

Facilitate Open Science Training for European Research

Predstavitev odprtega dostopa do publikacij in raziskovalnih podatkov

Za raziskovalce Univerze v Ljubljani

Univerza v Ljubljani, Kongresni trg 12, Ljubljana, 24. september 2014



## HOW TO COMPLY WITH EC OPEN ACCESS POLICY TO PUBLICATIONS AND OPEN RESEARCH DATA

Remedios Melero. Spanish National Research Council



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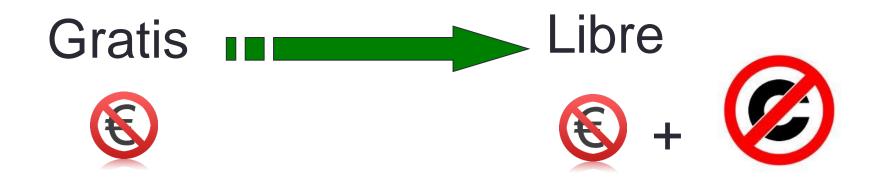
### **Budapest Open Access Initiative (14 February 2012)**

By "open access" to this literature (scholarly publications), 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**.







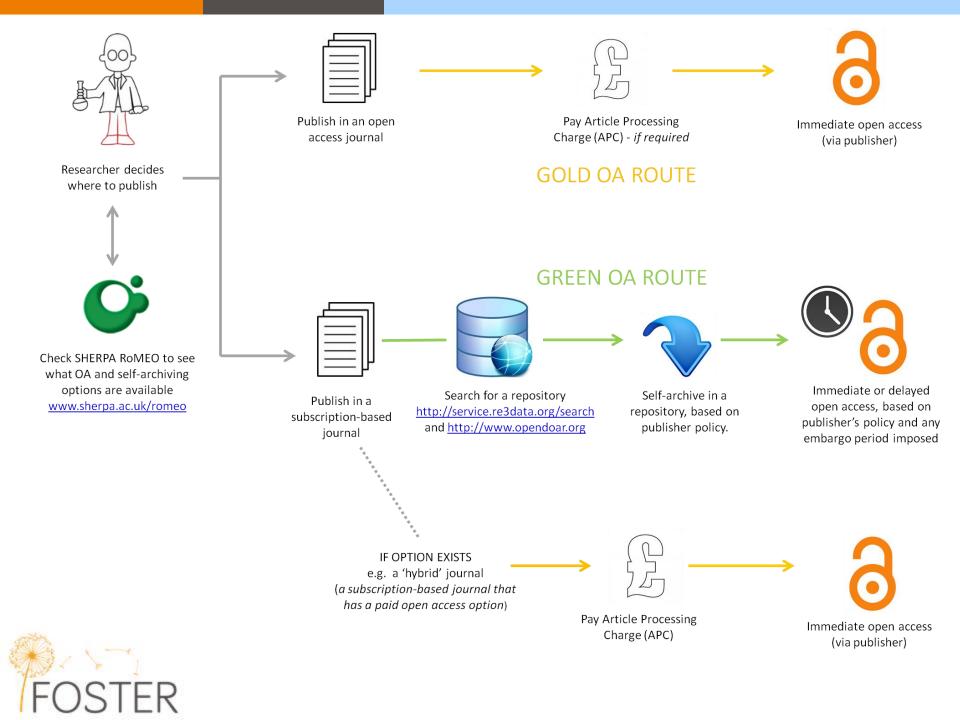


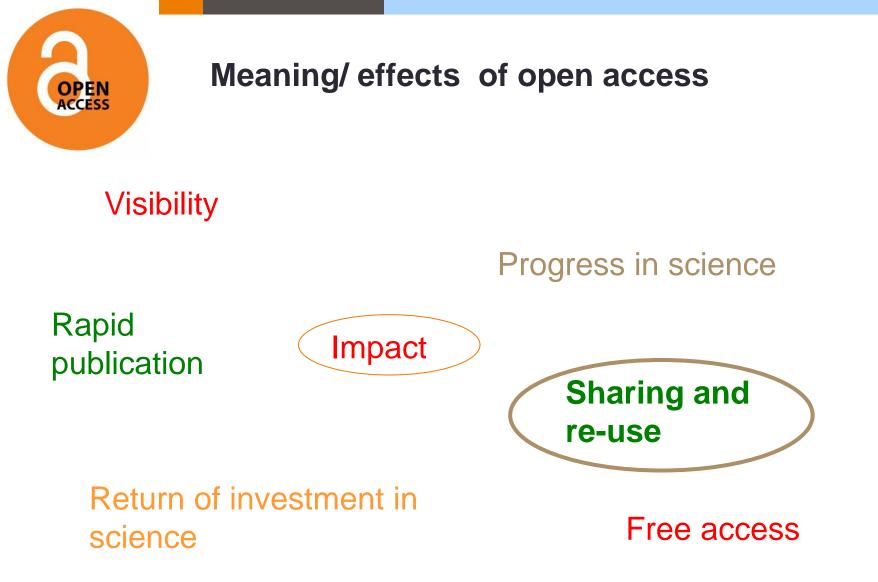
### OA Green route... OA repositories

Gold route ...OA journals













### ....In summary

### **Open access means:**

- More than make publicly available publications or research data
- Sharing
- Re-use of scholarly outputs
- To be able to create services on top of OA resources
- To contribute to a wider concept of open science



### **Europe vs open access**







The Commission has carefully analysed the effects of open access policies on the scientific publishing market, both by means of a study and of a public consultation in 2006. These are available at:

http://ec.europa.eu/research/sciencesociety/page\_en.cfm?id=3185

### In August 2008 The EC announce Which parts of FP7 will be covered by the open access pilot?

The pilot covers approximately 20% of the FP7 budget and will apply to specific areas of research under the 7<sup>th</sup> Research Framework Programme (FP7):

Health Energy Environment Information and Communication Technologies (Cognitive Systems, Interaction, Robotics), Research Infrastructures (e-Infrastructures); Socioeconomic Sciences and Humanities; Science in Society



# FOSTER

# How was Open Access implemented in FP7?

- General framework: EC and ERC Guidelines
- Special Clause 39 in Grant Agreements
- Best effort to achieve open access to publications
- Choice between the two routes: GREEN and GOLD OA
- Deposit in repository is mandatory (through author or publisher)
- Maximum embargo of 6 months (science, technology, medicine)

and 12 months (humanities and social sciences)

- Support provided by OpenAIRE, IPR Helpdesk, others
- Support activities developed during the running of FP7

http://www.openaire.eu/



## Science. Set free.



ER

zenodo	Research. Shared.			
Search Communities Upload Get started 🕶	Email Password  Sign in			
Search 695 records for.          Filter by types •         Recent Uploads         **          28 May 2013 Software documentation Open access	Q Search New to ZENODO? Sign Up Research. Shared. – all research outputs from across all fields of science are welcome! Giteable. Discoverable. – uploads gets a Digital Object Identifier (DOI) to make them easily and			
PSEUDONYMITY USER GUIDE     White, John     EMI Pseudonymity System provides users with a way to hide their true identity behind a     pseudonymous identity     Uploaded by EMI Project Office on 28 May 2013.     28 May 2013 Software documentation Open access	<ul> <li>view</li> <li>community Collections – accept or reject uploads to your own community collections (e.g workshops, EU projects or your complete own digital repository).</li> <li>Funding – integrated in reporting lines for research funded by the European Commission via OpenAIRE.</li> <li>Flexible licensing – because not everything is under Creative Commons.</li> </ul>			
COMMON AUTHENTICATION LIBRARY MANUAL Ould-Saada, Farid ; Sustr, Zdenek COMMON AUTHENTICATION LIBRARY MANUAL	• Safe – your research output is stored safely for the future in same cloud infrastructure as research data from CERN's Large Hadron Collider.			



### EUROPEAN COMMISSION

Brussels, 17.7.2012 COM(2012) 401 final

#### COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Towards better access to scientific information: Boosting the benefits of public investments in research

http://ec.europa.eu/research/sciencesociety/index.cfm?fuseaction=public.topic&id=1301 FOSTER In Horizon 2020, **both the 'Green' and 'Gold' models** are considered valid approaches to achieve open access.

All projects **will be requested to immediately deposit an electronic version of their publications** (final version or peer-reviewed manuscript) into an archive in a machine-readable format.

The Commission will allow an embargo period of a maximum of **six months**, **except for the social sciences and humanities where the maximum will be twelve months** (due to publications' longer 'half-life')

The Commission encourages authors to **retain their copyright** and to grant licences to publishers, according to the rules applying in Member States.

In addition, the Commission will to set up a pilot scheme on open access to and re-use of research data generated by projects in selected areas of Horizon 2020

In designing and implementing the pilot the Commission will take into account possible constraints on making research data openly accessible which may pertain to privacy, national security or data, and know-how and knowledge brought into projects as inputs.



### EUROPEAN COMMISSION

Brussels, 17.7.2012 C(2012) 4890 final

#### COMMISSION RECOMMENDATION

#### of 17.7.2012

#### on access to and preservation of scientific information

{SWD(2012) 221 final} {SWD(2012) 222 final}

http://ec.europa.eu/research/science-society/document\_library/pdf\_06/ recommendation-access-and-preservation-scientific-information\_en.pdf



### HEREBY RECOMMENDS THAT MEMBER STATES:

**Open access to scientific publications** 

1. Define clear policies for the dissemination of and open access to scientific publications resulting from publicly funded research. These policies should provide for:

- concrete objectives and indicators to measure progress;
- implementation plans, including the allocation of responsibilities;
- associated financial planning.

Ensure that, as a result of these policies:

– there should be open access to publications resulting from publicly funded research as soon as possible, preferably immediately and in any case no later than six months after the date of publication, and twelve months for social sciences and humanities;

 licensing systems contribute to open access to scientific publications resulting from publicly-funded research in a balanced way, in accordance with and without prejudice to the applicable copyright legislation, and **encourage researchers to retain their copyright while granting licences to publishers**;



Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020

> Version 1.0 11 December 2013

### What changes in Horizon2020?

- Update of Guidelines
- New clauses in Grant Agreements
- OA to publications is mandatory for all projects
- OA to data piloted for 7 selected areas
- Member States are requested to develop and align national OA policies and infrastructures



### Grant Agreement: 29.2 Open access to scientific publications

Each beneficiary must ensure open access (free of charge, online access for any user) to all peer-reviewed scientific publications relating to its results. In particular, it must:

(a) as soon as possible and at the latest on publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications;
Moreover, the beneficiary must aim to deposit at the same time the research data needed to validate the results presented in the deposited scientific publications.
(b) ensure open access to the deposited publication — via the repository — at the latest: (i) on publication, if an electronic version is available for free via the publisher, or (ii) within six months of publication (twelve months for publications in

the social sciences and humanities) in any other case.

(c) **ensure open access** — via the repository — to the bibliographic metadata that identify the deposited publication.

The bibliographic metadata must be in a standard format and must include all of the following:

- the terms ["European Union (EU)" and "Horizon 2020"]["Euratom" and Euratom research and training programme 2014-2018"];

- the name of the action, acronym and grant number; - the publication date, and length of embargo period if applicable, and - a persistent identifier.

### What to deposit

 The final peer-reviewed manuscript, accepted for publication, including all modifications from the peer review process
 OR

• A machine-readable copy of the published version (usually a PDF document)

In principle this applies to all kinds of publications, but emphasis is on peer-reviewed journal articles

### Where to deposit

Institutional repository

OR

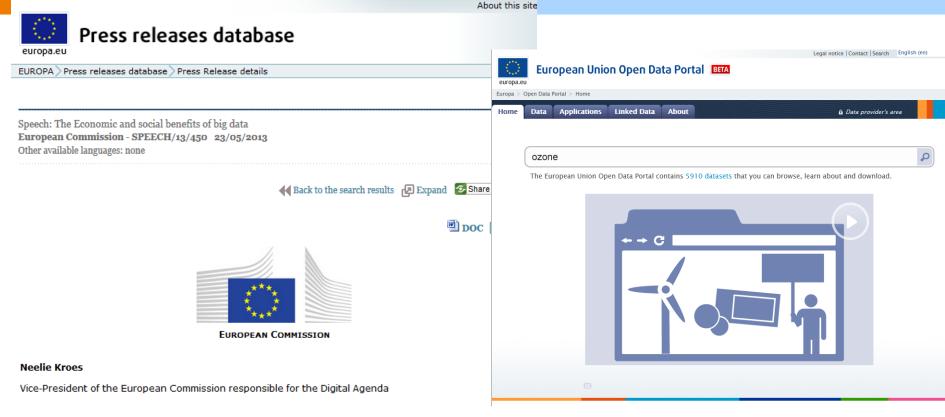
• **Disciplinary repository** (arXiv, Europe PubMed Central, etc.) OR

• Zenodo (www.zenodo.org) if none of the above is available – a EC cofunded, multidisciplinary repository, for publications & data

### When to deposit

- Each beneficiary must deposit as soon as possible and at the latest on publication.
- Open access must be ensured immediately or after an embargo period:
- GREEN 6-12 months depending on the research area and the choice of journal
- GOLD immediately





#### The Economic and social benefits of big data

"...Open access to scientific results and data is a great way to boost science, boost the economy, and enable new techniques and collaborations between disciplines. Really it's quite simple: it's about ensuring you can see the results you've already paid for through your taxes...."

### H2020 areas participating in the pilot

- Future and Emerging Technologies
- Research infrastructures part e-Infrastructures
- Leadership in enabling and industrial technologies Information and Communication Technologies
- Societal Challenge: 'Secure, Clean and Efficient Energy' part Smart cities and communities
- Societal Challenge: 'Climate Action, Environment, Resource Efficiency and Raw materials' – except raw materials
- Societal Challenge: 'Europe in a changing world inclusive, innovative and reflective Societies'
- Science with and for Society

# Projects in other areas can participate on a voluntary basis



### **Requirements of the open data pilot**

1. Develop (and update) a Data Management Plan ( deliverable within first 6 months)

- 2. Deposit in a research data repository
- 3. Make it possible for third parties to access, mine, exploit, reproduce and disseminate data free of charge for any user
- 4. Provide information on the tools and instruments needed to validate the results (or provide the tools)



### **Exemptions – reasons for opting out**

- If results are expected to be commercially or industrially exploited
- If participation is incompatible with the need for confidentiality in connection with security issues
- Incompatible with existing rules on the protection of personal data
- Would jeopardise the achievement of the main aim of the action
- If the project will not generate / collect any research data
- If there are other legitimate reason to not take part in the Pilot

Can opt out at proposal stage **OR** during lifetime of project. Should describe issues in the project Data Management Plan



Digital Curation Center. DMP online. A web-based tool to help researchers write DMPs Includes a template for Horizon 2020

My plan (Horizon 2020 DMP)			No	No questions have been answered	
Plan details Initial DMP	Mid-term Review DMP	Final review DMP	Share	Export	
For each data set specify the follo	owing: (5 questions, 0 answer	ed)			-
Data set reference and name					EC Guidance
					Identifier for the data set to be produced.
Save Not answered yet Data set description					EC Guidance -
	•				Description of the data that will be generated or collected, its origin (in case it is collected), nature and scale and to whom it could be useful, and whether it underpins a scientific publication. Information on the existence (or not) of similar data and the possibilities for integration and reuse.

### https://dmponline.dcc.ac.uk

### **Directory of data repositories**

#### http://www.re3data.org/



Home Search Suggest FAQ About Schema Contact Imprint

#### re3data.org launched

Posted on May 28, 2013 by re3data.org team

An increasing number of universities and research organisations are starting to build research data repositories to allow permanent access in a trustworthy environment to data sets resulting from research at their institutions. Due to varying disciplinary requirements, the landscape of research data repositories is very heterogeneous. This makes it difficult for researchers, funding bodies, publishers, and scholarly institutions to select an appropriate repository for storage of research data or to search for data.

The re3data.org registry allows the easy identification of appropriate research data repositories, both for data producers and users. The registry covers research data repositories from all academic disciplines. Information icons display the principal attributes of a repository, allowing users to identify the functionalities and qualities of a data repository. These attributes can be used for multi-faceted searches, for instance to find a repository for geoscience data using a Creative Commons licence.

By April 2013, 338 research data repositories were indexed in re3data.org. 171 of these are described by a comprehensive vocabulary, which was developed by involving the data repository community (http://doi.org/kv3).

PARTNERS











## Databib. Catalogue, directory and registry of data repositories. <u>http://databib.org</u>/

Databib     Login/Register					
Featured Repository	Databib is a searchable cacerog , registry / directory / bibliography of research data repositories.				
PODELECTION AND ADDRESS ADDRES	Search Find Advanced Search				
Normality of the second secon	Browse [ Subjects   A B C D E F G H I J K L M N O P Q R S T U V W X Y Z   All ]				
A definition of the set of the se	3				
PDBj (Protein Data Bank Japan)	3TU.Datacentrum A multidisciplinary data repository for a consortium of universities in the Netherlands housing over				
575 data repositories total in Databib.	A				
Recently Added	Access to Archival Databases (AAD) The AAD is a database through the U.S. National Archives and Records Administration that allows user				
Primate Life Histories Database	ACEpepDB: Peptide Database ACEpepDB is a database ran by the Central Food Technological Research Institute. It contains records				
National Geothermal Data System (NGDS)	Addgene Plasmid Database Addgene is a non-profit organization dedicated to making it easier for scientists to share plasmids				
Internet Archive	Adult Blood Lead Epidemiology and Surveillance (ABLES) Interactive Database				
Norwegian Meteorological Institute	ABLES provides data on lead exposure of adults in the United States. The data comes from laboratory				
Språkbanken	Advanced Cooperative Arctic Data and Information Service (ACADIS) The Advanced Cooperative Arctic Data and Information Service (ACADIS) program includes data manageme				
🍞 Follow @Databib	Advanced Spaceborne Thermal Emission and Reflection Radiometer [ASTER] The Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) is an imaging instrument				
Subjects	Africa Centre for Health and Population Studies The Africa Centre offers longitudinal datasets from a rural demographic in KwaZulu-Natal, South Afri				
STER					

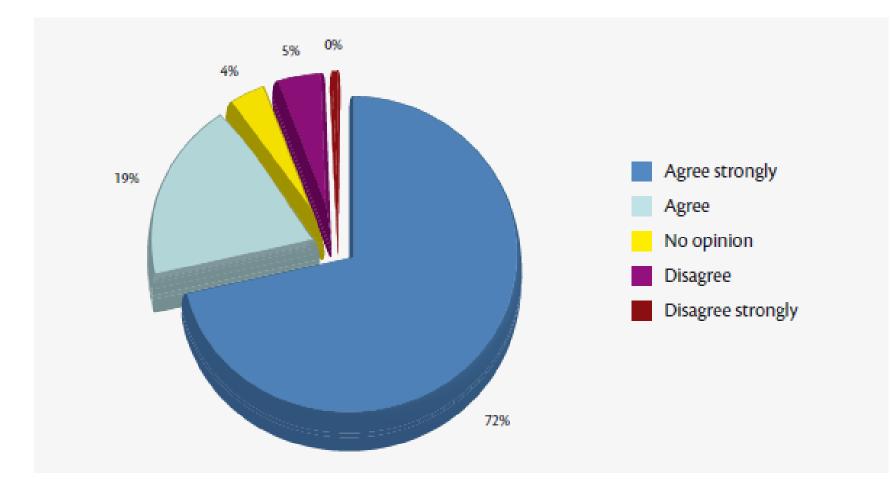
Some results from a questionnaire sent by the Commission to all project coordinators (identified 811 projects) in order to collect feedback on their experiences of both the implementation of the pilot and the reimbursement of open access publishing costs. Date: May 2011. Response: 194 answers were received by the end of August 2011

Answers provided important input for the future of the open access policy and practices in Horizon 2020 (the future EU framework programme for research and innovation), and for the preparation of a communication from the Commission and a recommendation to Member States on scientific publications in the digital age.

http://ec.europa.eu/research/science-society/document\_library/pdf\_06/surveyon-scientific-information-digital-age\_en.pdf



#### Do you think that open access can increase access to and dissemination of scientific publications?





Research data, should be publicly available, as a matter of principle for reuse and free of charge on the internet?

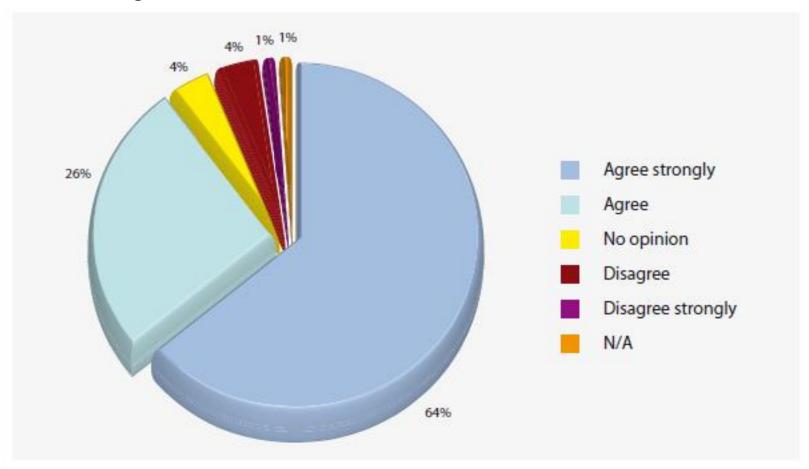
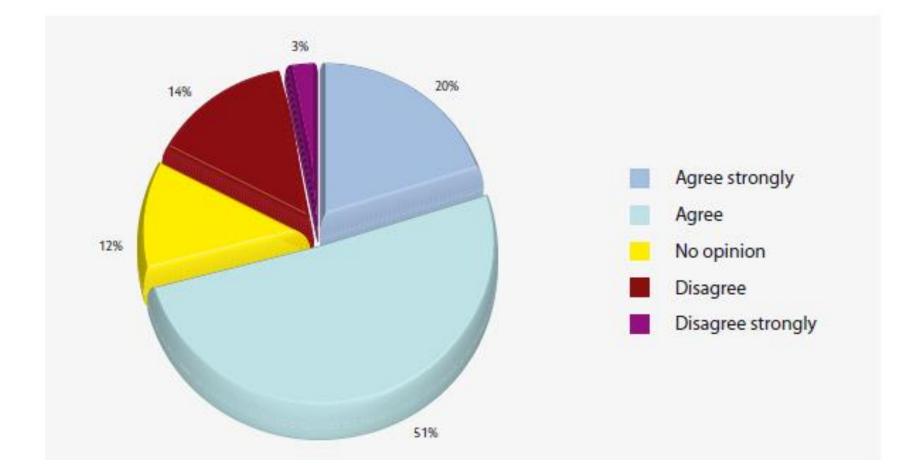


Figure 13: 'Publicly funded research data that is publicly available should be available, as a matter of principle, for reuse and free of charge on the Internet'

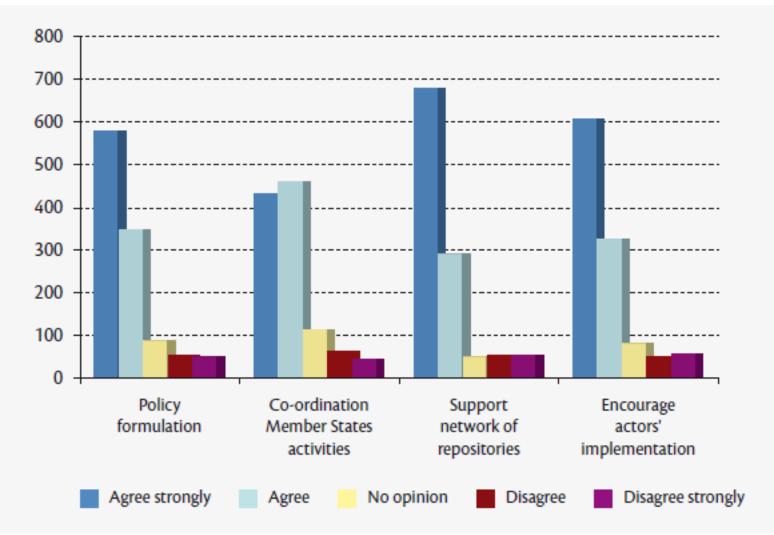


### Do you think that open access to scientific publications can coexist with the traditional scientific publication system?





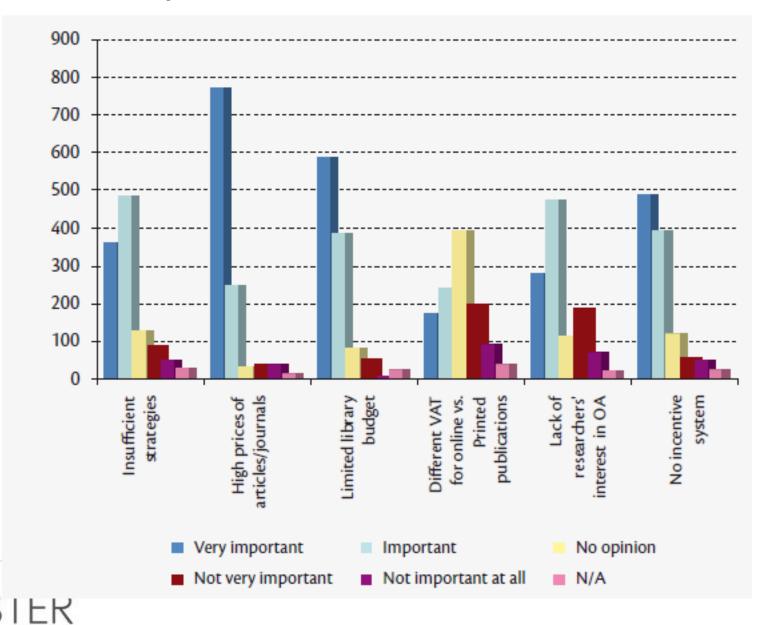
EU-level intervention could best contribute to improving the circulation of knowledge



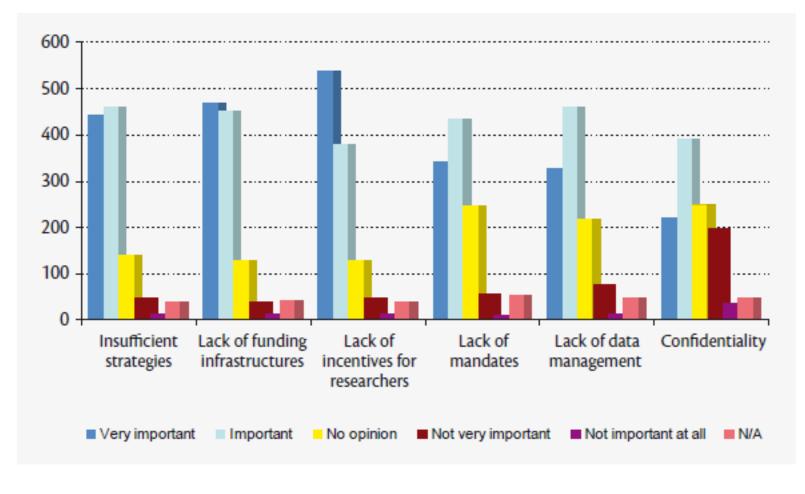
http://ec.europa.eu/research/science-

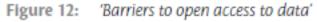
society/document\_library/pdf\_06/survey-on-open-access-in-fp7\_en.pdf

How would you rate the importance of the following potential barriers to access to scientific publications?



How would you rate the importance of the following potential barriers to enhancing access to research data?







### Preferred way in which public policy can increase OA to scientific publications

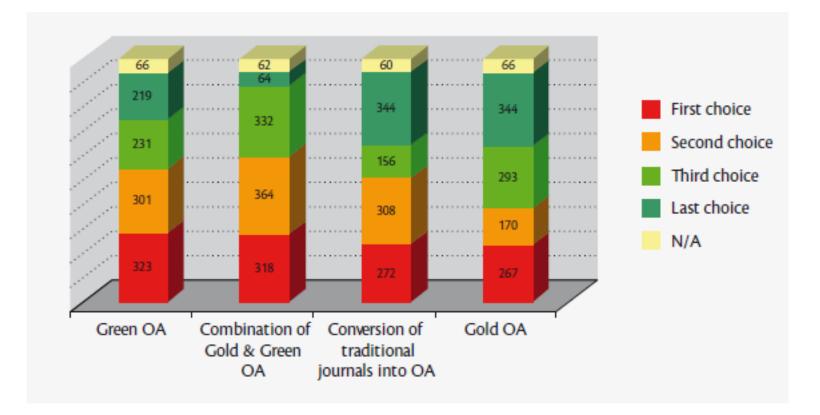


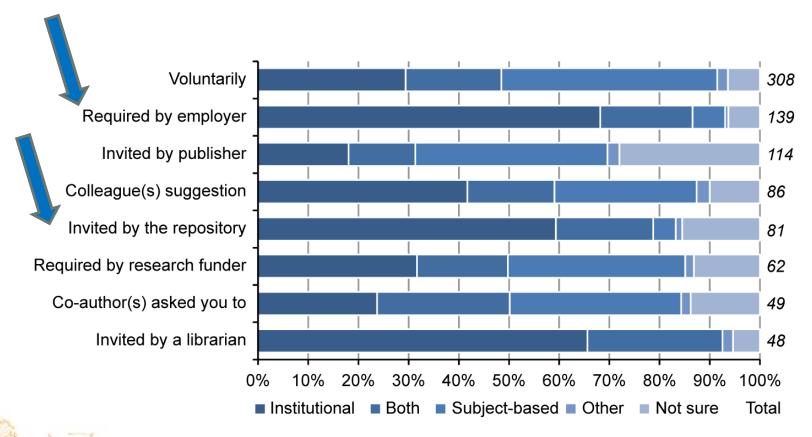
Figure 9: 'Preferred way in which public policy can increase OA to scientific publications'



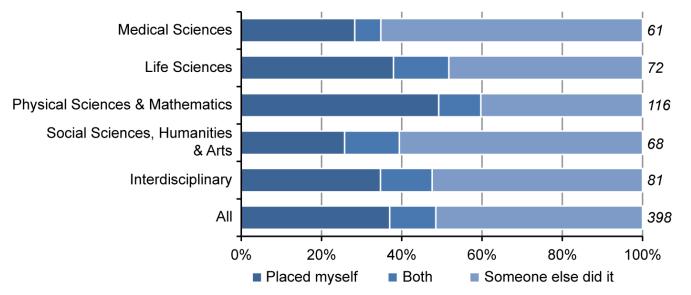
Researchers' green open access practice: a cross-disciplinary analysis. Spezi et al., 2013 (https://dspace.lboro.ac.uk/dspace-jspui/handle/2134/12324). Some results from the EC-funded Publishing and the Ecology of European Research (PEER) project (http://www.peerproject.eu/)

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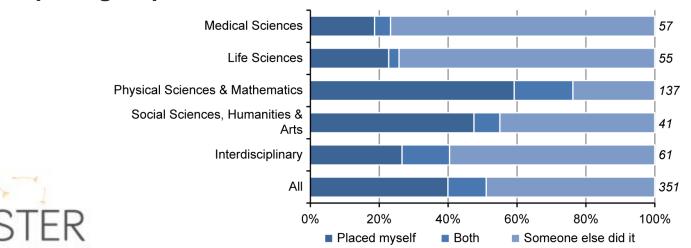
### Motivations for repository deposit, by type of repository chosen



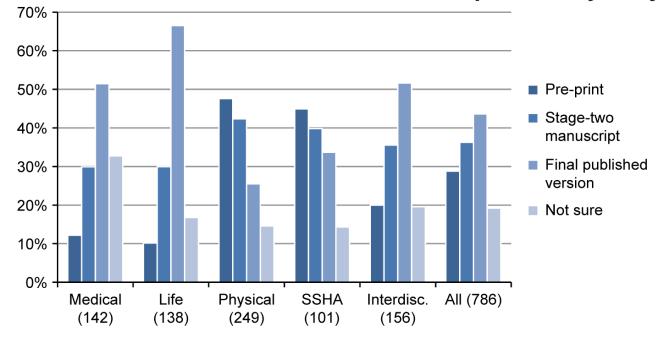
# Method of deposit in institutional repositories, by broad discipline group



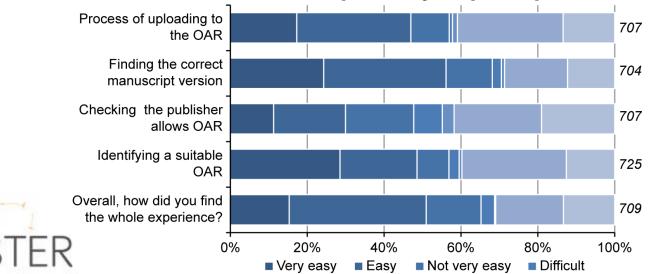
# Method of deposit in subject-based repositories, by broad discipline group



Version of article deposited, by subject

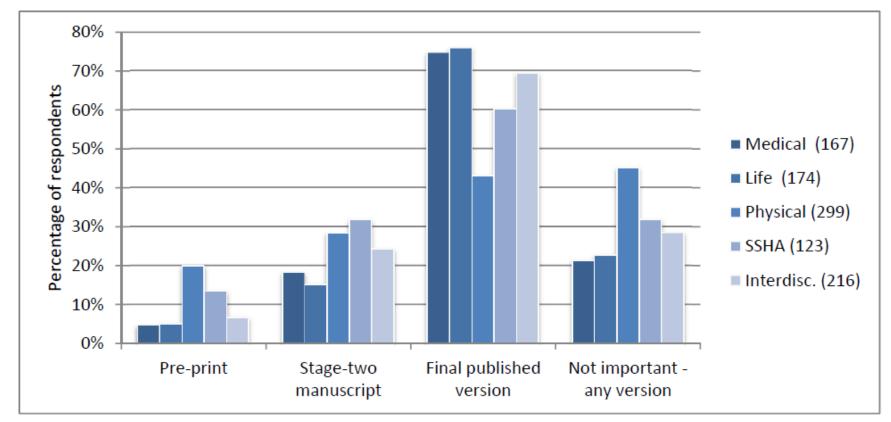


Ease of repository deposit procedures



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#### Figure 12 Version of the article hoping to find, by subject

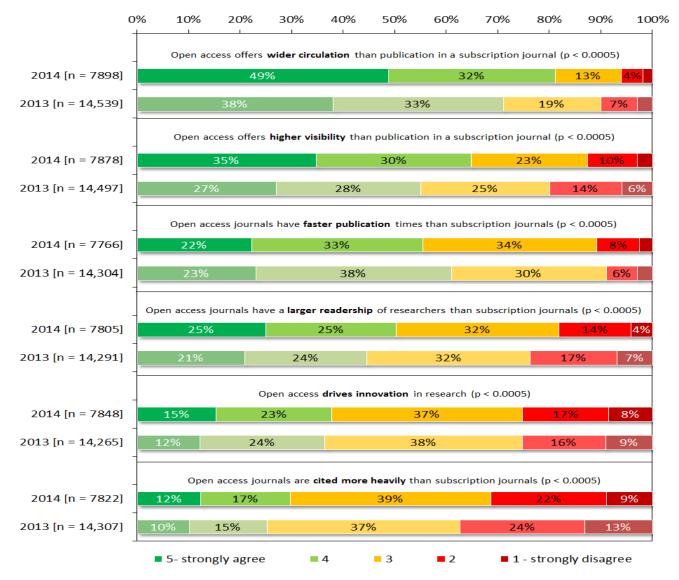




#### 2014 Taylor & Francis Open Access Survey www.tandfonline.com/page/openaccess/opensurvey/2014

This question is about the possible advantages of Open Access.

Please rate your agreement with each of the following statements from 1 - strongly disagree to 5 - strongly agree:





#### Reasons to deposit

#### 2014 Taylor & Francis Open Access Survey

www.tandfonline.com/page/openaccess/opensurvey/2014

Thinking about the occasions when you *have* deposited an article in a repository, how important were the following factors in your decision to upload your article?

Please rate from 1 - not at all important to 5 - very important:

	0% 10	0% 20	0% 30	0% 40	% 50	% 60	0% 7	0% 80	% 90% 10
A personal responsibility to make my work freely available [n = 5,271]			46%			26	%	16	% <mark>6%</mark> 5%
Requests for my article by researchers who cannot access it from their institution [n = 4,848]		4	1%			26%		17%	6% 9%
An institutional requirement to deposit my article [n = 4,483]	2	24%		23%		20%	6	11%	22%
A publisher offer to deposit my article on my behalf [n = 4,218]	- 19	9%	22	2%	2:	1%	11	%	27%
A funder requirement to deposit my article [n = 4,034]	2	1%	17	'%	18%	1	13%		31%
A colleague's encouragement to deposit my article [n = 4.507]	12%		22%		25%		179	6	25%
A repository manager offer to deposit my article on my behalf [n = 4,085]	11%	1	8%	22	2%	15	%	5	33%
■ 5 - very important ■ 4	<b>3</b>		2		1 -	not v	ery ir	nporta	ant

The lower response numbers here have arisen because authors were given the option of selecting "Not Applicable" for this question. These responses have not been included in the chart above – the percentages span only those selecting an option between 1 and 5. The numbers selecting "Not Applicable" are given in the table below:

	Personal responsibility	Requests from researchers	Institutional requirement	Publisher offer to deposit	Funder requirement	Colleague's encouragement	Repository manager offer
1 – 5	5,271	4,848	4,483	4,218	4,034	4,507	4,085
N/A	1,611	1,980	2,353	2,617	2,781	2,322	2,707
Total	6,882	6,828	6,836	6,835	6,815	6,829	6,792





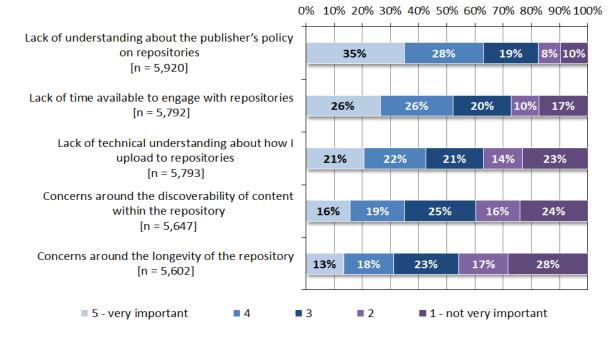
# How important are the following factors not to upload your article?

#### 2014 Taylor & Francis Open Access Survey

www.tandfonline.com/page/openaccess/opensurvey/2014

Thinking about the occasions when you have *not* deposited an article in a repository, how important were the following factors in your decision not to upload your article?

Please rate from 1 – not at all important to 5 – very important:



The lower response numbers here have arisen because authors were given the option of selecting "Not Applicable" for this question. These responses have not been included in the chart above – the percentages span only those selecting an option between 1 and 5. The numbers selecting "Not Applicable" are given in the table below:

	Lack of understanding about publisher policies	Lack of time	Lack of technical understanding	Concerns around discoverability	Concerns around Iongevity
1 – 5	5,920	5,792	5,793	5,647	5,602
N/A	1,068	1,193	1,195	1,320	1,360
Total	6,988	6,985	6,988	6,967	6,962



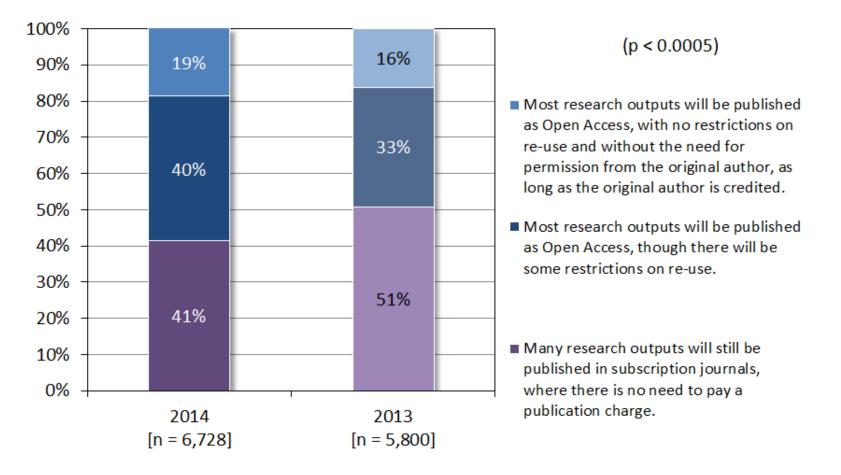


### 2014 Taylor & Francis Open Access Survey

www.tandfonline.com/page/openaccess/opensurvey/2014

**Open Access publication** 

Please tick the option that best describes what you think will happen over the next ten years.



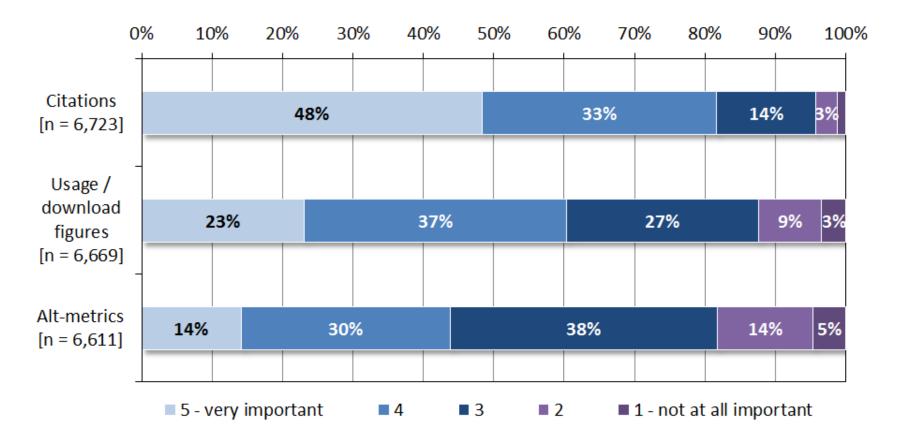


### 2014 Taylor & Francis Open Access Survey

www.tandfonline.com/page/openaccess/opensurvey/2014

Article-level metrics

How important do you think each of the following types of article metric will become for assessing the value of research over the next ten years?





# Some point issues/concerns (summary)

- Costs
- Incentives
- Lack of technical understanding
- Copyright issues
- Self-archiving policies
- "Impact"/ trust on OA publications





#### http://www.istl.org/10-winter/article2.html

#### **Open Access Citation Advantage: An Annotated Bibliography**

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#### Introduction

This annotated bibliography lists studies and review articles that examine whether open access (OA) articles receive more citations than equivalent subscription; i.e., toll access (TA) articles. The bibliography is divided into three sections:

- A. Review articles [5 reviews]
- B. Studies showing an open access citation advantage (OACA) [39 articles]
- C. Studies showing either no OACA effect or ascribing OACA to factors unrelated to OA publication [7 articles]

#### **Scope and Methods**

Scholarly material from the first known report of an open access citation advantage in 2001 by S. Lawrence up through mid-2009 has been included. In an attempt t be both current and comprehensive, this bibliography contains both peer-review articles, web reports, and other working documents and data analysis. These distinctions are made in the form of the citation and the text of the annotation. Obviously, peer-reviewed studies should be given the most weight. Editorials and letter to the editor generally have not been included.

The following databases were searched: Google Scholar, SciFinder (web version) including MEDLINE, Web of Science, Library Literature & Information Science FT, and Library, Information Science & Technology Abstracts with Full Text. Any article with the keywords 'open access' AND 'citation\*' were retrieved, where '\*' was the appropriate truncation symbol for a given database. The search results were cross-checked against an extensive, more general <u>bibliography</u> maintained on th web by S. Hitchcock and listed in Section A below.



# The Open Access citation advantage: Studies and results to date (Alma Swan, 2010) http://eprints.ecs.soton.ac.uk/18516/

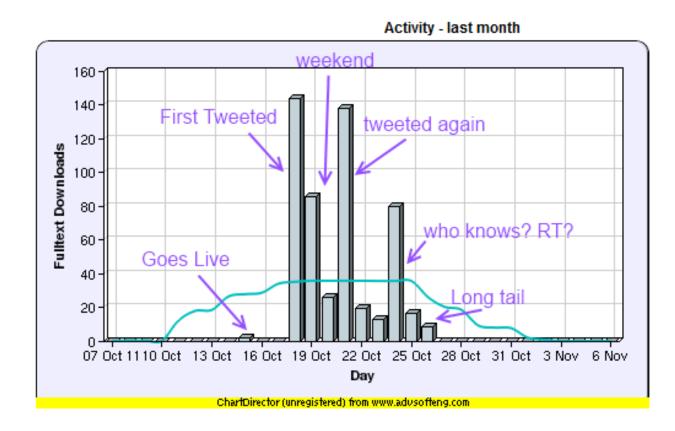
Summary data from these studies are provided below.

Measure	Result
Studies finding a positive Open Access citation advantage	27
Studies finding no Open Access citation advantage (or an OA citation disadvantage)	4

Size of OA citation advantage when found (and where explicitly stated by discipline)	% increase in citations with Open
	Access
Physics/astronomy	170 to 580
Mathematics	35 to 91
Biology	-5 to 36
Electrical engineering	51
Computer science	157
Political science	86
Philosophy	45
Medicine	300 to 450
Communications studies (IT)	200
Agricultural sciences	200 to 600



El efecto de las redes sociales sobre el impacto de las publicaciones OA



Trabajo depositado en el repositorio de la UCL. Antes del primer tweed.. 2 descargas

http://www.rsp.ac.uk/documents/get-uploaded-file/?file=SocialMedia\_MTerras.pptx



# Some points about data.....



The value of Research data. Metrics for datasets from a cultural and technical point of view. <u>http://www.knowledge-exchange.info/datametrics</u>

Recommendations targeted at the most important stakeholders involved in the promotion and generation of data sharing

### **Scientists**

- Include data sharing as good scientific and scholarly practice
- Promote data citation as the formal way of acknowledging data sharing
- Perform more **research on benefits** and possibilities of data sharing
- Define **codes of conducts** for disciplines considering appropriate regulations, i.e. embargo periods, anonymisation etc.

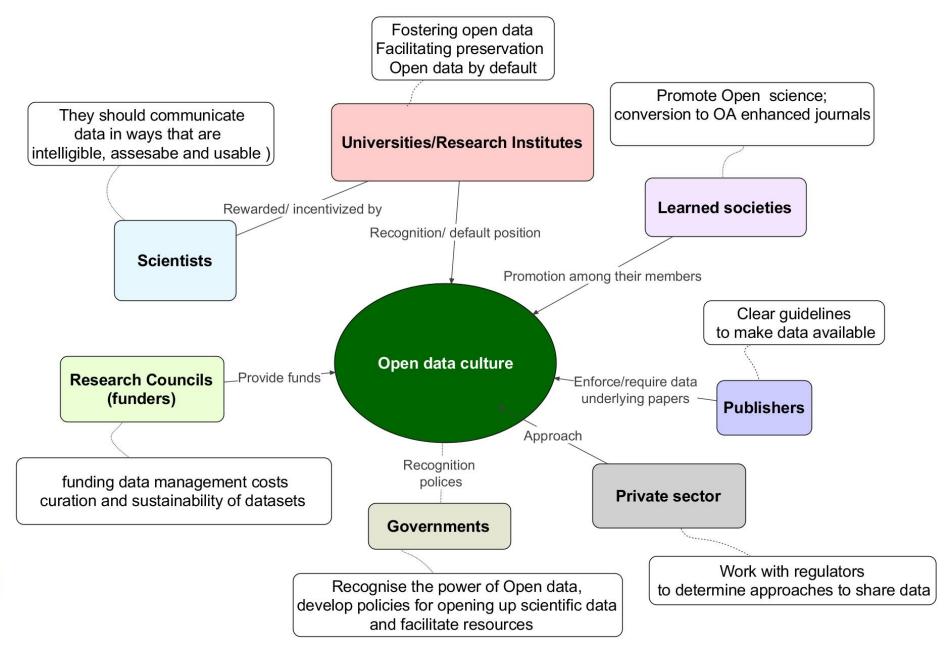
### **Research Institutions**

- Promote policies of data sharing
- Promote arguments and incentives
   in favour of data sharing
- Provide options and alternatives to the different types of data sharing activities
- Professionalize staff and

standardize data sharing activities (collection, curation, dissemination)

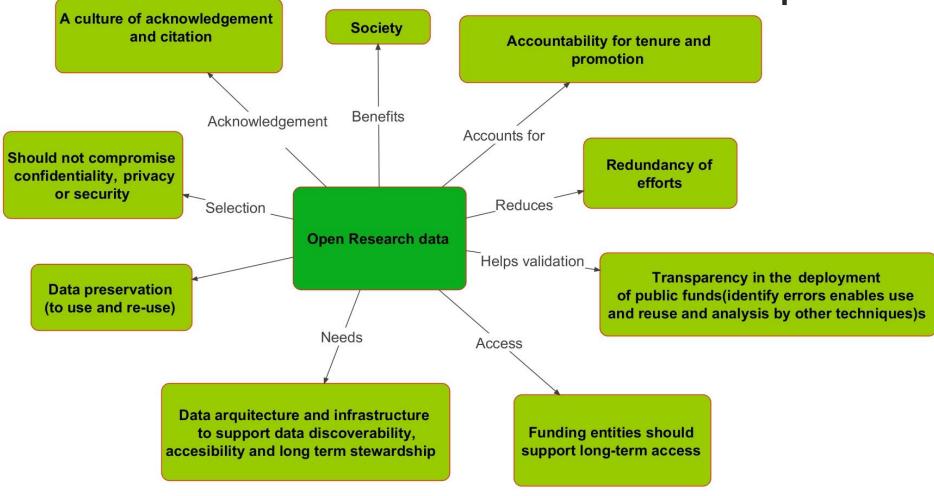


Science as an Open Enterprise. The Royal Society Science Policy Centre report 02/12. Avaliable at http://royalsociety.org/policy/projects/science-public-enterprise/report/

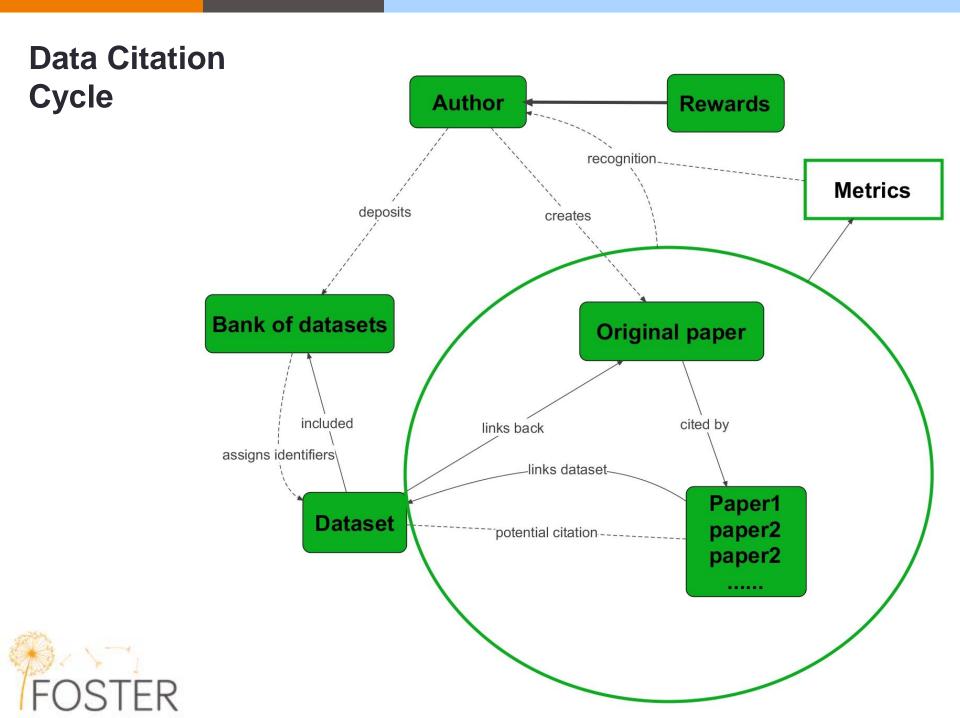


**The Denton Declaration: An Open Access Data Manifesto**. A product of the 3rd Annual University of North Texas Symposium on Open Access, 2012.

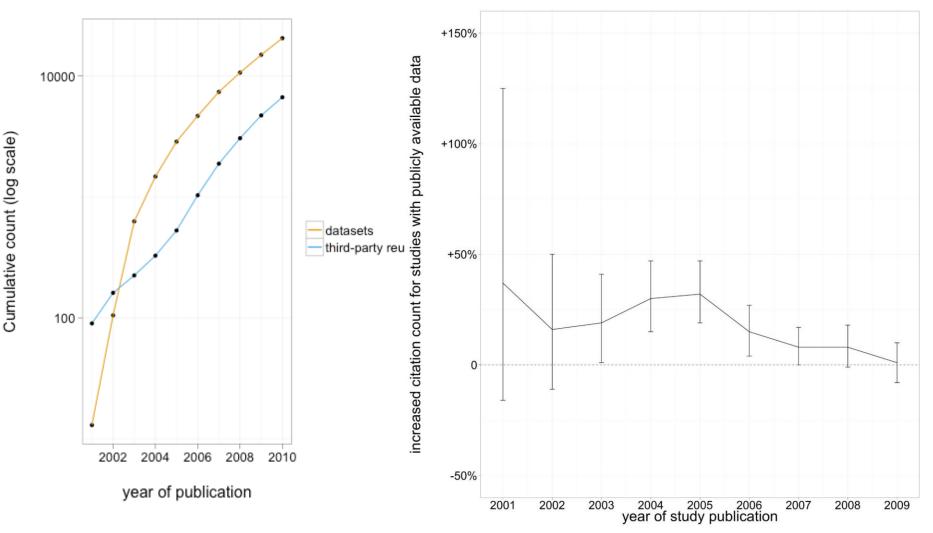
### **Principles**



http://openaccess.unt.edu/denton-declaration

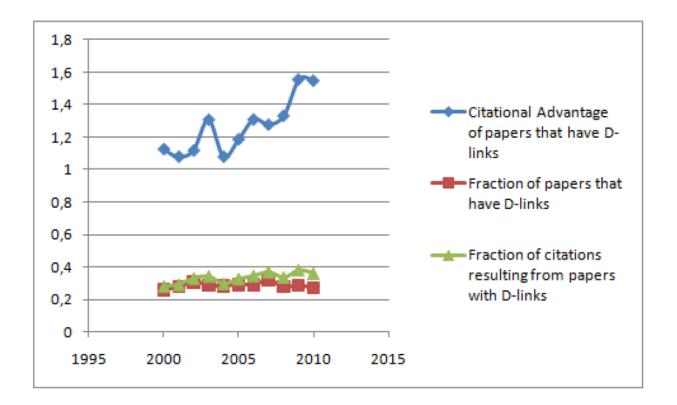


Ver Piwowar et al. (2013) Data reuse and the open data citation advantage. PeerJ PrePrints 1:e1v1 <u>http://dx.doi.org/10.7287/peerj.preprints.1v1</u>



Papers studies that created gene expression microarray data and made them available GEO data (Gene Expression Omnibus) received more citations than those for which data were not available Bertil Dorch, (2012) On the Citation Advantage of linking to data. http://hprints.org/hprints-00714715

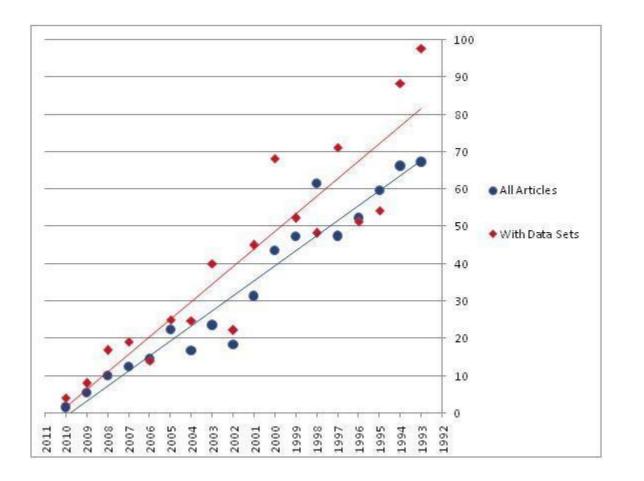
Papers published in The Astrophysical Journal from 2000 to 2010 with links to data archived in ADS (Astrophysical Data System)



Papers with links to data receiving on the average 50% more citations per paper per year, than the papers without links to data



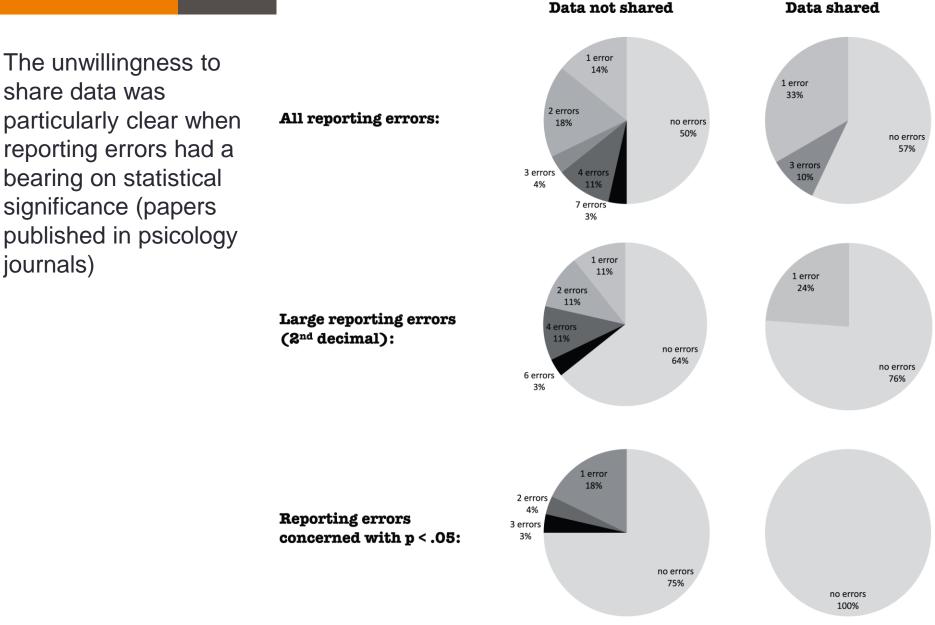
Papers published between 1993 y 2010 in journal *Paleoceanography* with links to data archived in PANGAEA®



Publicly available data were thus significantly associated with about 35% more citations per article than the average of all articles sampled over the 18-year study period, and the increase is fairly consistent over time (14 of 18 years).

#### http://www.komfor.net/blog/unbenanntemitteilung





Wicherts JM, Bakker M, Molenaar D (2011) Willingness to Share Research Data Is Related to the Strength of the Evidence and the Quality of Reporting of Statistical Results. PLoS ONE 6(11): <u>e26828</u>.

Thank you!! Hvala!!

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