



**KERETPROGRAM
2021-2027**



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Open up your research! Practical guide for implementing open science practices

BME EELISA Days November 17th, 2022

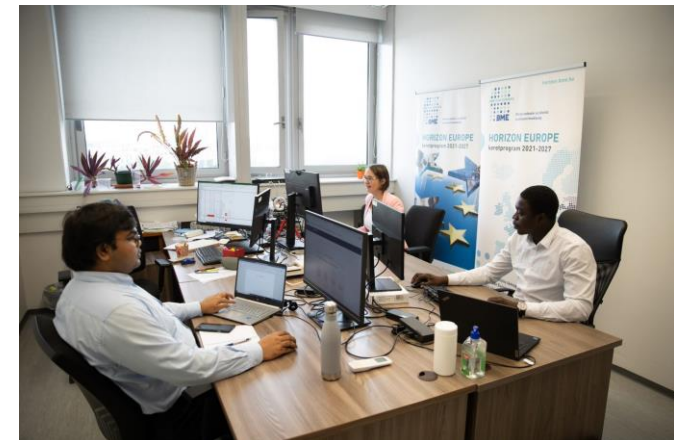
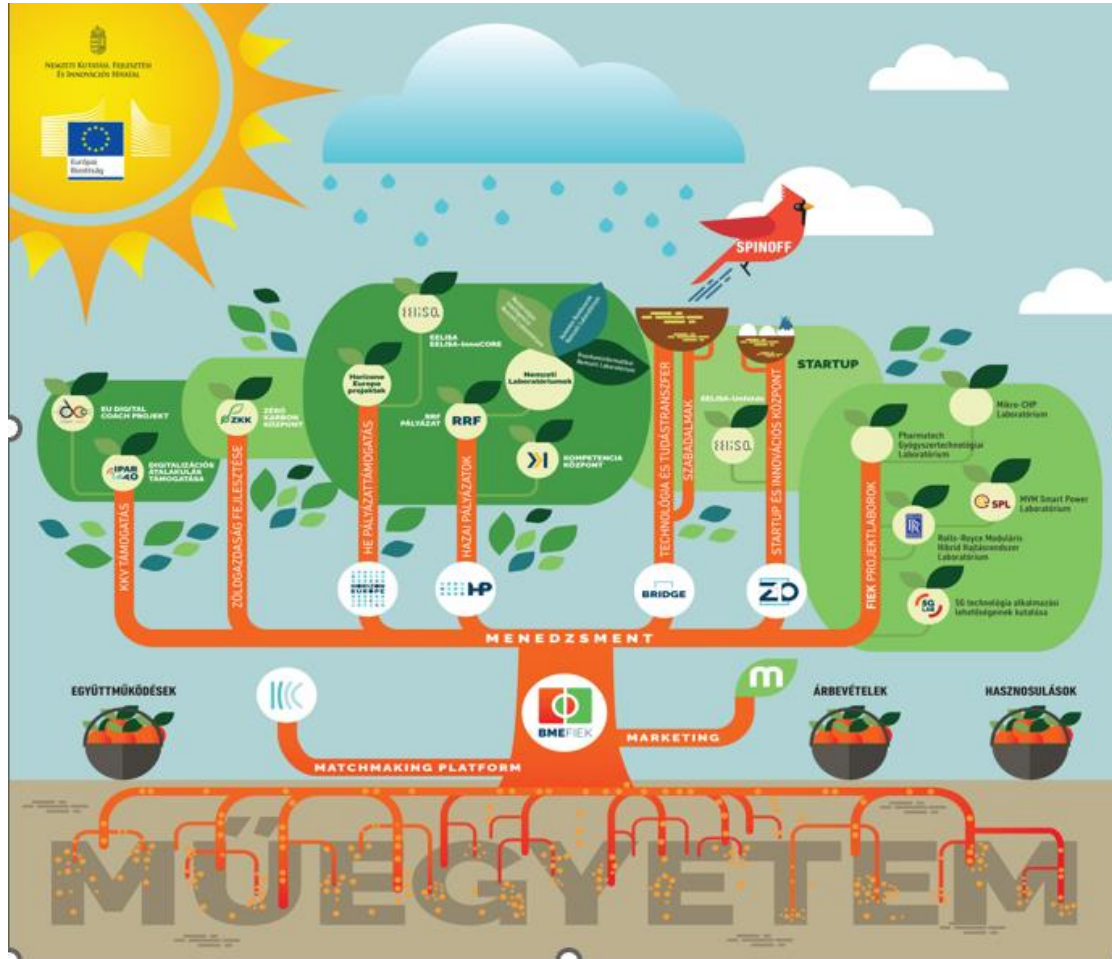
**dr. Borbala Schenk, Chief European Research Funding Advisor,
BME Competence Map editor**

How is your day?


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- Describe how appropriate open science practices are implemented as an integral part of the proposed methodology. Show how the choice of practices and their implementation are adapted to the nature of your work, in a way that will increase the chances of the project delivering on its objectives [e.g. 1 page]. If you believe that none of these practices are appropriate for your project, please provide a justification here.

 *Open science is an approach based on open cooperative work and systematic sharing of knowledge and tools as early and widely as possible in the process. Open science practices include early and open sharing of research (for example through preregistration, registered reports, pre-prints, or crowd-sourcing); research output management; measures to ensure reproducibility of research outputs; providing open access to research outputs (such as publications, data, software, models, algorithms, and workflows); participation in open peer-review; and involving all relevant knowledge actors including citizens, civil society and end users in the co-creation of R&I agendas and contents (such as citizen science).*

 *Please note that this question does not refer to outreach actions that may be planned as part of communication, dissemination and exploitation activities. These aspects should instead be described below under 'Impact'.*

What change do you want to achieve with your research?



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What change do you want to achieve with your research?



What will be your research results?

Who will be your end-users?

How can you make sure your end-users will use your results?

Will your research outputs be accessible by your end-users?

Will your research outputs be free to reuse?

Will your end-users trust your research results?

Think about your own research



Promoting open science, especially when done in an constructive way, might also give you an online presence that can be helpful in raising you profile as a researcher.

"Working in an Open Science manner makes research more fun"

Open science/research is particularly important for ECRs. Open research practices are here, and won't go away. It is clear that they will increase in the near future. If *you*, as an ECR, want to be a competitive researcher in the coming years (and you'll need to be), you'll need to be well versed in open research practices.

<https://lgatto.github.io/EPFL-open-science/>

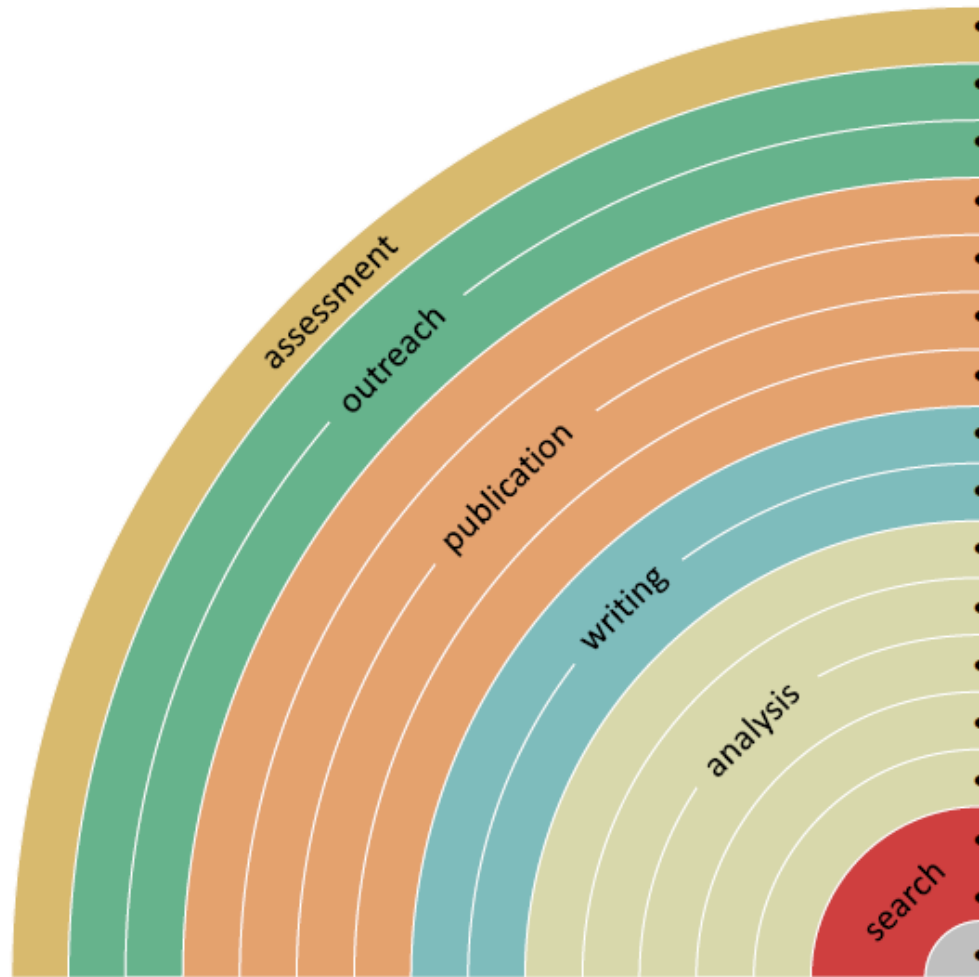
Open science – what do you actually open up?



1. Results → end results, but also interim results, open access
2. Data → interim data, raw data, clean data
3. Evaluation process in publishing → open peer review
4. Research process → involving stakeholders

- +1. Research infrastructure
- +2. Research performance assessment

You can make your workflow more open by ...



- adding alternative evaluation, e.g. with altmetrics
communicating through social media, e.g. Twitter
sharing posters & presentations, e.g. at FigShare
using open licenses, e.g. CC0 or CC-BY
publishing open access, 'green' or 'gold'
using open peer review, e.g. at journals or PubPeer
sharing preprints, e.g. at OSF, arXiv or bioRxiv
using actionable formats, e.g. with Jupyter or CoCalc
open XML-drafting, e.g. at Overleaf or Authorea
sharing protocols & workfl., e.g. at Protocols.io
sharing notebooks, e.g. at OpenNotebookScience
sharing code, e.g. at GitHub with GNU/MIT license
sharing data, e.g. at Dryad, Zenodo or Dataverse
pre-registering, e.g. at OSF or AsPredicted
commenting openly, e.g. with Hypothes.is
using shared reference libraries, e.g. with Zotero
sharing (grant) proposals, e.g. at RIO



SHARE PROTOCOLS / NOTEBOOKS	OPEN SCIENCE FRAMEWORK	
	MYEXPERIMENT	
	BENCHLING	
	PROTOCOLS.IO	
	BENCHFLY	
	SCIENTIFIC PROTOCOLS	
	PROTOCOL ONLINE	

ARCHIVE / SHARE DATA & CODE	GITHUB	
	FIGSHARE (DATA)	
	ZENODO (DATA)	
	DRYAD	
	DATAVERSE	
	PANGAEA	
	BITBUCKET	

ARCHIVE / SHARE POSTERS & PRESENTATIONS	SPEAKERDECK	
	SLIDESHARE	
	F1000 POSTERS	
	SCIENCEOPEN POSTERS	
	FIGSHARE (POSTERS)	
	ZENODO (POSTERS)	
	VIMEO	

ARCHIVE / SHARE PUBLICATIONS	ARXIV	
	PUBMED CENTRAL	
	INSTITUTIONAL REPOSITORY	
	BIORXIV	
	WORKING PAPERS	
	RESEARCHGATE (SHARE PUB)	
	SSRN	

Bianca Kramer & Jeroen Bosman
<http://bit.ly/innoscholcomm-list>

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Home > Articles > A Digital Image Correlation (DIC) prototype system for crack ...

RESEARCH ARTICLE

REVISED A Digital Image Correlation (DIC) prototype system for crack propagation monitoring in aircraft assemblies [version 2; peer review: 2 approved]

LiKang Luan, Liam Crosbie, Silvain Michel, Erwin Hack

This article is included in Metallurgy collection

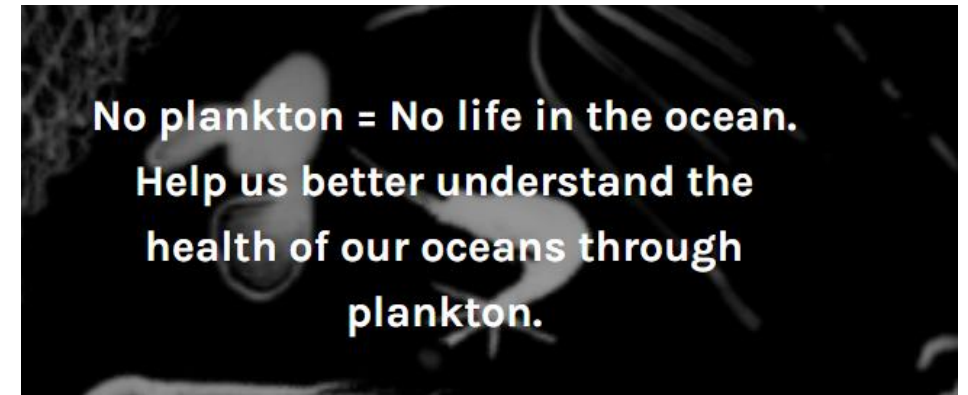


https://open-research-europe.ec.europa.eu/articles/2-82#ref-17

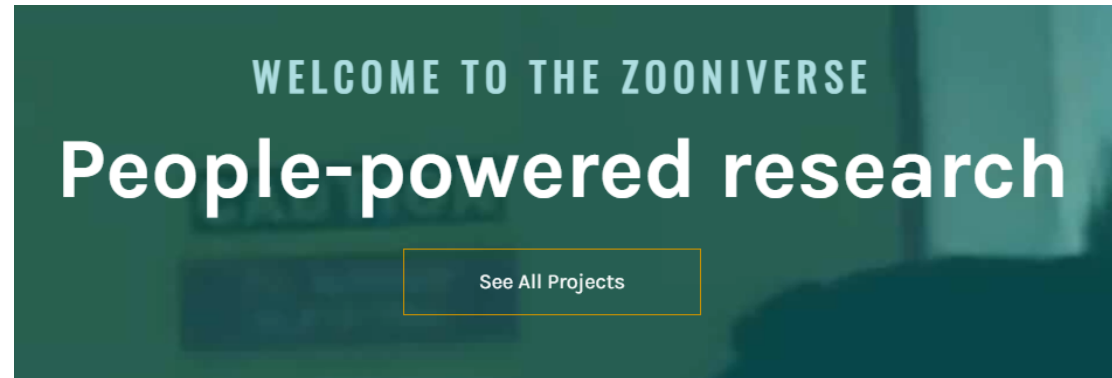
Approval Status		
	1	2
Version 2 (Revision) 28 Sep 22		<div>view</div>
Version 1 22 Jun 22	<div>view</div>	<div>view</div>
1. Rachel A. Tomlinson, University of Sheffield, Sheffield, UK		



NEST QUEST GO: TREE SWALLOWS



STORIES OF ST JAMES'S BURIAL GROUND



CHIMP & SEE

There are 3 classification workflows at Chimp&See. You can click on a Species ID workflow to classify all sorts of wildlife. When there are sufficient videos there is also MonkeySee for monkey and prosimian videos only, or Trotters ID for hoofed animals only (like pigs and duikers!). You can also get involved with "chimp matching", identifying unique chimp individuals, too; click on the link in the blue banner above to get involved!

How does EELISA help you open up your research?



How does EELISA help you open up your research?



Esteban Gonzalez
Co-Chair
Universidad Politecnico di
Madrid

Open science from the student's point of view



Godwin Emmanuel Bandawa
BSc. Student in Civil Engineering
BME FIEK EU Research Funding
Advisor Intern

EELISA DAY @ BME

Open Science

Godwin Emmanuel Bandawa

Concept of open science

- The main goal is to allow others not engaged in the research to reuse the research result and base future research direction on the readily made available results



Practical implementation of open science by Early Career researchers

Early career researchers (ECRs) will play a key role in transitioning the scientific community to more widespread use of Open Science from pre-registration to publication.





- Early sharing – preregistration
- Open data – findable, Accessible, Reusable, interoperability
- Tracking progress

List of platforms.

- Zenodo
- Data Archiving and Networked Services (DANS)
- Zotero - (collect, organize, annotate, cite, and share research.)
- Figshare
- Open Science Framework (OSF)
- AsPredicted
- Speckle - Platforms to share open data involving CAD

Integration to research

Open Science can be integrated by researchers using a set of principles termed as “FAIR”

-  *Findable: The first step in (re)using data is to easily find them by both humans and computers.*
-  *Accessible: Once the user finds the required data, they need to know how they can be accessed, possibly including authentication and authorization.*
-  *Interoperable: The data need to be integrated with other data. Also the data need to interoperate with applications or workflows*
-  *Reusable: The goal of FAIR is to optimize the reuse of data. To achieve this, data should be well-described so that they can be replicated and/or combined in different settings.*



Conclusions

The benefits of open science are not limited to the scientific community or researchers only but to every member of the society. Hence, every stage of the research process should be transparent, reliable, reusable, reproducible, and relevant.

How to start opening up your research?



Box 1: Practices and resolutions to adopt in order to engage in open science.

1. When possible, **use and cite existing public data**.
2. Whenever feasible, **share your research data** through trusted repositories. General-purpose repositories and domain-specific ones are available on the web. Make sure you share relevant **metadata** as well, as these are essential for data interpretation and reproduction.
3. If you use software code as part of your research cycle, **release the code** and the environment needed to run it. Specify the open source license you intend to use, and link the readers to a stable repository that hosts the code.
4. Post **free copies of your research articles** online. The majority of journals allow researchers to do so, sometimes after an embargo period of 6-12 months.
5. Post **preprints** of your research manuscripts online, ideally at the same time of official submission to a journal.
6. When possible, choose an **open access journal** as venue for your scientific articles. Keep in mind that subscription journals also offer an open access solution, upon payment of extra fees.

Are you planning to open up your research: If yes, how? → sli.do

<https://doi.org/10.7287/peerj.preprints.2689v1>

Open science in one word

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Thank you for your attention!

dr. Borbala Schenk, Chief European Research Funding Advisor, BME
Competence Map editor

Budapesti Műszaki és Gazdaságtudományi Egyetem (BME) FIEK
Budapest, Bertalan Lajos u. 2. 1111 Z 908.

Tel.: +3614631727

schenk.borbala@bme.hu

<https://www.linkedin.com/in/borbala-schenk-9b8078aa/>

horizon.bme.hu