

Favouring the sharing of samples and data in research

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The immunogenetics community is characterised by a widespread international collaboration between laboratories, with sharing and exchange of biological samples and data. However, researchers who are involved in building and curating bioresources do not always get credit for doing that work and this might be an obstacle for sharing practices.

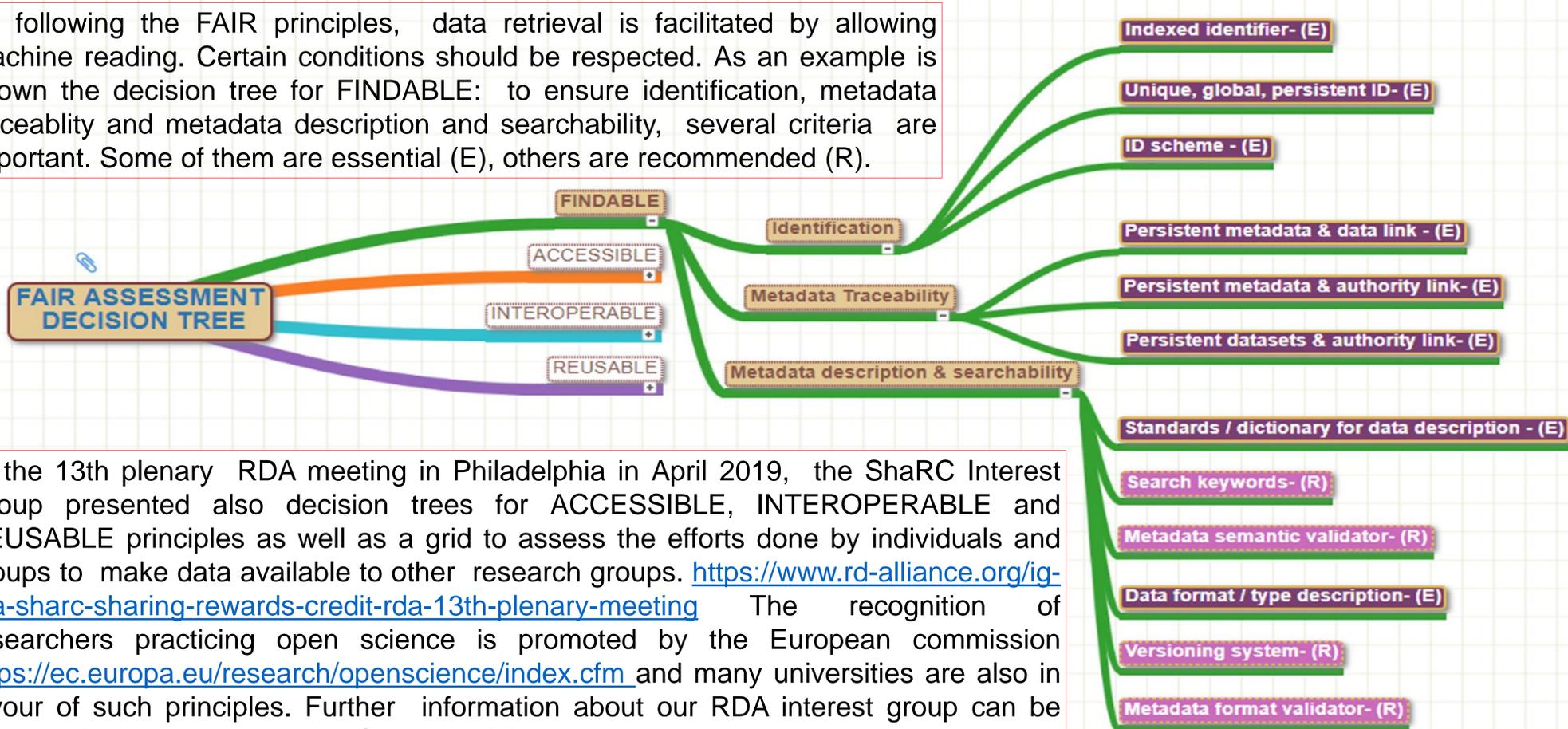
Several international initiatives have been taken in order to promote sharing of samples and data. For example, it was proposed to develop a framework to enable crediting bioresources that were uniquely and persistently identified (Cambon-Thomsen et al 2003). The BRIF (Bioresource Research Impact Factor) working group was established in 2010 and consisted of 135 members from 22 countries, mainly from Europe. The way of citing bioresources was standardised according to a guideline called CoBRA (Citation of BioResources in journal Articles), published in 2015 (Bravo et al). This guideline was recommended by the Equator network and by other organisations such as BBMRI-ERIC, the European infrastructure consortium of biobanking and biomolecular resources.



In collaboration with Ubiquity press, the Open Journal of Bioresources (OJB) was created. It is a peer-reviewed open access journal with short papers describing bioresources dedicated to human biomedical research, providing the authors with a citable reference.

However, as the problem of sharing data and resources and the recognition of such activities in research goes beyond biomedical research, we joined the Research Data Alliance (RDA), creating an interest group called ShaRC (Sharing Rewards and Credits) in 2017. This interest group works with use cases from different research areas. The ongoing work concerns operationalisation and evaluation of the sharing activity complying with the so-called FAIR principles, which mean Findable, Accessible, Interoperable and Reusable (Wilkinson et al 2016)

By following the FAIR principles, data retrieval is facilitated by allowing machine reading. Certain conditions should be respected. As an example is shown the decision tree for FINDABLE: to ensure identification, metadata traceability and metadata description and searchability, several criteria are important. Some of them are essential (E), others are recommended (R).



At the 13th plenary RDA meeting in Philadelphia in April 2019, the ShaRC Interest Group presented also decision trees for ACCESSIBLE, INTEROPERABLE and REUSABLE principles as well as a grid to assess the efforts done by individuals and groups to make data available to other research groups. <https://www.rd-alliance.org/ig-rda-sharc-sharing-rewards-credit-rda-13th-plenary-meeting> The recognition of researchers practicing open science is promoted by the European commission <https://ec.europa.eu/research/openscience/index.cfm> and many universities are also in favour of such principles. Further information about our RDA interest group can be obtained from: laurence.mabile@univ-tlse3.fr, and you are welcome to join the group.

Conclusion

In this period of intense policy proposals on open science and data sharing requirements it becomes essential to include sharing practices and activities in the evaluation system of scientific outputs. Involving the scientific communities and professional actors concerned is necessary to achieve a realistic, equitable and implementable scheme. Immunogenetics is paradigmatic for such an activity and many historical or more recent discoveries in this domain were based on exchange and sharing. Hence exploring criteria, practices and mechanisms that underpin sharing practices in such a community is of general value for the whole scientific and medical world. A case study involving the immunogenetics community could be organised by the SHARC interest group, including questionnaires, specific sessions and comments on possible recommendations. Further information about the study is prepared for publication in the EFI newsletter and by other means. Contact anne.cambon-thomsen@univ-tlse3.fr

References

- Cambon-Thomsen Assessing the impact of biobanks. Nat Genet. 2003; 34(1):25
- Cambon-Thomsen et al The role of a Bioresource Research Impact Factor as an incentive to share human bioresources. Nature Genetics. 2011, 43(6):503.
- Mabile et al. Quantifying the use of bioresources for promoting their sharing in scientific research. GigaScience 2013, 2:7
- Bravo et al Developing a guideline to standardize the citation of bioresources in journal articles (CoBRA). BMC Med. 2015;13(1):266.
- Wilkinson et al. The FAIR Guiding Principles for scientific data management and stewardship. Sci Data. 2016 15;3:160018