



European Strategy Forum  
on Research Infrastructures

# arXiv medium as a prerequisite of open access as an important component of open science

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CERN-UNIGE Workshop on Innovations in Scholarly Communication, OAI12, 6-10.09.2021  
“The future of open science”

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ESFRI SWG DIGIT CHAIR

# Celebrating arXiv's 30th anniversary! 1991-2021

arXiv is a free distribution service and an open-access archive for 1,938,074 scholarly articles in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics.

Materials on this site are not peer-reviewed by arXiv.

# Paul Ginsparg - August 1991 a repository at the Los Alamos National Laboratory

The archive began as a physics archive but later it expanded to include more disciplines

In 2001 the archive was moved to Cornell University and named <https://arxiv.org/>

The open-access nature of the arXiv pre-prints **can be considered as a prerequisite** of the Budapest *Open Access Initiative* in February 2002, the Bethesda Statement *on Open Access Publishing* in June 2003, and the Berlin Declaration on **Open Access to Knowledge in the Sciences and Humanities** in October 2003

# Bridges are needed

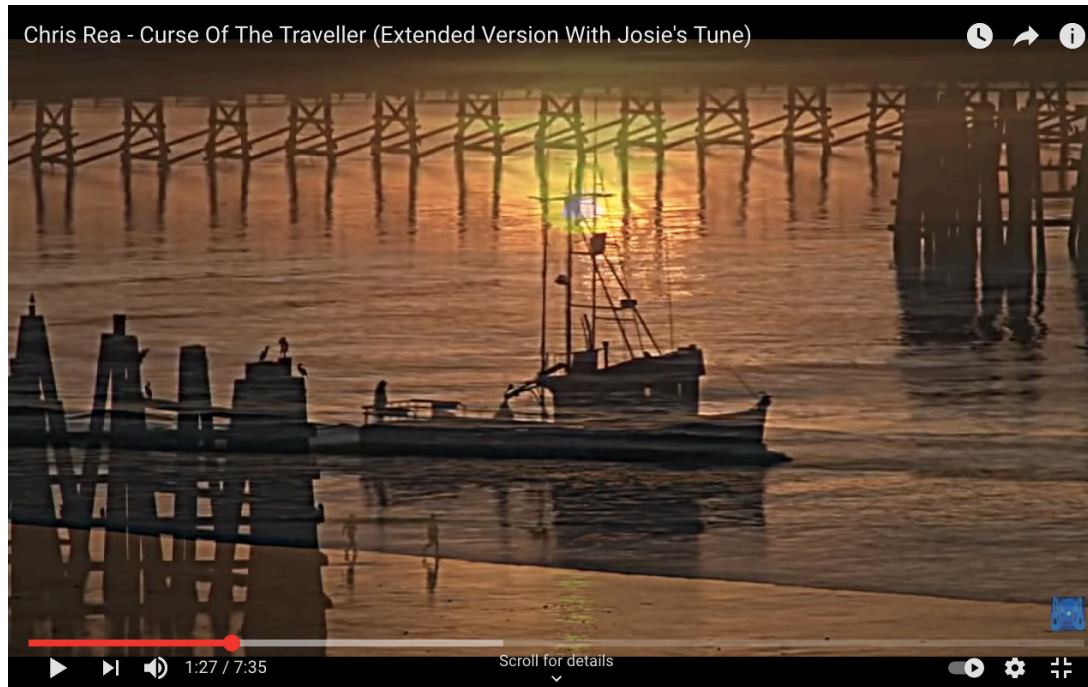


## The “arXiv culture” stimulates the researcher’s ability to share

- The arXiv deposition opens the peer-review process to the entire scientific community with no delay.
- A remarkable consequence of this peer review is the potential for experts publishing litigation-related work in what are called “**predatory journals**”.
- The Open Access opens the road to the Open Science ...

**Thank you for creating a culture of open science!**

# Boats to travel in the open sea – the curse is over



# EOSC & Ris on the road governed by

**FAIR**

**Findable,  
Accessible,  
Interoperable,  
Re-usable**

**data principle**

# The 2nd Workshop on the connection of ESFRI Research Infrastructures to the European Open Science Cloud

Research Infrastructures shaping EOSC  
EOSC increases data sharing beyond Ris  
EOSC is working on a change of culture towards open research data, based on the FAIR data principles.





# EOSC and ESFRI Ris services: how do they tango?



## *OpenAIRE-Advance*

Embedding Open Science into researcher workflows

provides **interoperability services** that connect research  
enables researchers, content providers, funders and research  
administrators to **easily adopt** open science

Have early stage researchers adopted the open science?

## To answer the question

The Open Science (OS) group of the Max Planck PhDnet designed and conducted an online survey in 2020-2021 to assess the stance toward OS practices of doctoral candidates from the Max Planck Society.

568 answers out of 5100 doctoral students in biomedical sciences, chemistry, physics and technology, and human and social sciences

Benefits of OS: robustness and reliability of science

Risk: ECRs seem to have a **positive opinion on receiving open data**, they are somewhat wary of supplying it

Front. Res. Metr. Anal., 22 January 2021 <https://doi.org/10.3389/frma.2020.586992>

# How to protect IPR in the realm of Open Science?

- <https://en.unesco.org/news/expert-meeting-open-science-and-intellectual-property-rights>

The experts argued that different types of IPRs have different impacts on the Open Science ecosystem since they facilitate different levels of openness, regulatory exclusivities and protection against misuse of data and knowledge.

The main objection: Discovery, Invention, Proof, ... is very much dependent on the access to resources

# How to combine requirements for peer-reviewing with Open Science Initiatives?

- some communities do not respect paid journals
- Respected journals (Science, Nature) collect money as well
- It will take a long time until openness become a standard.
- Do not stop looking for the small stones that might turn the car.

## Akie Nakata (Japan) turn the stone into owl





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# Thank you

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