DIGITAL TOOLS FOR COLLABORATIVE RESEARCH

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“In the Gulf states, we have scarcity of water and rain. Universities within the same region could work on water desalination projects and issues related to marine environment and marine pollution because of the oil tankers in an enclosed sea mass such as the Gulf. How can regional universities work together towards solving a common challenge or problem?”

Dr. Hassan Rashid Al-Derham, President of Qatar University
Collaboration in Research

Types of Collaboration

i. Networks and interest Groups
ii. Shared document creation
iii. Collaborative Information Creation and Sharing
iv. Communication

Why Collaborate in Research

i. Pooling of Equipment
ii. Sharing of Knowledge, skills & Techniques
iii. Source of Creativity
iv. Greater Scientific Visibility
v. Intellectual Visibility /Expanded network
vi. Team Work Skills (Social & Management)
So how do Digital tools help our Collaboration Efforts as Africa
EXPLORE LITERATURE

- Tools that allow researchers to explore research articles available to date
- Article visualization tools that enhance your reading experience i.e. navigating from a paper to another
- Examples: Mendeley & Biohunter

CONNECT WITH OTHERS

- Need to help out in the community
- Researchers reach out to other researcher and find expertise for new collaborations.

FIND, SHARE DATA & CODE

- Tools to manage large sets of data and programming code.
- Tools to help share and store data and code
- Examples: Databank
- Analysis and visualization tool that contains collections of time series data on a variety of topics.
**WRITE**

Tools that adapt to the needs of researchers
Reference management
Collaborative writing across labs and continents
keeping track of modifications and contributions done by others. e.g Labguru

**EVALUATE RESEARCH**

Tools that analyse the impact of one’s research. New tools that analyze the impact of your work by other means other than impact factor and citations counts.

**PUBLISH**

Open Access Platforms
Paper Repositories
Examples:
GigaScience
eLife
ScienceOpen
VIRTUAL ENVIRONMENTS

Example Experiments

- Image Processing Tasks
- CPU Design
- Memory Design
- Networking Experiments
- Automotive product development

Building an Atom
1. **DESIGN**
   Ship your samples to Emerald, then design your experiments over the web using our software.

2. **EXECUTE**
   Emerald conducts your experiments in an automated lab exactly as you specified.

3. **EXPLORE**
   Emerald organizes your data into a database on the cloud which you can access from anywhere.

4. **ANALYZE**
   Ship samples back to your lab and analyze your results using our extensive data analysis suite.
Collaboration efforts in Africa: Web based research performance measurement tools.

Demonstrate the impact and importance of institutional research output.
Simplify the presentation of research performance over time and across scientific fields, focusing on specific topical areas or research thrusts.
Pinpoint topical strengths.
Identify leading researchers and institutions in each area.
Optimize funding allocations.
Assist in recruitment processes and research collaboration decisions.

PARTICIPANTS

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