DOI uses cases for data

Jan Brase
DOI outreach meeting

November 21st
Milano

DataCite

What if any kind of scientific content would be citable?

High visability of the content

Easy re-use and verification.

Scientific reputation for the collection and documentation of content (Citation Index)

Encouraging the *Brussels declaration on STM publishing*

Avoiding duplications

Motivation for new research

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Prologue

In 1998 a paper was published from GFZ Potsdam analysing the idea of using DOI names for data citation

At the 17th International CODATA Conference (2000) in Italy the German CODATA group discussed this further

Leading to a German working group 2000 – 2002 founded by the German Research foundation (DFG)

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Project

2003 – 2007 The DFG founded a project „Citability of primary data“

Members:

- WDC MARE Bremen (PANGAEA)
- WDC CLIMATE Hamburg
- GFZ Potsdam
- TIB Hannover

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2004: First DOI names registered for data

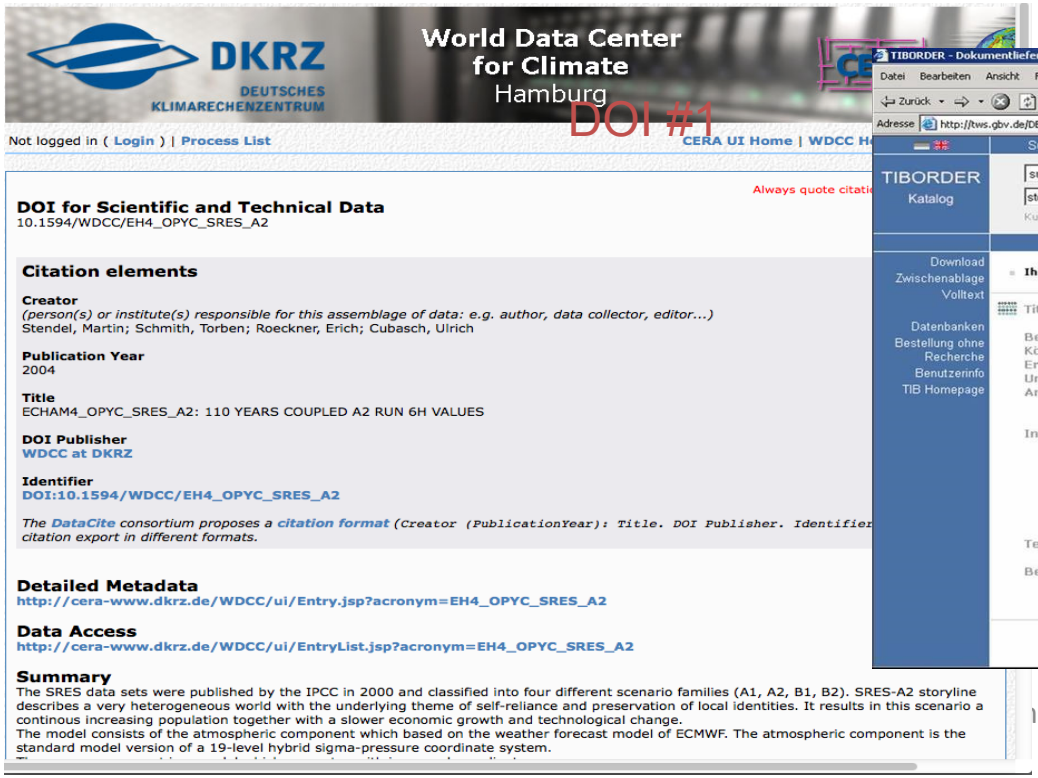
First DOIs from project partners:

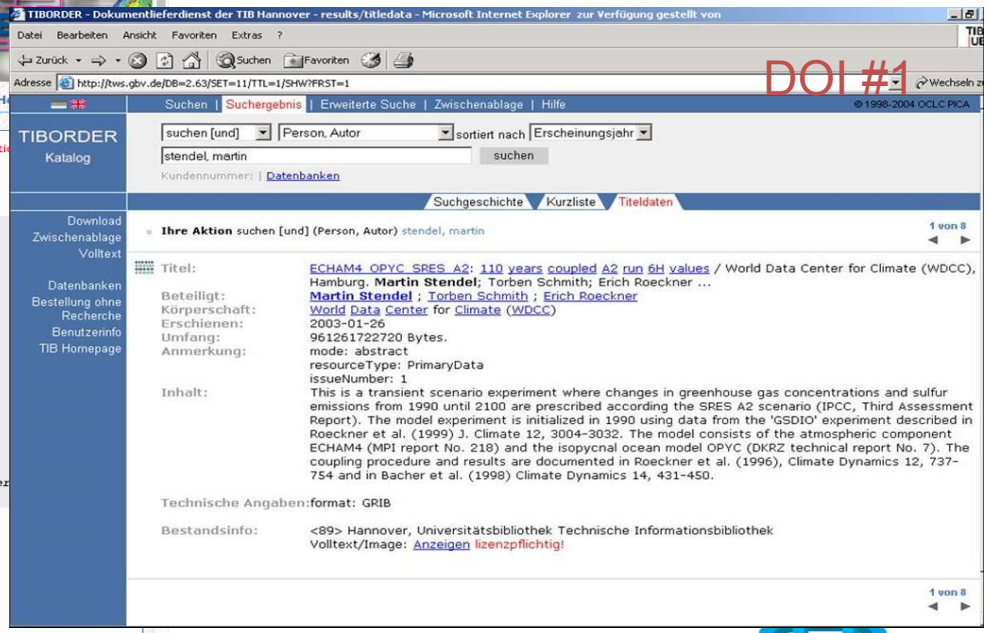
18.03.2004: doi:10.1594/WDCC/EH4_OPYC_SRES_A2 (DOI #1)

22.07.2004: doi:10.1594/GFZ/ICDP/KTB/KTB-GEOCH-GASCHR-P

14.12.2004: doi:10.1594/PANGAEA.119754

End of 2004: about 30 DOIs registered and in library catalogue TIBORDER





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Think global – act local

Science is global

- it needs global standards
- Global workflows
- Cooperation of global players

Science is carried out locally

- By local scientist
- Beeing part of local infrastrucures
- Having local funders

DataCite

DataCite

Global consortium carried by local institutions

focused on improving the scholarly infrastructure around datasets and other non-textual information

focused on working with data centres and organisations that hold content

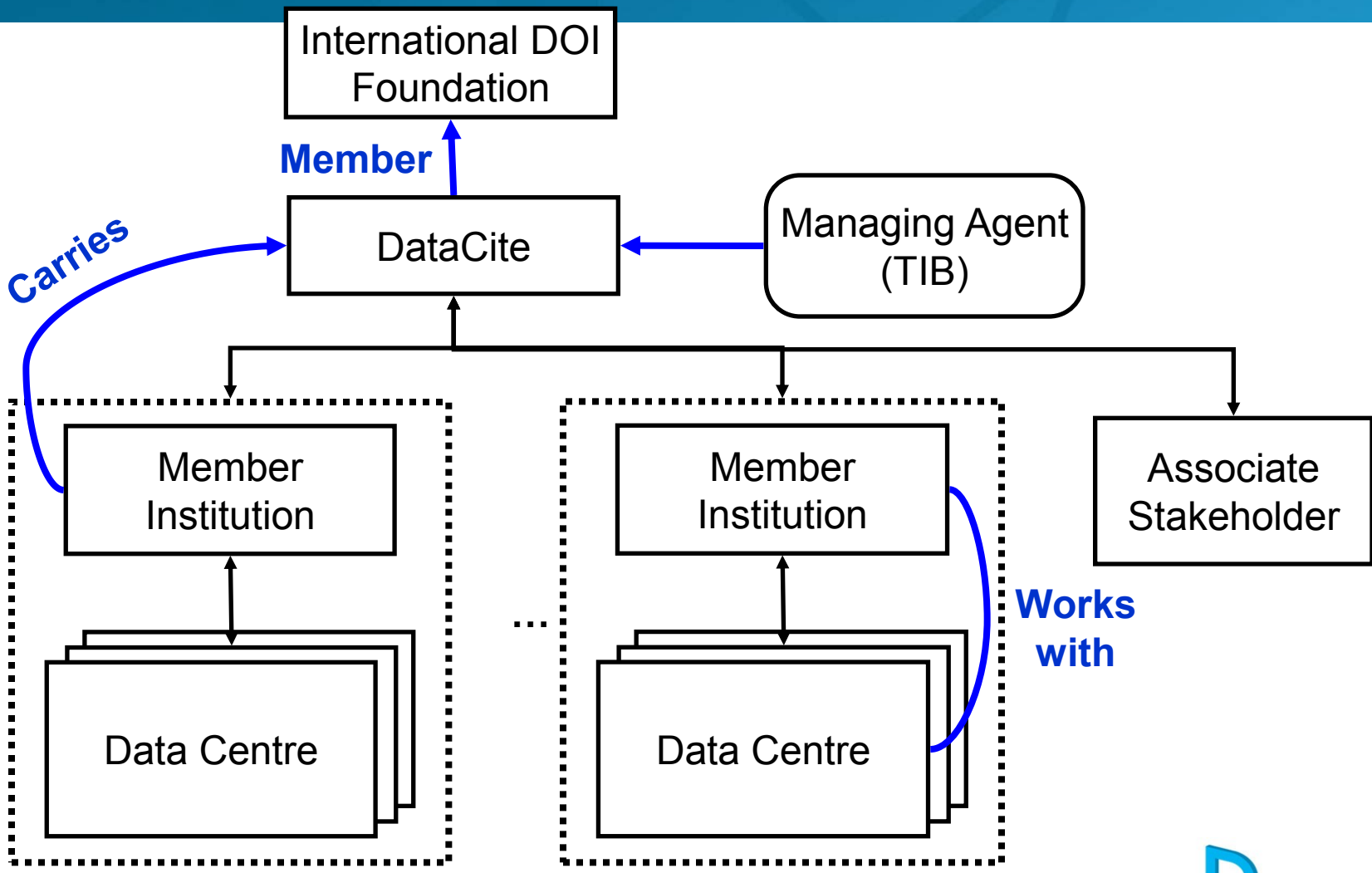
Providing standards, workflows and best-practice

Initially, but not exclusivly based on the DOI system

Founded December 1st 2009 in London

DataCite

DataCite structure



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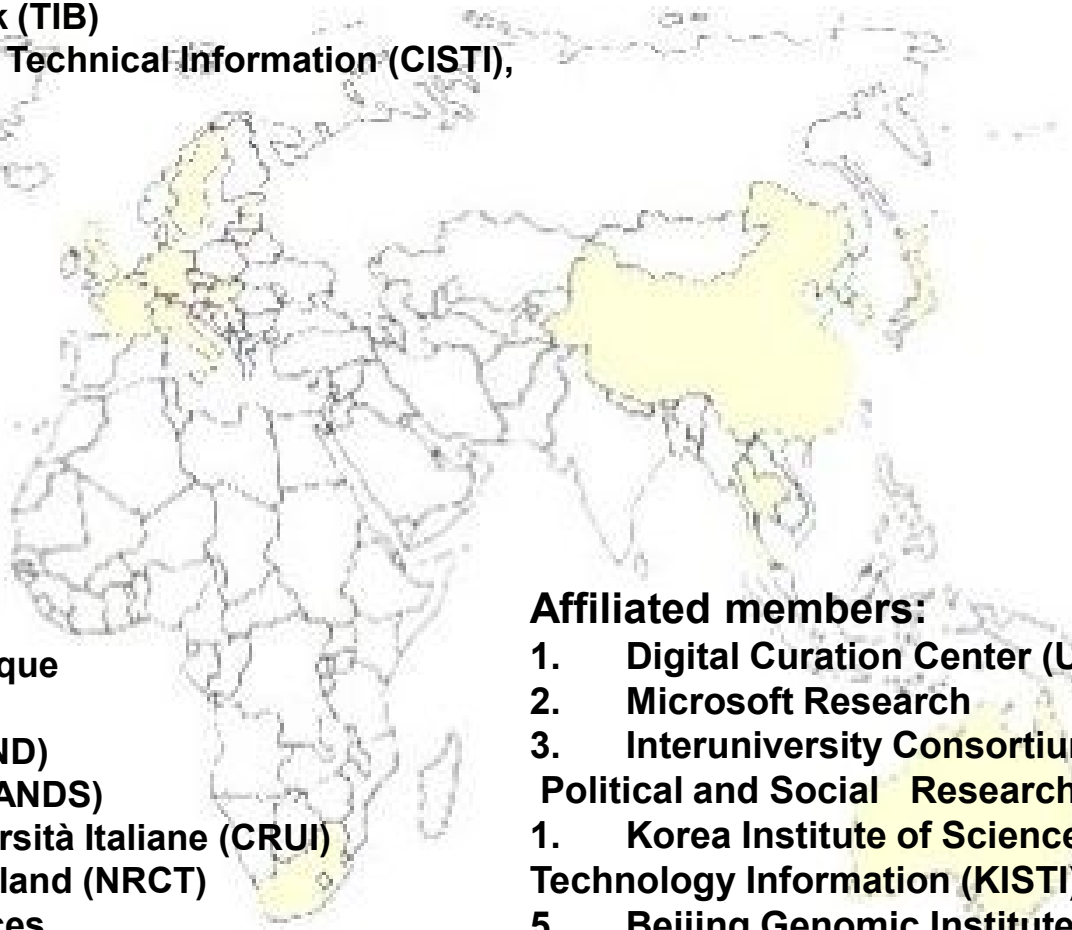
DataCite members

1. Technische Informationsbibliothek (TIB)
2. Canada Institute for Scientific and Technical Information (CISTI),
3. California Digital Library, USA
4. Purdue University, USA
5. Office of Scientific and Technical Information (OSTI), USA
6. Library of TU Delft, The Netherlands
7. Technical Information Center of Denmark
8. The British Library
9. ZB Med, Germany
10. ZBW, Germany
11. Gesis, Germany
12. Library of ETH Zürich
13. L'Institut de l'Information Scientifique et Technique (INIST), France
14. Swedish National Data Service (SND)
15. Australian National Data Service (ANDS)
16. Conferenza dei Rettori delle Università Italiane (CRUI)
17. National Research Council of Thailand (NRCT)
18. The Hungarian Academy of Sciences
19. University of Tartu, Estonia
20. Japan Link Center (JaLC)
21. South African Environmental Observation Network (SAEON)
22. European Organisation for Nuclear Research (CERN)



Affiliated members:

1. Digital Curation Center (UK)
2. Microsoft Research
3. Interuniversity Consortium for Political and Social Research (ICPS

1. Korea Institute of Science and Technology Information (KISTI)
5. Bejiing Genomic Institute (BGI)
6. IEEE
7. Harvard University Library
8. World Data System (WDS)
9. GWDG

What type of data are we talking about?

Earth quake events => doi:10.1594/GFZ.GEOFON.gfz2009kciu

Climate models => doi:10.1594/WDCC/dphase_mpeps

Sea bed photos => doi:10.1594/PANGAEA.757741

Distributes samples => doi:10.1594/PANGAEA.51749

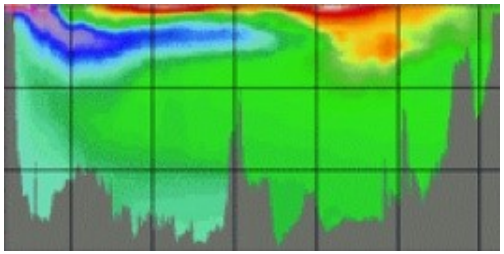
Medical case studies => doi:10.1594/eaacinet2007/CR/5-270407

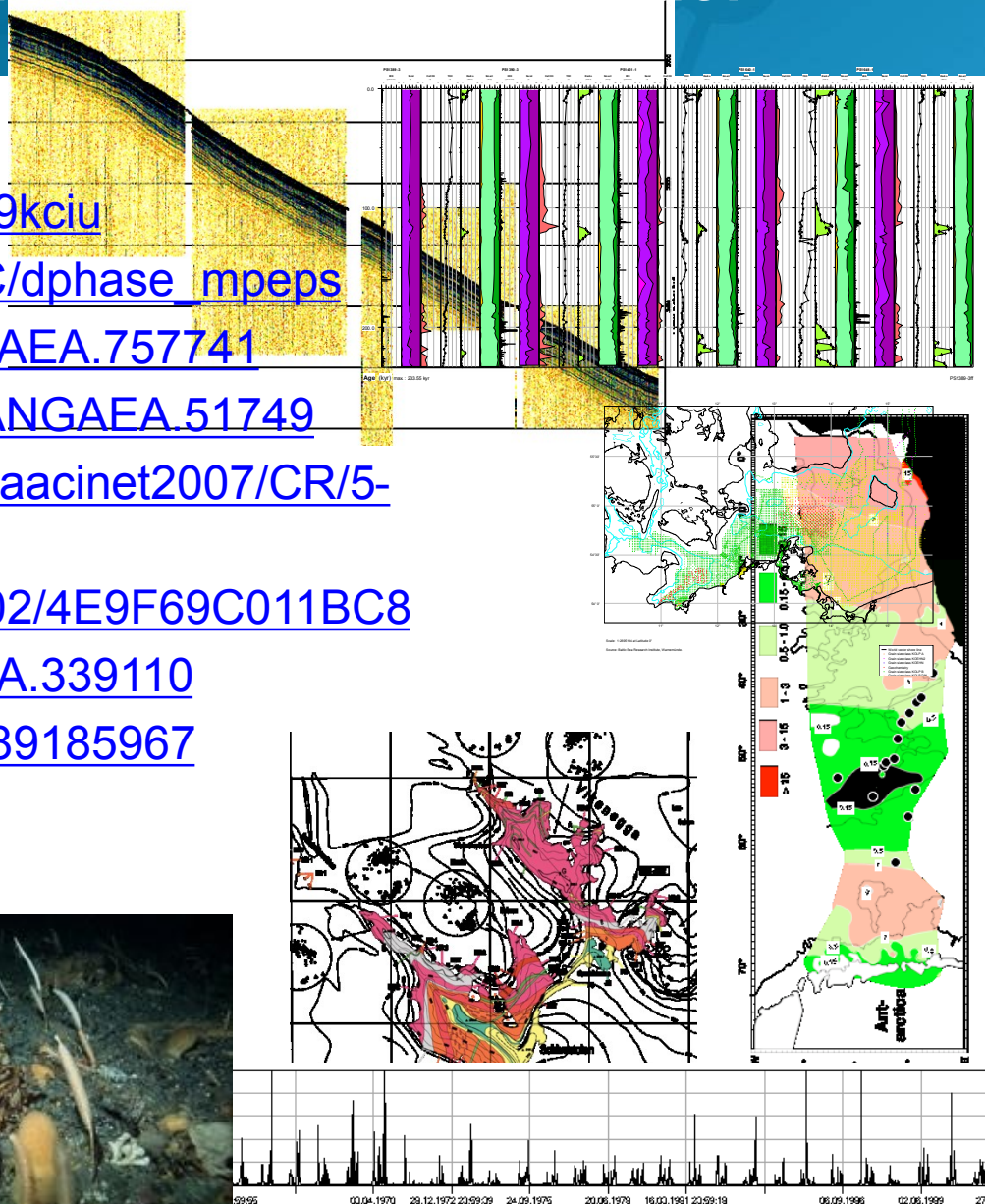
Computational model => doi:10.4225/02/4E9F69C011BC8

Audio record => doi:10.1594/PANGAEA.339110

Grey Literature => doi:10.2314/GBV:489185967

Videos => doi:10.3207/2959859860





Anything that is the foundation of further reserach is research data

Data is evidence

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DataCite in 2014

Over 3,700,000 DOI names registered so far.

350 data centers.

14,000,000 resolutions so far in 2014.

DataCite Metadata schema published (in cooperation with all members) http://schema.datacite.org

DataCite MetadataStore

http://search.datacite.org

DataCite

OAI and Statistics

OAI Harvester

http://oai.datacite.org

DataCite statistics (resolution and registration)

http://stats.datacite.org

Content negotioation (with CrossRef)

http://www.crosscite.org/cn/

DataCite

2012: STM, CrossRef and DataCite Joint Statement

1. To improve the availability and findability of research data, the signers encourage authors of research papers to **deposit researcher validated data in trustworthy and reliable Data Archives**.

2. The Signers encourage Data Archives to **enable bi-directional linking between datasets and publications** by using established and community endorsed unique persistent identifiers such as database accession codes and DOI's.

3. The Signers encourage publishers and data archives to make visible or increase **visibility of these links** from publications to datasets and vice versa

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Example

The dataset:

Storz, D et al. (2009):

Planktic foraminiferal flux and faunal composition of sediment trap L1_K276 in the northeastern Atlantic.

http://dx.doi.org/10.1594/PANGAEA.724325

Is supplement to the article:

Storz, David; Schulz, Hartmut; Waniek, Joanna J; Schulz-Bull, Detlef; Kucera, Michal (2009): *Seasonal and interannual variability of the planktic foraminiferal flux in the vicinity of the Azores Current.*

Deep-Sea Research Part I-Oceanographic Research Papers, **56(1),** 107-124,

http://dx.doi.org/10.1016/j.dsr.2008.08.009

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More Data example

- Higgs particle

  ATLAS Collaboration (2013) HepData,
  http://doi.org/10.7484/INSPIREHEP.DATA.A78C.HK44

- ECOLI outbreak

  Li, D et al (2011):
  Genomic data from Escherichia coli O104:H4 isolate TY-2482.
  BGI Shenzhen.
  http://dx.doi.org/10.5524/100001

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Latest developments

ODIN project with ORCID.

http://datacite.labs.orcid-eu.org/

MoU with Thomson reuters to cooperate on data citation index

DataCite plugin for next D-Space release

Agreement with Re3Data and DataBib to include their service in 2016

MoU with RDA to become organisational affiliate

Joint Declaration of Data Citation Principles

https://www.force11.org/datacitation

DataCite

Thank you!

Knowledge for Life
ZB MED

gesis
Leibniz Institute for the Social Sciences

ZBW
Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

TIB
TECHNISCHE INFORMATIONSBIBLIOTHEK

สำนักงานคณะกรรมการวิจัยแห่งชาติ
วช.
NRCT
National Research Council of Thailand

CERN

NRC·CNRC
CISTI
ICIST

inist

TU Delft

VE RI TAS

BRITISH LIBRARY

SAEON
South African Environmental Observation Network

IEEE

MAGYAR TUDOMÁNYOS AKADÉMIA
1825

TARTU ÜLIKOOL
1632
UNIVERSITAS TARTUENSIS

DTU

GWDG
Gesellschaft für wissenschaftliche Datenverarbeitung mbH Göttingen

KiSTi
www.kisti.re.kr

SND Swedish National Data Service

华大基因
BGI

ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

University of California
Calif

ICSU
WORLD DATA SYSTEM

Japan Link Center
Welcome to Japan Link Center, JaLC!

osti.gov

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ands
AUSTRALIAN NATIONAL DATA SERVICE

ICPSR
A PARTNER IN SOCIAL SCIENCE RESEARCH
INTER-UNIVERSITY CONSORTIUM FOR POLITICAL AND SOCIAL RESEARCH

Microsoft
Research

CRUI
Conferenza dei Rettori delle Università Italiane