



UNIVERSITÀ
degli STUDI
di CATANIA



DIPARTIMENTO di
FISICA e ASTRONOMIA
“Ettore Majorana”



Experiences from Ethiopia and Somalia

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LIBSENSE Workshop on “ORCID-repository integrations” – 25 May 2021



Outline

- The context
- The “visibility problem” and how to tackle it
- Experiences and lessons learnt
 - The National Academic Digital Repository of Ethiopia
 - The Somali Research and Education Repository
- Summary and conclusions



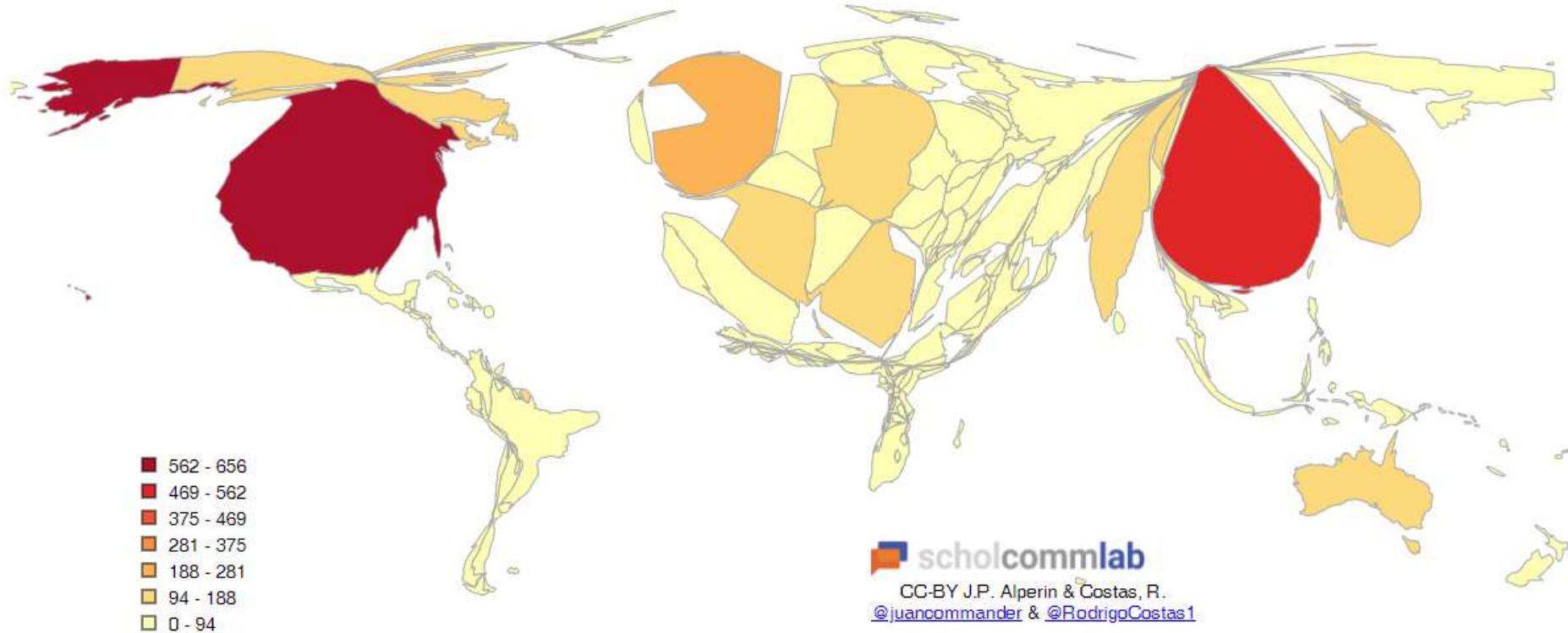
The context (1/3)

The World

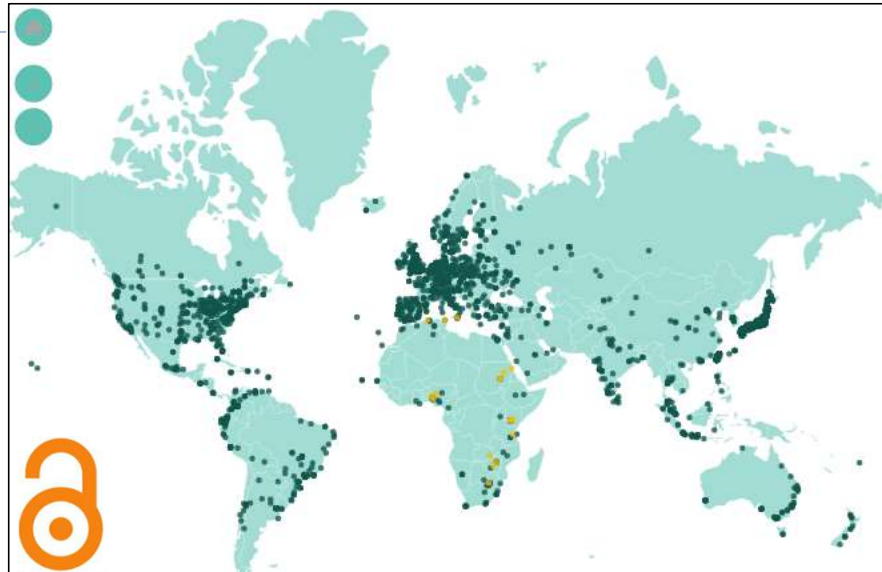


The context (1/3)

World scaled by number of documents published in 2017
with authors from each country (publications counted once per country)



The context (2/3)



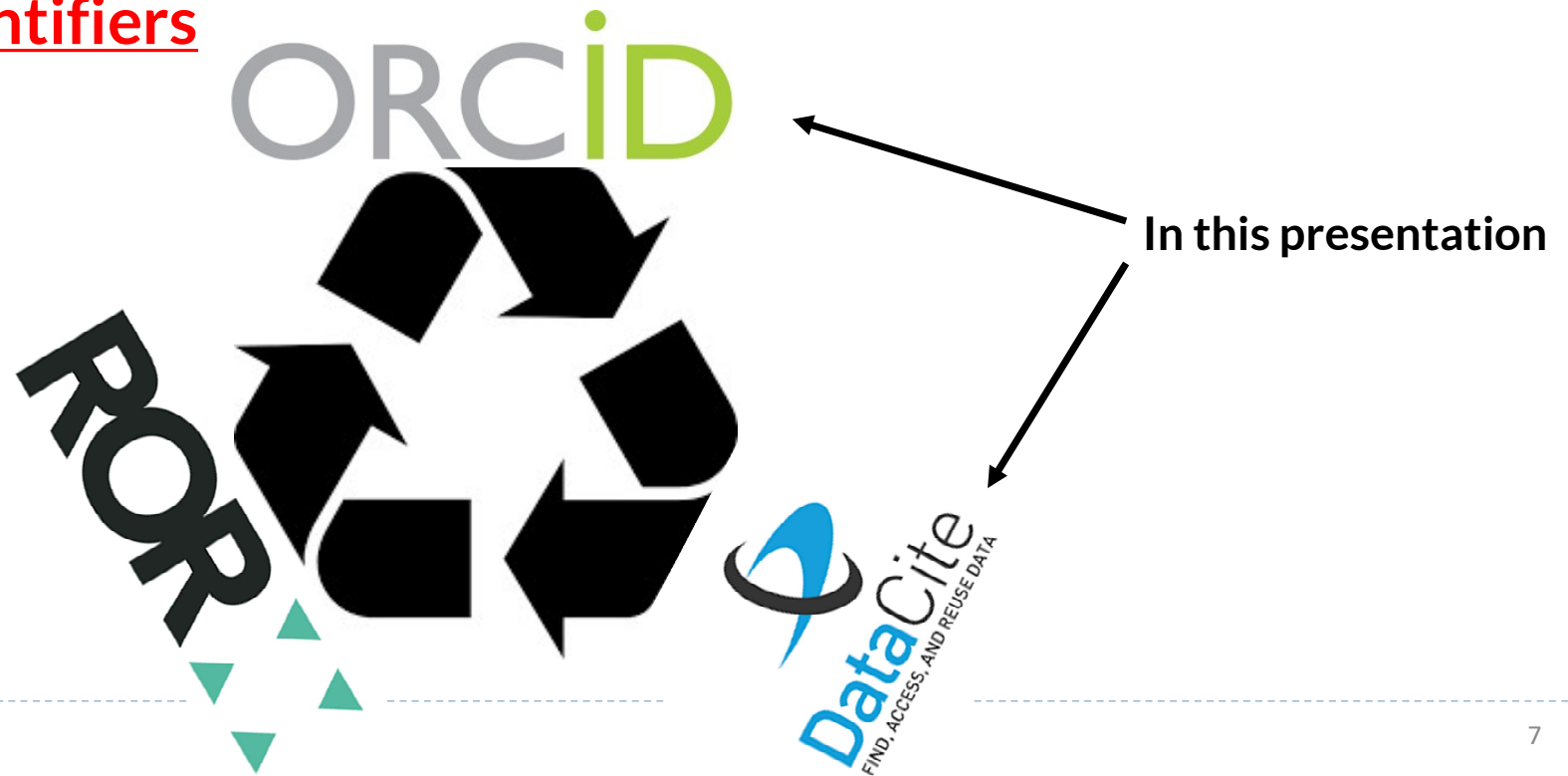
www.sci-gaia.eu/knowledge-base



- > 4,000 repositories
- $3 \cdot 10^7$ docs/datasets/OERs
- **Few repositories in Africa, even less the FAIR-compliant ones**

The Africa visibility problem

- There's a problem of visibility of both African researches and African researchers
- How to tackle it? → Promote and spread a coherent use of **persistent identifiers**



Opportunity #1: persistent identifiers for African research



- In January 2017, an agreement was established between the University of Catania and the Conference of Italian University Rectors (CRUI) to extend the possibility to provide DataCite DOI prefixes to African organizations wishing to deploy an institutional Open Access Repository
- 4 DOI prefixes were released:
 - The African Population and Health Research Centre (KE and Intl.) 
 - The Eko-Konnect Research and Education Initiative (NG) 
 - The Ministry of Education of Ethiopia, through EthERNET 
 - The UbuntuNet Alliance (MW and Intl.) 
- **In 2021, the UbuntuNet Alliance has become a DataCite Member and all other organisations are directly supported by DataCite**
 - (To become a DataCite Member, visit <https://datacite.org/become.html>)



Opportunity #2: the INFN Open Access Repository

The screenshot displays the INFN Open Access Repository interface. The top navigation bar includes the INFN OAR logo, a search bar, and user information for 'roberto.barbera@ct.infn.it'. The main content area is divided into two sections: a list of 'Latest entries' and a detailed view of a document.

Latest entries:

- January 2, 2021 (v270) Plot Open Access**
CovidStat project summary plots
Lista, Luca; Menasce, Dario; Mezzetto, Mauro; Pedrini, Daniele; Spighi, Roberto
This record contains the daily update summary plots of the data of the CovidStat project. CovidStat is a project carried out by the CovidStat Working Group at INFN, whose creation was promoted within the Italian National Institute of Nuclear Physics with the aim of making a statistical analysis...
Uploaded on January 3, 2021
269 more version(s) exist for this record
- January 2, 2021 (v269) Dataset Open Access**
CovidStat project data
Lista, Luca; Menasce, Dario; Mezzetto, Mauro; Pedrini, Daniele; Spighi, Roberto
This record contains the daily updated data of the CovidStat project. CovidStat is a project carried out by the CovidStat Working Group at INFN, whose creation was promoted within the Italian National Institute of Nuclear Physics with the aim of making a statistical analysis of the data provided...
Uploaded on January 3, 2021
268 more version(s) exist for this record
- December 24, 2020 (v0) Software Open Access**
CovidStat project analysis code
Lista, Luca; Menasce, Dario; Mezzetto, Mauro; Pedrini, Daniele; Spighi, Roberto; Varaschin, Antonella; Zoccoli, Antonio
This record contains the software to analyse the data of the CovidStat project. CovidStat is a project carried out by the CovidStat Working Group at INFN, whose creation was promoted within the Italian National Institute of Nuclear Physics with the aim of making a statistical analysis of the...

Document View:

November 23, 2020 Technical note Open Access

Synthetic procedure to replicate the INFN Open Access Repository (based on Invenio v3 and Zenodo)

Fargetta, Marco; Rotondo, Riccardo; Barbera, Roberto
This document contains a synthetic procedure to replicate the INFN Open Access Repository.

533 views 291 downloads
[See more details...](#)

Publication date: November 23, 2020
DOI: [10.15161/oar.it/73283](https://doi.org/10.15161/oar.it/73283)
Keyword(s): infn, openaccessrepository, invenio, zenodo
Related identifiers:
References: [10.15161/oar.it/21260](https://doi.org/10.15161/oar.it/21260)
Communities: INFN

Based on **INVENIO** and **zenodo** with some specific add-on's



NADRE Objectives

- To increase the access of academics and citizens in Ethiopia and worldwide to research works published by Ethiopian researchers at one of the Ethiopian universities or research institutions
- To foster the dissemination of research outcomes and make them, as well as their authors, more visible inside and outside the country
- To spread completed research to other corners of the country to allow other researchers to build on. For the time being, the NADRE will mainly include Master theses, dissertations, journals, articles, conference proceedings as well as all works published by researchers from Ethiopian universities and research institutions as well as from Ethiopian researcher living abroad. All artefacts will be published under open licenses (e.g., Creative Commons licenses) and will be tagged with Digital Object Identifiers (DOIs)



NADRE

(<https://nadre.ethernet.edu.et>)

The screenshot displays the NADRE website interface. At the top, there is a search bar, an 'Upload' button, and a 'Communities' link. The user profile 'roberto.barbera@ct.infn.it' is visible. The main content area is titled 'Latest entries' and lists three entries:

- June 1, 2018 (v1)** | Thesis | Open Access | View
An Integration of Prediction Model with the Knowledge Based System for Diagnosis and Treatment of Diabetes: In Case of Debre Berhan Referral Hospital
BELETEW, TILAHUN
Diabetes is one of the most prevalent non-communicable diseases when raised levels of glucose in the blood because the body cannot produce any or enough of the hormone insulin or use insulin effectively. If the disease is not managed on time, it will born long-term diabetic complications like...
Uploaded on May 18, 2020
- June 1, 2019 (v1)** | Thesis | Open Access | View
Minimum Threshold Value Based Jellyfish Periodic Drop Attack Detection Algorithm (MTV-JPDADA) for Mobile Ad Hoc Networks (MANETs)
Dawit, Seyifu Woldehanna
Mobile ad hoc network (MANET) is a type of wireless network that operates without dedicated network infrastructure. This kind of network does not have a mechanism to detect malicious users. Due to high vulnerabilities in mobile ad-hoc networks, nodes could be exposed to attacks by malicious...
Uploaded on May 18, 2020
- July 1, 2019 (v1)** | Thesis | Open Access | View
Queue Length Aware Ad Hoc on Demand Distance Vector Routing Protocol for Mobile Ad Hoc Networks
Eyob, Temesgen
Now a day's, due to the popularity of portable computers and the increasing demands of users to access computing services in a better way, an alternative way of network service access is required. Thus, mobile ad hoc network (MANET) is one of the alternatives to achieve this requirement by...
Uploaded on May 18, 2020

The right sidebar contains the following information:

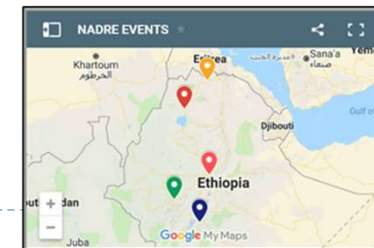
- National Academic Digital Repository of Ethiopia**
- Research. Shared.** — all research outputs from across all domains of Ethiopian research are welcome!
- Findable. Citeable. Discoverable.** — each upload gets a Digital Object Identifier (DOI) to make it easily and uniquely citeable. You can (automatically) link your research outputs to your ORCID profile.
- Communities** — create and curate your own community for a workshop, project, Division, Laboratory, service, journal, etc. into which you can accept or reject uploads.
- Funding** — you can associate an upload to the grant that has funded the work.
- Flexible licensing** — you can choose among several licenses. You can also upload closed or embargoed research outputs.

Below the sidebar, there is a 'Tweets by @PMEthiopia' section showing a tweet from the Office of the Prime Minister - Ethiopia retweeted by Abiy Ahmed Ali.

- Adopts leading-edge technologies in the domain of digital repositories
- Exploits the concept of “communities”, which is central in the Zenodo architecture, to cope with several aggregation of contents: about 80 communities from many Ethiopian universities have already been created
- Supports DOI versioning
- **Is compliant with FAIR principles**
- **Is compliant with Plan S requirements**

▶ Based on the INFN Open Access Repository

NADRE Events



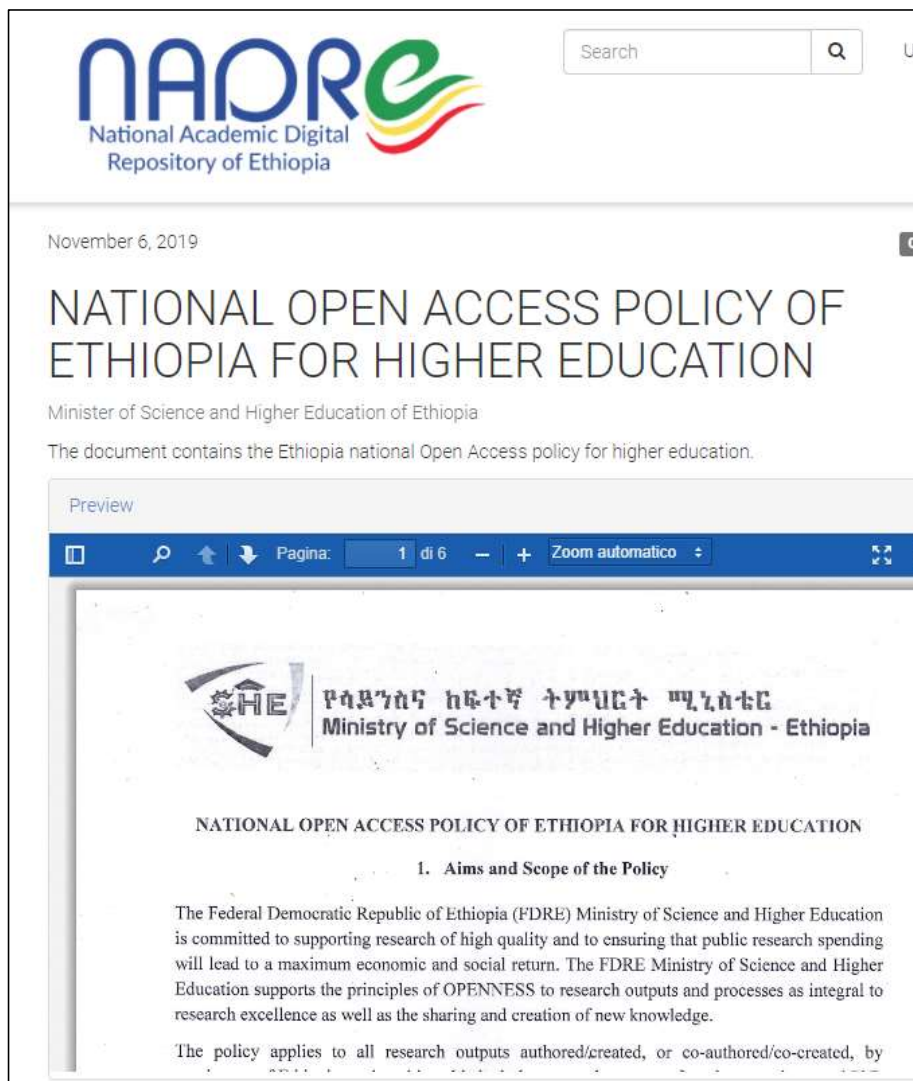
About 330 Ethiopian users (researchers, teachers) and experts (librarians, IT staff) have been trained in 5 events across the country

300+ new ORCID profiles have been created



The National Open Access Policy of Ethiopia for Higher Education

(<https://doi.org/10.20372/nadre/4192>)



The screenshot shows the NADORE website interface. At the top left is the NADORE logo with the text "National Academic Digital Repository of Ethiopia". A search bar is located at the top right. Below the logo, the date "November 6, 2019" is displayed. The main title of the document is "NATIONAL OPEN ACCESS POLICY OF ETHIOPIA FOR HIGHER EDUCATION", followed by the author "Minister of Science and Higher Education of Ethiopia". A preview of the document is shown below, including the document's header with the Ministry of Science and Higher Education logo and name, the title, and the first section "1. Aims and Scope of the Policy". The preview text states: "The Federal Democratic Republic of Ethiopia (FDRE) Ministry of Science and Higher Education is committed to supporting research of high quality and to ensuring that public research spending will lead to a maximum economic and social return. The FDRE Ministry of Science and Higher Education supports the principles of OPENNESS to research outputs and processes as integral to research excellence as well as the sharing and creation of new knowledge. The policy applies to all research outputs authored/created, or co-authored/co-created, by..."



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Ministry of Science and Higher Education - Ethiopia

NATIONAL OPEN ACCESS POLICY OF ETHIOPIA FOR HIGHER EDUCATION

1. Aims and Scope of the Policy

The Federal Democratic Republic of Ethiopia (FDRE) Ministry of Science and Higher Education is committed to supporting research of high quality and to ensuring that public research spending will lead to a maximum economic and social return. The FDRE Ministry of Science and Higher Education supports the principles of OPENNESS to research outputs and processes as integral to research excellence as well as the sharing and creation of new knowledge.

The policy applies to all research outputs authored/created, or co-authored/co-created, by employees of Ethiopian universities; this includes research outputs of graduate students and PhD students. It complements and does not override the Open Access requirements of research funders as they apply to their funded research.

Researchers and research students have to make themselves visible and findable, using persistent identifiers such as ORCID IDs, and their outputs available on an Open Access basis, if their research resulting entirely or partly from public funding.

For this purpose, the FDRE Ministry of Science and Higher Education has defined the following policy which must be observed by all recipients of public research funding as of June 17,2019.



SOREER

SOMALI RESEARCH AND EDUCATION REPOSITORY



Some Background

- The Somali higher education sector has in the past 6 years accepted research as a critical output for international and national accreditation and started a trend of research production and management commitment
- SomaliREN's Digital Repository Services Initiative started as a response to this research focus of the member institutions
- Previous efforts to deploy DSpace as the platform for the repositories did not turn out as expected
 - A key challenge was the dependence on external resources to implement the system and provide support

Motivations

- Lack of localized open access research output
 - The limited research outputs produced by local institutions were not adequately showcased to interested constituencies and global citizens outside academic institutions
- Limited research output visibility
 - This has negatively branded the universities as in-competent to produce any form of research content
- Quality of the research output needed to be improved
- No measures against localized plagiarism that can severely impact academic integrity

SORER

(<https://sorer.somaliren.org.so>)

Seamless integration with ORCID

The screenshot displays the SORER (Somali Research and Education Repository) website. At the top left is the SORER logo. A search bar and a user profile dropdown (showing 'roberto.barbera@ct.infn.it') are at the top right. The main content area features 'Latest entries' with two items. The first entry, dated May 19, 2021, is a conference paper titled 'Brokerage Event Towards a FAIR Compliant Commons in the ASREN Region'. The second entry, dated March 16, 2021, is a presentation titled 'Somali Research and Education Repository: motivations, status, perspectives, and opportunities'. Both entries include ORCID icons next to author names. A sidebar on the right contains a 'Somali Research and Education Repository' section with a list of features: Research, Shared; Findable, Citeable, Discoverable; Communities; and Funding. Arrows from the 'Seamless integration with ORCID' header point to the ORCID icons in the entry lists.

- It's a NADRE twin
- Two Introductory workshops so far:
 - Workshop for Rectors, VCs and Heads of Member Institutions
 - SORER Technical Workshop for University ICT directors and librarians
- 10 different Communities already created
- Research outputs published on SORER get DataCite DOIs
 - (Thanks to UbuntuNet Alliance)
- SORER technical guide has been prepared and published on the repository
- **Open to non-SomaliREN users (thanks to the Zenodo concept of "Communities")**

Based on the INFN Open Access Repository

SORER-ORCID integration (1/2)

The screenshot shows a login interface with the following elements:

- Log in
- Log in with your organisation
- Log in with GitHub
- Log in with ORCID** (highlighted with a blue box and an arrow)
- OR —
- Email Address
- Password
- Log In

Specific metadata in the upload form

The screenshot shows an 'Authors' list with the following entries:

Name	Organisation	ORCID ID
Torhan, Yousef	ASREN, Jordan	Optional. ORCID (e.g.: 0000-0002-18)
Al Khatiri, Anwar	Kuwait Technical College, k	Optional. ORCID (e.g.: 0000-0002-18)
Al-Zoubi, Raed	ASREN, Jordan	Optional. ORCID (e.g.: 0000-0002-18)
Alkhaia, Alwaleed K	QNL, Qatar	Optional. ORCID (e.g.: 0000-0002-18)
Ahmed, Mohamed Ali	SomaliREN, Somalia	Optional. 0000-0001-8911-735X
Barbera, Roberto	University of Catania, Italy	Optional. 0000-0001-5971-6415
Boutracheh, Hicham	IMIST, Morocco	Optional. ORCID (e.g.: 0000-0002-18)
Braik, Yassar Hanna	SVU, Syria	Optional. ORCID (e.g.: 0000-0002-18)
Cousijn, Helena	DataCite, Germany	Optional. 0000-0001-6660-6214
Gfrerer, Margareth	HESC, Ethiopia	Optional. 0000-0001-6429-5977

SSO with ORCID ID – Promote ORCID as an Identity Provider

SORER-ORCID integration (2/2)

The screenshot displays the ORCID user interface for Mohamed Ali Ahmed. The main profile page on the left shows various sections: 'Invited positions and distinctions (0)', 'Membership and service (1)' (listing 'Somali Network Operators Group'), 'Funding (0)', and 'Works (1 of 1)'. The 'Works' section is expanded to show a list of publications, with the 'DataCite' entry circled in red. The 'DataCite' entry includes the text 'Enable the DataCite Search & Link and Auto-Update services. Search the DataCite Metadata Store to find you'. A red circle highlights the 'DataCite' label in the list.

Overlaid on the profile page are two 'DataCite Profiles' settings windows. The top window shows the profile details for Mohamed Ali Ahmed (ORCID ID: https://orcid.org/0000-0001-8911-735X) with the 'Get ORCID Token' button circled in red. The bottom window shows the 'ORCID Permissions' section, where the 'Delete ORCID Token' button is circled in red. At the bottom right of the interface, an 'Update' button is also circled in red.

On the right side of the image, there is an 'Authorize access' window for ORCID, showing the user is signed in as Mohamed Ali Ahmed and providing a 'SIGN OUT' link.

Summary and conclusions

- Persistent identifiers (DataCite, ORCID and ROR) can play a key role in increasing visibility of researchers and their research outputs (especially in Africa)
- From the technical point of view:
 - Deploy digital repositories and connect them to providers of persistent identifiers
- From the education point of view:
 - Promote Open Access/Open Science, digital repositories and persistent identifiers on the same basis and train researchers to use them
- From the policy point of view:
 - Make digital repositories and persistent identifiers sustainable in the long term by including them in national Open Access/Open Science policies



Thank you!

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Mahadsanidiin!

