

SHARC: an interest group of RDA

“SHAring Rewards and Credit”

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- One of the 6 co-chairs of this group: [Anne Cambon-Thomsen](#), [Laurence Mabile](#), [Anne-Marie Tassé](#), [Romain DAVID](#), [Christopher Erdmann](#), [Hanna Shmagun](#)
- Ambassador of RDA for health sciences and research ethics

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Outline

- Origin and objectives of the SHARC group
- Achievements and current orientation
 - FAIR assessment grid
 - Mapping mechanisms for crediting and rewarding sharing activities
 - Towards recommendations
- Relation with individual evaluation
- Conclusion
- To be discussed: collaboration/case study with CNRS?

Origin and objectives of the SHARC group

- Before the RDA SHARC group...
 - An international initiative BRIF (Bioresource Research Impact Factor/Framework) with several sub-groups ~ 2005-2016: fostering sharing of collections of (human) biological samples and associated data through identification, citation, recognition of their use
 - Main achievements
 - A citation guideline : COBRA (Citation of Bioresource in Research Articles)
 - A Journal for description of bioresources (metadata journal): OJB, Open Journal of Bioresources
 - Inclusion of bioresource citing in EASE Guidelines (European Association of Science Editors)
 - Tentative framework of impact measurement

Human bioresources are key components of biomedical research. Yet, their role is underestimated and the work provided to setting up and maintaining a valid bioresource is not recognized.

Cambon-Thomsen et al. *Nat Genet* 2003, 34:25–26

BIORESOURCES (BR)

- biological samples with associated data (medical/epidemiological, social),
- databases independent of physical samples
- other biomolecular and bioinformatics research tools
- ...



WHY?

not visible enough;
not acknowledged adequately;
difficult to trace;
difficult to assess their usage
reliably

- lack of indicators describing efficient usage and management of BR
- lack of a unique BR identification system to trace them precisely
- lack of standards for BR citation in the scientific literature

Origin and objectives of the SHARC group

- Before the RDA SHARC group...
 - An international initiative BRIF (Bioresource Research Impact Factor/Framework) with several sub-groups ~ 2005-2015: fostering sharing of collections of (human) biological samples and associated data through identification, citation, recognition of their use
 - Main achievements of the BRIF initiative (through EU projects)
 - Dissemination of the issue! ([Nat Genet, 2003](#); [2011](#); [Nat Genet rev 2004](#); Newsletters, Workshops etc.)
 - A citation guideline : COBRA (Citation of Bioresource in Research Articles) [BRAVO et al. 2015](#)
 - A Journal for description of bioresources (meta journal) from 2014: OJB, Open Journal of Bioresources <https://openbioresources.metajnl.com/>
 - Inclusion of bioresource citing in EASE Guidelines (European Association of Science Editors)
 - Tentative framework of impact measurement ([Mabile et al GigaScience, 2013](#))

Origin and objectives of the SHARC group

- Creation of the RDA SHARC group:
 - Following a session at RDA P17 in 2017 (Barcelona)
 - Extending the « BRIF » initiative to other domains than « biomedical »
 - Getting an « umbrella organisation »
 - Inclusion in the «Open science » general movement
 - Extending the international dimension
 - Establishing more interaction with other groups (e.g. around FAIR principles)

SHARC stands for: SHAring Rewards and Credit

Observation:

Despite numerous statements / active promotion, data & materials sharing according to the FAIR principles is still not the practice in most communities.

AIM: focus on a major obstacle, the **lack of recognition** for the efforts required: SHARC aims to unpack and improve crediting and rewarding mechanisms in the data/resources sharing process.

HOW? works to provide **practical recommendations** that would take into account as much as possible challenges within existing academic infrastructures to resolve these difficulties.

SHARC specific objectives

- Work out a list of criteria to assess FAIRness to prepare FAIRisation of data (see FAIR data maturity model wg) and of community (training, planing, governance, evaluation...)
- Review the **existing rewarding mechanisms** in various scientific communities, **assess their limits**, and to **identify key factors to improve** (ex: tools, incentives, requirements...).
- Encourage the **integration of data sharing-related criteria including FAIRness criteria** in the global scientific activity evaluation scheme at the **European** and **national institutional levels**.
- To plan processes **for stepwise adoption of principles** necessary for implementation measures tuned to national, local and institutional contexts.

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SO FAR:

The group's activity has moved forward on 3 fronts:

1. Draft description of the landscape of the crediting and rewarding processes regarding the sharing activity in different scientific communities (biomedical and life sciences, biodiversity, geospatial domains mainly so far) that identifies gaps. **Currently being reshaped.**
2. Draft recommendations towards researchers and relevant stakeholders at national and international levels, to establish improved guidance for resource sharing and its recognition in research practices (research evaluation scheme). **Currently being refined, complemented.**
3. Development of FAIR assessment grids
 - Contribution to FAIR maturity model WG
 - Grids for auto-evaluation (currently in RDA approval process)
 - Grid for evaluators (currently in RDA approval process)

The crediting/rewarding ecosystem

Repositories
managers

DATA REPOSITORIES
Long-term, trustworthy

Data ID
(digital, global, persistent)
Researchers ID

Data ID authorities/
ID Registrars

Licences

PUBLICATION & CITATION
Data/resources papers
Research articles

Editors /
Publishers

PATENTS / IP

Required Processes for sharing

Storing /
Documenting
(metadata)

Identifying /
Linking /
Indexing

Acquiring /
Protecting

Making
discoverable
/ visible
Promoting

Valuing

CREDIT

REWARD

Funders; Research Institutions

CAREER HIRING & PROMOTION

Funders; Research Institutions

FUNDING

Citizens / Society

REPUTATION
Citizen Contributions and recognition

Research Institutions

SUPPORT
Trained personnel; technical & logistical

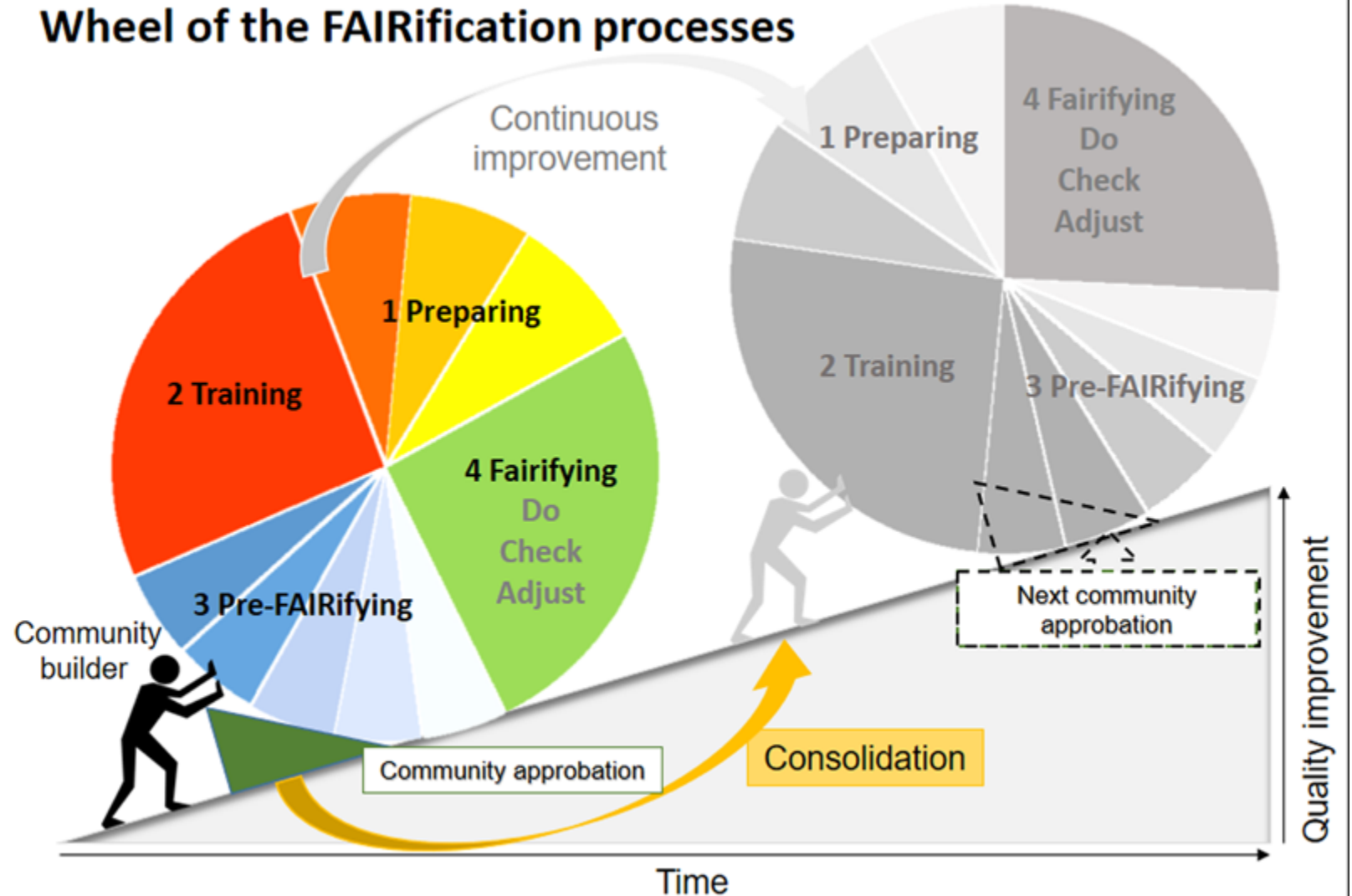
- **Tools/Mean**s
- **Processes required**
- **Possible stakeholders**
in FAIR assessment

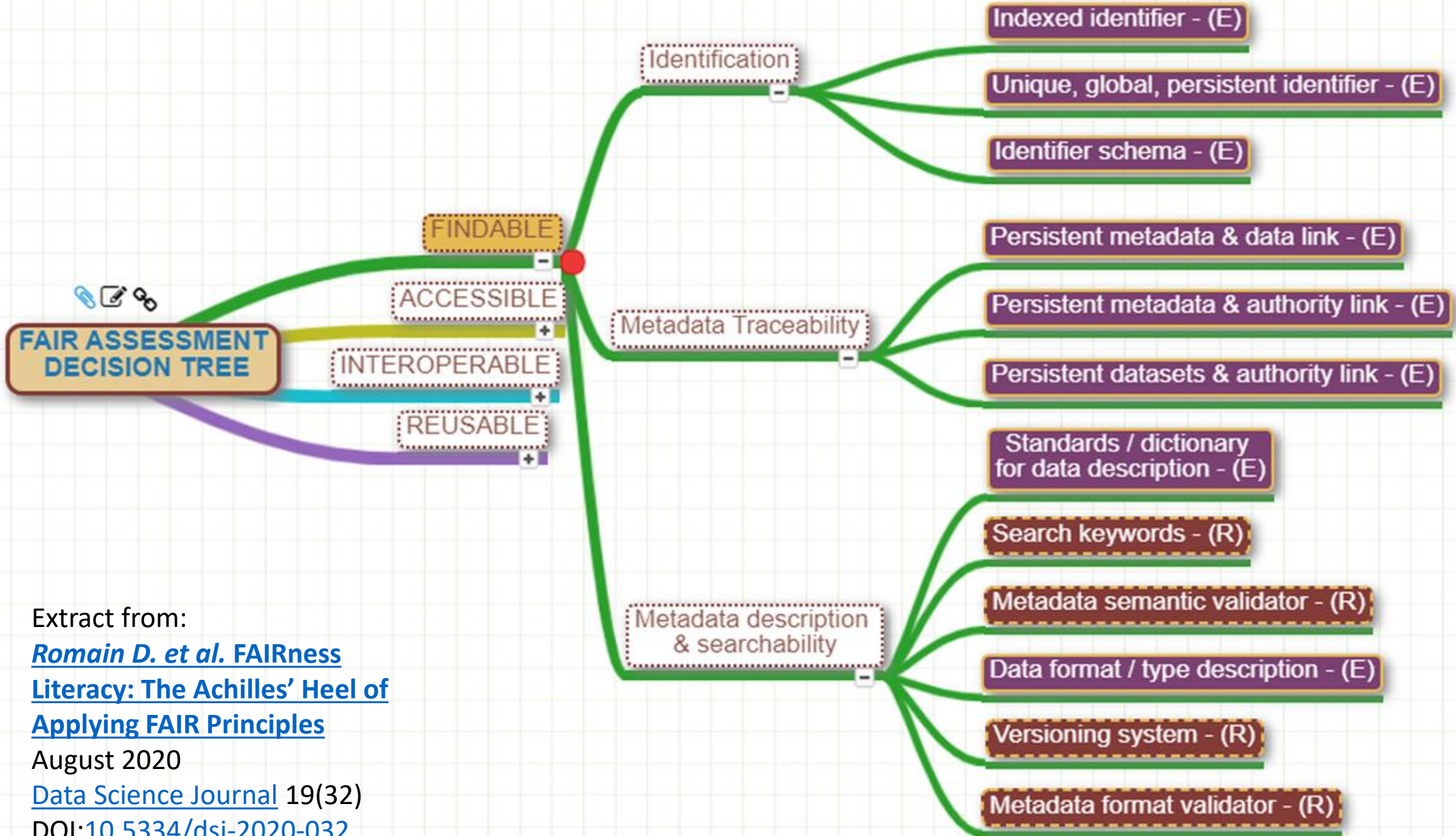
RESEARCH EVALUATION SCHEME
semi-quantitative;
qualitative criteria

Furure RDA-SHARC
Interest group
recommendations

Schema of FAIRification process

Process	Steps
Preparing FAIRification	Explain FAIRification
	Define constraints
	Define advantages
Training	Increase FAIR literacy Convince partners
Pre-FAIRifying	Building shared strategy
	Define community
	Define objects and variables
	Select items to be identified
	Analyse common denominators
FAIRifying	Do: Downward levelling
	Check: first interoperations
	Adjust: Identifying gaps and new expectation





Extract from:

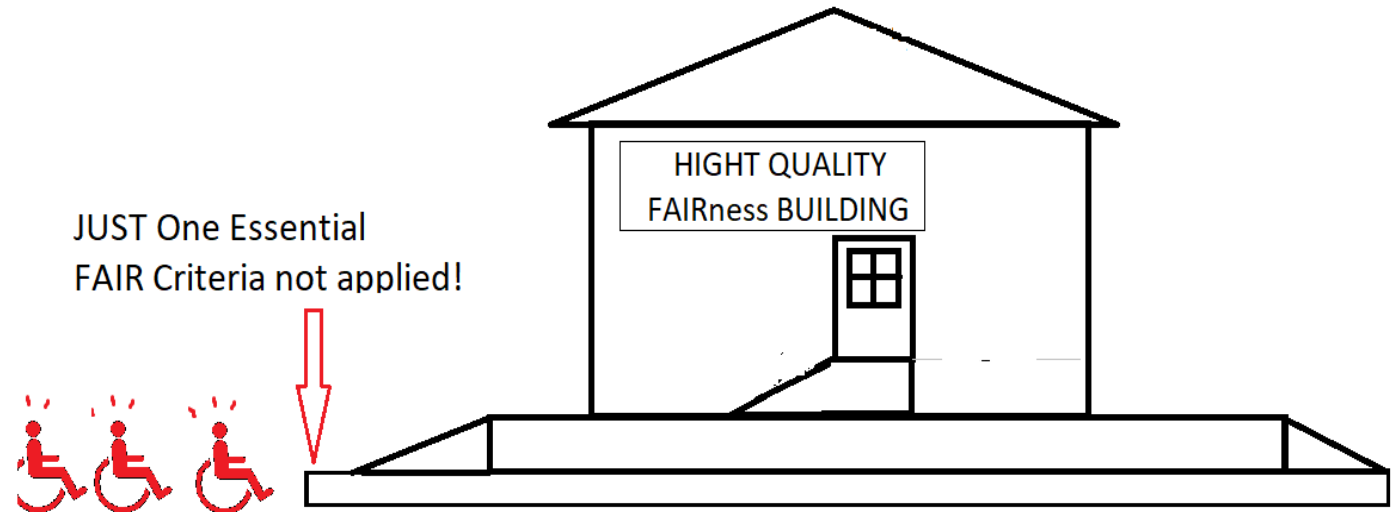
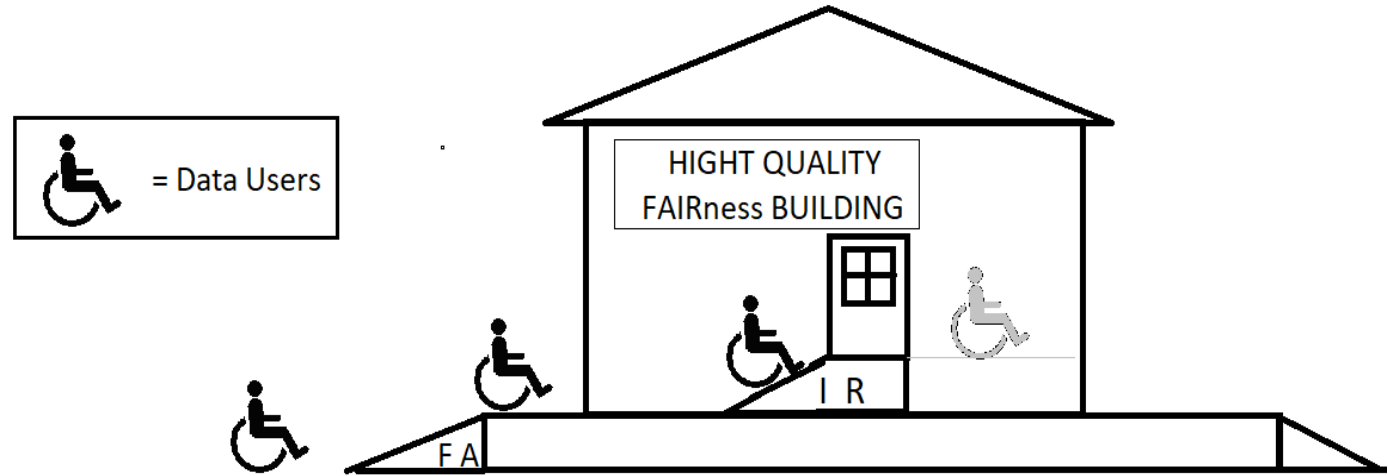
[Romain D. et al. FAIRness Literacy: The Achilles' Heel of Applying FAIR Principles](#)

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[Data Science Journal 19\(32\)](#)

[DOI:10.5334/dsj-2020-032](#)

Starting steps are key elements



Main results

- **Lessons learned: need for a gradual implementation of FAIR criteria**
- **A– Needs for community approved vocabularies goals**
- **B– Unequal understanding of FAIR criteria**
- **C– Planning training and support**
- **D– Planning a step-by-step pre-FAIRification process**
- **E– Maintaining sustainability**
- **F– Increasing good research data sharing during pre-FAIRification processes by rewarding and crediting**

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Mapping rewarding and crediting mechanisms

(currently being discussed)

- Some elements that appear as important
 - evaluation report section on “actions towards sharing”
 - Data sharing evaluation (criteria for contribution, use of identifiers)
 - Actions towards sustainability (training in OS as a credit!)
 - impact analysis of open data
 - Sharing activities as indicators of research performance (re-used and re-usable data)
 - Public / Social Impact (Policy)
 - research outcomes (Data, Software, Paper, Workflow, Notebook, Results (Negative), Plan, Review, etc...) : diversity!
 - recruitment and promotions (e.g. required skills)
 - rewards :
 - academic reward cycle /system
 - reputational rewards

Conclusion/discussion

- Orientation
 - on tools
 - on qualitative / semi-quantitative evaluation (human aspect)
- Need of pilot studies
 - In communities
 - In institutions
- Interest of the international / interdisciplinary dimension
- RDA P18 : leitmotiv « change of culture »



Thanks to the SHARC group co-Chairs and members
Thank you for your attention

Questions? Debate?