



LIRIMA Scientific Days
September 12 – 14, 2017, Tunis

Claude Kirchner
Inria

Title: « OpenData and openSciences: Opportunities and Responsible Research and Innovation »

Abstract:

The digital revolution deeply changes the way we organize and perform scientific research. Data have always played a main role in scientific discoveries, but today the knowledge ecosystem deeply relies on data, their quality, their organization, their availability and their usability. The seminal vision of Jim Gray on eScience is an excellent entry point to understanding these phenomena, where the initial paradigms of theory building and experimentation are now completed or even replaced by digital simulation and data exploration.

In the digital world, data can be provided by scientific experiences but also by intermediation platforms like social networks or MOOCs, public open data, videos or sound tracks to mention just a few. They can also be produced by scientists as the result of computation or simulations as well as describing results like computer programs, protocols, articles, conference proceedings, slides, laboratory's notebook, etc. Indeed we have now at hand a digital copy of the world as coined by Henri Verdier and we enrich it by scientific results mainly available under digital form.

In this profoundly renewed context, the role of data is fundamental. Scientists of all disciplines depend completely on the data that allow them to understand, model, experiment, reproduce and communicate. We will show in this presentation that the services allowing one to exploit scientific data are crucial and they include data mining, analysis and synthesis for scientific purposes as well as for societal, economic or industrial purposes. They require in particular access to the full texts of scientists' contributions. To make the most of the available data is an important goal that could be developed by scientists themselves as well as by other entities, public or private for the benefit of scientists or others.

As a prerequisite, being in control of data is a matter of scientific sovereignty and any restriction or hindrance in this respect may induce shortcomings that could be critical in the pursuit of scientific knowledge. From this point of view, maintaining the sovereignty of the scientific academic research is a crucial issue, which we need to preserve in the short as well as the long run. Sovereignty is threatened in particular by conventional publishers who in some cases have reached a situation of monopoly in the scientific ecosystem.

This new situation induces also new responsibilities for all scientists with respect of their research, their students, their publications and their direct or indirect innovations. We will show examples of such responsibilities and how scientific ethics and researcher's integrity can be involved in the daily work of all scientists.