

BOSS Events Open Science FAIR symposium Report

Introduction

The Open Science FAIR Symposium was part of a series of events organized by OpenScienceKE and Bioinformatics Hub of Kenya Initiative (BHKi) and funded by Code for Science and Society (CS&S). The goal of the Open Science FAIR symposium was to sensitize the participants on FAIR open data science practices such as project planning and organization, collaboration, licensing, data sharing, among others, and expose them to use open science tools that facilitate these practices.

Date and Venue

The Open Science FAIR symposium took place as a virtual event via Zoom on 11– 15 October 2021.

Participants

In total, we received about 130 applications for the open science FAIR symposium. These participants were from various African countries such as Kenya, Uganda, Cameroon, Morocco, Nigeria, Tunisia, Botswana, Ghana, South Africa, Tanzania, and Zimbabwe. We also had participants outside the African continent from countries such as the United States of America, India, Lithuania, France, Bangladesh, Iran, New Zealand, South Korea, and Portugal.

Attendance

We had an approximate of 35-55 participants on the different days from different regions. Participants who joined the sessions came from countries such as Kenya, Uganda, Tanzania USA, Zimbabwe, South Africa, and South Korea.

Organizers, Instructors, and Helpers

The main organizers of the open science FAIR symposium were Pauline Karega and Kennedy Mwangi assisted by the BHKi team who were also helpers during the symposium. There were 8 instructors for the symposium who presented on various topics listed in the next section.

Symposium Sessions

We had five (5) symposium sessions that spanned several topics. The topics included open science, research data management, project planning, reproducibility in research, and contribution to open source projects: “a practical approach”.

Monday, October 11th: Open Science

Joy Owango introduced the participants of the symposium to open access publishing. In her presentation, she highlighted that there has been a steady increase in open access research in Africa over the years and there was an increase in open access publications in Africa and the world in 2020. She stated that one of the roles of the Training Centre in Communication (TCC AFRICA) is to promote open science by helping libraries to adopt FAIR principles to increase the visibility of their output.

Kennedy Mwangi presented on the status of open science in Kenya based on a previous publication by OpenScienceKE members. He highlighted that there are growing resources in Kenya to support open science such as Open Education Resources and institutional repositories.

The open discussion sessions were moderated by Caleb Kibet and the panel included Joy Owango, Roheena Anand, and Kennedy Mwangi.

Tuesday, October 12th: Research data management

Sara El-Gebali’s presentation focused on FAIR principles in research data management, best practices in research data management, and Open Data challenges. Some of the challenges noted in sharing data openly include ownership issues and misinterpretation of the data.

Ziyaad Parker’s presentation focused on steps that can be taken to make data FAIR. Some of the techniques suggested include the use of GitHub and persistent identifiers.

Wednesday, October 13th: Project planning

Caleb Kibet presented on project planning and highlighted some of the tools used in the process of project planning such as in analyzing data e.g Amazon cloud, jupyter notebooks, using workflow languages such as Nextflow to ensure reproducibility, data sharing such as Dryad and figshare. He stated that research should be open by design during the research life cycle.

Thursday, October 14th: Reproducibility in research

Malvika Sharan's presentation focused on reproducibility in research. She highlighted some of the advantages of reproducibility in research such as promotion of collaboration, avoiding misinformation and ensuring continuity in research. Some of the tools that can be used to ensure reproducibility include Binder, Conda, Docker, virtual box.

Pauline Karega presented on the Bioinformatics Hub of Kenya initiative (BHKi) journey from its inception to its current status. She stated that the current membership is about 50 and they hold Science cafes, workshops, conferences, seminars, AGM meetings. Some of the past events were highlighted as well as lessons learned from creating the community.

Friday, October 15th: Contribution to open source projects: “a practical approach”

Yo Yehudi and Nikoleta Glynatsi held a joint presentation that mainly consisted of demonstration on how to create a GitHub account and make contributions to a repository. They also talked about open source and defined it as sharing of work in a manner that enables its re-use and re-mixing by others. Open source work should be accompanied by licences that enable re-use and sharing.

Outcomes of the Symposium

We received feedback from five (5) participants via the post-symposium survey. Although a few participants responded, their response showed that the symposium met their expectations (On a scale of 1 to 5 with five being the highest, three participants chose 4 and two participants chose 5).

Accessibility of training material

The training material are the speakers' presentations which are available [on GitHub as links](#) and recordings of the symposium session which are available on YouTube on a [playlist](#).

Recommendations

- Make frequent reminders to the participants to take the pre- and post-symposium surveys. Reminders can be via the email.
- Collect symposium resources together and share immediately when the sessions are over.
- Give more time for presentations
- Include more practical aspects of the symposium topics e.g. implement an open science project.