

SESSION

# Crowd Powered Collaborations

June 24, 2020 | 16:00–17:30 CEST

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science



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Le site de presse de la BnF

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# Session Ground Rules

- **This session is recorded.** We'll share the recording and slides afterwards.
- **Questions for the speakers ?** Type them in the **Attendee Chat** on the left side of the screen. The chair will address these at the end of the session.
- **Technical issues.** Check your **settings** under the icon with the three dots, as well as your **internet connection**. No luck? Try to rejoin by closing your tab and reusing the link provided.

*Thank you for your attention and enjoy the session!*

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## SESSION

# Crowd Powered Collaborations

The session will be chaired by Anna Lundén, National Library of Sweden

- “Transcribing Marconi”: a citizen science project involving a research library. An Italian case study [Maria Cassella, University of Turin, Italy](#); [Assunta Arte, Library of the Research Area of the CNR of Potenza, Italy](#)
- Creating a single contact point for Citizen Science: The demands of researchers and the role of research libraries [Thomas Kaarsted, University Library of Southern Denmark](#), [Kristian Nielsen Hvidtfelt, University of Aarhus](#); [Torben Esbo Agergaard, University of Aarhus](#); [Anne Kathrine Overgaard, University of Southern Denmark](#)
- Open Science – the culture, the movement, the changes [Tiberius Ignat, Scientific Knowledge Services, Germany](#); [Dr. Bertil F Dorch, University of southern Denmark, Denmark](#)

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# Transcribing Marconi

a citizen science project involving a research library. An Italian case study

**Maria Cassella, Assunta Arte**



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# Citizen Science in Europe and in Universities

2015: ECSA, *Ten principles on citizen science*

2016: LERU, *Citizen science at universities: trends, guidelines and recommendations*

2018: Open Science Policy Platform, Citizens Science Working Group, *Recommendations of the OSPP on Citizen Science*

2019: LIBER Open Science Roadmap



# CS European projects

Socientize

DITOS -Doing it together with science

EU-Citizen.Science



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# Welcome to EU-Citizen.Science

The platform for sharing knowledge, tools, training, and resources for Citizen Science

We hope that you and your loved ones are healthy and safe in these challenging times. While many of us are under coronavirus lockdown, there is more than ever a strong need for high quality online resources and activities that can be used or done from home. We have therefore tagged the citizen science projects that can be joined from home

## Search for citizen science resources by category



# Key drivers in developing CS projects in libraries

- An active role in scholarly communication and open science;
- Strategic innovative vision;
- Belonging to a university involved in citizen science projects



# Third mission in Italy

## 4 main areas of action

Public engagement

Lifelong learning

Cultural heritage activities (exhibitions, virtual tours, Wikimedia projects, LOD projects)

Open Science/ Citizen Science

**The Italian National Research Assessment Agency (ANVUR) has introduced a few PI on academic libraries in the next National Research Assessment (2015-2019) and in the SUA TM/IS for the departmental assessment**



# Italian Research Council Libraries

## 1 Central Library in Rome

ISSN Italian centre

EDC (CDE) Centre

Member of Open Grey, The System for Information of Grey Literature in Europe

## 14 Area Libraries (all over Italy)

## 80 documentation centres



# CNR of Area of Potenza Library

1. Offers access to 122.000 ebooks and 5.000 journals
2. It is an European Documentation Centre
3. It is a hub for researchers in life science and humanities
4. Develops projects in scholarly communication and open science



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# Transcribing Marconi

A project led by the CNR of Potenza (Istituto di Struttura della Materia (CNR-ISM) and Istituto di Scienze per il Patrimonio Culturale (CNR-ISPC) in collaboration with the Library of the CNR of Potenza.

**External Partners:** Guglielmo Marconi Foundation, Accademia dei Lincei

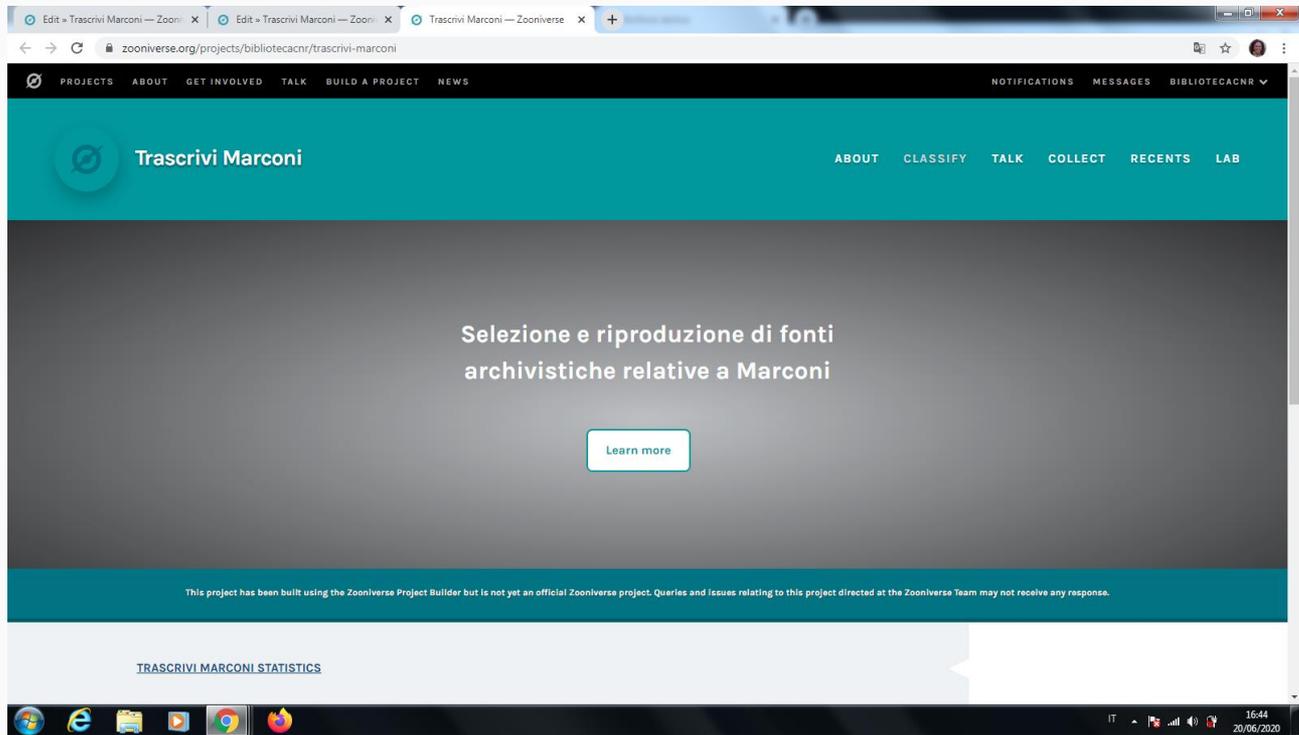
**Aim:**

To transcribe the Marconi's letters, documents and manuscripts in order to study him as scientist and as human being



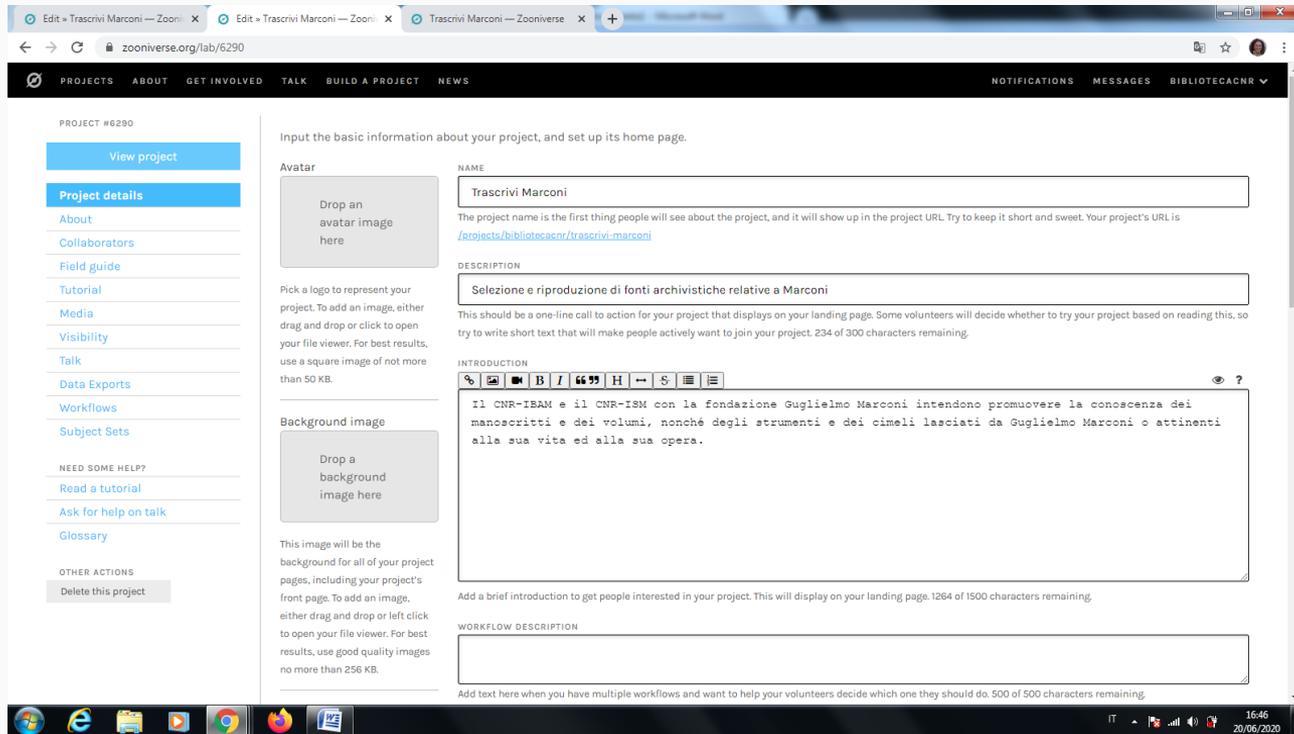
# The project 6 steps

1. Selection of the documentation (both in Italian and in English)
2. Implementation of the web platform on Zooniverse for the crowdfunded transcribing activity
3. Presentation and communication to the general public
4. Training activity
5. Transcribing activity
6. Evaluation of the results (quantitative and qualitative)



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# Citizen science is not only science

Transcribing Marconi is a CS project in SSH;

Only 11% of CS projects are devoted to SSH;

CNR is a multidisciplinary environment: SSH researchers offer long experience in co-working practice and data gathering; STM researchers have experiences and partnerships in CS projects

Loreta Taugienè et al., *Citizen science in the social science and the humanities: the power of interdisciplinarity*, Palgrave Communications, 2020



# The role of the library

## **Partnership.**

To hold the relationships with cultural institutions involved (CNR, Fondazione G. Marconi, B. Accademia dei Lincei) and schools

**Selection.** To identify, gather and select the documents

**Engagement.** To engage the schools involved in the transcribing activity

**Training.** To train the selected classrooms to transcribe at best documents

**Assessment.** To take part in the final assessment

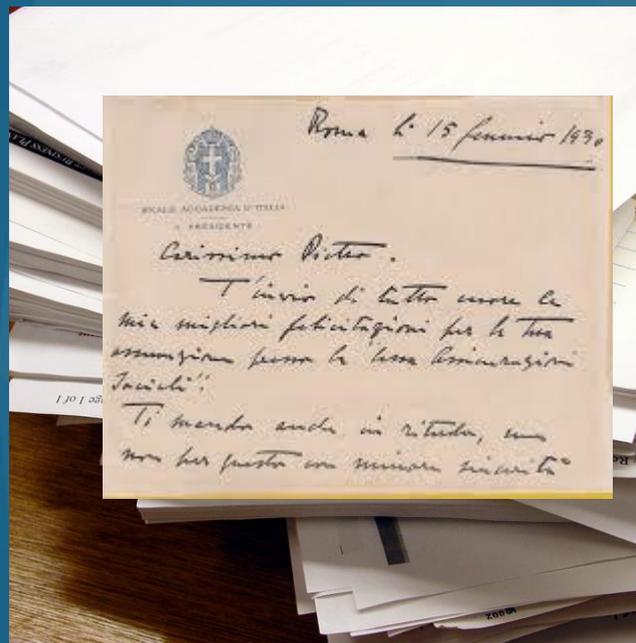


# Final points

- CS involvement is still in its infancy in academic Libraries in Italy

## Lessons learned

- Strong synergies with researchers
- Good partnerships with schools, public libraries, scientific museums and archives
- Strong staff motivation
- Strong attitude in working in innovative projects
- Soft skills



# Thank you

Maria Cassella  
University of Turin, Norberto Bobbio Library

[maria.cassella@unito.it](mailto:maria.cassella@unito.it)

Assunta Arte

CNR of Potenza Library

[assunta.arte@cnr.it](mailto:assunta.arte@cnr.it)



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# CREATING A SINGLE CONTACT POINT FOR CITIZEN SCIENCE

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The demands of researchers and  
the role of research libraries

# THE DEFF PROJECT

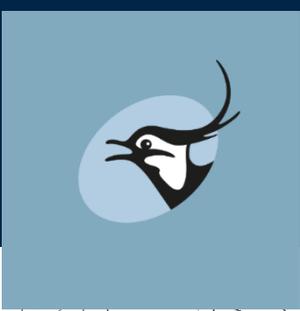
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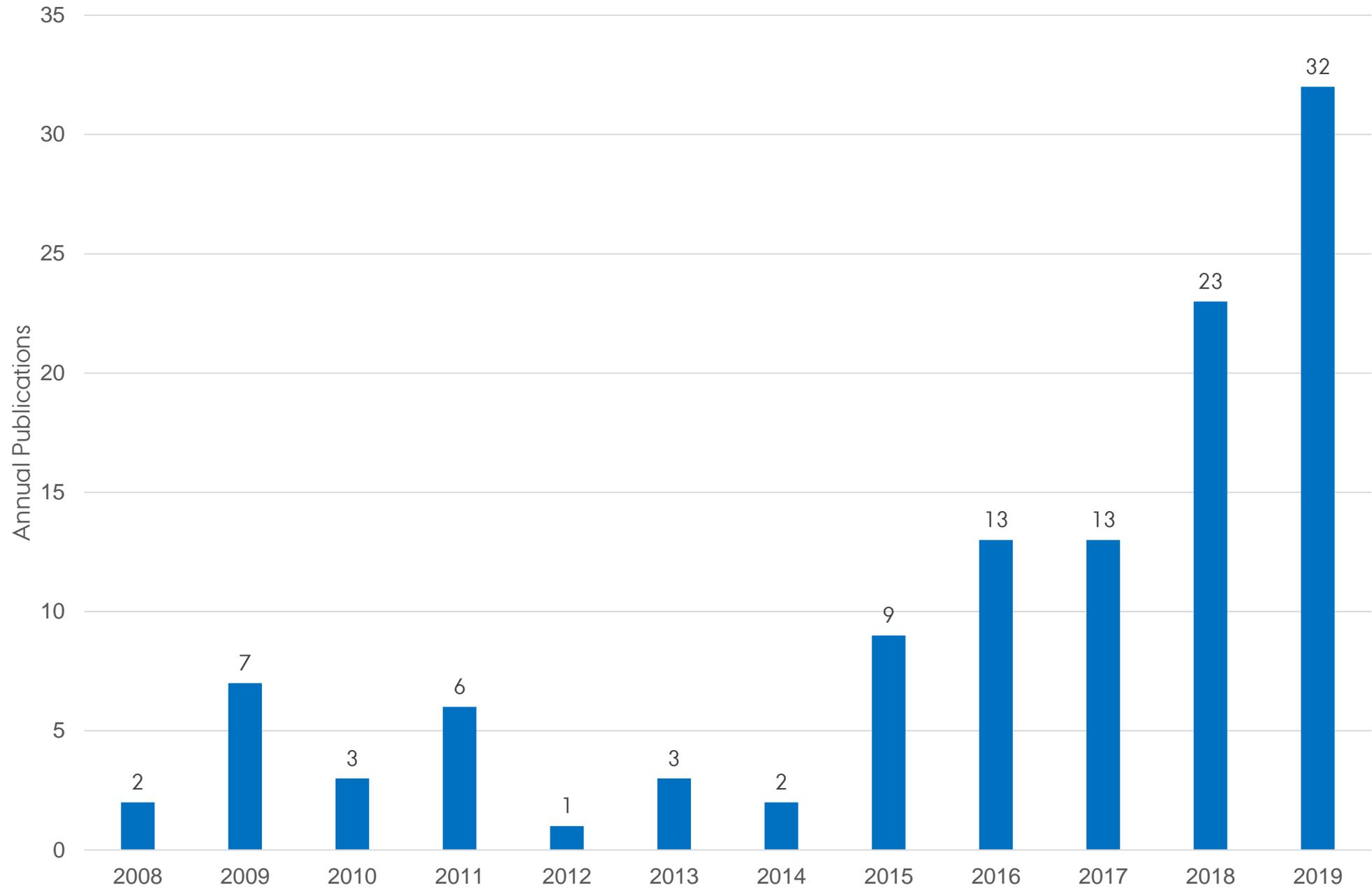
Denmark's Electronic Research Library  
(now discontinued)

## Project aims

- Mapping the Danish Citizen Science landscape
  - Projects, publications and actors
- Identifying opportunities, challenges and needs for the emerging Citizen Science field
- Identifying how research libraries can support and develop Citizen Science



# Citizen Science research publications





*Du kan tilgå den danske version ved at skifte sprog nederst på siden*

Thanks for your interest in our Citizen Science survey. We appreciate your feedback.

Citizen Science is a burgeoning field, and we would like to gain your thoughts and opinions in order to understand the state of the art and future developments.

The survey should take no more than 15 minutes to complete. The survey forms part of a larger project on Citizen Science, led by the University Library of Southern Denmark and funded by Denmark's Electronic Research Library (now discontinued).

The survey is conducted by scientific assistant Torben Esbo Agergaard (ta@css.au.dk) and associate professor Kristian Hvidtfelt Nielsen (khn@css.au.dk), both at the Centre for Science Studies, Aarhus University. Please let us know if you have any questions or encounter technical problems. The results will be published in an open access report.

The survey is fully anonymous, and the data will be stored at SurveyXact in full compliance with the Danish Data Protection Act and GDPR. Because your response is given anonymously you cannot withdraw it later. As you proceed, you will consent to these terms.

PREVIOUS

NEXT

## Respondents

- Research librarians and library managers
- Researchers or others active or interested in the CS field
  - Project organizers, members of the CS network, participants in the Citizen Science symposium, students enrolled in Citizen Science course



*Du kan tilgå den danske version ved at skifte sprog nederst på siden*

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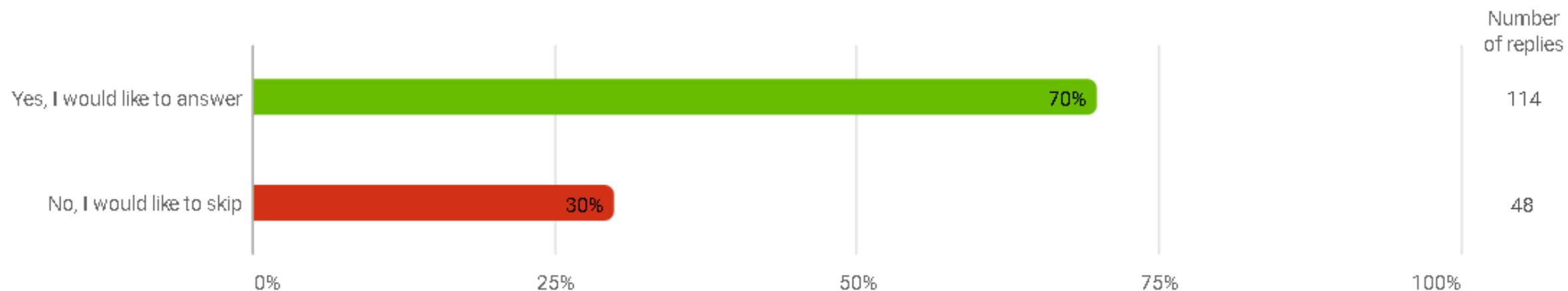
PREVIOUS

NEXT

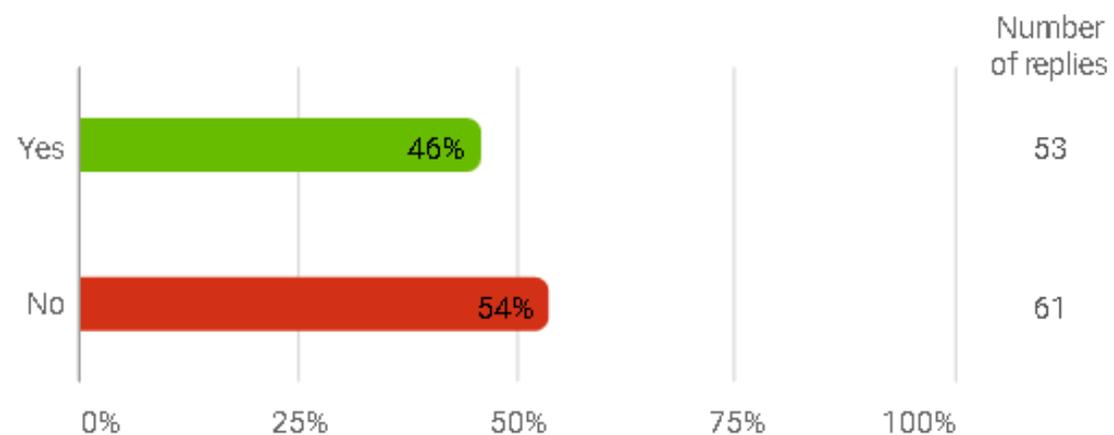
## Respondents

- Mailing lists, publicly available e-mail addresses and social media
- Respondents initiating the survey: 187
- Enrolled via e-mail: 114 of 205 invited (55.6%)

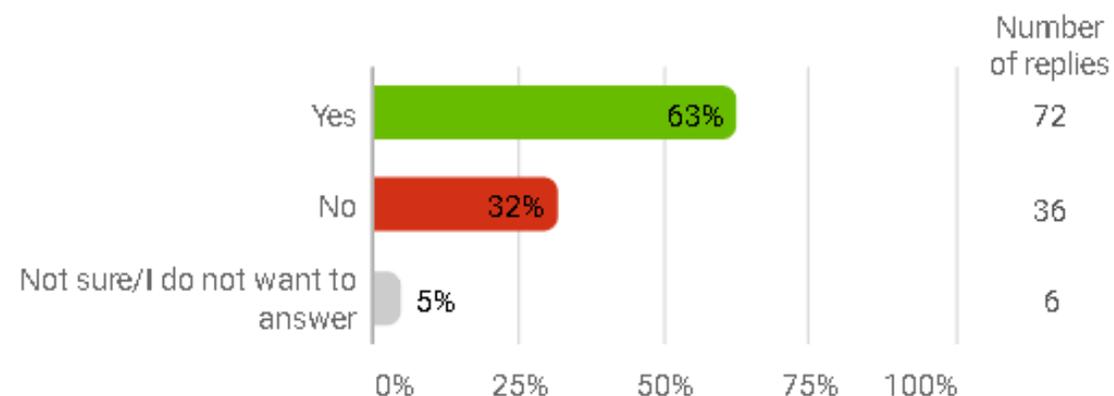
We would like to ask you questions about the role of research libraries in Citizen Science. Would you be willing to respond to these questions?



Are you employed at a research library?



Are you familiar with Citizen Science projects or initiatives where research libraries have contributed?



**Q: Please rate the following statements based on how much you agree/disagree? (n = 113)**

**Research libraries should give high priority to contributing to CS projects**



**CS projects would benefit from the contribution of research libraries**



**Research libraries are already giving high priority to contributing to CS...**



**Research libraries have the necessary competencies for contributing**



**Research libraries have the necessary financial resources for contributing**



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

■ Strongly agree  
 ■ Agree  
 ■ Neither/or  
 ■ Disagree  
 ■ Strongly disagree  
 ■ Don't know / no opinion

Below you'll find a list of tasks that research libraries can perform in order to support and develop Citizen Science. Please rank these tasks according to how important you find them.

No. 1 on your list should be the *most* important task, and no. 6 the *least* important task.

1. Communicate Citizen Science to the public 

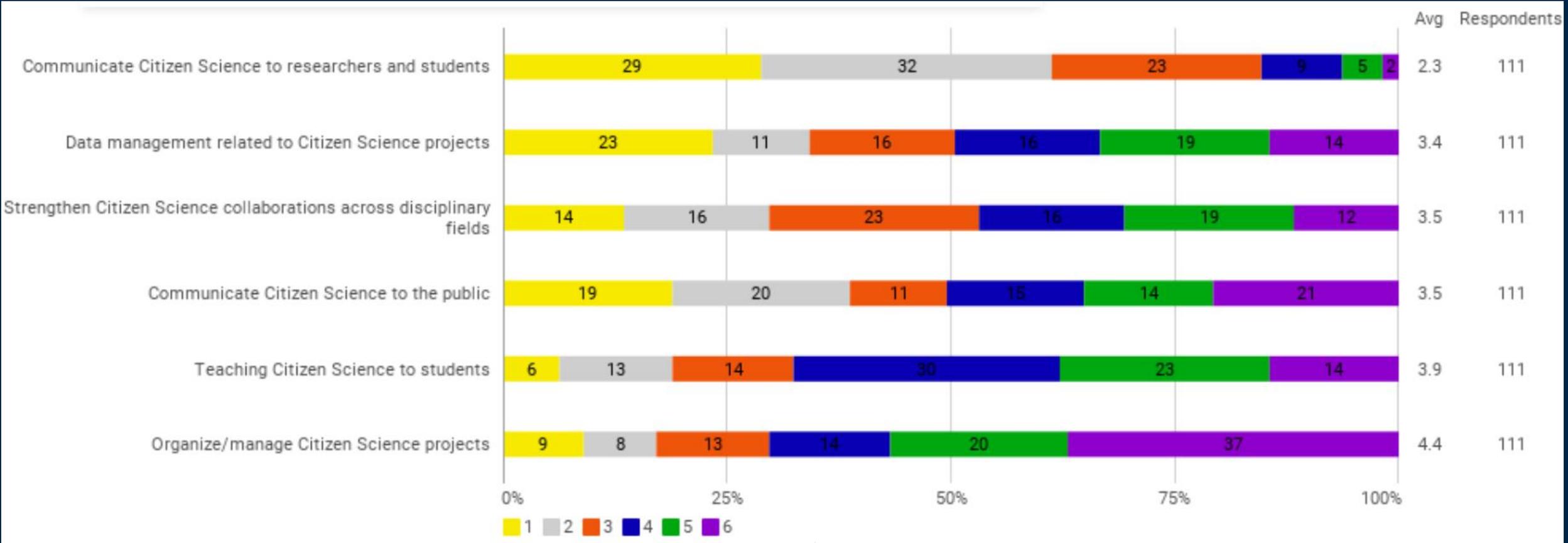
2. Communicate Citizen Science to researchers and students 

3. Teaching Citizen Science to students 

4. Data management related to Citizen Science projects 

5. Organize/manage Citizen Science projects 

6. Strengthen Citizen Science collaborations across disciplinary fields 



Task	Librarians (n=51)	
	Avg.	#1
Communicate CS to researchers and students	2.0	17
Data management related to CS projects	3.3	14
Communicate CS to the public	3.5	10
Teaching CS to students	3.8	3
Strengthen CS collaborations across disciplinary fields	4.0	4
Organize/manage CS projects	4.5	3

Task	Non-librarians (n=60)	
	Avg.	#1
Communicate CS to researchers and students	2.7	15
Strengthen CS collaborations across disciplinary fields	3.0	11
Data management related to CS projects	3.5	12
Communicate CS to the public	3.5	11
Teaching CS to students	4.1	4
Organize/manage CS projects	4.3	7

## Additional tasks

- Developing and clarifying “citizen science” as a term and method
- Counselling on GDPR
- Development of systems and technical solutions (e.g. software) across institutions
- Data cleaning in citizen science projects
- “All tasks are important at different stages”

# SUMMARY – MAIN POINTS

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## **Citizen Science in Denmark is an emerging field**

- Mostly biodiversity projects, but also many others
- Research institutions and NGOs play major roles

## **Research libraries can support and develop Citizen Science in many ways**

- Communication, data management, project planning, organization, and management, etc.

## **We need a “single point of contact”**





**This brief presentation addresses the work at SDU on how we organize Citizen Science. We include a few cases, and building on Hvidtfelt et. al. (forthcoming) as well as Ignat & Ayrís (2020) we discuss a future model and opportunities for research libraries.**

## Anne Kathrine Overgaard

- **Head of External Projects, the Faculty of Health Science, SDU**
- **Co-creator of the SDU Citizen Science Network**
- **Project Manager of several Citizen Science projects**
- **Member of the LIBER Citizen Science Working Group**



## Thomas Kaarsted

- **Deputy Library Director, SDU**
- **Co-creator of the SDU Citizen Science Network**
- **Project Manager of several CS-projects**
- **Project Manager of The Danish Research Libraries CS-project**
- **Vice-Chair of the LIBER Citizen Science Working Group**



# Citizen Science at SDU



# SDU committed in 2019 on the UN SDG's

**We want to help the world community create value by working together towards the UN Global Goals for Sustainable Development**

**We will develop skills and capabilities that encourage unique, innovative solutions for the benefit of a sustainable world**

**And we will contribute to moulding a sustainable future by breaking down boundaries and removing limitations**



nature > nature sustainability > perspectives > article



**nature**  
**sustainability**

Perspective | Published: 09 October 2019

# Citizen science and the United Nations Sustainable Development Goals

Steffen Fritz , Linda See, [...] Sarah West

*Nature Sustainability* **2**, 922–930 (2019) | [Cite this article](#)

**5525** Accesses | **1** Citations | **290** Altmetric | [Metrics](#)



An [Author Correction](#) to this article was published on 18 October 2019

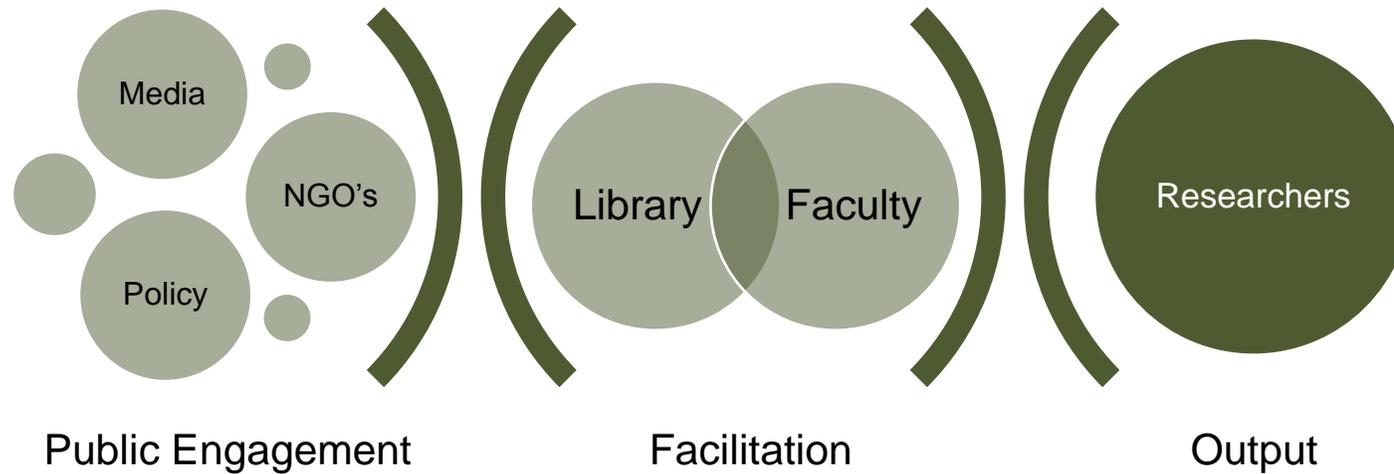


In Denmark, Citizen Science is often used for data collection and mapping of nature areas, but at SDU we see Citizen Science as more than that.

Citizen Science is about generating interaction and dialogue between citizens and researchers, thereby reducing the distance between them in order to encourage a debate based on knowledge and facts.

The Power of Many. The Citizen Science Network is a partnership between the faculties at SDU, Odense University Hospital, University Library of Southern Denmark and SDU RIO.

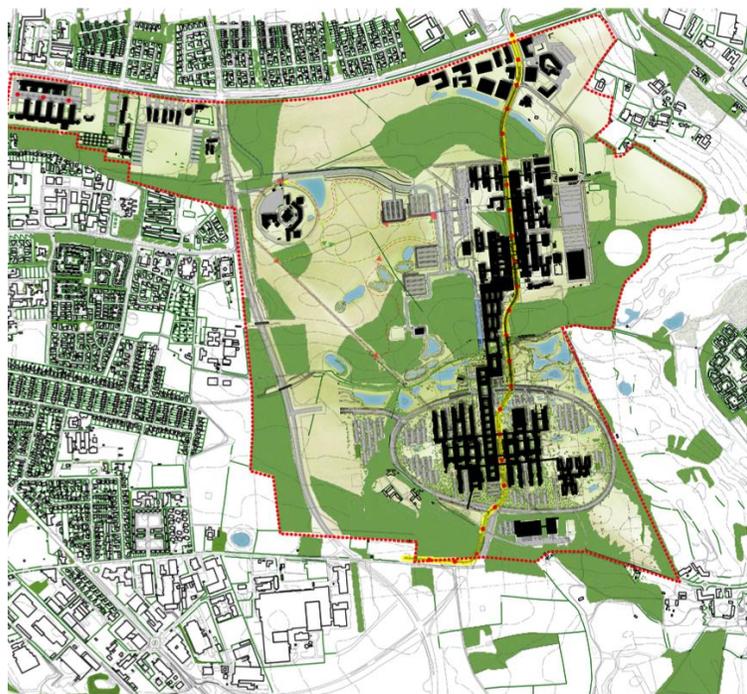
# A NETWORK OF PARTNERS



# What do we do ... exactly?



20. august 2018



## Campus Odense Active Living

**Aim: To include the city of Odense in an outdoor living lab on 80 HA land around the university.**

**Media partner: Fyens Stiftstidende**

**Collaborative proces.**

**More than 1.000 input from citizens, employees, students and civil society.**





# Litteraturen rykker ud <sup>SDU</sup>

TV2/FYN

OUH  
Odense Universitetshospital  
Svendborg Sygehus

SDU

## Narative Medicine

Seeing the person behind the diagnosis

Literature as tool for dialoggue

Hospital personel and citizens

Workshops

Online blog for data collections

Public hearing on results

Media partner: TV2/Fyn



# Bring Your Own Device

**A Citizen Science partnership within EOL and the recycling of electronic waste**

**A university, a media outlet, 4 municipalities, 11 private sector partners, repair cafés**

**Unique research data: incl. 17 containers full of e-waste**

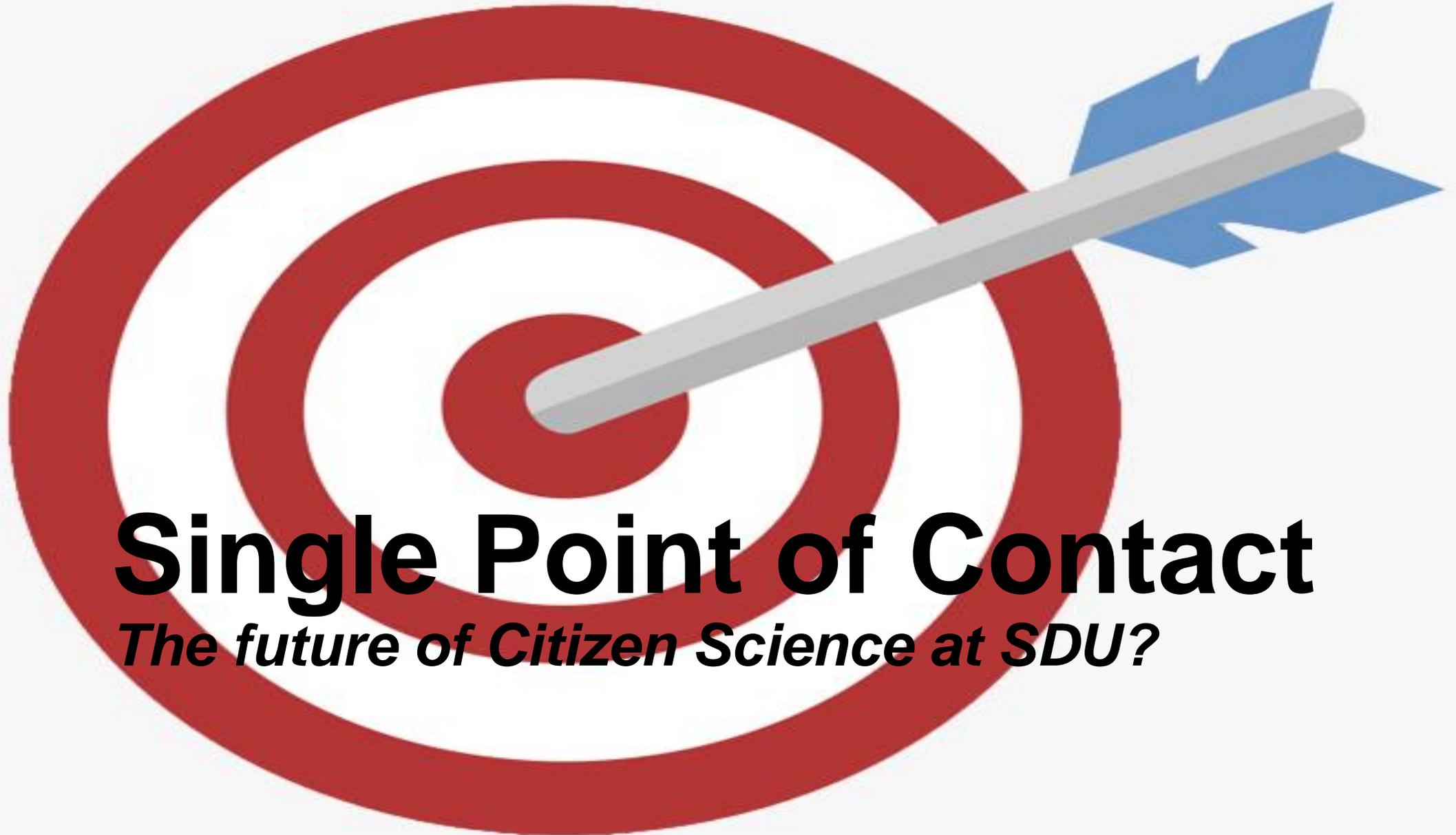
**Dissemination of scientific information to the public**

**A reach of +150.000 across platforms**

**The Power of Many: Know your partners!**

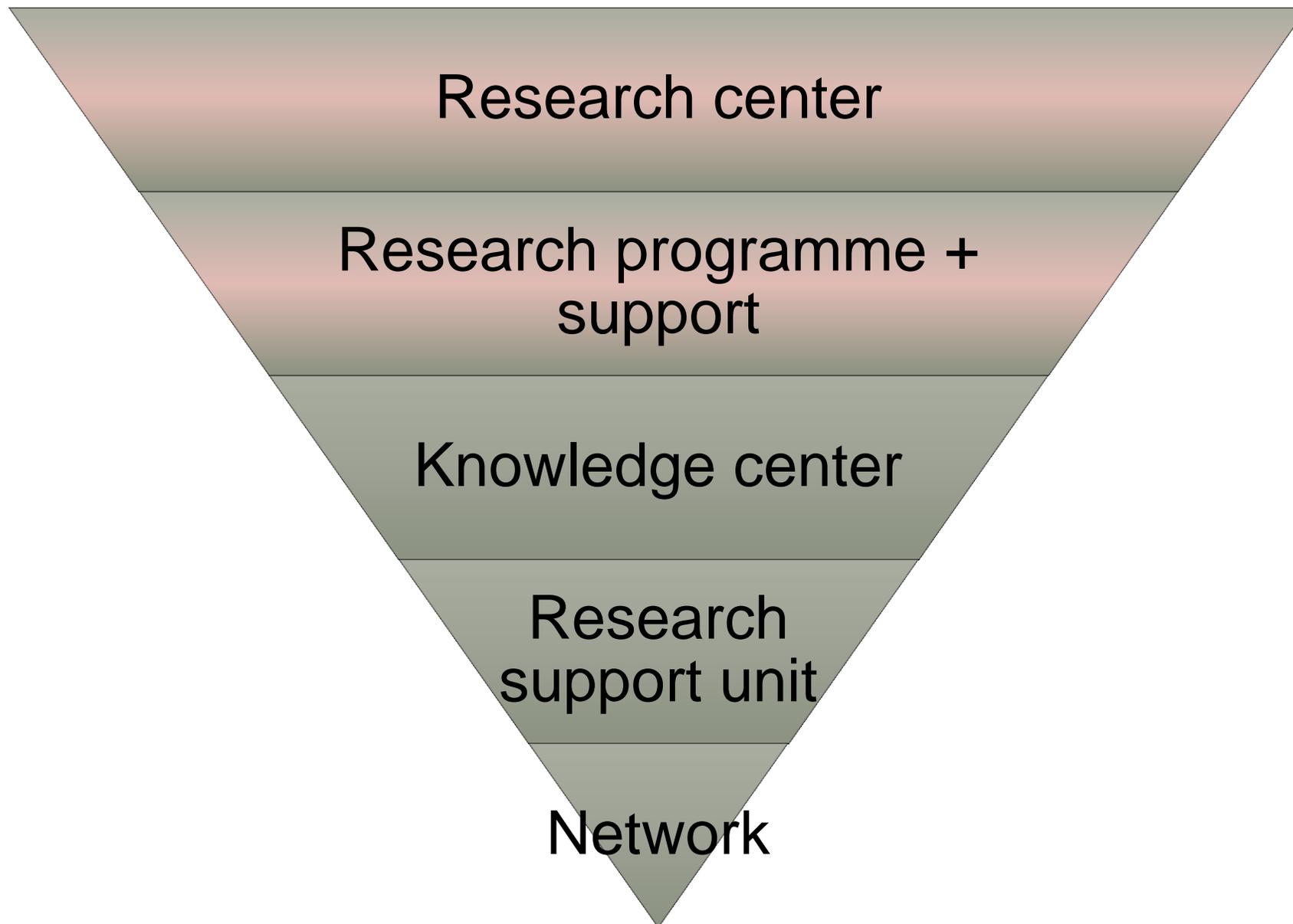
**Media partner: TV2/Fyn**





# **Single Point of Contact**

*The future of Citizen Science at SDU?*



# Points of observation before moving on...

*Building partly on: Hvidtfelt et al. (forthcoming)*

**BESPOC:** Single Point of Contact (Ignat & Ayrís 2020)

**Advocacy is really important** – internally og externally

**Go-Netween:** Libraries can tie universities and society closer together

**Not One Size Fits All** – Each libbary needs to know it's own university and find it's own solotion

**Should I Stay Or Should I Go** – libraries need to make a commitment to Citizen Science in order to succeed

**Recuce complexity** (for staff): Be clear and to the point on services and roles

**Get out of the silo** – our mother institutions and the outside world don't care how we organizie a library

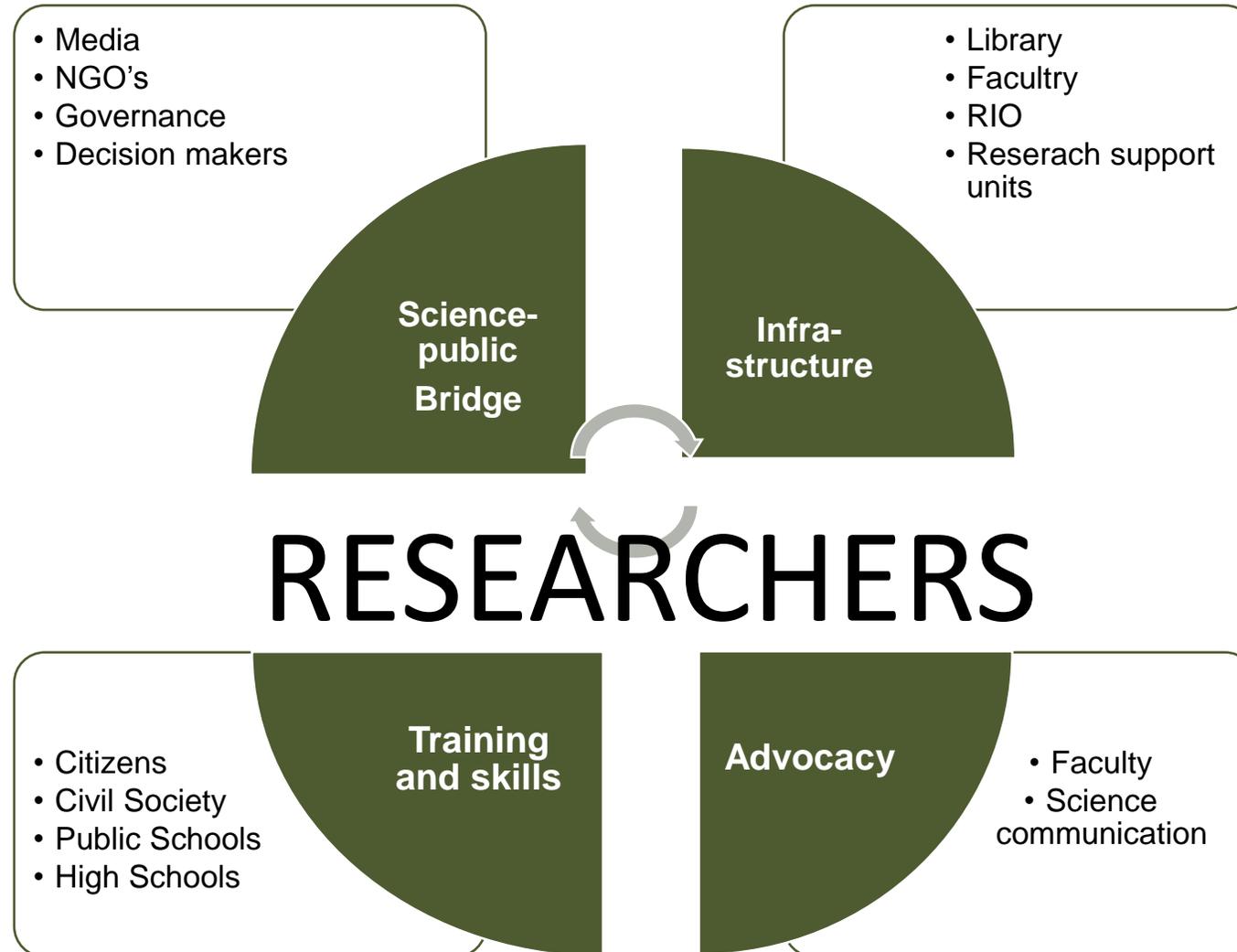
**Existing competences** can be "translated" or merged into Citizen Science

**'Scientific literacy'** – getting buy in from citizens (including public schools and high schools) and enhancing the learning expeirience in order to create knowledge could be a core competence for libraries.

**Cross-disciplinary reserach** – libraries is a neutral partner in order to get researchers to work together in new settings.

# KNOWLEDGE CENTER FOR CITIZEN SCIENCE

A Gateway between society and university?



## REFERENCES

Golumbic, Yaela et al. (2020): “Science literacy in action: understanding scientific data presented in a citizen science platform by non-expert adults”. *International Journal of Science Education, Part B. Communication and Public Engagement*. <https://doi.org/10.1080/21548455.2020.1769877>

Agergaard, Torben E, Kragh, Gitte, and Nielsen, Kristian H. (forthcoming). *Report and recommendations on the Danish Research Libraries and their possible roles in Citizen Science*.

Ignat, Tiberius, and Paul Ayriss. 2020. “Built to Last! Embedding Open Science Principles and Practice into European Universities”. *Insights* 33 (1): 9. DOI: <http://doi.org/10.1629/uksg.501>

# Open Science

The Culture. The Movement. The Changes



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[@astronerd](https://twitter.com/astronerd)

# Science

Search for Truth

Explore Bizarre

Tell the Inconvenient Findings

# Scientific Discoveries

Agreement on what we TRUST

## Scientific Discoveries

Agreement on what we TRUST

It requires TRANSPARENCY

Truth

OPEN DISCLOSURE

# Truth

# OPEN DISCLOSURE

Example: The 21 Words Solution:

‘We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study’

# Science

AGREED TRUTH

TRANSPARENCY, DISCLOSURE

Right to VISIT the BIZZARE

Right to BE INCONVENIENT

TRUST



Open Science  
- The Culture -

# The **SECRECY** of Science

Open Science  
- The Culture -

# The **SECRECY** of Science

Secrecy is a tradition of Science

# The **SECRECY** of Science

Secrecy is a tradition of Science

Open Science to deal with Hermeticism

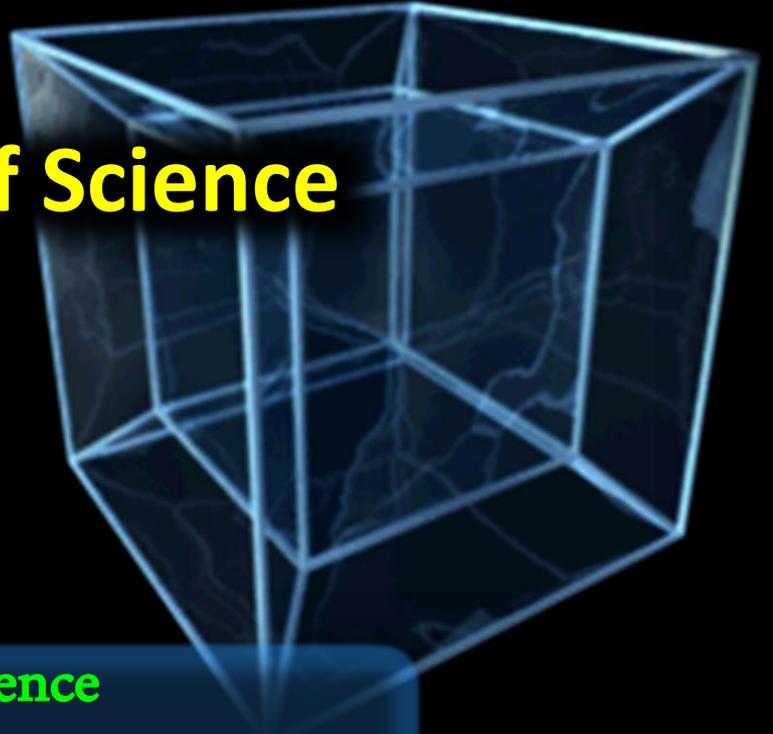


# SCIENCE

Open Science  
- The Culture -

# SCIENCE

## The **SECRECY** of Science



Open Science  
- The Culture -

# The AUTONOMY of science

Open Science  
- The Culture -

# The **AUTONOMY** of science

Science as a commissioned activity

# The **AUTONOMY** of science

Science as a commissioned activity

Science:

Search for Truth

Explore Bizarre

Tell the Inconvenient Findings

# The **AUTONOMY** of science

Science as a commissioned activity



Science:

Search for Truth,  
Explore Bizarre,  
Tell the Inconvenient Findings

# AN AUTONOMOUS SPACE FOR SCIENCE



2020, Le Monde:

Sylvain Laurens: “Il est dommage qu’un certain rationalisme ne s’interroge plus sur ce qu’est la science.”

# SCIENCE

The **SECRECY** of Science

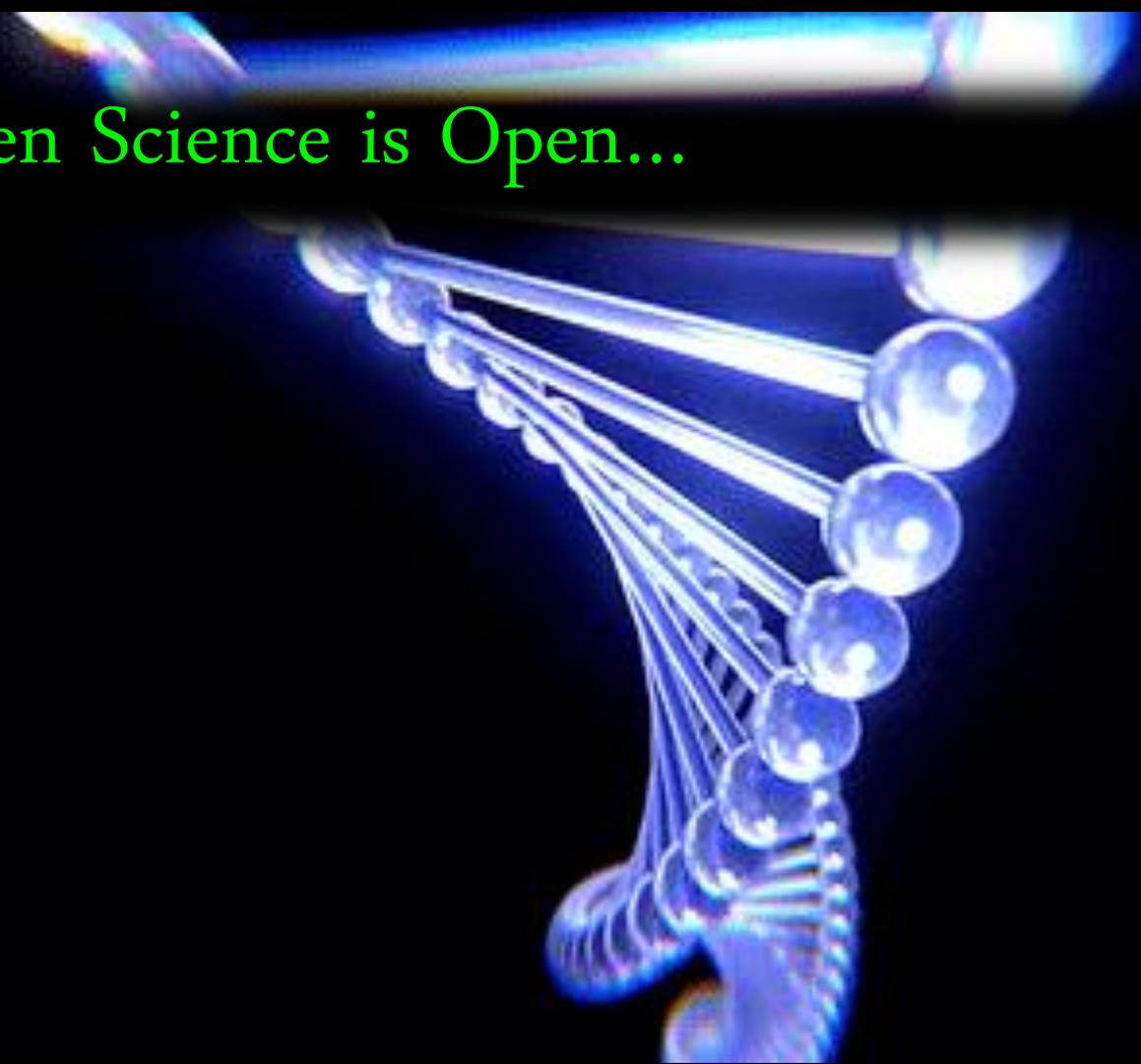
The **AUTONOMY** of Science

Open Science  
- The Culture -

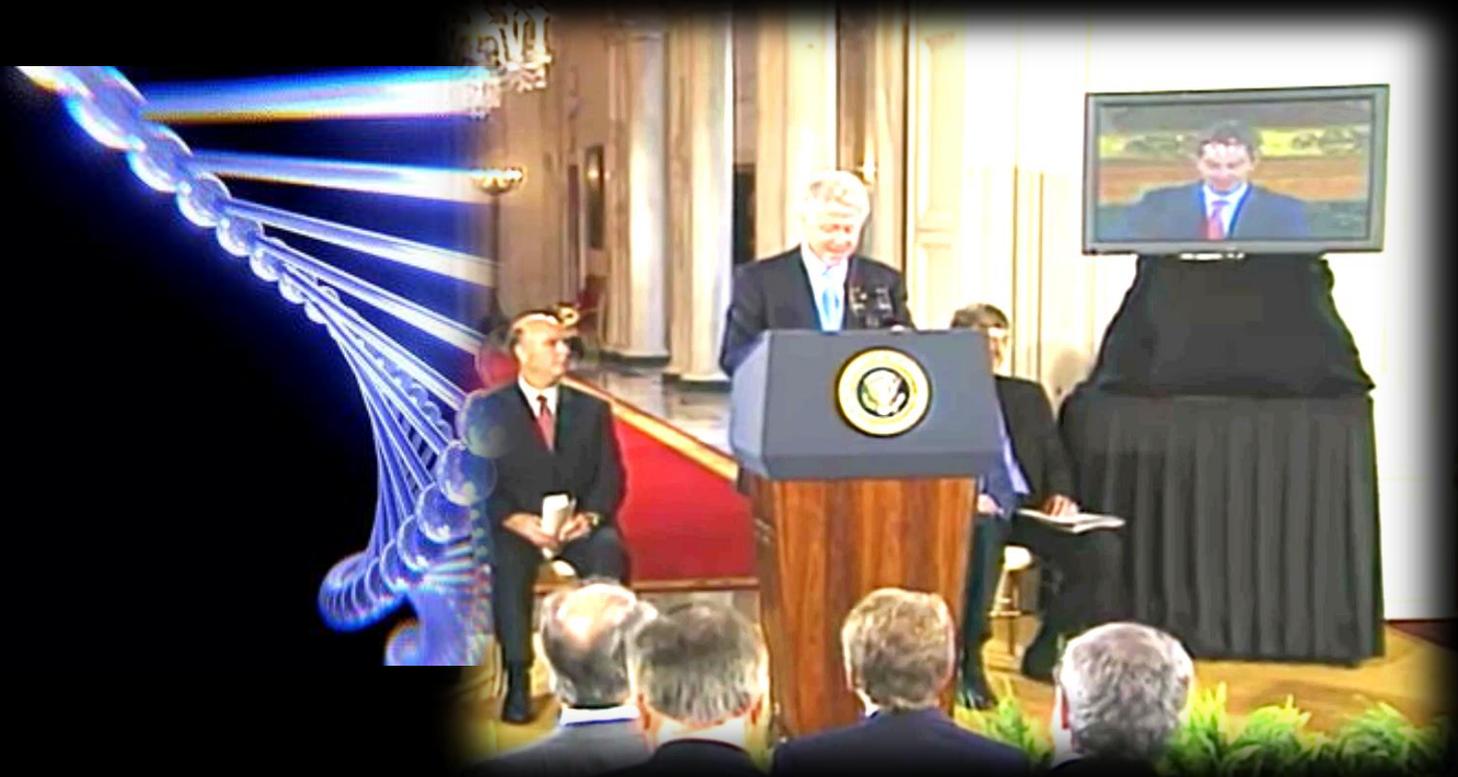
# The COLLABORATION

Open Science  
- The Culture -

# When Science is Open...



# When Science is Open...



ORBO

# When Science is Open...



...realize the full promise of this research, raw data on the human genome, including

# When Science is Open...



# SGC



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A public-private partnership that supports the discovery of new medicines through open access research.

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# When Science is Open...

## The Cambridge Structural Database (CSD) in Numbers

17 April 2019

The Cambridge Crystallographic Data Centre, Cambridge, CB2 1EZ, UK. E-mail: [admin@ccdc.cam.ac.uk](mailto:admin@ccdc.cam.ac.uk) Web: <http://www.ccdc.cam.ac.uk>



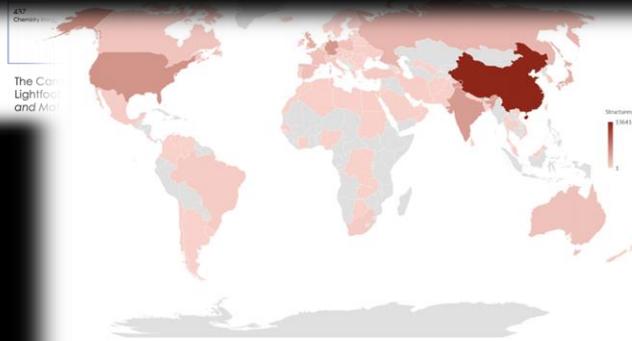
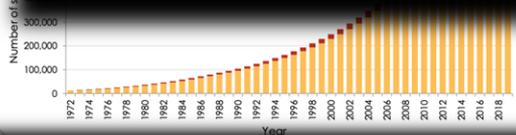
### DATABASE

A database of organic and metal-organic experimental structures.

### SCIENCE

### PEOPLE AND PLACES

# Cambridge Crystallographic Data Centre



Map showing the country of the crystallographer for structures deposited with the CCDC in 2018

United States

Germany

India

Japan

UK

Russia

Spain

France

Australia

From Crystal Structures to Patients.

Authors:  
Simon Black  
Suzanne Lipp, Chester  
Rob Willey  
CCDC, Cambridge  
JANUARY 2020



# When Science is Open...



[About](#) [Data Hubs](#) [Related resources](#) [Our partners](#) [Submit data](#)

[Sequences](#) [Expression](#) [Proteins](#) [Structures](#) [Compounds](#) [Targets](#) [Literature](#)

Accelerating research through data sharing

## EC COVID-19 DATA PORTAL

### Sequences [→](#)

Raw and assembled sequences related to the COVID-19 outbreak, including outbreak isolates and records relating to coronavirus biology. Includes extensive sampling information.

[54,345 records >](#)

### Expression data [→](#)

Gene and protein expression data of human genes implicated in the virus infection of the host cells. Identifying cell types and genes with highest expression in SARS-CoV-2 infections.

[53 records >](#)

### About this portal

The COVID-19 Data Portal was launched in April 2020 to bring together relevant datasets for sharing and analysis in an effort to accelerate coronavirus research. It enables researchers to upload, access and analyse COVID-19 related reference data and specialist datasets as part of the wider European COVID-19 Data Platform.

# SCIENCE

The **SECRECY** of Science

The **AUTONOMY** of Science

The **COLLABORATION** in Science

Open Science

- The Culture -

# The COMPETITION and The R. METRICS

Open Science  
- The Culture -



Are Research Metrics the root of transformation to Open Science?

# The Guardian, 2018

## Margaret Heffernan: 'The more academics compete, the fewer ideas they share'

Anthea Lipsett

The entrepreneur and author on how universities can create a healthy working culture



▲ "If I were a chief executive where there was no trouble-making, I'd be scared for my life." Photograph: Margaret Heffernan

## Is competition driving innovation or damaging scientific research?

When a colleague with shaky data raced a competitor to be first to publish, I saw how the perverse incentives in research work



▲ 'I was shocked at how ideas that were questionable one week could be acceptable the next.' Photograph: Blend Images - ERproductions Ltd/Getty Images

What Do Researchers Think ?



# What Do Researchers Think ?

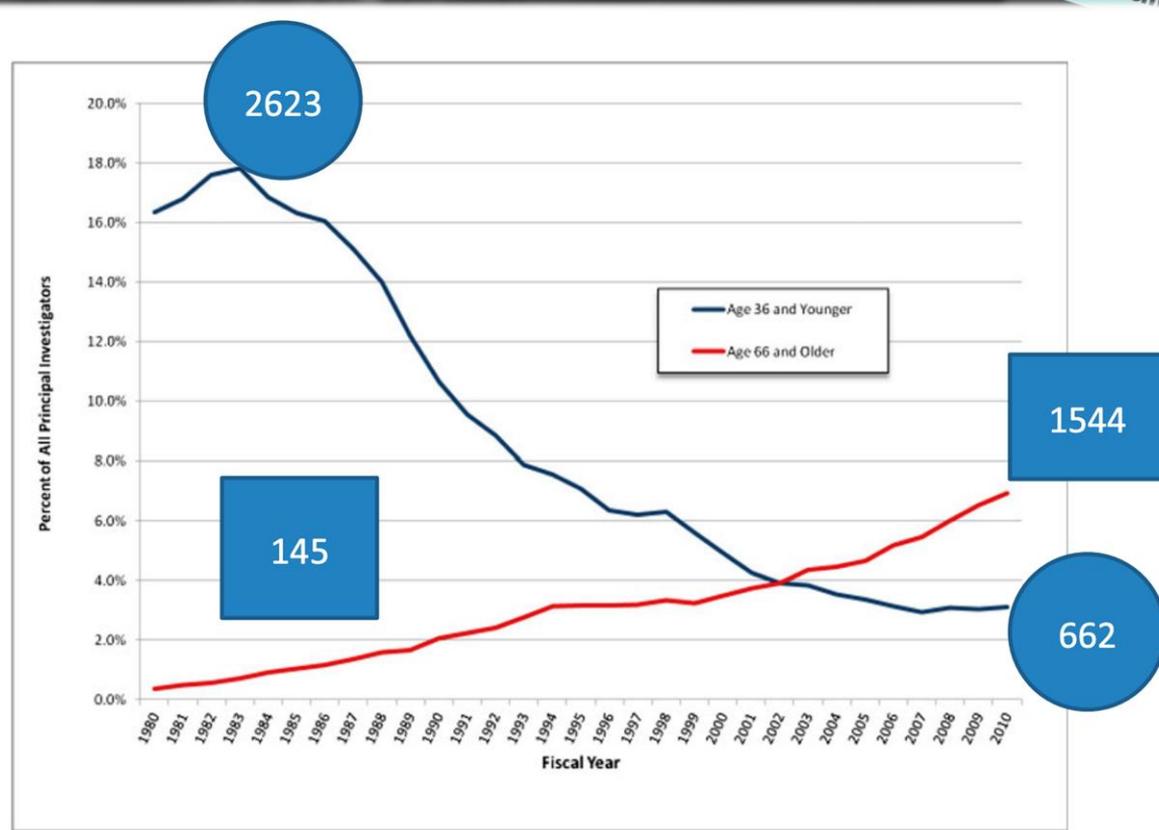


Fig. 1. Percentage of NIH R01 Principal Investigators aged 36 and younger and aged 66 and older, 1980–2010 (4).



# What Researchers Think?

Their culture is best when:

- it is collaborative, inclusive, supportive and creative,
- researchers are given time to focus on their research priorities
- leadership is transparent and open
- individuals have a sense of safety and security

Deep concerns about:

- how sustainable the culture is in the long term.
- conditions being worsened by a complex network of incentives
- Gov., funders and institutions focus on quantity of outputs, and narrow concepts of 'impact'
- intense pressure to publish
- too little value placed on how results are achieved and the human costs.
- competition as a necessary, but it often becomes aggressive & harmful.
- job security – especially in academia.



W  
wellcome

What  
Researchers  
Think About the  
Culture They  
Work In



Behaviours  
and practices

202

5050

**The result:  
well-oiled research machines  
fragmented research communities**



# Effective publication strategies in clinical research, PLOS 2020

[doi.org/10.1371/journal.pone.0228438](https://doi.org/10.1371/journal.pone.0228438)

RESEARCH ARTICLE

## Effective publication strategies in clinical research

Daniella B. Deutz \*, , Evgenios Vlachos , Dorte Drongstrup , Bertil F. Dorch, Charlotte Wien

University Library, University of Southern Denmark, Odense, Denmark

 These authors contributed equally to this work.

\* [dbd@bib.sdu.dk](mailto:dbd@bib.sdu.dk)

Without rewards for collaboration in research,  
Open Science is less vibrant, disadvantaged and a reversible movement.

# SCIENCE

The **SECRECY** of Science

The **AUTONOMY** of Science

The **COLLABORATION** in Science

The **COMPETITION** and The **R. METRICS**

Open Science  
- The Culture -

**SCIENCE**  
The **SECRECY** of Science  
The **AUTONOMY** of Science  
The **COLLABORATION** in Science  
The **COMPETITION** and The **R. METRICS**

Open Science  
- The Culture -

Open Science  
- The Culture -

# The Popular Culture

SCIENCE  
The **SECRECY** of Science  
The **AUTONOMY** of Science  
The **COLLABORATION** in Science  
The **COMPETITION** and The **R. METRICS**

Open Science  
- The Culture -

Open Science  
- The Culture -

# The Popular Culture

Print, Radio, TV  
Social Media  
Corporate  
Consumerism  
Personal  
Propaganda

SCIENCE  
The SECRECY of Science  
The AUTONOMY of Science  
The COLLABORATION in Science  
The COMPETITION and The R. METRICS

Open Science  
- The Culture -

Open Science  
- The Culture -

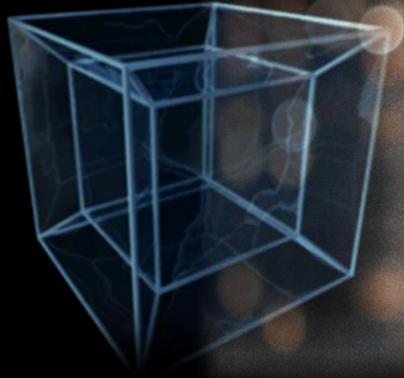
**Trust,**



**the currency of research  
economy**

**TRUST**, the currency of research economy

**TRUST**, the currency of modern societies



**SCIENCE**

The **SECRECY** of Science

The **APPROPRIATION** of Science

The **COLLABORATION** in Science

The **COMPETITION** and The **R. METRICS**

**Open Science**  
**- The Culture -**

**KEEP MISSINFORMATION AT BAY !**





Open Science

- The Movement -



**Prof. Steve Mann (“Open Science”)**



**Surveillance, Sousveillance, Data Veillance**

# Trouble at the Lab!

2013, *The Economist*.

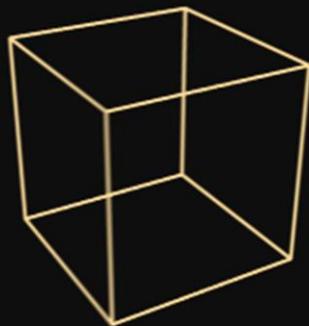
‘Trouble at the lab’

2013, *The Economist*.

‘How science goes wrong’







Open Science

- Growing Movement -

# 1,500 scientists lift the lid on reproducibility

IS THERE A REPRODUCIBILITY CRISIS?



Nature 533, 452–454 (26 May 2016) doi:10.1038/533452a

# Reproducibility Crisis

- Selective reporting
- Pressure to publish
- Poor analysis
- Methods, codes unavailable
- Raw Data not available
- Insufficient Peer Review
- ....

News in focus

# COVID-19 RETRACTIONS RAISE CONCERNS ABOUT DATA OVERSIGHT

Studies relied on health-record analyses from firms that declined to share its raw data for an

By Heidi Ledford and Richard Van Noorden

**T**wice in 7 months, might COVID-19

retracted the v to independe. large propieta health records a Surgisphere.

On the same da researchers and other co-authors retracted a paper<sup>2</sup> in *The New England Journal of Medicine*, for the same reason. That study, published a month ago, had looked at the impact of certain heart medications on people with COVID-19, and

**“I no longer have confidence in the origination and veracity of the data, nor the findings they have led to.”**



Hydroxychloroquine, an antimalarial drug.

The work has not been reproducible ...

Nobel Prize-winner Frances Arnold retracts papers (2020)

“It is painful to admit, but important to do so”

“I was a bit busy [...] I did not do my job well”

# The work has not been reproducible ...

## Nobel Prize-winning scientist Frances Arnold retracts paper

3 January 2020

Nobel Prize



Prof Arnold works in the department of chemical engineering at Caltech

American scientist Frances Arnold, who won the Nobel Prize for chemistry, has retracted her latest paper.

Share

**Frances Arnold** @francesarnold

It is painful to admit, but important to do so. I apologize to all. I was a bit busy when this was submitted, and did not do my job well.

**Frances Arnold** @francesarnold · Jan 2

For my first work-related tweet of 2020, I am totally bummed to announce that we have retracted last year's paper on enzymatic synthesis of beta-lactams. The work has not been reproducible. [science.sciencemag.org/content/364/64...](https://science.sciencemag.org/content/364/64...)

7:02 PM · Jan 2, 2020 · [Twitter Web App](#)

654 Retweets 5.1K Likes

# The work has not been reproducible ...

**Nobel Prize-winner Frances Arnold retracts paper**  
3 January 2020

**Marie Spiker, PhD, MSPH, RDN**  
@MarieSpiker

This is an act of courage and research integrity, and I am here for it! 🙌 Thank you @francesarnold!

Can 2020 begin a decade of 1) fixing our academic incentive structure so that it's not such a bold act to retract a paper for the greater good and 2) publishing more null results?  
[twitter.com/francesarnold/...](https://twitter.com/francesarnold/...)

**Frances Arnold @francesarnold**  
For my first work-related tweet of 2020, I am totally bummed to announce that we have retracted last year's paper on enzymatic synthesis of beta-lactams. The work has not been reproducible.  
[science.sciencemag.org/content/364/64...](https://science.sciencemag.org/content/364/64...)

25 11:31 PM - Jan 3, 2020

[See Marie Spiker, PhD, MSPH, RDN's other Tweets](#)

**Frances Arnold @francesarnold**

**Frances Arnold @francesarnold · Jan 2, 2020**  
For my first work-related tweet of 2020, I am totally bummed to announce that we have retracted last year's paper on enzymatic synthesis of beta-lactams. The work has not been reproducible.  
[science.sciencemag.org/content/364/64...](https://science.sciencemag.org/content/364/64...)

**Science**  
DEEP-SEA VISION

**Site-selective enzymatic C-H amidatio...**  
Enzymes excel at specificity because of their constrained active sites. With appropriate evolutionary pressure, they can  
[science.sciencemag.org](https://science.sciencemag.org)

**Prof. Lee Cronin @leecronin**  
2020 · T

5.1K Likes

First class. Sometimes things appear to work, then they don't. Science should be a process, not winner takes all whatever the cost. Entrepreneurs are encouraged to fail well, but in science it's still taboo. I hope when I slip up I'm able to do it so openly & well.

265 1:08 AM - Jan 3, 2020

[18 people are talking about this](#)





**Trust,**

the currency of research economy

# The Making of European Open Science



EUROPEAN COMMISSION  
DIRECTORATES-GENERAL FOR RESEARCH AND INNOVATION (RTD) AND  
COMMUNICATIONS NETWORKS, CONTENT AND TECHNOLOGY (CONNECT)

## BACKGROUND DOCUMENT

The impact of these trends is already visible and it addresses some of the most burning issues of science, such as the slowness of the publication process, the increasing criticism of the existing peer review system, and the challenge of reproducing research results due to the lack of available data.



The slowness of  
the publication  
process

The increasing  
criticism of the  
existing peer  
review system

The challenge of  
reproducing research  
results due to the lack  
of available data

# The Making of European Open Science

- 2014: Public consultation on “Science 2.0: Science in Transition”
- 2015: The Competitiveness Council (an EU Council) welcomed the development of an Open Science Agenda
- 2016: Launch of Open Science Policy Platform (OSPP) by Commissioner Moedas and chaired by Dr. Eva Mendez (UC3M, YERUN)
- 2018: OSPP releases “Integrated Advice of the Open Science Policy Platform” to inform the Competitiveness Council
- 2018–2020: 2<sup>nd</sup> the final mandate of the OSPP
  - Outreach and implementation of Open Science policies & practices

# OSPP Final Report



## **Progress on Open Science: Towards a Shared Research Knowledge System**

Final Report of the Open Science Policy Platform



# What IS NOT Open Science ?

# Open Science IS NOT A SUGERCOAT FOR OA



# Open Sciencee IS NOT A SNAKEOIL FOR RESEARCH



# Open Science 2020

# Open Science 2020

Too much activism

# Open Science 2020

Too much activism

Too less change management

Too much activism

Too less change management

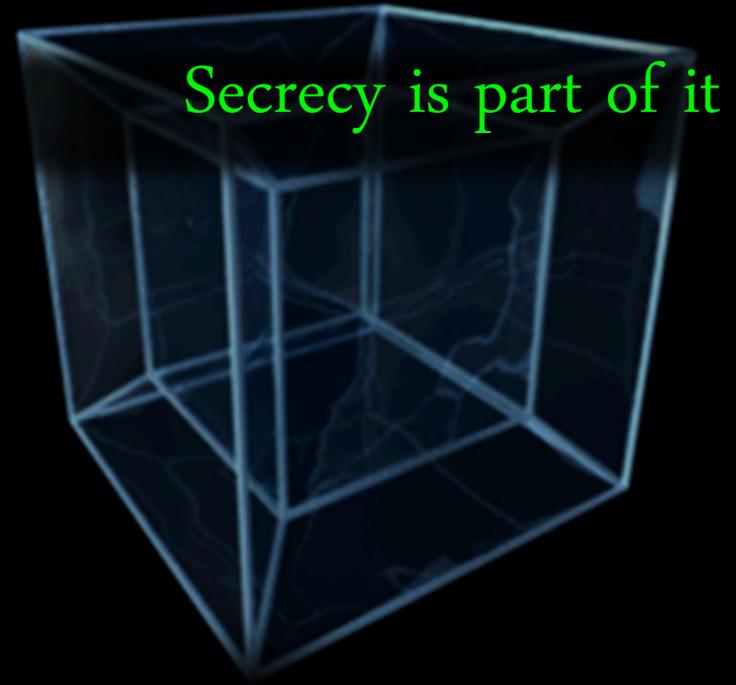
Bring the right people in the bus

The right people on the right seats

# Open Science 2020

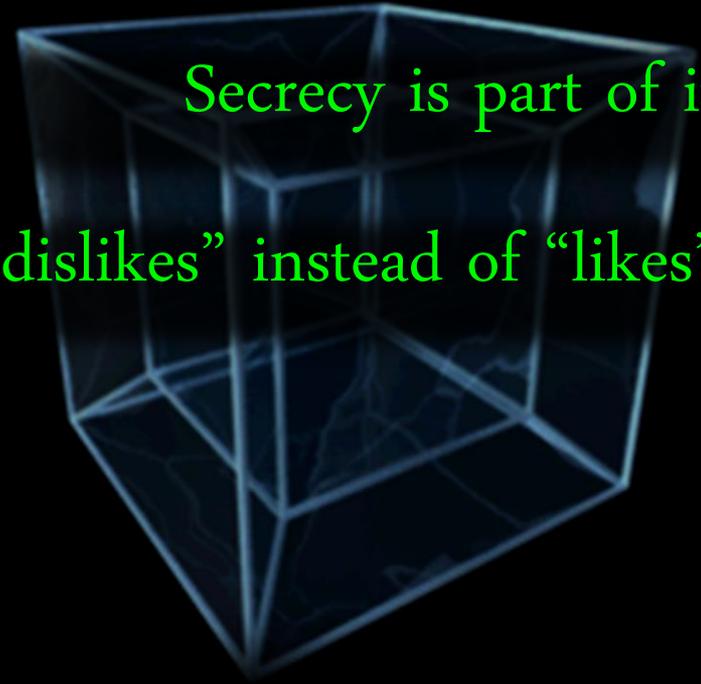


# Open Science 2020

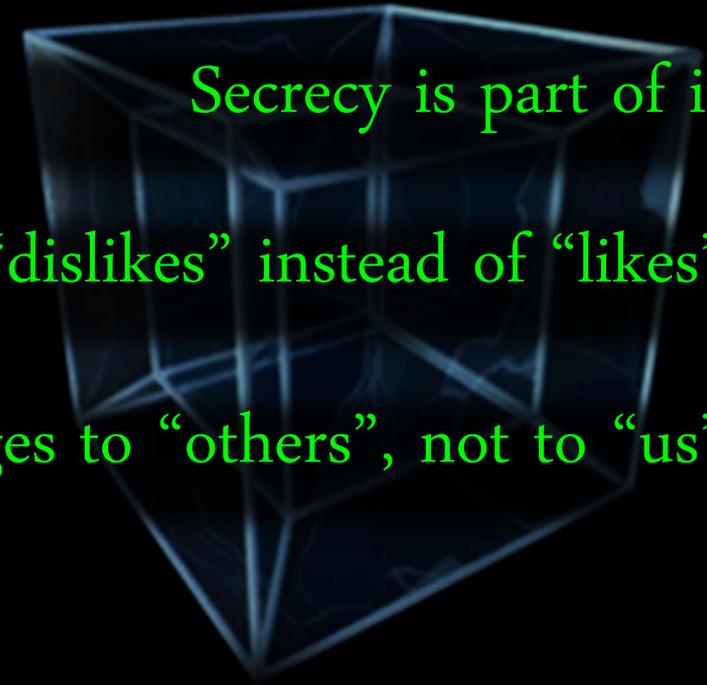


# Open Science 2020

Secrecy is part of it  
Driven by “dislikes” instead of “likes”



# Open Science 2020

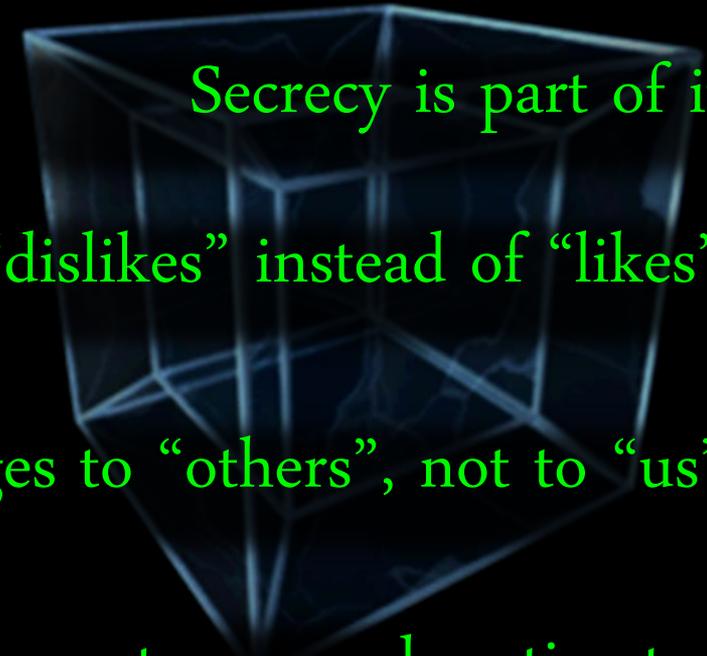


Secrecy is part of it

Driven by “dislikes” instead of “likes”

Demands changes to “others”, not to “us”

# Open Science 2020



Secrecy is part of it

Driven by “dislikes” instead of “likes”

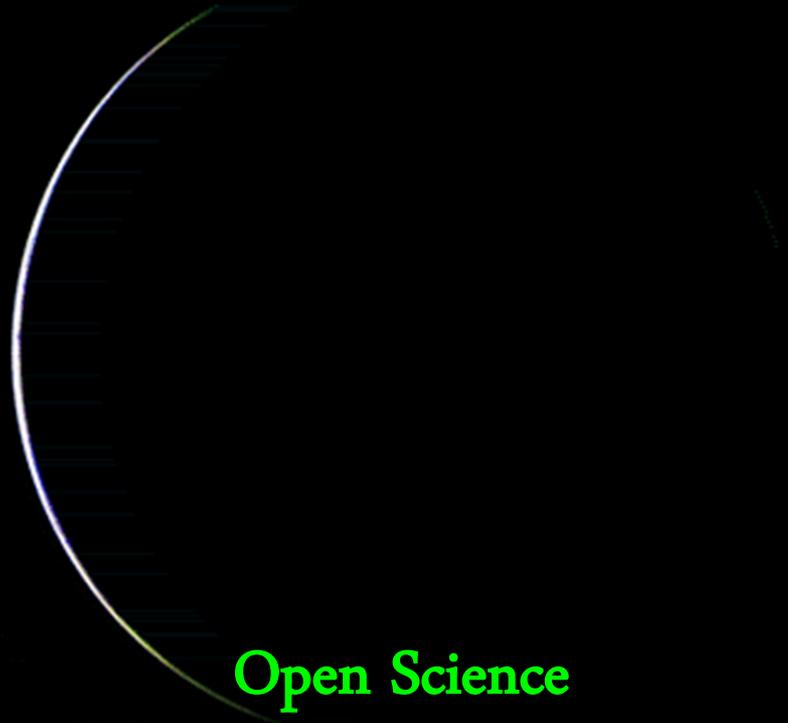
Demands changes to “others”, not to “us”

Open Science costs are underestimated

# Open Science 2020

Three misaligned agendas:

- Researchers
- Funders
- Research Admin./Support



Open Science  
- The Changes -

# Change Management

The Culture

The Movement

The Changes

... requires Change Management

# What type of changes?

In pestilentia veritas

In pandemic times we saw  
the future of publishing: OPEN

RESEARCH

## Detection of 2019 novel coronavirus (2019-nCoV) by real-time RT-PCR

Victor M Corman<sup>1</sup>, Olfert Landt<sup>2</sup>, Marco Kaiser<sup>2</sup>, Richard Molenkamp<sup>3</sup>, Adam Meijer<sup>4</sup>, Daniel KW Chu<sup>5</sup>, Tobias Bleicker<sup>1</sup>, Sebastian Brünink<sup>1</sup>, Julia Schneider<sup>1</sup>, Marie Luisa Schmidt<sup>1</sup>, Daphne GJC Mulders<sup>3</sup>, Bart L Haagmans<sup>3</sup>, Bas van der Veer<sup>4</sup>, Sharon van den Brink<sup>4</sup>, Lisa Wijsman<sup>4</sup>, Gabriel Goderski<sup>4</sup>, Jean-Louis Romette<sup>6</sup>, Joanna Ellis<sup>7</sup>, Maria Zambon<sup>7</sup>, Malik Peiris<sup>5</sup>, Herman Goossens<sup>8</sup>, Chantal Reusken<sup>4</sup>, Marion PG Koopmans<sup>3</sup>, Christian Drosten<sup>1</sup>

1. Charité – Universitätsmedizin Berlin Institute of Virology, Berlin, Germany and German Centre for Infection Research (DZIF), Berlin, Germany
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3. Department of Viroscience, Erasmus MC, Rotterdam, the Netherlands
4. National Institute for Public Health and the Environment (RIVM), Bilthoven, the Netherlands
5. University of Hong Kong, Hong Kong, China
6. Université d Aix-Marseille, Marseille, France
7. Public Health England, London, United Kingdom
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Correspondence: Christian Drosten (christian.drosten@charite.de)

Citation style for this article:

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Article submitted on 21 Jan 2020 / accepted on 22 Jan 2020 / published on 23 Jan 2020

BMJ Coronavirus (covid-19): Latest news and resources

<https://www.bmj.com/coronavirus>

Springer Nature SARS-CoV-2 and COVID-19

<https://www.springernature.com/gp/researchers/campaigns/coronavirus>

Elsevier's free health and novel coronavirus (2019-nCoV) resources

<https://www.elsevier.com/connect/coronavirus-infection-center>

Wolters Kluwer Global Health & Epidemiology Online News (GIDEON)

[https://www.wolterskluwer.com/en/healthcare/epidemiology-website&utm\\_campaign=covid-19](https://www.wolterskluwer.com/en/healthcare/epidemiology-website&utm_campaign=covid-19)

Wiley Covid-19: Novel Coronavirus Outbreak

<https://novel-coronavirus.onlinelibrary.wiley.com/>

Chongqing VIP Information

<http://www.cqvip.com/>

Cell Press Coronavirus Resource Hub

<https://www.cell.com/2019-nCoV>



# Montreal Neurological Institute and Hospital leading through Open Research



Institut et hôpital neurologiques de Montréal  
Montreal Neurological Institute and Hospital

# Royal Society of Chemistry Signs DORA



Royal Society of Chemistry

62,341 followers

16h • 🌐

We are proud to sign the San Francisco Declaration on Research Assessment (DORA), continuing our work to assess research outputs in a fair and balanced manner.

We are the first major chemical society to sign up to the declaration's principles to assess research outputs in a fair and balanced manner, and this follows the largest overhaul of our prizes and awards portfolio in 150 years.

Read more about what this means for us as both a publisher and professional body ➡ <https://rsc.li/2YLBffA>



09 APRIL 2020:

**Nature**

**- a route to open access from 2021**

# UCL: Alternative Publishing Platform



# Sorbonne Declaration on R. Data Rights



## Sorbonne declaration on research data rights

### Based on the following principles:

- Knowledge derived from research benefits society.
- The value of research data lies on its integrity, upon which the public trust in new knowledge is founded.
- Providing access to and openly sharing data enable the development of new knowledge, accelerates discoveries for the benefit of society and economic development.
- Research data should, as much as possible, be shared openly and reused, without compromising national security, institutional autonomy, privacy, indigenous rights and the protection of intellectual property.
- The academic community is integral to identifying the complex conditions for sharing and reuse.

### We, research university networks, commit to:

- Encouraging our universities and their researchers to share data as much as possible.
- Supporting our universities and their researchers in making their data findable, accessible, interoperable and reusable (FAIR).
- Promoting data curation and sharing and the development of data management plans as a standard part of the research process.
- Engaging institutions in the development of appropriate recognition for researchers who make their data FAIR and share it with appropriate open data licenses.
- Advocating that these principles be integrated into institutional research data policies.
- Encouraging our universities in setting up training and skills development programs that create an environment to promote open research data management.

### We call on the global scholarly and research community to join us in:

- Building an environment that supports the global sharing of research data, based on the aforementioned principles.
- Building interoperable instruments and appropriate data repositories to share research data as much as possible.
- Ensuring that peer-reviewed publications are supported by the necessary FAIR data sets as research findings must be accessible, verifiable and replicable.

### We ask, in order to deliver on these commitments, that:

- Funding agencies consider the management of research data as a fully eligible activity for funding and increase research funding accordingly to reflect the full cost of making research data available.
- National governments provide resources to enable data curation and sharing activities to be developed and sustained.
- National jurisdictions develop consistent policies and guidance that embody the aforementioned principles and provide an accurate framework to support their implementation by universities and research institutions.
- Such laws, policies and guidance avoid a "lock-in" effect from commercial platforms and data services to ensure the openness and the reusability of research data.

Association of American Universities

*Schloss Smith*

African Research Universities Alliance

*Willet*

Coordination of French Research-Intensive Universities

German U5

*J. Linn*

League of European Research Universities

*M. J.*

Research University 11

*Nguyen*

Russell Group

*Tim B.*

The Group of Eight

*James*

U15 Group of Canadian Research Universities

*Willet*





EISZ

Projekt Deal



FAIR

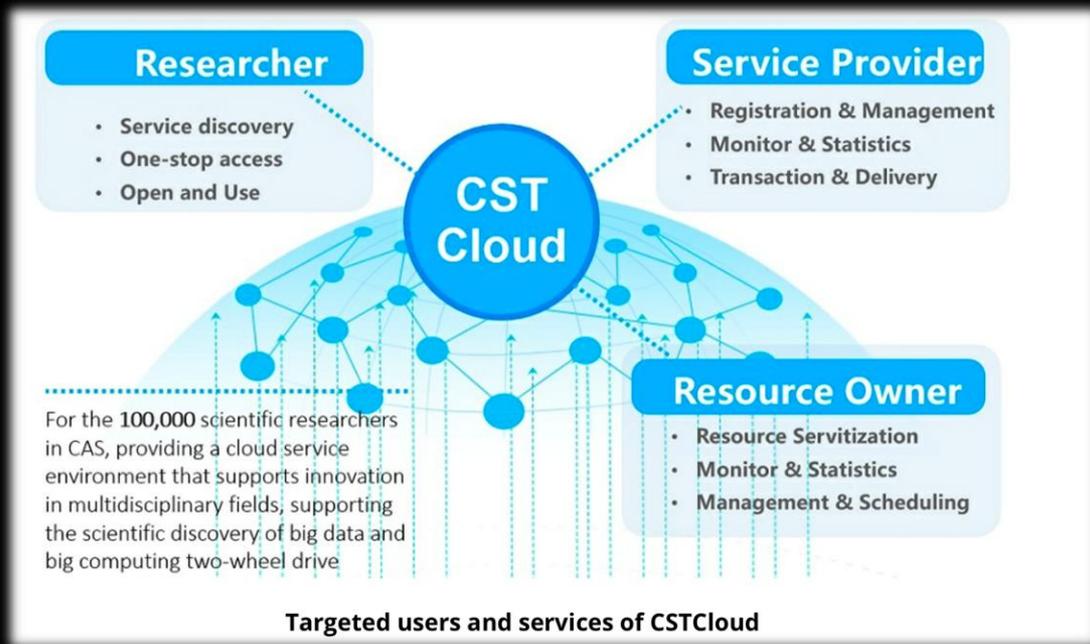


OPEN KNOWLEDGE MAPS

# China Science and Technology Cloud

## The 2.0 version leap:

- Online software programs:
  - from 20 to 400
- Cloud storage:
  - from 22 PB to 150 PB,
- Computing power speed:
  - from 21PF to 315 PF



[english.cnic.cas.cn](http://english.cnic.cas.cn)

# The Mission-Driven Horizon Europe



# The Mission-Driven Horizon Europe

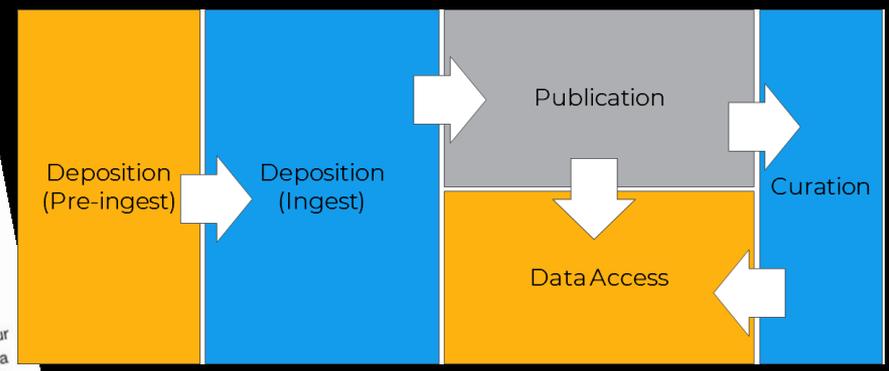


Ensuring public trust must start with acknowledging that research and innovation are not separate to society, only populated by academics and policy experts.

Such approaches have in the past generated opposition as well as disinterest, and with little impact as a result. On the contrary, particularly for innovation activities aimed at citizens, the form by which they are taken up by society (i.e. users, citizens, consumers and others) is key<sup>2</sup>. Balancing top-down and bottom-up perspectives, can make innovation processes richer, better informed, and more likely to be adopted.

informed' and more likely to be adopted' ...

# CCDC - CoreTrustSeal certification



# Open Science

The Culture. The Movement. The Changes

# CONCLUSIONS?

# Open Science

The Culture. The Movement. The Changes

It is a holistic approach

Sustainability means Responsibility

It's a Cultural Change > Change Management

Science for the Society and Economy

Open Science > Science Autonomy

It has significant costs

Open Science starts with an open mind



# Credits

Picture Slide 20: Le Monde

Picture Slide 31: Taken by Anna Hunka on Unsplash

# SKS.

Scientific | Knowledge | Services

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Managing Director

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# SDU

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# Open Science

The Culture. The Movement. The Changes



# Q&A

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 2020   
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# Thank You for Participating!

Recordings will be made available in the near future!



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