

# Il valore degli Open Data: accesso e condivisione a beneficio di tutti



Elena Giglia  
elena.giglia@unito.it  
 @egiglia

Roma, ISPRA, 23 marzo 2023



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/). Photos are mine. Feel free to reuse from Flickr/eg65

# Perché siamo qui

Digital Science Report  
**The State of Open Data 2021**  
The longest-running longitudinal survey and analysis on open data  
Foreword by Natasha SIMONS, Australian Research Data Commons (ARDC)  
2021  
November 2021

Open data saves lives. The global pandemic has highlighted beyond anything that came before it the importance of data sharing in solving the big challenges of our time. COVID-19 data may be the

GRAZIE PER L'ATTENZIONE, PER OGGI  
ABBIAMO FINITO...

VEDREMO

- PERCHÉ SERVONO GLI OPEN DATA (OVVERO, LE LEZIONI DEL COVID)
- IL CONTESTO EUROPEO E INTERNAZIONALE: OPEN SCIENCE, DATI FAIR E EOSC
  - IL VALORE DEGLI OPEN DATA

**SERVONO I DATI  
[FAIR BY DESIGN]  
(E NON SOLO LA  
SINTESI FINALE  
SOTTO FORMA DI  
ARTICOLO)**

## The Value of RDA for COVID-19 RDA

Home » Get involved » The Value of RDA for... » The Value of RDA for COVID-

13 July 2020 | 16426 reads | Facebook | Twitter

Under public health emergencies, and particularly the COVID19 pandemic, it is fundamental that data is shared in both a timely and an accurate manner. This coupled with the harmonisation of the

 **tech economy 2030**  
Digital transformation for sustainability

2020

Home » #SDG3 » Open Science è una necessità, non una noia burocratica

#SDG3 | In Evidenza | Sostenibilità Culturale

Open Science è una necessità, non una noia burocratica

**IL COVID HA DIMOSTRATO CHE  
OPEN SCIENCE È UNA  
NECESSITÀ**



Raphaël Lévy  
@raphavisses

#OSEC2022 @BoukacemZeg

(applauded by @stephen\_curry) concludes her talk with a quote from a young research who left science saying "GAME OVER: The pandemic is a life-size experiment that reminded us that the ultimate goal is to advance knowledge, not egos, not numbers"

Traduci il Tweet

Feb. 4 2022

5:10 PM · 4 feb 2022 · Twitter Web App

Sanjee Baksh, PhD @S\_Baksh · 21h

**Congratulations to the authors but I am not strong enough for this**

Mostra questa discussione

<https://doi.org/10.1038/s41586-022-03415-8>

received: 25 June 2019

accepted: 4 June 2021

published online: 20 April 2022

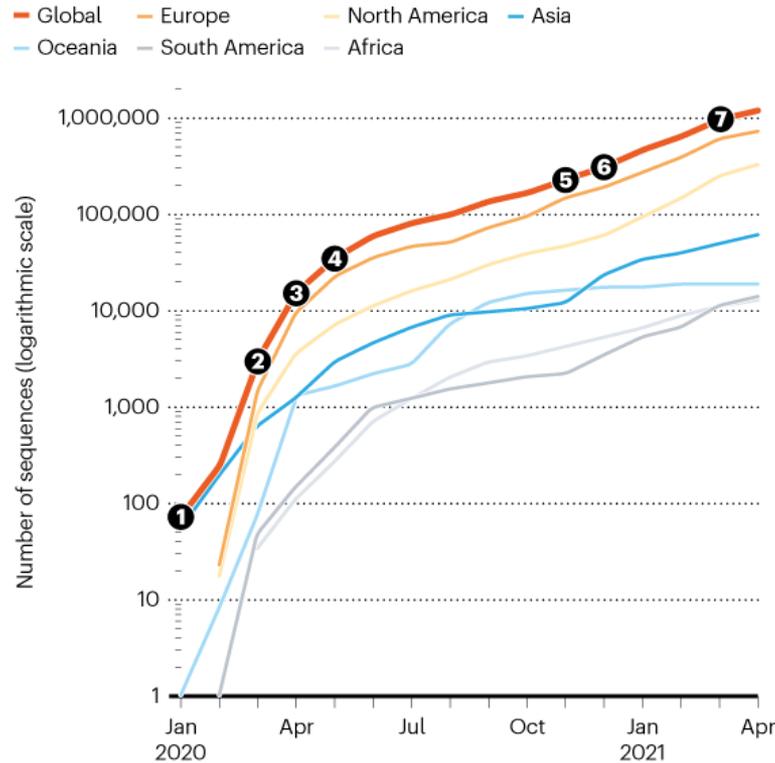
**...GLI ARTICOLI SERVONO  
SUBITO: PREPRINT!  
CON IL SISTEMA TRADIZIONALE  
AVREMMO VISTO I PRIMI  
ARTICOLI (SENZA DATI) SE VA  
BENE A DICEMBRE 2020  
(9-18 MESI TEMPI MEDI DI PUBBLICAZIONE)**

**LA PANDEMIA CI RICORDA CHE LO SCOPO  
DELLA RICERCA È FARE AVANZARE LA  
CONOSCENZA, NON SONO I NUMERI O IL  
NOSTRO EGO**

[data e CO

## COLLABORATION IN THE TIME OF COVID

More than one million SARS-CoV-2 genome sequences have been shared on the GISAID data-sharing platform since January 2020, and are helping researchers to track the spread of viral variants. Most are from the United States and Europe, but contributions come from every region of the world.



- 1 January:** First SARS-CoV-2 genome, from China.
- 2 March:** First African sequence, from Nigeria.
- 3 April:** Victoria, Australia, has 1,300 cases; 80% are sequenced, identifying clusters from cruise ships and hospitality venues.
- 4 May:** UK sequences 6% of cases, more than any other country.
- 5 November:** South African surge prompts intensified surveillance. Researchers find a widespread new variant — B.1.351.
- 6 December:** 40% of genomes sequenced in Manaus, Brazil, are of the P.1 variant, with mutations linked to increased transmissibility and immune evasion.
- 7 March:** US sequencing rate doubles, owing to a government mandate for surveillance and funding from the Centers for Disease Control and Prevention.

nature

2021

Explore content v About the journal v Publish with us v Subscribe

nature > news > article

NEWS | 23 April 2021

### One million coronavirus sequences: popular genome site hits mega milestone

# ... ma come funziona oggi la comunicazione scientifica?

FOCUS SOLO SUL PRODOTTO FINALE  
(ARTICOLO SU RIVISTA «PRESTIGIOSA»)  
PER RAGIONI DI VALUTAZIONE

PAGHIAMO OGNI ANNO 10 MILIARDI IN  
ABBONAMENTI A RIVISTE – PER CHIUDERE UN  
CONTENUTO PER IL QUALE NON VENITE PAGATI  
(AUTORI E REVISORI), CHE È STATO CREATO CON  
FONDI PUBBLICI

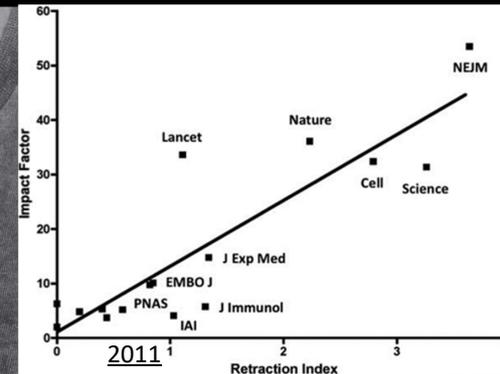
...ARRIVIAMO AD AVERE FINO AL  
70% DI STUDI NON  
RIPRODUCIBILI...

PERCHÉ LA VALUTAZIONE È  
DIVENTATA UN'OSSESSIONE E SI FA  
DI TUTTO PUR DI PUBBLICARE...  
«GAME THE SYSTEM»



... QUINDI **OGGI LEGGERE NON È GRATIS**:  
PAGHIAMO (IN REGIME DI  
ABBONAMENTO – NON IN OPEN ACCESS  
A PAGAMENTO) 3800/5000 \$ PER  
ARTICOLO – ESCLUDENDO DALLA  
LETTURA CHI NON HA ABBONAMENTO

... E 43% DI RITRATTAZIONI PER  
FRODE, CON UNA DIRETTA  
CORRELAZIONE  
#RITRATTAZIONI/JOURNAL  
IMPACT FACTOR



## Retraction Watch

Tracking retractions as a window into the scientific process

# [la valutazione sta cambiando]

- VALORIZZARE LA CONDIVISIONE
- CONSIDERARE TUTTI I RISULTATI (INCLUSO I DATI)

...I CRITERI DI VALUTAZIONE STANNO CAMBIANDO [ANVUR HA FIRMATO]

## Diversity, inclusiveness and collaboration

- Recognise the diversity of research activities and practices, with a diversity of outputs, and reward early sharing and open collaboration. Consider tasks like peer review, training, mentoring and supervision of Ph.D candidates, leadership roles, and, as appropriate, science communication and interaction with society, entrepreneurship, knowledge valorisation, and industry-academia cooperation. Consider also the full range of research outputs, such as scientific publications, data, software, models, methods, theories, algorithms, protocols, workflows, exhibitions, strategies, policy contributions, etc., and reward research behaviour underpinning open science practices such as early knowledge and data sharing as well as open collaboration within science and collaboration with societal actors where appropriate. Recognise that researchers should not excel in all types of tasks and provide for a framework that allows researchers to contribute to the definition of their research goals and aspirations.

## Agreement

**I believe in a research culture that recognises a diversity of contributions to science and society; that celebrates high quality and impactful research; and that values sharing, collaboration, integrity and engagement with society, transmitting knowledge from generation to generation.**

Mariya Gabriel

Commissioner for Innovation, Research, Culture, Education and Youth



## Coalition for Advancing Research Assessment

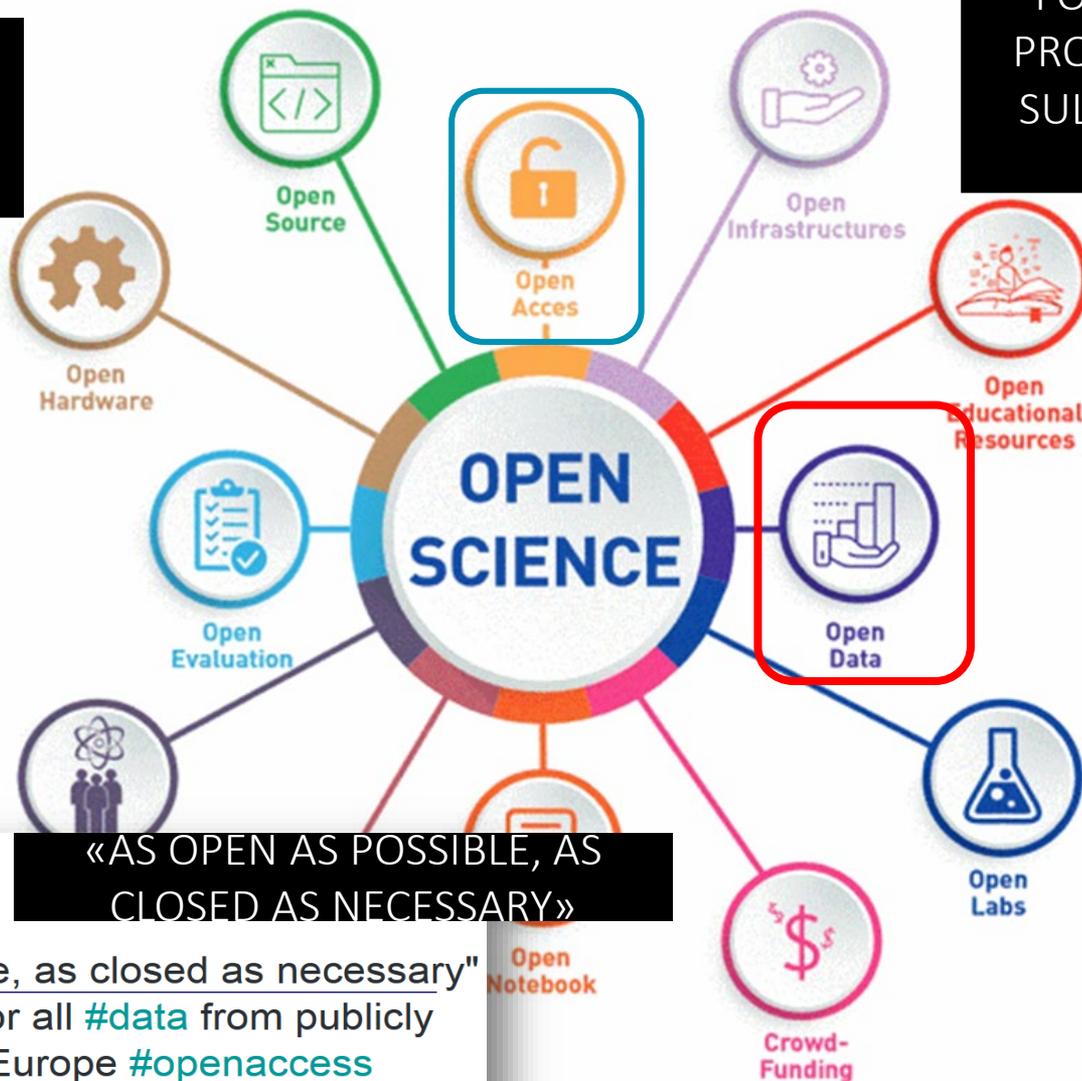
Our vision is that the assessment of research, researchers and research organisations recognises the diverse outputs, practices and activities that maximise the quality and impact of research. This requires basing assessment primarily on qualitative judgement, for which peer review is central, supported by responsible use of quantitative indicators.

...DA FIRMARE!!!

# ... per questo serve Open Science

OPEN SCIENCE ≠ OPEN ACCESS

FOCUS SULL'INTERO PROCESSO, NON SOLO SULLA SINTESI FINALE (ARTICOLO)



«AS OPEN AS POSSIBLE, AS CLOSED AS NECESSARY»

 Carlos Moedas   
@Moedas

2/4 "Open as possible, as closed as necessary" is the new principle for all #data from publicly funded #research in Europe #openaccess

RETWEET  
76

MI PIACE  
32



# [...Houston, abbiamo un problema

## 10 Myths around Open Scholarly Publishing March 11, 2019

<b>Myth 1</b> <b>Preprints will get your research 'scooped'</b> Preprints typically provide a time-stamp and a DOI, therefore establishing priority of discovery	<b>Myth 6</b> <b>Copyright transfer is required to publish and protect authors</b> Copyright transfer procedures do not protect authors nor contribute to the advancement of scientific progress
<b>Myth 2</b> <b>JIF and journal branding are measures of quality for researchers</b> The JIF is a flawed metrics that was never meant to be used for evaluation of research and researchers	<b>Myth 7</b> <b>Gold Open Access is synonymous with the APC business model</b> Most DOAJ-indexed journals do not have APCs and are funded from other sources, such as research institutes and grants
<b>Myth 3</b> <b>Approval by peer review proves that you can trust a research article</b> The current peer review system is prone to a number of flaws including corruption, human bias and ghostwriting	<b>Myth 8</b> <b>Embargo periods on 'green' OA are needed to sustain publishers</b> Traditional journals can peacefully coexist with zero-embargo self-archiving policies on author manuscripts
<b>Myth 4</b> <b>Without journal peer review, the quality of science suffers</b> Researchers are more than responsible and competent enough to ensure their own quality control as part of intrinsic scientific integrity	<b>Myth 9</b> <b>Web of Science and Scopus are global databases of knowledge</b> Neither represent the sum of current global research knowledge including Africa, Latin America and Southeast Asia
<b>Myth 5</b> <b>Open Access has created predatory publishers</b> Predatory journals have been around for a long time before the recent push towards Open Access publishing	<b>Myth 10</b> <b>Publishers add no value to the scholarly communication process</b> Publishers are responsible for quite some key functions, from peer-review management to production and archiving of final version articles

## CALENDARIO DELL'AVVENTO OPEN SCIENCE

1 dicembre



2 dicembre



3 dicembre



4 dicembre



5 dicembre



7 dicembre



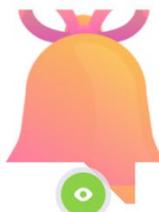
8 dicembre



9 dicembre



10 dicembre



11 dicembre



LA PERCEZIONE IN ITALIA:  
- OPEN SCIENCE=OPEN ACCESS  
- OPEN ACCESS=SOLO RIVISTE  
- SI PAGA SEMPRE PER PUBBLICARE  
- EDITORI PREDATORI

... e servono dati FAIR, ov



## FINDABLE

- IDENTIFICATIVI
- METADATI

## INTEROPERABLE

- STANDARD
- ONTOLOGIE

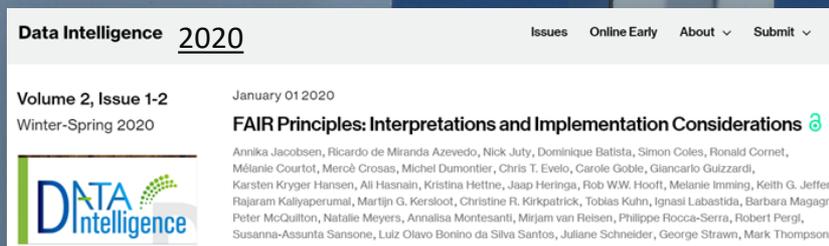
## ACCESSIBLE

- DOVE SONO CONSERVATI I DATI E A QUALI CONDIZIONI DI ACCESSO
  - NON «OPEN»
  - FORMATI APERTI

## REUSABLE

- LICENZE
- DOCUMENTAZIONE

IL TUTTO, MACHINE READABLE



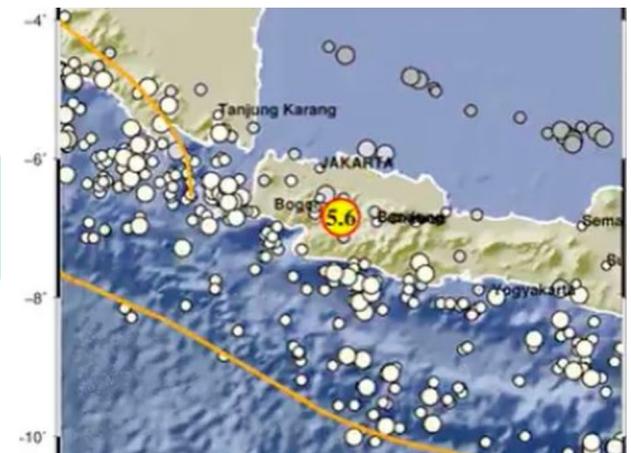
...il selfie...

How we can get those data

This was the best map that we can get (cited by the media)

Those data points are not really data points. They're just a selfie of data points.

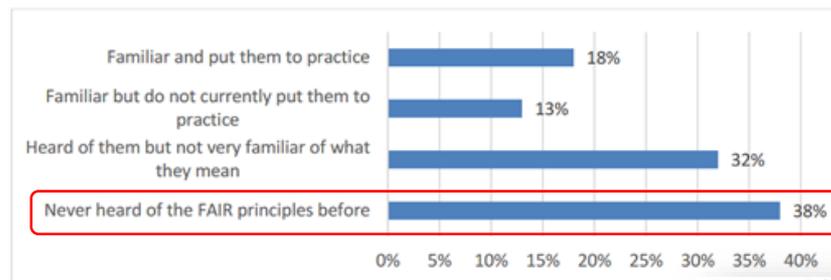
They're not reusable.



RICORDATE...  
SE I DATI  
NON SONO RIUSABILI  
SONO SOLO UN SELFIE DI DATI  
[Dasapta Erwin Irawan]

# Principi FAIR

Figure 18. Familiarity with the FAIR principles in relation to the management and sharing of data



Source: authors' own elaboration, based on unweighted researchers' survey data, N=11.849.



2022

## To be Findable:

- F1. (meta)data are assigned a globally unique and eternally persistent identifier.
- F2. data are described with rich metadata.
- F3. (meta)data are registered or indexed in a searchable resource.
- F4. metadata specify the data identifier.

...38% NON NE HA MAI SENTITO PARLARE

European Research Data Landscape



## TO BE ACCESSIBLE:

- A1 (meta)data are retrievable by their identifier using a standardized communications protocol.
- A1.1 the protocol is open, free, and universally implementable.
- A1.2 the protocol allows for an authentication and authorization procedure, where necessary.
- A2 metadata are accessible, even when the data are no longer available.

## TO BE INTEROPERABLE:

- I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
- I2. (meta)data use vocabularies that follow FAIR principles.
- I3. (meta)data include qualified references to other (meta)data.

## TO BE RE-USABLE:

- R1. meta(data) have a plurality of accurate and relevant attributes.
- R1.1. (meta)data are released with a clear and accessible data usage license.
- R1.2. (meta)data are associated with their provenance.
- R1.3. (meta)data meet domain-relevant community standards.

Force 11

«ACCESSIBLE»  
≠ «OPEN»  
= DOVE E A QUALI  
CONDIZIONI  
I DATI SONO  
ACCESSIBILI

... se non sono FAIR è rischioso  
che siano Open

OPEN

FAIR

GESTITI

1. I DATI DEVONO ESSERE «AS OPEN AS POSSIBLE»

2. MA SE I DATI NON SONO «FAIR», APRIRLI COMPORTA RISCHI  
(USO SCORRETTO, CATTIVE INTERPETAZIONI, ...)

3. MA SE I DATI NON SONO CORRETTAMENTE GESTITI, RENDERLI  
«FAIR» COSTA TROPPO TEMPO E DENARO. CON EOSC, DATI GESTITI E  
DATI FAIR TENDONO A COINCIDERE, FAIR BY DESIGN

E GESTIRE I DATI CORRETTAMENTE È NELL'INTERESSE PRIMARIO DI CHI FA RICERCA,  
PERCHÉ L'INTERA RICERCA SCORRE PIÙ FLUIDA

# Perché...EOSC is here to stay

## *Open Science is increasingly 'becoming the normal' at European, national and institutional levels*

- OS policies and investments are better aligned at European and national levels with demonstrated impact
- Open Science best practices, use cases and activities are catalogued and disseminated;
- A common Open Science monitoring mechanism is deployed, operated and feeds into the ERA Monitoring Mechanism; baselines and trends on investments, policies, digital research outputs, open science skills and infrastructure capacities related to EOSC are available

## *EOSC progressively enables a 'Web of FAIR data for science'*

- Policies are in place which require FAIR to be implemented including through Data Management Plans; DMPs are standardized across disciplines and can link to interconnected graph of science events
- FAIRification toolkits and quality description frameworks are available for further uptake by the research community
- A network of EOSC-federated, trustworthy FAIR-enabling repositories is available

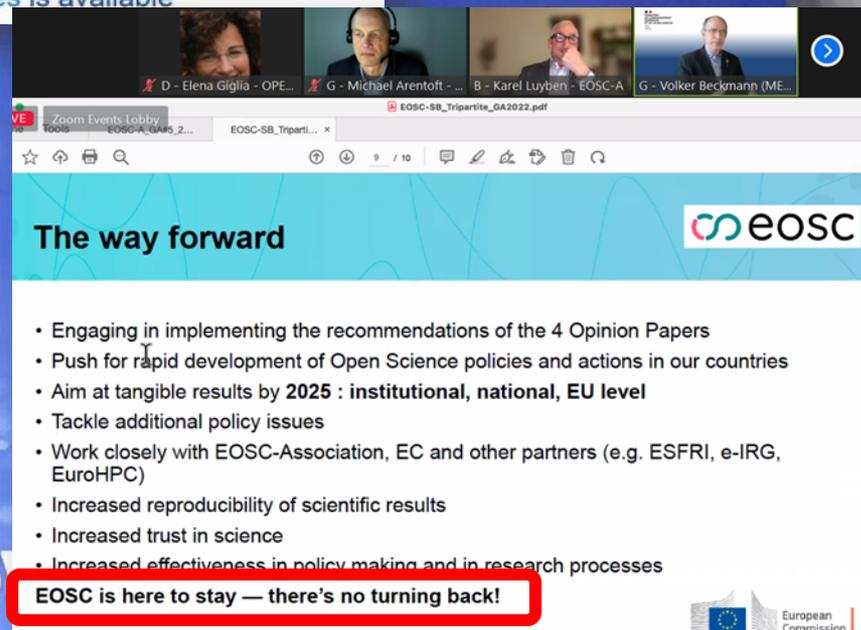


EOSC Association

## Advancing Open Science in Europe

What is the EOSC Association?

EOSC È IN FASE DI CREAZIONE  
OPEN SCIENCE STA DIVENTANDO  
«NEW NORMAL»  
EOSC ABILITA IL WEB DEI DATI E  
SERVIZI FAIR  
EOSC IS HERE TO STAY – THERE IS NO  
TURNING BACK



Zoom Events Lobby

EOSC-SB, Tripartite\_GA2022.pdf

## The way forward

- Engaging in implementing the recommendations of the 4 Opinion Papers
- Push for rapid development of Open Science policies and actions in our countries
- Aim at tangible results by 2025 : **institutional, national, EU level**
- Tackle additional policy issues
- Work closely with EOSC-Association, EC and other partners (e.g. ESFRI, e-IRG, EuroHPC)
- Increased reproducibility of scientific results
- Increased trust in science
- Increased effectiveness in policy making and in research processes

**EOSC is here to stay — there's no turning back!**

European Commission

# EOSC: il potenziale

...IL VALORE DEGLI OPEN DATA:  
ATTIVARE IL POTENZIALE DEI DATI DELLA  
RICERCA PER ACCELERARE PROGRESSO E  
INNOVAZIONE

## eosc EOSC Strategy – Status Current Thinking

What

**EOSC is a web of FAIR data and related services for research**  
Research data that is easy to find, access, interoperate and reuse (FAIR)  
Trusted and sustainable research outputs are available within and across scientific disciplines

Why

**Unlock the full potential of research data to accelerate discoveries and innovation**

How

### Access and interoperability of research data and results

- Define ownership, authorship and responsibility of data and research outputs
- Ensure long-term preservation of data throughout its lifecycle
- Enable the creation of standards for all research domains
- Make data machine-actionable
- Enable new scientific discovery methods and science disciplines
- Train researchers on adopting FAIR principles as an integral part in their activity

### A sustainable coordinated infrastructure

- Establish and maintain a coordinated federated reference architecture
- Implement an operational infrastructure framework that is long term sustainable
- Ensure high quality of data and services
- Ensure secure access to data and services
- Define clear standards for API and interoperability of data and services
- Apply user friendly practices
- Inspire EOSC ambassadors to assist in on-boarding of researchers

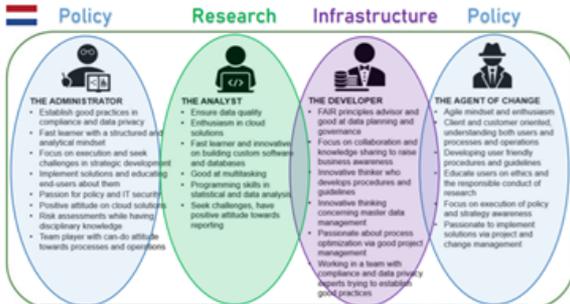
### Inspired people and robust governance

- Communicate an inspiring EOSC vision and strategy
- Implement an unambiguous and clearly mandated governance structure
- Establish a framework to engage human capital in institutions, countries and scientific communities
- Enable disciplinary and cross-disciplinary transnational research to find new insights from existing and new research data and outputs

# [per i dati FAIR servono data steward]

## Chi è il «data steward» (2)

### Profili professionali del data steward



### I «data steward»...

... hanno (preferibilmente) un PhD e possiedono nozioni su come i dati vengono gestiti in un dominio di ricerca specifico

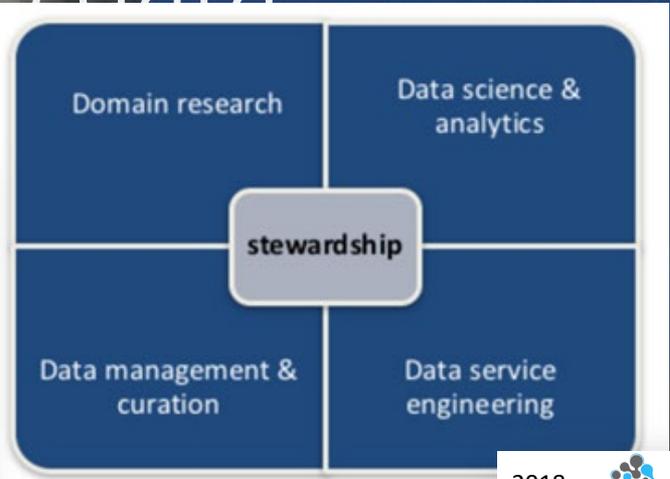
... possibilmente hanno esperienza pregressa in programmazione, sviluppo software, gestione di database e infrastrutture di ricerca, sicurezza dei dati

... hanno buone capacità comunicative, di insegnamento e organizzative

... possiedono nozioni su aspetti legali della gestione dei dati (privacy, proprietà intellettuale) ed etici

... comprendono la psicologia dei ricercatori e parlano lo stesso linguaggio specifico

... desiderano intraprendere un percorso di carriera che non è né puramente scientifico né tecnico



2018 EOSC pilot  
The European Open Science Cloud for Research Host Projects

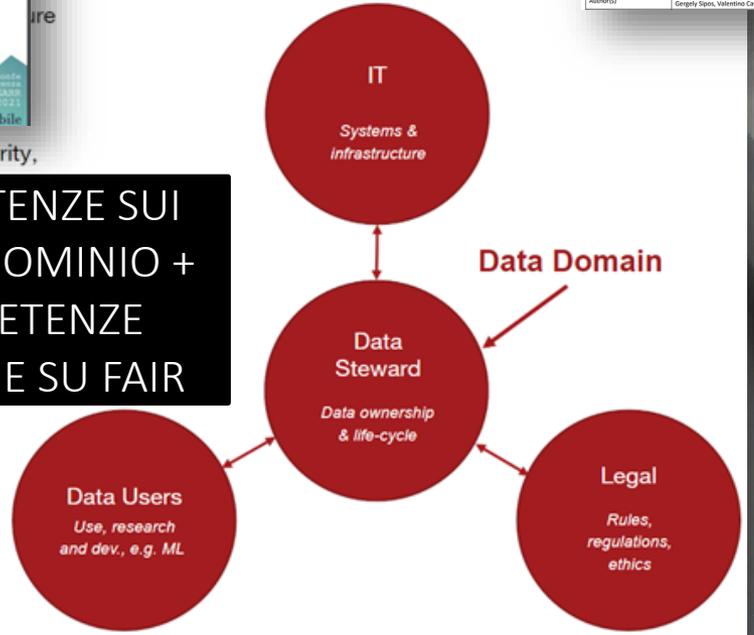
D7.3: Skills and Capability Framework  
Author(s) Angus Whyte, Arny de Vries, Rahul Tharot, Eileen Kuehn, Gregory Spos, Valerino Cavalli, Vasco Kabaiz, Kevin Ashley

«Data Steward» per i dati FAIR  
2021  
Valentina Pasquale<sup>1</sup>, Emma Lazzeri<sup>2</sup>, Elena Giglia<sup>3</sup>  
<sup>1</sup>Istituto Italiano di Tecnologia, <sup>2</sup>GARR, <sup>3</sup>Università di Torino

### Competence profile examples

- Domain-specific data understanding
- Ability to ensure that structured and unstructured data data is modelled, harvested, stored, and maintained in documented, and regulated fashion with focus and findability, accessibility, interoperability, and reusability.
- Competences to facilitate HPC (High Performance Computing) during development and research through handling of large-scale data in public and private enterprises.
- Understanding of and competences within legal, ethical and security aspects of data handling, data sharing, e.g., integrity and GDPR.

COMPETENZE SUI DATI DI DOMINIO + COMPETENZE TECNICHE SU FAIR



# ...e serve un Data Management Plan

DMP PREZIOSO PER

- FISSARE REGOLE COMUNI, CHI FA COSA
  - CALCOLARE **COSTI**
- EVITARE DI PERDERE DATI
- DIMOSTRARE **INTEGRITÀ DELLA RICERCA**



Open science it

**OPEN-SCIENCE.IT**

La scienza condivisa

E voglio informazioni su:



Gestione dei dati della ricerca

Sono un:



Ricercatore

- I dati dalla ricerca tra protezione e licenze per il riuso
- Gestire i dati, un compito fondamentale per se stessi e per gli altri
- Che cos'è il Data Management Plan
- Cosa sono i principi FAIR
- Data Management plan: strumenti e risorse utili

**DMPONLINE** Home Public DMPs Funder require

**Plan to make data work for you**

Data Management Plans that meet institutional funder requirements.



FAR LAVORARE I VOSTRI DATI

ICDI 2023 HOME CHI SIAMO

## Open Science Café

HOME / NEWS / COME SCRIVERE UN DMP

### Come scrivere un DMP

# Perché Open Data?

Oct. 2017

**Digital Science Report**

## The State of Open Data 2017

A collection of analyses and articles about open data, curated by Figshare

Foreword by Jean-Claude Burgelman

OCTOBER 2017

SONO COME ENERGIE  
RINNOVABILI: IL RIUSO  
NON DIMINUISCE IL  
VALORE, ANZI CREA  
VALORE

*"Open data is like a  
renewable energy  
source: it can be  
reused without  
diminishing its original  
value, and reuse  
creates new value."*

Horizon Europe (HORIZON  
Euratom Research and Training I  
(EURATOM))General Model Grant Agreement  
EIC Accelerator Contract

DE MGA - Multi &amp; Mixed

Version 1.0 (2020)

# IN HORIZON EUROPE I DATI DEVONO ESSERE FAIR - AS OPEN AS POSSIBLE

ANNEX 5

## COMMUNICATION, DISSEMINATION, OPEN SCIENCE AND VISIBILITY (— ARTICLE 17)

### *Open science: research data management*

The beneficiaries must manage the digital research data generated in the action ('data') responsibly, in line with the FAIR principles and by taking all of the following actions:

- establish a data management plan ('DMP') (and regularly update it)

following the principle 'as open as possible as closed as necessary'.

26.6.2019

IT

Gazzetta ufficiale dell'Unione europea

L 172

Open data directive

DIRETTIVA (UE) 2019/1024 DEL PARLAMENTO EUROPEO E DEL CONSIGLIO

del 20 giugno 2019

relativa all'apertura dei dati e al riutilizzo dell'informazione del settore pubblico

DATI DELLA RICERCA COME  
DATI DEL SETTORE PUBBLICO  
(DIRECTIVE 1024/2019) +  
D.Lgs 200/2021

generale può favorire la crescita economica e l'innovazione. Oltre all'accesso aperto, si stanno compiendo lodevoli sforzi per garantire che la pianificazione della gestione dei dati diventi una pratica scientifica standard e per favorire la diffusione di dati della ricerca reperibili, accessibili, interoperabili e riutilizzabili (principio «FAIR»).

(28) Per i motivi sopra esposti, è opportuno fissare per gli Stati membri l'obbligo di adottare politiche di accesso aperto in relazione ai dati della ricerca finanziata con fondi pubblici e di garantire che tali politiche siano attuate da tutte le organizzazioni che svolgono attività di ricerca e da tutte le organizzazioni che finanziano la ricerca. Le organizzazioni

## STRATEGIA EUROPEA PER I DATI (COMMUNICATION 66/2020)



EUROPEAN COMMISSION

2020

Brussels, 19.2.2020

COM(2020) 66 final

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

A European strategy for data

### 3. La visione

La visione della Commissione scaturisce dai valori e dai diritti fondamentali europei e dalla convinzione che l'essere umano sia e debba rimanere l'elemento centrale. La Commissione è convinta che le imprese e il settore pubblico dell'UE possano, tramite l'uso dei dati, disporre degli strumenti per adottare decisioni migliori. È particolarmente importante cogliere l'opportunità offerta dai dati per il bene sociale ed economico, poiché i dati, a differenza della maggior parte delle risorse economiche, possono essere copiati pressoché a costo zero e il loro utilizzo da parte di una persona o di un'organizzazione non ne impedisce l'utilizzo simultaneo da parte di un'altra persona o organizzazione. È opportuno mettere a frutto tale potenzialità per rispondere alle esigenze delle persone e creare di conseguenza valore per l'economia e la società. Per farlo, è necessario garantire un migliore accesso ai dati e un loro utilizzo responsabile.

# Il valore degli Open data

## Sharing Data

Sharing data

### 2. Why share data?

### Why share data



## Better research

- Demonstrates research integrity, as there is transparency and accountability in the production of the data being released
- Encourages research enquiry and debate
- Promotes innovation and potential new data uses
- Encourages the improvement of research methods
- Prevents research fraud

## UNA RICERCA MIGLIORE

- INTEGRITÀ
- DIBATTITO
- RIUSO INEDITO

## Better impact

- Enables peer scrutiny of the research findings, validating the work carried out
- Increases the visibility of the research
- Provides credit for the creation of the data in its own right
- Can lead to new collaborations
- Produces a public record of the research

## UN MAGGIORE IMPATTO

- VISIBILITÀ
- CREDITO
- COLLABORAZIONI

## Better value

- Avoids duplication of effort in data creation
- Provides resources for use in teaching and learning
- Meets funder requirements
- Ensures data can be re-visited for future research
- Maximises return on research investment
- Preparing data for sharing also prepares it well for preservation

## PIÙ VALORE

- EVITA DUPLICAZIONI
- MASSIMO RITORNO SU INVESTIMENTI

# Il valore degli Open Data / 2

Data creates a bridge between traditional disciplines, spawning discovery and innovation from the humanities to the hard sciences. Data dissolves barriers, opening up new channels of communication, lines of research, and commercial opportunities. Data will be the engine, the spark to create a better world for all.

World Economic Forum 2012

EOSC = TRASVERSALE

The slide features the EOSC logo and the text 'Item 08: Work Plan 2023' and 'Focus'. Below this is the subtitle 'Delivering Added Value / Partnerships and Data Spaces'. The main heading is 'Position of EOSC according to the European Commission'. A row of nine icons represents different sectors: Health, Industrial & Manufacturing, Agriculture, Finance, Mobility, Green Deal, Energy, Public Administration, and Skills. A red box highlights the text 'EOSC: a crosscutting data space for Research and Innovation'. At the bottom, a quote states: 'EOSC is the basis for a science, research and innovation data space that will bring together data resulting for research and deployment programmes and will be connected and articulated with the sectoral data spaces' (European Data Strategy, COM(2020) 66 final).

I DATI CREANO PONTI FRA  
LE DISCIPLINE...

Ana Persic, Sept.10 #OAI12

**Open Science** has the potential of increasing the quality of science and making the entire scientific process more transparent, collaborative and inclusive.

**Open Science** can accelerate progress towards SDGs and it can be a true game changer in bridging the science, technology and innovation gaps between and within countries and fulfilling the human right to science.



di SDG]



OPEN SCIENCE ACCELERA IL PROGRESSO VERSO SDG E GARANTISCE IL DIRITTO ALLA CONOSCENZA È «GAME CHANGER»



# Il valore degli Open data / 3

PENSATE ALLA RICERCA CLINICA: QUANTO SI PERDE SE NON SI CONDIVIDONO I DATI E LE RICERCHE NON SONO RIPRODUCIBILI?

- AL MEGLIO: FONDI SPRECATI PER RICERCHE INUTILI
- ALLA PEGGIO: RISULTATI NON VALIDI IMMESSI NEL CIRCUITO CLINICO

## Great values lost by not sharing data

*Lack of reproducibility well known problem in medical research.*

*Investigations in the US: Up to 50% of studies not reproducible. 25% of this caused by unavailability of data.*

*At best: Expensive research is of little or no value.*

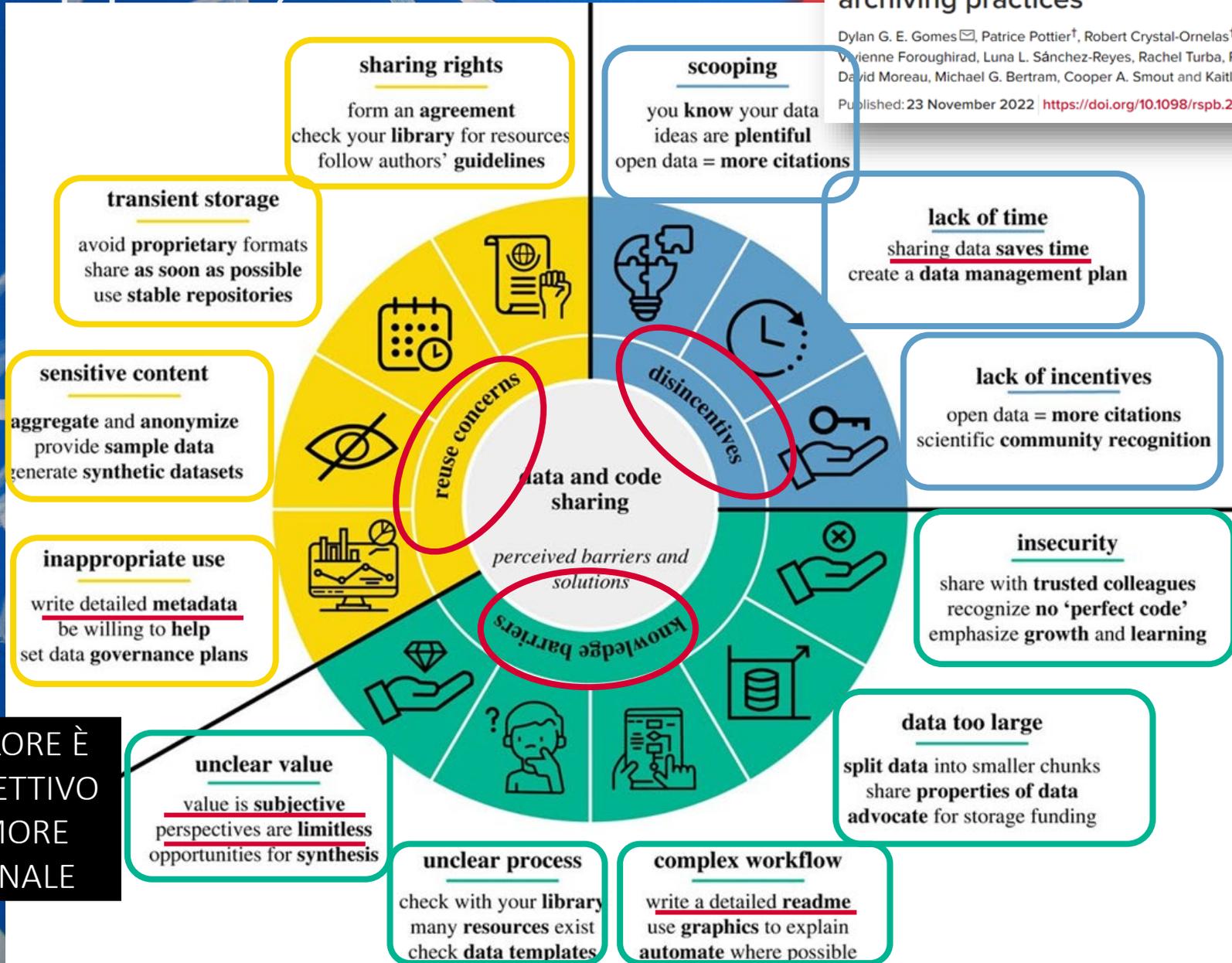
*At worst: Results of invalid research are put into clinical use.*



# Why don't we share data and code? Perceived barriers and benefits to public archiving practices

Dylan G. E. Gomes, Patrice Pottier, Robert Crystal-Ornelas, Emma J. Hudgins, Violette Foroughirad, Luna L. Sánchez-Reyes, Rachel Turba, Paula Andrea Martini, David Moreau, Michael G. Bertram, Cooper A. Smout and Kaitlyn M. Gaynor  
Published: 23 November 2022 | <https://doi.org/10.1098/rspb.2022.1113>

# ...eppure, ci sono resistenze

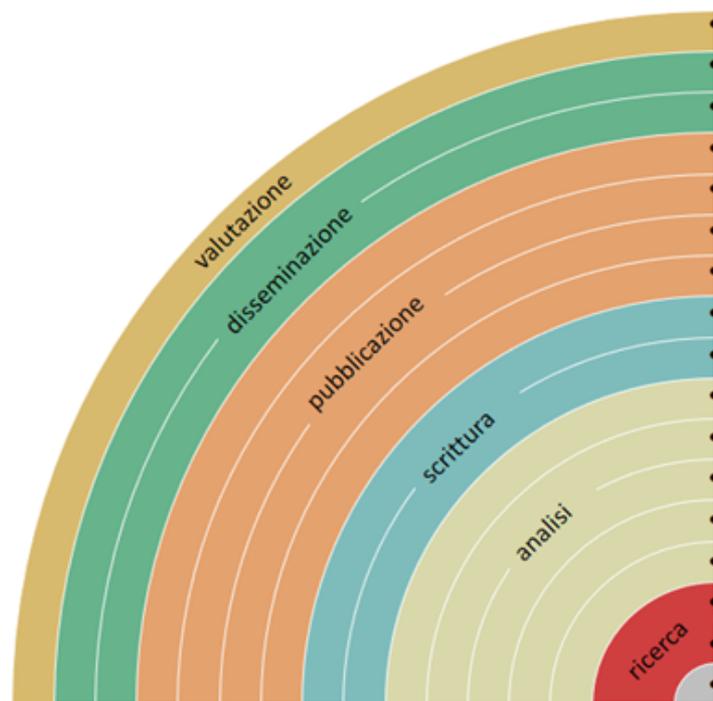


IL VALORE È  
SOGGETTIVO  
RUMORE  
/SEGNALE

# Open science: perché solo i dati?

OS rainbow

## Come rendere Open ogni passo della ricerca...



- aggiungendo misure di impatto alternative, es. [altmetrics](#)
- comunicando sui social media, es. [Twitter](#)
- condividendo poster e presentazioni, es. su [FigShare](#)
- utilizzando licenze aperte, es. [Creative Commons BY](#)
- depositando in [archivi](#) o pubblicando su [riviste Open](#)
- provando la open peer review, es. [PubPeer](#) o [F1000](#)
- condividendo preprints, su [OSFpreprint](#), [arXiv](#) o [biorXiv](#)
- con formati leggibili dalle macchine, es. [Jupyter](#) o [CoCalc](#)
- con la scrittura collaborativa, es. [Overleaf](#) o [Authorea](#)
- condividendo protocolli e workflow, es. su [Protocols.io](#)
- condividendo note di laboratorio, es. [OpenLabNotebook](#)
- condividendo software, es. su [GitHub](#) con licenza [GNU/MIT](#)
- condividendo i dati, es. su [Dryad](#), [Zenodo](#) o [Dataverse](#)
- pre-registrando esperimenti, es. [OSFregistry](#) o [AsPredicted](#)
- commentando pagine web, es. su [Hypothes.is](#) o [Pund.it](#)
- usando bibliografie condivise, es. su [Zotero](#)
- condividendo progetti di ricerca, es. su [RIO Journal](#)



TUTTO IL CICLO VA APERTO, NON SOLO I DATI  
...RICORDANDO CHE LA VALUTAZIONE STA CAMBIANDO...

# Ragioni per NON fare Open Science?

## Valid reasons not to participate in open science practices

Casper J. Albers\*

### Abstract

The past years have seen a sharp increase in the attention for open science practices. Such practices include pre-registration and registered reports, sharing of materials, open access publishing and attention to reproducibility of research. Despite the overwhelming amount of evidence highlighting the benefits of open science, some researchers remain reluctant. In this paper, I will outline valid reasons for researchers not to participate in open science practices.

### Discussion

There are no valid reasons.

GRAZIE!