

Towards Furthering Access to Innovations in:

Water-Wise Cities and Smart Water Systems



11 Sept 2018 | Xi'An, China



IWA
PUBLISHING

INTRODUCTION



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QUESTIONS

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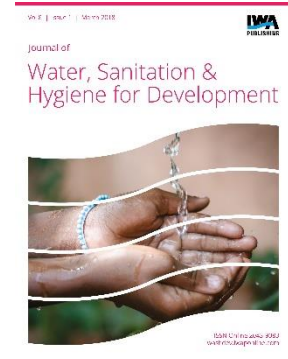
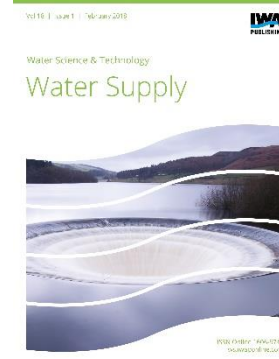
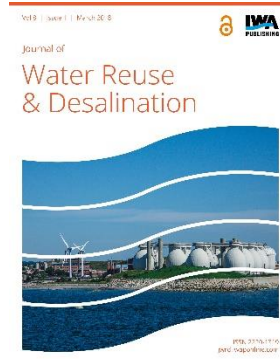
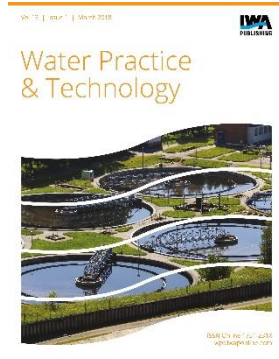
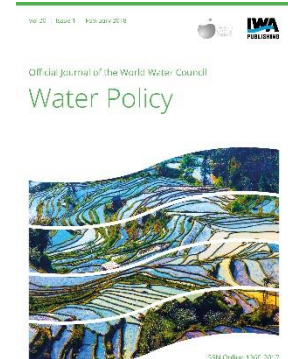
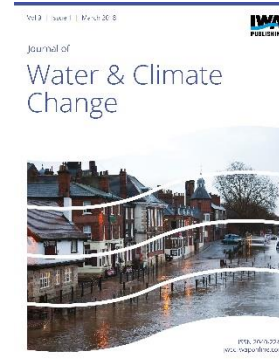
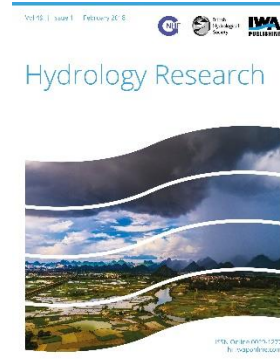
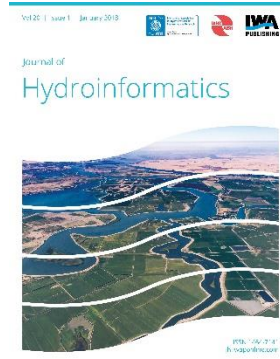
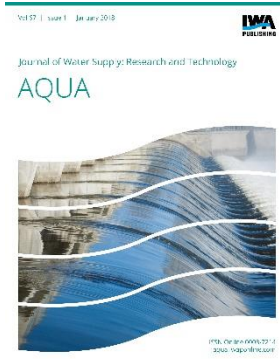
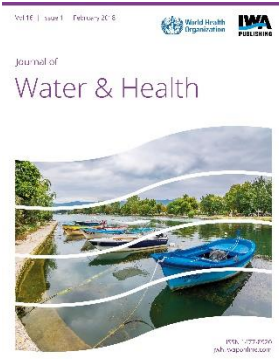
The leading international publisher of water, wastewater and environmental publications.

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Water-Wise Cities and Smart Water Systems

IWA PUBLISHING JOURNALS



Towards Furthering Access to Innovations in:
Water-Wise Cities and Smart Water Systems



BUILDING WATER-WISE COMMUNITIES



4 Levels of Action

1 Regenerative Water Services

- Replenish Waterbodies and their Ecosystems
- Reduce the Amount of Water and Energy Used
- Reuse, Recover, Recycle
- Use a Systemic Approach Integrated with Other Services
- Increase the Modularity of Systems and Ensure Multiple Options

2 Water Sensitive Urban Design

- Enable Regenerative Water Services
- Design Urban Spaces to Reduce Flood Risks
- Enhance Liveability with Visible Water
- Modify and Adapt Urban Materials to Minimise Environmental Impact

3 Basin Connected Cities

- Plan to Secure Water Resources and Mitigate Drought
- Protect the Quality of Water Resources
- Prepare for Extreme Events

4 Water-Wise Communities

- Empowered Citizens
- Professionals Aware of Water Co-benefits
- Transdisciplinary Planning Teams
- Policy Makers Enabling Water-Wise Action
- Leaders that Engage and Engender Trust

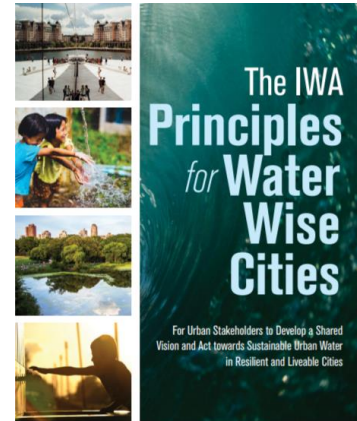
5 Building Blocks

- Vision
- Governance
- Knowledge & Capacity
- Planning Tools
- Implementation Tools



*"It is important to **raise awareness among citizens and policy makers** of the water-security dangers to trigger policy and behavioural change, and engage with stakeholders, including property developers and long-term institutional investors, to build consensus on the acceptable level of risk and secure willingness to pay for water services."*

-Nick Michell



The IWA Principles Water Wise Cities (2016) http://www.iwa-network.org/wp-content/uploads/2016/08/IWA_Principles_Water_Wise_Cities.pdf

Towards Furthering Access to Innovations in:
Water-Wise Cities and Smart Water Systems

OUTLINE



PART I: Pre-prints – what and why?

PART II: Open Access

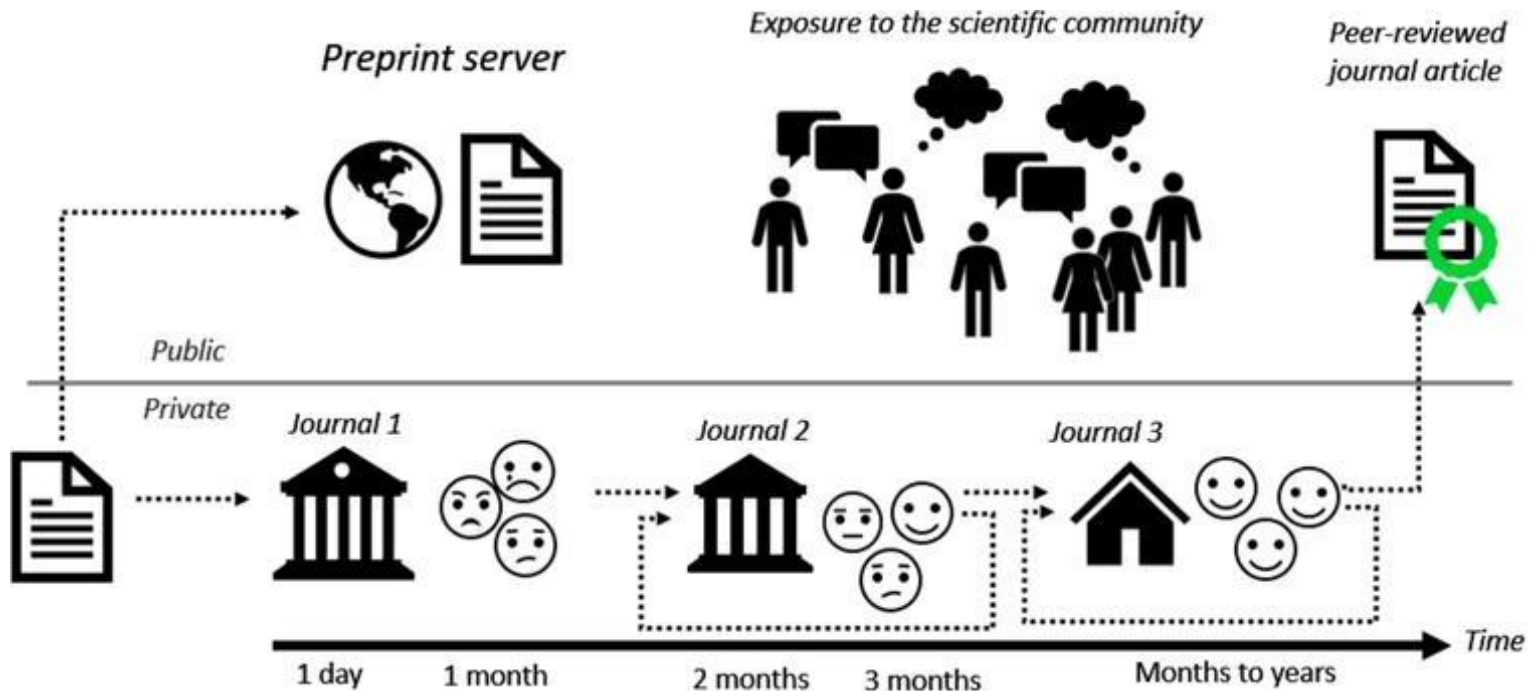
PART III: Spreading the word

PART I: PREPRINTS



PREPRINTS

A preprint is a **version of a scholarly or scientific paper that precedes publication** in a peer-reviewed scholarly or scientific journal. The preprint may be available, often as a non-typeset version available free, before and/or after a paper is published in a journal.



Polka, 2017 DOI: 10.3233/ISU-170849

PROBLEMS SOLVED

Table 1

Key problems and the solution preprints provide

<i>Problem</i>	<i>Solution</i>
Lack of access to literature	Preprints are immediately available to everyone around the world
Students and postdocs stay in training programs longer to publish	Preprints can be evaluated for a thesis and job application
Your recent work is invisible to grant and award committees	Preprints make you most recent work visible
Your colleagues can't see your recent work	Preprints stimulate collaborations
Peer review is based on a small number of opinions	Preprints allow the whole world to provide feedback
Lack of transparency in the review process creates confusion about priority of discovery	Preprints are permanent and time-stamped – evidence of what work was done when
Laboratories are keeping knowledge secret	Preprints are immediately accessible, allowing research to advance overall

Polka, 2017 DOI: 10.3233/ISU-170849

ADVANTAGES OF PREPRINTS



They're **free and fast** to post (within 24 hours).

Preprints receive a permanent, **archival-standard link (DOI)**.

Establish **precedent for research**.

Preprints provide access to scholarly **content that would otherwise be lost**

Can be submitted **before peer-review**, or at the same time.

Readers can leave **comments, feedback and ask questions**.

You can update your article with **unlimited revisions**.

You can submit your preprint for peer-review (at any point).

<http://blogs.plos.org/plos/2018/05/power-to-the-preprint/>

LATEST ON PREPRINTS



<https://blogs.plos.org/plos/2018/05/power-to-the-preprint/>



Jeroen Bosman
@jeroenbosman

Found on a journal homepage: "Due to the high number of submissions and long processing time, it may take up to two years from submission to the publication of your article." Wow. Preprints anyone?

09/09/2018, 19:25



WeSupportPreprints...
@PreprintSupport

25 Retweets 58 Likes

"The key advantage is that [#preprints](#) simply & effectively-short circuit one of the major problems in contemporary academic [#publishing](#): the withholding of results by authors competing for journal prestige." - [@Stephen_Curry](#) [#ASAPbio](#) [@biorxivpreprint](#)

CONCERNS

Scooping

Some authors are concerned about the possibility of their work being 'scooped' if they post it to a preprint server.

Ethical approval

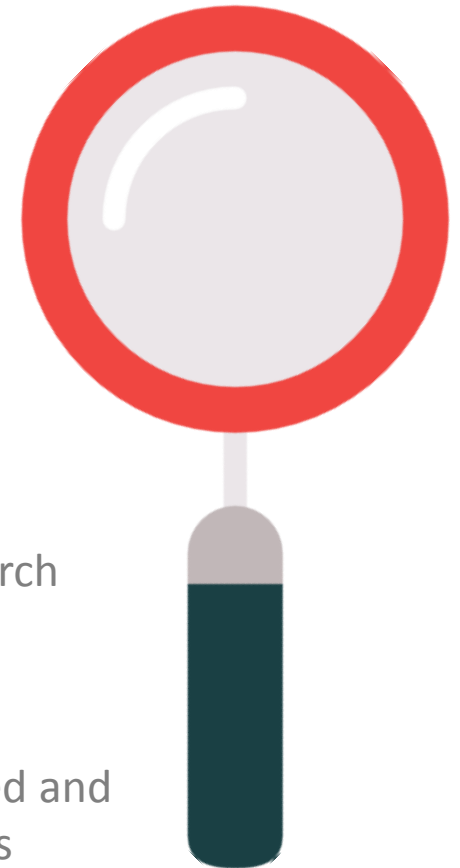
Authors could take advantage of preprint servers that have minimal checks to circumvent ethical requirements. Need for new policies.

Citation

Can and should a preprint establish precedence for reporting research results? What about loss of citations to papers?

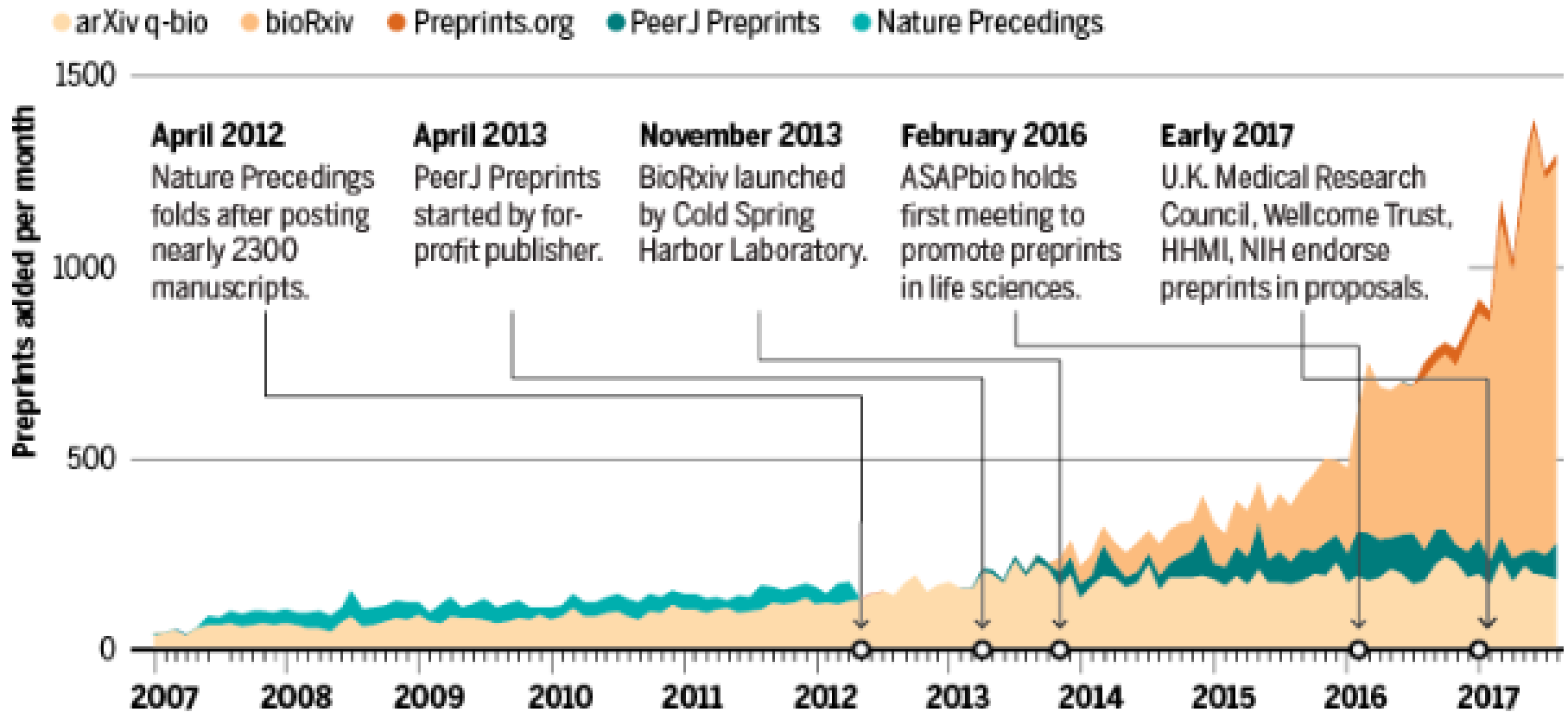
Withdrawal/retraction and correction/updating preprints

Under what circumstances should a preprint be retracted or updated and whose responsibility is it to make such a decision, given that there is typically no expert editor associated with a preprint?



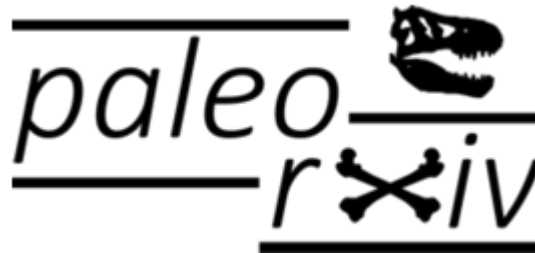
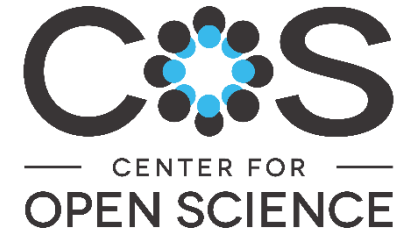
PREPRINTS: WHAT ARE THE ISSUES? COPE 2017; Publicationethics.org

THE RISE OF PREPRINTS



CREDITS: (GRAPHIC) J. YOU/SCIENCE; (DATA) JORDAN ANAYA, PREPUBMED

TAKE YOUR PICK (of preprint server)



PREPRINTS IN THE NEWS

Are preprints the future of biology? A survival guide for scientists

By **Jocelyn Kaiser** | Sep. 29, 2017, 9:00 AM

Science Magazine, 2017

[The Scientist](#) > [The Nutshell](#)

All *PLOS* Submissions to Appear on *bioRxiv*

Papers sent to *PLOS* journals will be automatically uploaded to the preprint server before acceptance.

By Kerry Grens | February 9, 2018

The Scientist, 2018

Dueling preprint servers coming for the geosciences

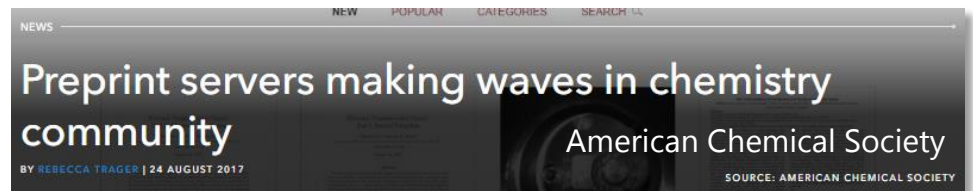
By **Paul Voosen** | Sep. 22, 2017, 1:05 PM

Science Magazine, 2017

Preprints accelerated between Ebola and Zika epidemics

Accelerating scientific research to counter infectious disease outbreaks: Pressing the pedal with preprints
Science Daily, PLOS 2018

Date: April 3, 2018



Preprints growth rate ten times higher than journal articles



[Jennifer Lin](#) – 2018 May 31

In [Preprints](#), [Metadata](#), [Content Registration](#), [Citation](#)

Journal papers 'largely indistinguishable' from preprints

Study sparks fresh debate about value added by commercial publishers, but has attracted some criticism

The World University Rankings 2018, Rachel Pells

March 31, 2018

A PREPRINT FOR WATER?

Watch this Space

PART II: OPEN ACCESS



PROBLEMS – TIME

Scientists should be solving problems, not struggling to access journals

It takes an average of 15 clicks for a researcher to find and access a journal article. This time could be much better spent

“The scale of this problem is huge: 10 million researchers around the world access 2.5bn journal articles online each year [pdf]. The time wasted trying to access them is a tax on human progress and on the development and dissemination of new scholarly knowledge.”

The Economist explains

The problem with scientific publishing

And how to fix it

The Economist explains >
Mar 30th 2017 | by A.B.

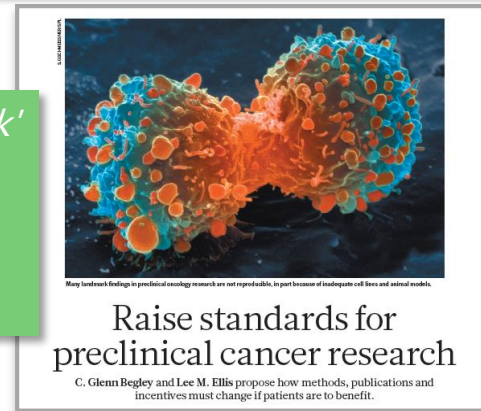
*“The incentive to withhold results for months or years until research is published is powerful. But such **delays can do real harm**: during the Zika crisis, sponsors of research had to persuade publishers to declare that scientists would not be penalised for releasing their findings early. “*

PROBLEMS - REPRODUCIBILITY



"..elite journals (such as Nature and Science) [are no longer] the guardians of quality that they often claim to be. The number of papers so flawed that they need to be retracted has risen sharply in the past two decades, with glitzier journals pulling more papers than lower-profile counterparts. Worse, studies in elite journals are no more statistically robust than those in lesser ones." – The Economist, May 30, 2017

"Fifty-three papers were deemed 'landmark' studies. ... Nevertheless, scientific findings were confirmed in only 6 (11%) cases."
— Nature 483, 531–533 (2012)
doi:10.1038/483531a



Essay

Why Most Published Research Findings Are False

John P. A. Ioannidis

PloS Medicine 2005 doi: 10.1371/journal.pmed.0020124

HEALTH

The Human Cost of a Misleading Drug-Safety Study

A reexamination of old data for Paxil found that the antidepressant is more dangerous than the authors let on. How much harm has been done in the 14 years since it was published?

David Dobbs, The Atlantic, 18th SEPT 2015

WHAT IS OPEN ACCESS?

*“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 other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited.”*

- Budapest Initiative 2002

ADVANTAGES OF OPEN ACCESS

GLOBAL
DISSEMINATION
OF RESEARCH



HIGHER CITATION
RATES



COMPLIANT WITH
FUNDING MANDATES



GREATER EXPOSURE
OF YOUR WORK



IWA
PUBLISHING

ACCESS FOR THE
PUBLIC



HIGHER POTENTIAL FOR
INTERDISCIPLINARY
COLLABORATIONS



INFLUENCE OF YOUR
WORK FOR FUTURE
DEVELOPMENTS



PRACTITIONERS CAN
APPLY YOUR WORK



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TYPES OF OPEN ACCESS



GREEN

OA through repositories, after embargo (usually 1 year).

LICENSE

NONE

COST

FREE



GOLD

OA immediately after publication through OA license.

CC BY

PAID

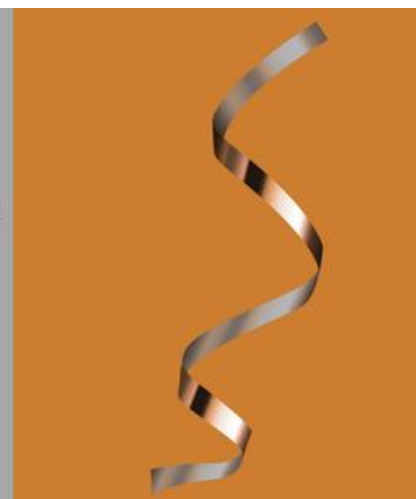


DIAMOND

Gold OA for free.

CC BY

FREE



BRONZE

Content made free-to-read on a publisher website/

NONE

FREE

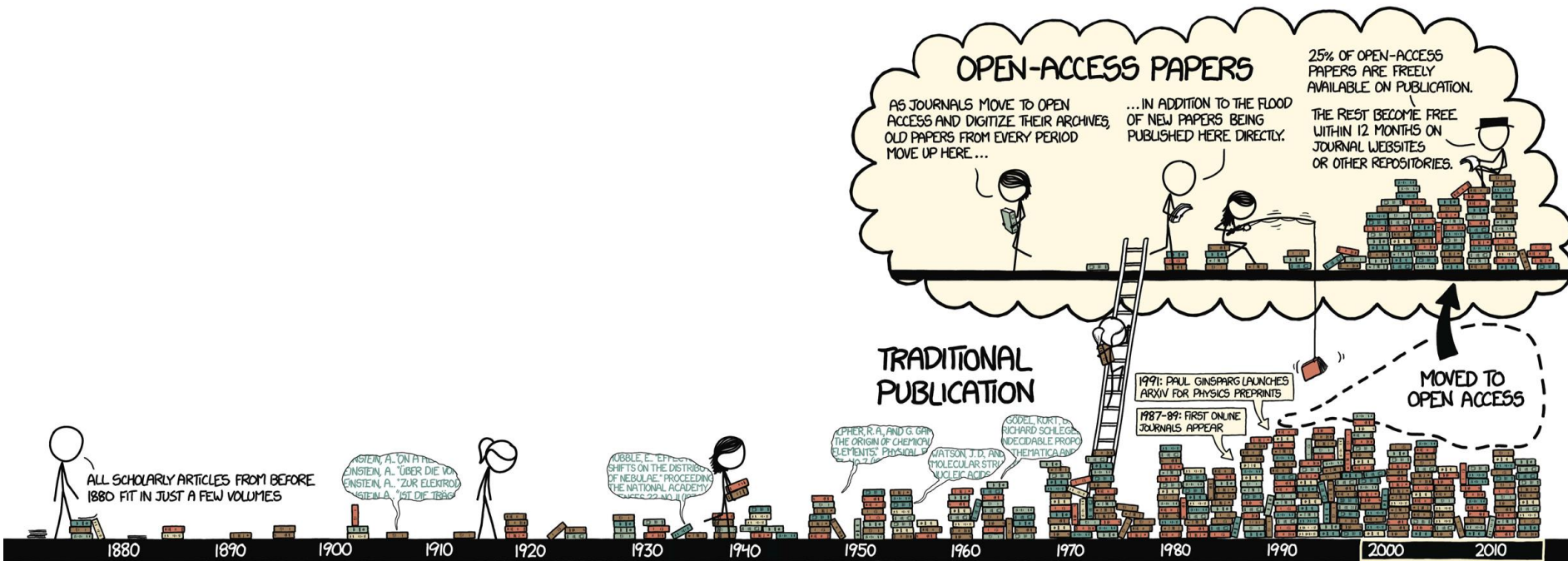
"PREDATORY PUBLISHERS"

OPEN ACCESS ≠ PREDATORY

- Is the journal indexed in DOAJ?
- Have you heard of the journal?
- Is the journal affiliated with either a well-known, long-standing publisher or a professional society?
- Who sent you the invitation to publish?
- Does the editorial board look legitimate?
- Is the journal indexed?
- Are OA charges disclosed upfront?

<https://blog.stfm.org/2016/05/23/predatory-publisher/>

THE RISE OF OPEN ACCESS



Adapted from: xkcd.com (Randall Munroe), science.sciencemag.org/content/342/6154/58.full

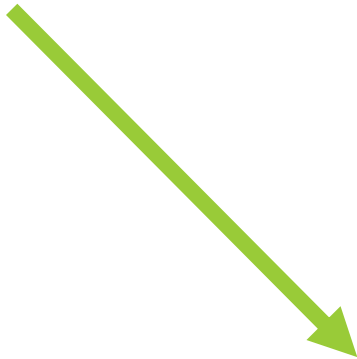
THE RISE OF OPEN ACCESS PUBLISHERS

PLOS
New Journal of Physics
The open access journal at the forefront of physics

BioMed Central
The Open Access Publisher

Optics EXPRESS

2000



2018

COAJ 中国科技期刊开放获取平台
China Open Access Journals

MDPI

frontiers **BMC**

Springer Open **Hindawi**

Optics EXPRESS **OXFORD OPEN**

eLIFE **SAGE open**

mBio **SCIENTIFIC JOURNALS INTERNATIONAL**

ATLANTIS PRESS **WILEY Open Access**

Cell Reports **EXCELLENCE IN SCIENCE** **ACS AuthorChoice Free Access** **PeerJ** **FEBS openbio**

New Journal of Physics **physics**

nature COMMUNICATIONS **PLOS** **come trust** **COACTION PUBLISHING**

SCIENTIFIC REPORTS

WHY THE TRANSITION TO OA?

White House announces new US open-access policy

22 Feb 2013 | 19:25 GMT | Posted by Richard Van Noorden | Category: Policy

Chinese agencies announce open-access policies

Researchers will now be required to make papers free to read within one year of publication.

Richard Van Noorden | 19 May 2014 | Corrected: 20 May 2014 | Clarified: 30 May 2014

India's major science funders join open-access push

By Dalmeet Singh Chawla | Dec. 30, 2014, 1:00 PM

AFRICA

Universities seek united front in open access debate

Munyaradzi Makoni | 13 May 2016 | Issue No:413

HIGHER EDUCATION

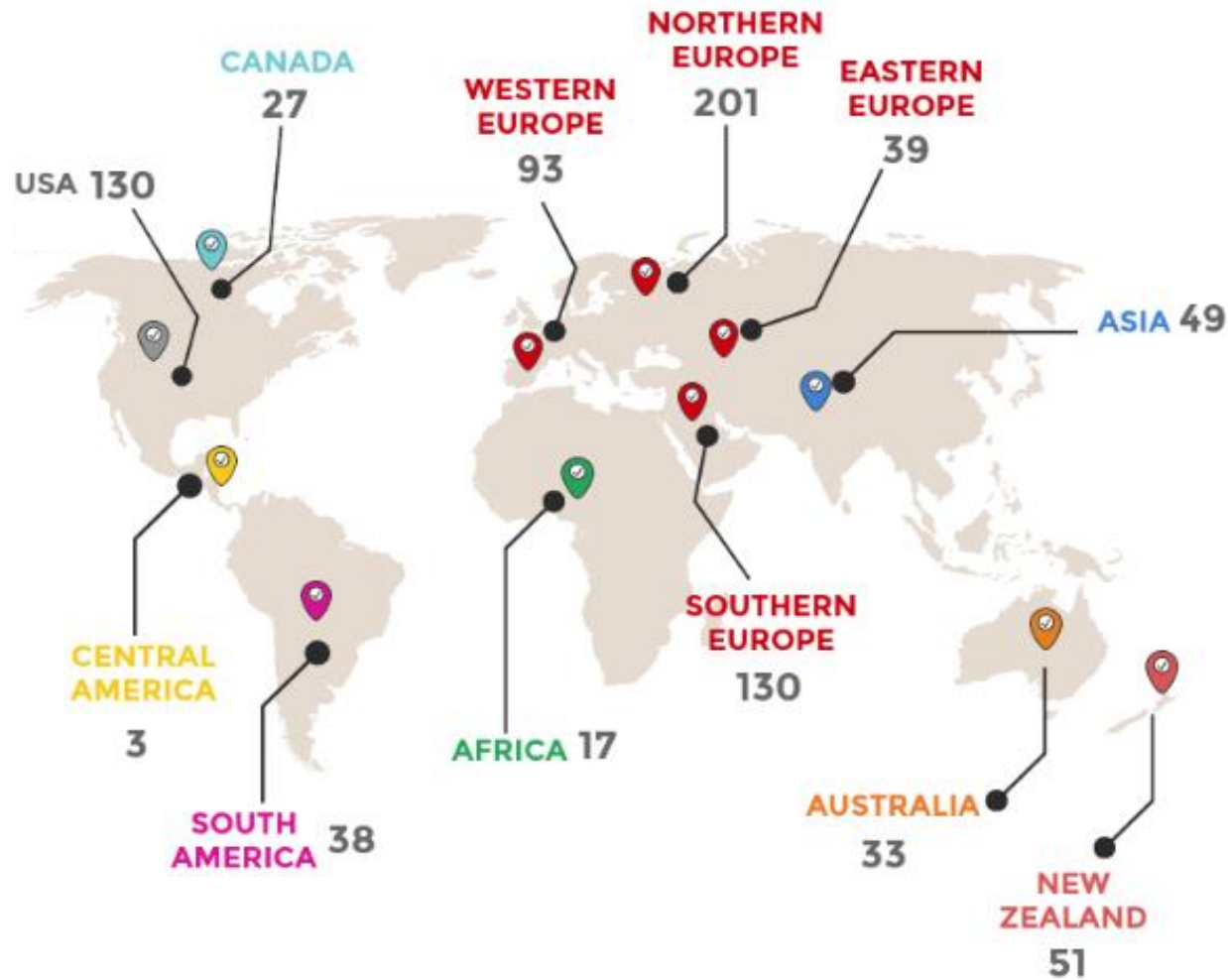
Make all publicly funded research open access: Productivity Commission report

The Australian | 2:48PM December 20, 2016

In dramatic statement, European leaders call for 'immediate' open access to all scientific papers by 2020

By Martin Enserink | May. 27, 2016, 2:30 PM

GLOBAL OPEN ACCESS MANDATES



<https://www.editage.com/insights/open-access-policies-and-mandates-around-the-globe>

OPEN ACCESS IN CHINA



国家自然科学基金委员会 关于资助项目科研论文实行开放获取的政策声明

公共资金资助科学研究，是社会创造知识、支持创新、促进发展的重要手段。受资助项目所发表的科研论文是全社会的知识资源，其在全社会的开放获取，将促进知识传播利用，推进科学事业的全球化进程，并将公共投资所产生的知识迅速转化为全社会的创新发展能力，让知识普惠社会发展。

为此，特制定国家自然科学基金资助项目科研论文的开放获取政策：

自本政策发布之日起，国家自然科学基金全部或部分资助的科研项目投稿并在学术期刊上发表研究论文的作者应在论文发表时，将同行评议后录用的最终审定稿，存储到国家自然科学基金委员会的知识库，不晚于发表后12个月开放获取。如果出版社允许提前开放获取，应予提前；如果论文是开放出版的，或出版社允许存储最终出版PDF版的，应存储论文出版PDF版，并立即开放获取。

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May 2014: CAS and National Natural Science Foundation of China (NSFC) announce the first open access mandate at national level requiring researchers to make their work free access within 12 months of publication.

NSFC launches its open repository.

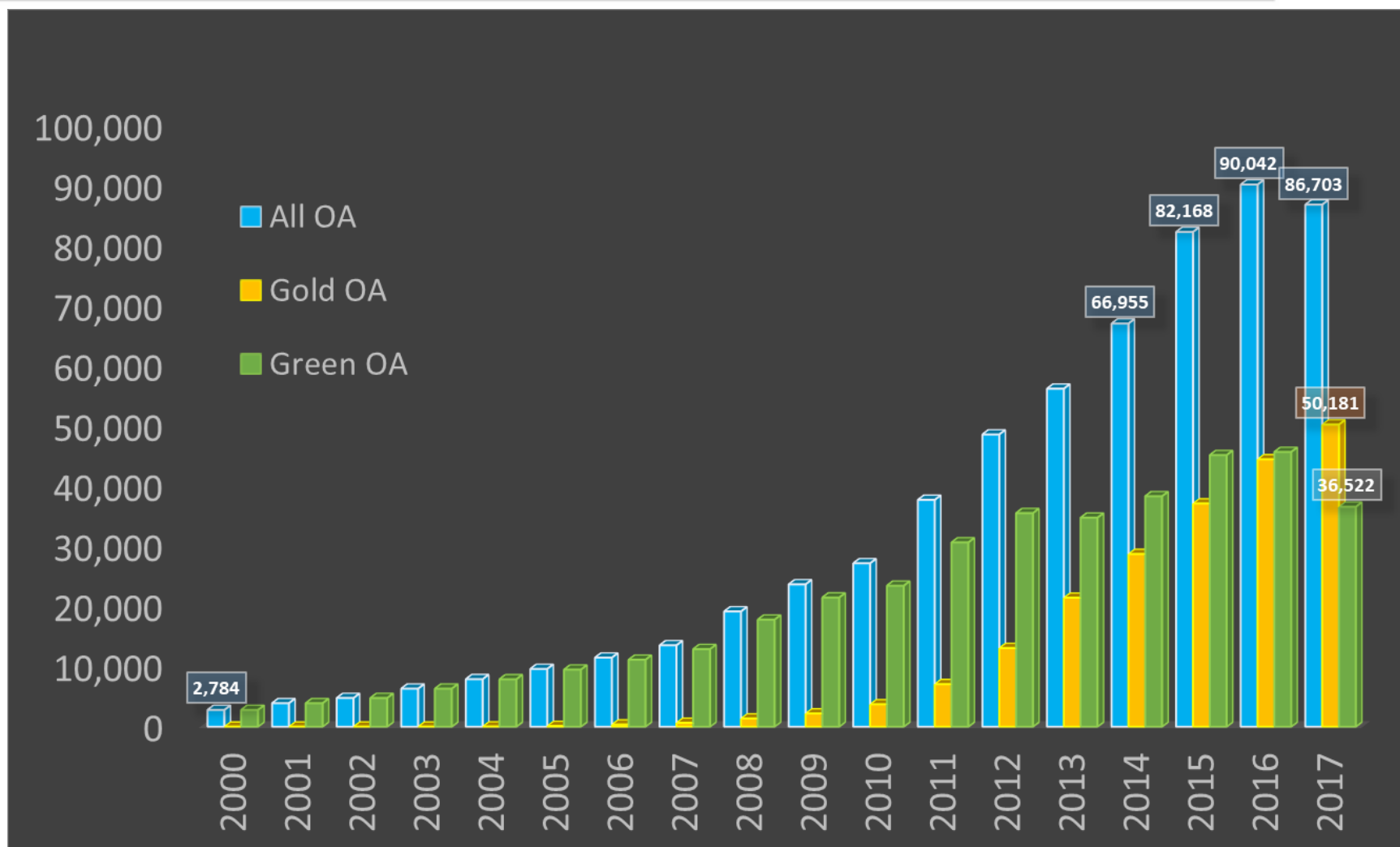


中国科学院 机构知识库服务网格
CHINESE ACADEMY OF SCIENCES Institutional Repositories Grid

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OPEN ACCESS IN CHINA



LATEST OA NEWS IN EUROPE

European science funders ban grantees from publishing in paywalled journals

By [Martin Enserink](#) | Sep. 4, 2018 , 3:15 AM



PROFESSIONAL JOBS SUMMITS RANKINGS

Plan S: a shock or a solution for academic publishing?

European funders' shift away from subscription journals raises questions over the outlook for prestigious periodicals

September 7, 2018

Funding Organisation	Acronym	Country
Austrian Science Fund	FWF	Austria
French National Research Agency	ANR	France
Science Foundation Ireland	SFI	Ireland
National Institute for Nuclear Physics	INFN	Italy
National Research Fund	FNR	Luxembourg
Netherlands Organisation for Scientific Research	NWO	Netherlands
Research Council of Norway	RCN	Norway
National Science Centre	NCN	Poland
Slovenian Research Agency	ARRS	Slovenia
Swedish Research Council for Sustainable Development	FORMAS	Sweden
UK Research and Innovation	UKRI	UK

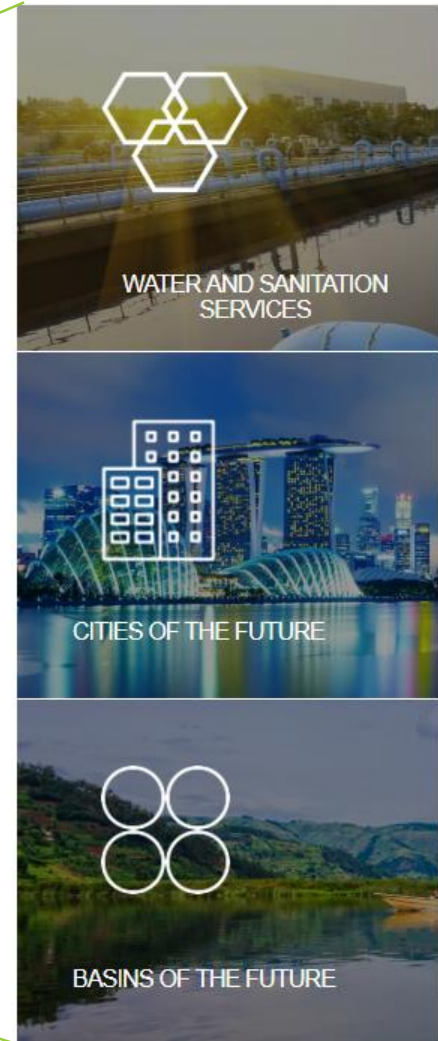
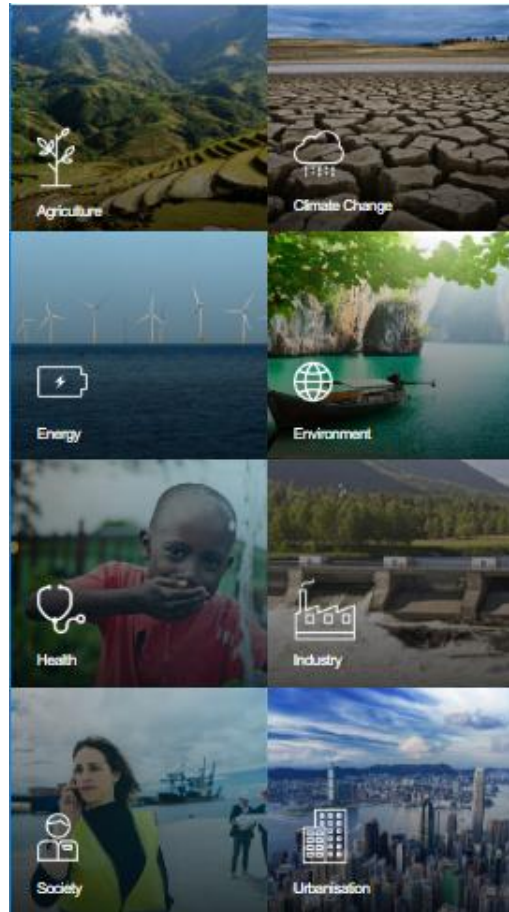
IWA PUBLISHING & OPEN ACCESS

Emphasis on quality over quantity.

All surplus Open Access funds redirected to the missions of the International Water Association.



Open Access for the future.



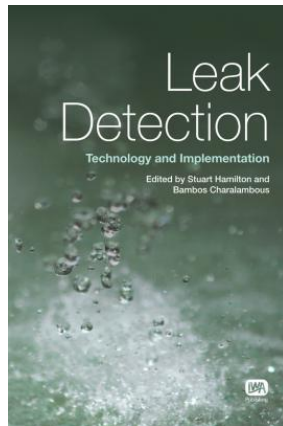
IWA PUBLISHING & OPEN ACCESS

Hybrid OA
announced for IWA
Publishing Journals



2010

First OA book
published



2013

1st OA journal
launched

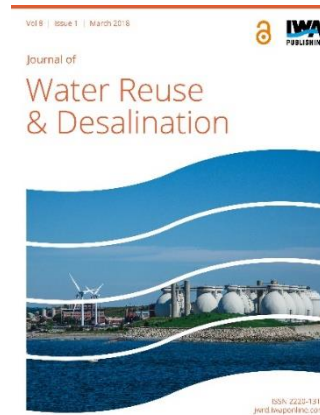
43 OA papers
published



2016

1st journal
flipped to OA

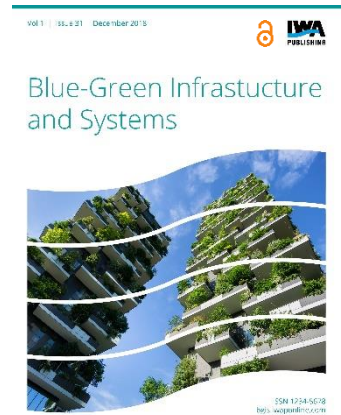
86 OA papers
published



2017

Launch 2nd OA
journal

55 OA papers
published to
date



2018

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H₂Open Journal

H₂Open Journal is the high-quality solution for Open Access publishing in the water-sphere.

Submissions welcome across all aspects of 21st century water research.

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UK



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China



APC WAIVED UNTIL 2019

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PART III: SPREADING THE WORD



Towards Furthering Access to Innovations in:
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INNOVATIONS



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Characterisation of sediments during transport of solids in circular sewer pipes
Manuel Regueiro-Picallo, Jose Anta, Joaquín Suárez, Jerónimo Puertas, Alfredo Jácome and Juan Naves

ABSTRACT

This research is focused in the monitoring of sediments in circular sewer pipes with different diameters at a flume facility fed with urban wastewater. For this purpose, sediment physical and chemical characteristics, and sediment mobility were recorded. The Structure from Motion photogrammetric technique was used for the measurement of sediment bed evolution. In addition, sediment properties were determined in order to study the cohesiveness of the bed deposits. In particular, the chemical oxygen demand and the oxygen uptake rate of the sediment samples were analysed after different accumulation periods on the pipe inverts, resulting in a relation between these parameters and the mobility processes of solids.

Key words | combined sewer, flume test, photogrammetry, sediment transport, sewer sediments

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ORCID

Connecting Research
and Researchers

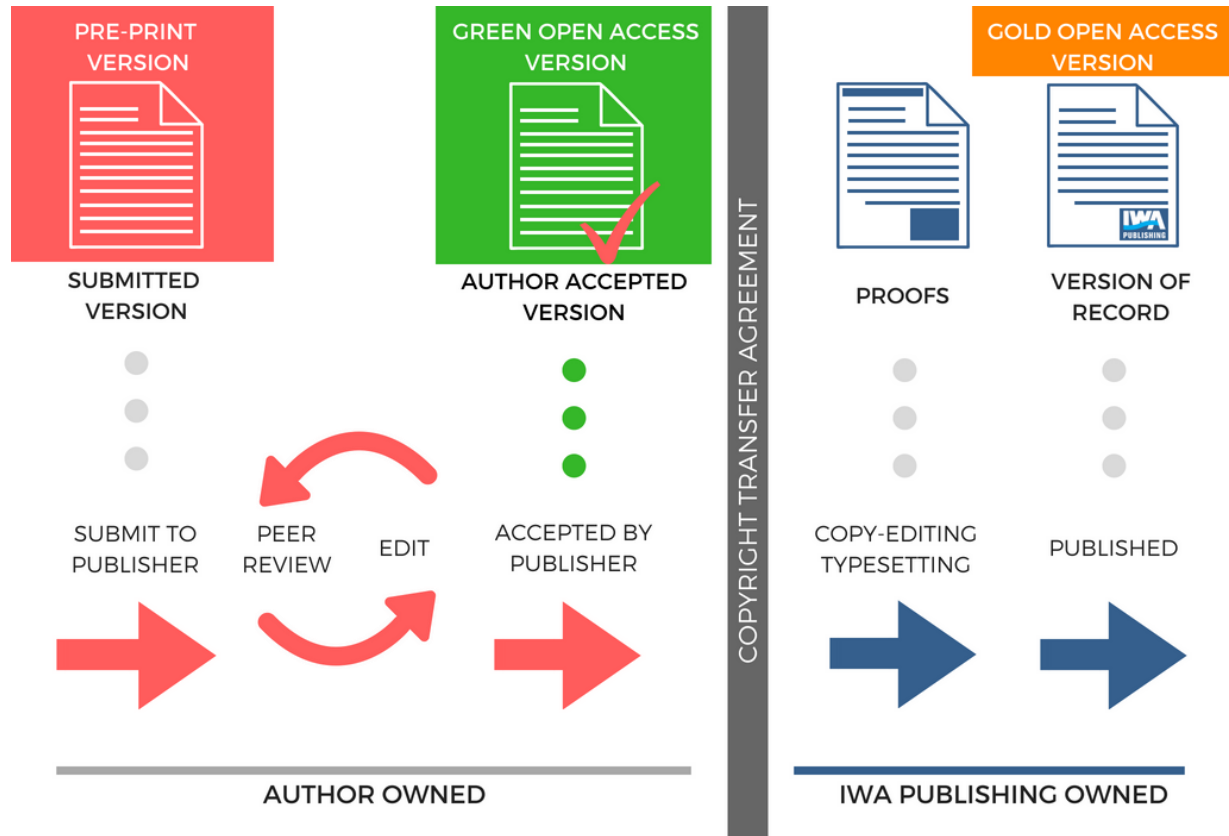
↑ CITATIONS: ACCESS

Publish in Open Access journals.

Post pre-prints.

Post your work in repositories (Green OA).

Check SHERPA RoMEO to find your publisher's copyright and self-archiving policies



↑ CITATIONS: DATA ARCHIVING

Repository	Fees	Size limits
Dryad Digital Repository	\$120 for 1 st 20GB, \$50 for each additional 10 GB	None stated
figshare	100 GB free	1 TB per dataset
Harvard Dataverse	Contact repository for datasets >1 TB	2.5 GB per file, 10 GB per dataset
Open Science Framework	Free	5 GB per file, multiple files allowed
Zenodo	Donations encouraged	50 GB per dataset



DATA VISUALISATION



CODE OCEAN

Code Ocean is a cloud-based **computational reproducibility** platform



Modern Visualization for the Data Era

Creates leading open source tools for composing, editing, and sharing interactive data visualization via the Web.



Turn a GitHub repo into a collection of interactive notebooks

With Binder, open those notebooks in an executable environment, making your code immediately reproducible by anyone, anywhere.

WORK WITH YOUR PUBLISHER

Marketing teams are always happy to promote associated work.

Get in touch about how we can help with:

- Press releases
- Social media
- Marketing material



SOCIAL MEDIA PART I

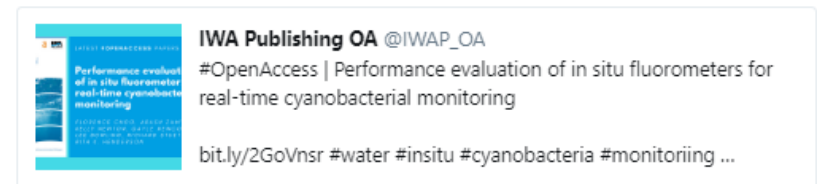
Announce work as it's published.



Link to your work

Hashtag key words

Tag any co-authors, linked institutions or colleagues to promote sharing
e.g. @IWAPublishing



'How do I promote my work online', Sarah Cooper (IWA Blog 2018)

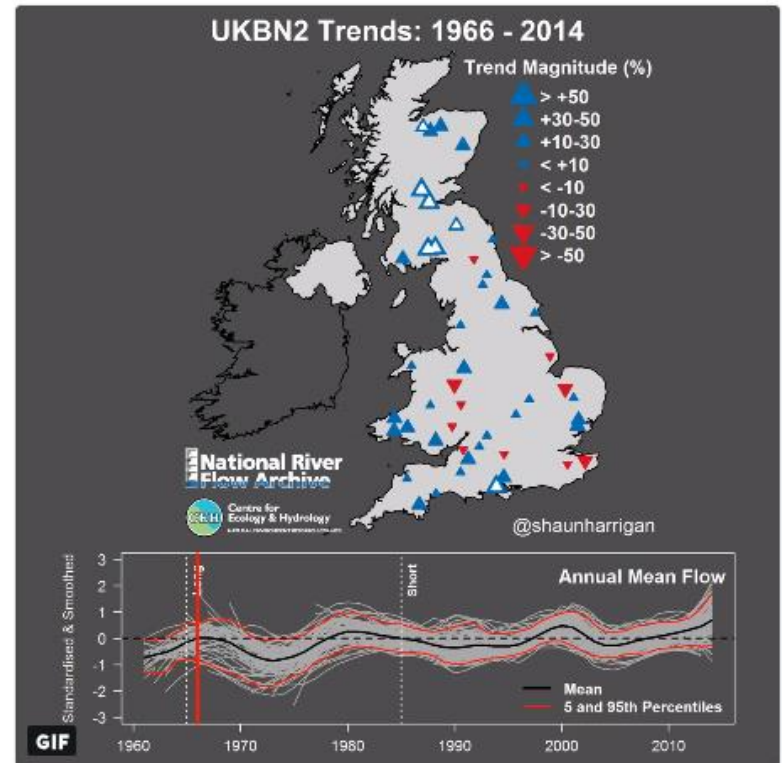
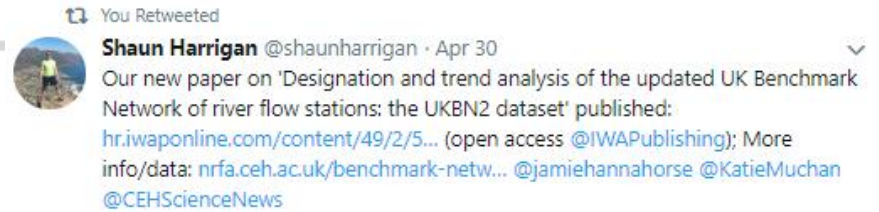
SOCIAL MEDIA PART II

Make your post attention-grabbing

Include an image (eg journal cover or infographic)

Maintain a consistent professional identity across accounts

Link between different social media accounts



'How do I promote my work online', Sarah Cooper (IWA Blog 2018)

NETWORKS

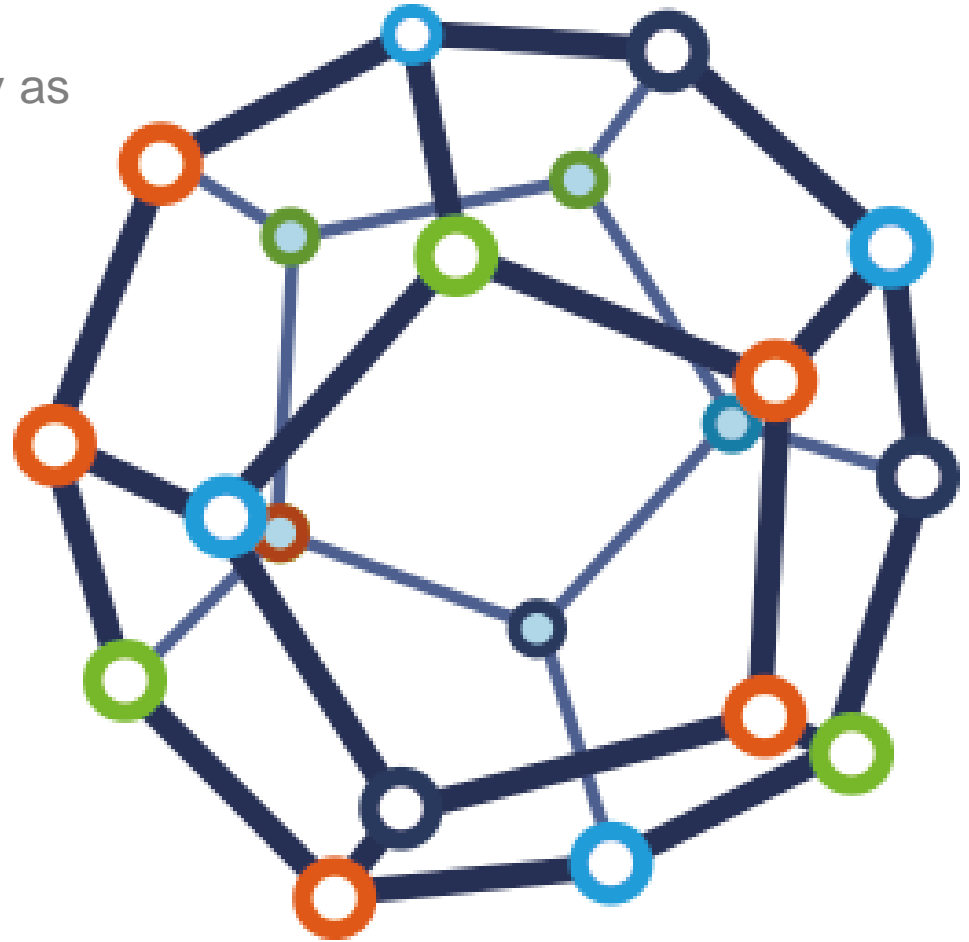
Share your published paper as widely as possible among your **network**

Share on **listserves**

Present work at **conferences**

Do **outreach**

Be on the lookout for options to **collaborate**



REACHING A WIDER AUDIENCE



Blogs - expand on or explain your work in plain language to reach a wider audience. Host on your own blog site or that of your institution or society.

Video Abstracts – explain the key findings of your work in a short (<4min) video. Great for visibility!

<http://wesharescience.com/Create-Video-Abstract>



Podcasts – can be a great way to further broadcast your work.



THANK YOU!

Questions, comments?

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