

You are free to

- ▷ share, adapt or re-mix
- ▷ photograph, video or broadcast
- ▷ blog, live-blog or post-video

this presentation

Provided that

you attribute the work to its author and  
respect the rights and licenses associated with  
its components



You can follow this presentation along here

<http://tiny.cc/OSF2019>

# OPEN SCIENCE: A SHIFT IN THE CONVERSATION

@pcmasuzzo

OPEN  
SCIENCE  
MOOC  
FREE | OPEN | LEARNING

IGD<sup>ORE</sup>  
The Globally Distributed Institute for  
Open Research and Education



Alternative title for this talk:

Stuff I have learned this year from  
smart and interesting people on Twitter

# Why am I here and why do I care so much?

- I obviously love (open) science
- I am not an academic, yet I am a scientist
- I am an independent researcher and I work for a corporate business
- I am worried about the current state of things in the world and hoping for a better future
- I care very much because there is no other option left

# We need Open Science for Sustainability

Posted on September 30, 2016 in Open Science for Sustainability, Sustainability



- By *Kamila Markram*, Co-founder and CEO, Frontiers

Restricted and selective access to science delays knowledge and solutions



we need open science to build  
a sustainable future



**SUSTAINABLE  
DEVELOPMENT GOALS**

Open Science is the science of the future

# Open Science: where are we?

FAIR Data  
Open Access  
Open Source  
Peer Review  
Preprints  
Replication  
Reproducibility  
Incentives & Behavior  
Assessment & Evaluation







È ora di abbandonare la  
retorica dell'eccellenza, in  
favore di ben più sensati  
rigore scientifico e onestà  
intellettuale

Knowledge is open if  
anyone is free to  
access, use, modify,  
and share it



Free is not  
enough  
~~\$\$\$~~





It's time we abandon the rhetoric of excellence and we start (re)focusing on intellectual honesty and scientific rigour



It's time we abandon the  
rhetoric of excellence and we  
start (re)focusing on  
intellectual honesty and  
scientific rigour

# The normative system of Science

Norm

Counternorm

# The normative system of Science

## Norm

Communality  
Open Sharing

## Counternorm

Secrecy  
Closed

# The normative system of Science

## Norm

Communality

Open Sharing

Universalism

Evaluate research on own merit

## Counternorm

Secrecy

Closed

Particularism

Evaluate research on reputation



# The normative system of Science

## Norm

Communality

Open Sharing

Universalism

Evaluate research on own merit

**Disinterestedness**

Motivated by knowledge and  
discovery

## Counternorm

Secrecy

Closed

Particularism

Evaluate research on reputation

**Self-interestedness**

Treat science as a competition

# The normative system of Science

## Norm

Communality

Open Sharing

Universalism

Evaluate research on own merit

Disinterestedness

Motivated by knowledge & discovery

**Organized skepticism**

Consider all new evidence, even  
against one's prior work

## Counternorm

Secrecy

Closed

Particularism

Evaluate research on reputation

Self-interestedness

Treat science as a competition

**Organized dogmatism**

Invest career promoting one's  
own theories, findings

# The normative system of Science

## Norm

Communality

Open Sharing

Universalism

# QUALITY

Motivated by knowledge & discovery

Organized skepticism

Consider all new evidence, even  
against one's prior work

## Counternorm

Secrecy

Closed

Particularism

# QUANTITY

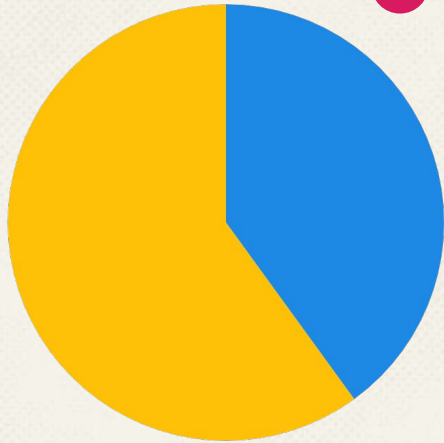
Treat science as a competition

Organized dogmatism

Invest career promoting one's  
own theories, findings

# Things my brain cannot compute

● pie charts

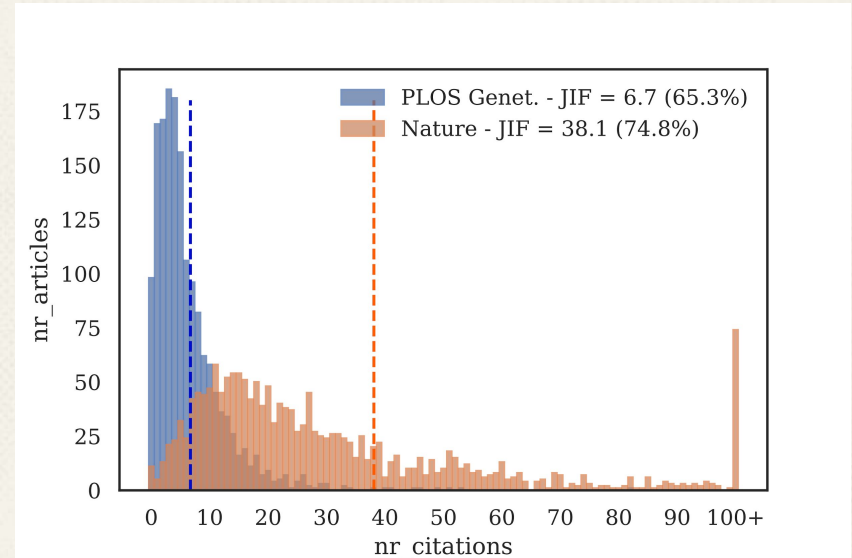


# Things my brain cannot compute

● pie charts



the illiterate use of JIF



# Have you been bullied into bad science?



Paola Masuzzo

@pcmasuzzo



If you want to go into tenure track, you **NEED** to publish in Nature or Cell. This is what I was told. Have I been **#BulliedIntoBadScience?**

**NYCPostdocCoalition** @NYC\_Postdoc

Brilliant- this campaign needs wide-spread support  
#BulliedintoBadScience

[thetimes.co.uk/article/academ](http://thetimes.co.uk/article/academ)

10:01 PM - 3 Jul 2017

2 Retweets 5 Likes



Paola Masuzzo

@pcmasuzzo



Today I witnessed the celebration of a research article published in a (famous & glam) journal after 2 and a half years of revisions. I do feel happy for the authors, of course, but I cannot help wondering what's there to celebrate in such a slow scientific dissemination process.

6:58 PM · May 9, 2019 · [Twitter for Android](#)

View Tweet activity

14 Retweets 110 Likes

# Have you been bullied into bad science?



Paola Masuzzo

@pcmasuzzo

If you want to go into tenure track, you NEED to publish in Nature or Cell. This is what I was told. Have I been [#BulliedIntoBadScience?](#)

NYCPostdocCoalition @NYC\_Postdoc

Brilliant- this campaign needs wide-spread support  
[#BulliedintoBadScience](#)

[thetimes.co.uk/article/academ](http://thetimes.co.uk/article/academ)

10:01 PM - 3 Jul 2017

2 Retweets 5 Likes



Paola Masuzzo

@pcmasuzzo

Today I witnessed the celebration of a research article published in a (famous & glam) journal after 2 and a half years of revisions. I do feel happy for the authors, of course, but I cannot help wondering what's there to celebrate in such a slow scientific dissemination process.

6:58 PM · May 9, 2019 · [Twitter for Android](#)

[View Tweet activity](#)

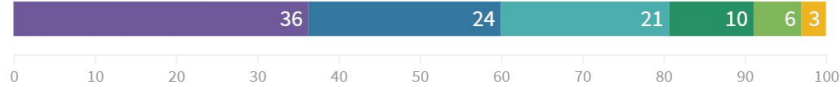
chasing the HIF publication is time-consuming, draining, and **destructive** not only to scientists, but to the science itself

# We need to fill the attitude-behavior gap

Perceived value of impact factors for review, promotion, and tenure

6 - very valued 5 4 3 2 1 - not valued

Perceived value in the RPT process



[Why we publish where we do: Faculty publishing values and their relationship to review, promotion and tenure expectations, Nilés et al., 2019](#)

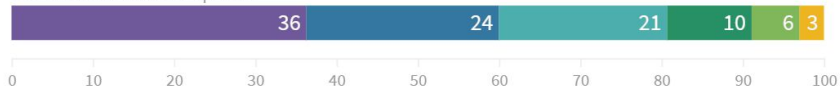


# We need to fill the attitude-behavior gap

## Perceived value of impact factors for review, promotion, and tenure

6 - very valued 5 4 3 2 1 - not valued

Perceived value in the RPT process



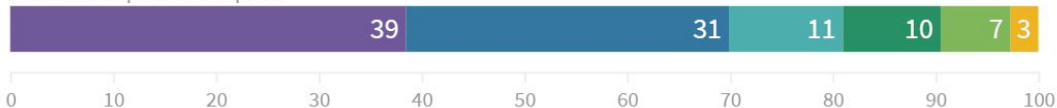
## Importance of impact factors when deciding where to submit academic work for publication

6 - very important 5 4 3 2 1 - not important

Importance to oneself



Perceived importance to peers



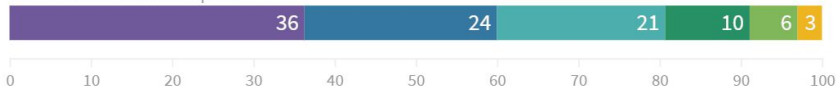
[Why we publish where we do: Faculty publishing values and their relationship to review, promotion and tenure expectations](#), Niles *et al.*, 2019

# We need to fill the attitude-behavior gap

## Perceived value of impact factors for review, promotion, and tenure

6 - very valued 5 4 3 2 1 - not valued

Perceived value in the RPT process



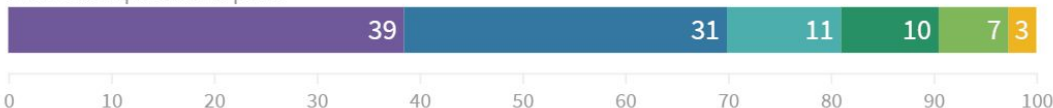
## Importance of impact factors when deciding where to submit academic work for publication

6 - very important 5 4 3 2 1 - not important

Importance to oneself



Perceived importance to peers



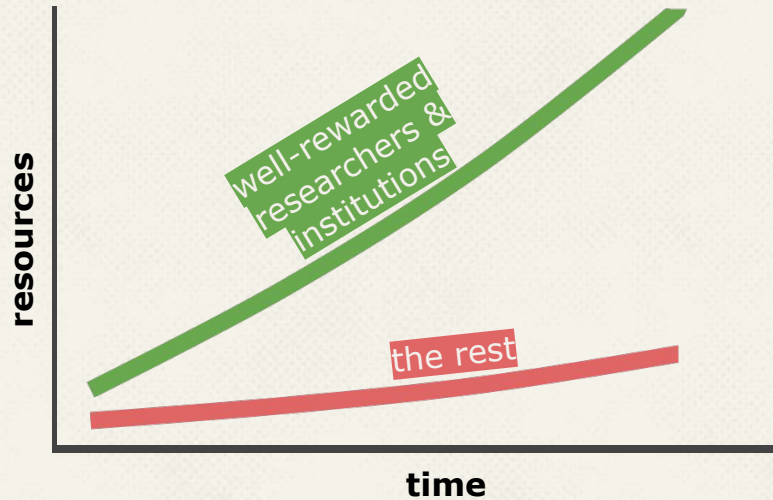
Do your Review, Promotion, and Tenure documents need a revision?

Having signed DORA is not enough.

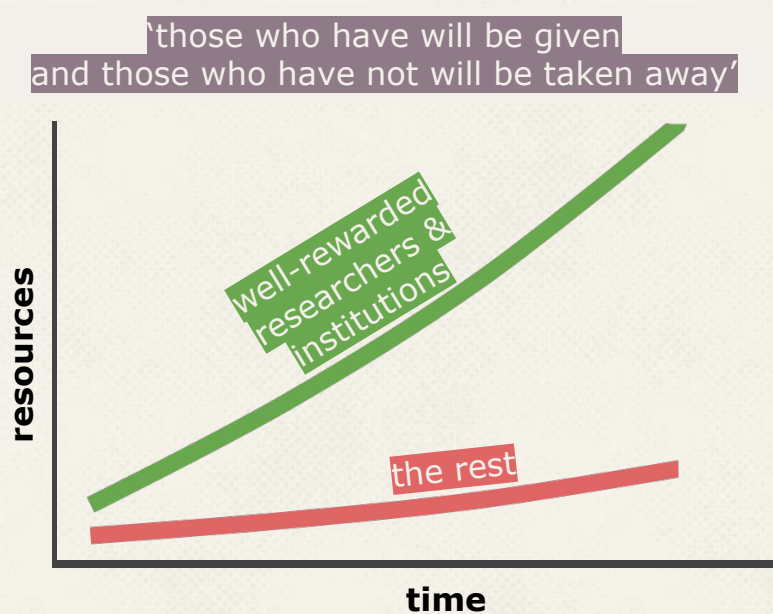
let's stop pretending we care and treating the JIF as the gold standard

# Research excellence and the Matthew effect

'those who have will be given  
and those who have not will be taken away'



# Research excellence and the Matthew effect



The **cumulative advantage effect** that comes with the rhetoric of excellence increases the stakes of the **competition for resources**; encourages **gamesmanship**; discourages the pursuit and publication of types of “**Normal Science**” (such as replication studies); creates a **bias** towards novel, positive, and even inflated results.

# We need to hear more #failtales



**Akiko Iwasaki**

@VirusesImmunity

A student in the audience told another student who told me what he said, "my experiments never work out like that. I don't feel like I belong in science" after hearing my talk. This was shocking and devastating to me and really made me think. (1/4)

2:46 AM · Aug 29, 2019 · [Twitter Web App](#)

556 Retweets 1.8K Likes

# We need to hear more #failtales



But it's more than just the way science is presented in talks.

It's also about how we write about it: stories to promote the results we got in a few pages that hide the biggest truth of them all:

**#failtales are everywhere.**

And that's absolutely OK.

# We need to hear more #failtales



A student in the audience told another student who told me what he said, "my experiments never work out like that. I don't feel like I belong in science" after hearing my talk. This was shocking and devastating to me and really made me think. (1/4)

2:46 AM · Aug 29, 2019 · [Twitter Web App](#)

556 Retweets 1.8K Likes

But it's more than just the way science is presented in talks.

It's also about how we write about it: stories to promote the results we got in a few pages that hide the biggest truth of them all:

#failtales are everywhere.

And that's absolutely OK.

When we reject failure, we create a culture of punishment, artificial rewards, and scientific bias. When we embrace failure, we cultivate a culture of acceptance, tolerance, and learning. Which one would you prefer?

# And talk more about #mentalhealth



Paola Masuzzo  
@pcmasuzzo

Heard quite some horrryng stories today about PIs taking their stress, frustration and pressure out on their PhD students.

How about we start caring more about [#mentalhealth](#) and less about fucking impact factors? Please and thank you.

1:08 PM · Aug 17, 2019 · [Twitter for Android](#)

How many research evaluation committees ask scholars about how they have felt so far in their working environment?

~~Impact~~ **Happiness factor**.

We need to start recognizing more and more things like good mentoring, leadership, diversity and inclusion work, support for mental health.

All of the things that make academia better and help our students and researchers.



# And talk more about #mentalhealth



Paola Masuzzo  
@pcmasuzzo

Heard quite some horrryng stories today about PIs taking their stress, frustration and pressure out on their PhD students.  
How about we start caring more about #mentalhealth and less about fucking impact factors? Please and thank you.

1:08 PM · Aug 17, 2019 · Twitter for Android

How many research evaluation committees ask scholars about how they have felt so far in their working environment?

~~Impact~~ Happiness factor.

We need to start recognizing more and more things like good mentoring, leadership, diversity and inclusion work, support for mental health.

All of the things that make academia better and help our students and researchers.

We cannot let papers and money be the only currency in science.

## The “appeal to culture”



“You cannot change culture without changing everything else first”

aka

I believe we need to stop talking about **culture shift** if we are going to use it as an excuse to leave things as they are (and leave it up to the new generation, whatever that means)

# The “appeal to culture”



Academic culture is the imprint created by a machine of rules, practices, mandates, incentives that we needed in order to regulate ourselves.

Why would we direct our efforts at the shadow of this machine, instead of replacing the pieces that no longer work?

# Let's please stop living in the past

advertising



text



0%

data

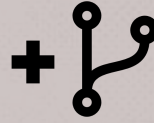


reproducibility  
spectrum

code

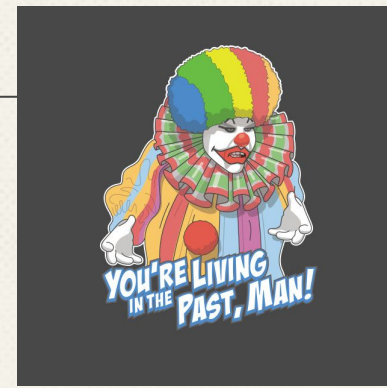


version



100%

science



research outputs now encompass far more than can be expressed in the 17th century construct of a research paper

scholars deserve to be given credit for the many contributions they make above and beyond articles (peer-reviews, data, code, protocols...)

# Research excellence is a neo-colonial agenda

Research excellence reinforces systemic biases in power, reduces diversity, and excludes many participants from the processes of scholarship



## Research excellence is a neo-colonial agenda

We must find a way to remove the inequalities promoted by modern science while making sure its huge potential benefits work for everyone, instead of letting it become a tool for oppression and divisions.



# From Open Science to Inclusive Science



Image by William White on Unsplash Photos

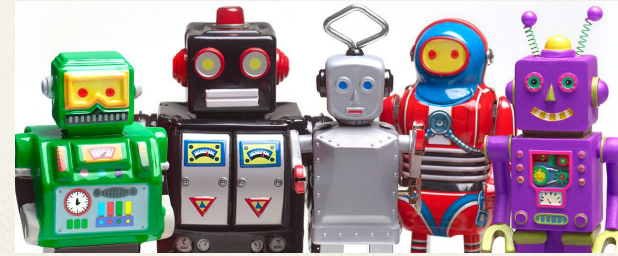


# From Open Science to Inclusive Science





# From Open Science to Inclusive Science



Diversity = attract different people of  
diverse backgrounds, skills and experiences

# From Open Science to Inclusive Science



Diversity = attract different people of diverse backgrounds, skills and experiences

Inclusion = empower these people by providing them an environment that brings the best of those backgrounds, skills and experiences

## Open Science opens business

Academics are not the only groups that can benefit from greater Open Science efforts: the demand from the **business sector** and **society in general** to access research results is significant.

Open Science does not translate *per se* into Open Innovation: synergistic interactions between **Academia**, **Industry** & **Governments** are key for this translation to happen.



## How about inclusiveness?

Inclusiveness = inclusion of individuals or groups who were previously excluded

measured in terms of eligibility, opportunities and involvement in decision-making and leadership

achieved when members share and not compete for resources

## How about inclusiveness?

Inclusiveness = inclusion of individuals or groups who were previously excluded

measured in terms of eligibility, opportunities and involvement in decision-making and leadership

achieved when members share and not compete for resources

# It's time to talk explicitly about inclusiveness

We have talked enough about diversity in an implicit way but we have not focused on it in an explicit way and we may therefore have missed the real point: equity, diversity and inclusiveness are non-negotiable and they must be built into the foundation of what we do.



# It's time to talk explicitly about inclusiveness

We have talked enough about diversity in an implicit way but we have not focused on it in an explicit way and we may therefore have missed the real point: equity, diversity and inclusiveness are non-negotiable and they must be built into the foundation of what we do.

We cannot privilege the diversity of machine readers over underrepresented minorities.



OPEN SCIENCE:  
~~A SHIFT IN THE CONVERSATION~~  
IT'S TIME WE LISTEN



We want to help make **open** the default setting for all  
global research.



Massive Open Online Course (and Community!)

<https://opensciencemooc.eu/>

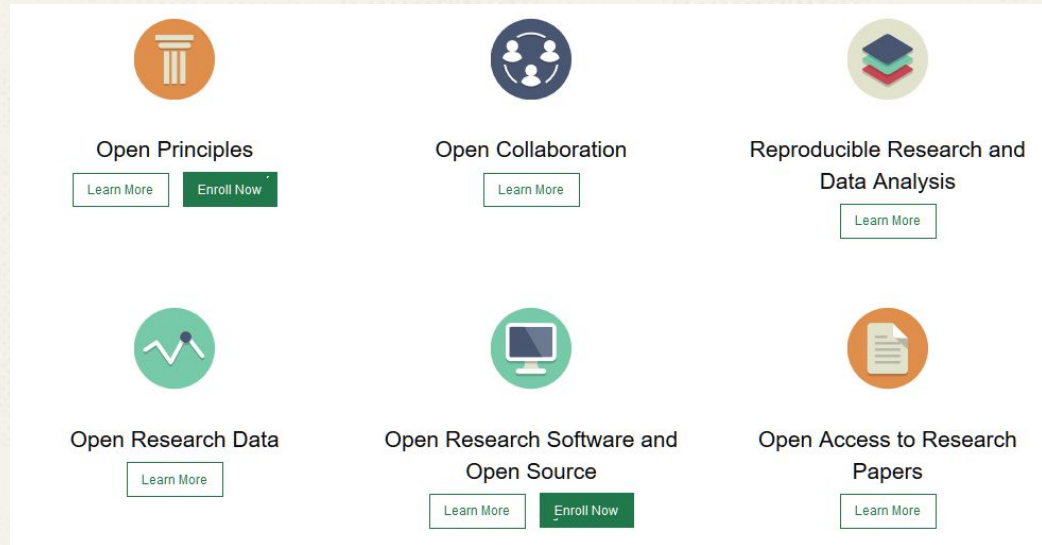
**Education, training, support.**

Empowerment and leadership.

Shifting power dynamics.

Building a global community.

Massive-scale engagement.



@OpenScienceMOOC



[info@opensciencemooc.eu](mailto:info@opensciencemooc.eu)




<https://github.com/OpenScienceMOOC>



# Thank you

You can find me at:

 @pcmasuzzo

 [paola.masuzzo@gmail.com](mailto:paola.masuzzo@gmail.com)