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Open Science, Security, and Intellectual Property Rights

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KEYNOTE

Open Science, Security, and Intellectual Property Rights

Prof Dr Julia PRIESS-BUCHHEIT, Kiel University
Tuesday, November 12th, 2024

Open Science, Security, and Intellectual Property Rights

We conduct our research
as open as possible,
as closed as necessary!



What does the GATE tell us?

The GATE service reflects what trainers across Europe and beyond emphasise as important! The first report will be published in 2025. However, we can already use GATE's working mode to get a look.



Society needs researchers with research integrity

Researchers with research integrity are able to explain step by step how they arrived at their research results. Society can rely on their developments and results

(ECoC 2017, p.8)

Researchers should...



1. express interest and remain unprejudiced;
2. be able to communicate and justify their argument;
3. be ready to explain where their argument comes from;
4. reason logically and in a way that is easy to understand.

FAIR Principles:



Research data and related meta-data should be findable, accessible, interoperable and re-usable (FAIR), unless legal obligations dictate otherwise. Research data are the data on which findings and arguments are based. Meta-data are data describing other data.

GoFAIR Website: www.go-fair.org

See for the learning units:

<https://preprints.arphahub.com/article/66718/>;

<https://preprints.arphahub.com/article/66720/>;

<https://preprints.arphahub.com/article/66719/>

What does the GATE tell us?

Research collaborations

Research collaborations can help increase the likelihood of finding answers to challenging questions. At the beginning of a collaboration, in order to be successful, all collaborators agree on

- taking on „responsibility for the integrity of the research“;
- “the goals and... the process for communicating”;
- the “expectations and standards [that will apply]”;
- the “procedures for handling conflicts and possible cases of misconduct”
- “being properly informed and consulted about submissions for publication of the research results.“

(ECoC, 2017, p. 6-7)

Be transparent and open!



What are the roles and responsibilities of the different partners in research collaborations?

Think about processes such as research reporting on findings and problems; collecting and storing information; changing research design or models, etc.

In addition, think about intellectual property rights and ownership issues for research data and publication.

When does the collaboration start? When does it end? Which code of conduct should the different partners adhere to?



Research / Espionage

Shared knowledge /
secret information

Openness / Mistrust

Transparency / Disguise

What is a data management officer in research?

They ensure and monitor compliance with the research data management policy and provide technical support.

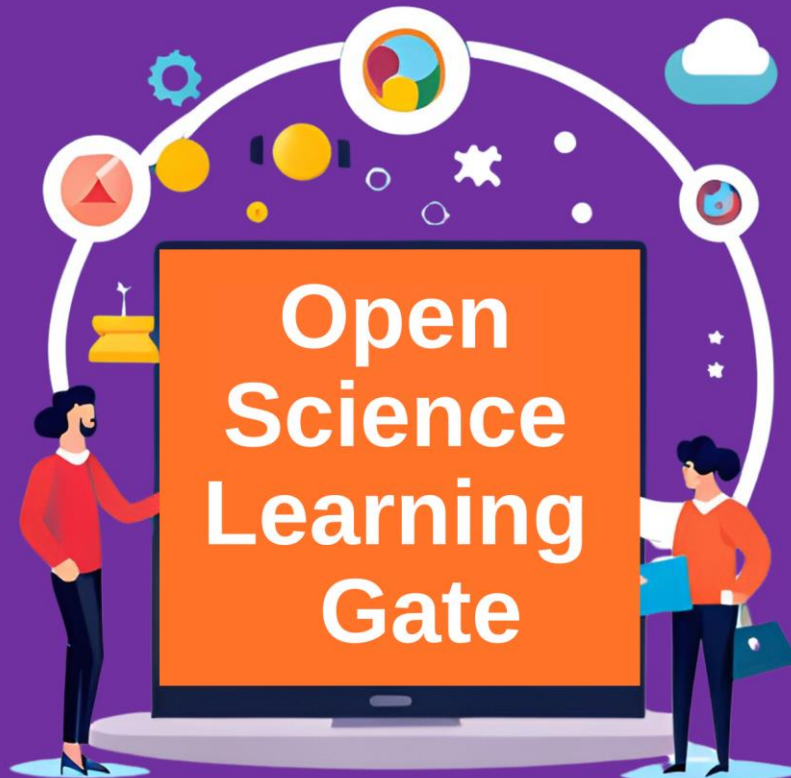
See for the learning units:

<https://preprints.arphahub.com/article/66718/>;

<https://preprints.arphahub.com/article/66720/>;

<https://preprints.arphahub.com/article/66719/>

What does the GATE tell us?



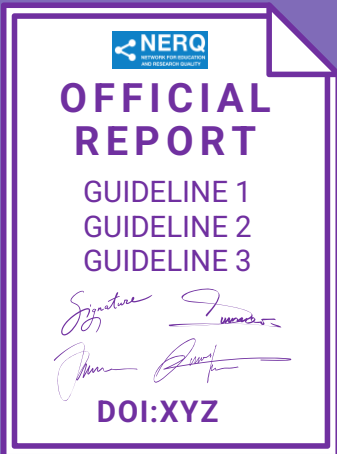
A joint endeavour by NERQ OS

Julia Priess-Buchheit, Marie Alavi, Joeri K. Tjink, Katharina Miller, Ruth Moran, Varga Orsolya, Maruxa Martinez, Ulf Tölch, Sean Lacey, Peter Eduard, Anita Lunić (and more from [NERQ OS Group](#))

The GATE

Community legitimacy

- ▶ Collects & disseminates OS guidelines from/ to community
- ▶ Annual report (majority nominations and expert review)



Continuous harmonization of OS standards

▶ Updating trainers



Guide to high-quality OS resources

Badged by complying with 80% of recommended OS guidelines

OS105

Glimpses from the GATE guidelines for OS training material ...



RESEARCH INTEGRITY RESEARCH ETHICS & OUTPUT PROTECTION

Principles

RESEARCHER	POLICY MAKER	OS EDUCATOR
Accountability	Awareness	Accountability
(Self-)Awareness	Collaboration, Community building, Hollistic engagement	Awareness
Honesty, Equity & Fairness		Honesty, Diversity & Inclusiveness
Quality & Integrity	Ethics	Openness
Reliability	Incentives, Recognition, Encouragement	Reliability (tools, infrastructures, actors)
Respect	Data confidentiality	Respect
Responsibility	Explainability	Responsibility
Transparency	Traceability	<i>Proceeding data collection (see QR-code)</i>

Most frequently mentioned guiding thoughts and goals by the research community until June 2024

Educational Goals

RESEARCHER	POLICY MAKER	OS EDUCATOR
As open as possible - as closed as necessary	FAIR data & other outputs	As open as possible - as closed as necessary
Data protection & Intellectual property		Reproducibility (data/ methodology etc. sharing)
Open research: Data, Access, Code, OER, Source etc.	Monitoring & Evaluation	
Reproducibility	Open science & inclusive infrastructures	<i>Proceeding data collection</i>

See:
<https://zenodo.org/records/11671024>

Glimpses from the GATE guidelines for OS training material ...

ETHICS of AI operating with OS

Accessibility	Bias-free speech, data and outcomes		Fairness
Harm-monitoring	Guardrails to ensure scientific values	Data confidentiality, quality	Privacy, Data & IP protection
Safety	Transparency	Value-based algorithmic decision-making	<i>Proceeding data collection (see QR-code)</i>

In discussions at the WCRI2024 **security** was mentioned several times to the presenters of the GATE. However, security was not yet mentioned as a guideline or principle by OS trainers in the GATE.

See:
<https://zenodo.org/records/11671024>

Conclusion

on Open Science,
Intellectual Property Rights,
and Security.



Open Science and Intellectual Property Rights



“Fear exists in the open science movement that ... intellectual property rights ... will weaken its innovative character. Some experts counteract these assertions. Legal experts ... stated, in fact, that **Europe has potent intellectual property rights**, and these rights support the innovative character of the open science movement, going hand in hand with it.”

See: <https://zenodo.org/records/7134646>

Enabling Open Science Through Effective IP Management

"Open Science doesn't conflict with intellectual property protection! The data can be open while IP rights remain intact."

Professor
Jean-Claude Burgelman

Professor on Open science policy at the University of Brussels, Editor in Chief at Frontiers Policy Lab



IP4OS



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The IP Helpdesk provides free-of-charge, first-line IP support to **European small and medium-sized enterprises** (SMEs) covering five different regions: Africa, China, Europe, India, Latin America and South-East Asia. The team for Europe additionally assists SMEs and **researchers participating in EU-funded research projects** with IP issues specifically related to these programmes.



Enabling Open Science Through Effective IP Management

"Yes, trade secrets hinder the spirit of sharing, however my law firm supports open science by balancing the interplay of copyright and open source or regulatory exclusivity and open sharing."

Katharina Miller

Lawyer for Open Science in Spain



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You are looking for international IP consultancy or legal support in IP in and for Academia



How intellectual assets management and open science practices intersect



To examples ...

Open Science
Collaborations
Richard Gold:
2021

Regulatory
Exclusivity

Creative
Commons
licenses

Copyright and
Licensing

Trade Secrets

Patent

Trademarks

Conclusion



Open Science and Security ... a tough one!

Conclusion

"As open as possible as closed as necessary" in times of geopolitical change.



Research / Espionage

Shared knowledge /
secret information

Openness / Mistrust

Transparency / Disguise

Research collaborations

Research collaborations can help increase the likelihood of finding answers to challenging questions.

(ECoC, 2017, p. 6-7)

Research is also a field of teaching and learning.
What we teach as a standard will impact the future.

Thank you!

Contact:

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You are a OS trainer and want to co-design the guidelines for OS training?

Start here:

