What is FAIR research data?
Why data management matters and how to do it

*Avoin tiede ja tutkimus*
*Jessica Parland-von Essen, CSC*

Some years ago a replication crisis unraveled in research. It started in psychology, but has since then swept over many fields of science. It became evident that a majority of all scientific results could not be reproduced. Since scientists really have to fight for their credibility and authority today this was experienced as a disaster. Partly, what has been addressed were methodological problems, like questions about flaws in sample size, but a great part of the problem was tracked back to questions about lacking documentation and lost research data.

Since then, most of the big science funders have started to require to not only Open Access publication for the results of the research they fund, but also data management plans and even FAIR data. This means the underpinning data should be citable, available and reusable. Huge amounts of money and effort are put into producing datasets every year as part of the research process, and it must be considered reasonable that all outputs gets the attention they are worth, including the data. The idea with the FAIR principles is that the data should be Findable, Accessible, Interoperable and Reusable. As a concept FAIR data is also easier to embrace than Open data, since not all research data can be open. But they can still be of good quality and offer validation for scientific findings. However this requires both infrastructure and skills.

In my presentation I will shortly explain the FAIR principles, basics of data lifecycle management and data citation in practice. I will also present the national services offered by the Ministry of Education and Culture, especially the research data finder Etsin.

Monya Baker, "1,500 scientists lift the lid on reproducibility." *Nature* 533, p 452–454 (26 May 2016) doi:10.1038/533452a

Mark D. Wilkinson et al., "The FAIR Guiding Principles for scientific data management and stewardship." *Scientific Data 3*, Article number: 160018 (2016) doi: 10.1038/sdata.2016.18

The Open Science and Research Initiative http://openscience.fi