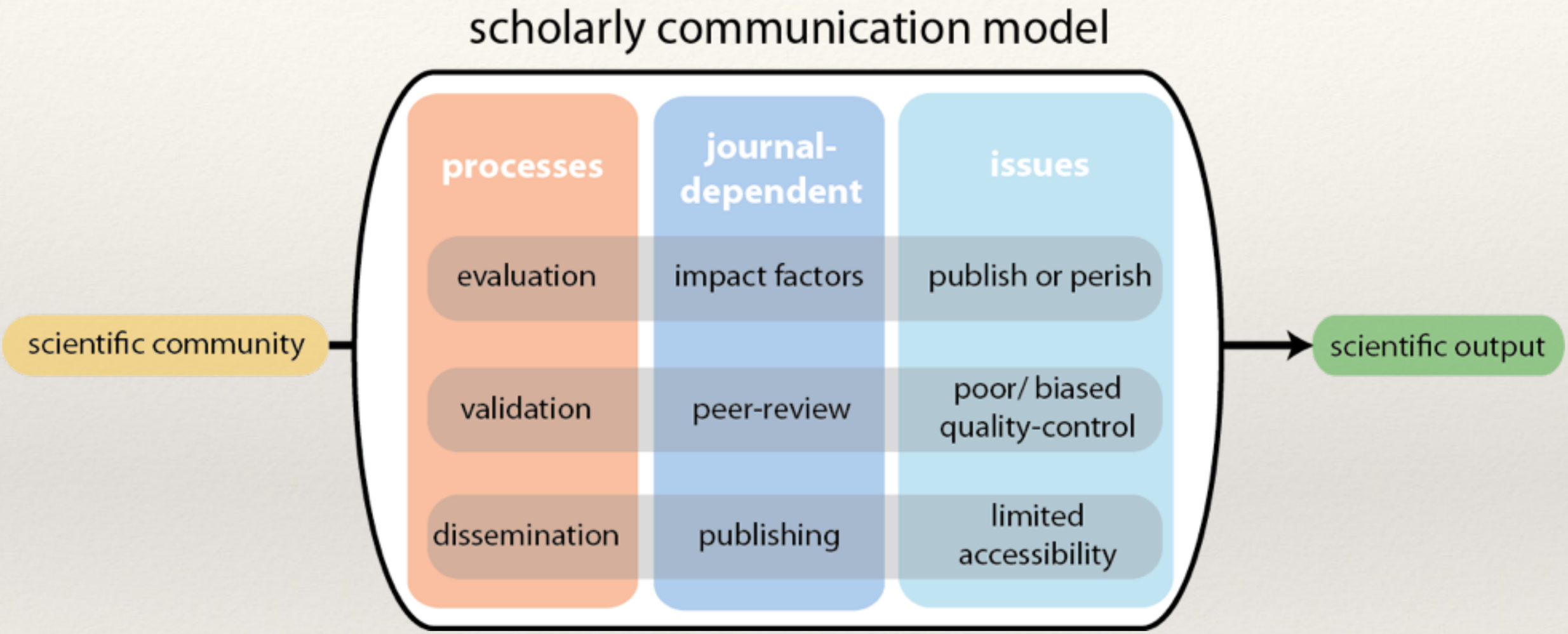
COAR annual meeting, Vienna 2016

Essential scholarly communication processes controlled exclusively by journals



Validation

The peer review drugs don't work

May 28, 2015

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

https://www.timeshighereducation.com/content/the-peer-review-drugs-dont-work

Validation

Does it ensure quality, reproducibility, reliability?

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.

http://www.cochrane.org/MR000016/METHOD_editorial-peer-review-for-improving-the-quality-of-reports-of-biomedical-studies

Validation

Does it ensure quality, reproducibility, reliability?

nature International weekly journal of science

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 conduct[5]. 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

http://www.nature.com/nature/journal/v483/n7391/full/483531a.html#t1

Validation

Does it ensure quality, reproducibility, reliability?

Science AAAS

RESEARCH ARTICLE

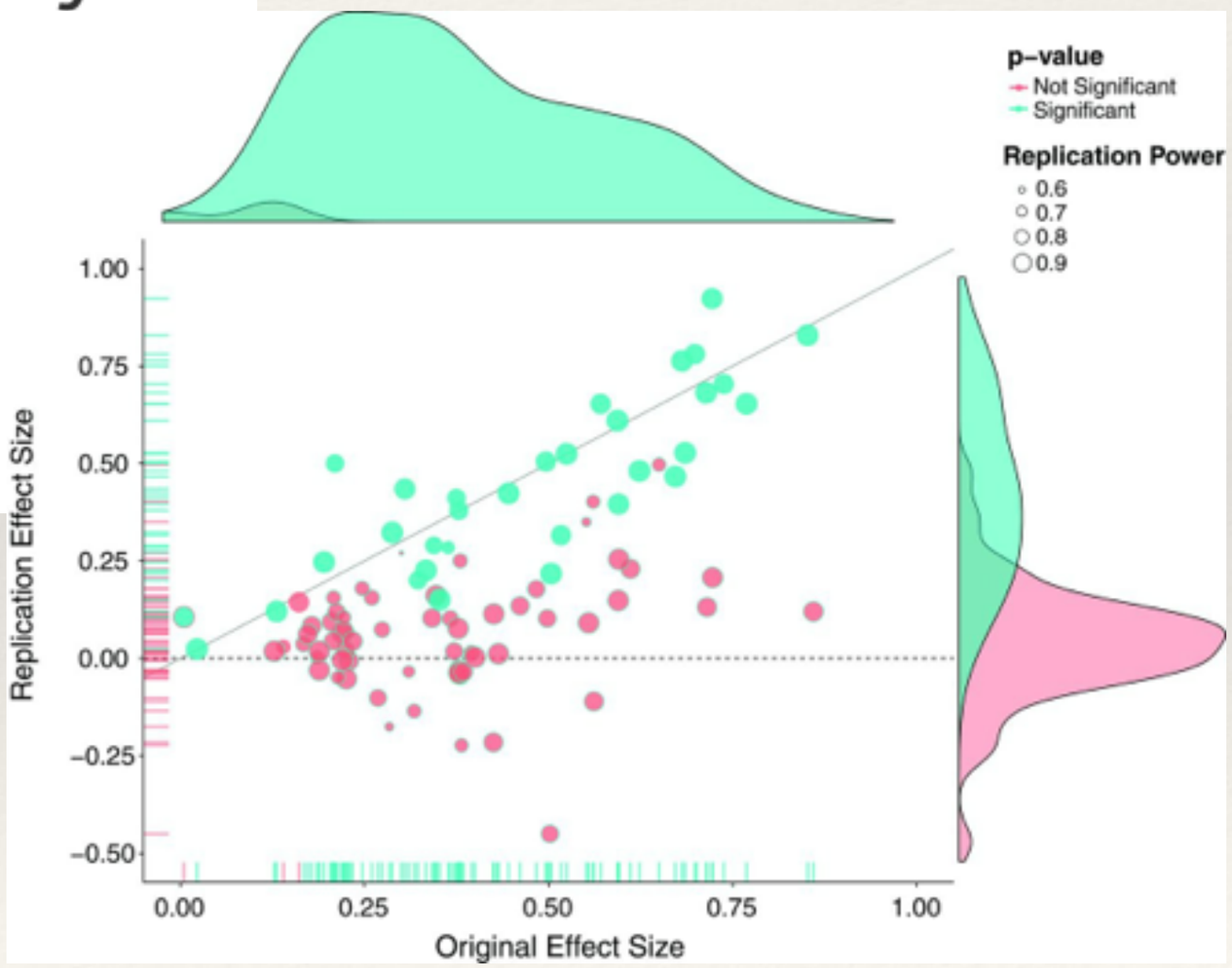
Estimating the reproducibility of psychological science

Open Science Collaboration*,†

*All authors with their affiliations appear at the end of this paper.

†Corresponding author. E-mail: nosek@virginia.edu

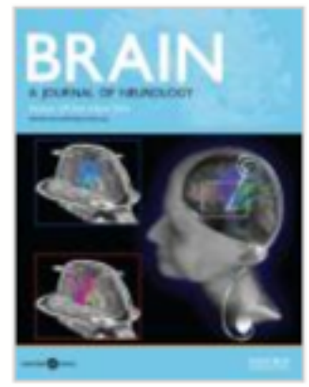
Science 28 Aug 2015:
Vol. 349, Issue 6251,
DOI: 10.1126/science.aac4716



http://science.sciencemag.org/content/349/6251/aac4716.full

Validation

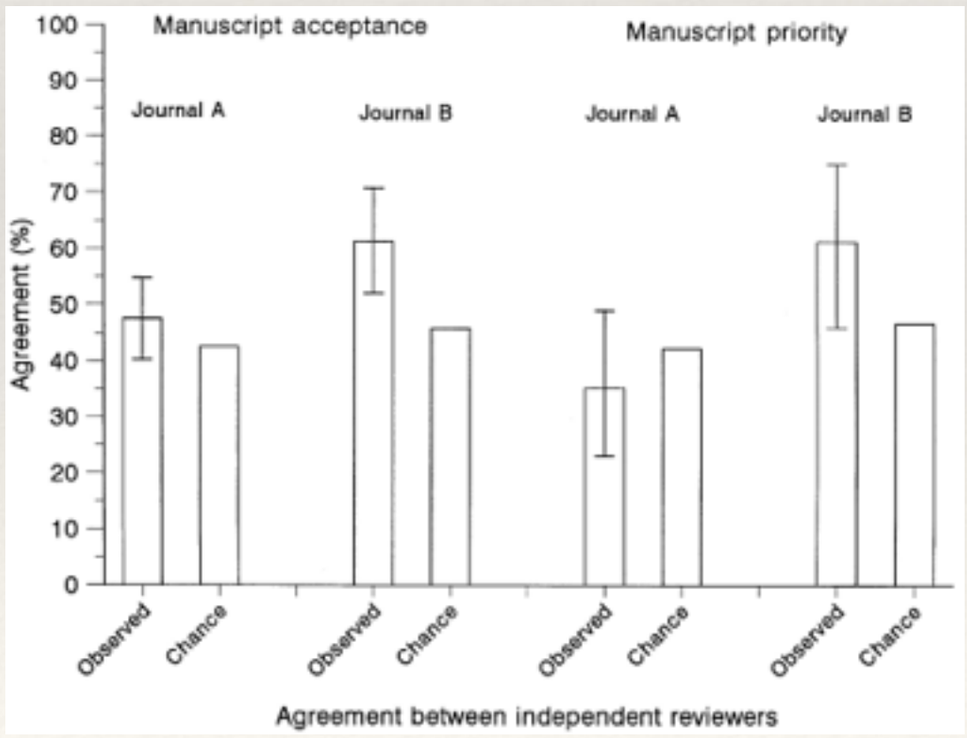
Does it ensure quality, reproducibility, reliability?



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



http://brain.oxfordjournals.org/content/123/9/1964

Validation

Does it ensure quality, reproducibility, reliability?

nature International weekly journal of science

Published online 5 October 2011 | *Nature* **478**, 26-28 (2011) | doi:10.1038/478026a

News Feature

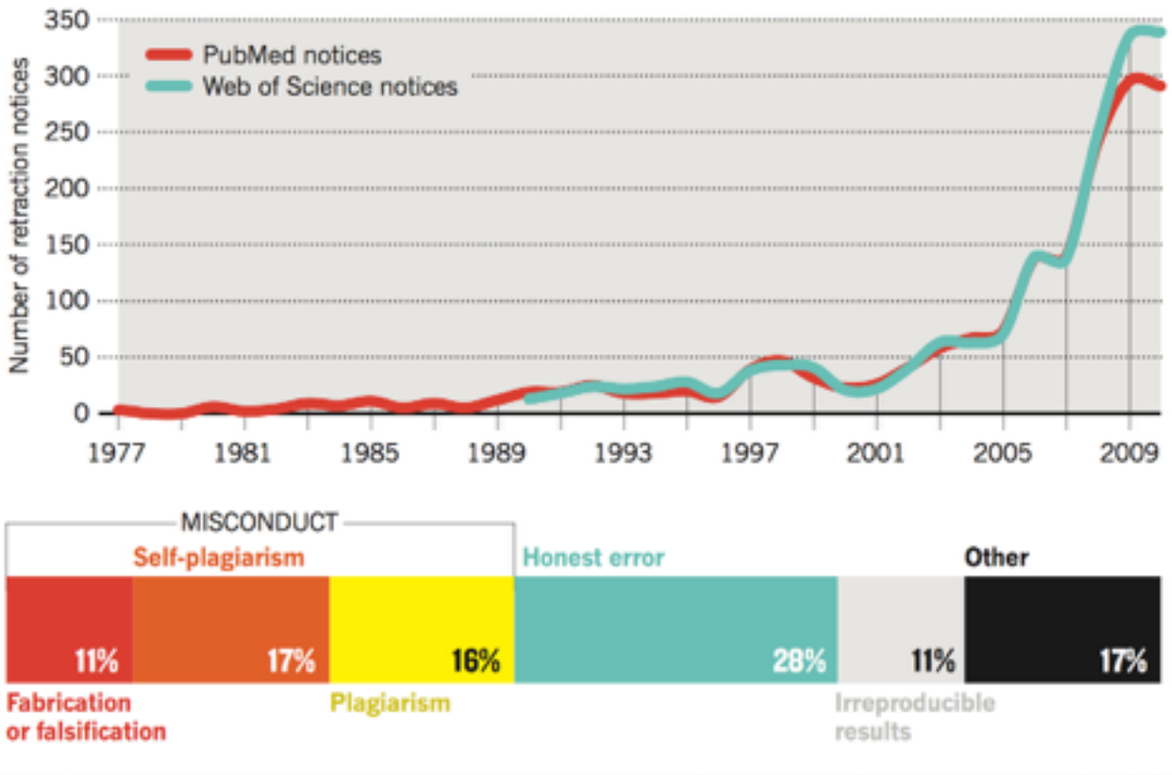
Science publishing: The trouble with retractions

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**).



http://www.nature.com/news/2011/111005/full/478026a.html

Validation

Does the system promote ethical conduct?

Pandelis, I have good news. [redacted] says he will send the [redacted] paper to …a very good friend of ours

Validation

Does the system promote ethical conduct?

[redacted]

13 Oct 2014 12:41
Hide Details

Dear Editor,

Thanks for your prompt reply and short commets.

I have some points, though, which drive this unusual decision of mine to reply to such a clear desk rejection:

As you can check from the records of the journal, I have reviewed over 10 (11?, 12?, not sure) papers in a relatively short period and have even received very recently a Recognition for Review Excellence, by this very same journal.

I have been forwarded usually longer papers as you mention, which have mostly received a recommendation (if any) for a shorter version. I think short papers reporting totally novel results are higher value, but I understand this is not your view. Also, I think that psychopathic personality alone is more than sufficient an explanation of what we find, but I also understand this is for you to judge as an associate editor.

However, I have not received even ONE paper conforming to anything else but the usual requirements that papers have to satisfy at submission.

I would ask you to check if you want if the papers I was asked to review were conforming to the style you mention, including one I reviewed last week.

Given that I appreciate the journal's dilligence on this, I would ask you to inform The Editor that I will not further accept to review any paper which does not conform to the aforementioned standards.

Thanking you again for your input to our research,

[redacted]

Validation

Does it recognise quality?

Jointly published by Akadémiai Kiadó, Budapest and Springer, Dordrecht

Scientometrics, Vol. 81, No. 2 (2009) 549–565
DOI: 10.1007/s11192-008-2141-5

Rejecting and resisting Nobel class discoveries: accounts by Nobel Laureates

JUAN MIGUEL CAMPANARIO

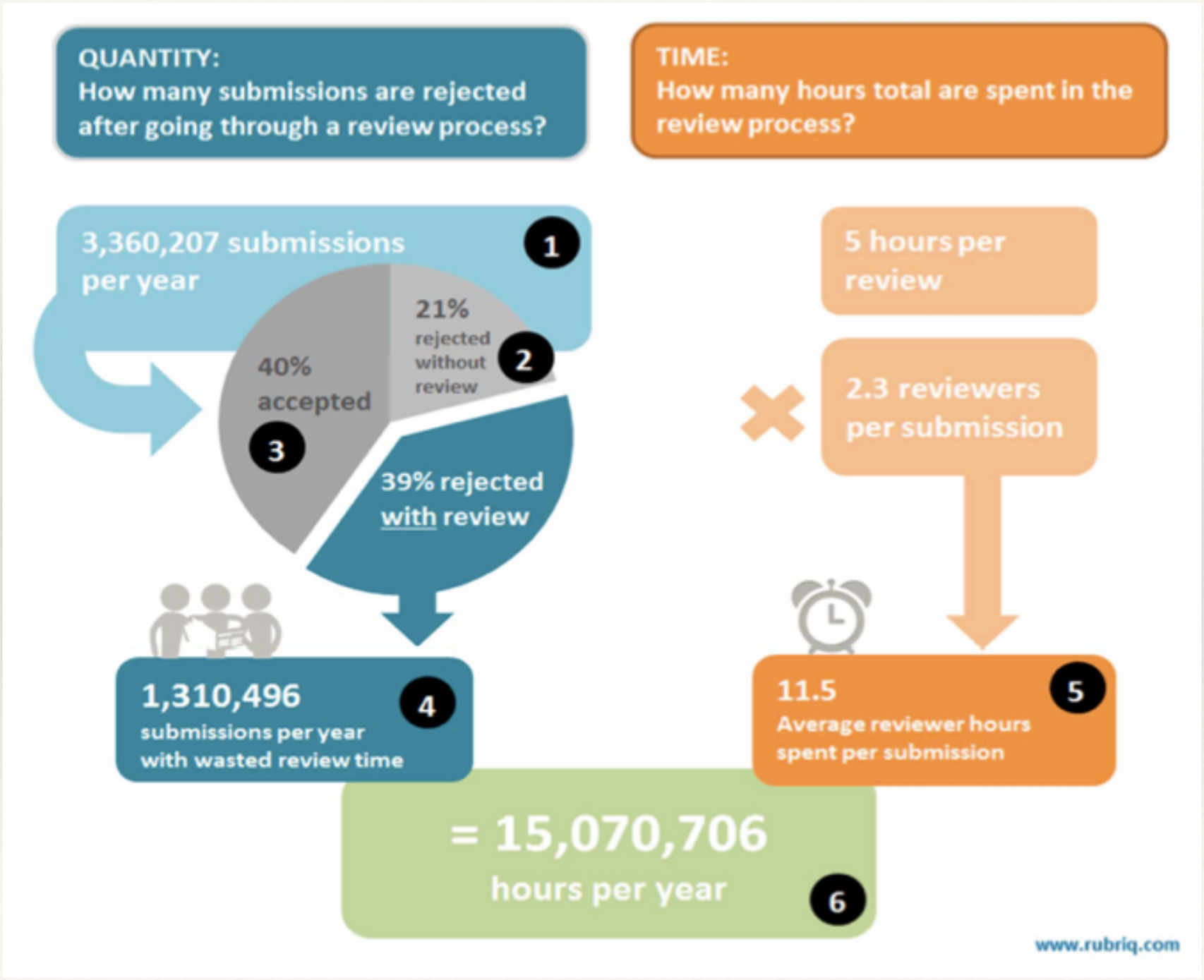
Departamento de Física, Universidad de Alcalá, 28871 Alcalá de Henares, Madrid, Spain

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.

https://pdfs.semanticscholar.org/be9a/21d0e93adeb529f7a50d9d50f9d0a6d8f8be.pdf

Validation

What is the cost in time and money?



Validation

What is the cost in time and money?

Unpaid peer review is worth £1.9bn

May 29, 2008

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)

https://www.timeshighereducation.com/news/unpaid-peer-review-is-worth-19bn/402189.article

Validation

What we need:

✓Many reviewers

✓Experts in the field(s)

✓Open reviews

✓Transparent dialogue

✓Reviewer recognition

What we have:

✓2-3 reviewers

✓Anonymous

✓Non-public reviews

✓Editorial decision

✓System of favours

Evaluation

Receive credit based on “where” instead of “what”

CURRÍCULUM ABREVIADO (CVA)
Lea detenidamente las instrucciones que figuran al final de este documento para rellenar correctamente el CVA

Parte A. DATOS PERSONALES | **Fecha del CVA** |

Nombre y apellidos			
DNI/NIE/pasaporte		Edad	
Núm. identificación del investigador	Researcher ID		
	Código Orcid		

A.1. Situación profesional actual

Organismo			
Dpto./Centro			
Dirección			
Teléfono		correo electrónico	
Categoría profesional		Fecha inicio	
Espec. cód. UNESCO			
Palabras clave			

A.2. Formación académica *(título, institución, fecha)*

Licenciatura/Grado/Doctorado	Universidad	Año

A.3. Indicadores generales de calidad de la producción científica *(véanse instrucciones)*

A.3. Indicadores generales de calidad de la producción científica

Se incluirá información sobre el número de sexenios de investigación y la fecha del último concedido, número de tesis doctorales dirigidas en los últimos 10 años, citas totales, promedio de citas/año durante los últimos 5 años (sin incluir el año actual), publicaciones totales en primer cuartil (Q1), índice h. Adicionalmente, se podrán incluir otros indicadores que el investigador considere pertinentes.

Para calcular estos valores, se utilizarán por defecto los datos recogidos en la Web of Science de Thomson Reuters. Cuando esto no sea posible, se podrán utilizar otros indicadores, especificando la base de datos de referencia.

Evaluation

Receive credit based on "where" instead of "what"

University Rankings

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	PUB	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.

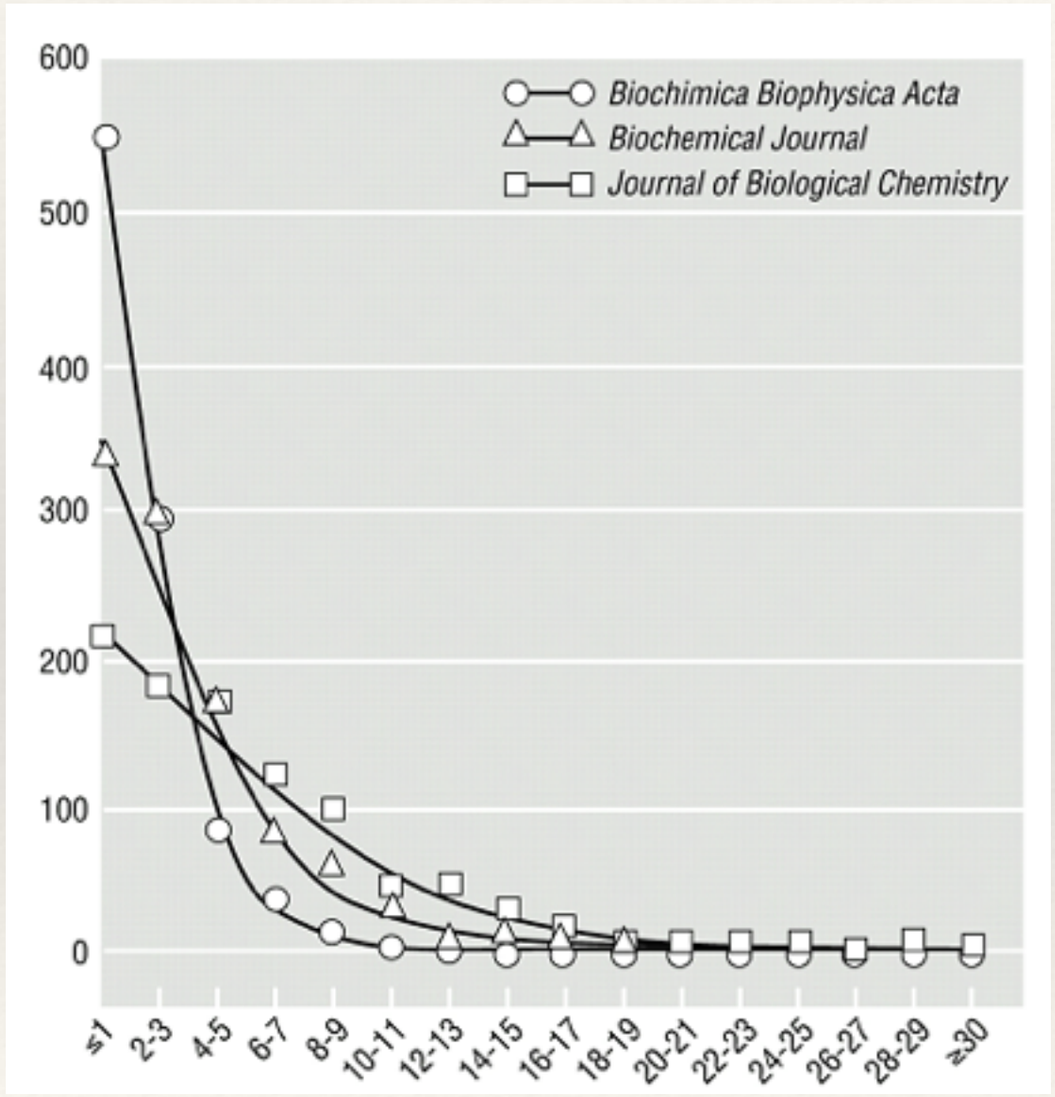
Evaluation

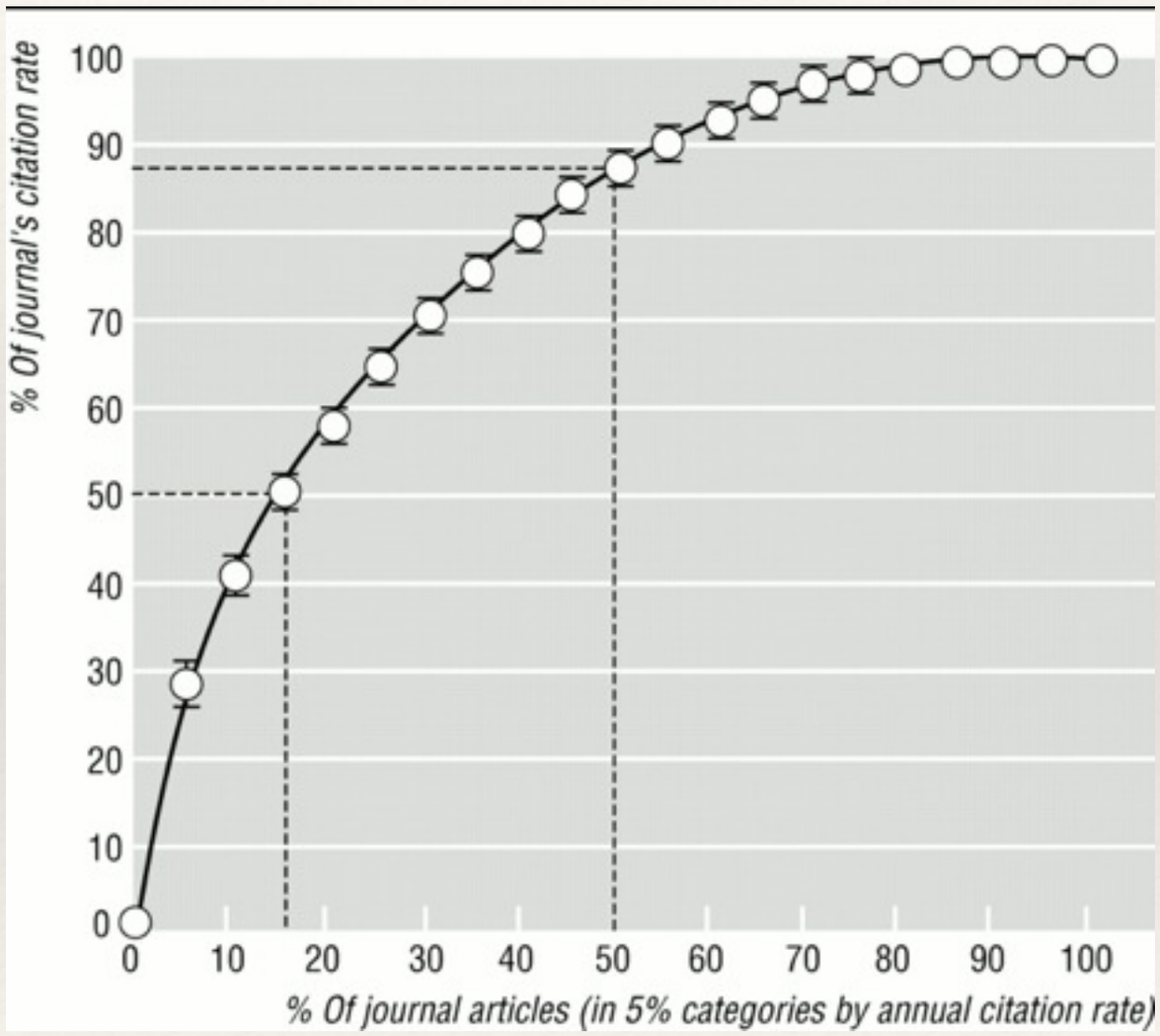
What does the name of the journal say about its articles?

"THE SKEWNESS OF SCIENCE IN 219 SUB-FIELDS AND A NUMBER OF AGGREGATES"

Pedro Albarrán[a], Juan A. Crespo[b], Ignacio Ortuño[c], and Javier Ruiz-Castillo[d]

[a] Departamento de Fundamentos del Análisis Económico, Universidad de Alicante
[b] Departamento de Economía Cuantitativa, Universidad Autónoma de Madrid
[c] Departamento de Economía, Universidad Carlos III
[d] Departamento de Economía, Universidad Carlos III & Research Associate of the CEPR Project SCIFI-GLOW





http://e-archivo.uc3m.es/bitstream/handle/10016/10968/we1109.pdf;jsessionid=20173C78597F75F03057340D43D90102?sequence=1

Evaluation

What does the name of the journal say about its articles?

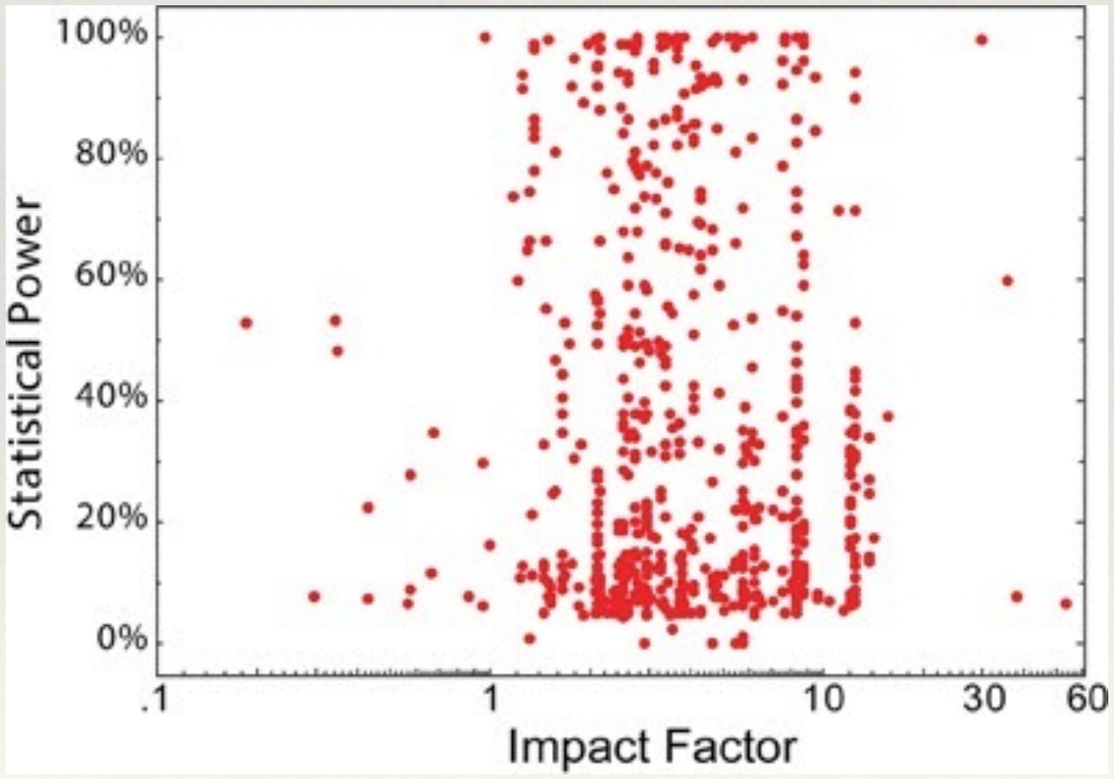
frontiers in Human Neuroscience

REVIEW ARTICLE

Front. Hum. Neurosci., 24 June 2013 | http://dx.doi.org/10.3389/fnhum.2013.00291

Deep impact: unintended consequences of journal rank

Björn Brembs[1]*, Katherine Button[2] and Marcus Munafò[3]

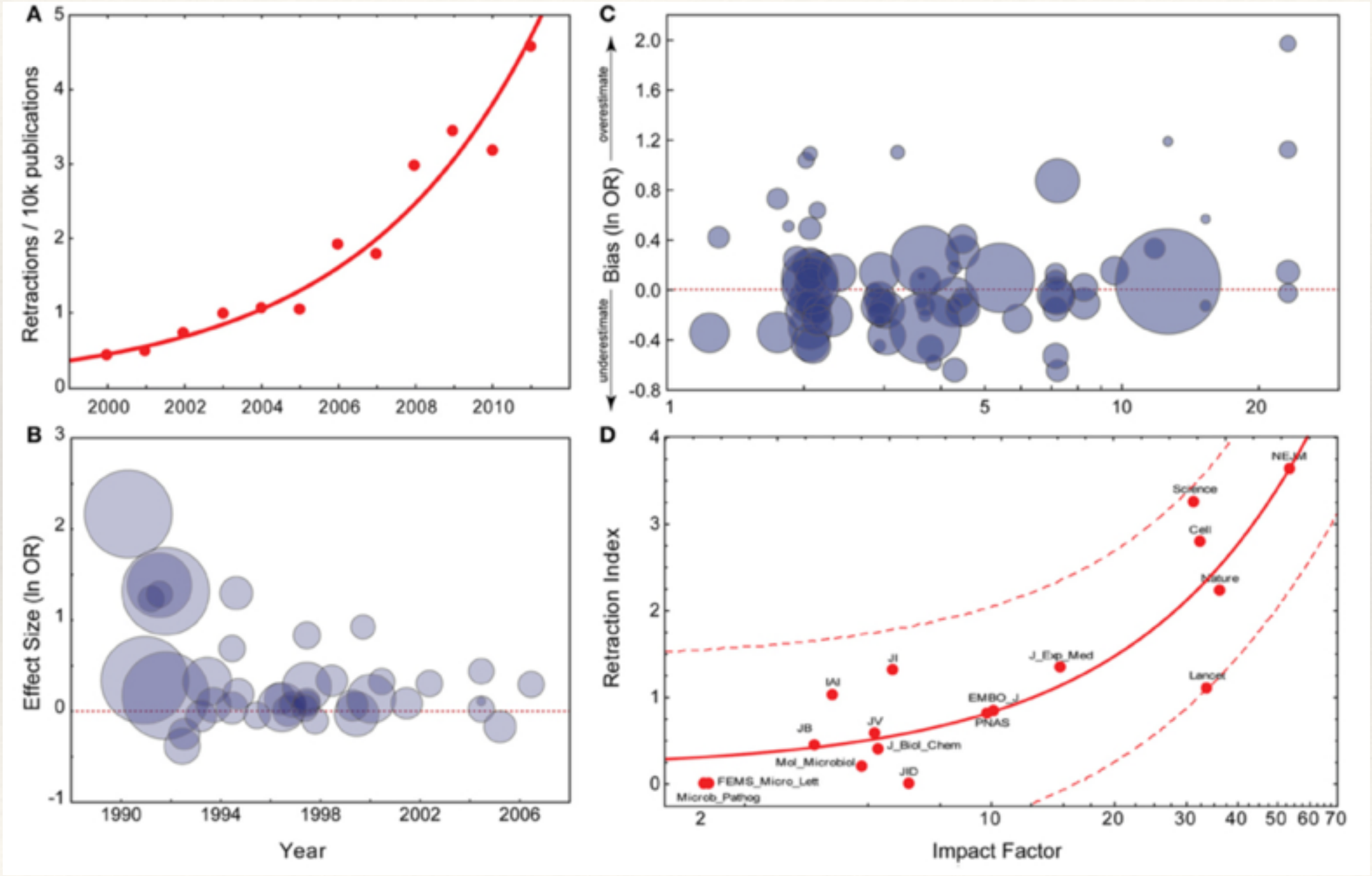


http://journal.frontiersin.org/article/10.3389/fnhum.2013.00291

Evaluation

What does the name of the journal say about its articles?

frontiers in Human Neuroscience



http://journal.frontiersin.org/article/10.3389/fnhum.2013.00291

Evaluation

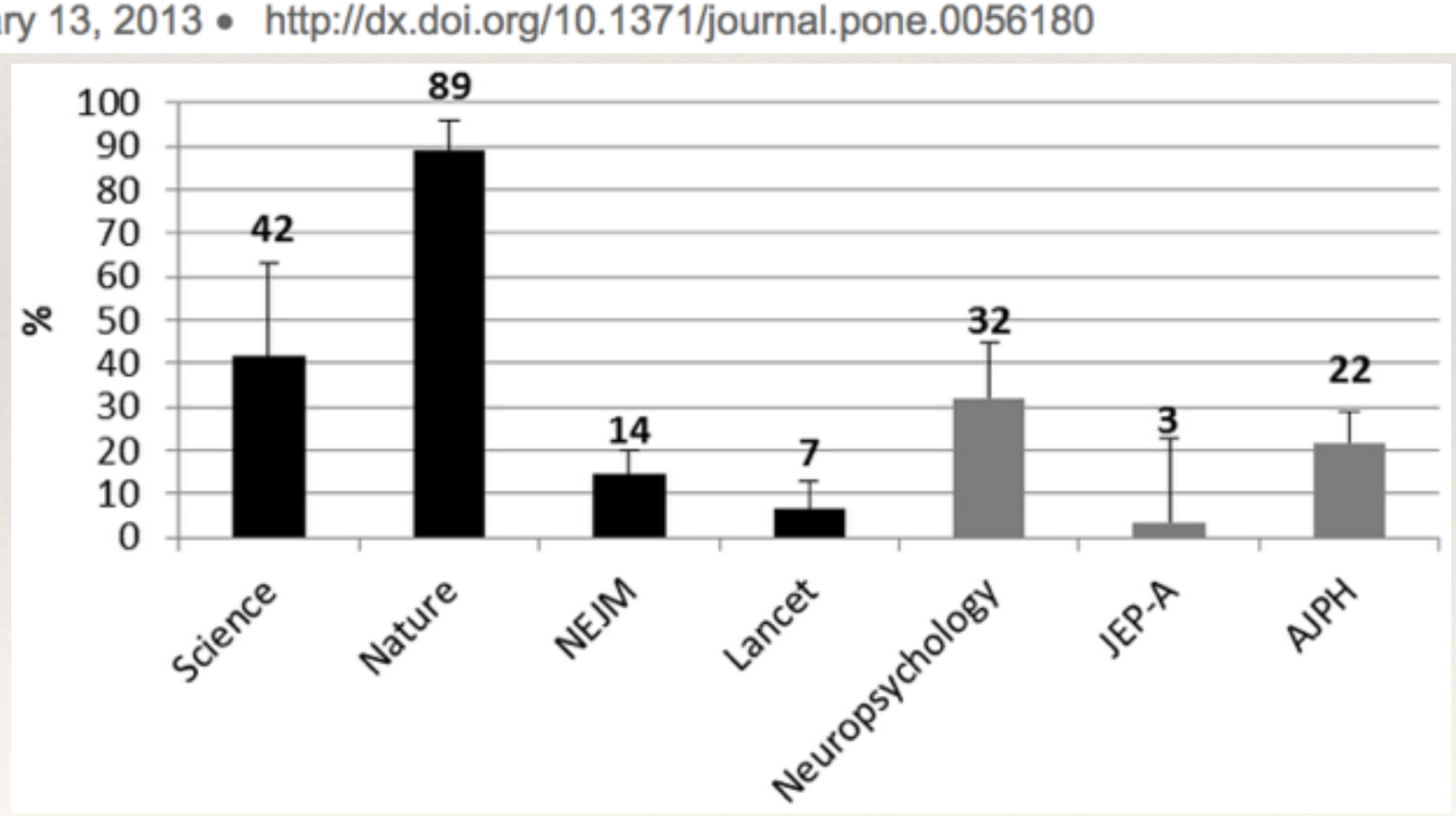
What does the name of the journal say about its articles?

RESEARCH ARTICLE

High Impact = High Statistical Standards? Not Necessarily So

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

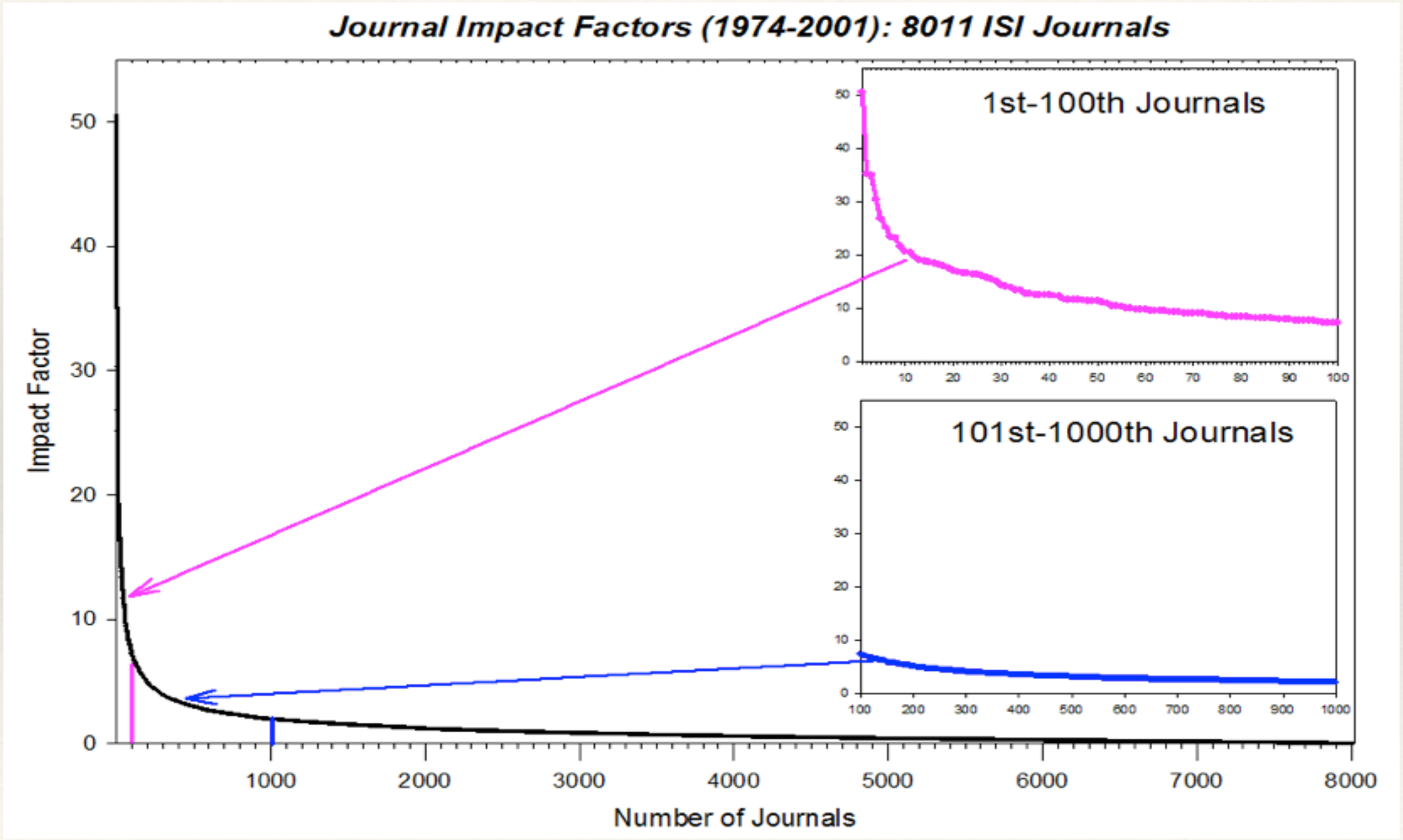
Published: February 13, 2013 • http://dx.doi.org/10.1371/journal.pone.0056180



http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0056180

Evaluation

The journal long-tailed hierarchy



Evaluation

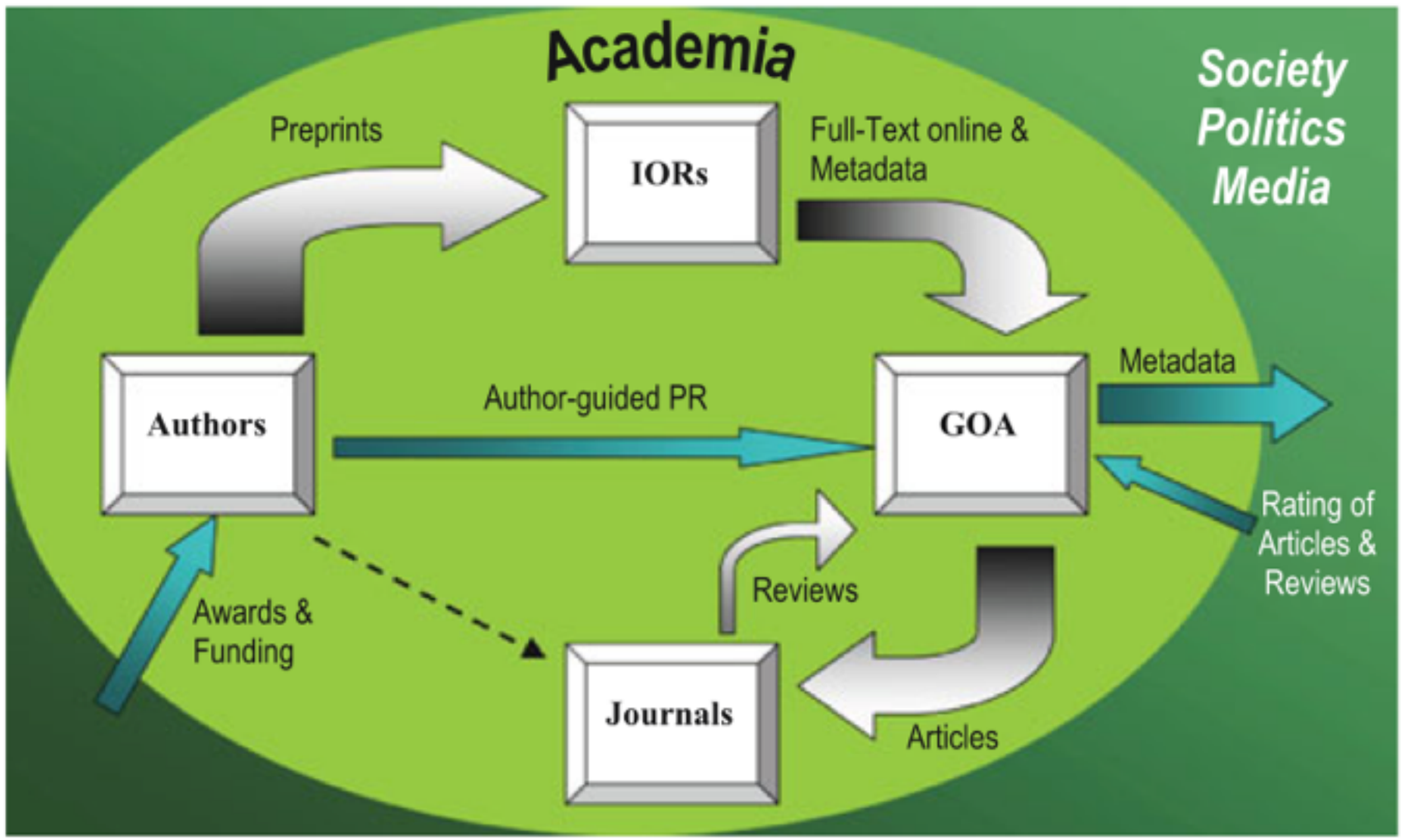
What we need:	*What we have:*
✓Multi-parametric indexes	✓Single index
✓Overall assessment	✓Mostly impact
✓Dynamic assessment	✓Static assessment

An alternative model

Natural selection of academic papers

Pandelis Perakakis · Michael Taylor · Marco Mazza · Varvara Trachana

Scientometrics (2010) 85:553–559
DOI 10.1007/s11192-010-0253-1



http://www.openscholar.org.uk/wp-content/uploads/2015/08/nsap_perakakis_2010.pdf

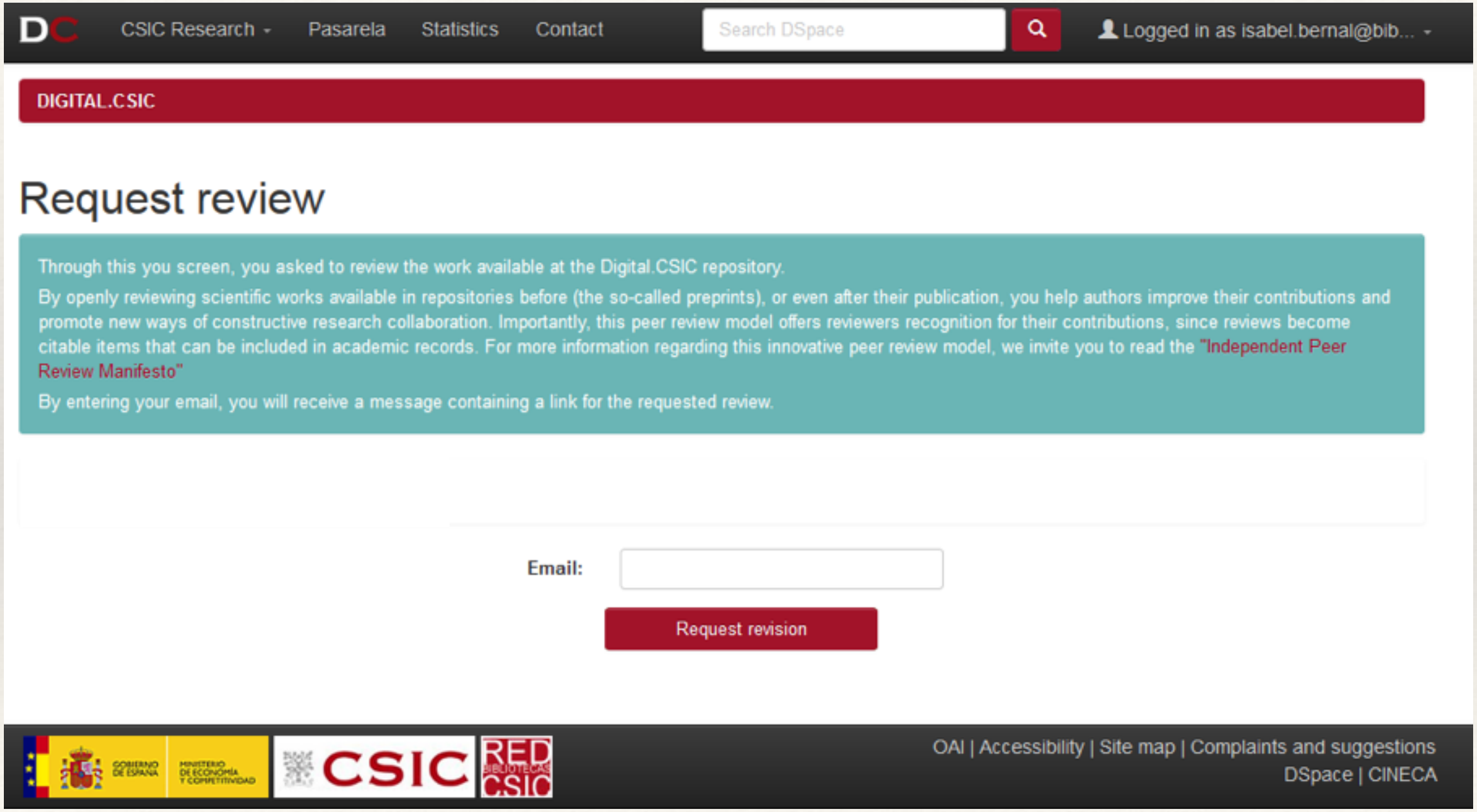
An example repository with overlay review services

http://sjscience.org

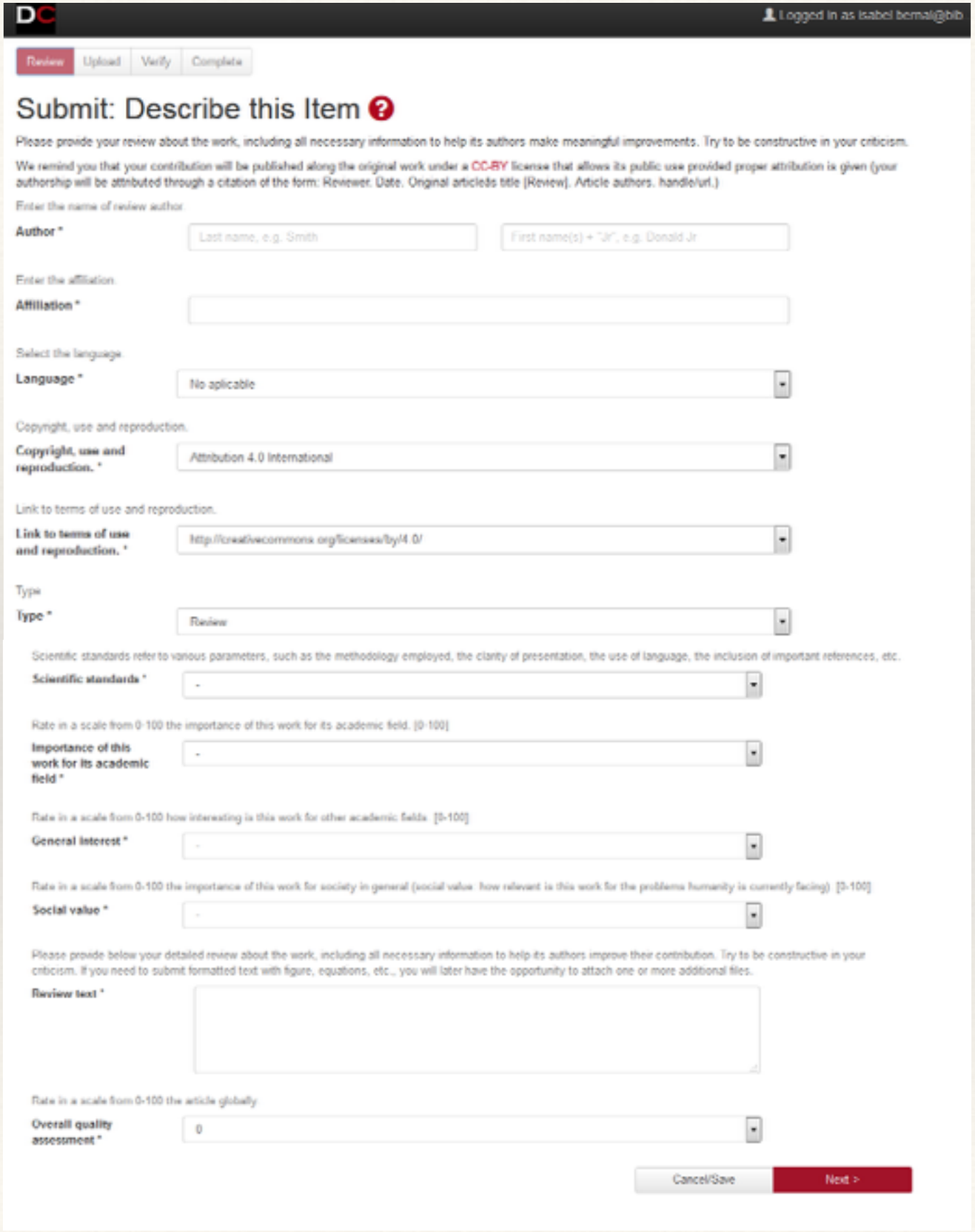
The first Open Peer Review Module for OA repositories

http://www.openscholar.org.uk/institutional-repositories-start-to-offer-peer-review-services/

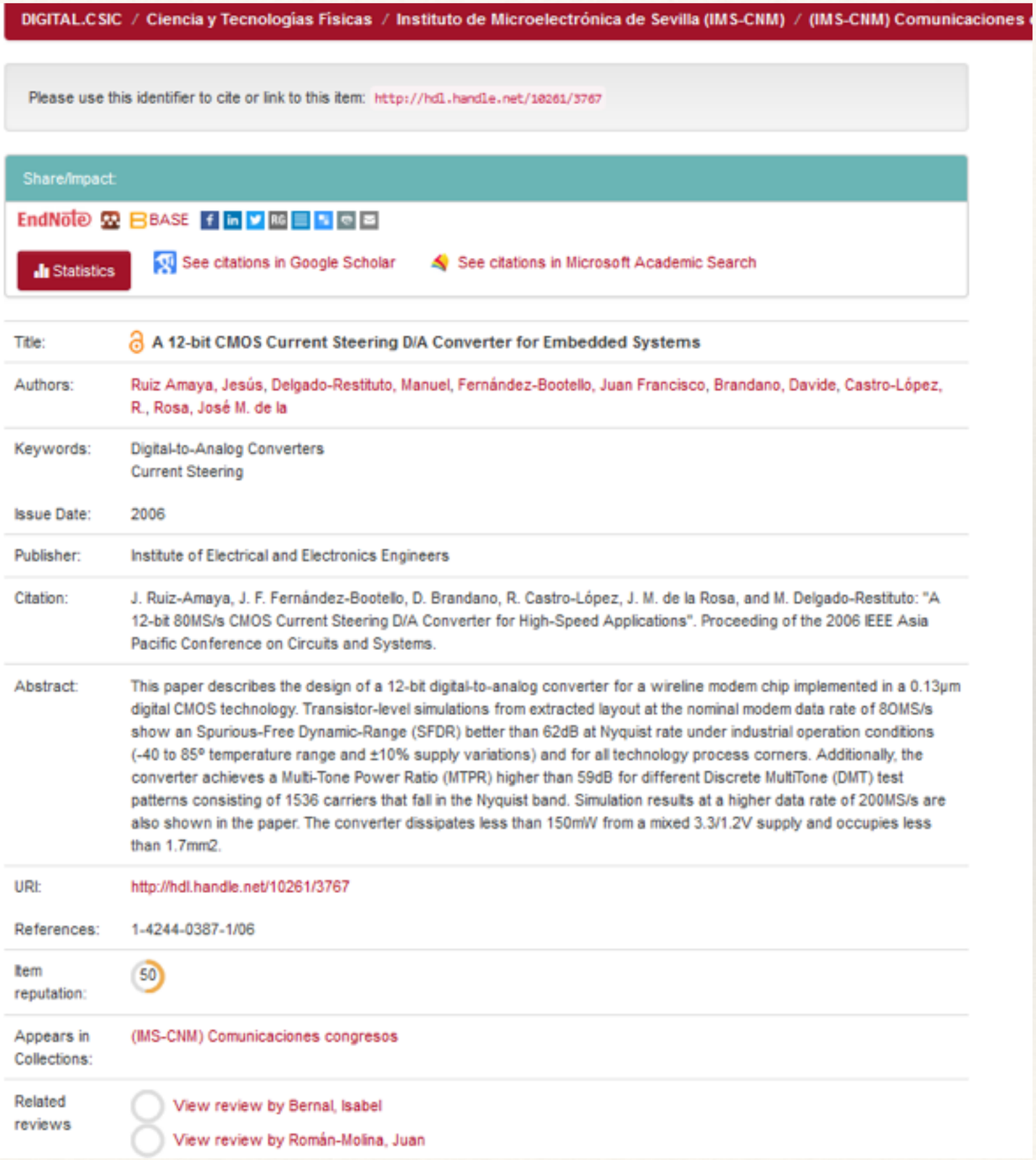
The first Open Peer Review Module for OA repositories



The first Open Peer Review Module for OA repositories



The first Open Peer Review Module for OA repositories



DIGITAL.CSIC / Ciencia y Tecnologías Físicas / Instituto de Microelectrónica de Sevilla (IMS-CNM) / (IMS-CNM) Comunicaciones

Please use this identifier to cite or link to this item: http://hdl.handle.net/10261/3767

Share/Impact:

EndNote BASE

Statistics See citations in Google Scholar See citations in Microsoft Academic Search

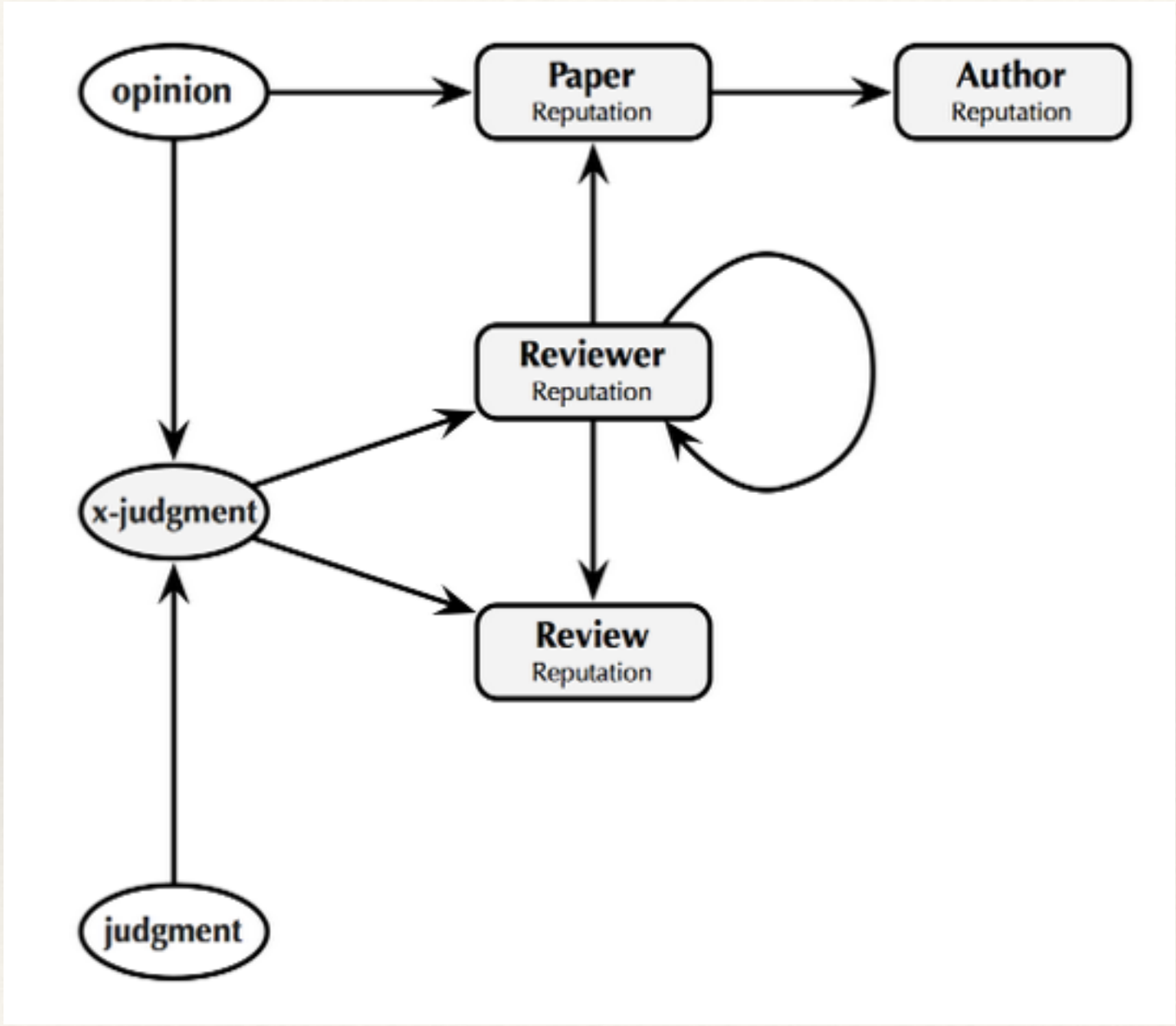
Title:	A 12-bit CMOS Current Steering D/A Converter for Embedded Systems
Authors:	Ruiz Amaya, Jesús, Delgado-Restituto, Manuel, Fernández-Bootello, Juan Francisco, Brandano, Davide, Castro-López, R., Rosa, José M. de la
Keywords:	Digital-to-Analog Converters Current Steering
Issue Date:	2006
Publisher:	Institute of Electrical and Electronics Engineers
Citation:	J. Ruiz-Amaya, J. F. Fernández-Bootello, D. Brandano, R. Castro-López, J. M. de la Rosa, and M. Delgado-Restituto: "A 12-bit 80MS/s CMOS Current Steering D/A Converter for High-Speed Applications". Proceeding of the 2006 IEEE Asia Pacific Conference on Circuits and Systems.
Abstract:	This paper describes the design of a 12-bit digital-to-analog converter for a wireline modem chip implemented in a 0.13μm digital CMOS technology. Transistor-level simulations from extracted layout at the nominal modem data rate of 80MS/s show an Spurious-Free Dynamic-Range (SFDR) better than 62dB at Nyquist rate under industrial operation conditions (-40 to 85º temperature range and ±10% supply variations) and for all technology process corners. Additionally, the converter achieves a Multi-Tone Power Ratio (MTPR) higher than 59dB for different Discrete MultiTone (DMT) test patterns consisting of 1536 carriers that fall in the Nyquist band. Simulation results at a higher data rate of 200MS/s are also shown in the paper. The converter dissipates less than 150mW from a mixed 3.3/1.2V supply and occupies less than 1.7mm2.
URI:	http://hdl.handle.net/10261/3767
References:	1-4244-0387-1/06
Item reputation:	50
Appears in Collections:	(IMS-CNM) Comunicaciones congresos
Related reviews	View review by Bernal, Isabel View review by Román-Molina, Juan

Building an alternative reputation system

Reputation in the Academic World

Nardine Osman Carles Sierra

Artificial Intelligence Research Institute (IIIA-CSIC), Barcelona, Spain
{nardine, sierra}@iiia.csic.es



http://digital.csic.es/bitstream/10261/130842/1/Reputation_academic_world_Sierra.pdf

Validation, Evaluation, Dissemination: Academia's gravest problems show the way to the Next Generation Repositories

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COAR annual meeting, Vienna 2016