

WACREN Conference 2021



Report of Contributions

Contribution ID: 3

Type: **Presentation**

The NEA3R Collaboration: Expanding Support for Global Science

Building off of the success of the Networks for European, American, and African Research (NEAAR) project, the US National Science Foundation has recently provided funding for a follow-up project that will expand and enhance backbone network services and bandwidth connecting researchers in the US with their counterparts in Europe, Africa, and the Arctic. Led by the International Networks at Indiana University team, the NEA3R collaboration includes an extensive set of partners and collaborators. The primary European partners are GÉANT and NORDUnet. The primary African partner is the UbuntuNet Alliance, who will coordinate with ASREN and WACREN on project activities. The NEA3R collaboration will be complementary to European initiatives such as Africa-Connect3 and BELLA and will support community-driven enhancements in three different areas: 1. Physical: Expansion of US<->Europe connectivity from 100G to 200G 2. Logical: A network system of logical “Sister” circuits to ensure connectivity into partner regions, including circuits into Africa and the Arctic 3. Service: Continuing the current project theme of “More Than Just the Network,” the project will support services including performance monitoring, via NetSage, and science engagement that will help improve performance for research collaborations using the NEA3R infrastructure This talk will begin by providing an overview of the NEA3R project, highlighting changes and improvements to the NEAAR infrastructure. The talk will then focus on the services being provided, specifically on how the NEA3R project is using NetSage to better understand network usage and data transfer performance of international circuits. We will close the talk by highlighting practical science engagement use cases centered on US/West Africa science collaborations and show how network engineers, researchers, network planners, and CIOs can use NetSage to understand network usage and data transfer performance.

More information on NEA3R can be found at:

<https://internationalnetworks.iu.edu/projects/NEA3R/index.html>

More information on NetSage can be found at <https://www.netsage.global/>

Relevant NetSage portals can be found at:

- NSF International Circuits: <http://portal.netsage.global>
- Advanced North Atlantic collaboration: <http://ana.netsage.global>

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Session Classification: Performance and Measurements

Track Classification: New Technologies, Innovation and 4th Industrial Revolution

Contribution ID: 4

Type: **Presentation**

Women-in-STEM: The Importance of inclusion through Innovation

Despite the vast career opportunities, women and girls continue to be underrepresented in the fields of science, technology, engineering and mathematics (STEM) that are significant to the economic, and social development. UNESCO estimates[1] suggest that less than a third of all students enrolled in STEM-related fields are female and this effectively excludes their contribution of intellectual capacity. One main obstacle identified is the negative stereotypes towards STEM subjects and careers which is perceived as more suitable for boys which in a way, has psychologically steered women and girls away from the discipline. Closing the gender gap is crucial to the quest of achieving widespread innovation, there is, therefore, a need for National Research and Education Network (NREN) stakeholders to create tailored paths specific to improving access to technology education for women. NRENs and their members are suitably positioned to bring in fresh perspectives to overcome this bias by ensuring inclusive and equitable opportunities that raise female participation and help them realize their full potential as innovators.

In order to inspire and engage women and girls to embrace areas related to STEM, learning can be through developing methods of interaction with resources that comprise elements of engineering and computer science on an e-learning platform. Combining this with virtual laboratories and application of the knowledge gained by doing hands-on activities with low-cost embedded devices and NREN infrastructures reinforces the learning and opens doors for creativity. This creates an effective learning approach that enhances students' ability to think critically, producing individuals that are capable of solving problems and transforming ideas into reality and thereby empowering women in providing innovative technological solutions.

Professor Harvey Smith, Australian Government Women in STEM Ambassador[2] said that "with the right mentoring, networks and support, women can "punch through the glass ceiling" and do "incredible work." This presentation will describe my experience in Nigeria of the successful adoption of a practical learning model for women, in the form of a maker space or Hacklab that provides collaborative work areas to design, research, prototype and invent.

Keywords: women, technology, inclusion, e-learning, hands-on, NREN, STEM, gender balance, maker space

[1] <https://unesdoc.unesco.org/ark:/48223/pf0000253479>

[2] <https://news.un.org/en/story/2019/02/1032221>

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Session Classification: Poster Session

Track Classification: e-learning, Life-long Learning and Education Strategy

Contribution ID: 5

Type: **Paper**

Promouvoir l'accès aux ressources pédagogiques numériques : enjeux et perspectives pour les bibliothèques universitaires sénégalaises

Depuis avril 2020 et le début de l'apprentissage à distance, les universités sénégalaises et leurs partenaires sociaux ont eu de nombreuses discussions sur la continuité des enseignements. Rares étaient les discussions dans lesquelles la documentation en ligne, ou la mise en ligne des ressources pédagogiques pour les étudiants, était mentionnée. En raison du rôle premier de la bibliothèque universitaire qui consiste à accompagner et à soutenir les activités d'enseignement et de recherche, il est surprenant que celle-ci n'interagisse pas plus souvent, en particulier à l'époque de la COVID 19. Cet article a pour objet de promouvoir l'usage des ressources pédagogiques numériques dans les bibliothèques universitaires, en s'appuyant sur des expériences anglosaxons. Une nécessité qui constitue également un moyen pour inscrire la documentation dans la stratégie de l'enseignement en ligne.

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Session Classification: Poster Session

Track Classification: e-learning, Life-long Learning and Education Strategy

Contribution ID: 6

Type: Paper

A Framework of Knowledge Grid Model for Collaboration among Nigerian Universities

A University is a high citadel of learning and the centre for research, innovation and economic development. Nigeria has 170 Universities (Federal = 43; State = 48; Private = 79) as approved by National University Commission. Knowledge sharing and collaboration amongst Universities is very important because they help to improve the quality of researches and capacity building. Collaboration amongst Universities in Europe and USA is very good but very limited amongst Nigerian Universities, hence making resource sharing very difficult amongst Nigerian researchers. Additionally, data from each University is largely managed locally with limited access to external bodies. This lack of information sharing is a major hindrance to the building and management of a quality national knowledge. Technological advancement in communication and internet technology has given birth to Knowledge Grid (KG). KG offers tools for sharing and management of distributed heterogeneous resources spread across various locations. KG has been adopted in Europe, Asia, and USA but not in Nigeria. A KG model for Nigeria will provide a good platform for various Nigerian Universities to pool their resources together and hence make their electronic resources available and accessible for knowledge building and management. In this research works, a framework of an improved academic Knowledge Grid model that could help to facilitate collaboration among universities in Nigeria and hence make knowledge sharing easy is proposed. The proposed model is three major components: User interface with user login interaction module, Semantic Engine which consists of the Knowledge Space and semantic matching and Knowledge based. The initial analysis of the proposed model suggests that it is efficient than the existing academic or business models. The proposed Knowledge Grid model will allow collaboration among universities in Nigeria and hence facilitates knowledge sharing.

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Session Classification: Poster Session

Track Classification: e-learning, Life-long Learning and Education Strategy

Contribution ID: 7

Type: **Presentation**

The Somali Research and Education Repository: motivations, status, perspectives, and opportunities

As many other countries in Africa, Somalia suffers from a gap with respect to other countries in the world for what concerns openness of research [1] and visibility of research outputs [2]. Research outputs produced by local universities and research institutions are not adequately showcased to interested communities and citizens outside academic institutions and this has negatively branded the local institutions as in-competent to produce any form of research contents. As an example, printed copies of students' theses and dissertations are usually archived inside the university and nobody is basically able to see them after the defending day.

In order to overcome this problem and bridge the above-mentioned gaps, the Somali National Research and Education Network (SomaliREN) [3], which gathers 20 universities and research institutions from all over the country [4], is developing a program based on three strategic pillars [5]: connectivity, community, and content. Under the latter, SomaliREN has launched an initiative to deploy a centralized open access multi-institutional digital repository, and the Somali Research and Education Repository (SORER) [6] has recently come online.

SORER has been installed in collaboration with experts from the University of Catania, Italy, and the Italian National Institute for Nuclear Physics (INFN). It is a scalable, standard-based, FAIR principle [7] and Plan S [8] compliant repository meant to promote and enable the Open Science paradigm in the country. The digital asset management system (i) is based on Invenio [9] and Zenodo [10], with some add-ons developed by INFN, (ii) allows persistent identification of contents, through DataCite [11] digital object identifiers, for easy discovery and citation of research products stored as well as for a direct link to the ORCID [12] profiles of their authors, (iii) sports an OAI-PMH [13] compliant endpoint, for easy harvesting of metadata from aggregators and search engines, and (iv) supports federated authentication, for an easy configuration of the repository as a Service Provider of an Identity Federation.

In this contribution, we would like to share with all the participants the motivations that drove the creation of SORER for the uptake of Open Science practices in Somalia, its current status and future plans – towards the certification of the archive and the establishment of a national open access policy - as well as to discuss the opportunities of collaboration with universities/organizations belonging to the WACREN region willing/planning to install FAIR compliant digital repositories at their premises. Collaboration may include technical support for the deployment and/or training on administration/use of the repository.

References:

- [1] World map of Open Access policies, <http://roarmap.eprints.org/dataviz2.html>
- [2] World scaled by number of documents published in Web of Science in 2017 with authors from each country, <http://scholcommlab.ca/cartogram/>
- [3] <https://somaliren.org/>
- [4] <https://somaliren.org/current-members/>
- [5] <https://somaliren.org/strategic-pillars/>
- [6] <https://sorere.somaliren.org.so/>
- [7] <http://www.go-fair.org/fair-principles/>
- [8] <https://www.coalition-s.org/>
- [9] <https://inveniosoftware.org/>
- [10] <https://github.com/zenodo>
- [11] <https://datacite.org/>
- [12] <https://orcid.org/>

[13] <https://openarchives.org/pmh/>

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Session Classification: Poster Session

Track Classification: Open Science and Open Access

Contribution ID: 8

Type: **Presentation**

Governance and Leadership for National and Institutional Repositories - the Ethiopia Example

Building on the successful implementation of the National Academic Digital Repository of Ethiopia (NADRE) [1, 2] as a deposit of academic and research documentation as well as data the NADRE designers facing the current challenge to define governance and leadership strategies for the NADRE. For this purpose, Ethiopian Institute of Higher Education (EIHE) together with the Higher Education Strategy Centre (HESC) is drafting a concept how standards, rules and regulations could bring accountability and quality to NADRE that NADRE could be considered as an accountable and reliable source contributing to Open Access Open Data Open Science.

Data quality management and data governance are summarised in data governance frameworks [3] for corporate approaches [4] but very little information is available for repository governance and leadership at university level. Therefore, an EIHE-HESC working group has taken on the task to analyse the university governance and leadership approaches at selected Ethiopian universities and to learn how these approaches are applicable for NADRE. This analysis will take into account that some of the universities feed NADRE from their institutional repositories whereas others will use NADRE for the purpose of their institutional repository in the same way as for the national repository.

The governance analysis intends to define quality management roles, decision making processes and responsibilities. The leadership analysis will describe the way, how to integrate NADRE at the university presidency level. Both, NADRE governance and leadership will bring NADRE into the academic management area of the universities and will clarify the positions of University libraries and IT-departments as service providers. This approach will break up the current practice in Ethiopia, where faculties work in close cooperation with libraries or IT departments in populating the NADRE.

In the context of governance and leadership it is an imperative to consider the top-down and bottom-up approach of the information flow between the different management levels at universities and from the universities to the Ministry of Science and Higher Education - as the head organisation of all public universities and of NADRE. Therefore, this approach sees the faculties as collaborators for the respective university presidents in their efforts to bring quality and accountability to disposable research documentations at institutional level and at national level.

The presentation will (i) show the importance of NADRE governance and leadership at the levels of the stakeholders such as the Ethiopian Ministry of Science and Higher Education, university presidencies, IT-departments and libraries; (ii) explore standards and principles on information and data quality management applicable for Open Access Open Data Open Science; (iii) comparing the usefulness of the FAIR principles for data governance.

References:

- [1] <https://nadreweb.ethernet.edu.et>
- [2] <https://nadre.ethernet.edu.et>
- [3] Gwen, T. (2014): The DGI Data Governance Framework
- [4] Wend, K. (2007): A model for Data Governance

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Presenter: Prof. GFRERER, Margareth (Education Strategy Centre)

Session Classification: Poster Session

Track Classification: Open Science and Open Access

Contribution ID: 9

Type: **Presentation**

perfSONAR deployments and roadmap update for 2021

As the WACREN network is being deployed we want to make sure it performs at the speed and capacity it was planned for, to make sure that the links provided are reliable to serve our users with the service quality they need. To verify that, a perfSONAR deployment was designed to go hand in hand with the network: each major network PoP is hosting a primary measurement point (MP), secondaries are in the other PoP and more MP can be located in the members' networks at will. A data archiver and a dashboard, also run by WACREN, will complete this performance monitoring setup.

This deployment is being rolled out at the same time the network is made available. Even with only a few MP available, the measurements are already showing their value and proving useful, recording service availability and catching performance drops. As new links are being established, new MP will be deployed and more measurements will be taken.

This WACREN perfSONAR mesh is also establishing new targets for measurements for the Research and Education community worldwide. Network operators from West Africa, but also from anywhere in Africa and the world are able to use these MP to verify network performance end to end. Network engineers are now able to ensure the end-users, from researchers to students, are served with the proper quality of service on the full data path from source to destination. To help to reach this goal, the NEAAR project has co-organized, with partnering REN, perfSONAR workshops across the continent. Building on the freshly deployed perfSONAR nodes following those workshops, NEAAR also runs a collective performance dashboard, centralizing measurements across three continents: North America, Europe and Africa.

At the same time this infrastructure is being deployed, the perfSONAR software itself continues evolving. The latest versions, 4.3.3 at this date, brought pSconfig, the perfSONAR orchestrator and more measurement types and possibilities. As the single source of truth in your perfSONAR deployment, PWA, the pSconfig Web Admin, is where you define all your MP, archivers and your set of performance measurements. With a visual interface, PWA makes for an easier way of managing your perfSONAR deployments through pSconfig.

PWA is not the only addition to a user-friendly operation of perfSONAR. The developers are currently working on a new graphical user interface (GUI) tools to enable NOC engineers to troubleshoot performance issues faster and more easily. One tool is a graphical frontend to pScheduler, the perfSONAR scheduler that ensures measurement tasks are not stepping on each other. The second one is an overhaul of the graphing and plotting capabilities of perfSONAR with improved openness to visualisation platforms like Kibana and Grafana, through the use of a data pipeline based on Elasticsearch and Logstash, i.e. the ELK stack.

With this presentation, we will first show the current and future perfSONAR deployments and performance measurements on the WACREN network and in the NEAAR project area. We will demonstrate the value they bring to the operation of the networks. We will also present the latest perfSONAR software features and its development roadmap going forward, including a preview of the two new GUI tools mentioned above.

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Session Classification: Performance and Measurements

Track Classification: New Technologies, Innovation and 4th Industrial Revolution

Contribution ID: 12

Type: **Presentation**

Introducing new technologies, innovations, and collaborations in R&E Networking between Africa, Latin America, Europe and the US through new international projects

Geographically distributed science relies on Research and Education Networks (RENs) for data movement. End-to-end network paths for data movement in the transatlantic region rely on the collaboration of multiple REN operators (including TENET/SANReN, RNP, RedCLARA, GEANT and AmLight ExP).

Several RENs participate in the AmLight consortium to support the Americas-Africa Lightpaths Express and Protect (AmLight-ExP) project. The goal of AmLight-ExP is to operate and continuously improve production and experimental network connections between the US, South America, and Africa. Geographically distributed science in South America and Africa will dramatically evolve over the next five years, increasing dependency on advanced cyberinfrastructure and programmable networking.

AmLight leverages nearly two decades of accumulating consortium assets between the United States and Latin America and new long-term infrastructure to Africa, creating a critical cyberinfrastructure enabling research through sustainable and scalable connectivity. The consortium supports an evolving community-owned set of assets enabling AmLight-ExP to operate collaboratively, across North America, Latin America, Africa, and soon Europe. To increase network visibility and improve the services offered to the community, AmLight is deploying a new highly granular network telemetry solution that enables at scale per-packet monitoring. This solution will enable real-time troubleshooting and traffic engineering in a sub-second interval.

The ongoing expansion of RENs in Latin America and their new direct connection to those in Europe are the results of the ongoing Bella (Building Europe Link to Latin America) initiative, a consortium of Latin American and European RENs dating from 2016, with the objectives of improving the quality and capacity of connectivity within Latin America, and providing for the first time modern, large-scale direct connectivity between South America and European RENs, using the newly deployed EllaLink submarine cable between Portugal and Brazil. The Bella consortium has acquired spectrum on EllaLink, corresponding to 3/8 of the capacity of a fibre pair, for the expected lifetime of the cable (25 years). The consortium is also acquiring spectrum on terrestrial fiber within South America, some of which is provided by the Latin American member RENs, in order to capillarise access to the EllaLink cable, as well as to other international cables to Africa and to the US.

To improve the management and operation of all resources made available by the AmLight consortium members, including links and computing and storage resources, the AtlanticWave-SDX 2.0 project was created. The AtlanticWave-SDX 2.0 project aims to support research, experimental deployments, prototyping, and interoperability testing, at international scales. AtlanticWave SDX 2.0 goals include building a distributed intercontinental experimental SDX by leveraging Open Exchange Points (OXPs) connected to AmLight. The project also includes collaboration with the Open Science Grid (OSG) and Pegasus workflow management system.

A primary motivation for the development of the AtlanticWave-SDX 2.0 is facilitating the use of the international distributed REN network built for domain scientists and science applications for Distributed High Throughput Computing (dHTC), real-time high-availability applications (e.g., Vera Rubin Observatory, MeerKAT, SKA, HERA, PAPER), international research testbeds (e.g., FABRIC), and bulk data transfer applications (e.g., BigData Express).

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Session Classification: Poster Session

Track Classification: New Technologies, Innovation and 4th Industrial Revolution

Contribution ID: 13

Type: **Presentation**

Retooling the Concept of Information Service Provision: Imperative for Libraries in Developing Countries in Times of Pandemic

Abstract

The provision of quality information has remained the hallmark of the library profession since the introduction of the concept of service, which in turn is powered by the various technological and paradigmatic shifts that have permeated the profession for some decades now. Whereas these changes have phenomenally rendered the old concept of the library as a “warehouse of knowledge” inadequate and unacceptable, Library and Information Science professionals have kept their eyes peeled for emerging technologies for professional relevance and sustainability. With the emergence of Covid-19 and its attendant restrictive protocols on physical movement, the library may have to seek better service provision models to retain its pride of place as an information provider. Libraries in the developed economies have continued to leverage the advantage that technology offers to innovatively align the library profession to international best practices despite the growing encroachment concerns of allied professions. In contrast, the libraries of the less developed countries (that are merely surviving) appeared stuck on conventional models at the expense of impact. How the latter libraries will survive and thrive during pandemics and their resultant lockdowns hanged in the balance if the status quo is maintained. This is because the knowledge of information-seekers about information sources and their modes of retrieval has increased astronomically today than it was half a decade ago.

For the libraries in the less-developed climes to adequately and proactively respond to the information yearnings of patrons in times of physical restriction, this paper proposes the deployment of social media tools for the following reasons: (i) there is a growing preference for information disseminated through social media platforms over the conventionally transmitted ones, (ii) the unprecedented popularity of social media and its growing usage statistics are indications of patrons' migration from the conventional library environment to one that is digital, (iii) with internet-based information services, users may never feel the need to use the physical library or consult a librarian for social, academic, and research engagements anymore, and (iv) service provision models that offer customers multiple options of service delivery garner greater acceptance support than others.

Consequently, the paper would present the strengths and weaknesses inherent in social media and the traditional models of information service provision with a view to drawing logical conclusions. Furthermore, the paper would present some social media usage statistics and highlight the rationale for the growing preference and popularity of information transmitted over the platform against those disseminated physically. Also, strategies for ensuring the virtual return of lost patrons and the survivability of libraries in the developing worlds would be discussed.

Word count: 425

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Session Classification: Poster Session

Track Classification: Pandemic response and post-pandemic solutions

Contribution ID: 14

Type: **Presentation**

Data Sharing Practices in African Research: towards Sustainable Surveying

The growth of surveys with questions on data sharing practices has made a significant contribution to characterizing knowledge ecology for open data over the last five years. Yet, our analysis of survey instruments concludes that aggregation and comparative analysis is difficult or impossible, and geographic coverage is uneven. There is a high diversity in: focus (motivations, practices, barriers), main topics (data sharing, Open Data, Open Science, Responsible Conduct of Research), question style and language. As a result, much of data are not interoperable. We observed, specifically, the practices and perceptions of respondents from the Global South are underrepresented. To start addressing this imbalance we are running the “Surveying Data Sharing Practices in African Research” project (<https://zenodo.org/record/3961910#.YCZl-pNKg1I>) funded through the International Development Research Centre. During the WACREN 2021 conference, we will present some preliminary findings of our study; specifically, we will discuss three aspects of the survey instrument:

Interoperability: the design process of the survey will be introduced, focusing on the comparison of existing surveys and dialogue with stakeholders. A product of this comparison is a database of questions structured into the modular components of the Institutional Assessment and Development (IAD) Framework developed by Elinor Ostrom. We will discuss how this database will allow for the flexible re-use of the survey instrument and facilitate the interoperability of data collected from future surveys. Allowing this database to remain a dynamic resource, to which further questions and translations of questions can be added, will increase its utility and integration into studies of data sharing. Key issues relating to translation, dissemination and specificity will also be discussed.

Re-usability: a commitment to re-use of research resources drove the project design. The concept of a “suite” of re-usable resources will be introduced, including clone-able website, re-usable analysis code, re-usable document templates, as well as re-usable data and survey tool.

Roll-out and re-use experiences: this section will end with a brief overview of the survey dissemination in 8 African countries. They are Uganda and Ethiopia from East Africa; Burkina Faso and Senegal from West Africa and Botswana, Malawi, Mozambique and Zimbabwe from Southern Africa. The survey is currently live at <https://surveying-open-data-practices.github.io/sopd2020/en/> and available in three languages: English, French and Portuguese.

The data gathered will address a current caveat in data sharing discussions, namely the lack of data on African open research practices. The production of a re-usable survey tool will also be of considerable benefit to funders, decision makers, institutions and national governments in the Global South, as they will be able to gather comparable data on research practices to be used as evidence for research policy development.

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Session Classification: Poster Session

Track Classification: Open Science and Open Access

Contribution ID: 16

Type: **Presentation**

The DOAJ as a tool for development through Open access: an overview of uses, benefits and challenges in West and Central Africa.

In his seminal work on Open science as a collective tool of empowerment and cognitive justice, Piron et al. (2018) has shown that Open Access offers African scholarship unprecedented opportunities to reach previously inaccessible audiences—nationally, regionally, and internationally. This is a great opportunity to improve the dissemination, visibility, and impact of research findings from the African continent. In that way Open access can facilitate the enhancement of knowledge produced in the periphery, particularly in sub-Saharan Africa. But to achieve this, Africa needs e-infrastructures which can ensure the sustainable adoption of OA by avoiding obstacles related to what is known as cognitive injustices (digital literacy, exclusion of local knowledge, cleavage between science and society, Western research system as a norm, epistemic alienation, scientific publications system, language of science). I believe and I will demonstrate that The Directory of Open Access Journals is such e-infrastructure that can leverage Development through open Access.

The DOAJ is a website that hosts a community-curated list of open access journals and is maintained by Infrastructure Services for Open Access. High quality, open access, peer-reviewed journals are indexed through this directory, following a strict evaluation process by scholarly publishing and subject experts.

This presentation aims to cover the following:

DOAJ's Actions in West and Central Africa;

An overview of uses of DOAJ for different stakeholders (researchers, funders, librarians and publishers);

the benefits that DOAJ can bring to the development of West and Central Africa, through openness to publications and data;

The obstacles DOAJ is facing to achieve its full potential and the plan to overcome them.

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Session Classification: Poster Session

Track Classification: Open Science and Open Access

Contribution ID: 17

Type: **Presentation**

National Open Science Roadmap - Tanzania

Update on Tanzania pilot of the LIBSENSE National Open Science Roadmaps

Presenter: Dr MUSHI, Magreth (CEO, Tanzania Education and Research Network (TERNET))

Session Classification: Open Science and Open Access

Track Classification: Open Science and Open Access

Contribution ID: 18

Type: **Presentation**

National Open Science Roadmap for Nigeria

Update on Nigeria pilot of the LIBSENSE National Open Science Roadmaps

Presenter: IYOHA, Owen (MD, Eko-Konnect)

Session Classification: Open Science and Open Access

Track Classification: Open Science and Open Access

Contribution ID: 19

Type: **Presentation**

Developing National Open Science Roadmap

Update on Mozambique pilot of the LIBSENSE National Open Science Roadmaps

Presenter: ZIMBA, Horacio (Eduardo Mondlane University, Mozambique)

Session Classification: Open Science and Open Access

Track Classification: Open Science and Open Access

Contribution ID: 20

Type: **Presentation**

Open Science Roadmap for Uganda2021

Update on Ugandan pilot of the LIBSENSE National Open Science Roadmaps

Presenter: BUKENYA, David (Uganda Christian University)

Session Classification: Open Science and Open Access

Track Classification: Open Science and Open Access

Contribution ID: 21

Type: **Presentation**

Roadmap for Open Science in Côte d'Ivoire in 2021

Update on Ivorian pilot of the LIBSENSE National Open Science Roadmaps

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Session Classification: Open Science and Open Access

Track Classification: Open Science and Open Access

Contribution ID: 22

Type: **Presentation**

National Academic Digital Repository of Ethiopia: Lessons Learned

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Session Classification: Open Science and Open Access

Track Classification: Open Science and Open Access

Contribution ID: 23

Type: **Presentation**

Measuring Internet Resilience in Africa (MIRA)

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Session Classification: Performance and Measurements

Track Classification: New Technologies, Innovation and 4th Industrial Revolution

Contribution ID: 24

Type: **Presentation**

Developments in African Cyberinfrastructure and Open Science Platforms - Supporting RSTI in 4IR

Presenter: Dr MOTSHEGWA, Tshiamo (University Of Botswana)

Session Classification: New Technologies, Innovation and 4th Industrial Revolution

Track Classification: New Technologies, Innovation and 4th Industrial Revolution

Contribution ID: 25

Type: **Presentation**

Thoughts on New Technologies, Innovation and the 4th Industrial Revolution from the European Nordics

Presenter: BOS, Erik-Jan (NORDUNET)

Session Classification: New Technologies, Innovation and 4th Industrial Revolution

Track Classification: New Technologies, Innovation and 4th Industrial Revolution

Contribution ID: 26

Type: **Presentation**

Innovating Africa for 4IR opportunities

Presenter: Dr ANOSIKE, Paschal (CAEL)

Session Classification: New Technologies, Innovation and 4th Industrial Revolution

Track Classification: New Technologies, Innovation and 4th Industrial Revolution

Contribution ID: 27

Type: **Presentation**

Ethics and Governance considerations in Science Policy Formulation

Presenter: Prof. NGILA, Catherine (The African Academy of Sciences)

Session Classification: Ethics and Governance

Track Classification: Ethics and Governance

Contribution ID: 28

Type: **Presentation**

The LIBSENSE Research Agenda – Progress on AC3 Plans and Future Activities

Presenter: ABBOTT, Pamela (Information School | The University of Sheffield)

Session Classification: Open Science and Open Access

Track Classification: Open Science and Open Access

Contribution ID: 29

Type: **Presentation**

Cyber Resilience for Development

Presenter: SMALL, Nick (Cyber4Dev)

Session Classification: Cybersecurity Workshop

Track Classification: TrustBroker Africa

Contribution ID: 30

Type: **Presentation**

OCWAR-C « organised crime : West African Response to Cybersecurity and fight against Cybercrime »

Presenter: HOUNGBO, Jacques (OCWAR-C)

Session Classification: Cybersecurity Workshop

Track Classification: TrustBroker Africa

Contribution ID: 31

Type: **Presentation**

TrustBroker Africa (TBA) - Building and strengthening security in African security teams

A cooperation framework for African CSIRTS

Presenter: OAIYA, Omo (WACREN)

Session Classification: Cybersecurity Workshop

Track Classification: TrustBroker Africa

Contribution ID: 32

Type: **Presentation**

Open Science Initiatives in Japan

Presenter: Prof. YAMAJI, Kazutsuna (National Institute of Informatics (NII))

Session Classification: Open Science and Open Access

Track Classification: Open Science and Open Access

Contribution ID: 33

Type: **Presentation**

National Initiatives for Open Science in Europe

Presenter: PRNJAT, Ognjen (GRNET)

Session Classification: Open Science and Open Access

Track Classification: Open Science and Open Access

Contribution ID: 34

Type: **Presentation**

Experience of Establishing and Operating the Academic CSIRT of Mozambique

Presenters: NHAVERNE, Leonel S (MoRENet CSIRT); Prof. CHEMANE, Lourihno (MoRENet)

Session Classification: Cybersecurity Workshop

Track Classification: TrustBroker Africa

Contribution ID: 35

Type: **Presentation**

Crafting a Communication Strategy and Plan

This PPT shows all marketing communicators how to develop a winning comms strategy and plan.

Presenter: Mr MAURICE, Paul (GÉANT)

Session Classification: NREN Communication

Track Classification: Communication and Marketing