

# A nova geração de repositórios e a transição para o acesso aberto: a perspectiva da COAR

*Eloy Rodrigues*

Com slides e contributos significativos de Kathleen Shearer e vários membros do COAR NGR Working Group



# Quem somos?



- Uma associação internacional
- > 130 membros e parceiros em 41 países de todos os continentes (3 do Brasil +10 da América Latina)

## Objetivos:

- Voz estratégica para os repositórios
- Interoperabilidade e alinhamento entre as redes e regiões
- Capacitação (*Capacity building*)
- Apoiar o desenvolvimento de serviços de valor acrescentado



# Executive Board



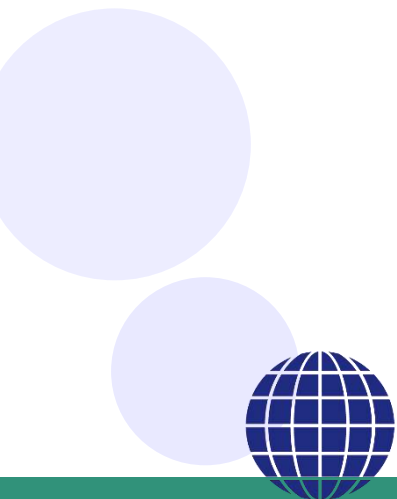
- Eloy Rodrigues, University of Minho, Portugal (Chairman)
- Kazu Yamaji, National Institute for Informatics, Japan
- William Nixon, University of Glasgow, UK
- Bianca Amaro, IBICT, Brasil
- Daisy Selematsela, UNISA, South Africa
- Oya Rieger, Cornell University, USA
- Marta Whitehead, Queen's University, Canada
- Wolfram Horstmann, University of Göttingen, Germany



# Executive Board



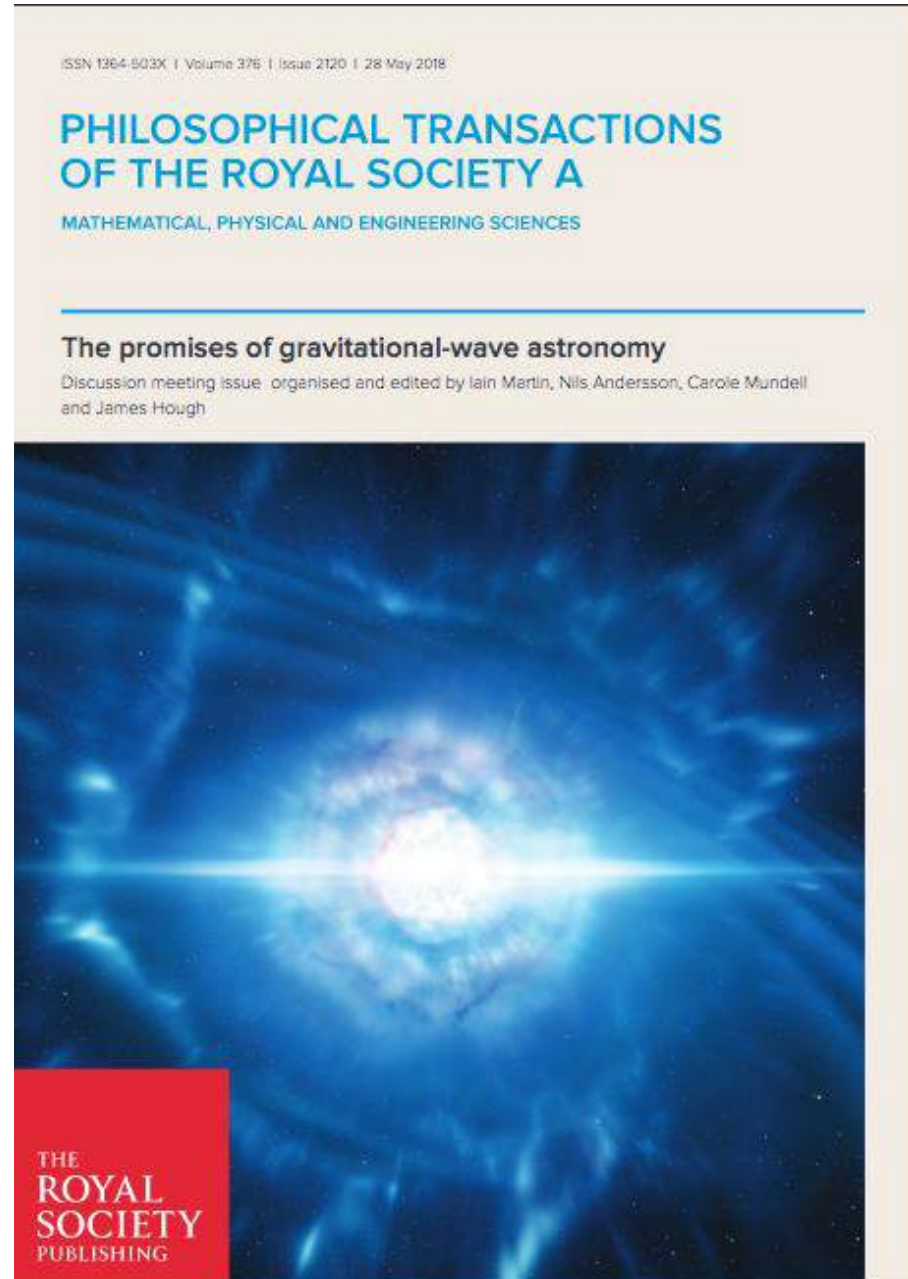
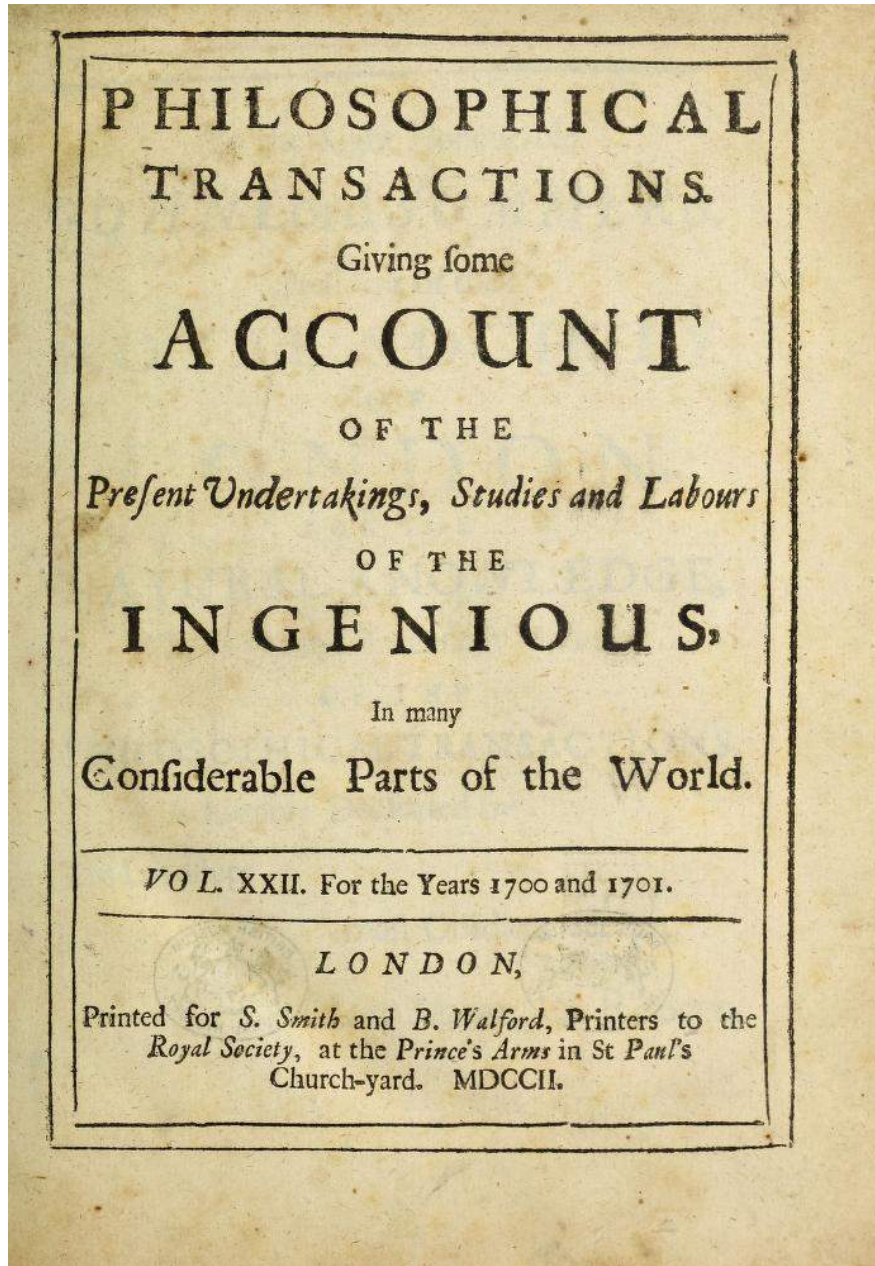
O sistema de  
comunicação científica  
está “quebrado”!



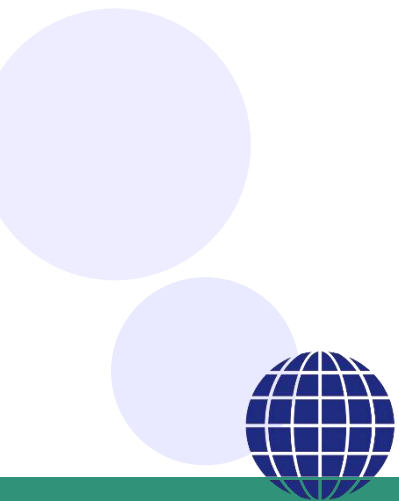
Não é  
Sustentável,  
Equitativo ou  
Inovador



# 350 anos de periódicos académicos



# Alguns dos principais problemas do sistema atual





# Acessibilidade e sustentabilidade



**TABLE 1: AVERAGE 2017 PRICE FOR SCIENTIFIC DISCIPLINES**

<b>DISCIPLINE</b>	<b>AVERAGE PRICE PER TITLE</b>	<b>DISCIPLINE</b>	<b>AVERAGE PRICE PER TITLE</b>
<b>Chemistry</b>	\$4,773	<b>Botany</b>	\$2,053
<b>Physics</b>	4,369	<b>Zoology</b>	1,988
<b>Engineering</b>	3,408	<b>Math &amp; Computer Science</b>	1,971
<b>Biology</b>	2,917	<b>Geography</b>	1,742
<b>Food Science</b>	2,567	<b>Health Sciences</b>	1,736
<b>Geology</b>	2,381	<b>Agriculture</b>	1,666
<b>Technology</b>	2,234	<b>General Science</b>	1,556
<b>Astronomy</b>	2,071		

SOURCE: LJ PERIODICALS PRICE SURVEY 2017



# Elsevier's profits swell to more than £900 million

But 'risks' of open access and a shift away from subscription model could halt growth, publisher's financial results reveal

February 20, 2018



By [David Matthews](#)

Twitter: [@DavidMJourno](#)

> 1 billion EUR





The long read

Is the staggeringly profitable  
business of scientific  
publishing bad for science?

**SIM!**

# Mas para além do problema do acesso...



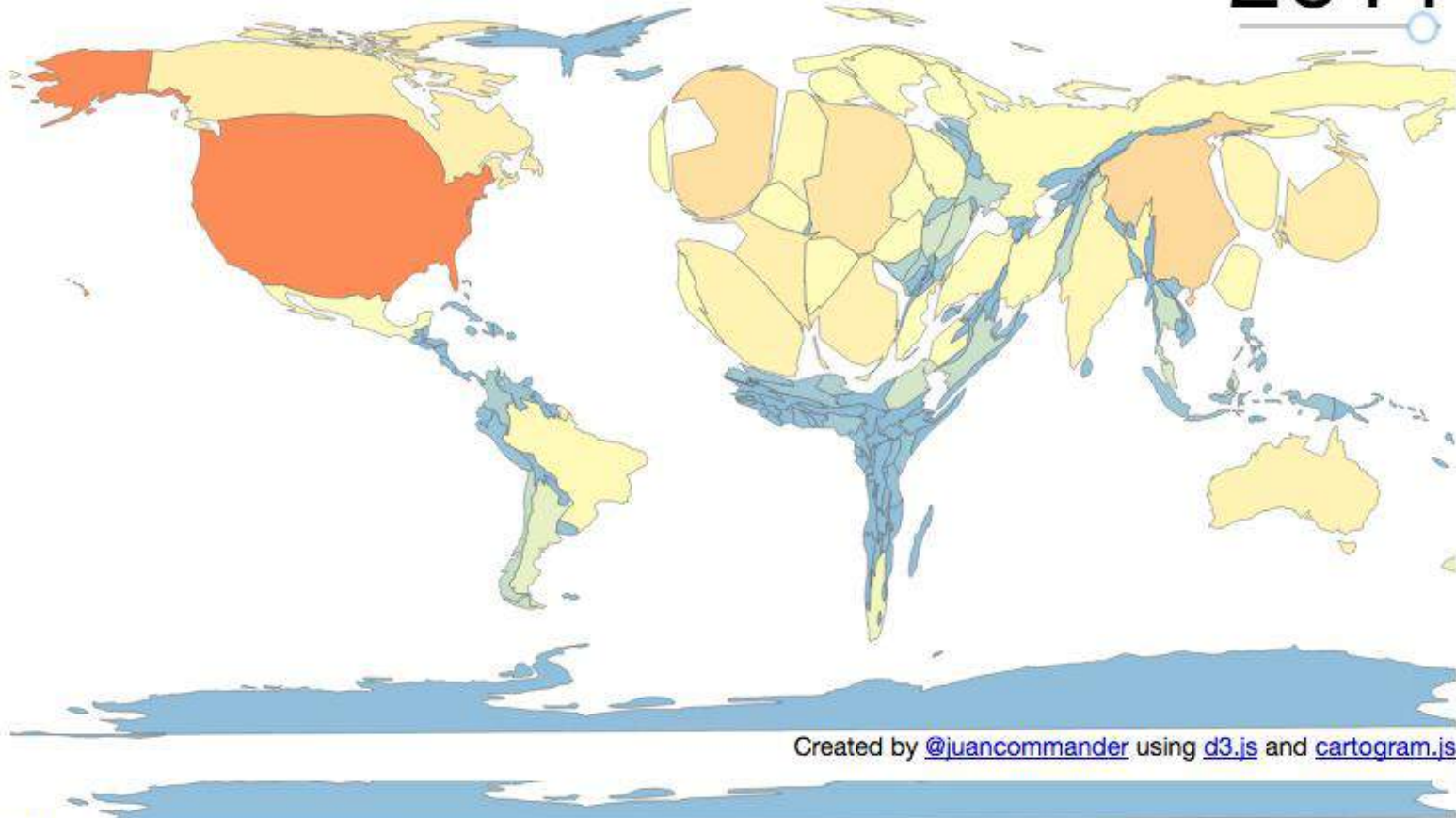
Slide from Laura Czerniewicz presentation at OR 2016 in Dublin

<http://www.un.org/en/events/humanrightsday/udhr60/exhibi/shiml>

# O problema da participação...

World scaled by number of documents in Web of Science by Authors Living There

2011



Created by [@juancommander](#) using [d3.js](#) and [cartogram.js](#)

About

Juan Pablo Alperin: <http://jalperin.github.io/d3-cartogram/>

**Um modelo  
baseado no  
pagamento de  
APCs é uma boa  
alternativa?**

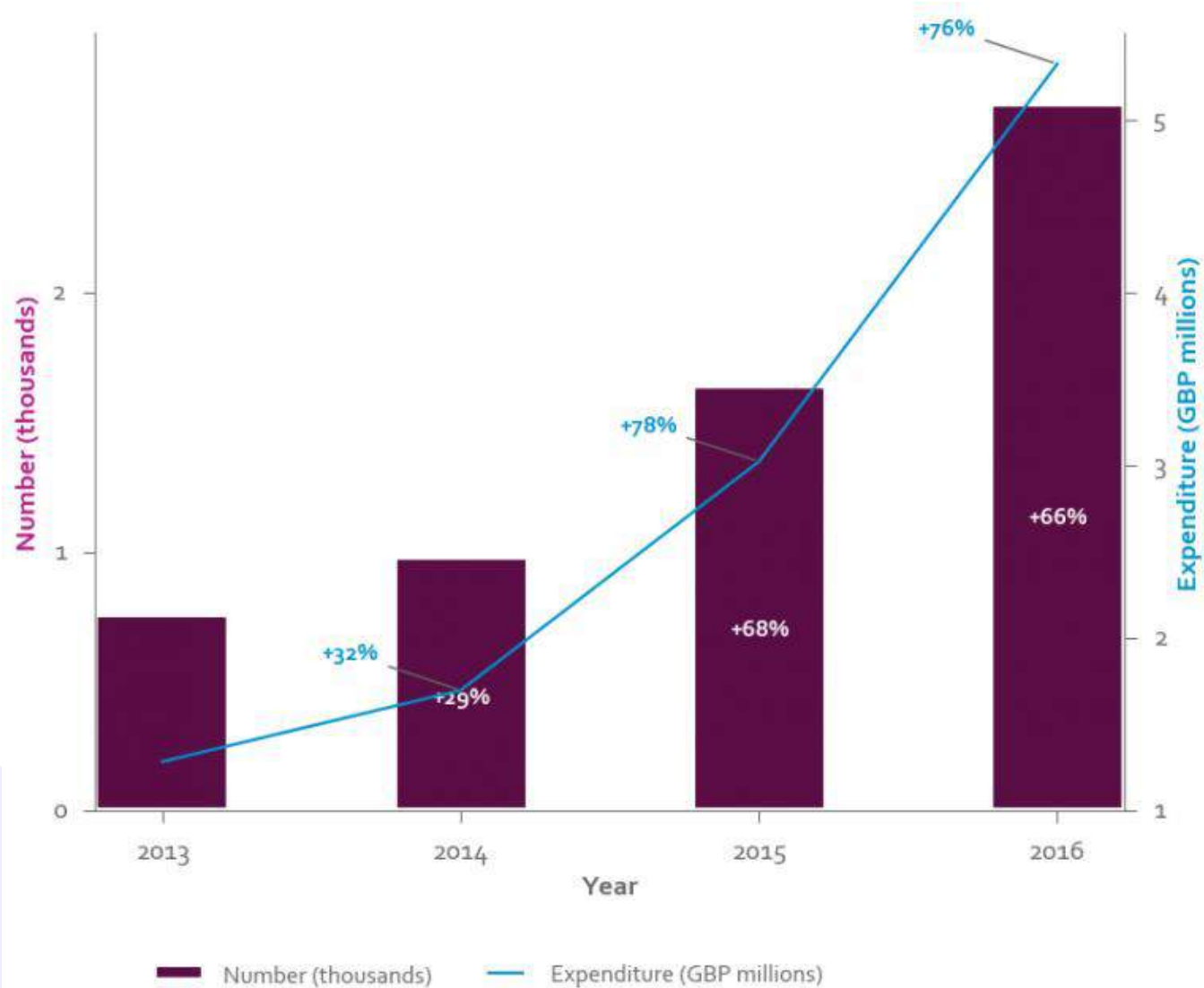


# Evolução dos APCs

Björk/Solomon estimaram (2014) que o custo médio dos Article Processing Charge (APC) era

- 1.020 € em revistas de acesso aberto e
- 1.980 € em revistas híbridas
- Dados atuais- <https://github.com/OpenAPC/openapc-de>
  - Média global– 1.887€
  - APCs Acesso Aberto– 1.485€ ( + 46%)
  - APCs Híbridos- 2.481 € ( + 25%)





Growth in APCs 2013-2016, 10 institutions -

<https://scholarlycommunications.jiscinvolve.org/wp/2017/08/23/article-processing-charges-in-2016/>






Researcher support and cross-stakeholder alignment will be crucial.

## Be realistic about cost

We believe that the primary reason to transition to gold open access should not be to save money (it won't, and there will be winners and losers as costs are redistributed) but that it would be better for research and scholarship – that it is a goal worth achieving even if it were to cost some institutions more money. Advocates for a global transition to gold open access alone should be clear that an entirely gold open access system would cost more in some regions and for some institutions – especially those that are highly research intensive and therefore pay more in a “pay to publish” model – and that they consider this a price worth paying.

It would also be helpful for stakeholders to develop a shared view about future costs of APCs, which are likely to be higher in a fully gold open access world than they are today.  The International Association of Scientific, Technical and Medical Publishers (STM) argues that average APCs would need to rise to fund the infrastructure currently paid for via the 80 percent of articles published under the subscription model. In any event, APCs are likely to be higher than they are today even just accounting for inflation and the continuing global growth in research output, which is currently about 4 percent a year.



# Declaração conjunta COAR-UNESCO

## 9 de maio 2016



United Nations  
Educational, Scientific and  
Cultural Organization



### **Joint COAR-UNESCO Statement on Open Access**

Open access is a global trend, with policies and practices rapidly being adopted around the world. As the world enters a new era of sustainable development, openness and inclusiveness in scientific research will become increasingly critical. While most governments agree on the underlying principles of open access, there is significant diversity in the way countries have approached its implementation. These differences reflect a range of perspectives, values, and priorities of the different regions. Clearly, there is no “one-size-fits-all” solution to implementing open access.

# Posição da COAR sobre o Plano S



12 September 2018

## COAR Response to Plan S

The Confederation of Open Access Repositories (COAR) welcomes the strong stance taken towards open access by a coalition of 11 European Funders, coordinated by Science Europe as outlined in “Plan S” and we strongly support the goal of accelerating the transition to open access.

3. Research is international and the scholarly communication system should reflect this global nature. As an international association, COAR seeks to ensure that the transition towards open access is responsive to the needs and priorities of all regions and countries. Many in the international community are concerned about the negative impact of APCs, especially on less economically developed countries, which have limited budgets (or no funds at all) to support publication fees. A large-scale shift to the APC model would create new barriers for participation in the system for many regions and researchers. In 2017, the

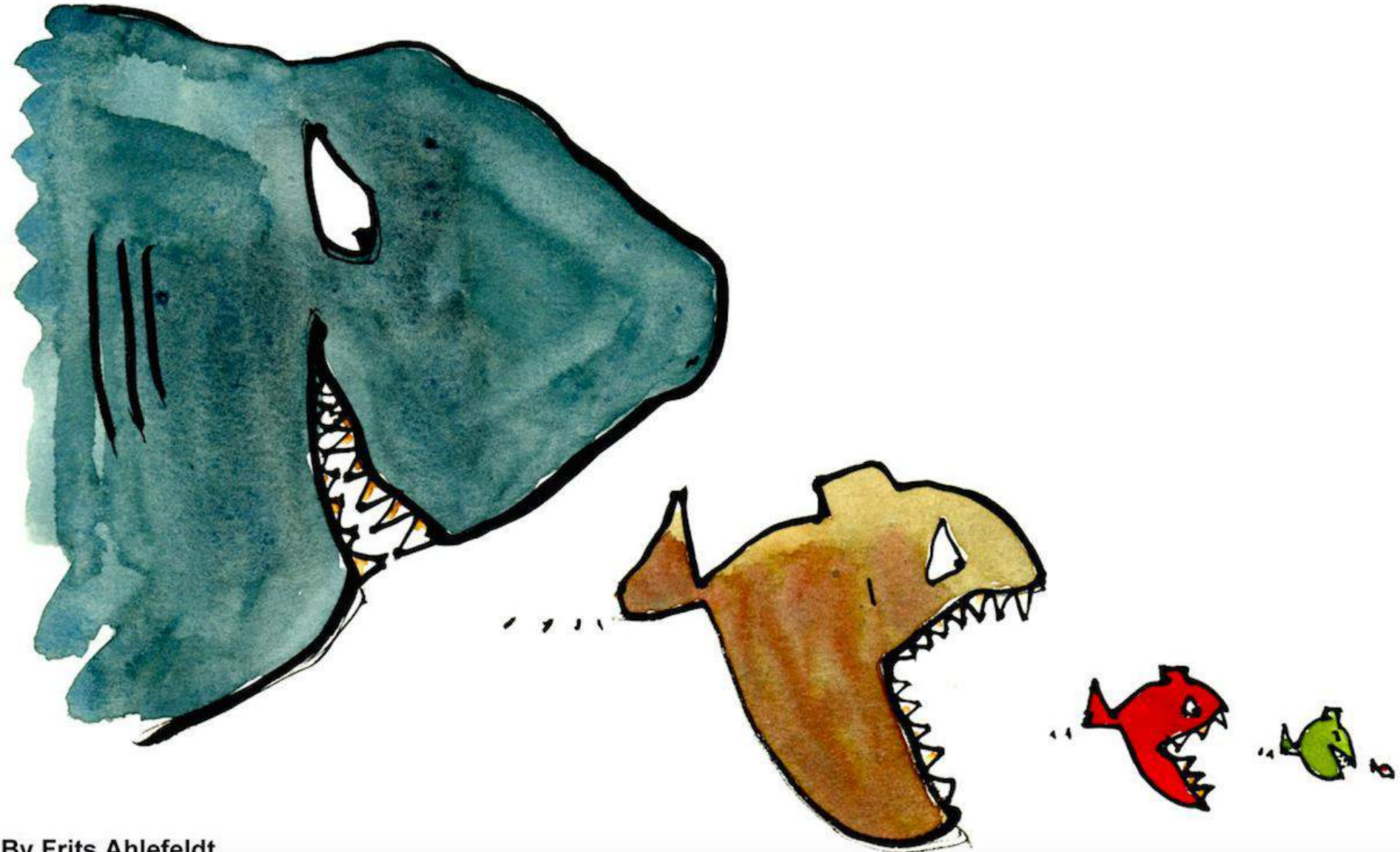


Leslie Chan

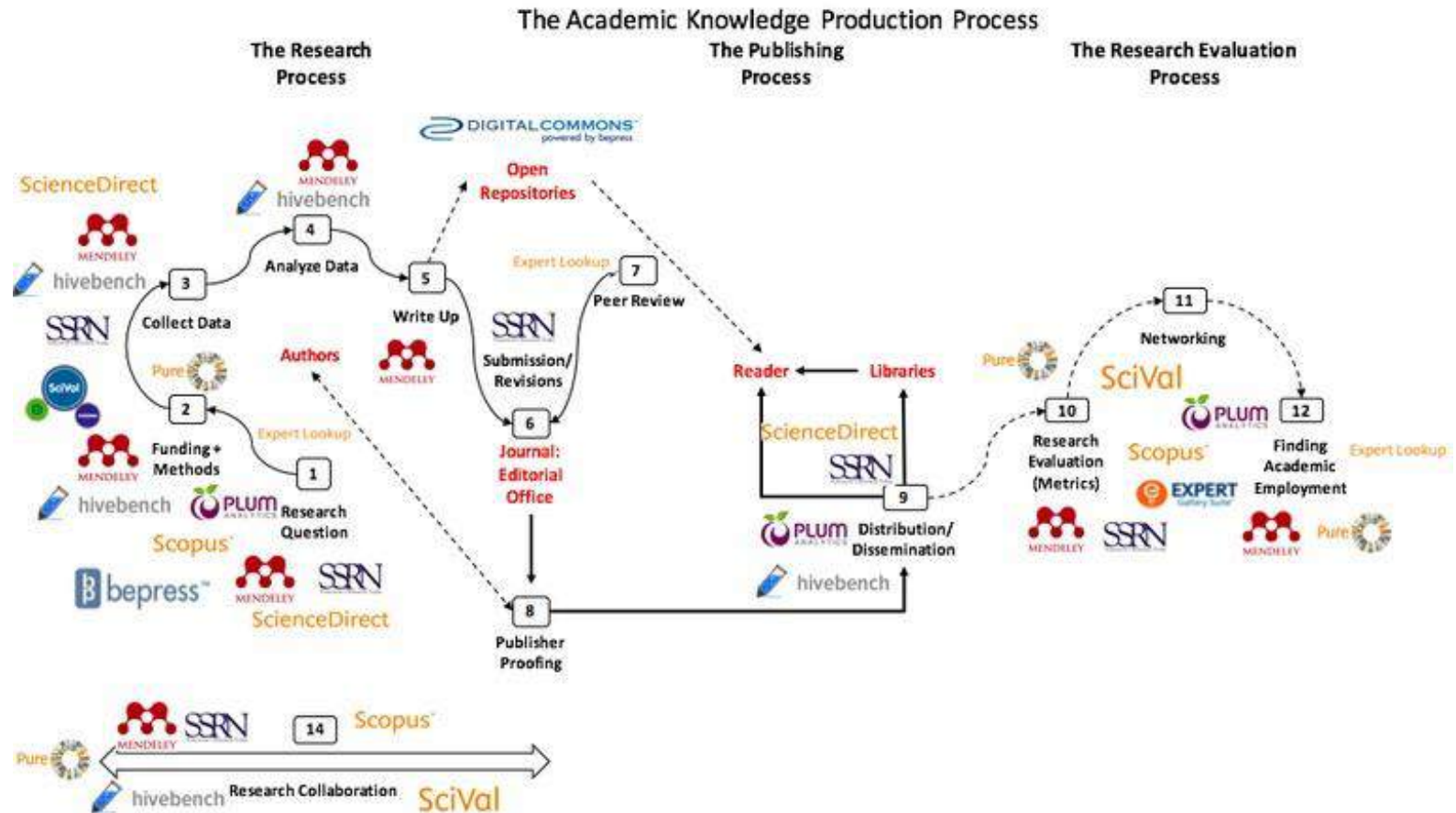
“Openness is not simply about gaining access to knowledge, but about the right to participate in the knowledge production process, driven by issues that are of local relevance, rather than research agendas set elsewhere or from the top down”

*A abertura não é apenas o acesso ao conhecimento, mas também o direito a participar no processo de produção do conhecimento, direcionado por questões de relevância local...*

# Crescente consolidação horizontal e vertical

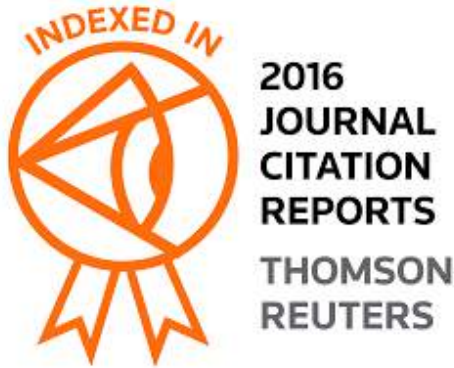


# Publishers are increasingly in control of scholarly infrastructure and why we should care - *A Case Study of Elsevier*



<http://knowledgegap.org/index.php/sub-projects/rent-seeking-and-financialization-of-the-academic-publishing-industry/preliminary-findings/>

# Somos cúmplices!



## 10 simple strategies to increase the impact factor of your publication

by sven | Mar 5, 2015 | |

Impact factors are heavily criticized as measures of scientific quality. However, they still dominate every discussion about scientific excellence. They are still used to select candidates for positions as PhD student, postdoc and academic staff, to promote professors and to select grant proposals for funding. As a consequence, researchers tend to adapt their publication strategy to avoid negative impact on their careers. Until alternative methods to measure excellence are established, young researchers have to learn the "rules of the game".



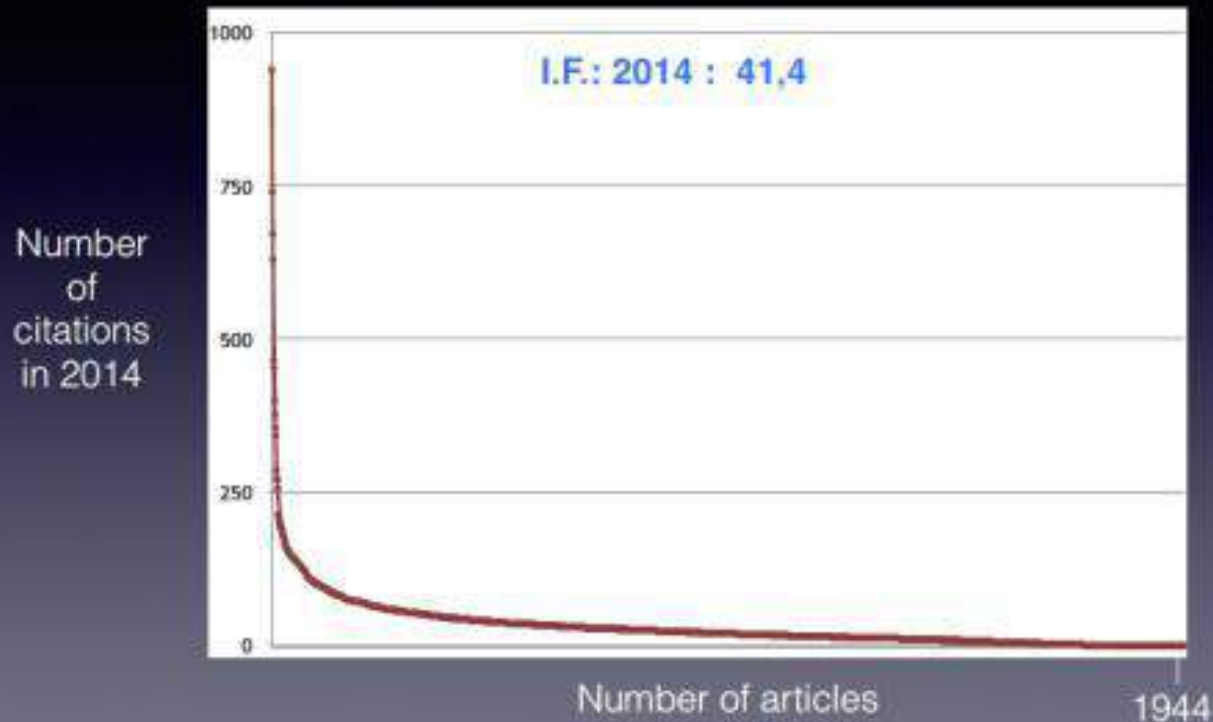
**O fator de impacto e outros indicadores dos editores são a base do nosso sistema de prestígio acadêmico e de avaliação**



# Somos cúmplices!

## The impact factor deception

Number of citations in 2014 per article published in *Nature* in 2012-13



<https://bernardrentier.wordpress.com>

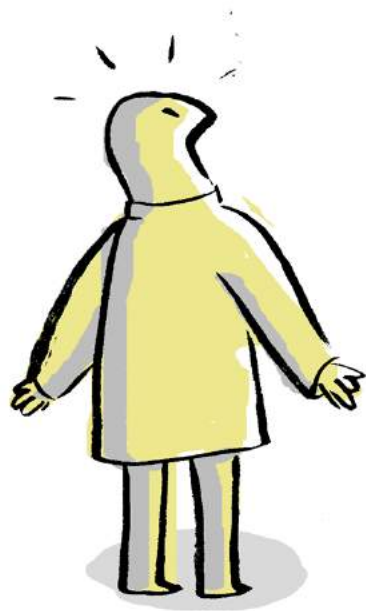
**Number of 2014 citations for each article published in Nature during 2012-2013**

# THE EVOLUTION OF ACADEMIA

PUBLISH



PUBLISH  
OR  
PERISH



PUBLISH  
IN HIGH IMPACT  
JOURNALS  
OR  
PERISH

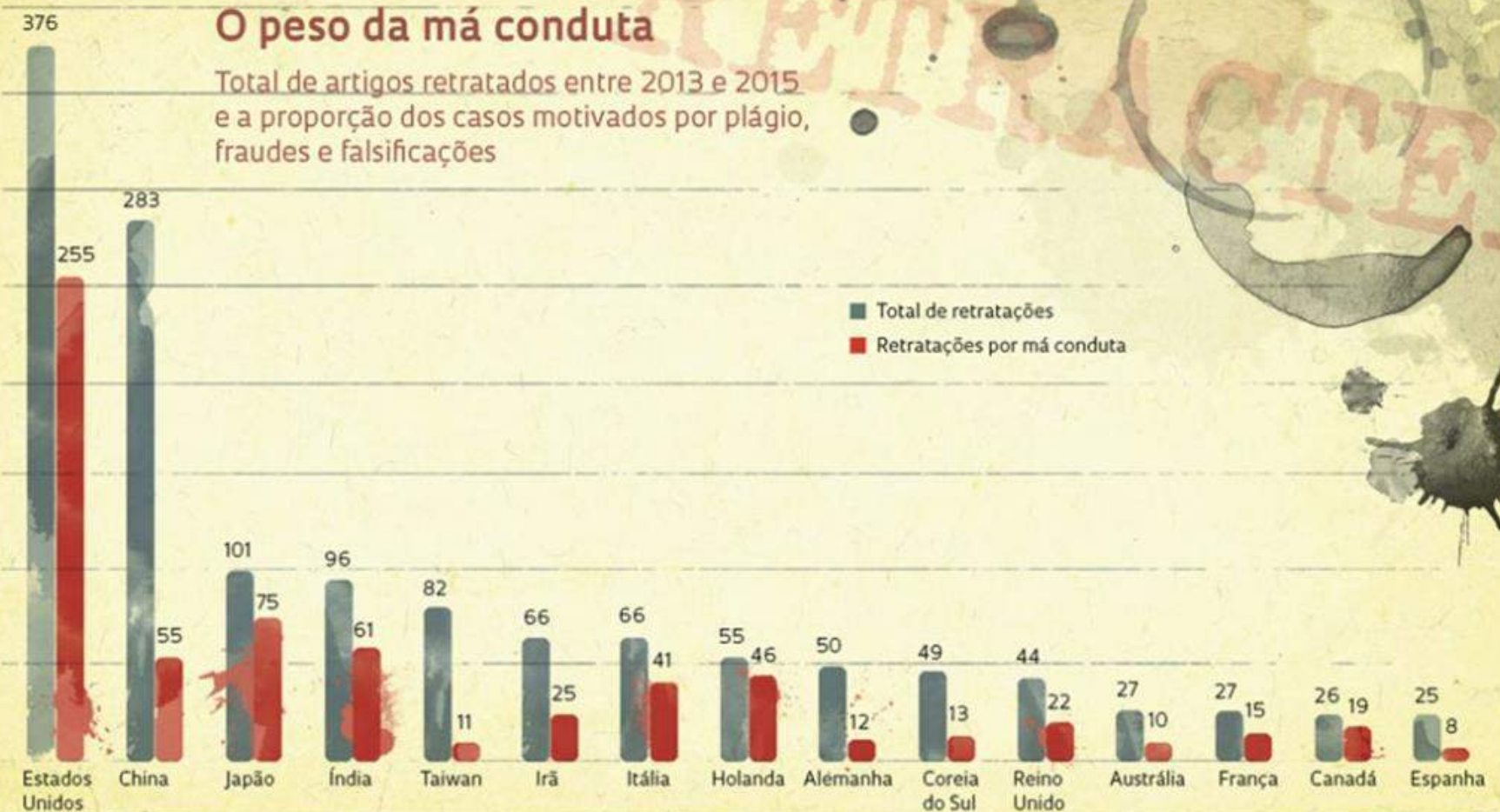


PUBLISH  
FREQUENTLY IN  
HIGH IMPACT  
JOURNALS  
AND  
MAYBE  
YOU WON'T  
PERISH



## O peso da má conduta

Total de artigos retratados entre 2013 e 2015  
e a proporção dos casos motivados por plágio,  
fraudes e falsificações



[Radiografia das retratações no mundo](#) – Pesquisa FAPESP, Edição 264 \_ Fevereiro 2018



# A visão da COAR



Um espaço global de conhecimento  
aberto baseado na rede de repositórios

É tempo de

**Devolver o controlo do sistema de  
comunicação à comunidade académica e  
científica!**



# A nossa solução

**Reforçar e expandir o papel dos repositórios, e das instituições e comunidades a que estão ligados, na gestão dos resultados de pesquisa.**





# OBJETIVOS DE DESENVOLVIMENTO SUSTENTÁVEL

#9: infraestrutura local que seja sustentável e inclusiva

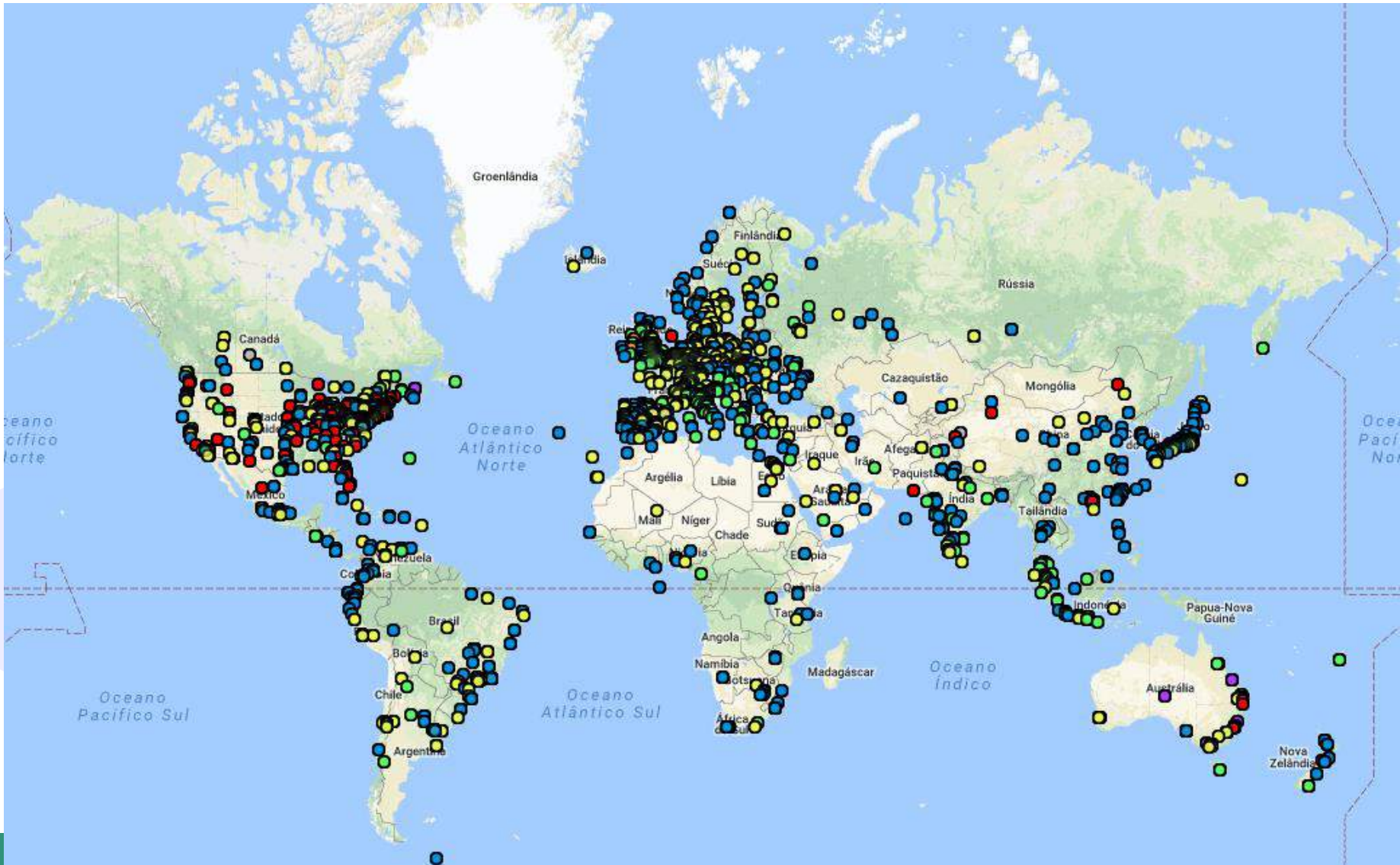
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(Os sistemas abertos e distribuídos, como a Internet, são mais flexíveis, sustentáveis e menos propensos a falhar, ou a serem comprados e fechados pelas empresas comerciais)





# Mais de 3700 repositórios....



Mas... os repositórios estão a usar “velhas”  
tecnologias desenvolvidas há quase duas décadas...



# Na sua forma atual, os repositórios perpetuam o sistema “defeituoso”



“What if we don’t change at all ...  
and something magical just happens?”



Os repositórios ainda não concretizaram o seu potencial transformativo do sistema e comunicação científica



# Nova Geração de Repositórios

## Prioridade estratégica da COAR

**O problema:** Os repositórios ainda não realizaram o seu potencial e funcionam sobretudo como recipientes passivos e isolados das versões finais dos resultados de pesquisa publicados

**Objetivo:** identificar funcionalidades e arquiteturas para a próxima geração de repositórios no contexto do Sistema de comunicação académica



## Next Generation Repositories Working Group, 2016-2017

Eloy Rodrigues, chair (COAR, Portugal)

Andrea Bollini (4Science, Italy)

Alberto Cabezas (LA Referencia, Chile)

Donatella Castelli (OpenAIRE/CNR, Italy)

Les Carr (Southampton University, UK)

Leslie Chan (University of Toronto at  
Scarborough, Canada)

Chuck Humphrey (Portage, Canada)

Rick Johnson (SHARE/University of Notre  
Dame, US)

Petr Knoth (Open University, Jisc, UK)

Paolo Manghi (CNR, Italy)

Lazarus Matizirofa (NRF, South Africa)

Pandelis Perakakis (Open Scholar, Spain)

Jochen Schirrwagen (University of Bielefeld,  
Germany)

Daisy Selematsela (NRF, South Africa)

Kathleen Shearer (COAR, Canada)

Tim Smith (CERN, Switzerland)

Herbert Van de Sompel (Los Alamos  
National Laboratory, US)

Paul Walk (EDINA, UK)

David Wilcox (Duraspace/Fedora, Canada)

Kazu Yamaji (National Institute of  
Informatics, Japan)



# Nova Geração de Repositórios

## Visão

Posicionar os repositórios como a base para uma infraestrutura de comunicação académica e científica distribuída e globalmente interligada, sobre a qual serviços de valor acrescentado podem ser disponibilizados, transformando o atual sistema e tornando-o mais centrado nas necessidades da pesquisa, aberto e favorável à inovação, e coletivamente gerido pela comunidade académica

## Três ideias centrais

Ser da, e não apenas estar na, Web

Os utilizadores são pessoas e máquinas

Repositórios ativos





# Dois aspetos críticos

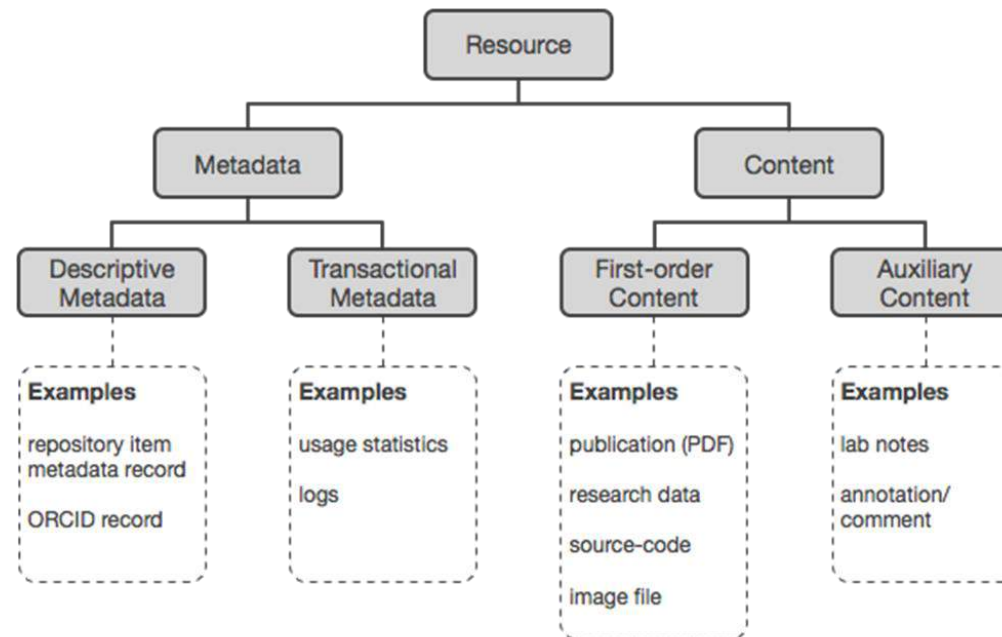
1. Comportamentos/funcionalidades comuns (interoperabilidade)
2. Serviços de valor acrescentado baseados nos recursos dos repositórios



# Nova Geração de Repositórios

## *Um novo nível de interoperabilidade*

- Centrada nos recursos (e nos seus componentes), em vez de focada nos repositórios, como acontece até agora.

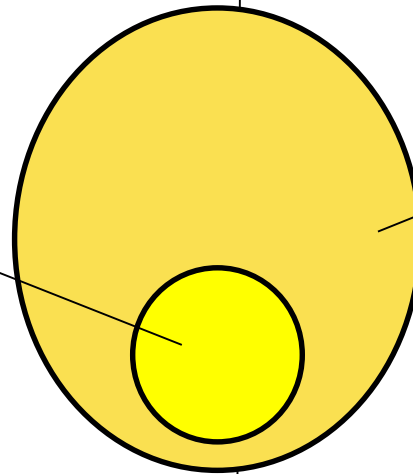


# Current repositories

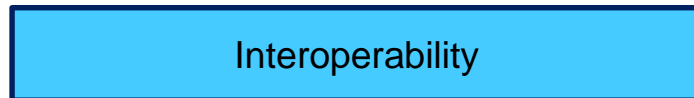
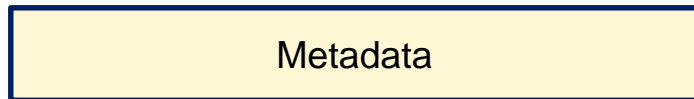
# Next generation repositories

Services we can develop with repositories today

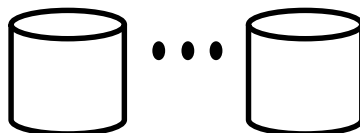
Services we can develop with the next generation of repositories



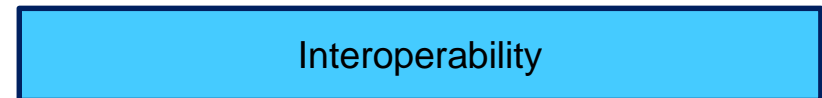
Conceptual layer



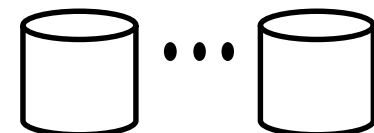
Persistence layer



Conceptual layer



Persistence layer





NEXT GENERATION  
REPOSITORIES



COAR publishes recommendations for  
next generation repositories

[Browse Technologies](#)

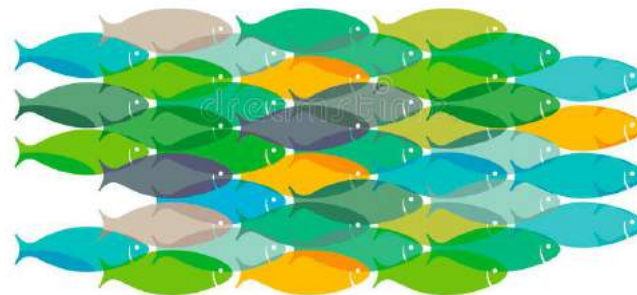
<http://ngr.coar-repositories.org/>

# Nova Geração de Repositórios

## *Behaviours and Technical Recommendations*

### NGR Behaviours:

- Cada funcionalidade/“comportamento” é descrito e ligado às tecnologias, protocolos e normas recomendadas pelo NGR Working Group



## *Behaviours and Technical Recommendations*

### NGR Behaviours:

1. Exposing Identifiers
2. Declaring Licenses at the Resource Level
3. Discovery Through Navigation
4. Interacting with Resources (Annotation, Commentary, and Review)
5. Resource Transfer
6. Batch Discovery
7. Collecting and Exposing Activities
8. Identification of Users
9. Authentication of Users
10. Exposing Standardized Usage Metrics
11. Preserving Resources



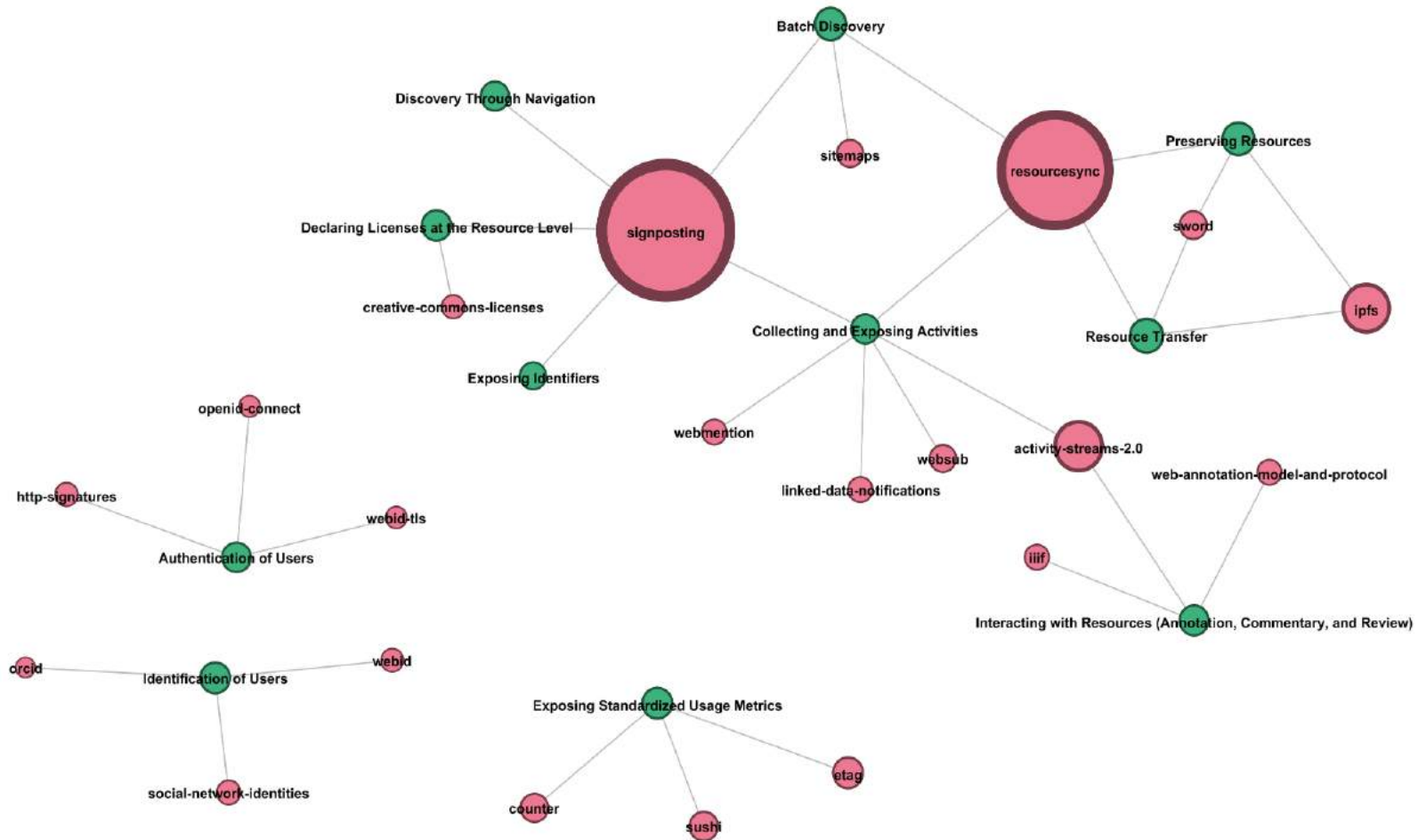
# Next Generation Repositories

## *Behaviours and Technical Recommendations*

### Technologies, Standards and Protocols

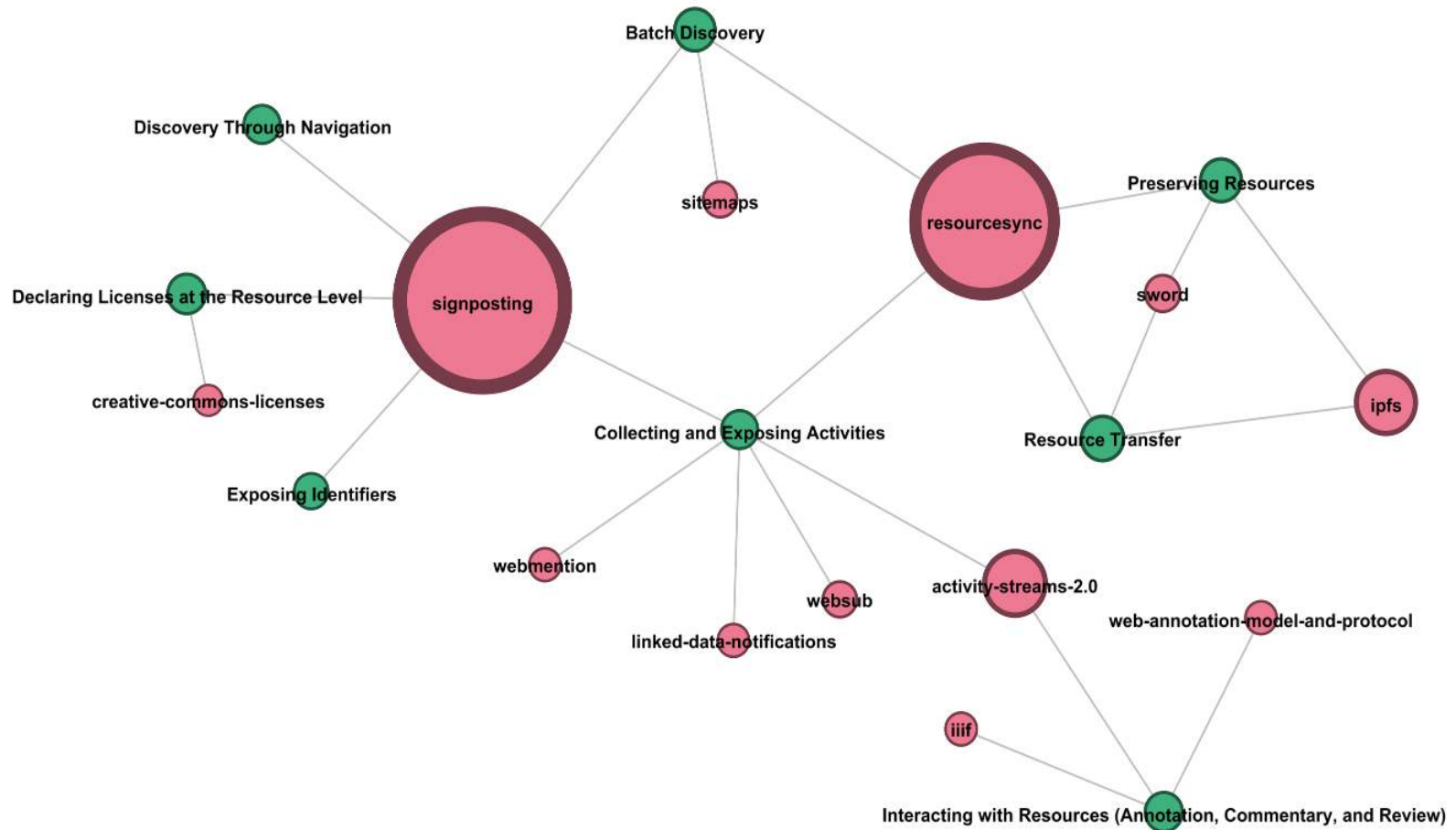
1. Activity Streams 2.0
2. COUNTER
3. Creative Commons Licenses
4. ETag
5. HTTP Signatures
6. IPFS International Image
7. Interoperability Framework
8. Linked Data Notifications
9. ORCID and other author IDs
10. OpenID Connect
11. ResourceSync
12. SUSHI
13. SWORD
14. Signposting
15. Sitemaps
16. Social Network Identities
17. Web Annotation Model and Protocol
18. WebID and WebID/TLS
19. WebSub
20. Webmention

# Visualize technologies and behaviours





# Priority technologies: Signposting & ResourceSync



# Nova Geração de Repositórios

## *Trabalho em curso e próximos passos*

- Implementação das tecnologias nas plataformas de repositórios
- Desenvolvimento de serviços de rede e “hubs”
- Monitorização contínua de novas tecnologias, normas e protocolos



# Implementação das tecnologias nas plataformas

- Várias redes e plataformas estão já a trabalhar na implementação das recomendações NGR
  - OpenAIRE – Europa
  - National Institute of Informatics (NII) - Japão
  - US Next Generation Repositories Implementers Group
  - CARL Open Repositories Working Group – Canadá
  - UK Working Group em discussão
- Reunião com as plataformas de repositórios na OR 2018



# Apoiar o desenvolvimento de serviços de rede e “hubs”

- Reunião de 2 dias de 14 redes de repositórios, em 14 e 15 de maio, para discutir as funcionalidades NGR e o alinhamento internacional
- Desenvolvimento de projetos piloto (Open Peer Review, Common Standards for Usage Statistics, Recommender Systems)



# Nova Geração de Repositórios

## *Monitorização de novas tecnologias, normas e protocolos*

COAR Next Generation Repositories Editorial Group

-Andrea Bollini  
-Rick Johnson  
-Paolo Manghi  
-Eloy Rodrigues

-Kathleen Shearer  
-Herbert Van de Sompel  
-Paul Walk  
-Kazu Yamaji



# A visão da COAR



Um espaço global de conhecimento  
aberto baseado na rede de repositórios

# Queremos trabalhar convosco!

**Se quiseres ir rápido, vai sozinho.  
Se quiseres chegar longe vai  
acompanhado.**

(Provérbio africano)



# Mantenham-se informados

- Visitem o COAR Website: [www.coar-repositories.org](http://www.coar-repositories.org)
- Sigam-nos no Twitter: **#COAR\_eV**
- Sigam-nos no Facebook:  
<https://www.facebook.com/COAReV>

