



Contribution ID: 150

Type: **Talk**

Infrastructure Services Towards Data Sharing

Wednesday, 5 December 2018 15:50 (15 minutes)

One of the principal benefits of and drivers for Open Science is the open use of shared infrastructures for science. The digital age offers huge opportunities for the accelerated creation of and networked access to data for research. The exploitation of this through the Internet, the Web, Grids, e-Science, Research Infrastructures, Open Science Clouds and Platforms has been a major driver of many areas of scientific progress and a key feature of science policy and investment (in particular disciplines or in cross-disciplinary programmes).

Global north investment in research infrastructures, data commons and Open Science Clouds is a direct result of the scientific benefits achieved in the last 15-20 years through networked access to data resources and computing power. It is essential that African countries and Africa as a continent keep pace with these developments.

There is growing awareness globally that it is not enough to create network or compute infrastructure in a way that is abstracted from research disciplines and concrete use cases. Moreover, and of crucial importance is the recognition that data require the investment of stewardship to ensure that they can be fully exploited. Again this has been variously expressed: data should be a first class object, data as infrastructure, intelligent openness or FAIR data. With ever more useful refinements, these arguments point towards the same end: a necessary feature of research infrastructures is a rich environment of data resources that are Findable, Accessible, Interoperable and Reusable (FAIR); as Open as Possible and stewarded for the long term as part of the record and resource of science.

The most obvious challenges, relate investment and the funds needed for such infrastructures. But they also relate to coordination. A great deal can be achieved through coordination of resources and investment in shared infrastructures. The development of high-speed educational research networks and improved access to HPC clusters is proceeding and there are some instances of experimentation with cloud computing for science. The challenge is to achieve the vision, strategy and coordination that will ensure these investments will enable to African researchers to engage with the Open, data-intensive science of the 21st century. This means building on the infrastructure a shared layer providing access to compute and research tools of various sorts and to data that is Open and FAIR. A lot can be learnt from activities globally, particularly in Europe and Australia. A major challenge is to determine how such levels of coordination can be achieved between African research systems and institutions. Without such coordination and the attendant economies of scale and cost sharing, the development of research infrastructures will be far slower, more expensive, ad hoc and susceptible to quicker technical redundancy or obsolescence.

This paper will report on an African Open Science Platform ICT Infrastructure Framework and Roadmap, guiding African countries towards preparing for a coordinated initiative, addressing Open Science and Open Access needs across disciplines. South Africa continues to be a main player as will be indicated in this paper, together with countries such as Kenya. This paper will demonstrate that collaboration and coordination are possible and much needed, towards addressing the objectives of the SA National Development Plan and the UN Science, Technology and Innovation Strategy for Africa 2024.

Presenter Biography

Ina Smith's research focus is on promoting digital skills, open access, open science and open data publishing in the global South, with specific emphasis on Africa. She holds a Masters' Degree from the University of Pretoria in Computer-Integrated Education, a Higher Education Teaching Diploma, and an Honours Degree in Library

and Information Science. She has vast experience working in open access during her employment at the Academy of Science of South Africa (ASSAf), Univ. of Pretoria and Stellenbosch University – in repositories, journal publishing and conference publishing, and vast experience in developing training material in digital skills, as well as presenting training as part of continued professional development. She is currently employed as a project manager at the Academy of Science of SA, where she is managing the African Open Science Platform project. She is also a DOAJ Ambassador for the southern Africa region. In 2014 she received the LIASA President's Acknowledgement for Exceptional Contribution (2014), in 2011 she was a Runner-up in the international EPT Award for Open Access, and in 2016 she was awarded LIASA Librarian of the Year. Ina served on the LIASA Executive Committee during 2014 to 2016, and during the same time she also served as Chair of the LIASA Higher Educational Library Interest Group (HELIG). She has a keen interest in the research process in general, and are actively promoting all to become digital citizens and to remain lifelong researchers and self-learners. Her involvement in digital citizenship and open research/science takes her all over the world, and she frequently presents papers at conferences.

Primary authors: Ms SMITH, Ina (Academy of Science of South Africa); Mrs VELDSMAN, Susan (Academy of Science of South Africa); Dr HODSON, Simon (CODATA)

Presenter: Ms SMITH, Ina (Academy of Science of South Africa)

Session Classification: DIRISA

Track Classification: DIRISA