

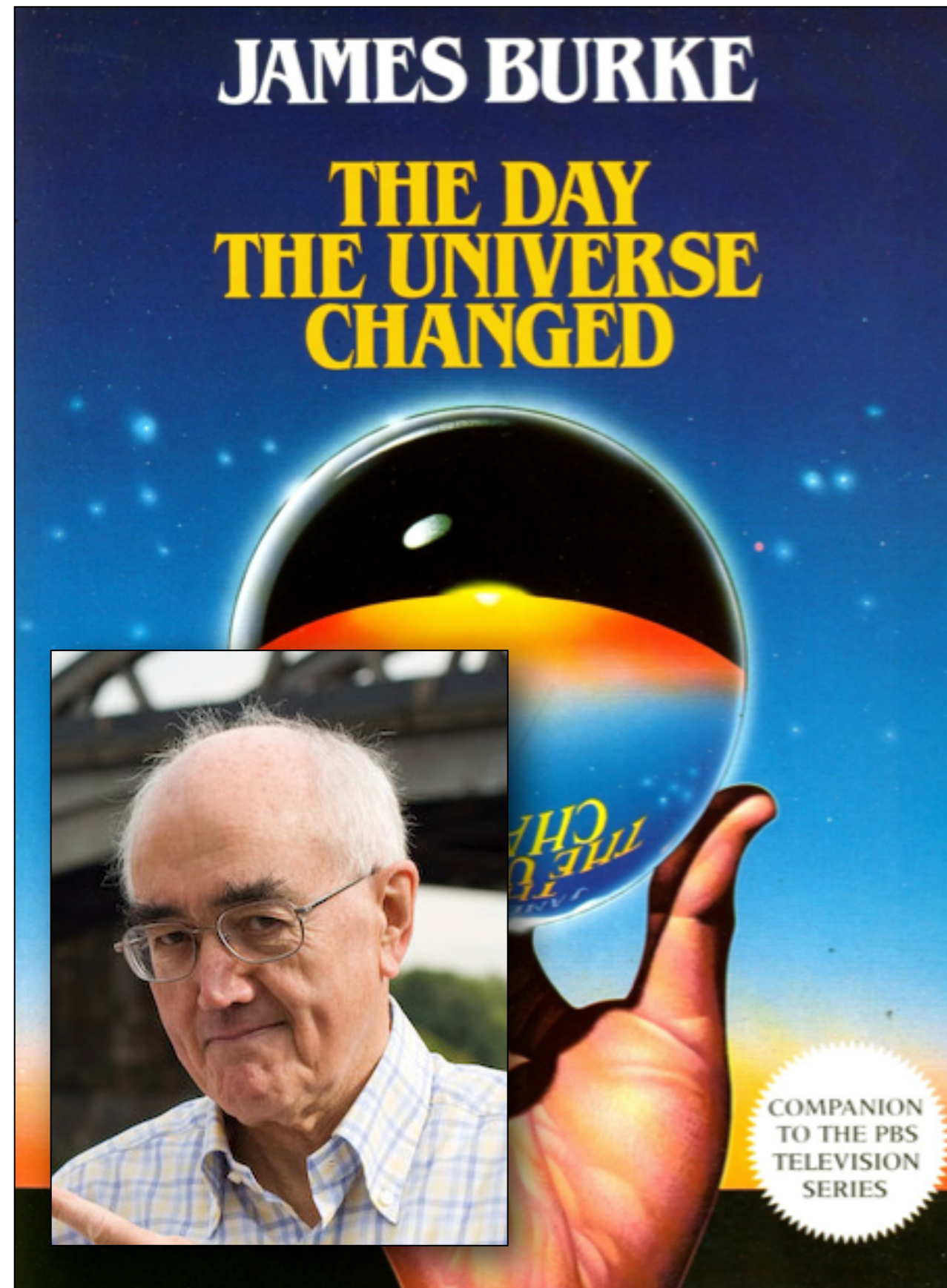
Opportunities and Challenges in Open Research

Professor Stephen Curry
Imperial College

SpotOn, London
03 Nov 2018



Technology and social change



“The main thing, it seems to me, is to remember that technology manufactures not gadgets, but social change.”

James Burke

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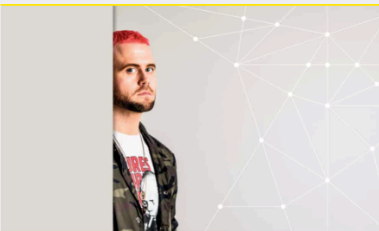
The Cambridge Analytica Files

A year-long investigation into Facebook, data, and influencing elections in the digital age

Key stories




Revealed / 50 million Facebook profiles harvested for Cambridge Analytica in major data breach



'I made Steve Bannon's psychological warfare tool': meet the data war whistleblower

Christopher Wylie goes on the record to discuss his role in hijacking the profiles of millions of Facebook users in order to target the US electorate



Revealed: Brexit insider claims Vote Leave team may have breached spending limits

Whistleblower alleges that electoral spending rules could have been manipulated over controversial donation and that Vote Leave 'tried to delete key evidence'

The Brexit whistleblower / 'Did Vote Leave use me? Was I naive?'

Revealed: the ties that bound Vote Leave's data firm to controversial Cambridge Analytica

Facebook's week of shame / The Cambridge Analytica fallout

Politicians can't control the digital giants with rules drawn up for the analogue era

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Technology

US mid-terms: Twitter deletes anti-voting bots

2 November 2018

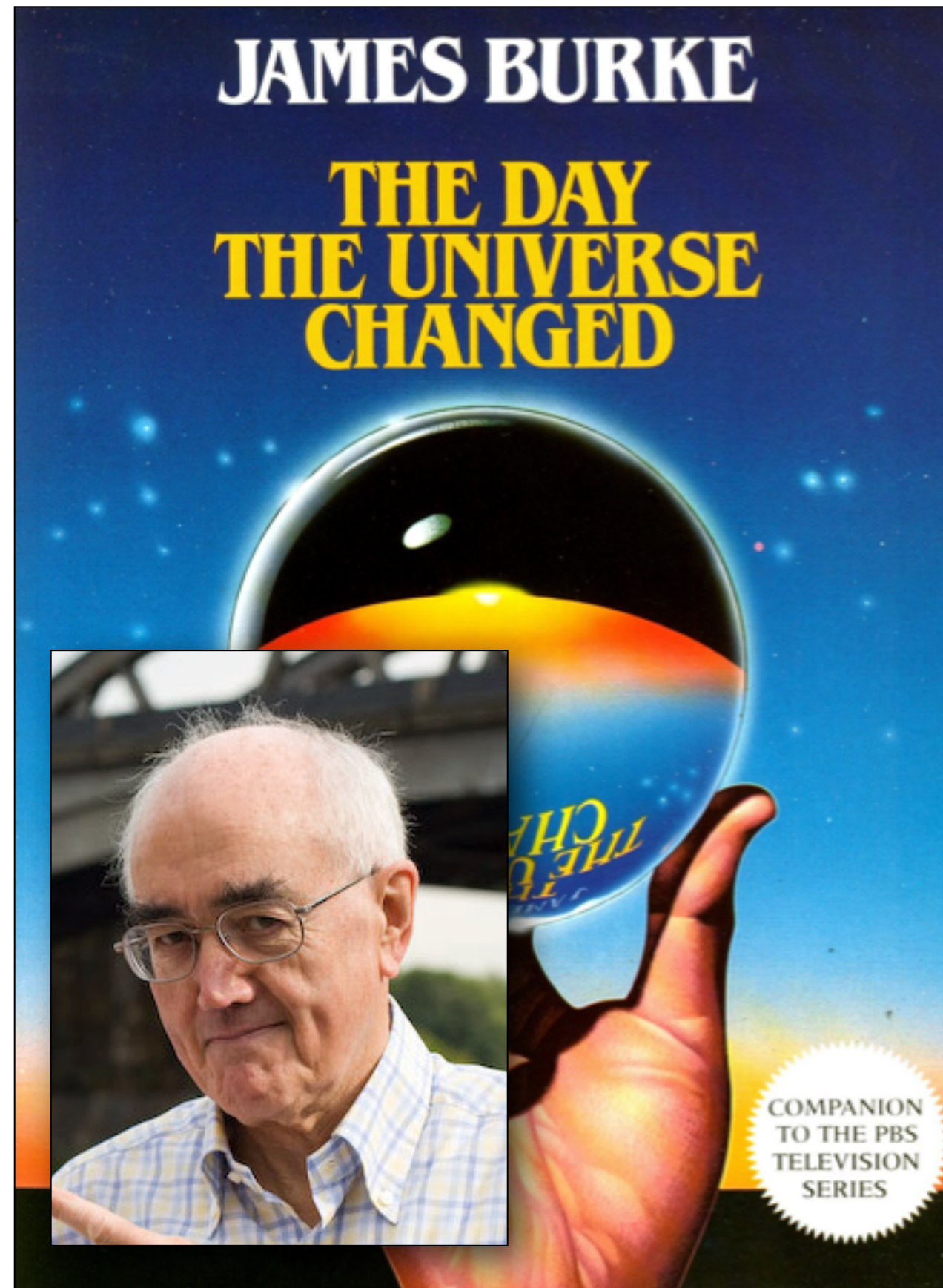
US mid-terms 2018



The bots were taken down in September and October

Twitter has deleted an estimated 10,000 automated accounts that were posting messages discouraging people from taking part in next week's US mid-term elections.

Technological and cultural change in academia



“The main thing, it seems to me, is to remember that technology manufactures not gadgets, but social change.”

James Burke



Open access: the beast that no-one could – or should – control?

Stephen Curry

‘The main thing, it seems to me, is to remember that technology manufactures not gadgets, but social change,’ declared science historian and broadcaster James Burke in a lecture given in 1985 (Burke, 2005). This was several years before the rise of the personal computer and the internet. But history’s knack of repeating itself means that the words are no less true of the digital transformation of the world in the last two decades. The recasting of information into digital forms that can be replicated and transmitted instantly across the globe has changed our relationship with it in myriad ways. This poses commercial challenges in some industries – music, film and newspapers, for example – but at the same time has given rise to whole new businesses such as search engines, social networking and online retailing. It has also created opportunities for the public to access public information, which is changing the provision of government services and opening up new avenues for democratic dialogue.

<http://oopen.org/search?identifier=643155>

Cultural change in academia is hard: the journal system is deeply entrenched

*“I have published X manuscripts since 2014, as first or joint-first author in Y , with a further Z under revision or submitted to **high impact journals**...”*

Job applicant

*“Our people know how to get the **Nature papers**...”*

Faculty Dean , (University of X)

*“I’m really excited. We just had a big paper in **Cell**... !”*

Postdoc



Focusing researcher assessment on publishing is problematic

Sick of Impact Factors

Posted on [August 13, 2012](#) by [Stephen](#)

I am sick of impact factors and so is science.

The impact factor might have started out as a good idea, but its time has come and gone. [Conceived by Eugene Garfield](#) in the 1970s as a useful tool for research libraries to judge the relative merits of journals when allocating their subscription budgets, the impact factor is [calculated](#) annually as the mean number of citations to articles published in any given journal in the two preceding years.



<http://occamstypewriter.org/scurry/2012/08/13/sick-of-impact-factors/>

Publication is slowed by the impact factor chase – reduces productivity

Novelty & positive results are favoured over reliability

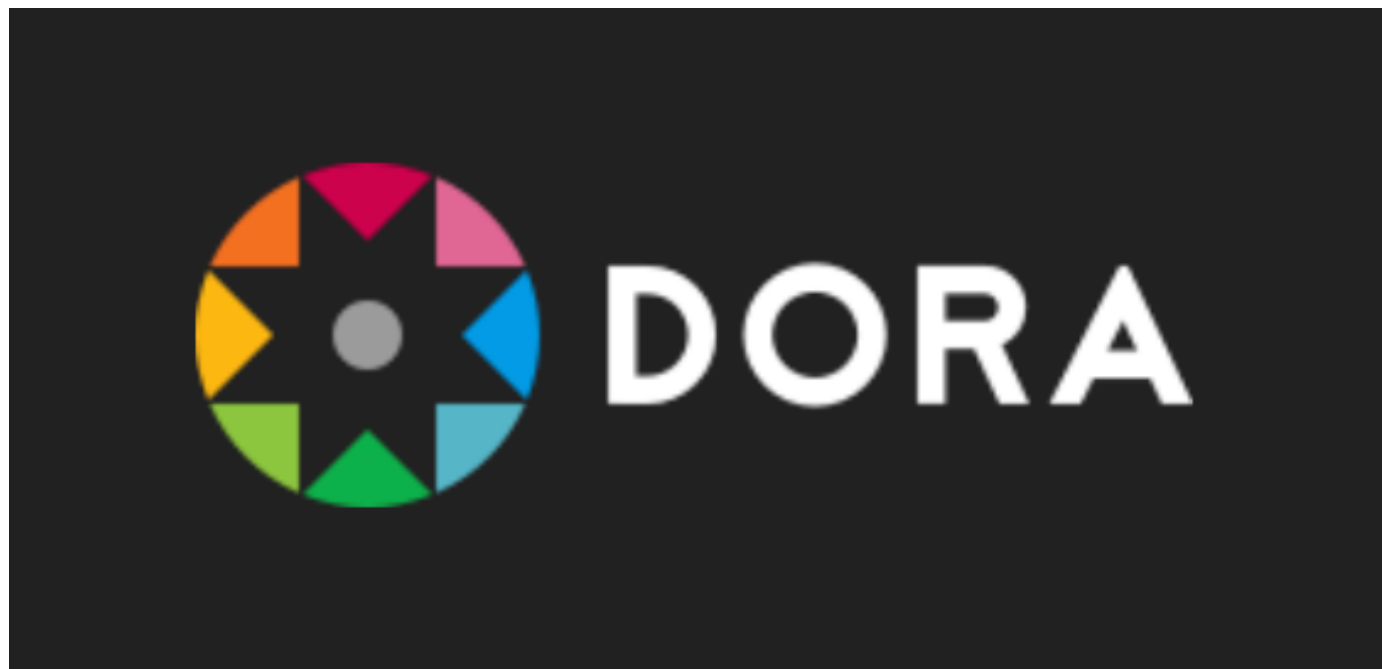
Incentivises fraud

Weakens public trust...

Hero complexes: stress on the individual; bullying

Devaluation of other important academic activities (e.g. mentoring)

Change is coming: the answer to many of these challenges is openness:



San Francisco Declaration on Research Assessment

Do not use journal-based metrics, such as Journal Impact Factors, as a **surrogate measure** of the quality of individual research articles...

...**Consider** the value and impact of **all research outputs** (including datasets and software) in addition to research publications, and **consider** a **broad range of impact measures** including qualitative indicators of research impact, such as influence on policy and practice.

“Despite personal ideals and good intentions, in this incentive and reward system **researchers** find themselves pursuing **not the work that benefits public** or preventive health or patient care the most, **but work that gives most academic credit** and is better for career advancement.”

Frank Miedema

<https://blogs.bmj.com/openscience/2018/01/24/setting-the-agenda-who-are-we-answering-to/>

Application form

Charité University Hospital, Berlin

- Your 5 most important papers
- **Your contribution to open science**
- Your most important collaborations

[scientific contribution]

Remaining characters: 1000

What do you consider to be the 5 most important papers you have published? Please briefly justify this selection and mention your respective contribution. How were the work accepted in the scientific field, what impact did they have on the advancement of knowledge or the clinical practice (therapies, guidelines)? *

[Pubmed-ID] OR [DOI]

[Description of first publication] [Own share of the first publication]

The Charité attaches great importance to transparent, replicable research and supports the objectives of Open Science (Open Access, Open Data). This includes the registration of studies in registries (clinicaltrials.gov, DRKS, etc.), the preregistration of studies, and the publication of negative and zero results. **How have you been pursuing these goals so far and what are your plans for the future?**

...

Remaining characters: 1000

Charité is interested in team science and collaborations. Please describe in short most important collaboration projects within recent five years. *

e.g. Karolinska Inst.

[Description]

Please describe in short your interactions with relevant actors in biomedicine, e.g. industry, patient care, policy panel, etc.

...

Remaining characters: 1000

relevant patents

[patent number]

[Description]

<https://sfdora.org/2018/07/06/simple-questions-big-insights-charite-uses-bio-sketch-questions-to-recruit-faculty/>

A public good: how open science can be better science

Peer review and scientific publishing

Occam's corner

Stephen Curry

@Stephen_Curry

Monday 7 September 2015 11.00 BST

Shares 1

Comments 14

Save for later

Peer review, preprints and the speed of science

Peer review is often claimed to be the guarantor of the trustworthiness of scientific papers, but it is a troubled process. Preprints offer a way out



Subediting skills for writers Photograph: Joanna Penn/Flickr

A few weeks ago my collaborators and I submitted our latest paper to a scientific journal. We have been investigating how noroviruses subvert the molecular machinery of infected cells and have some interesting results. If it passes peer review, our paper could be published in three or four months' time. If it's

- Preprints: faster communication
 - Focus on the content, not the container (journal)
 - Encourages open peer review
- OA: Worldwide audience (sharing + scrutiny = reliability)
- Data sharing: re-use & scrutiny benefits (reliability)
 - Better for changing the world (impact; e.g. zika crisis)
- Citizen science: deep, two-way engagement

Science

Occam's corner

Zika virus initiative reveals deeper malady in scientific publishing

Stephen Curry

Moves to speed up the release of Zika virus research in response to the public health crisis highlight a systemic failure in scientific publishing. Help could be at hand at the ASAPbio meeting today in the USA

Contact author

@Stephen_Curry

Tuesday 16 February 2016 11.54 GMT

Shares 539

Comments 4

Save for later



Too far behind a screen - Zika scientists are set to benefit from the rapid release of research on the virus

Photograph: Victor Moriyama/Getty Images

In response to the rapid spread of Zika virus across Central and South America, now declared to be an international public health emergency by the World

Projects

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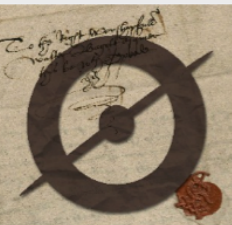


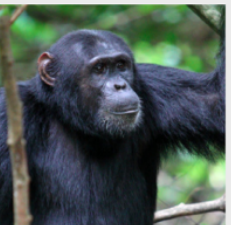


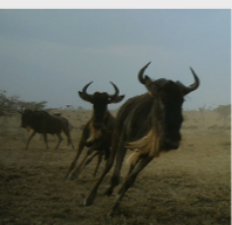
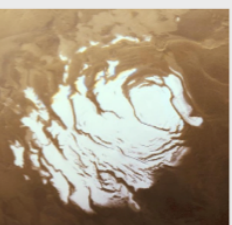

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BUILD A PROJECT


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 <p>SEASON SPOTTER QUESTIONS</p>	 <p>SHAKESPEARE'S WORLD</p>	 <p>SNAPSHOTS AT SEA</p>	 <p>JUNGLE RHYTHMS</p>	 <p>CHIMP & SEE</p>
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Plan S: the open future...?



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Research


NEWS • 04 SEPTEMBER 2018

Radical open-access plan could spell end to journal subscriptions

Eleven research funders in Europe announce 'Plan S' to make all scientific works free to read as soon as they are published.

Holly Else

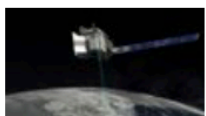


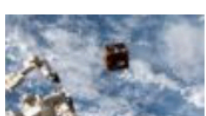



Robert-Jan Smits, the European Commission's special envoy on open access, spearheaded the Plan S initiative. Credit: Nikolay Doychinov/EU2018BG

[PDF version](#)

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Ice-tracking satellite launches after 10 years in the works

Stand back, Aquaman: Harpoon-throwing satellite takes aim at space junk

AI helps unlock 'dark matter' of bizarre superconductors

Research funders from France, the United Kingdom, the Netherlands and eight other European nations have Display a menu dical open-access initiative that could

“We also understand that researchers may be driven to do so by a misdirected reward system which puts emphasis on the wrong indicators (e.g. journal impact factor). **We therefore commit to fundamentally revise the incentive and reward system of science**, using the San Francisco Declaration on Research Assessment (DORA) as a starting point.

<https://www.scienceeurope.org/coalition-s/>

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Research culture: Changing expectations

Conference

Starts:October 29 2018 10:00 [Add to calendar](#)

Ends:October 30 2018 17:00 [Add to calendar](#)

“The best culture is an OPEN culture, one where research findings and the data and metadata behind them are made openly available...

It is what has been discovered and how that has been applied that matters, NOT where it has been published. [...] We are still too wedded to the traditional methods of publishing, and we need to harness new technology to disseminate research more effectively.”

Sir Mark Walport, CEO, UKRI (29 Oct 2018)

<https://royalsociety.org/science-events-and-lectures/2018/10/research-culture-conference/>

Thank you

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@Stephen Curry

