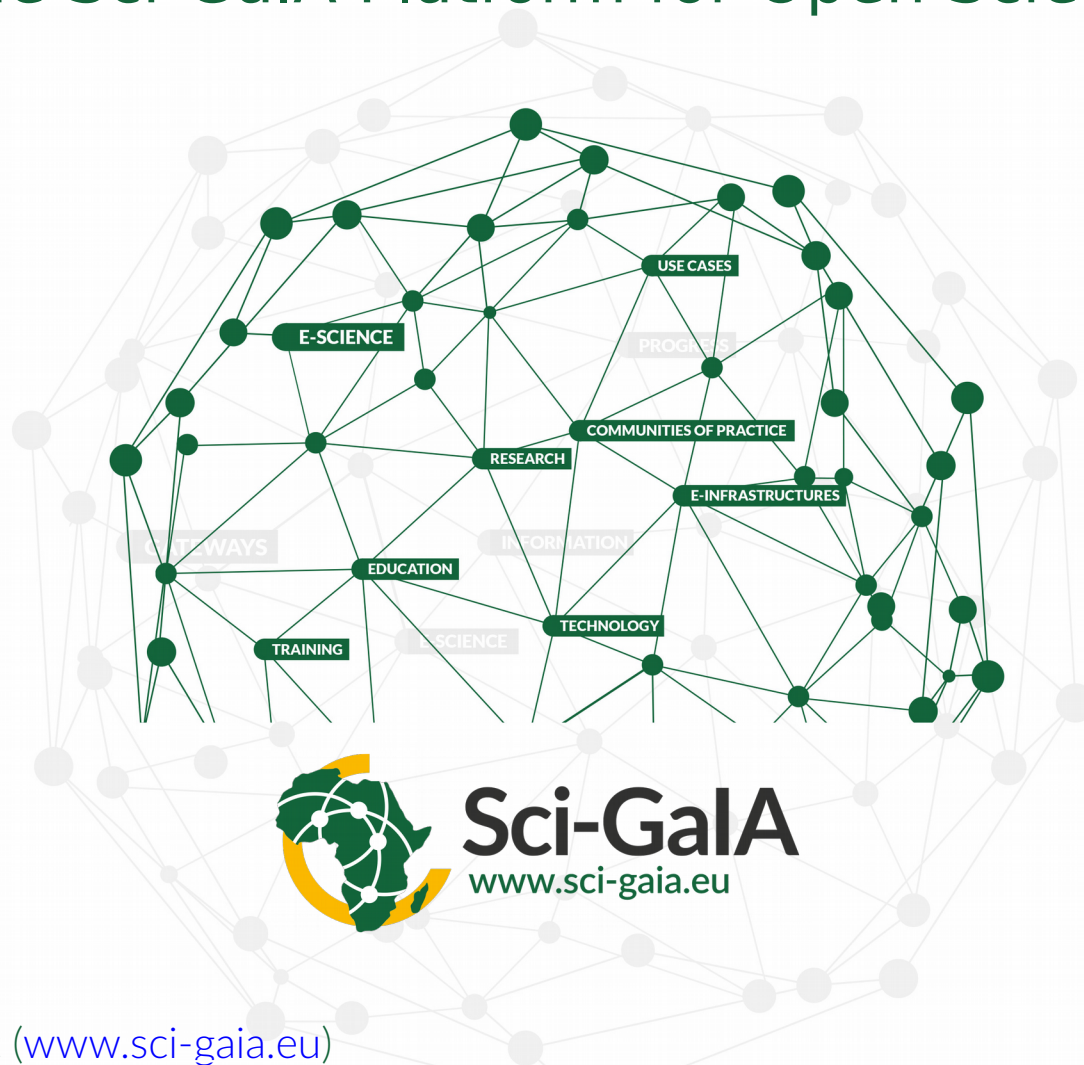


The Sci-GaIA Platform for Open Science



The Sci-GaIA Project (www.sci-gaia.eu)

Bruce Becker, CSIR for Roberto Barbera and Sci-GaIA consortium.



This project has received funding from the European Union's
Horizon 2020
research and innovation programme under grant agreement n°



Outline

- Introductory concepts, definitions and driving considerations
- How e-Infrastructures enable research
- Open Science – The Commons
- Summary and conclusions

The Sci-GaIA Project

(www.sci-gaia.eu)

- **Energising Scientific Endeavour through Science Gateways and e-Infrastructures in Africa**
- Research Infrastructures – Coordination & Support Action
- Grant Agreement no. 654237
- EC contribution: ~1.4 MEuro
- Start date: 1 May 2015
- Duration: 24 Months



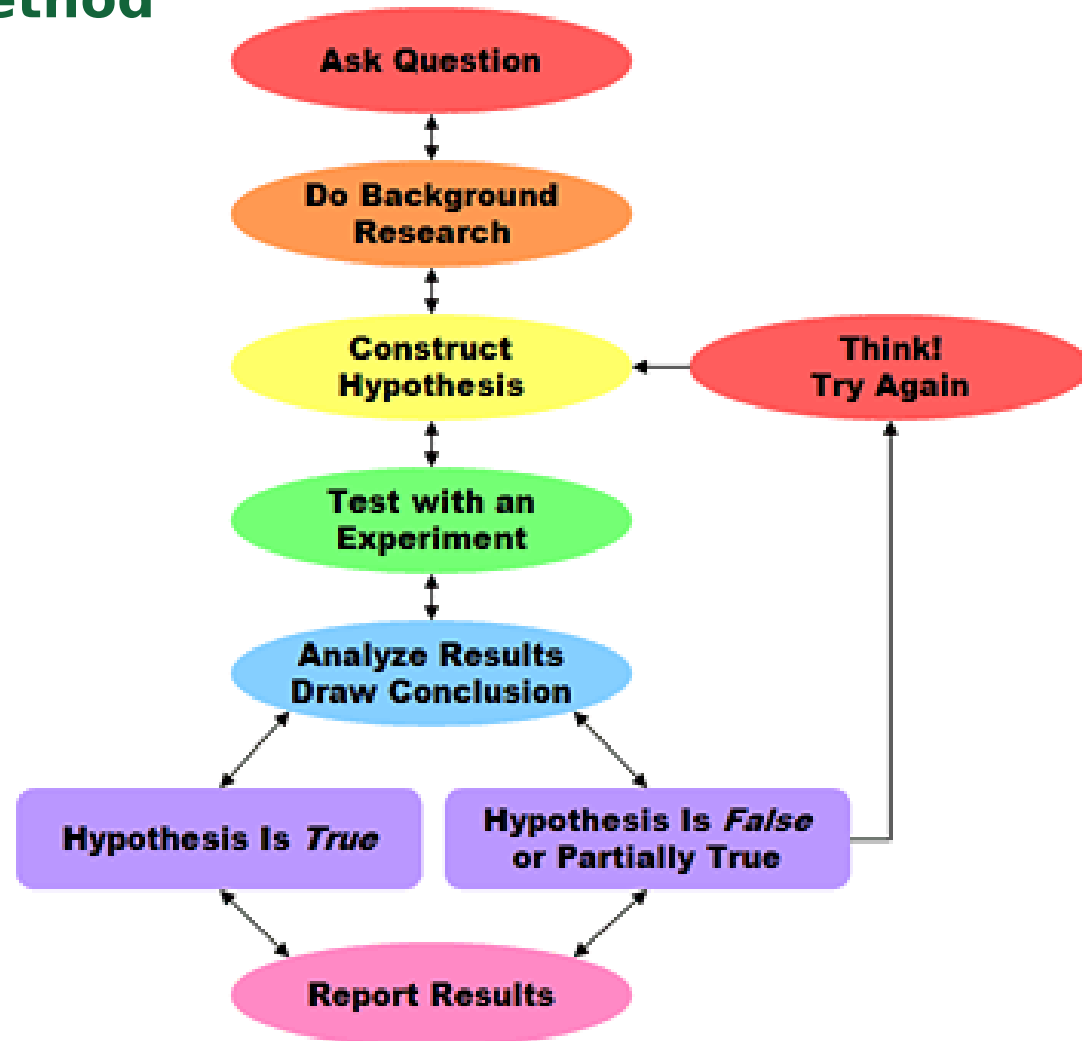
Bruce Becker

- Ph.D. 2007 from University of Cape Town
 - Study of the quark-gluon plasma at the ALICE experiment at CERN's Large Hadron Collider
 - Data acquisition and offline computing for ALICE
 - Postdocs at CEA Saclay, Paris and INFN Cagliari
- 2009 CSIR Meraka Institute
 - Coordinator of South African National Grid (9 universities)
 - Migrated to SANREN Competency Area in Meraka – Advanced Services for the network
- 2013 – Coordinator : Africa-Arabia Regional Operations Centre
<http://www.africa-grid.org>
 - FP7 projects : CHAIN, CHAIN-REDS, ei4Africa
 - HP/UNESCO Brain Gain Initiative

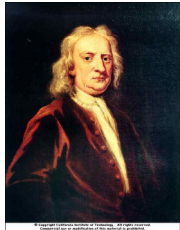
The Scientific Method



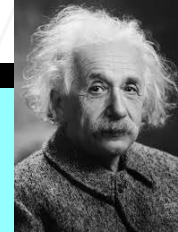
G. Galilei



The Scientific Method



Inductive
Reasoning



Deductive
Reasoning

OBSERVATION / EXPERIMENT



Generalizations



PARADIGM / THEORY

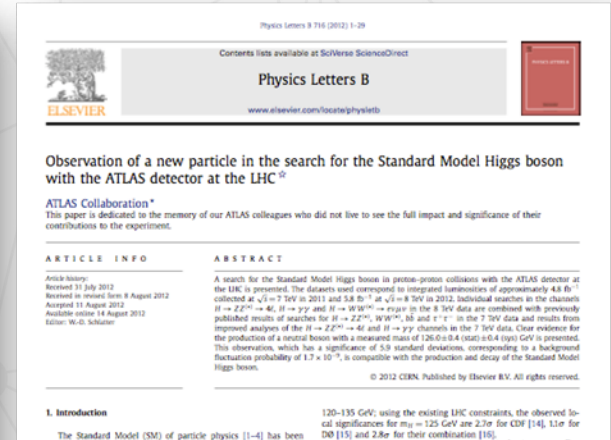
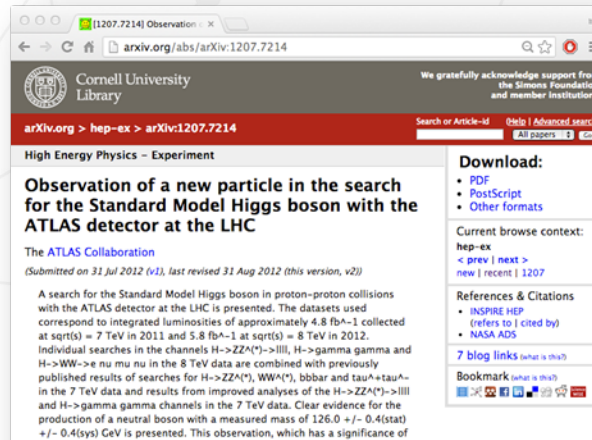
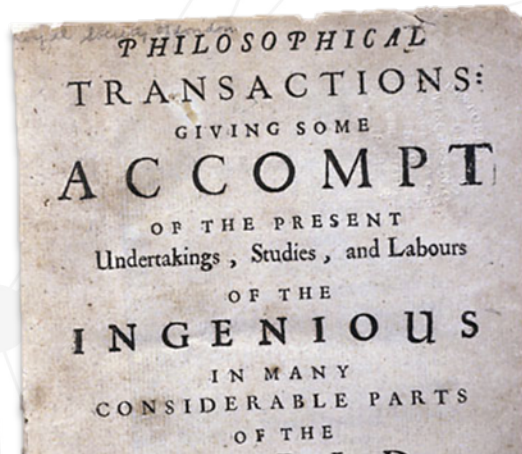


Predictions



- **Examples of IR:**
 - Classical Mechanics
 - Newton's Gravitation Theory
- **Examples of DR:**
 - General Relativity
 - Standard Model

The “output” of the Scientific Method



Marked a real Scientific Revolution
but...
it is the same since almost 4
centuries!

The Pillars of the Scientific Method

- **Repeatability**

- The closeness of agreement between independent results obtained with the same method on identical test material, under the same conditions (same operator, same apparatus, same laboratory and after short intervals of time)
- Affected by *random errors*

- **Reproducibility**

- The closeness of agreement between independent results obtained with the same method on identical test material but under different conditions (different operators, different apparatus, different laboratories and/or after different intervals of time)
- Affected by *systematic errors*

COMMENT

AVIAN INFLUENZA Shift expertise to track mutations where they emerge **p.534**

EARTH SYSTEMS Past climates give valuable clues to future warming **p.537**

HISTORY OF SCIENCE Descartes' lost letter tracked using Google **p.540**

OBITUARY Wylie Vale and an elusive stress hormone **p.542**



Reproducibility crisis (1/2)

Must try harder

Too many sloppy mistakes are creeping into scientific papers. Lab heads must look more rigorously at the data — and at themselves.

Error prone

Biologists must realize the pitfalls of work on massive amounts of data.

If a job is worth doing, it is worth doing twice

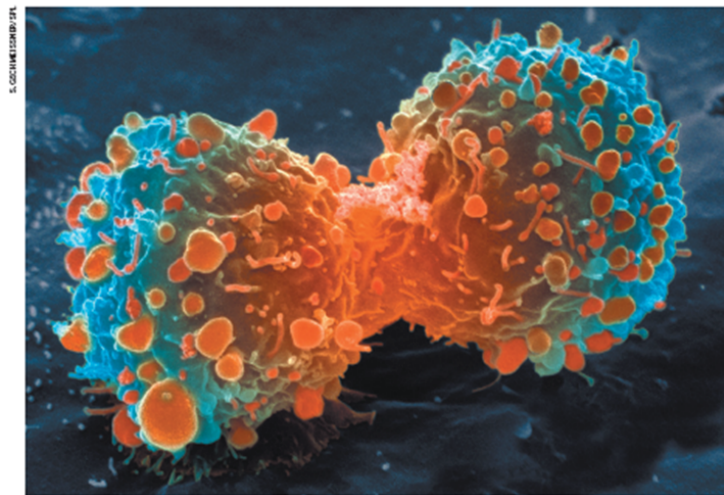
Researchers and funding agencies need to put a premium on ensuring that results are reproducible, argues Jonathan F. Russell.

The case for open computer programs

Six red flags for suspect work

C. Glenn Begley explains how to recognize the preclinical papers in which the data won't stand up.

Know when your numbers are significant



Many landmark findings in preclinical oncology research are not reproducible, in part because of inadequate cell lines and animal models.

Raise standards for preclinical cancer research

C. Glenn Begley and Lee M. Ellis propose how methods, publications and incentives must change if patients are to benefit.

Efforts over the past decade to characterize the genetic alterations in human cancers have led to a better understanding of molecular drivers of this complex set of diseases. Although we in the cancer field hoped that this would lead to more effective drugs, historically, our ability

to develop new drugs in oncology has the highest failure rate compared with other therapeutic areas. Given the high unmet need in oncology, it is understandable that barriers to clinical development may be lower than for other disease areas, and a larger number of drugs with suboptimal preclinical validation will

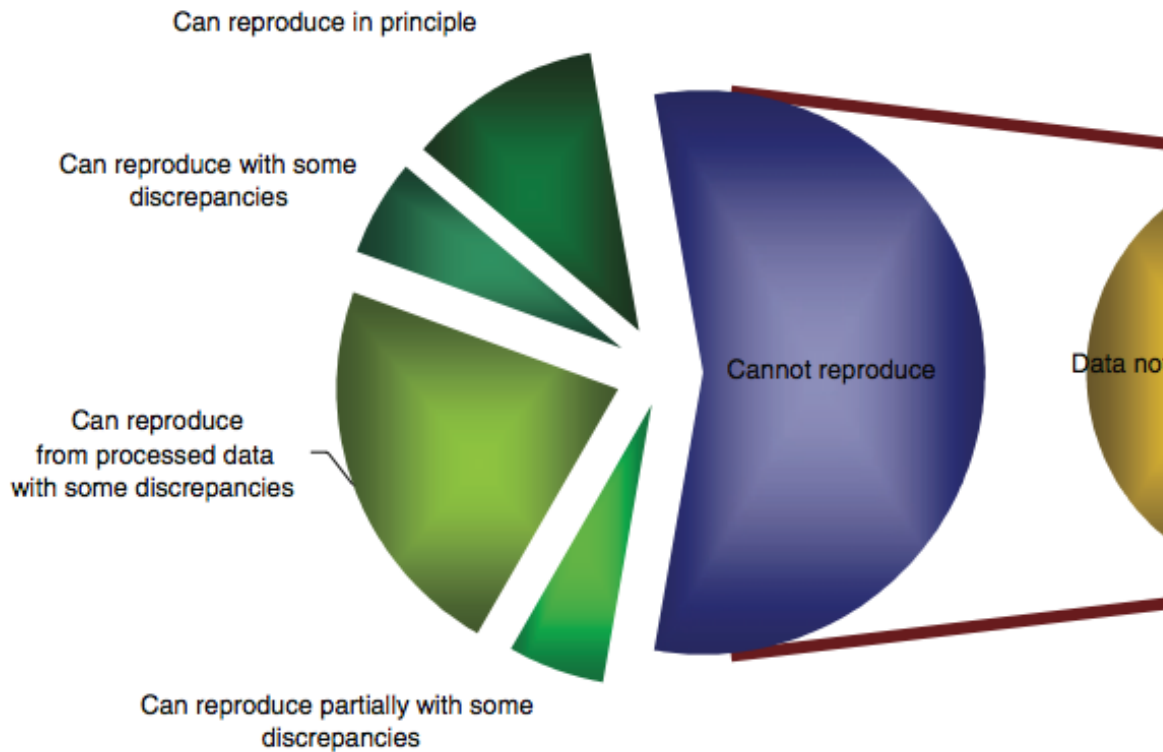
be marketed. Investigators must reassess their approach to translating discovery research into greater clinical success and impact.

Many factors are responsible for the high failure rate, notwithstanding the inherently difficult nature of this disease. Certainly, the limitations of preclinical testing

47/53 “landmark” publications could not be replicated

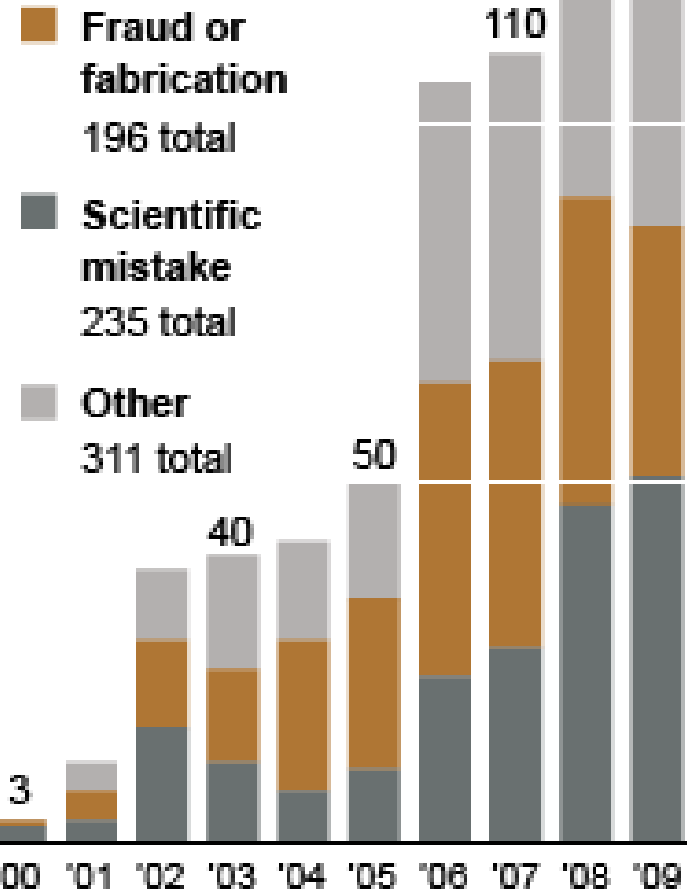
[Begley, Ellis Nature, 483, 2012]

Reproducibility crisis (2/2)



Retractions On the Rise

A study of the PubMed database found that the number of articles retracted from scientific journals increased substantially between 2000 and 2009.



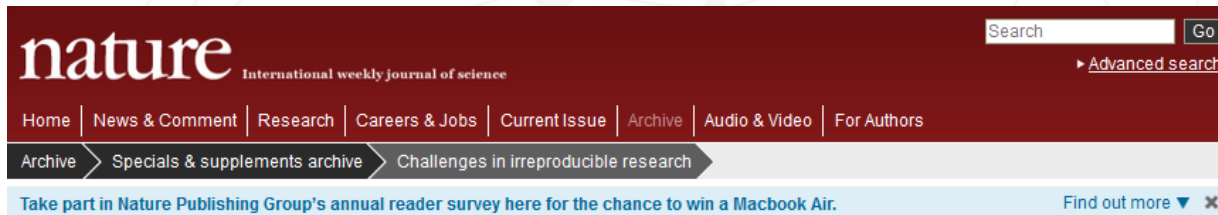
More retractions:

- >15x increase in the last 10 years
- At current rate, by 2045 as many papers published as retracted

1. Ioannidis et al., 2009. Repeatability of published microarray gene expression analyses.
2. Science publishing: The trouble with retractions <http://www.nature.com/news/2011/1110>
3. Bjorn Brembs: Open Access and the looming crisis in science <https://theconversation.com/open->

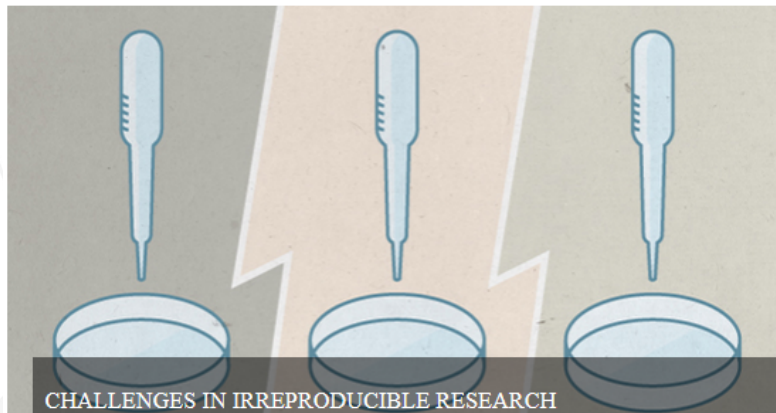
Challenges in irreproducible research

(<http://www.nature.com/nature/focus/reproducibility/index.html>)



SPECIAL

[See all specials](#)



CHALLENGES IN IRREPRODUCIBLE RESEARCH

No research paper can ever be considered to be the final word, and the replication and corroboration of research results is key to the scientific process. In studying complex entities, especially animals and human beings, the complexity of the system and of the techniques can all too easily lead to results that seem robust in the lab, and valid to editors and referees of journals, but which do not stand the test of further studies. *Nature* has published a series of articles about the worrying extent to which research results have been found wanting in this respect. The editors of *Nature* and the *Nature* life sciences research journals have also taken substantive steps to put our own houses in order, in improving the transparency and robustness of what we publish. Journals, research laboratories and institutions and funders all have an interest in tackling issues of irreproducibility. We hope that the articles contained in this collection will help.

Free full access

[▼ Editorial](#) [▼ Features](#) [▼ News and analysis](#) [▼ Comment](#)
[▼ Perspectives and reviews](#)

EDITORIAL

Journals unite for reproducibility

Consensus on reporting principles aims to improve biomedical research.

Nature 515, 7 (6 November 2014)

Code share

Papers in *Nature* journals should make computer code accessible where possible.

Nature 514, 536 (29 October 2014)

Reducing our irreproducibility

Nature 496, 398 (25 April 2013)

Further confirmation needed

A new mechanism for independently replicating research findings is one of several changes required to improve the quality of the biomedical literature.

Nature Biotechnology 30, 806 (10 September 2012)

Error prone

Biologists must realize the pitfalls of work on massive amounts of data.

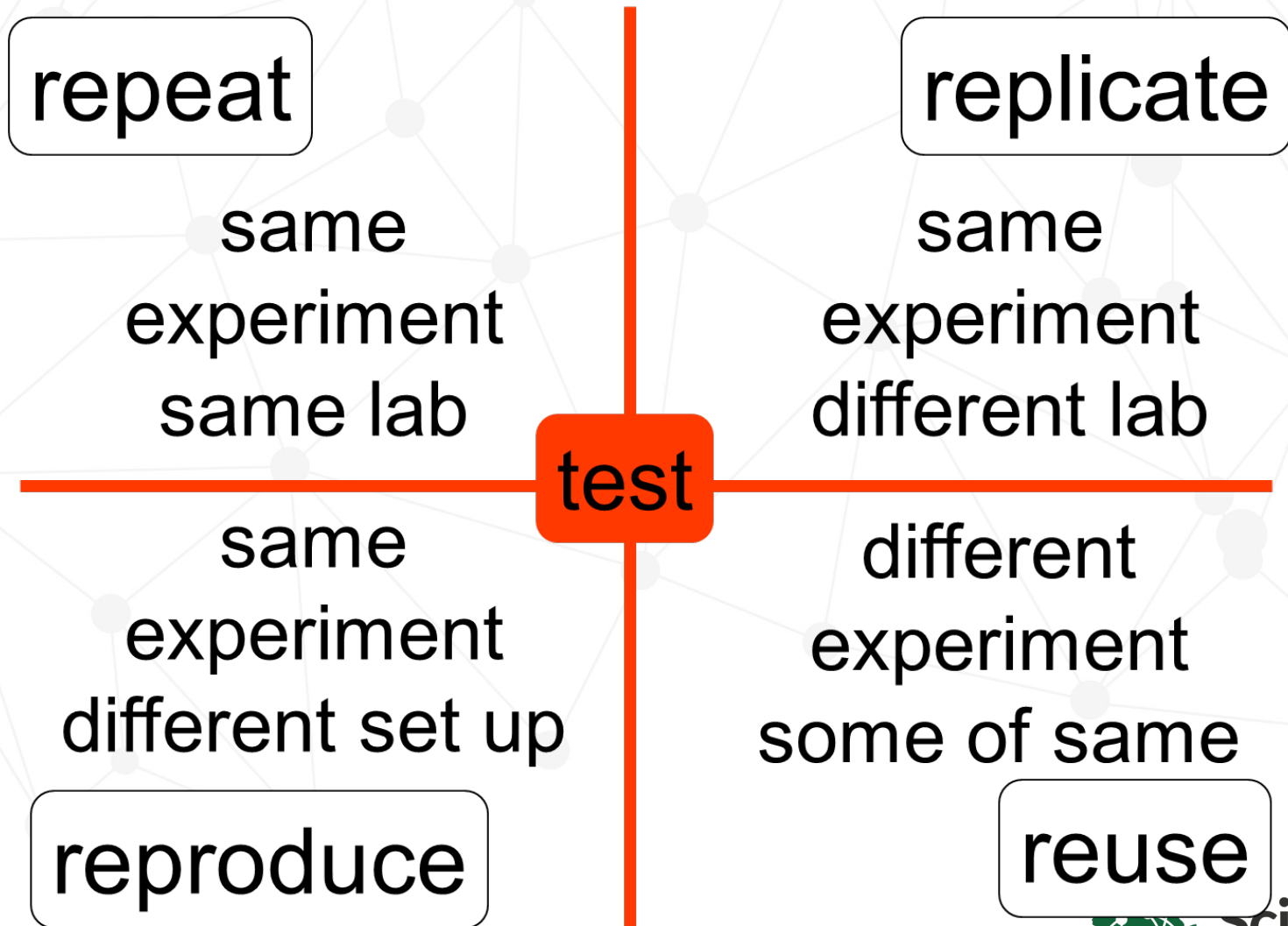
Nature 487, 406 (26 July 2012)

Must try harder

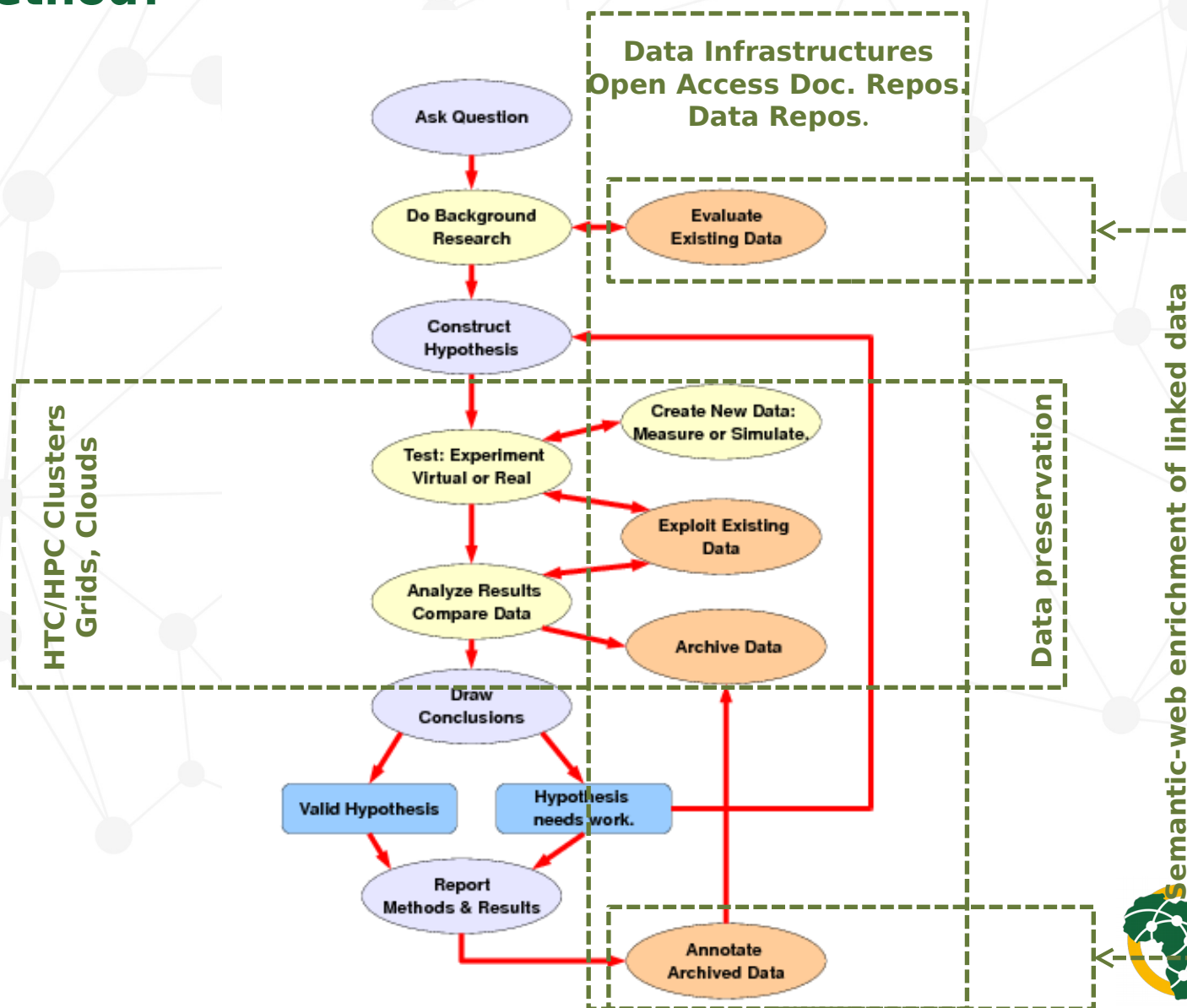
Too many sloppy mistakes are creeping into scientific papers. Lab heads must look more rigorously at the data — and at themselves.

Nature 483, 509 (29 March 2012)

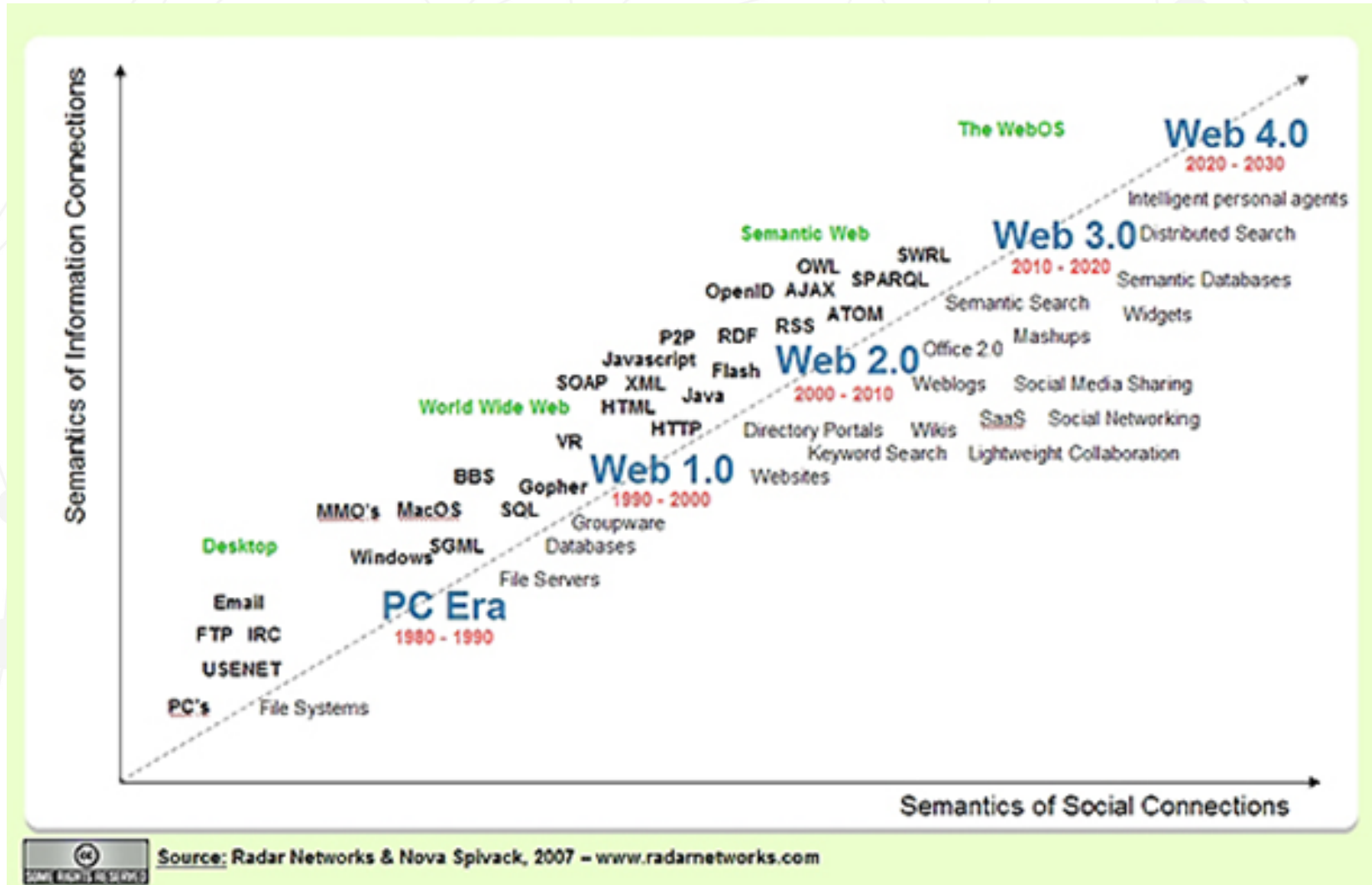
Repeatability and Reproducibility are not all...



How do e-Infrastructures support the Scientific Method?



Evolution of the Web



Web 2.0/3.0 technologies

(<http://lifeboat.com/ex/web.3.0>)

▶ **Ubiquitous Connectivity:**

- ▶ Broadband adoption;
- ▶ Mobile Internet access;
- ▶ Mobile devices;

▶ **Network Computing:**

- ▶ Software-as-a-service business models;
- ▶ Web services interoperability;
- ▶ Distributed computing (P2P, grid computing, cloud computing, [...]);

▶ **Open Technologies:**

- ▶ Open APIs and protocols;
- ▶ Open data formats;
- ▶ Open-source software platforms;
- ▶ **Open data** (Creative Commons, Open Data License, etc.);

▶ **Open Identity:**

- ▶ Open identity (OpenID);
- ▶ Open reputation;
- ▶ Portable identity and personal data (for example, the ability to port your user account and search history from one service to another);

▶ **The Intelligent Web:**

- ▶ Semantic Web technologies (Semantic application platforms, and statement-based datastores such as triplestores, tuplestores and associative databases);
- ▶ Distributed databases — [...]
- ▶ Intelligent applications (natural language processing, machine learning, machine reasoning, autonomous agents)."

Definitions

(<http://book.openingscience.org>)

- ▶ **“Science 2.0** refers to all scientific culture, including scientific communication, which employs features enabled by Web 2.0 [and Web 3.0] and the Internet”
- ▶ **“Open Science** refers to a scientific culture that is characterized by its openness. Scientist share results almost immediately and with a very wide audience”

Opening Science



ISBN: 331900025X

Opening Science

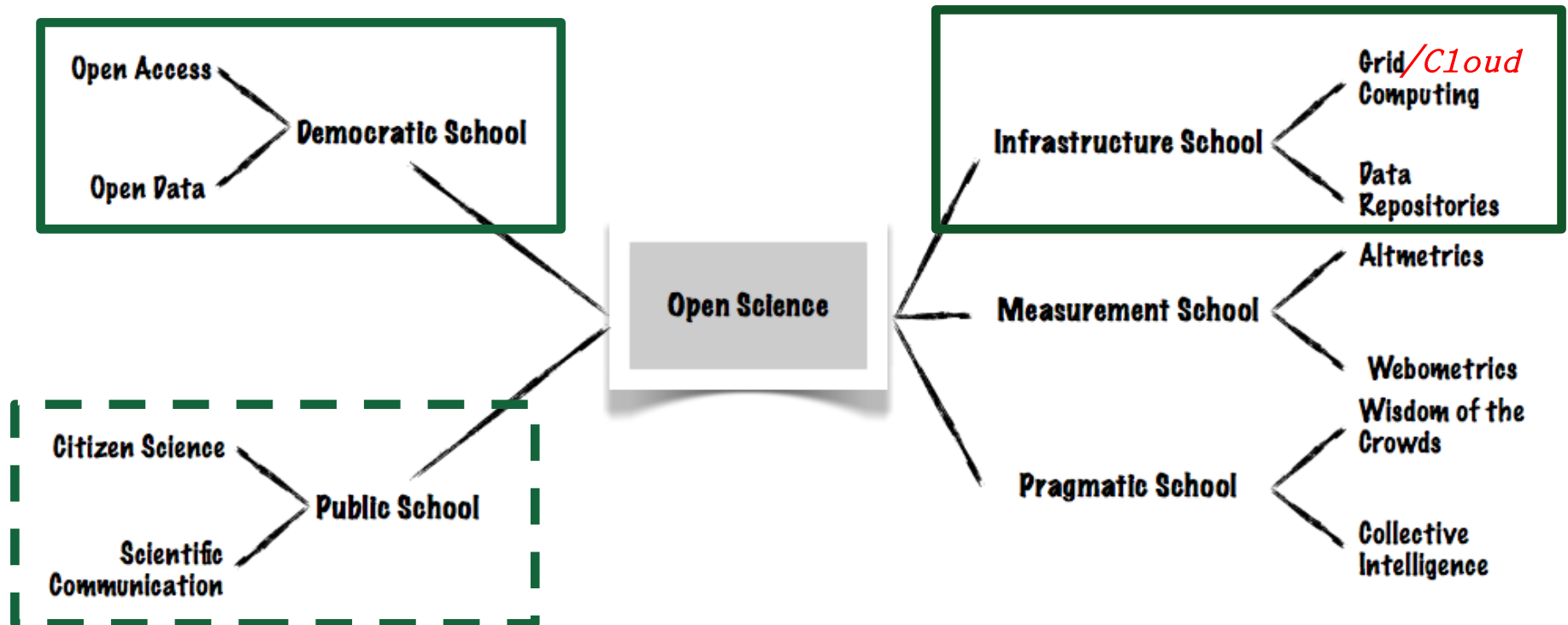
The Evolving Guide on How
the Internet is Changing
Research, Collaboration and
Scholarly Publishing

Figures

book.openingscience.org

Open Science Schools of Thought

(<http://book.openingscience.org>)



Open Science Commons pillars

- **Data:**
 - *“Data is the subject matter for research. It should be dealt with according to the principles of open access and open science, while maintaining trust and privacy for researchers”*
- **e-Infrastructures:**
 - *“The technology and technical services supporting researchers, building towards integrated services and interoperable infrastructures across Europe and the world”*
- **Scientific instruments:**
 - *“The equipment and collaborations which generate scientific data, from small-scale lab machines to global collaborations around massive facilities”*
- **Knowledge:**
 - *“The human networks, understanding and material capturing skills and experience required to carry out open science using the three other pillars”*

**e-Infrastructure
Knowledge Base**



Sci-GaIA

Energising Scientific Endeavour through Science Gateways
and e-Infrastructures in Africa

**Open Science
Commons Platform**

**Sci-GaIA
Open Access
Repository**
INVENIO

**Sci-GaIA
Online
Courses** **OPENedX**

**Africa Grid
Science Gateway**



**e-Infrastructure
User Forum**
Discourse



**Africa & Arabia
ROC**

The Sci-GaIA requirements for an Open Access Repository

- Requirements:
 - Open source
 - Standard compliant
 - Well supported
 - Scalable up to $O(10^6)$ - $O(10^7)$ resources (to begin with)
- Choice:
 - **Invenio** (www.invenio-software.org) – actual version: 1.2.1 + our «add-ons»
- Motivations:
 - Fully compliant with OAI-PMH and Marc21 standards
 - Co-developed by an international collaboration comprising institutes such as CERN, DESY, EPFL, FNAL, SLAC and used by about 30 scientific institutions worldwide
 - **ZENODO** (OpenAIRE flagship repository), **SCOAP**³ and **inSPIRE** HEP repositories are based on Invenio
 - The CERN Document Server (<http://cds.cern.ch/>), based on Invenio, contains more than 1.3 million documents
 - UNESCO and UEMOA are leading an **initiative** to create a virtual library based on Invenio in 8 West African countries

The Sci-GaIA Open Access Repository

(<http://oar.sci-gaia.eu>)

Sci-GaIA OPEN ACCESS REPOSITORY

INVENIO

SEARCH SUBMIT PERSONALIZE HELP

Search 21 records for:

any field

[Search Tips](#) :: [Advanced Search](#)

Narrow by collection:

- ☒ **Audio-Video Recordings** (2)
[Sci-GaIA](#) (0) [Others](#) (2)
- ☒ **Datasets** (0)
[Sci-GaIA](#) (0) [Others](#) (0)
- ☒ **Images** (3)
[Sci-GaIA](#) (2) [Others](#) (1)
- ☒ **Presentations** (1)
[Sci-GaIA](#) (1) [Others](#) (0)
- ☒ **Posters** (1)
[Sci-GaIA](#) (1) [Others](#) (0)
- ☒ **Publications** (7)
[Sci-GaIA](#) (6) [Others](#) (1)
- ☒ **Software** (7)
[Sci-GaIA](#) (1) [Others](#) (6)

Resources can be:

- Manually uploaded
- Automatically harvested and ingested from external sources

ABOUT THIS SITE

Welcome to the Open Access Repository managed and operated by the [Sci-GaIA project](#). Feel free to browse all the features and contents of this site as well as to download the [virtual appliance](#) containing a clone of the repository and install it at your premises.

CERTIFICATION AND COMPLIANCE

This site is an [OAI](#) conforming repository and an official [OpenDOAR](#) data provider. It is also compliant with version 3.0 of the [OpenAIRE Guidelines](#).

SEE ALSO

[Sci-GaIA](#)
[Sci-GaIA forum](#)

Open Access Repository :: [Search](#) :: [Submit](#) :: [Personalize](#) :: [Help](#)
Info: [Terms of use](#) :: [Privacy Policy](#) :: [Metadata Policy](#) :: [Support - Feedback](#)
Powered by [Invenio v1.2.1](#)
Maintained by admin@sci-gaia.eu
Last updated: 21 Sep 2015, 10:49

This site is available in the following languages:
[English](#) [Français](#)

This is a Service Provider of

GIDP **eduGAIN** **Idem**

federated authentication

Alternative reputation systems: possibility to add researcher ID's

Your Settings

Edit login credentials

If you want to change your email or set for the first time your nickname, please set new values in the form below.

Nickname: barbera

(mandatory) Note: Since this is considered as a signature for comments and reviews, once set it can not be changed.

New email address:

(mandatory) Example: john.doe@example.com

[Set new values](#)

Please enter your researcher ID.

If you don't have researcher ID, be informed that most common ones are ORCID, Researcher ID, ResearchGate ID and Scopus Author ID.

Google Scholar ID:

Help: [Visit this page](#)



GitHub ID:

Help: [Visit this page](#)



ORCID:

Help: [Visit this page](#)



Researcher ID:

Help: [Visit this page](#)



ResearchGate ID:

Help: [Visit this page](#)



Scopus Author ID:

Help: [Visit this page](#)



[Insert your research ID](#)

(Single) resource upload and DOI registration



Submit New Record

[Datasets, Posters, Presentations, Publications, Software](#)[Submit New Record](#)

page: 1

Submit a resource:

*Digital Object Identifier (DOI)

If you already have it, enter the DOI of your resource.
Otherwise, reserve a DOI and we will create it for you:

Type of resource:

 ▼

*Resource Title:

*Author(s) of the resource: *(one per line)*

Examples of (cross-referenced) resources

The image displays three overlapping screenshots of the Sci-Gala Open Access Repository interface, illustrating cross-referenced resources. The top screenshot shows the main repository page with a search bar and navigation links. The middle screenshot shows a record page for 'WIMEA-ICT AWS Pagoda Body Top (.stl)' with a 'Software' category. The bottom screenshot shows a detailed view of the same record, including the abstract, identifier, and license information.

Sci-Gala OPEN ACCESS REPOSITORY

SEARCH SUBMIT PERSONALIZE HELP

Home > Publications > Others > An affordable 3D-printed Solar Radiation Shield for Weather Stations

Information References (0) Citations (0)

WIMEA-ICT AWS Pagoda Body Top (.stl)

Pehrson.B

09 September 2015

Abstract: This is a stereo-lithography file (.stl) for the top of a Pagoda-style irradiation shield for weather stations described in more detail in the paper at <https://oar.sci-gala.eu/record/28>.

Identifier(s): [11623/sci-gala:1441818817.33](https://oar.sci-gala.eu/record/28)

Licence: cc-by-4.0

The record appears in these collections:
[Software](#) > [Others](#)

Record created 2015-09-09, last modified 2015-09-10

Back to search
Similar records

Resource: STL

Rate this document:

(Not yet reviewed)

➡ Add to personal basket
➡ Export as [BibTeX](#), [MARC](#), [MARCXML](#), [DC](#), [EndNote](#), [NLM](#), [RefWorks](#)

Visibility and compliance

(Full conforming with Open Archive Initiative's standards)



Registration Record

element name	element value
Base URL	http://oar.sci-gaia.eu/oai2d
Repository Name	Open Access Repository
Protocol Version	2.0
Email	admin@sci-gaia.eu
Registration Date	2015-08-12T17:48:44Z
Date Last Validated	Wed Aug 12 17:48:44 2015
OAI Repository ID	oar.sci-gaia.eu

If you are the maintainer of this repository, you may to update the information recorded to match new information exposed via the Identify response by running the validation/registration process again. Go to the [validation page](#) and select "Register this site".

Sat Aug 15 09:34:50 2015

Visibility and compliance

(Registered as an [OpenDOAR](#) data provider)

OpenDOAR

Directory of Open Access Repositories

[Home](#) | [Find](#) | [Suggest](#) | [Tools](#) | [FAQ](#) | [About](#) | [Contact Us](#)

Search or Browse for Repositories

[Recent Additions](#) [RSS1 Feed](#)

Any Subject Area

Any Content Type

Any Repository Type

Any Country

Any Language

Any Software

Full records

1

per page.

Sort by:

Repository Name

New Query

Search

To search the *contents* of the repositories listed in OpenDOAR, please see our [Content Search](#) page.

Result 1 of 1.

Page: << Previous 1 Next >>

Sci-GaIA Open Access Repository

URL: <http://oar.sci-gaia.eu/>

Organisation: [Sci-GaIA Project](#)

Address: Catania

Country: Italy

Location: *Latitude:* 37.507900 & *Longitude:* 15.083000, [Google Map](#)

Description: The Sci-GaIA Open Access Repository contains all Audio-Video Recordings, Datasets, Images, Presentations, Posters, Publications and Software related to the EU funded Sci-GaIA project (Grant Agreement no. 654237).

Type: Institutional - Operational

Size: 1 items (2015-09-16)

OAI-PMH: <http://oar.sci-gaia.eu/oai2d>

Software: invenio

Subjects: Science General; Geography and Regional Studies

Content: Articles; Unpublished

Languages: English

Contacts: Roberto Barbera (admin@sci-gaia.eu), Administrator

OpenDOAR ID: 3479, *Last reviewed:* 2015-09-16, [Suggest an update for this record](#)

Link to this record: <http://opendoar.org/id/3479/>

Sci-GaIA OAR can be “cloned” wherever and whenever it is needed

The image displays four overlapping screenshots of the Sci-GaIA Open Access Repository (OAR) website. The top screenshot shows the main navigation bar with the Sci-GaIA logo, the text "OPEN ACCESS REPOSITORY", and a user login link. Below this is a secondary navigation bar with links for SEARCH, SUBMIT, PERSONALIZE, and HELP. The third screenshot shows a breadcrumb trail: Home > Publications > Sci-GaIA > Instructions to install and configure a clone of the Sci-GaIA Open Access Repository. The bottom screenshot shows a detailed record page for a virtual appliance, titled "Virtual appliance containing a clone of the Sci-GaIA Open Access Repository". This page includes the authors (Barbera, R.; Ricceri, R.; Torrisi, M.), the date (19 August 2015), an abstract, keywords, identifiers, and a license (gpl-3.0). It also features a "Resource:" section with a PDF icon and a "Rate this document:" section with a star rating and a "Not yet reviewed" status. At the bottom right, there are links to "Add to personal basket" and "Export as BibTeX, MARC, MARCXML, DC, EndNote, NLM, RefWorks".

Sci-GaIA OPEN ACCESS REPOSITORY

SEARCH SUBMIT PERSONALIZE HELP

Home > Publications > Sci-GaIA > Sci-GaIA Deliverable D3.1 - Guidelines to setup and configure an appliance for the deployment of standard compliant open access repositories

Sci-GaIA OPEN ACCESS REPOSITORY

SEARCH SUBMIT PERSONALIZE HELP

Home > Publications > Sci-GaIA > Instructions to install and configure a clone of the Sci-GaIA Open Access Repository

Information References Citations

Instruction

Home > Software > Sci-GaIA > Virtual appliance containing a clone of the Sci-GaIA Open Access Repository

Information References Citations Keywords Discussion Usage statistics Files Files Holdings Linkbacks

SOFTWARESCIGAIA-2015-001

Virtual appliance containing a clone of the Sci-GaIA Open Access Repository

Barbera, R.; Ricceri, R.; Torrisi, M.

19 August 2015

Abstract: The resource is a virtual appliance containing a clone of the Sci-GaIA Open Access Repository (<http://oar.sci-gaia.eu>). The instructions to install and configure the virtual appliance are available at <http://oar.sci-gaia.eu/record/20>.

Keyword(s): [Open Access Repository](#); [Virtual Appliance](#); [Virtual Machine](#); [Sci-GaIA](#)

Identifier(s): [11623/sci-gaia:1439991515.53](#)

Licence: [gpl-3.0](#)

The record appears in these collections:
[Software](#) > [Sci-GaIA](#)

Record created 2015-08-19, last modified 2015-09-10

Record created 2015-08-19, last modified 2015-09-10

Resource:

PDF

Resource:

Rate this document:

OCOW2

(Not yet reviewed)

Back to search

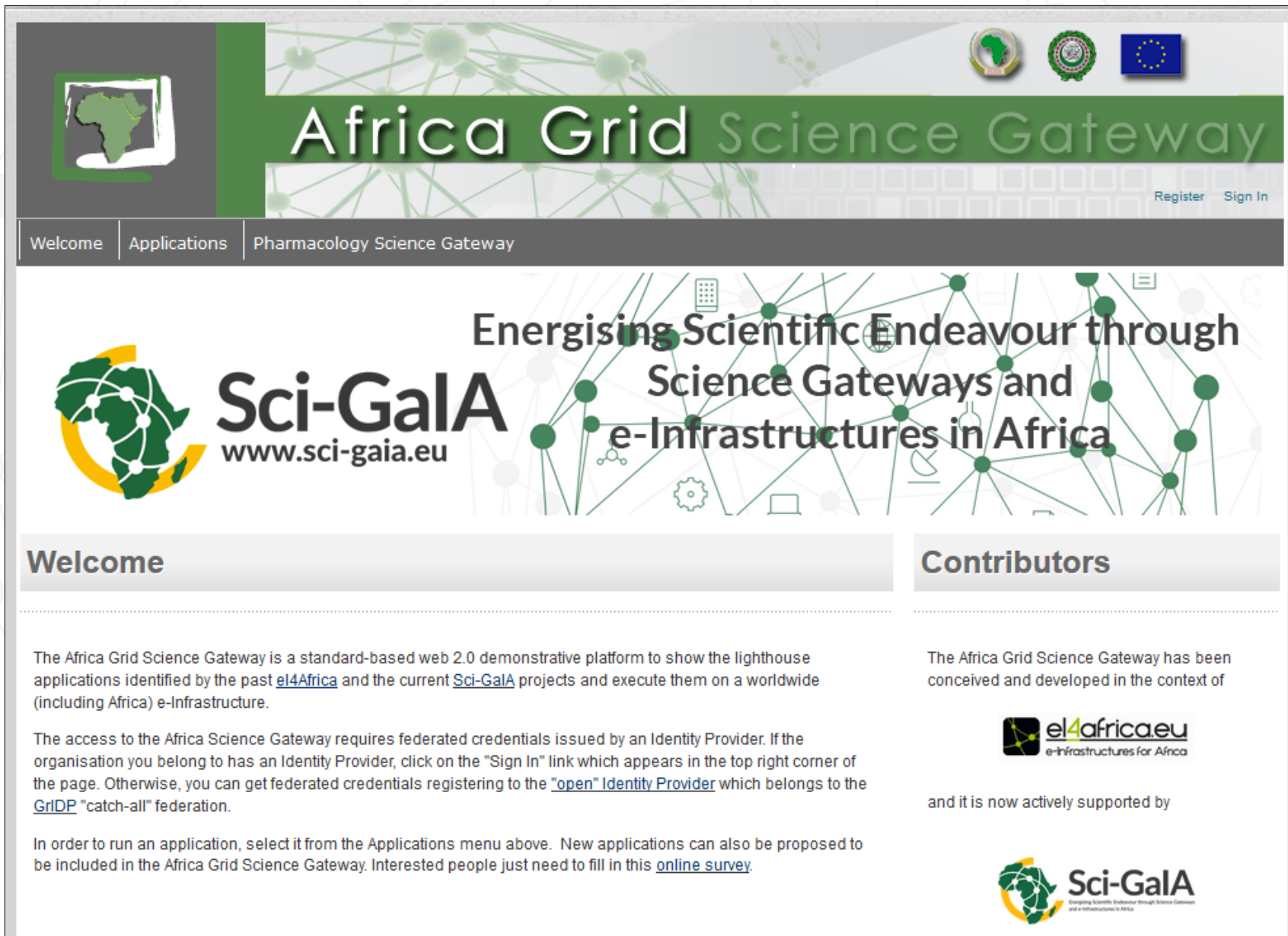
Similar records

Add to personal basket

Export as [BibTeX](#), [MARC](#), [MARCXML](#), [DC](#), [EndNote](#), [NLM](#), [RefWorks](#)

The Africa Grid Science Gateway

(<http://sgw.africa-grid.org>)



The screenshot shows the homepage of the Africa Grid Science Gateway. At the top, there is a header with a map of Africa icon, the title "Africa Grid Science Gateway", and logos for the African Union, the European Union, and the Sci-GaIA project. Below the header is a navigation bar with links for "Welcome", "Applications", and "Pharmacology Science Gateway". The main content area features the Sci-GaIA logo and the text "Energising Scientific Endeavour through Science Gateways and e-Infrastructures in Africa". There are two main sections: "Welcome" and "Contributors". The "Welcome" section contains text about the gateway's purpose and access requirements. The "Contributors" section mentions the gateway's development context and its current support.

Africa Grid Science Gateway

Register Sign In

Welcome Applications Pharmacology Science Gateway

Sci-GaIA

www.sci-gaia.eu

Energising Scientific Endeavour through Science Gateways and e-Infrastructures in Africa

Welcome


The Africa Grid Science Gateway is a standard-based web 2.0 demonstrative platform to show the lighthouse applications identified by the past [el4Africa](#) and the current [Sci-GaIA](#) projects and execute them on a worldwide (including Africa) e-Infrastructure.

The access to the Africa Science Gateway requires federated credentials issued by an Identity Provider. If the organisation you belong to has an Identity Provider, click on the "Sign In" link which appears in the top right corner of the page. Otherwise, you can get federated credentials registering to the ["open" Identity Provider](#) which belongs to the [GridP](#) "catch-all" federation.


In order to run an application, select it from the Applications menu above. New applications can also be proposed to be included in the Africa Grid Science Gateway. Interested people just need to fill in this [online survey](#).

Contributors

The Africa Grid Science Gateway has been conceived and developed in the context of



and it is now actively supported by



CSGF Components

Users having different roles and privileges

- Administrators
- Power users
- Basic users
- VRC members
- etc,

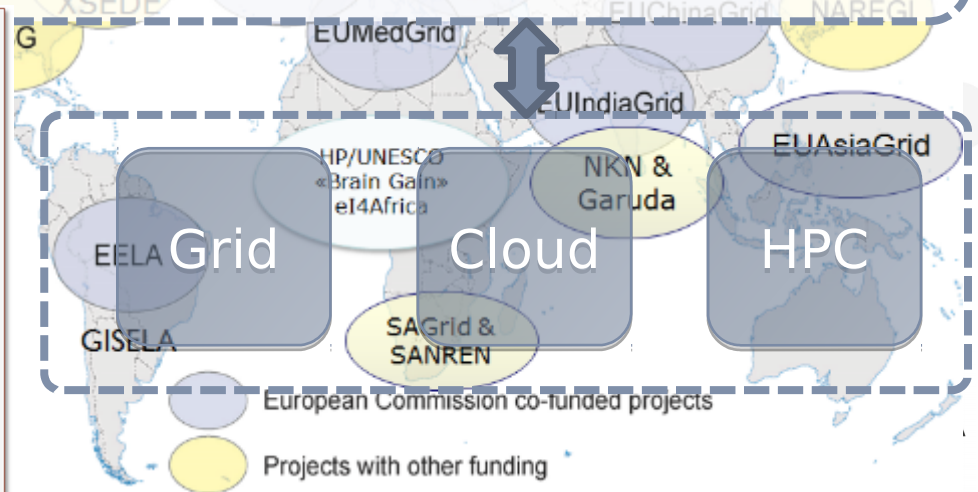
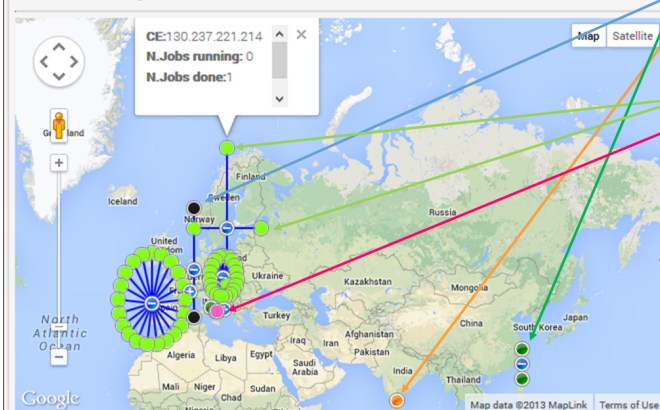


AAI

Portlets

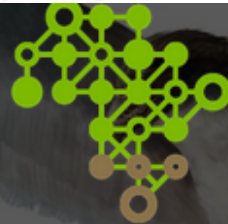
Grid&Cloud Engine

Total number of users submitting jobs: 6
 Total number of running jobs: 295 of which 293 on Grid, 0 on HPC, 2 on Cloud and 0 on local resources
 Total number of done jobs: 5780 of which 4131 on Grid, 1582 on HPC, 53 on Cloud and 14 on local resources



The Africa & Arabia Regional Operation Centre (ROC)

(www.africa-arid.org)



Services

Applications

Infrastructure

Security

Compute &
Data

Science

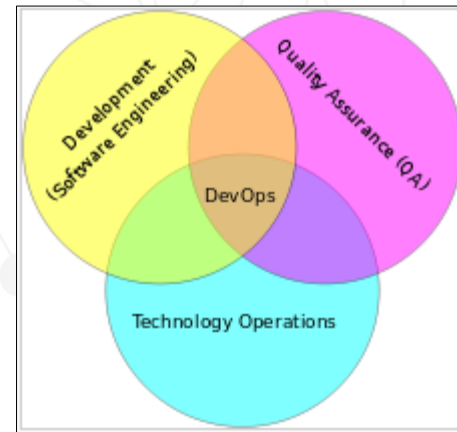
Identity

Support

Dev & CI

Daily Chaos from Africa and Arabia | e-Infrastructure operations and coordination

- Unique entry point to explore/monitor the African e-Infrastructure and/or to join it with HPC, Grid and Cloud sites
- Fully compliant with **DevOps** paradigm:
 - e-Infrastructure services (IdP, SG, OAR, etc.) and applications can be



Sci-GaIA
www.sci-gaia.eu

Some of the SGs implemented with the CSGF


Examples of applications available in the Africa Grid SG: The TRODAN data repository



Browser

Navigation

"Hello World!"
Computer Sciences and Mathematics
Cultural Heritage
Earth Sciences



- TRODAN Data Repository
 - Browse
 - View

High Energy Physics
Life Sciences
Other
Full list

TRODAN Data Repository

About TRODAN

The Center for Atmospheric Research (CAR) is an activity Centre of the [Nigerian National Space Research and Development Agency, NASRDA](#), committed to research and capacity building in the atmospheric and related sciences. CAR is dedicated to understanding the atmosphere—the air around us—and the interconnected processes that make up the Earth system, from the ocean floor through the ionosphere to the Sun's core. The

TRODAN, is a project...
Earth to the altitude...
different locations a...
include atmospheric...
Pro. This present da...

Conditions of Use

The data made avail...
third parties without...
include an acknowle...
Project Manager (tro...

The TRODAN Data

In all files, the head...
ddmmsssshhmm. Th...
equipment, the third...
Rain Rate in mm. So...
Percentage (%). So...
Barpress in mbar, V...
Volumetric water co...
name, creation time...
begin date/time (Loc...
month hh = 2-digit h...
minutes and is indic...
from 24th/05/2010 2...

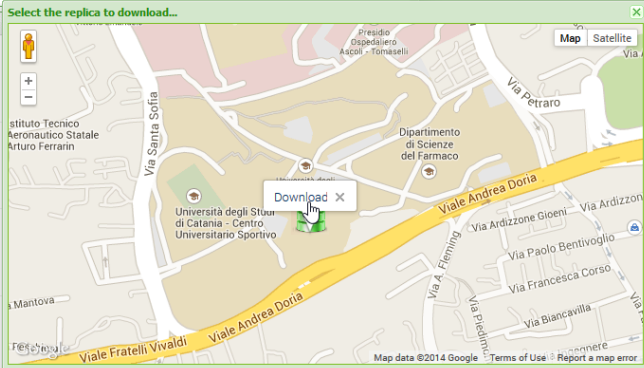
Disclaimer

CAR-NASRDA accep...

TRODAN Data Repository Browser

Thumb	FileName	Country	State
	Abuja_ABI_Station.	Nigeria	Federal Capital Territory Abuja
	Akure_AKR_Station	Nigeria	Ondo State
	Anyigba_ANY_Static	Nigeria	Kogi State
	Eburumili_Agu_EBA	Nigeria	Enugu State
	Lagos_LAG_Station.	Nigeria	Lagos State
	Akungeba_AKB_Stati	Nigeria	Ondo State
	Lapai_LAP_Station.	Nigeria	Niger State

Select the replica to download...



Opening Lagos_LAG_Station.csv

You have chosen to open:

Lagos_LAG_Station.csv

which is: File con valori separati da virgola (CSV) di Microsoft Excel (5 from: http://prod-se-03.ct.infn.it

What should Firefox do with this file?

☒ Open with Microsoft Excel (default)

☐ Save File

☐ Do this automatically for files like this from now on.

OK Cancel

Examples of applications available in the Africa Grid SG:

The TRODAN data repository Viewer



Navigation

"Hello World!"
Computer Sciences and Mathematics
Cultural Heritage
Earth Sciences

- MERIS Data Repository
- TRODAN Data Repository
 - Browse
 - View
- High Energy Physics
- Life Sciences
- Other
- Full list

TRODAN Data Repository Viewer

Trodan Input Form

- Portlet Settings
- The Computing e-Infrastructure
- Specify your Input Settings

* These fields are required

A.) Specify the Meteorological Station(s) you want to analyze *

- ☐ Abuja
- ☐ Akungba
- ☐ Akure
- ☐ Anyigba
- ☐ Eburumili
- ☐ Lagos
- ☐ Lapai
- ☐ Makurdi
- ☐ Minna
- ☐ Nsukka
- ☐ Ogbomoso
- ☐ Porthacourt
- ☐ Redeemers
- ☐ Yola
- ☐ Toggle Station(s)

B.) Specify the Meteorological Pattern(s) you want to analyze *

<input type="checkbox"/> Rain Rate (mm)	<input type="checkbox"/> Solar Radiation (W/mv)
<input type="checkbox"/> Air Temperature (°C)	<input type="checkbox"/> Relative Humidity (%)
<input type="checkbox"/> Soil Temperature (°C)	<input type="checkbox"/> Wind Speed (m/s)
<input type="checkbox"/> Wind Direction (°)	<input type="checkbox"/> Barometric Pressure (mbar)
<input type="checkbox"/> Volumetric Water	<input type="checkbox"/> PA_uS (μs)
<input type="checkbox"/> Toggle Meteorological Pattern(s)	

C.) Specify some additional settings before to start


Date range may vary from [31/07/2007 to 21/05/2013]

Plot Style * lines (Default)

Date * From To

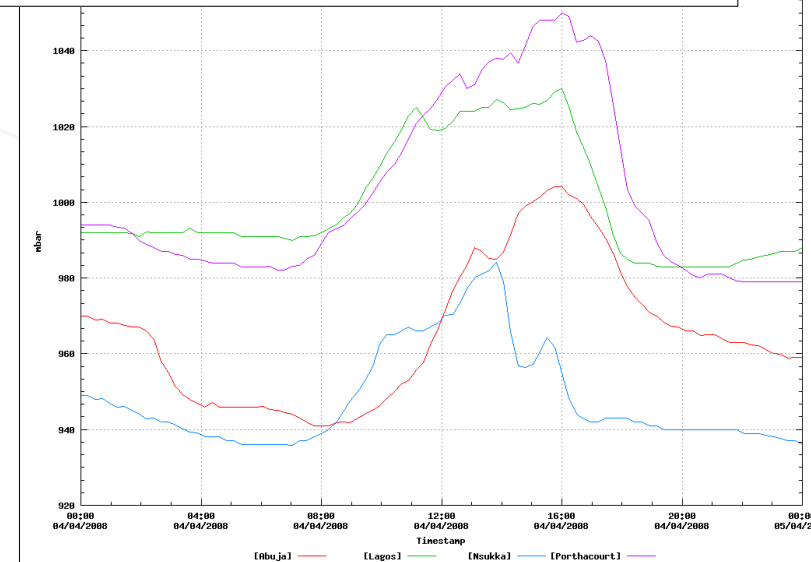
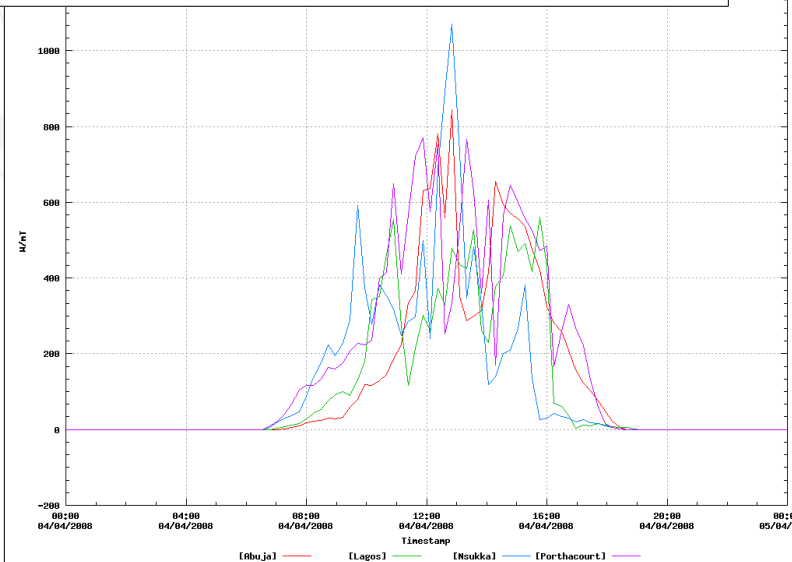
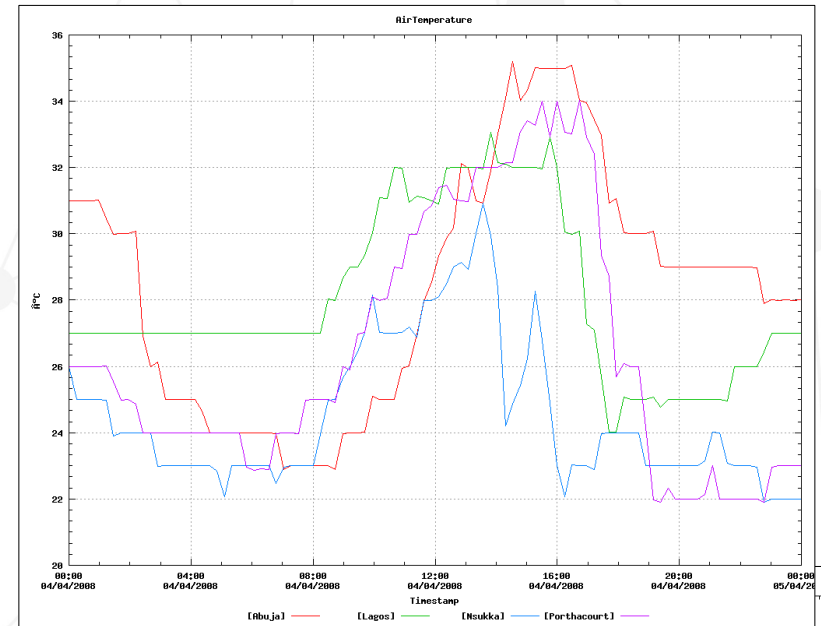
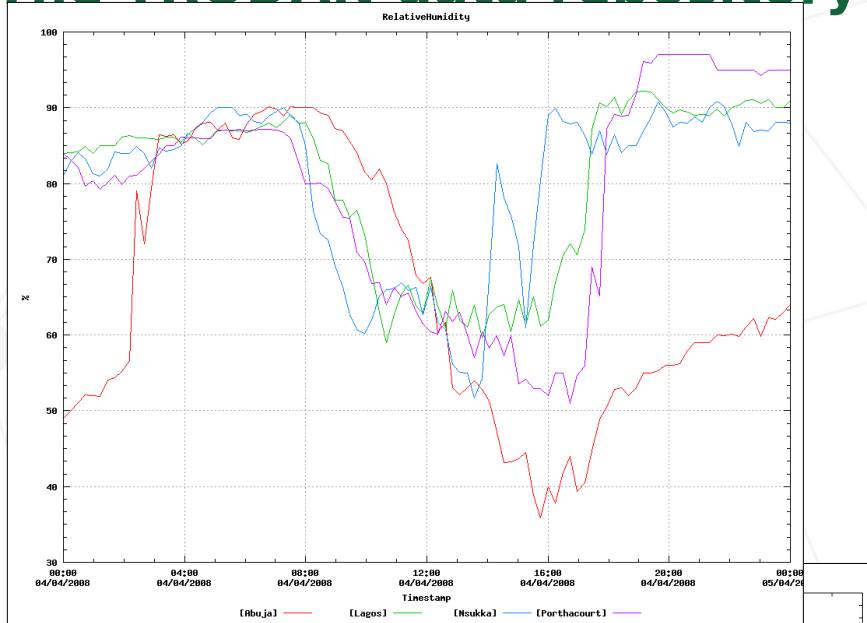
Description Insert here your description

☐ Notification

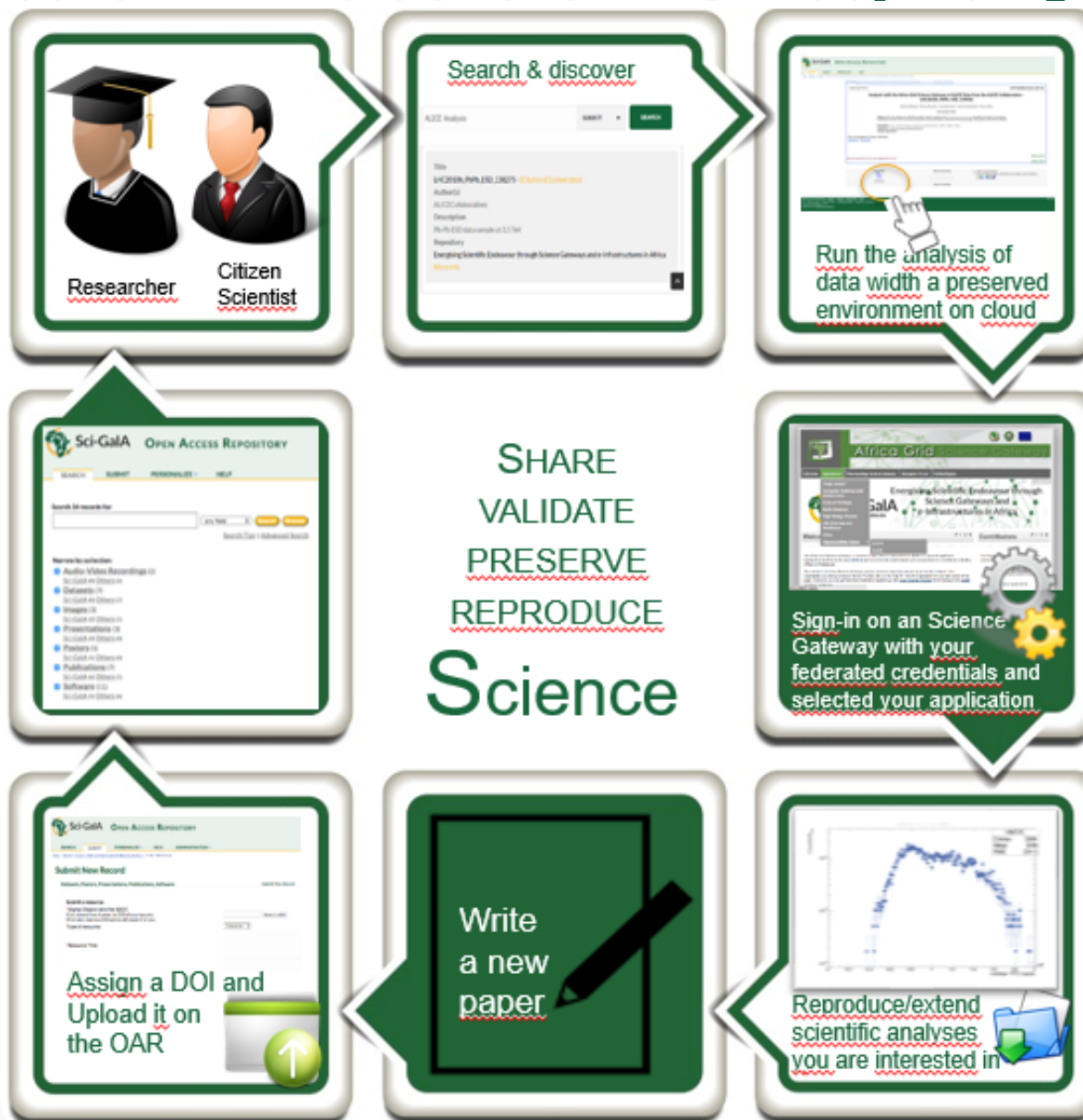
This work has been partially supported by 

Examples of applications available in the Africa Grid SG:

The TRODAN data repository



The Open Knowledge workflow: we do know how to implement it ... and we are actually doing it!



The e-Infrastructures discussion forum

(<http://discourse.sci-gala.eu>)

all categories ▼

Latest

New











































Unread

Top

Categories

+ New Topic

- blogs
- Meta
- Federation
- DevOps
- Open Access
- Events
- Staff
- Applications
- Funding Opp.
- Training & Ed
- Jobs
- The Commons
- Science Gatew...
- AfricaPMA
- The Network
- Projects

	Category	Users	Replies	Views	Activity
with contiki and RS Mote Challenges+ Experiences	 wimea-internal	   	11	11	7h
ance reports	 Staff		28	19	10h
WS, WSN ecosystem	 The WIMEA-ICT project	   	14	117	1d
es	 wimea-internal	    	16	40	1d
Troubleshooting	 wimea-internal	  	3	9	1d
tent identifiers for data and people into Sci-GaLA services	 Open Access	   	16	219	2d
WIMEA-ICT RC2: Refinement of Weather Data Repository (WDR) Specifications	 The WIMEA-ICT project	 	1	40	2d
The e-Infrastructure Knowledge Base got updated	 The Commons		0	38	4d
DevOps Meetup Catania	 DevOps		0	52	5d
Week 539 in Bergen	 wimea-internal	    	16	45	6d
Bergen AWS WSN prototype design, troubleshooting, and improvements	 The WIMEA-ICT project		5	125	6d

Sci-GaIA Online Courses

(<http://courses.sci-gaia.eu>)



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+ Create Your First Course

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Getting Started with Sci-GaIA Online Courses

Looking for help with Sci-GaIA Online Courses Studio?

Sci-GaIA in brief

Sci-GaIA aims at creating a sustainable foundation of educational materials and procedures for the development and management of Science Gateways and e-Infrastructures in Africa and beyond



Funded by the European Union's Horizon2020 research and innovation programme under grant agreement n°654237

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**e-Infrastructure
Knowledge Base**



Sci-GaIA
Energising Scientific Endeavour through Science Gateways
and e-Infrastructures in Africa

**Open Science
Commons Platform**

**Sci-GaIA
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Repository**
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**Africa Grid
Science Gateway**



**e-Infrastructure
User Forum**
discourse



**Africa & Arabia
ROC**



FEDERATED

ACCESS



The Open Access Repository

Resources can be:

- Manually uploaded
- Automatically harvested and ingested from external sources

Submit New Record

The Sci-GaIAQAR has already a prefix of: **Handle.Net**

And we are also discussing with: **DataCite**

The Science Gateway

Africa Grid Science Gateway

Enabling Scientific Endeavour through Science Gateways and e-Infrastructures in Africa

GridCloud Engine

Grid Cloud HPC

The e-Infrastructure Forum

- The forum is meant to be an open environment where to discuss about:
 - Open Science Commons
 - Open Access
 - Training and Education
 - Identity Federations
 - Science Gateways
 - Applications
 - Funding Opportunities
 - Job Opportunities
 - ... and much more
- The forum has been registered as a Service Provider of eduGAIN so you can sign in using the credentials provided by your organisation. For those who don't have institutional credentials, you're welcome to enroll on our "catch-all" Identity Provider
- Although it's been delivered by the Sci-GaIA project and mainly targets sub-Saharan Africa, the forum is widely open to external projects and to all other regions so people working in other projects and initiatives are very welcome to join and contribute to the discussions

The e-Infrastructure Knowledge Base

Open Access

open stand the modern paradigm for standards

CONCEPT

DATA GATHERING

ANALYSIS

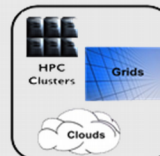
PUBLICATION

REVIEW

COMMONS

doi
digital object identifier

Open Data



open source

CITIZEN SCIENCE

Open Educational Resources

The Online Courses

Research & Development

Innovation

Education & Training

Welcome to Sci-GaIA Online Courses!

CODE RADE

Sci-GaIA Online Courses Studio

FEDERATED

ACCESS



Sci-GaIA
www.sci-gaia.eu

Summary and conclusions

- Reproducibility, re-usability and extensibility, are key to walk through the “knowledge path” in both directions
- The Sci-GaIA project is committed to the uptake of the Open Science paradigm and is building a federated platform for an Open Science Commons
- Research is made more robust, cost-effective and impactful when done in an Open Science paradigm.
- Researchers are better evaluated for **all** of their contributions
- Access to e-Infrastructures and the adoption of services within the e-Science Commons are crucial to improving the **visibility and recognition of African Research**



What are you waiting for ?

 www.africa-grid.org www.sci-gaia.eu

 discourse.sci-gaia.eu

 github.com/AAROC

 [@ei4africa](https://twitter.com/ei4africa)

 bbecker@csir.co.za