

# Mitovi i zablude o znanstvenoj publicistici

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UTORKOM O  
OTVORENOJ  
ZNANOSTI

**Z** Odjel za  
informatijske  
znanosti  
izvanredni i otvoreni znanje



# Mitovi i zablude o znanstvenoj publicistici

Lea Škorić i Jadranka Stojanovski



# 1. Znanstveno je izdavaštvo prigrnilo večinu raspoloživih tehnologija

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In this Issue

*The social network a  
complexity in anima*

Papers of a Theme Issue organized and edited



The world's first science journal



THE  
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February 19, 2021

PUBLISH WITH PLOS ONE

Accelerating the publication of peer-reviewed science

Read the latest COVID-19 research

This Collection highlights content published across the PLOS journals relating to the COVID-19 pandemic.

READ MORE

SCIENCE COMMUNICATION

02/11/2021

The effects of a temporal framing manipulation on environmentalism: A replication and extension

Stanley and colleagues found that strategies targeted towards increasing the effectiveness of climate change communication interact with political affiliation, and may undermine pro-environmentalism.

Image credit: climate change by stookatalog, CC BY 2.0

MATERNAL/CHILD HEALTH

02/17/2021

Mistreatment of newborns after childbirth in health facilities in Nepal: Results from a prospective cohort observational study

Ashish and colleagues found that infants born to women who were younger or from ethnic minorities were more likely to experience newborn mistreatment in Nepal.

Image credit: Baby Feet by congerdesign, CCO

EVOLUTIONARY BIOLOGY

02/16/2021

Evolutionary history of Carnivora (Mammalia, Laurasiatheria) inferred from mitochondrial genomes

Hassanin and colleagues analyse the complete mitogenomes for 220 carnivores and estimate their phylogeny and divergence times.

Image credit: Fig 2 by Hassanin et al., CC BY 4.0

RESEARCH ARTICLE

02/16/2021

Addressing the huge poor-rich gap of inequalities in accessing safe childbirth care: A first step to achieving universal maternal health coverage in Tanzania

Author Deogratius Bintabara has demonstrated that there is a persistent poor-rich gap across Tanzania in the ability to access institutional delivery/skilled birth attendance and safe childbirth care services.

Image credit: Petr Kratochvil, PublicDomainPictures

# Je li PDF dobar format?

## Prednosti:

- može se otvoriti na bilo kojem uređaju s bilo kojim operativnim sustavom u istom obliku u kojem je stvoren;
- čita se sa softverom koji je besplatan;
- PDF zauzima malo prostora jer koristi dobre algoritme za kompresiju;
- prilagodljive i moćne sigurnosne postavke, na primjer, zabrana ispisa ili uređivanja;
- format omogućuje upotrebu elektroničkih potpisa za utvrđivanje vjerodostojnosti dokumenta.

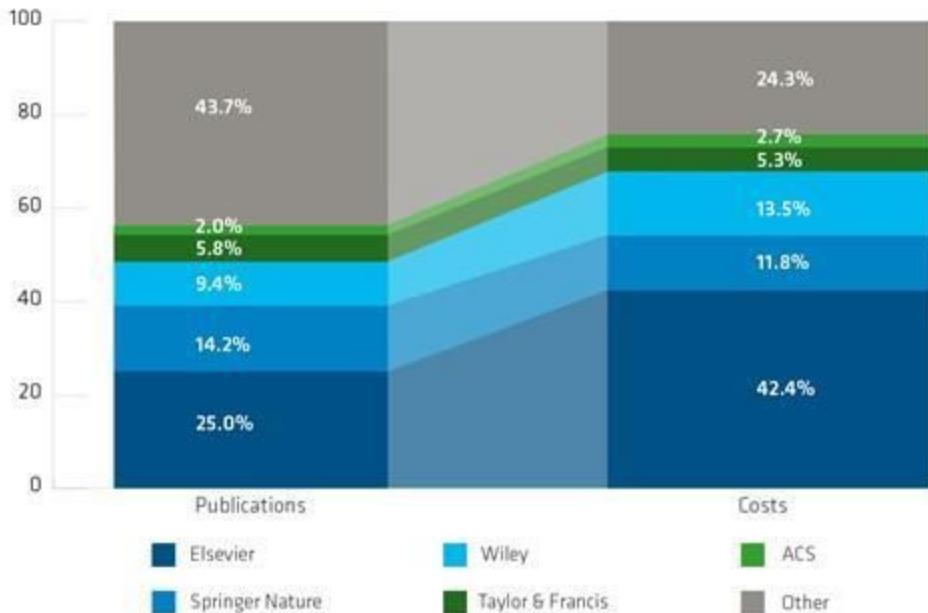
## Nedostaci:

- needitabilna slika izvornog dokumenta;
- čak i ako ga se može uređivati, to se ne može besplatno;
- namijenjen za ispis, a ne za čitanje na zaslonu;
- ne podržava suradnički rad na dokumentu;
- "izvorni"/konvertirani ili kao rezultat skeniranja;
- često nema odgovarajućih metapodataka;
- vlasnički format.

# Što bi sve moglo biti podržano?

- (obične) poveznice
- multimedija (audio, video, grafika - visoka rezolucija)
- istraživački podaci (zasebno ili integrirani u radu)
- dinamički/interaktivni alati, vizualizacija podataka na kojima se temelji publikacija
- verzioniranje radova
- živa matematika i numerički kodovi, 2D i 3D grafičke prezentacije
- animacija i virtualna stvarnost - animiranom grafikom autor može pokazati razlike između promatranih i pojava modela
- poboljšana struktura i navigacija
- dodana semantika kroz ugrađene taksonomije i ontologije
- rječnik pojmova (anotirani indeks?)
- metapodaci (datum objave, točne reference, rezultati provjere kvalitete, ...)
- mogućnost anotacija.

## **2. Sustav znanstvenog izdavaštva osigurava svakoj znanstvenici jednake mogućnosti**

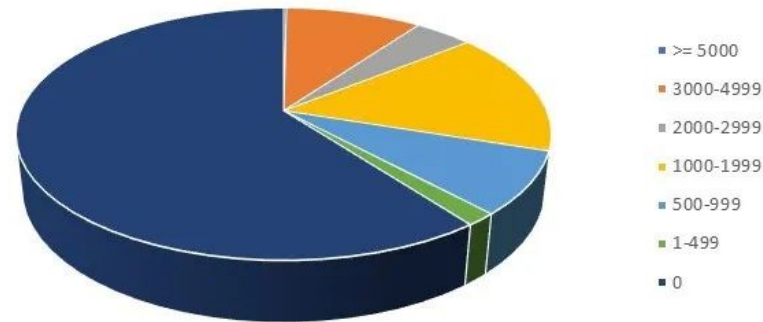


Izvor: European University Association

**Prosječna cijena APC: €2050**

Mađarski konzorcij: 30 mjeseci pretplate na Elsevierove časopise za €13 mil.

### Elsevier's Open Access Article Processing Charges



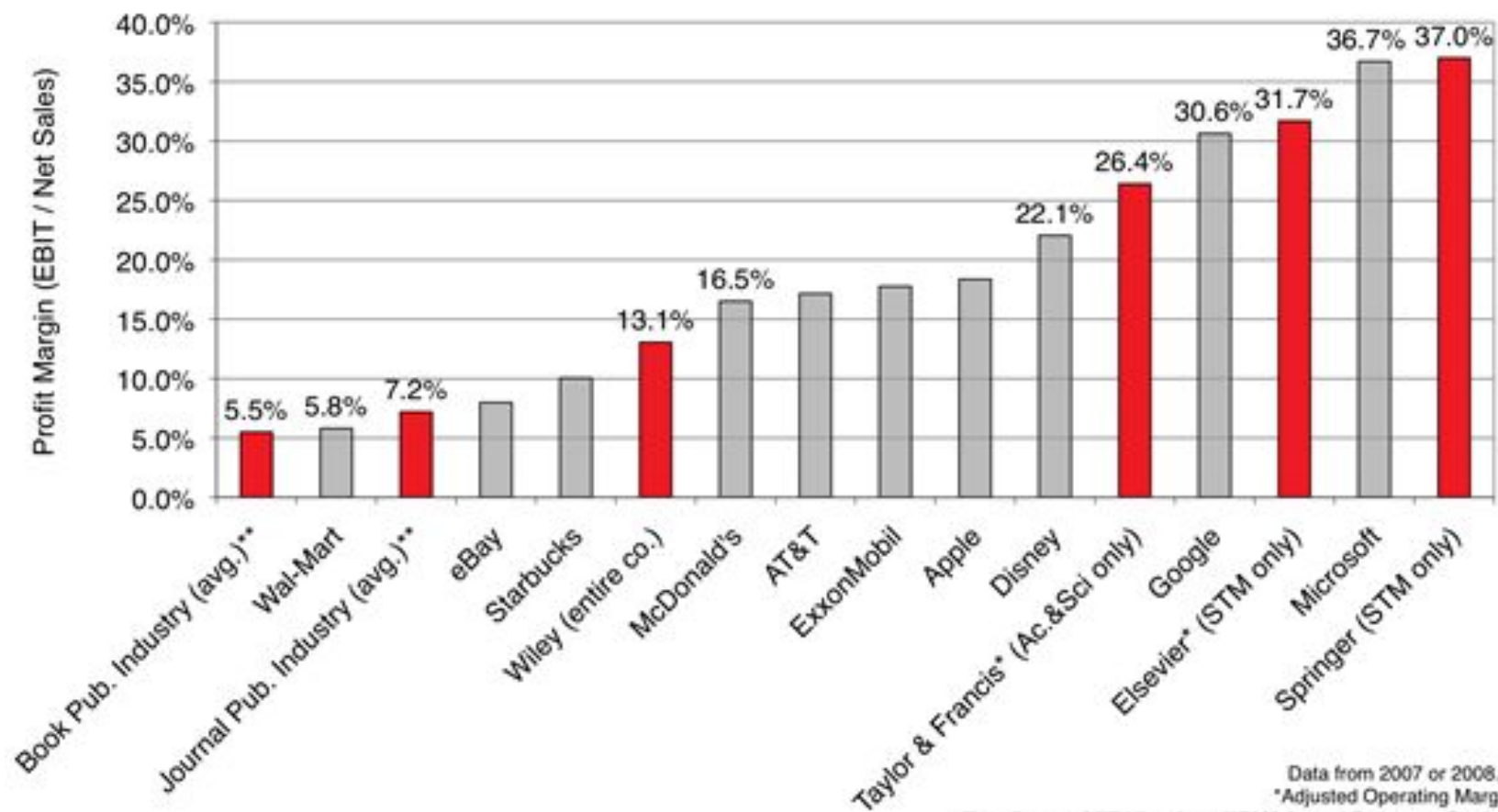
<https://openscience.com/how-much-do-top-publishers-charge-for-open-access/>

"UK universities 'paid big publishers £1 billion' in past decade"  
(jack.grove@timeshighereducation.com)

STM tržište u 2017: \$25.7 milijardi  
(prema STM Report)



## Profit Margins: Journal Publishers v. Other Companies



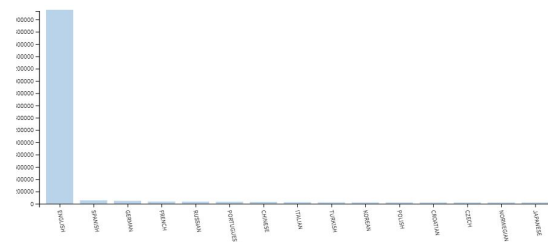
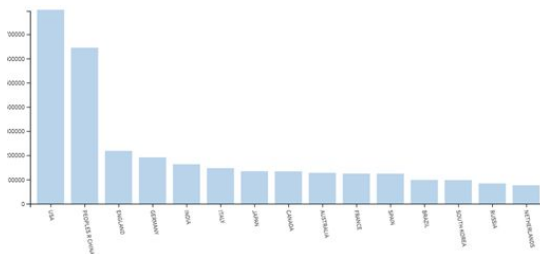
Data from 2007 or 2008.

\*Adjusted Operating Margin

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

# Nejednakosti se produbljuju

- razlike među zemljama/znanstvenim zajednicama s obzirom na platežnu moć
- nacionalnost
- jezik
- spol



### **3. Izvještavanje u publikacijama omogućuje reproduciranje istraživanja**

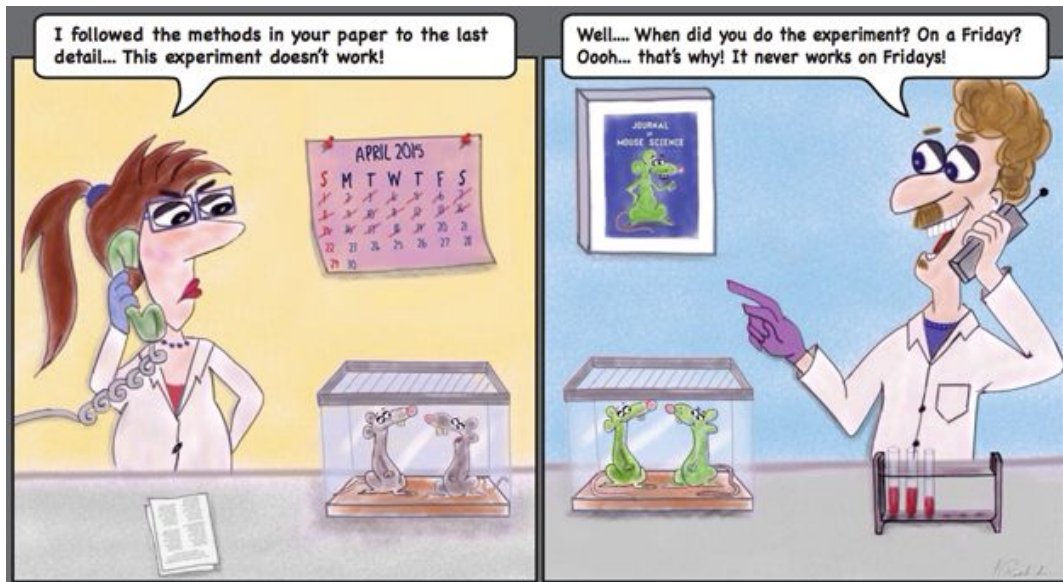
# (ne)reproducibilnost u znanosti

Ponovljivost - temeljno načelo znanstvenog postupka

- metode
- rezultati
- zaključci

*Reproducibility / replication crisis*

*Metascience*

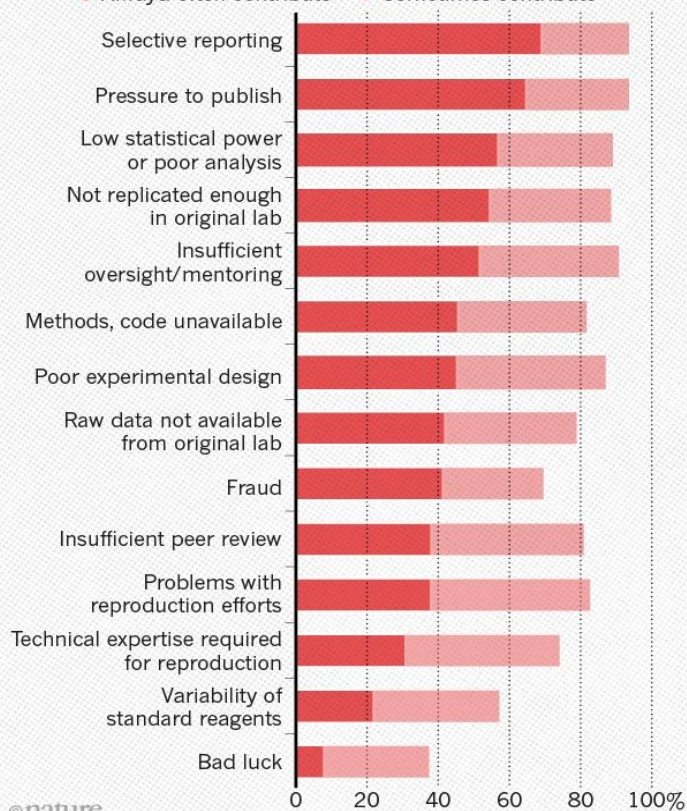


Istraživanje iz 2016. : 70 % znanstvenika nije uspjelo reproducirati nečiji eksperiment, a **50% nije uspjelo ponoviti VLASTITI!**

## WHAT FACTORS CONTRIBUTE TO IRREPRODUCIBLE RESEARCH?

Many top-rated factors relate to intense competition and time pressure.

● Always/often contribute ● Sometimes contribute



## Otvorena znanost kao rješenje?

- prethodna prijava istraživanja
- dijeljenje istraživačkih podataka
- dijeljenje laboratorijskih bilješki
- dijeljenje alata korištenih pri obradi rezultata
- dijeljenje radova prije i nakon objave
- otvorena recenzija
- ...

Otvorenost → ponovljivost → značaj → utjecaj i napredak

## **4. Recenzijski postupak provodi se na najbolji mogući način**

# Recenzijski postupak

## "U teoriji":

ocjena rezultata istraživanja u odnosu na kompetencije, značaj i originalnost, provode ga kvalificirani stručnjaci (peers)

okosnica cjelokupnog sustava znanstvenog izdavaštva

obično uključuje najmanje dva anonimna recenzenta, a idealno su to dobronamjerne kolege iz užeg znanstvenog područja čiji je glavni zadatak poboljšati rad

## "U praksi":

- spor
- skup
- statistički nepouzdan
- recenzenti se često međusobno ne slažu
- subjektivan / pristran
- lako ga je zloupotrijebiti (sljepoća!)
- ne može detektirati pogreške
- motivacija recenzenata je znatno veća za "prestižne" časopise
- ne može spriječiti objavljivanje radova koji sadrže prijevare, čak ni u najprestižnijim časopisima poput Science i Lancet



### Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakfield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

#### Summary

**Background** We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

**Methods** 12 children (mean age 6 years [range 3-10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

**Findings** Onset of behavioural symptoms was associated by the parents, with measles, mumps, and rubella infection in one child, and otitis media in another. All children had ileal-lymphoid nodular hyperplasia (LNH) from histology showed patchy chronic inflammation. All children had reactive ileitis. Children with LNH (n=11) and non-LNH (n=1) children with pervasive developmental disorder included seven, but no granulomas, neurological disorders including autism (nine), disintegrative disorder (one), and possible focal neurological abnormalities (two). There were no neurobiological abnormalities and EEG tests were normal. Abnormal laboratory results included raised urinary methylmalonic acid compared with age-matched controls (n=10), low haemoglobin in four children, and low IgA in two children.

**Interpretation** The identical associated gastrointestinal disease and developmental regression in a group of children, in whom there was generally associated possible environmental triggers.

Lancet 2012; 381: 637-41  
See Commentary page

**Inflammatory Bowel Disease Study Group, University Departments of Medicine and Histopathology (A J Wakfield), A P Dillon, S H Murch, S E Davies, Michael and the University Departments of Paediatric Gastroenterology (S H Murch, D M Casson, M Malik), M Berelowitz, A P Dillon, M A Thomson, J A Walker-Smith, Child and Adolescent Psychiatry (A Berelowitz), Neurology (P Harvey), and Paediatric Radiology (A Valentine), Royal Free Hospital and School of Medicine, London NW3 2QG, UK  
Correspondence to: Dr A J Wakfield**

#### Introduction

We saw several children who, after a period of normality, lost acquired skills, including language, abdominal pain, diarrhoea, and food intolerance. We also saw children with gastroenterological features.

#### Patients and methods

12 children, consisting of 11 boys and one girl, were referred to our paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain.

#### Findings

Onset of behavioural symptoms was associated by the parents, with measles, mumps, and rubella infection in one child, and otitis media in another. All children had ileal-lymphoid nodular hyperplasia (LNH) from histology showed patchy chronic inflammation. All children had reactive ileitis. Children with LNH (n=11) and non-LNH (n=1) children with pervasive developmental disorder included seven, but no granulomas, neurological disorders including autism (nine), disintegrative disorder (one), and possible focal neurological abnormalities (two). There were no neurobiological abnormalities and EEG tests were normal. Abnormal laboratory results included raised urinary methylmalonic acid compared with age-matched controls (n=10), low haemoglobin in four children, and low IgA in two children.

**Laboratory investigations** Thyroid function, serum long-chain fat, cerebrospinal-fluid lactate were measured to exclude causes of childhood neurodegenerative disease. Methylmalonic acid was measured in random urine samples of eight of the 12 children and 14 age-matched and sex-matched controls, by a modification of a technique described previously.<sup>1</sup> Chromatograms were scanned digitally on a computer, to analyse the methylmalonic-acid zones from cases and controls. Urinary methylmalonic-acid concentrations in patients and controls were compared by a two-sample t test. Urinary creatinine was estimated by routine spectrophotometric assay.

Children were screened for antienteroviral antibodies and boys were screened for single-X if this had not been done



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ScienceDirect  
Journal of Business Venturing 23 (2008) 445-464

Externally commercializing technology assets: An examination of different process stages  
Ulrich Liebenhaber  
Technology and Innovation Management, RWTH - Otto von Guericke School of Management, Department of Technology and Innovation Management, 10000 Magdeburg, Germany  
Received 1 August 2006; received in revised form 1 June 2007; accepted 15 June 2007

#### Abstract

Beside applying technological knowledge in products and services by means of technology licensing, despite an increasing managerial preference in managing different stages of the commercialization process. With the trend toward open innovation, the number of success factors states into new product development. © 2007 Elsevier Inc. All rights reserved.

#### 1. Executive summary

External technology exploitation to commercialize technological knowledge exclusively or in addition to its application in a firm's own products. Open technology transfer through various contractual forms, particularly in the form of commercial licensing, has become a major trend in industrial firms. Thus, it goes far beyond a marginal activity of commercializing technological knowledge. By licensing out technology, firms attempt to realize the full potential of their technological knowledge. In contrast, most other firms face considerable difficulties in managing technology exploitation. This is explained by a number of reasons. First, the limited understanding of successfully managing external technology exploitation undermines the strong research deficit. Prior research into technology exploitation has focused on the application of technological knowledge inside the firm, i.e., on new product development. Research into technology transactions by contrast, has mainly studied the acquisition of external technology. Thus, external

Key words: External technology commercialization; technology exploitation; technology evaluation; technology transfer

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Adam R. Miller,<sup>6</sup>  
ngli Wang<sup>1,3</sup>

American Journal  
August 9, 2012  
doi: 10.1097/M  
Retraction: PR

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# Recenzenti

recenzent se može izjasniti samo o svojoj viziji istraživačkog problema i/ili može odbiti rad s temom na kojoj je osobno angažiran

recenzent obično ima na raspolaganju samo rukopis - bez istraživačkih podataka i drugih materijala - vrlo im je teško identificirati lažne, izmišljene ili pogrešno protumačene podatke

sami autori predlažu recenzente, birajući one koji su im skloni

nedostupne recenzije ne mogu imati pozitivan utjecaj na reputaciju recenzenta

prisutni su i upitni poticaji recenzentata da povećaju šanse za objavljivanje vlastitih radova u istom časopisu

umjesto konstruktivne kritike, ponekad uvredljivi i destruktivni

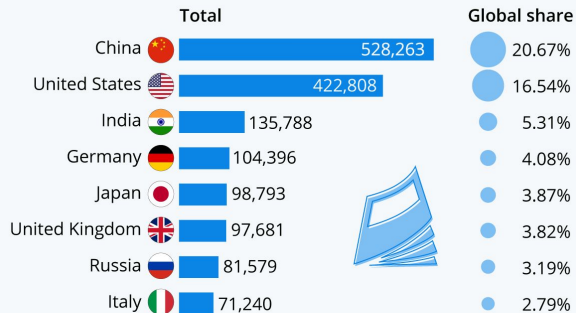
**5. "Publish or perish" je samo "buzzword"**

# Broj radova?

približno 3 milijuna radova godišnje  
(WoS Core Collection, Pub Year 2020)

## The Countries Leading The World In Scientific Publications

Number of science & engineering articles published in peer-reviewed journals in 2018



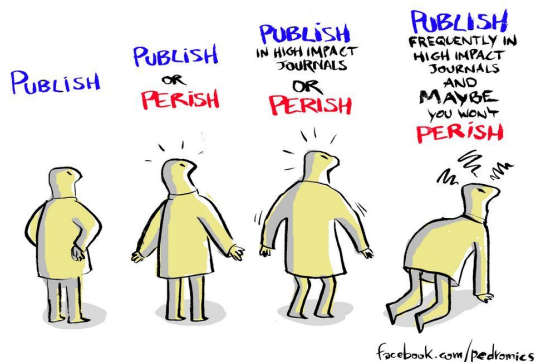
Source: National Science Foundation



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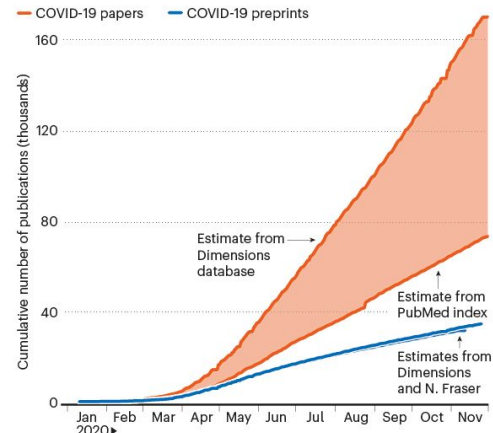


## THE EVOLUTION OF ACADEMIA



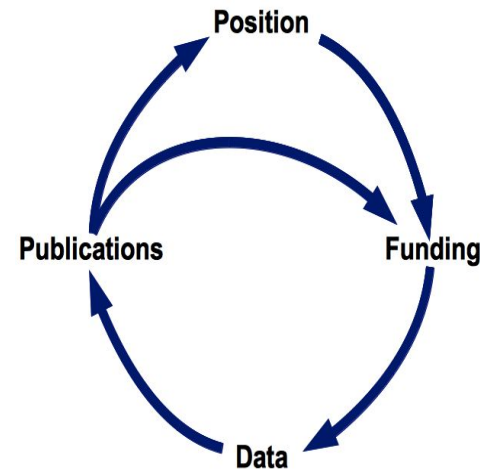
## CORONAVIRUS CASCADE

One estimate suggests that more than 200,000 coronavirus-related journal articles and preprints had been published by early December.



\*Estimates differ depending on search terms, database coverage, and definitions of what counts as a scientific article; some preprints were posted on multiple sites online.

©nature



## **6. Znanstvena publicistika evaluira se na dobar način koji potiče mlade znanstvenice**

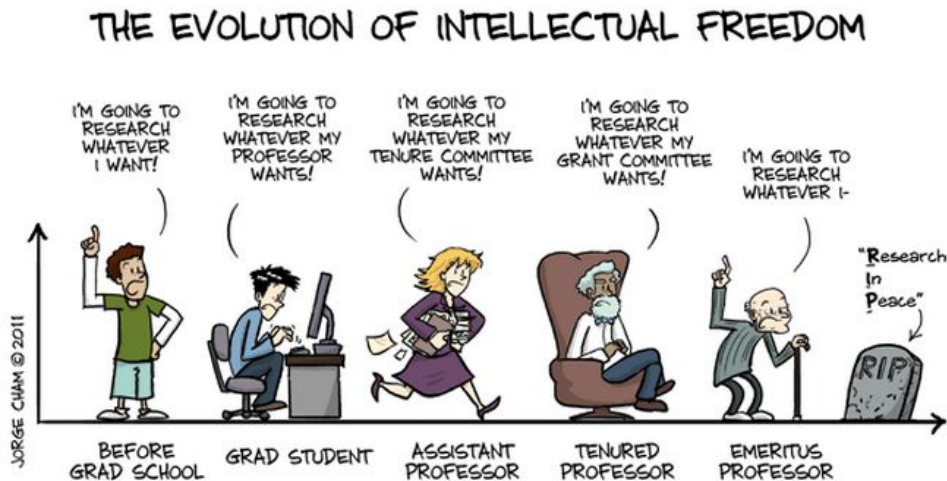
# Zašto nam treba evaluacija?

Koga zaposliti?

Kome dati novac za istraživanje?

Koga unaprijediti u zvanju?

Koji je časopis uspješan?



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## Što nije u redu s postojećim sustavima prosudbe?

- fokus na kvantitativnim pokazateljima
- prosudba - mora biti sada i odmah - temeljena na jednostavnim i brzo dostupnim brojevima
- prosudba spremnika (npr. časopisa), a ne kvalitete sadržaja
- rezultat : dulji radni vijek = kvalitetniji znanstvenik???

# Kakva nam evaluacija treba?

DORA - Declaration on Research Assessment (2012)

Desetljeće kasnije: izvješće Reimagining Academic Career Assessment: Stories of innovation and change (2021)

- primjeri dobre prakse sa 7 ustanova: Ghent University (Belgium), Open University of Catalonia (Catalonia), University of Bath (United Kingdom), University College London (United Kingdom), University Medical Center Utrecht (The Netherlands), University of Nottingham Ningbo China (People's Republic of China), Tampere University (Finland)
  - što je promijenjeno?
  - tko je sudjelovao?
  - zašto (motivacija)?
  - KAKO???

Što je potrebno za napredak:

- jasne, transparentne i odgovorne politike i prakse u procjeni znanstvene aktivnosti,
- podrška ustanova (ne samo deklarativna), ali i
- podizanje svijesti, uključivanje cijele zajednice u procese (uključuje i edukaciju i razvijanje sposobnosti)

## **7. Znanstveno izdavaštvo na najbolji način podupire ekonomiju i napredak društva**

# Znanost za javnost, znanost za građane, "*citizen science*"

Niz razina aktivnosti - od boljeg informiranja o znanosti do sudjelovanja u samom znanstvenom procesu promatranjem, prikupljanjem ili obradom podataka.

"Science for the people, by the people."

- učinkovito i transparentno korištenje javnih i privatnih sredstava kojima se financiraju znanstvena istraživanja
- uključivanje u istraživanja, upravljanje i odgovornost
- približavanje znanja temeljenog na znanstvenim dokazima javnosti

Prema Europskom udruženju za znanost o građanima, usvajanje otvorenih znanstvenih pristupa i politika može imati široku korist za znanost o građanima povećavanjem vidljivosti i mogućnosti za suradnju, osiguravanjem trajnog čuvanja istraživačkih podataka i aktivnim sudjelovanjem u znanstvenim istraživanjima i politikama.

Kombiniranje znanosti o građanima i otvorene znanosti koristit će u rješavanju velikih izazova i odgovoriti na smanjenje povjerenja društva u znanost. Uz to, pridonijet će stvaranju zajedničkih dobara i zajedničkih resursa, te olakšati prijenos znanja između znanosti i društva s ciljem poticanja inovacija.



## Nature

Sort by  ▼



### Hear Whales communicate

You can help marine researchers understand what whales are saying

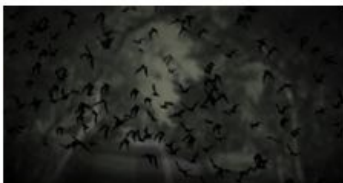
WHALES



### Help explore the ocean floor

The HabCam team and the Woods Hole Oceanographic Institution need your help!

SEAFLOOR EXPLORER



### You're hot on the trail of bats!

Help scientists characterise bat calls recorded by citizen scientists.

BAT DETECTIVE



### Go wild in the Serengeti!

We need your help to classify all the different animals caught in millions of camera trap images.

SNAPSHOT SERENGETI



### Take Notes from Nature

Transcribe museum records to take notes from nature, contribute to science.

Notes from Nature



### Dive into the planktonic world

No plankton means no life in the ocean. Help measure and identify different species of plankton to assess t...

PLANKTON PORTAL



### California condors need your help

By tracking their location and social behavior, you can help this critically endangered species.

CONDOR WATCH



### Discover Floating Forests

We are trying to understand how forests of kelp grow and change over time. We need your help to find these ...

FLOATING FORESTS

# Znanost treba pratiti potrebe društva (primjer COVID-19)

Koronavirus utječe na gotovo sve dijelove našega života - stoga su nam potrebna znanja i prakse ne samo iz medicinskog područja već iz svih područja javnog zdravstva i društvenih znanosti.

Iako znanstvenici širom svijeta naporno rade na pronalaženju cjepiva i učinkovitih lijekova - a mnogi izdavači i pružatelji usluga privremeno su omogućili otvoreni pristup rezultatima istraživanjima - istraživačima i dalje nedostaju relevantne publikacije, softver i istraživački podaci.

Istraživači dijele publikacije i podatke brže nego ikad prije - genetski kod COVID-19 objavljen u GenBank - OA bazi podataka.

Istraživački podaci: The Human Coronaviruses Data Initiative, the COVID-19 Open Source Dashboard, Wikiproject COVID-19 i COVID Tracking Project

COVID-19 izvori: CORD-19, LitCovid, Outbreak Science Rapid PREREview

Preprinti: bioRxiv, medRxiv, COVID-19 SARS-CoV-2 preprints

