

Informationsinfrastrukturen für Open Science

PubMan Days 2013

München, Max-Planck-Gesellschaft, 23.10.2013

Heinz Pampel, Deutsches GeoForschungsZentrum GFZ



LEARN. SHARE. ADVANCE.

AGENDA

- 20 Jahre „Offenheit“ des WWW
- 10 Jahre „Berliner Erklärung“
- Potenzial der digitalen Wissenschaft
- Umgang mit Forschungsdaten
- Relevanz der Informationsinfrastrukturen
- re3data.org – Werkzeug für Open Science
- Herausforderungen für die Forschungsdaten-Infrastruktur
- Auf dem Weg zu Open Science
- Ausblick

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30.04.1993



DIGITALISIERUNG

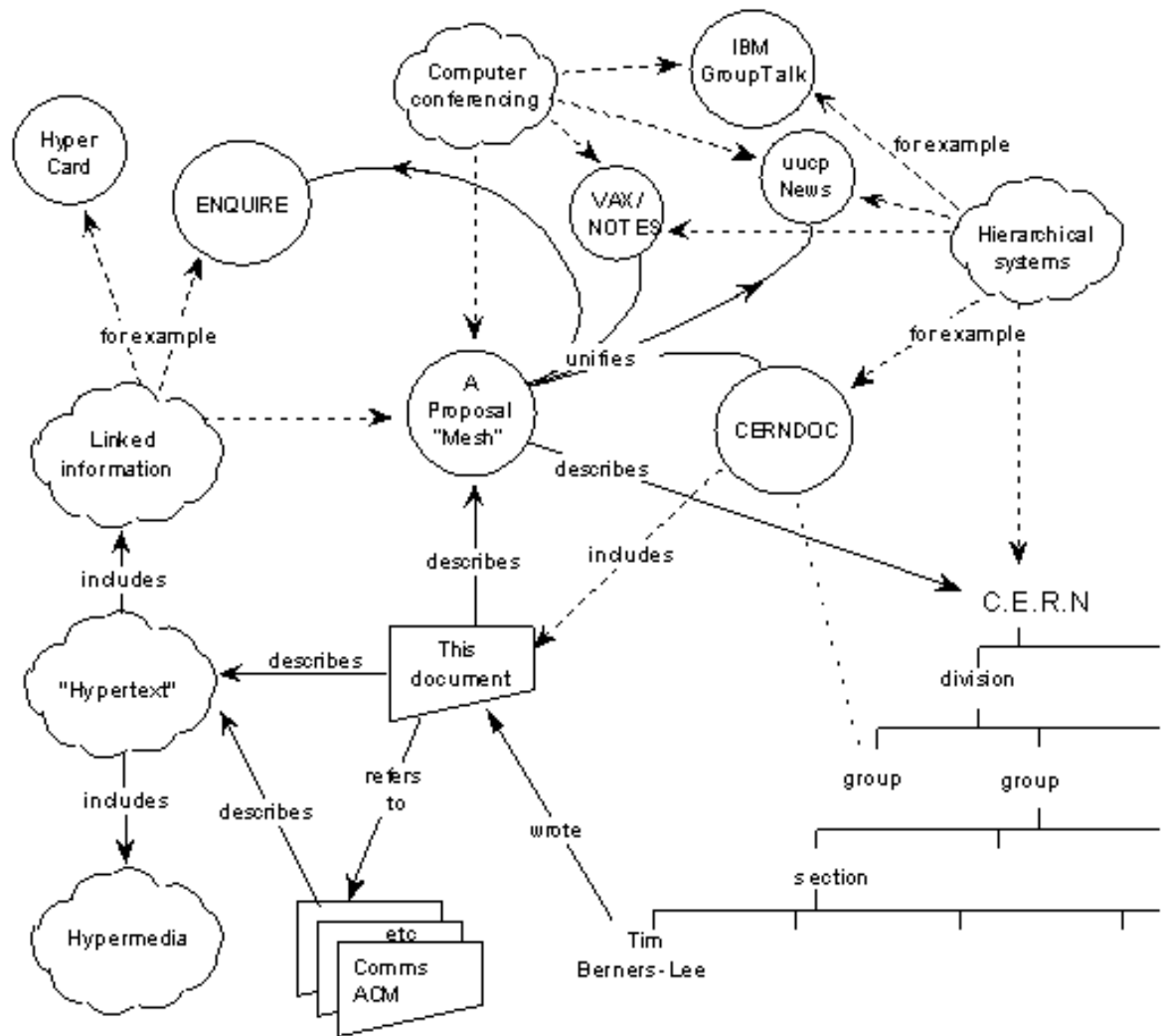


GENEVA, 30 APRIL 2013

Twenty years of a free, open web

On 30 April 1993 CERN published a statement that made World Wide Web technology available on a royalty free basis, allowing the web to flourish

DIGITALISIERUNG



Berners-Lee, T. (1989).
 Information Management: A
 Proposal. Retrieved from
<http://www.w3.org/History/1989/proposal.html>

DIGITALISIERUNG

14 Physics World June 1992

forum

Electronic publishing and visions of hypertext

Tim Berners-Lee

Why editors of journals and magazines such as this be out looking for new jobs in a few years' time? Will a world overrun with forests use paper only for packing the confectionery eaten by hungry hackers? Should you save this issue of *Physics World* as a possible collector's item?

Experience with computer networks, and in particular with the "World-Wide Web" global information initiative ("W3" - see box 1), suggests that the whole mechanism of academic research will change with new technology. But when we try (dangerously) to envisage the shape of things to come, it seems that some old institutions may resurface, albeit in a new form.

The change from paper to electronic form is, perhaps most significantly, a change of timing. It will take the same amount of time to read a page of text, but to follow up a reference will take a few seconds rather than a few days. It will take the same amount of time to compose an article, but to search a

to judge from the readership of our own "server" doubling every other month and new servers cropping up increasingly frequently. Even without global authorship, global readership of data provided by the few has been spectacularly successful. Almost all the data on the web are a window onto some other source, so it is not hand-crafted hypertext, but it's in demand nevertheless.

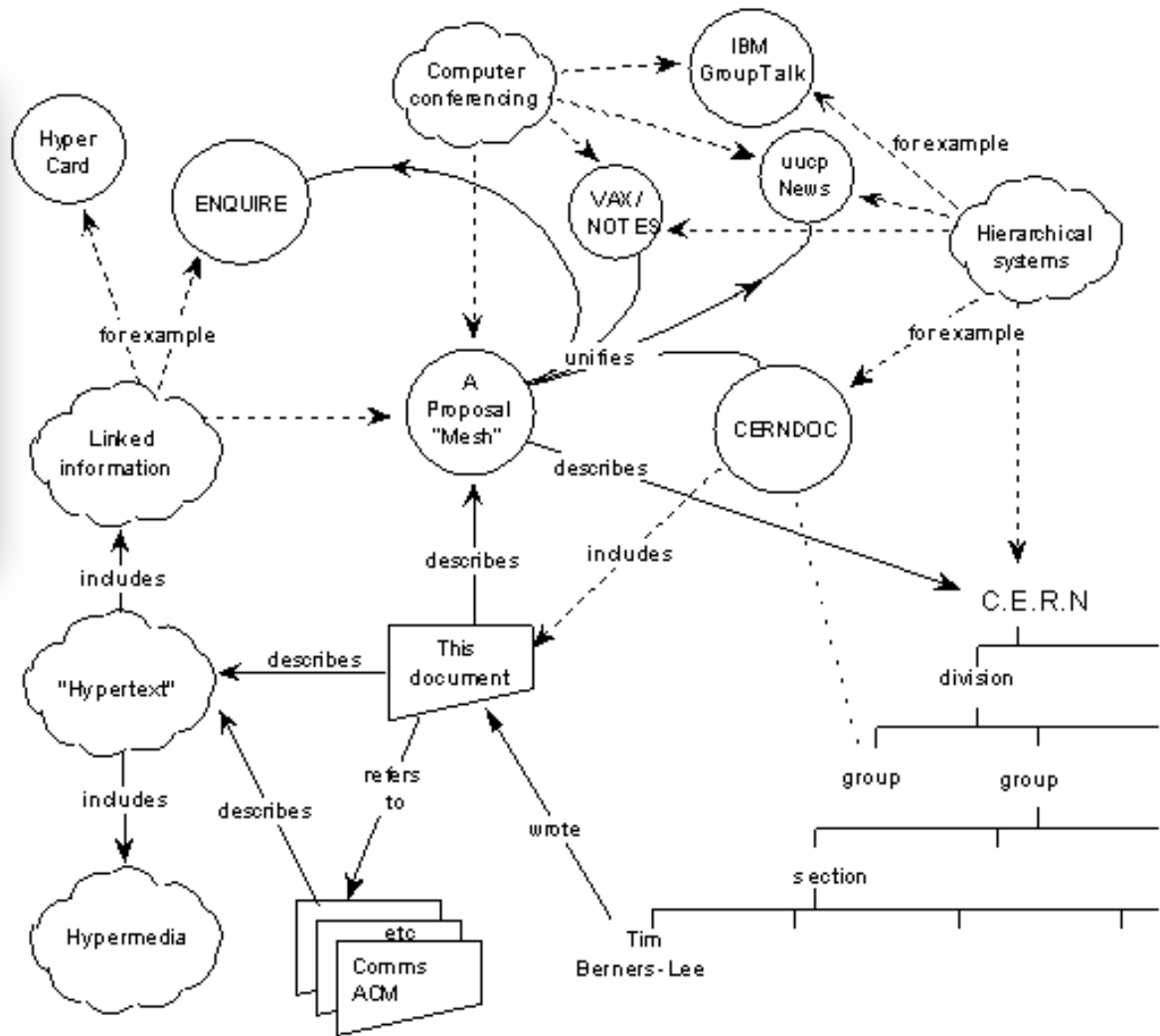
In this happy anarchy, two problems arise. One is that of collective schizophrenia. The bulk of human understanding may well develop two independent pockets of knowledge about the same thing. This can happen on a small scale, when one writes a document with the sinking feeling that one has written it before but can't find it. It can happen on a global scale when researchers

the names of almost all the files available in the internet archives worldwide. Even Peter Deutch, its Canadian instigator, admits that network information is likely to grow faster than his disks, and that his indexes will have to become specialised. My own attempt to edit a hypertext encyclopaedia, in which pointers to network information sources are classified by subject, leaves me overwhelmed even now. As I looked around for people to help, I realised that I was looking for specialists in particular fields to look after them - like specialised librarians.

The bringing together of the provider of information and the enquirer, the "resource discovery" problem, is up for grabs in the networking community. Solutions, however, always centre on some idea of "sub-

The World-Wide Web

Berners-lee, T., & Bemers-lee, T. (1992). Electronic publishing and visions of hypertext forum Electronic publishing and visions of hypertext. *Physics World*, (June), 14-18. Retrieved from <http://physicsworldarchive.iop.org/full/pw-a-pdf/5/6/phwv5i6a16.pdf>



DIGITALISIERUNG

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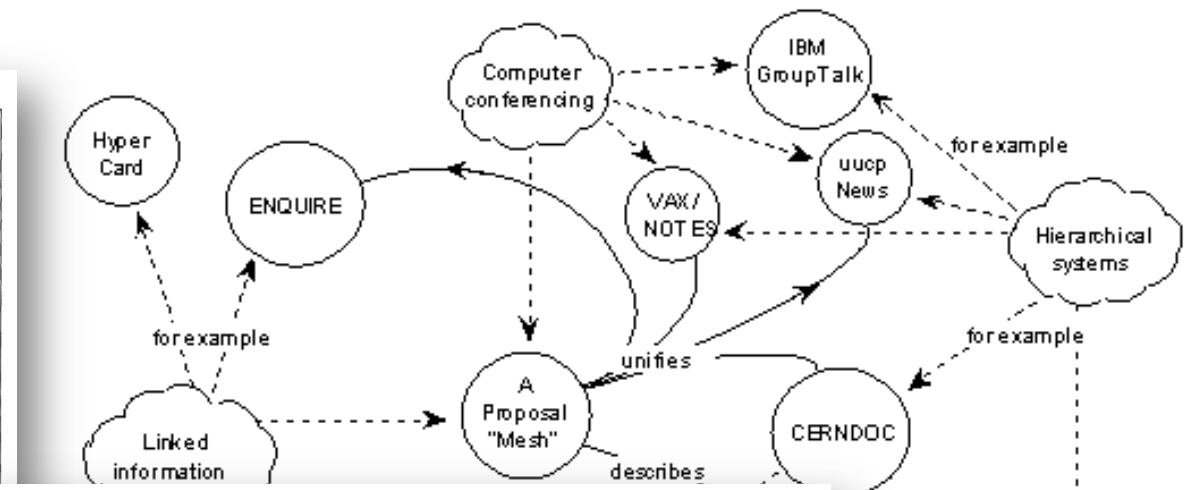
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Publishing on the semantic web

The coming Internet revolution will profoundly affect scientific information.

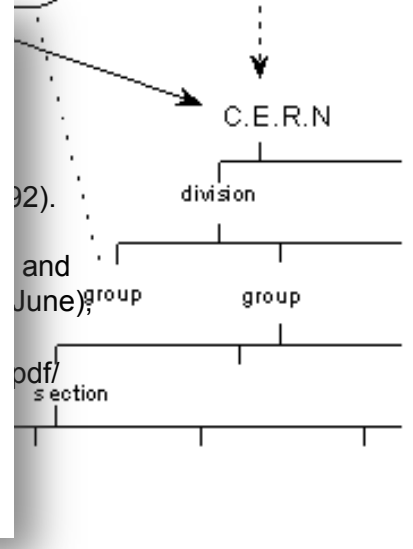
Tim Berners-Lee and James Hendler

To predict the future of scientific publishing on the World-Wide Web, it is important to understand how web technology is changing. We are in the early days of a new web revolution, one that will have profound implications on web publishing, and on the nature of the web itself. Just as current web technology is changing the world of publishing, the new semantic web technology (<http://www.w3.org/2001/sw>) may change the way scientific knowledge is

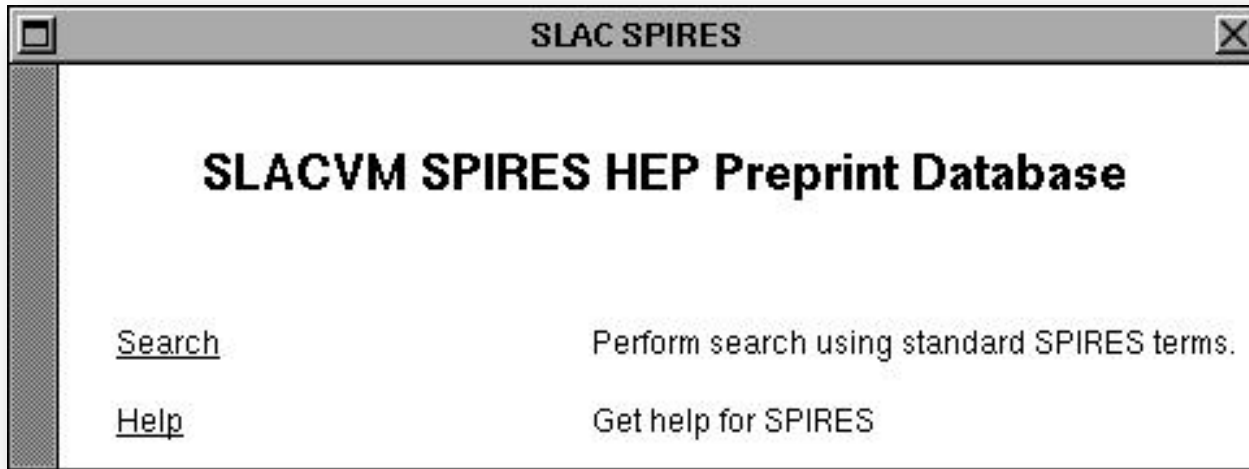
major new functionality — just as the extra effort of producing HTML mark-up is outweighed by the benefit of having content searchable on the web.

A new set of languages is now being developed to make more web content accessible to machines. The Semantic Web Activity, run by the World Wide Web consortium, is defining new web technologies that will enable successively better tools that make it easier for people to create machine-readable content and make it widely available.

What impact might this have on scientific



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history/earlyweb/
history.shtml](http://www.slac.stanford.edu/history/earlyweb/history.shtml)

You can search this index. Type the keyword(s) you want to search for:

SLAC SPIRES HEP Preprint database search

Use standard SPIRES search terms such as...

find author Perl, M
find title tau and date 1980

DIGITALISIERUNG

Bermuda Principles



CERN Document Server



GenBank



1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000

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22.10.2003



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Folgen

Heute vor genau 10 Jahren: Berliner Erklärung über offenen Zugang zu wissenschaftlichem Wissen [helmholtz.de/mediathek/rede...](#) #oaweek (hk)

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1

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https://twitter.com/helmholtz_de/status/392551155328237568

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Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003). Retrieved from <http://oa.mpg.de/lang/de/berlin-prozess/berliner-erklarung/>

OPEN ACCESS

- Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003)
 - „Open Access-Veröffentlichungen umfassen originäre wissenschaftliche Forschungsergebnisse ebenso wie **Ursprungsdaten, Metadaten, Quellenmaterial**, digitale Darstellungen von **Bild- und Graphik-Material** und wissenschaftliches **Material in multimedialer Form.**“
- Vorteile der Offenheit:
 - Transparenz der Forschung (Nachprüfbarkeit)
 - Effizienz der Forschung (Nachnutzung)
 - Steigerung der Wertschöpfung (Transfer)

Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003). Retrieved from <http://oa.mpg.de/lang/de/berlin-prozess/berliner-erklarung/>

OPEN ACCESS

- Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003)
 - „Die Urheber und die Rechteinhaber solcher Veröffentlichungen gewähren allen Nutzern unwiderruflich das **freie, weltweite Zugangsrecht** zu diesen Veröffentlichungen und erlauben ihnen, diese Veröffentlichungen – in jedem beliebigen digitalen Medium und für jeden verantwortbaren Zweck – zu **kopieren**, zu **nutzen**, zu **verbreiten**, zu **übertragen** und **öffentlich wiederzugeben** sowie **Bearbeitungen** davon zu erstellen und zu verbreiten, **sofern die Urheberschaft korrekt angegeben wird.**“

Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003). Retrieved from <http://oa.mpg.de/lang/de/berlin-prozess/berliner-erklarung/>

OPEN ACCESS

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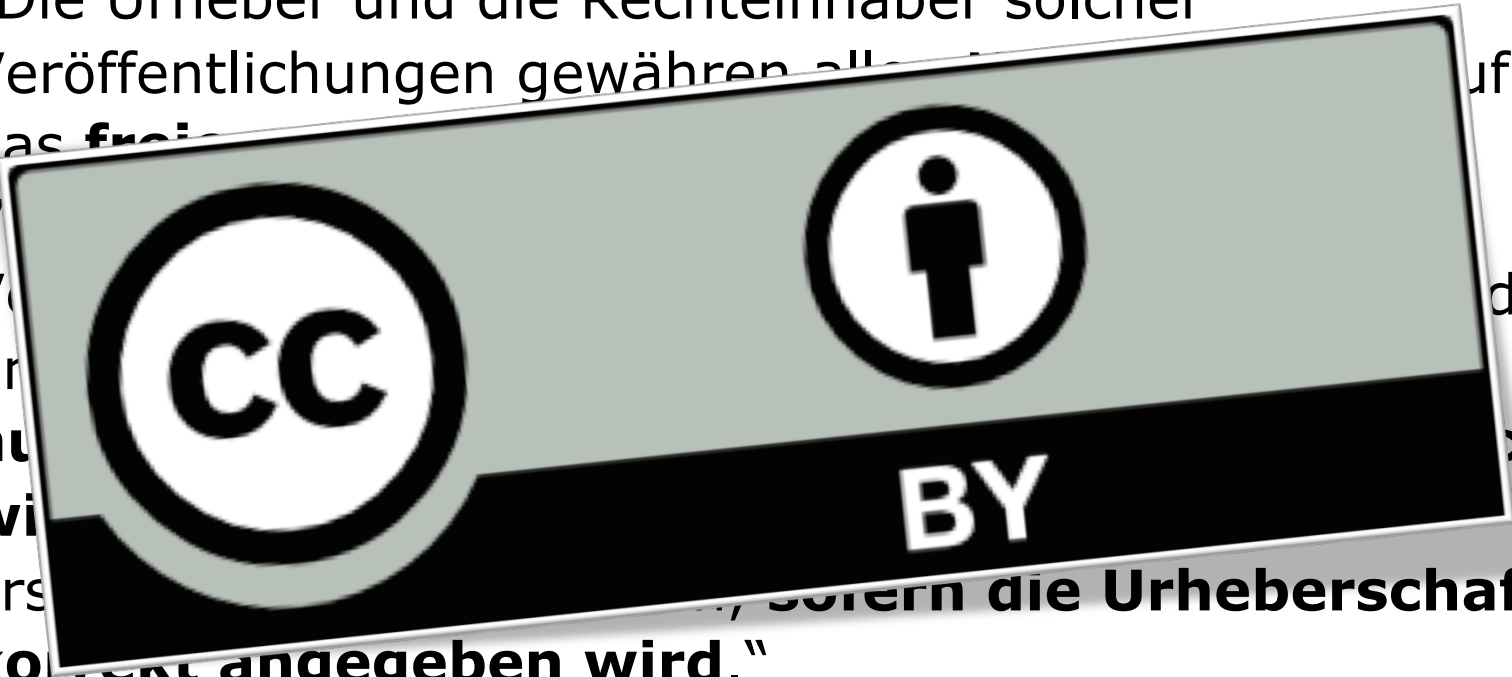
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OPEN ACCESS IN HELMHOLTZ

- 2003: Unterzeichnung der „Berliner Erklärung“
- 2004: Beschluss der Mitgliederversammlung
- 2005: Verabschiedung einer Roadmap
- 2006: Gründung eines Koordinationsbüros
- seit 2006: Projektarbeit
- seit 2008: Schwerpunktinitiative „Digitale Information“ der Allianz der deutschen Wissenschaftsorganisationen
- seit 2010: EUROHORCs, Science Europe
- 2011: Compact for OA Publishing Equity
- 2013: Open-Access-Policy für die Helmholtz-Förderung

OPEN ACCESS IN HELMHOLTZ

Open Access Helmholtz Association Commits to Policy

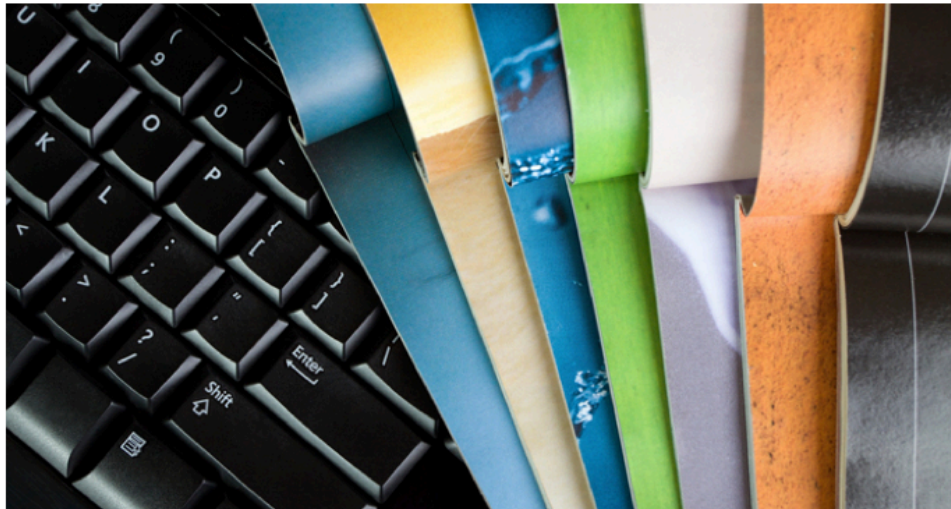


Foto: istockphoto.com/blyja

Open access to scholarly publications fosters innovation. An Open Access Policy of the Helmholtz Association is now ensuring that publications originating from funded projects will be made freely available to the public on the internet.

Many research results are still stashed away in subscription-based journal portals. Open access is changing that. Researchers make their publications freely accessible on the internet, facilitating transfer of the results to science, industry, and society.

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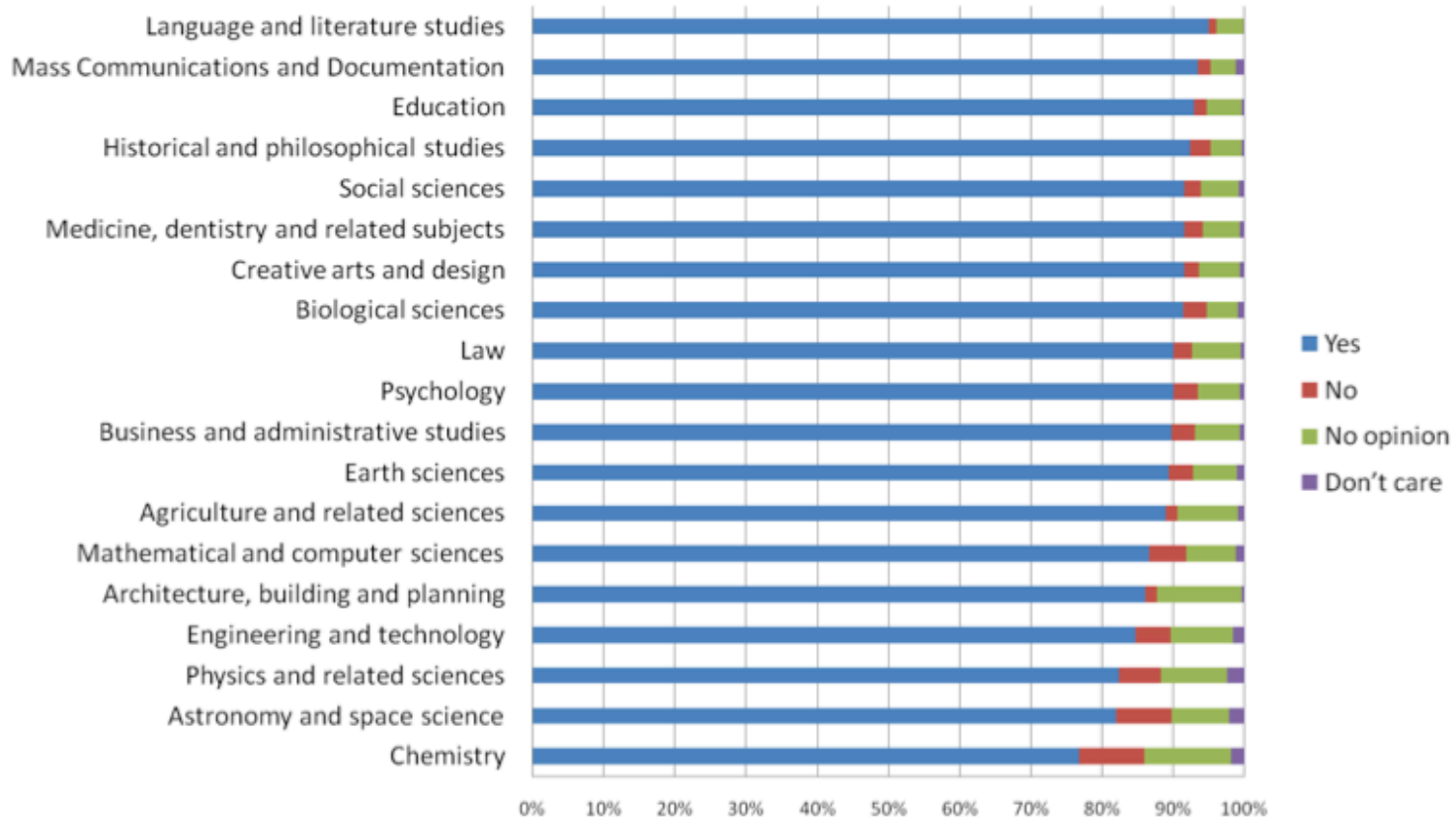
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OPEN ACCESS IN HELMHOLTZ

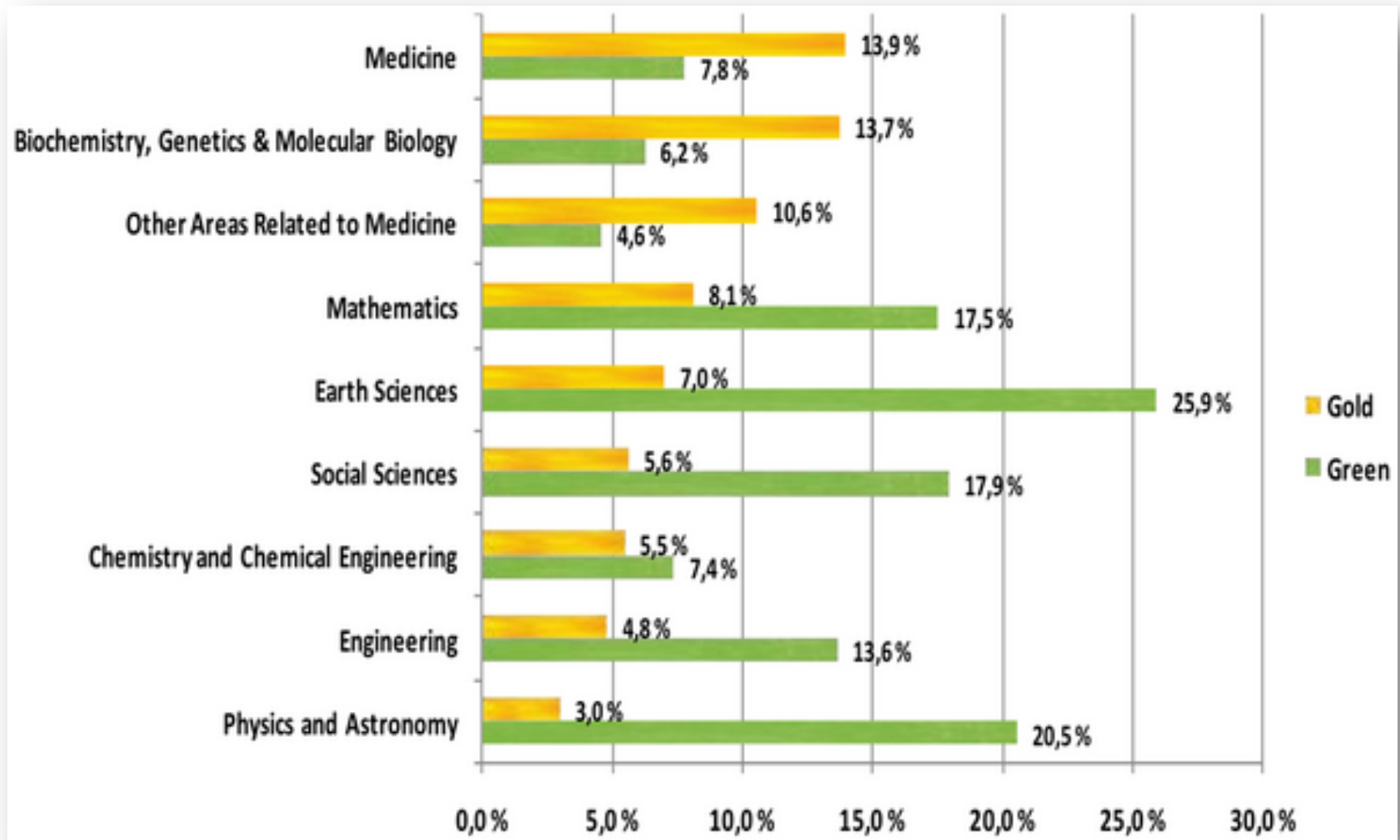
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OPEN ACCESS

9. Do you think your research field benefits, or would benefit from journals that publish Open Access articles? (n=38,358)



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EUROPÄISCHE KOMMISSION

PRESSEMITTEILUNG

Brüssel, den 21. August 2013

Freier Zugang zu Forschungsveröffentlichungen steht vor dem Durchbruch

Heute wurde in einer von der Europäischen Kommission finanzierten Studie bestätigt, dass die weltweite Umstellung auf die kostenlose Bereitstellung schriftlicher Forschungsergebnisse – auch als „Open Access“ (freier Zugang) bezeichnet – kurz vor dem Durchbruch steht. Dieser Studie zufolge ist davon auszugehen, dass sich der freie Zugang durchgesetzt hat, dass also etwa 50 % aller im Jahre 2011 veröffentlichten wissenschaftlichen Artikel jetzt kostenlos abrufbar sind. Das ist das Doppelte dessen, was in vorangegangenen Studien vorhergesagt wurde: die neue Zahl erklärt sich durch ein genaueres Verfahren und eine breitere Definition

OPEN ACCESS

- Bis 2016 sollen 60% der Publikationen, die im Rahmen der öffentlichen Forschung in Europa entstehen, frei zugänglich sein.
- Empfehlung an die EU-Mitgliedstaaten:
 - „Define **clear policies** for the dissemination of and open access to scientific publications resulting from publicly funded research. These policies should provide for: **concrete objectives** and **indicators to measure progress**; implementation plans, including the allocation of responsibilities; associated **financial planning**.“
- Verankerung in der EU-Forschungsförderung (HORIZON 2020):
 - „articles will either immediately be made accessible online by the publisher (**‘Gold’** open access) – up-front publication **costs can be eligible for reimbursement** by the European Commission; or
 - researchers will make their articles available through an open access repository **no later than six months** (12 months for articles in the fields of social sciences and humanities) after publication (**‘Green’** open access).“

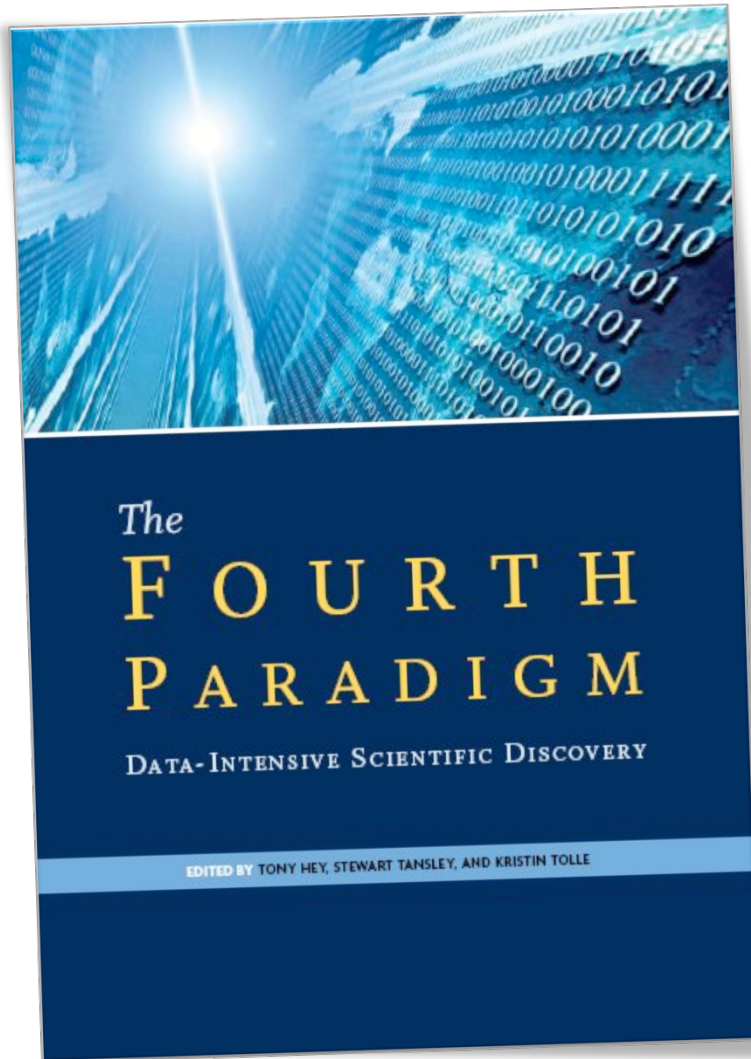
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- G8 Science Ministers Statement, 2013
 - Open Scientific Research Data
 - „Open scientific research data should be easily discoverable, accessible, assessable, intelligible, useable, and wherever possible interoperable to specific quality standards.“
 - „To ensure successful adoption by scientific communities, open scientific research data appropriate principles will need to be underpinned by an policy environment, including recognition of researchers fulfilling these principles, and appropriate digital infrastructure.“
 - Expanding Access to Scientific Research Results
 - „We endorse the principle that increasing access to the peer-reviewed, published results of publicly funded published research will accelerate research, drive innovation, and benefit the economy.“
 - „We recognise that there are different routes to open access (green, gold and other innovative models) which need to be explored and potentially developed in a complementary way.“

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DIGITALE WISSENSCHAFT



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Hey, T., Tansley, S., & Tolle, K. (Eds.). (2009). The Fourth Paradigm. Data-Intensive Scientific Discovery (Version 1.). Redmond, Washington: Microsoft Research. Retrieved from <http://research.microsoft.com/fourthparadigm/>

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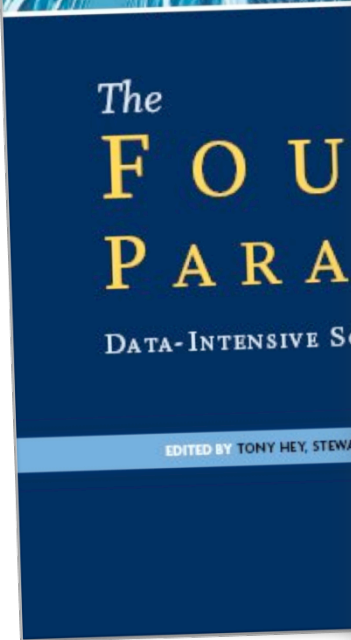


WIRED MAGAZINE: 16.07

SCIENCE : DISCOVERIES

The End of Theory: The Data Deluge Makes the Scientific Method Obsolete

By Chris Anderson 06.23.08

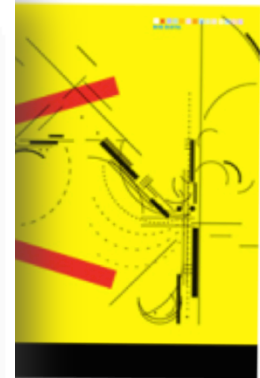
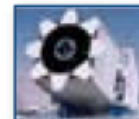
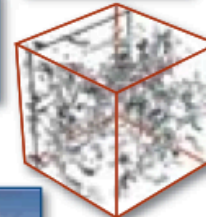


Science Paradigms

- Thousand years ago: science was **empirical**
describing natural phenomena
- Last few hundred years: **theoretical** branch
using models, generalizations
- Last few decades: a **computational** branch
simulating complex phenomena
- Today: **data exploration** (eScience)
unify theory, experiment, and simulation
 - Data captured by instruments or generated by simulator
 - Processed by software
 - Information/knowledge stored in computer
 - Scientist analyzes database/files using data management and statistics



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DIGITALE WISSENSCHAFT

- „Data-Intensive Scientific Discovery“

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The Expression of Emotions in 20th Century Books

Alberto Acerbi^{1,2*}, Vasileios Lampos³, Philip Garnett⁴, R. Alexander Bentley¹

1 Department of Archaeology and Anthropology, University of Bristol, Bristol, United Kingdom, **2** Centre for the Study of Cultural Evolution, Stockholm University, Stockholm, Sweden, **3** Department of Computer Science, University of Sheffield, Sheffield, United Kingdom, **4** Department of Anthropology, Durham University, Durham, United Kingdom

Abstract

We report here trends in the usage of “mood” words, that is, words carrying emotional content, in 20th century English language books, using the data set provided by Google that includes word frequencies in roughly 4% of all books published up to the year 2008. We find evidence for distinct historical periods of positive and negative moods, underlain by a general decrease in the use of emotion-related words through time. Finally, we show that, in books, American English has become decidedly more “emotional” than British English in the last half-century, as a part of a more general increase of the stylistic divergence between the two variants of English language.

Citation: Acerbi A, Lampos V, Garnett P, Bentley RA (2013) The Expression of Emotions in 20th Century Books. PLoS ONE 8(3): e59030. doi:10.1371/journal.pone.0059030

Editor: Sune Lehmann, Technical University of Denmark, Denmark

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Competing Interests: Co-author R. Alexander Bentley is a PLOS ONE Editorial Board member. This does not alter the authors’ adherence to all the PLOS ONE policies on sharing data and materials.

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Acerbi, A., Lampos, V., Garnett, P., & Bentley, R. A. (2013). The Expression of Emotions in 20th Century Books. (S. Lehmann, Ed.) PLoS ONE, 8(3), e59030. doi:10.1371/journal.pone.0059030

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- „Data-

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The Expression of Emotions

Alberto Acerbi^{1,2*}, Vasiliki Lampos¹, Peter Tett¹, & Robert Bentley^{1,3}

¹ Department of Archaeology at Stockholm, Sweden, ² Department of Anthropology at the University of Oxford, United Kingdom

Abstract

We report here trends in the expression of emotions in language books, using data from 1900 up to the year 2008. We find a decrease in the use of words that are decidedly more “emotionally charged” and a divergence between the use of words that are more “emotionally neutral” and “emotionally charged” over time.

Citation: Acerbi A, Lampos V, Tett P, Bentley R. A. (2013). The Expression of Emotions in 20th Century Language Books. *PLoS ONE*, 8(3), e59030. doi:10.1371/journal.pone.0059030

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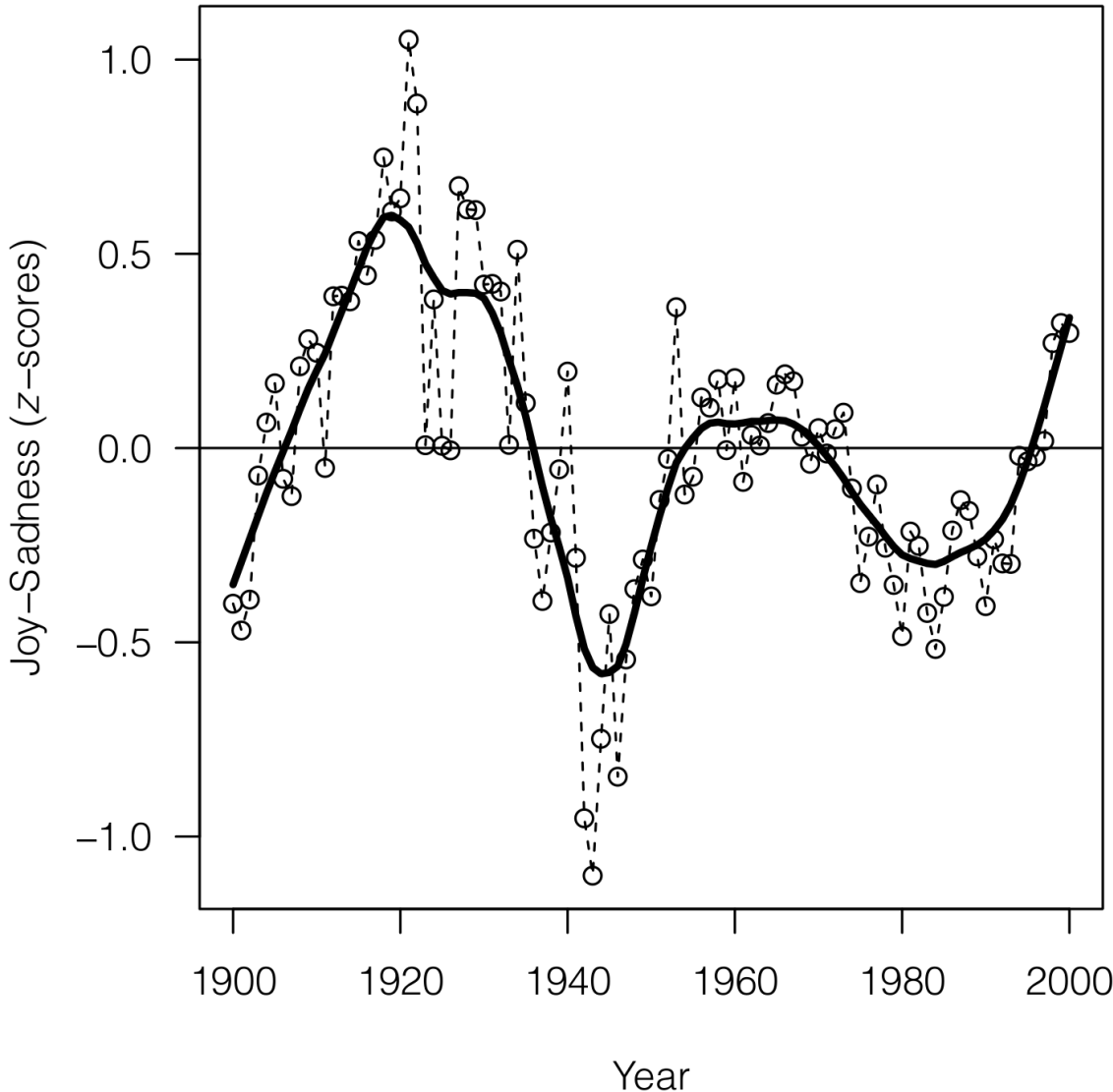
Received: July 26, 2012; **Accepted:** August 28, 2012

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Funding: This research was partially funded by the Swedish Research Council (EU-FP7-ICT n.287863).

Competing Interests: Co-authors have no competing financial interests or policies on sharing data and materials.

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DIGITALE WISSENSCHAFT

- „Data-Intensive Scientific Discovery“



SCIENTIFIC REPORTS

OPEN

Flavor network and the principles of food pairing

Yong-Yeol Ahn^{1,2,3*}, Sebastian E. Ahnert^{1,4*}, James P. Bagrow^{1,2} & Albert-László Barabási^{1,2}

SUBJECT AREAS:
STATISTICAL PHYSICS,
THERMODYNAMICS AND
NONLINEAR DYNAMICS
APPLIED PHYSICS
SYSTEMS BIOLOGY
STATISTICS

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¹Center for Complex Network Research, Department of Physics Northeastern University, Boston, MA 02115, ²Center for Cancer Systems Biology Dana-Farber Cancer Institute, Harvard University, Boston, MA 02115, ³School of Informatics and Computing Indiana University, Bloomington, IN 47408, ⁴Theory of Condensed Matter, Cavendish Laboratory, University of Cambridge, Cambridge CB3 0HE, UK.

The cultural diversity of culinary practice, as illustrated by the variety of regional cuisines, raises the question of whether there are any general patterns that determine the ingredient combinations used in food today or principles that transcend individual tastes and recipes. We introduce a flavor network that captures the flavor compounds shared by culinary ingredients. Western cuisines show a tendency to use ingredient pairs that share many flavor compounds, supporting the so-called food pairing hypothesis. By contrast, East Asian cuisines tend to avoid compound sharing ingredients. Given the increasing availability of information on food preparation, our data-driven investigation opens new avenues towards a systematic understanding of culinary practice.

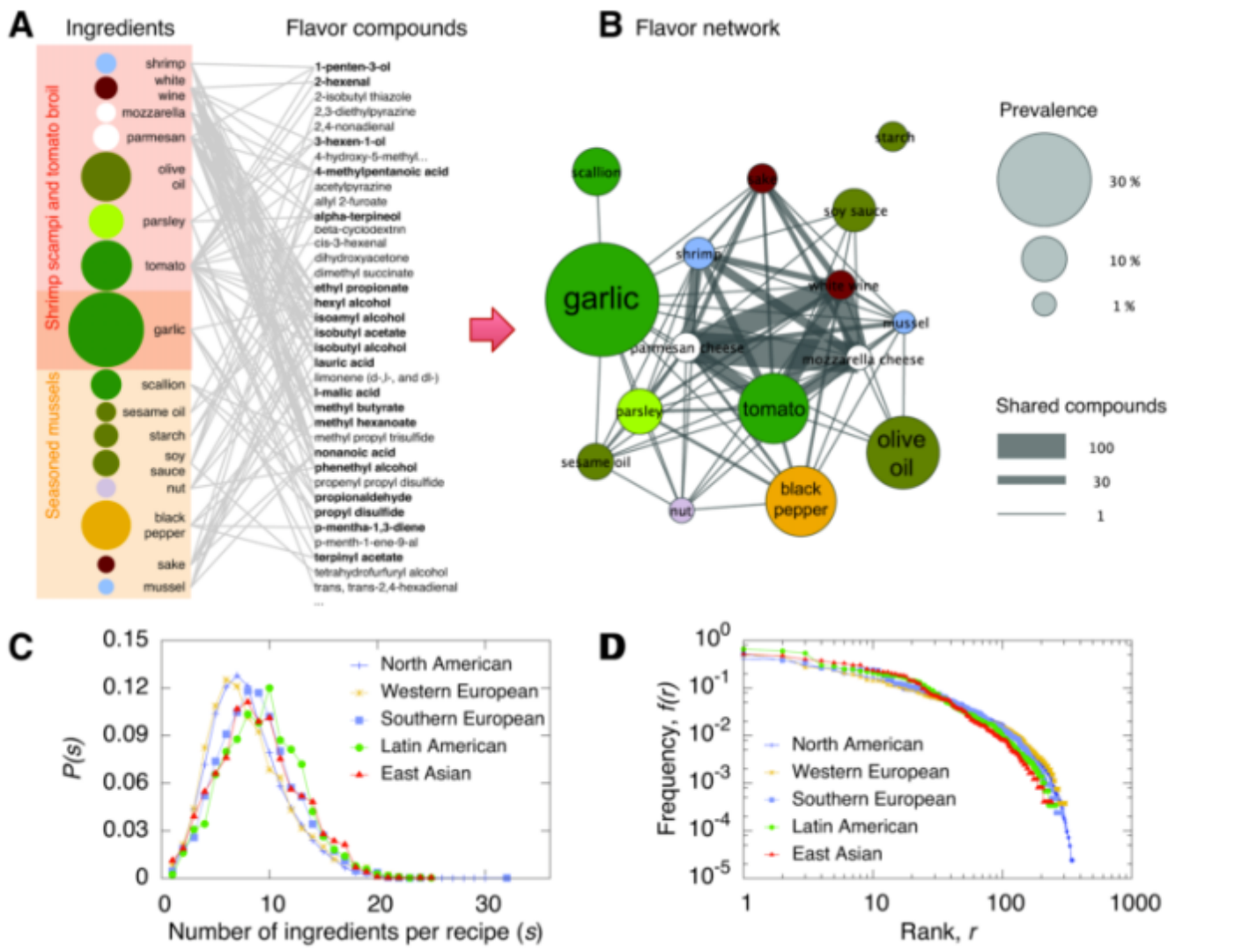
Ahn, Y.-Y., Ahnert, S. E., Bagrow, J. P., & Barabási, A.-L. (2011). Flavor network and the principles of food pairing. *Scientific reports*, 1, 196. doi: 10.1038/srep00196

DIGITALE WISSENSCHAFT

• „Data Mining in Food Science“

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SUBJECT
STATISTICAL
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DIGITALE WISSENSCHAFT

- „Data-Intensive Scientific Discovery“



Tracking Individuals Shows Spatial Fidelity Is a Key Regulator of Ant Social Organization

Danielle P. Mersch,^{1*} Alessandro Crespi,² Laurent Keller^{1*}

¹Department of Ecology and Evolution, University of Lausanne, Switzerland. ²Biorobotics Laboratory, Ecole Polytechnique Fédérale de Lausanne, Switzerland.

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Ants live in organized societies with a marked division of labor among workers, but little is known about how this is generated. We use a tracking system to continuously monitor individually-tagged workers in six colonies of the ant *Camponotus fellah* over 41 days. Network analyses of over 9 million interactions revealed three distinct groups that differ in behavioral repertoires. Each group represents a functional behavioral unit with workers moving from one group to the next as they age. The rate of interactions was much higher within than between groups. The precise information on spatial and temporal distribution of all individuals permitted calculation of the expected rates of within- and between-group interactions. These values suggest that the network of interaction within colonies is primarily mediated by age-induced changes in the spatial location of workers.

Ant colonies have long fascinated human beings with their complex and second group represented 31 ± 11% of the colony's workforce. Depend-

(fig. S1). The position and orientation of all individuals were recorded twice per second to reconstruct spatial movement and infer all social interactions occurring over the 41 days of the experiment. A pair of ants was considered to interact when the front end of one ant was located within the trapezoidal shape representing the other ant (12) (fig. S4). The data set obtained consisted of a total of 2,433,250,580 ant positions and 9,363,100 social interactions (movies S2 and S3).

We used this data set to first investigate whether workers organize themselves into cohesive social groups by using the Infomap community detection algorithm (13). To facilitate data analysis, we split the 41 experimental days into four periods of 11, 10, 10 and 10 days. In each of these periods we identified pairs of interacting ants. Analyses on the daily interaction networks of the first 11 days (supplementary text) revealed two robust groups to which the same set of workers was affiliated on almost all days. The first group always comprised the queen and 41 ± 12% (percentage ± SD across the six colonies, Fig. 1A) of the workers, while the

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Mersch, D. P., Crespi, A., & Keller, L. (2013). Tracking Individuals Shows Spatial Fidelity Is a Key Regulator of Ant Social Organization. *Science*, 9(10), 735–48. doi:10.1126/science.1234316

Supplementary data:

<http://dx.doi.org/10.5061/dryad.8d8h7>

Supplementary video:

<http://youtu.be/UbRRS-eDL0o>

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Tracking Fidelity Social

Danielle P. M

¹Department of Ec
Polytechnique Féd

*Corresponding a

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P., Crespi, A., &
(2013). Tracking
Shows Spatial
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ary video:

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Danielle P. M...

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Primary data: doi.org/10.5061/00000001377700000000000000000000

Primary video: [https://www.youtube.com/watch?v=UbRRS-](https://www.youtube.com/watch?v=UbRRS-...)

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The screenshot shows the Dryad website interface. At the top, there is a navigation bar with the Dryad logo and links for 'About', 'For researchers', 'For organizations', and 'Contact us'. There are also 'Login' and 'Sign Up' buttons. The main content area features a search bar with the text 'tracking_data' and a 'Submit data now' button. Below this, there is a section for citing the original article and the Dryad data package. The article citation is: Mersch DP, Crespi A, Keller L (2013) Tracking individuals shows spatial fidelity is a key regulator of ant social organization. Science, online in advance of print. doi:10.1126/science.1234316. The Dryad data package citation is: Mersch DP, Crespi A, Keller L (2013) Data from: Tracking individuals shows spatial fidelity is a key regulator of ant social organization. Dryad Digital Repository. doi:10.5061/dryad.8d8h7. There is also a 'Cite | Share' link. On the right side, there is a 'Search for data' section with a search bar and a 'Go' button, and a 'Be part of Dryad' section with links for 'Membership', 'Submission integration', and 'Pricing plans'. At the bottom, there is a table with the following data:

DOI	doi:10.5061/dryad.8d8h7/1
Pageviews	74
Downloaded	61 times
Keywords	division of labor, spatial fidelity, ants, social organization, social insect, tracking
Date Submitted	2013-04-19T16:05:34Z

Crespi, A., & Keller L (2013). Tracking individuals shows spatial fidelity is a key regulator of ant social organization. Science, 340(6137), 735–48.

doi:10.5061/dryad.8d8h7/1

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The screenshot shows the article page for "Land water contribution to sea level from GRACE and Jason-1 measurements" in the Journal of Geophysical Research: Oceans. The page includes the journal title, authors (L. Jensen, R. Rietbroek, J. Kusche), publication date (28 JAN 2013), DOI (10.1002/jgrc.20058), and a list of article tools such as "Get PDF (12386K)", "Save to My Profile", and "E-mail Link to this Article". A search bar and "ARTICLE TOOLS" section are also visible.

JGR | Journal of Geophysical Research
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Regular Article

Land water contribution to sea level from GRACE and Jason-1 measurements

L. Jensen, R. Rietbroek, J. Kusche

Issue

Article first published online: 28 JAN 2013
DOI: 10.1002/jgrc.20058
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Journal of Geophysical Research: Oceans
Volume 118, Issue 1, pages 212–226, January 2013

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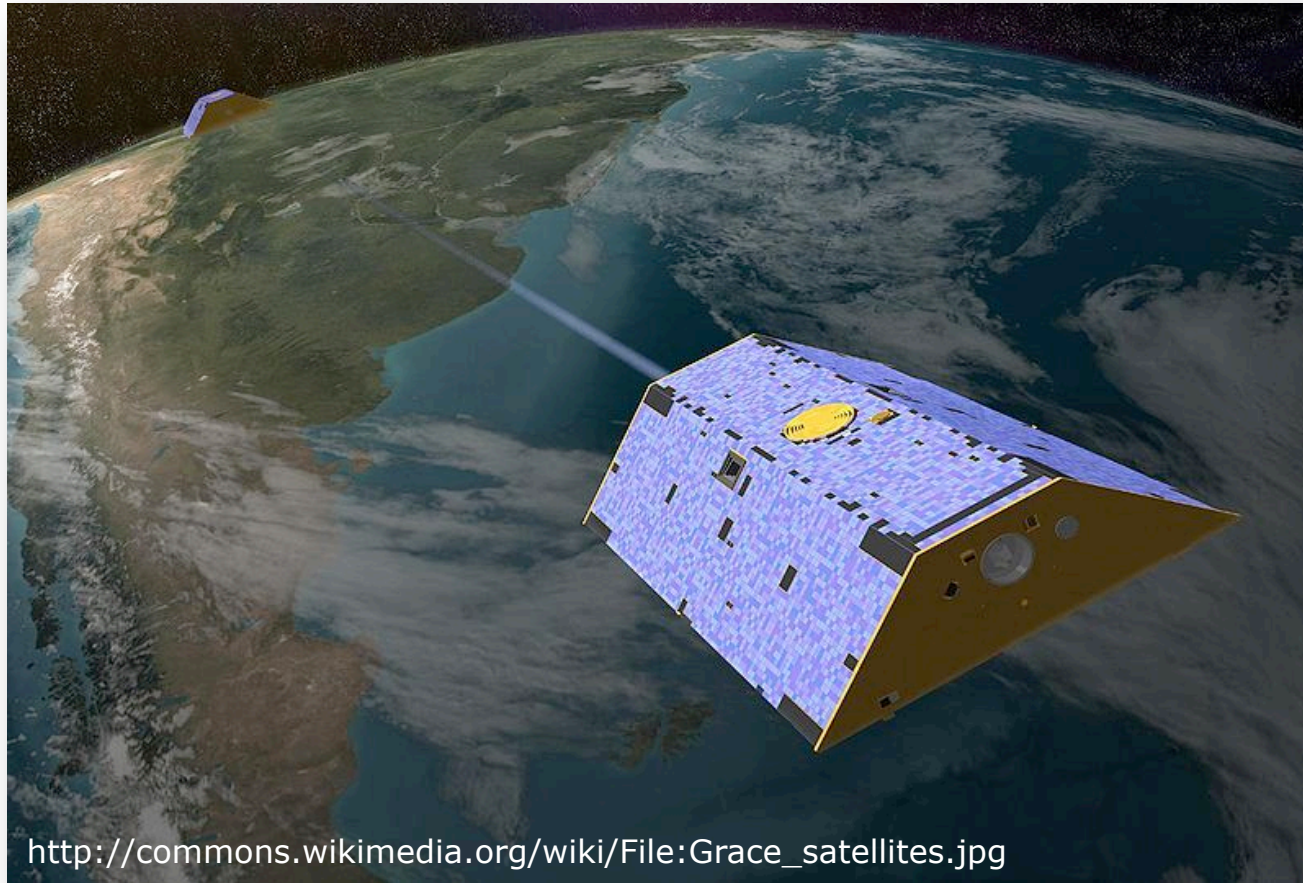
5 at seasonal and long-term time scales. In a joint inversion using GRACE and
6 Jason-1 data we estimate the time-dependent sea level contributions of 124
7 spatial patterns ('fingerprints') including glacier and ice-sheet melting, ther-
8 mal expansion, changes in the terrestrial hydrological cycle and glacial iso-
9 static adjustment. Particularly, for hydrological storage changes we derive

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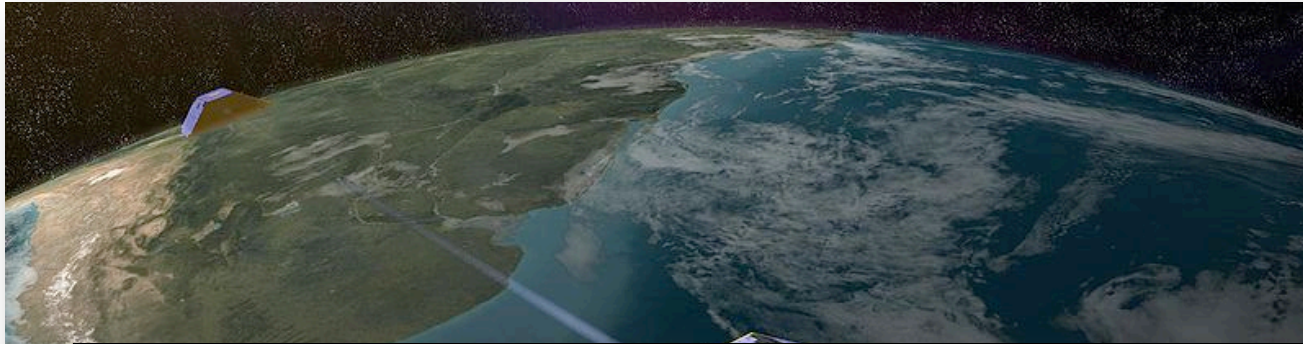
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Jensen, L., Rietbroek, R., & Kusche, J. (2013). Land water contribution to sea level from GRACE and Jason-1 measurements. *Journal of Geophysical Research: Oceans*, 118(1), 212–226. doi:10.1002/jgrc.20058

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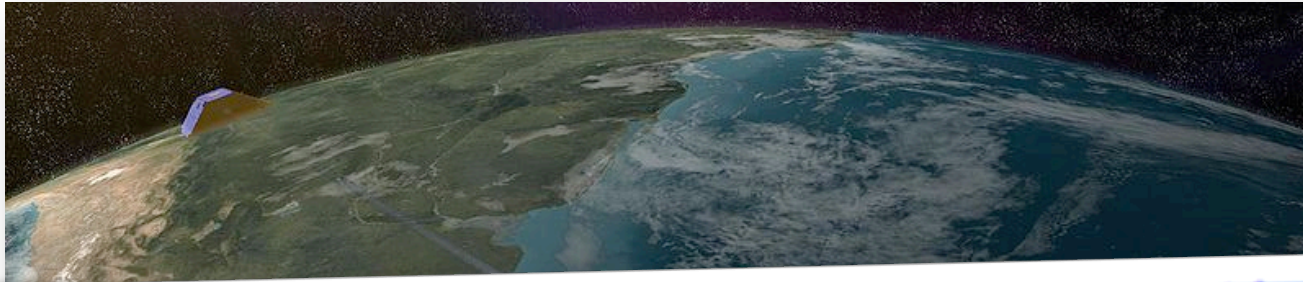


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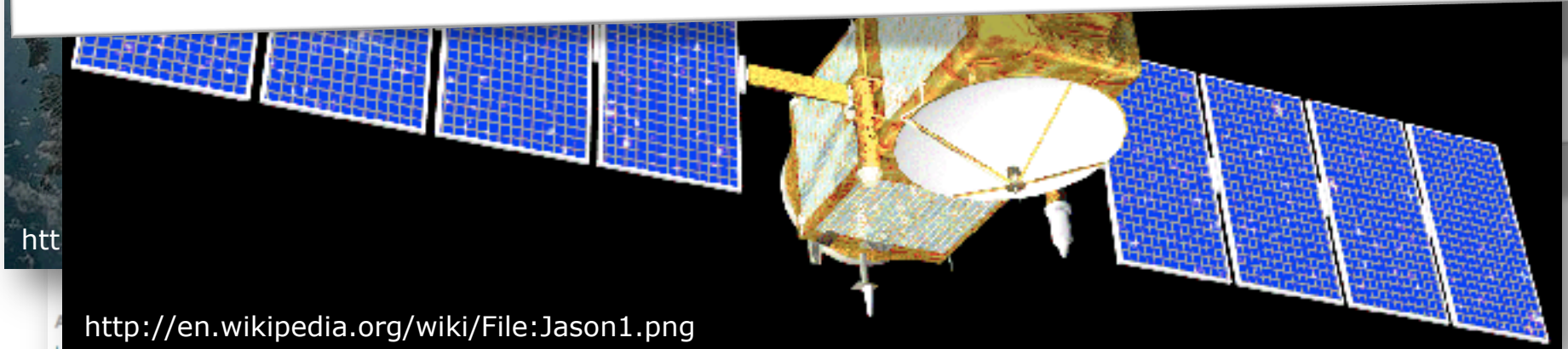
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350 the steric contributions. The steric fingerprints are derived from gridded in-situ data from
351 Argo floats, bouys and CTD casts: we use a dataset from *Hosoda et al.* [2008] who provide
352 monthly global 1° grids of steric sea level height. Since the Argo data (temperature and

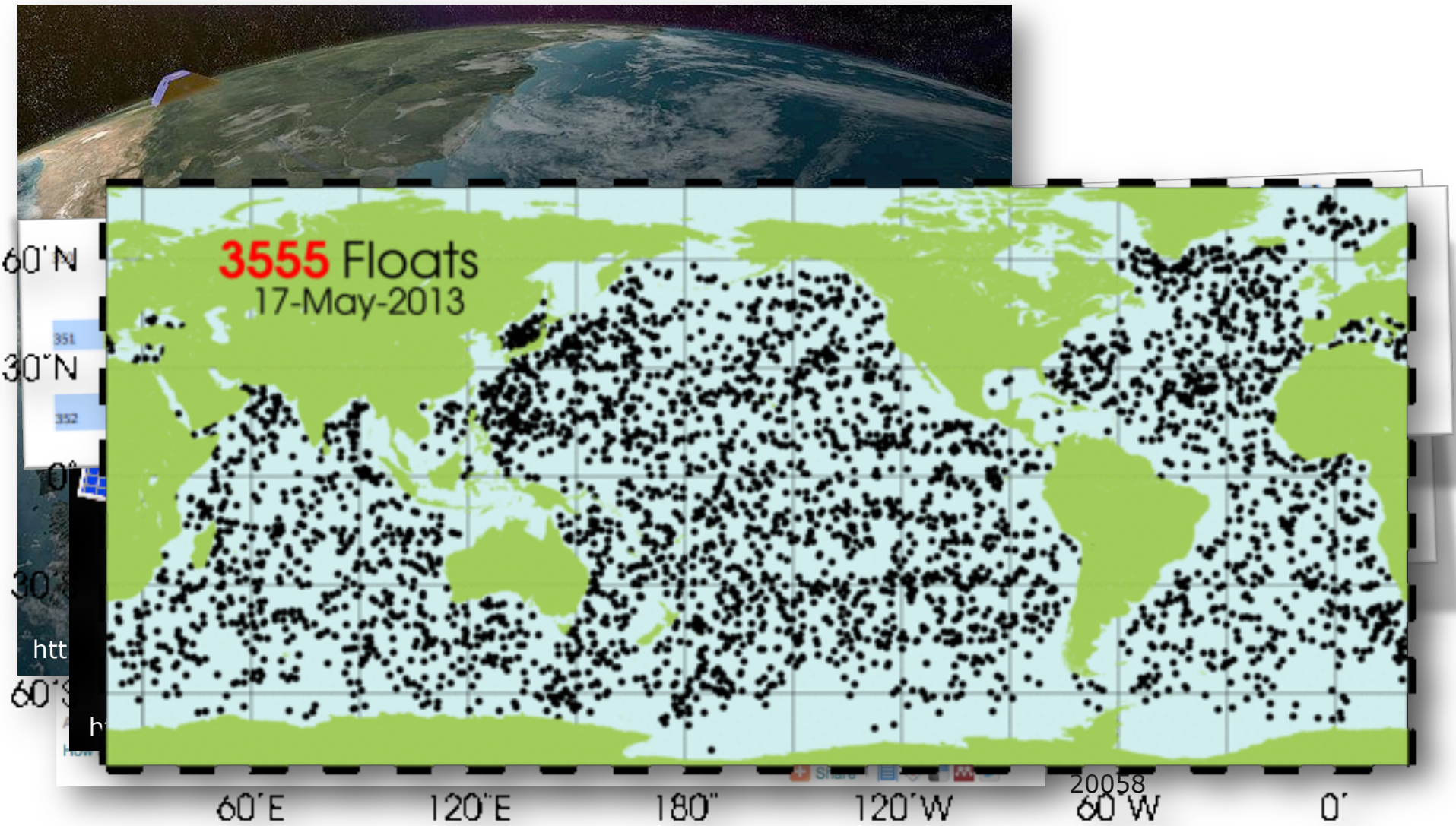


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Parking depth/Density	1000(dbar)	Profile depth	2020(dbar)
Number of profile	1	Status	Active
Deployed date/time(UTC)	2012/07/22 15:31:00	Deployed position	14.969N 160.063E
Last surfaced date/time(UTC)	2013/05/10 22:55:28	Last surfaced position	15.993N 151.348E
Due date	2013/05/20	P.I.	JAMSTEC

Contents Trajectory

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PLoS GENETICS

Comprehensive Research Synopsis and Systematic Meta-Analyses in Parkinson's Disease Genetics: The PDGene Database

Christina M. Lill^{1,2,3,4}, Johannes T. Roehr^{1,5}, Matthew B. McQueen⁶, Fotini K. Kavvoura^{7,8,9}, Sachin Bagade², Brit-Maren M. Schjeide¹, Leif M. Schjeide¹, Esther Meissner¹, Ute Zauft¹, Nicole C. Allen², Tian Liu^{1,10}, Marcel Schilling^{1,5}, Kari J. Anderson¹¹, Gary Beecham¹², Daniela Berg^{13,14}, Joanna M. Biernacka¹¹, Alexis Brice^{15,16,17,18}, Anita L. DeStefano^{19,20}, Chuong B. Do²¹, Nicholas Eriksson²¹, Stewart A. Factor²², Matthew J. Farrer²³, Tatiana Foroud²⁴, Thomas Gasser^{13,14}, Taye Hamza²⁵, John A. Hardy²⁶, Peter Heutink²⁷, Erin M. Hill-Burns²⁵, Christine Klein²⁸, Jeanne C. Latourelle¹⁹, Demetrius M. Maraganore²⁹, Eden R. Martin¹², Maria Martinez^{30,31}, Richard H. Myers¹⁹, Michael A. Nalls³², Nathan Pankratz²⁴, Haydeh Payami²⁵, Wataru Satake³³, William K. Scott¹², Manu Sharma^{13,14}, Andrew B. Singleton³², Kari Stefansson³⁴, Tatsushi Toda³³, Joyce Y. Tung²¹, Jeffery Vance¹², Nick W. Wood^{35,36}, Cyrus P. Zabetian³⁷, 23andMe, The Genetic Epidemiology of Parkinson's Disease (GEO-PD) Consortium^{*}, The International Parkinson's Disease Genomics Consortium (IPDGC)[†], The Parkinson's Disease GWAS Consortium[‡], The Wellcome Trust Case Control Consortium 2 (WTCCC2)[§], Peter Young⁴, Rudolph E. Tanzi², Muin J. Khoury³⁸, Frauke Zipp³, Hans Lehrach¹, John P. A. Ioannidis^{7,39,40,41}, Lars Bertram^{1,2*}

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Lill, C. M., Roehr, J. T., McQueen, M. B., Kavvoura, F. K., Bagade, S., Schjeide, B.-M. M., Schjeide, L. M., et al. (2012). Comprehensive research synopsis and systematic meta-analyses in Parkinson's disease genetics: The PDGene database. PLoS genetics, 8(3), e1002548. doi: 10.1371/journal.pgen.1002548

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Comprehensive Analyses in PLoS Database

Christina M. Lill^{1,2,3,4}, J. T. Roehr⁵, M. B. McQueen⁶, Brit-Maren M. Kavvoura⁷, S. Bagade⁸, L. M. Schjeide⁹, L. M. Schjeide¹⁰, Marcellus M. Schilling¹¹, Alexis Brice¹², Stewart A. Factor²², Maarten Hardy²⁶, Peter Heutink²⁷, Marjolein Maraganore²⁹, Eden R. Pankratz²⁴, Haydeh Panjari³², Kari Stefansson³³, Kari Stefansson³², Cyrus P. Zabetian³⁷, 23andMe Research Consortium[†], The Wellcome Trust Parkinson's Disease Consortium[†], Muin J. Khoury¹³

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2 Department of Neurology, University of Colorado Denver, Aurora, Colorado, USA
3 Department of Behavioral Genetics, University of Colorado Denver, Aurora, Colorado, USA
4 Department of Ioannina School of Medicine, Ioannina, Greece
5 Department of Diabetes, Endocrinology, and Metabolism, University of Colorado Denver, Aurora, Colorado, USA
6 Department of Health Sciences Research, University of Miami, Miami, Florida, USA
7 Department of Neurology, University of Tübingen, Tübingen, Germany, 14 DZNE
8 Curie-Paris, Centre de Recherche de l'Institut Pasteur de Paris, Paris, France
9 Department of Genetics and Cytogenetics, University of Colorado Denver, Aurora, Colorado, USA



A database for Parkinson's disease genetic association studies developed by the Max Planck Institute for Molecular Genetics Berlin, the Michael J. Fox Foundation and the Alzheimer Research Forum

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- „Data-Intensive Scientific Discovery“

The screenshot displays the journal's website interface. At the top, the journal title "Hydrology and Earth System Sciences" is prominently featured, along with its affiliation to the European Geosciences Union. The main content area highlights an article titled "Data expansion: the potential of grey literature for understanding floods" by S. Uhlemann, R. Bertelmann, and B. Merz. The article's metadata, including its volume, issue, and DOI, is provided. A sidebar on the left offers navigation options such as "Home", "Online Library HESS", and "ASAP". A search bar and various utility links are located on the right side of the page.

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Data expansion: the potential of grey literature for understanding floods

S. Uhlemann^{1,2}, R. Bertelmann³, and B. Merz¹

¹GFZ German Research Centre for Geosciences, Section Hydrology, Potsdam, Germany
²University of Potsdam, Institute of Earth and Environmental Science, University of Potsdam, Potsdam, Germany
³GFZ German Research Centre for Geosciences, Library and Information Services, Potsdam, Germany

Abstract. Sophisticated methods have been developed and become standard in analysing floods as well as for assessing flood risk. However, increasingly critique of the current standards and scientific practice can be found both in the flood hydrology community as well as in the risk community who argue that the considerable amount of information already available on natural disasters has not been adequately deployed and brought to effective use. We describe this phenomenon as a failure to synthesize knowledge that results from barriers and ignorance in

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Uhlemann, S., Bertelmann, R., & Merz, B. (2013). Data expansion: the potential of grey literature for understanding floods. *Hydrology and Earth System Sciences*, 17(3), 895–911. doi:10.5194/hess-17-895-2013

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management of the entire spectrum of relevant content, that is, data, information and knowledge. In this paper we argue that the scientific community in flood risk research ignores event-specific analysis and documentations as another source of data. We present results from a systematic search that includes an intensive study on sources and ways of information dissemination of flood-relevant publications. We obtain 186 documents that contain information on the sources, pathways, receptors and/or consequences for any of the 40 strongest trans-basin floods in Germany in the period 1952–2002. This study therefore provides the most comprehensive metadata collection of flood documentations for the consid-

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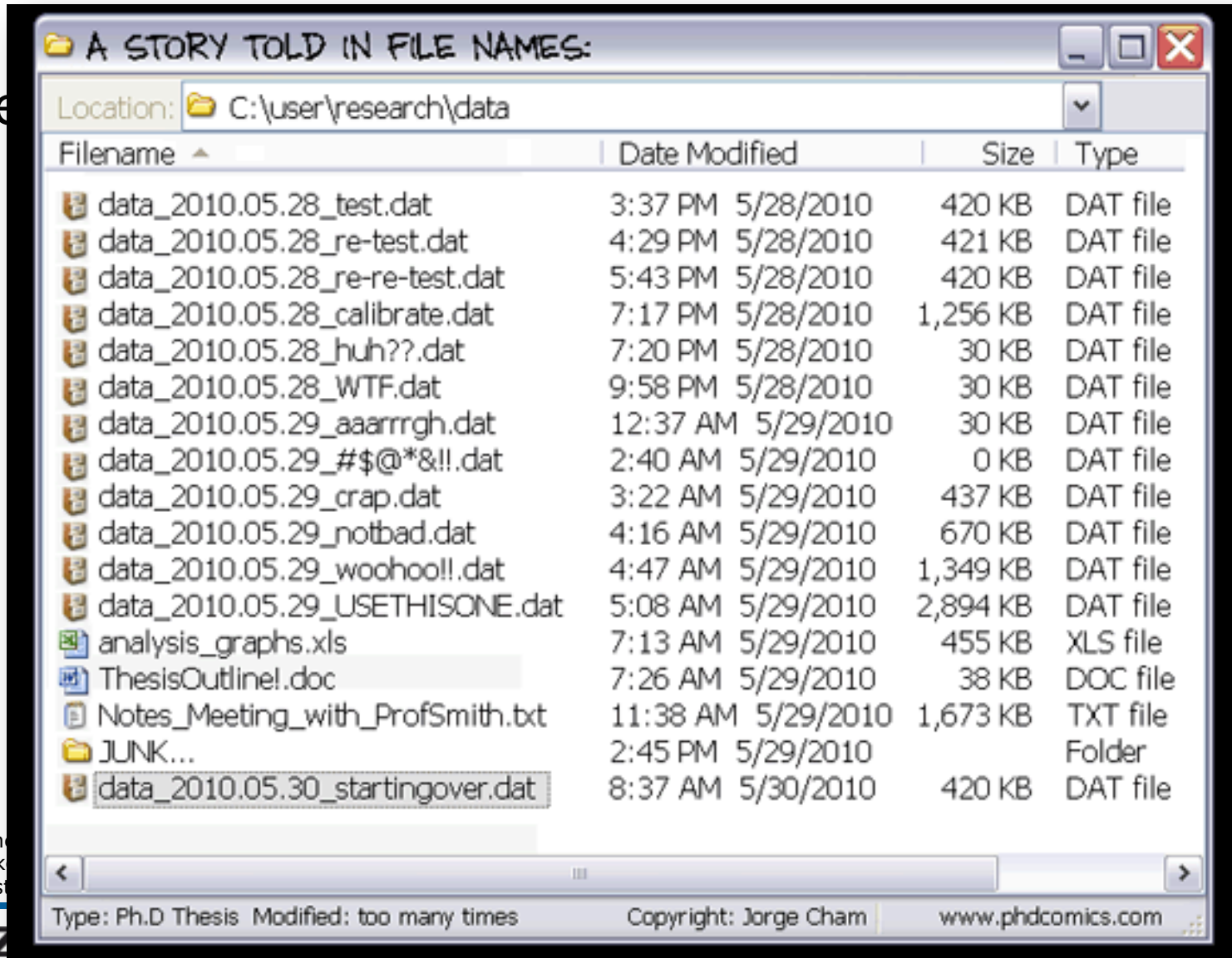
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619 **Vernetzung von Datenbanken und Repositorien**

620

621 Die Enquete-Kommission empfiehlt, den Aufbau, den Ausbau und die koordinierte nationale,
622 europäische und internationale Vernetzung von (Forschungs-)Datenbanken, Repositorien
623 und Open Access-Zeitschriften der Forschungseinrichtungen und insbesondere der
624 öffentlichen Hochschulen im Rahmen eines eigenen Programms zu fördern. In einem
625 solchen Programm ist auch der Aufbau und die Vernetzung von
626 **Forschungsdatenrepositorien** der öffentlichen Hochschulen und Forschungseinrichtungen zu
627 unterstützen, die nach Open Access-Kriterien und im Rahmen standardisierter
628 Langzeitarchivierung für die Nachnutzung bereitgestellt werden. Bei der Weiterentwicklung
629 und Vernetzung der Forschungsinfrastrukturen sind die Empfehlungen des

Seite | 17

Enquete-Kommission Internet und digitale Gesellschaft. (2012). Projektgruppe Bildung und Forschung. Handlungsempfehlungen. Ausschussdrucksache 17(24)052. Retrieved from http://www.bundestag.de/internetenquete/dokumentation/Sitzungen/20120625/A-Drs_17_24_052_-_PG_Bildung_und_Forschung_Handlungsempfehlungen.pdf

630 Wissenschaftsrates und der Kommission Zukunft der Informationsinfrastruktur im Auftrag der

631 Gemeinsamen Wissenschaftskonferenz zu berücksichtigen.

EMPFEHLUNGEN

- Wissenschaftspolitisch: Europa

E-infrastructures

Further develop e-infrastructures underpinning the system for disseminating scientific information by:

- Supporting scientific data infrastructures for dissemination of knowledge, research institutions and funding entities to address all stages of the data life cycle. These stages should include acquisition, curation, metadata, provenance, persistent identifiers, authorisation, authentication and data integrity. Approaches need to be developed to provide a common look and feel to data discovery across disciplines, thus reducing the learning curve required to achieve productivity;
- supporting the development and training of new cohorts of data-intensive

European Commission. (2012). Commission Recommendation on access to and preservation of scientific information. C(2012) 4890 final. Retrieved from http://ec.europa.eu/research/science-society/document_library/pdf_06/recommendation-access-and-preservation-scientific-information_en.pdf

VERORDNUNGEN

- Wissenschaftspolitisch: USA

- b) Ensure that all extramural researchers receiving Federal grants and contracts for scientific research and intramural researchers develop data management plans, as appropriate, describing how they will provide for long-term preservation of, and access to, scientific data in digital formats resulting from federally funded research, or explaining why long-term preservation and access cannot be justified;
- c) Allow the inclusion of appropriate costs for data management and access in proposals for Federal funding for scientific research;
- d) Ensure appropriate evaluation of the merits of submitted data management plans;
- e) Include mechanisms to ensure that intramural and extramural researchers comply with data management plans and policies;
- f) Promote the deposit of data in publicly accessible databases, where appropriate and available;

Office of Science and Technology Policy. (2013). Increasing Access to the Results of Federally Funded Scientific Research. Retrieved from http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf

DATA POLICIES

- Data Policies von Förderorganisationen
 - NIH, 2003
 - **„The NIH expects and supports the timely release and sharing of final research data from NIH-supported studies for use by other researchers. Starting with the October 1, 2003 receipt date, investigators submitting an NIH application seeking \$500,000 or more in direct costs in any single year are expected to include a **plan for data sharing** or state why data sharing is not possible.“**

National Institutes of Health. (2003, April 12). Final NIH Statement on Sharing Research Data. Retrieved from <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-03-032.html>

DATA POLICIES

- Data Policies von Förderorganisationen
 - DFG, 2010
 - „Wenn [..] systematisch (Mess-)Daten erhoben werden, die für die Nachnutzung geeignet sind, legen Sie bitte dar, welche Maßnahmen ergriffen wurden bzw. während der Laufzeit des Projektes getroffen werden, um die Daten nachhaltig zu sichern und ggf. für eine erneute Nutzung bereit zu stellen. **Bitte berücksichtigen Sie dabei auch - sofern vorhanden - die in Ihrer Fachdisziplin existierenden Standards und die Angebote bestehender Datenrepositorien.**“

Deutsche Forschungsgemeinschaft. (2012). Leitfaden für die Antragstellung. DFG-Vordruck 54.01 - 1/12. Retrieved from http://www.dfg.de/formulare/54_01/54_01_de.pdf

Deutsche Forschungsgemeinschaft. (2012). Merkblatt Sonderforschungsbereiche. DFG-Vordruck 50.06 - 6/12. Retrieved from http://www.dfg.de/formulare/50_06/50_06_de.pdf

DATA POLICIES

- Data Policies von Förderorganisationen

Im Einzelnen kann sich ein Teilprojekt Informationsinfrastruktur auf eins oder mehrere der folgenden Ziele beziehen.

- *Forschungsdaten:* Aufbau einer Datenbank zur Speicherung der im Sonderforschungsbereich anfallenden Forschungsdaten einschließlich der Vergabe von Metadaten. Die Interoperabilität mit weiteren relevanten internen oder externen Datenrepositorien soll dabei sichergestellt sein.
- *Pflege und Erschließung von Forschungsdaten:* Gefördert werden können die Implementierung und Entwicklung von Techniken und Verfahren zur Pflege und Erschließung von Informationen sowie zur Verknüpfung der Forschungsdaten, die im Sonderforschungsbereich erzeugt werden, mit anderen Datensystemen auch außerhalb des Verbunds oder eine Einbettung in diese (Referenzierung von Daten).
- *Nachnutzung von Forschungsdaten:* Das Datenspeicherungssystem ist so auf-

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der
en
ung
auch

Deutsch
formular

Deutsch
www.dfg

dfg.de/

GFZ

Helmholtz-Zentrum
POTSDAM

HELMHOLTZ
GEMEINSCHAFT

DATA POLICIES

- Data Policies von wissenschaftlichen Zeitschriften
 - Nature, 2013
 - **„Data sets must be made freely available to readers from the date of publication, and must be provided to editors and peer-reviewers at submission, for the purposes of evaluating the manuscript.** For the following types of data set, submission to a community-endorsed, public repository is mandatory. Accession numbers must be provided in the paper. Examples of **appropriate public repositories** are listed below.“

Nature. (2013). Availability of data and materials. Retrieved from <http://www.nature.com/authors/policies/availability.html>

DATA POLICIES

- Data Policies von wissenschaftlichen Zeitschriften

EDITORIAL

nature
immunology

Raising standards

Nature journals' updated editorial policies aim to improve transparency and reproducibility

Beginning in May, *Nature* and the Nature research journals are adopting editorial measures to improve the consistency and quality of reporting in the life-sciences articles they publish. To facilitate the interpretation and improve the reliability of published results, we will more systematically ensure the reporting of key methodological details, give more space to Methods sections, examine the statistics more closely and offer more ways for authors to be transparent about these matters.

To allow authors to describe their experimental designs and methods in enough detail for others to interpret and replicate them, the participating journals are removing length restrictions on Methods sections.

To further increase transparency, we now also encourage authors to provide, in tabular form, the data underlying the graphical representations used in figures. This is in addition to our well-established data-deposition policy for specific types of experiments and large

Nature.

Nature Immunology. (2013). Raising standards. *Nature Immunology*, 14(5), 415. doi:10.1038/ni.2603

DATA POLICIES

- Data Policies von wissenschaftlichen Zeitschriften
 - AGU, 1993-1996
 - **„Data sets cited in AGU publications must meet the same type of standards for public access and long-term availability as are applied to citations to the scientific literature.** Thus data cited in AGU publications must be permanently archived in a data center or centers that meet the following **conditions**: a) are **open** to scientists throughout the world. b) are committed to archiving data sets **indefinitely**. c) provide services at **reasonable costs.**“

American Geophysical Union. (1996). Policy on Referencing Data in and Archiving Data for AGU Publications. Retrieved from <http://publications.agu.org/author-resource-center/publication-policies/data-policy/>

DATA POLICIES

- Verankerung im Einreichungsprozess
 - Beispiel PLOS ONE

Required Statement

You must enter your initials to acknowledge your agreement to the following statement.

We strongly encourage adherence to appropriate reporting guidelines (e.g. [CONSORT](#), [MIAME](#), [STROBE](#), [PRISMA](#) and other guidelines provided by [EQUATOR](#)) and community standards for data availability. Please indicate that you have read our [Publishing Policies](#) and that your manuscript adheres to the appropriate standards.

[Instructions](#)

Answer

Character Count: 2

Required:

Limit 3 characters

DATA POLICIES

- Verankerung im Einreichungsprozess
 - Beispiel PLOS ONE

Required Statement

You must enter your initials to acknowledge your agreement to the following statement.

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[Instructions](#)

Answer

Character Count: 2

Required:

HP

Limit 3 characters

AGENDA

- 20 Jahre „Offenheit“ des WWW
- 10 Jahre „Berliner Erklärung“
- Potenzial der digitalen Wissenschaft
- Umgang mit Forschungsdaten
- **Relevanz der Informationsinfrastrukturen**
- re3data.org – Werkzeug für Open Science
- Herausforderungen für die Forschungsdaten-Infrastruktur
- Auf dem Weg zu Open Science
- Ausblick

AGENDA

- 20 Jahre „Offenheit“ des WWW
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INFRASTRUKTUREN

- Benötigt werden Informationsinfrastrukturen, die die dauerhafte Zugänglichkeit der Daten sicherstellen.
- Die Anforderungen an diese Infrastrukturen können je nach Disziplin (und Daten) variieren.
- Europäische Kommission (2009):
 - „The landscape of data repositories across Europe is **fairly heterogeneous**, but there is a solid basis to develop a coherent strategy to overcome the fragmentation and enable research communities to better manage, use, share and preserve data.“

European Commission. (2009). ICT infrastructures for e-science. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. COM(2009) 108 final. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0108:FIN:EN:PDF>

INFRASTRUKTUREN

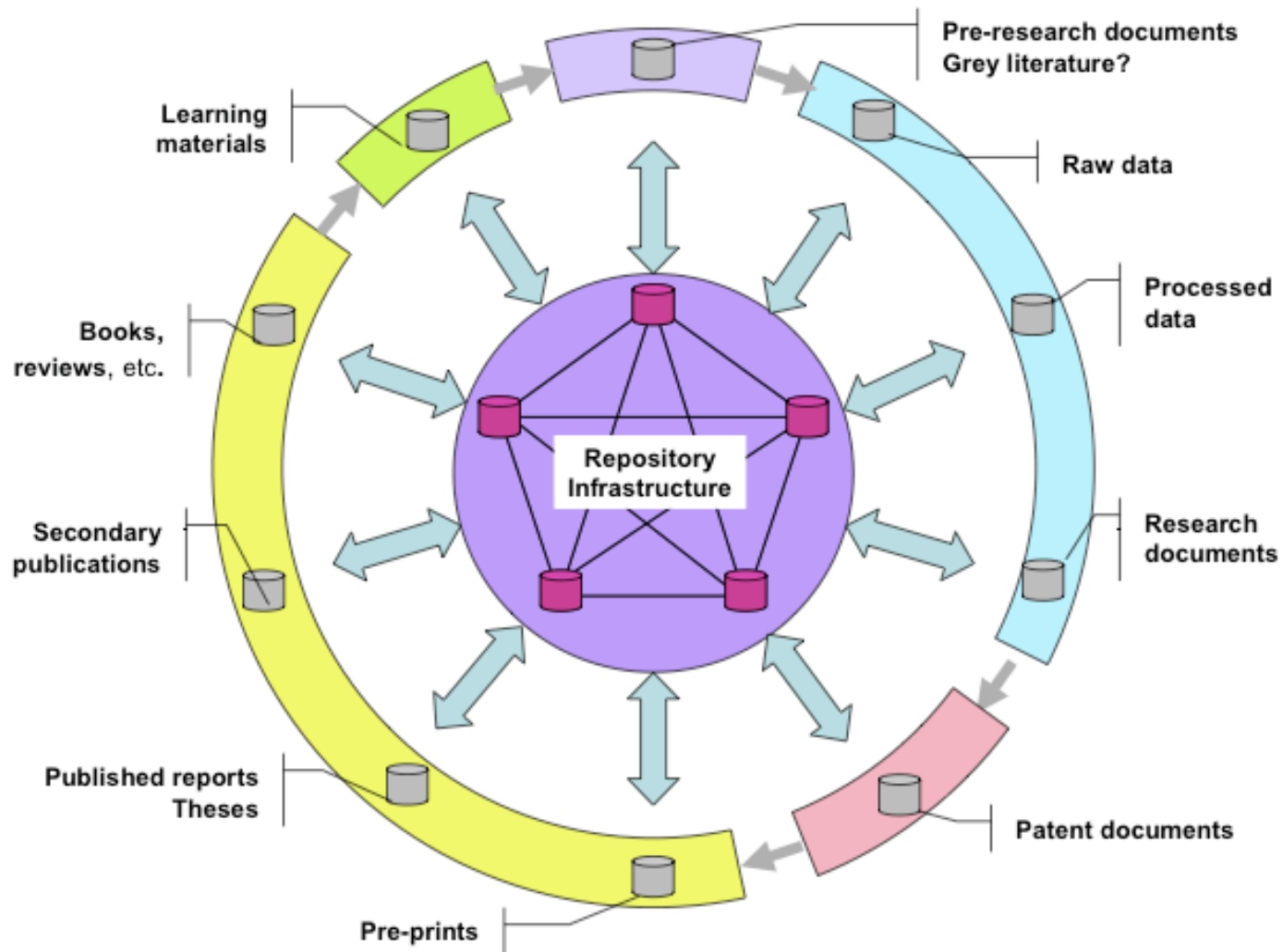
- Herausforderungen:
 - „Researchers report many reasons why their data is not available electronically to others. The leading reasons were **insufficient time** and **lack of funding**. These are difficult to solve, but systems that make it quick and easy to share data without cost may help.“ (Tenopir et al. 2011)

INFRASTRUKTUREN

- Spannungsfeld: Anspruch – Wirklichkeit
 - „Research Data Infrastructures can be defined as **managed networked environments for digital research data consisting of services and tools that support:** (i) the **whole research cycle**, (ii) the movement of research data **across scientific disciplines**, (iii) the creation of **open linked data spaces** by connecting data sets from diverse disciplines, (iv) the management of **scientific workflows**, (v) the **interoperation between** research **data** and **literature** and (vi) an integrated Science **Policy Framework**.“

GRDI2020 (2012). GRDI2020 Final Roadmap Report. Global Research Data Infrastructures: The Big Data Challenges. Retrieved from <http://www.grdi2020.eu/Repository/FileScaricati/e2b03611-e58f-4242-946a-5b21f17d2947.pdf>

INFRASTRUKTUREN



INFRASTRUKTUREN

- Wissenschaftspolitisch: Deutschland

The screenshot shows the website 'Informationsinfrastruktur' with a navigation bar containing flags and links like 'Hilfe', 'Sitemap', 'Kontakt', 'RSS', 'Impressum', and 'Suche:'. A blue callout box on the left contains the text 'Kommission Zukunft der Informationsinfrastruktur'. Below it, a white box contains the text 'Gesamtconcept für die Informationsinfrastruktur in Deutschland'. In the foreground, a document cover is visible with the title 'Übergreifende Empfehlungen zu Informationsinfrastrukturen' and the logo of the 'WR WISSENSCHAFTSRAT'.

Wissenschaftsrat. (2011). Übergreifende Empfehlungen zu Informationsinfrastrukturen. Berlin. Retrieved from <http://www.wissenschaftsrat.de/download/archiv/10466-11.pdf>

Kommission Zukunft der Informationsinfrastruktur. (2011). Gesamtconcept für die Informationsinfrastruktur in Deutschland. Retrieved from http://www.allianz-initiative.de/fileadmin/user_upload/KII_Gesamtconcept.pdf

AGENDA

- 20 Jahre „Offenheit“ des WWW
- 10 Jahre „Berliner Erklärung“
- Potenzial der digitalen Wissenschaft
- Umgang mit Forschungsdaten
- Relevanz der Informationsinfrastrukturen
- **re3data.org – Werkzeug für Open Science**
- Herausforderungen für die Forschungsdaten-Infrastruktur
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- Ausblick

re3data.org

- Werkzeug zur Identifikation von Repositorien für die Speicherung und Zugänglichkeit von Forschungsdaten
- Unterstützung für Forschende beim „data sharing“
- Orientierung in der heterogenen Landschaft der Forschungsdaten-Repositorien
- Projektpartner:
 - Deutsches GeoForschungsZentrum GFZ, LIS
 - Humboldt-Universität zu Berlin, IBI
 - Karlsruher Institut für Technologie (KIT), KIT-Bibliothek
- Förderer: Deutsche Forschungsgemeinschaft (DFG)
- Vernetzungspartner: Deutsche Initiative für Netzwerkinformation (DINI)

TYPOLOGIE DER REPOSITORIEN

- Disziplinäre Forschungsdaten-Repositories
- Institutionelle Forschungsdaten-Repositories
- Projektspezifische Forschungsdaten-Repositories
- Multidisziplinäre Forschungsdaten-Repositories
- Portale, die verteilte Datensammlungen zugänglich machen

re3data.org

- Icon-System



Search for repositories (611 repositories)

geosciences



Search

Filter results ▼

65 results for: geosciences

65 results (1 – 25) ▾

« 1 2 3 »

Australian Antarctic Data Centre

Data management and spatial data services



Subjects: [Biology](#) [Geosciences \(including Geography\)](#) [Physics](#)

Content types: [Images](#) [Plain text](#) [Scientific and statistical data formats](#) [Standard office documents](#)

Countries: [Australia](#)

The Australian Antarctic Data Centre (AADC) provides data collection and data management services in Australia's Antarctic Science Program. The AADC manages science data from Australia's Antarctic research, maps Australia's areas of interest in the Antarctic region, manages Australia's Antarctic state of the environment reporting, and provides advice and education and a range of other products.

Search for repositories (611 repositories)

geosciences



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Filter results ▼

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« 1 2 3 »

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Search for repositories (611 repositories)

geosciences



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Filter results ▼

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« 1 2 3 »

Australian Antarctic Data Centre

Data management and spatial data services



Subjects: [Biology](#) [Geosciences \(including Geography\)](#) [Physics](#)

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Search for repositories (611 repositories)

geosciences



Search

Filter results ▲

65 results for: geosciences (unfiltered)

Subject

Add subjects

Content Type

Add content types

Country (of the responsible institutions)

Add countries



Certificates



Open Access



Persistent Identifier



Repository reviewed by re3data.org



remove filters

18 results (filtered) (1 - 18)

Australian Antarctic Data Centre

Data management and spatial data services



Subjects:

Biology

Geosciences (Including Geography)

Physics

Content types:

Images

Plain text

Scientific and statistical data formats

Standard office documents

Countries:

Australia

Search for repositories (611 repositories)

geosciences

Search

Filter results ▲

65 results for: geosciences (unfiltered)

Subject

Add subjects

Content Type

Add content types

Country (of the responsible institutions)

Add countries



Certificates



Open Access



Persistent Identifier



Repository reviewed by re3data.org



remove filters

18 results (filtered) (1 - 18)

Australian Antarctic Data Centre

Data management and spatial data services



Subjects: [Biology](#) [Geosciences \(Including Geography\)](#) [Physics](#)

Content types: [Images](#) [Plain text](#) [Scientific and statistical data formats](#) [Standard office documents](#)

Countries: [Australia](#)

Australian Antarctic Data Centre


[← Back to results](#)
[General](#)
[Institutions](#)
[Policies](#)
[Misc](#)

General information

Name of repository	Australian Antarctic Data Centre
Additional name	Data management and spatial data services AADC
Repository URL	http://data.aad.gov.au/
Subjects	Q Biology Q Geosciences (including Geography) Q Physics
Description	The Australian Antarctic Data Centre (AADC) provides data collection and data management services in Australia's Antarctic Science Program. The AADC manages science data from Australia's Antarctic research, maps Australia's areas of interest in the Antarctic region, manages Australia's Antarctic state of the environment reporting, and provides advice and education and a range of other products.
Content types	Q Images Q Plain text Q Scientific and statistical data formats Q Standard office documents
Keywords	Q Antarctic Treaty System Q Antarctic Data Q Polar Data
Repository type	disciplinary
Research data repository language(s)	eng
Data and/or service provider	dataProvider serviceProvider

[← Back to results](#)

Australian Antarctic Data Centre

[← Back to results](#)[General](#)[Institutions](#)[Policies](#)[Misc](#)

General information

Name of repository	Australian Antarctic Data Centre
Additional name	Data management and spatial data services AADC
Repository URL	http://data.aad.gov.au/
Subjects	Biology Geosciences (including Geography) Physics
Description	The Australian Antarctic Data Centre (AADC) provides data collection and data management services in Australia's Antarctic Science Program. The AADC manages science data from Australia's Antarctic research, maps Australia's areas of interest in the Antarctic region, manages Australia's Antarctic state of the environment reporting, and provides advice and education and a range of other products.
Content types	Images Plain text Scientific and statistical data formats Standard office documents
Keywords	Antarctic Treaty System Antarctic Data Polar Data
Repository type	disciplinary
Research data repository language(s)	eng
Data and/or service provider	dataProvider serviceProvider

[← Back to results](#)

re3data.org

- Stand (September 2013)
 - 611 Repositorien
 - 398 indexiert (Vierkant et al. 2012)
- MoU mit DataCite
- MoU mit OpenAIREplus
- Kooperationen u.a. mit:
 - Databib
 - Diversen DFG-Projekten (z.B.: reBiND)
 - BioSharing (Oxford e-Research Centre)
- Zusammenarbeit mit Verlagen



re3data.org & Verlage



Home
Objectives
Services
Open Access Publishing

Data Policy

Copernicus Publications recommends depositing data that correspond to journal articles in reliable data repositories, assigning digital object identifiers, and properly citing a data set as a proper citation. Please find your appropriate data repository in the [Registry for Research Data Repositories](#) re3data.org or in [DataBib](#).

SCIENTIFIC DATA

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festo on Data Citation Principles initiated by [FORCE11](#).

Data deposition policies

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Scientific Data publishes descriptions of scientifically valuable datasets and makes these datasets available to editors and referees. These datasets with the scientific community as a condition of publication.

Scientific Data will provide a searchable publication platform for datasets across many different data repositories, but will not host datasets. Scientific Data encourages submission of datasets to community-recognized data repositories, and recommends deposition to figshare or Zenodo if no other data repositories exist, and recommends deposition to figshare or Zenodo if no other data repositories exist for a particular dataset. For more information on this policy, please see the [Data Policy](#).

Policies & Procedures

Open, ethical, and adherence to discipline-specific best practices.

[Open Access Copyright Policy](#)

AGENDA

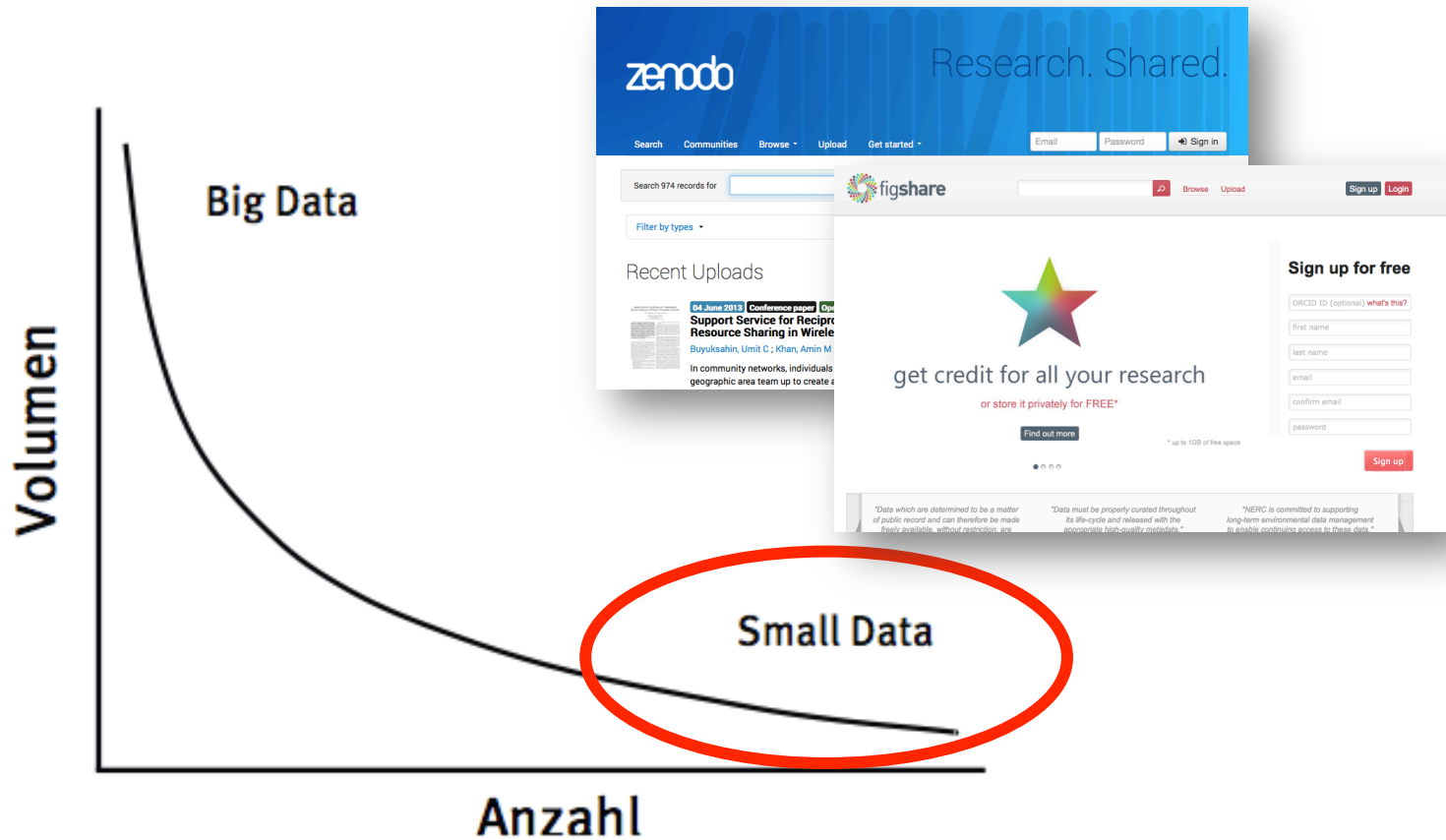
- 20 Jahre „Offenheit“ des WWW
- 10 Jahre „Berliner Erklärung“
- Potenzial der digitalen Wissenschaft
- Umgang mit Forschungsdaten
- Relevanz der Informationsinfrastrukturen
- re3data.org – Werkzeug für Open Science
- **Herausforderungen für die Forschungsdaten-Infrastruktur**
- Auf dem Weg zu Open Science
- Ausblick

HERAUSFORDERUNGEN

- Vier Herausforderungen
 - Lücken in der Forschungsdaten-Landschaft
 - Anreize zur Nutzung der Infrastrukturen (Reputation)
 - Dauerhafte Finanzierungsstrategien und Geschäftsmodelle
 - Persistente Verlinkungen aller Objekte im Forschungsprozess („connectivity“)

HERAUSFORDERUNGEN

- Lücken in der Forschungsdaten-Landschaft



HERAUSFORDERUNGEN

- Anreize zur Nutzung der Infrastrukturen (Reputation)



The screenshot shows the Global Carbon Project website. The header includes the logo and navigation links: Home, Search, Contact Us, Site Map, Carbon Budget, RECCAP, and Urbanization. The main content area is titled 'Global Carbon Budget Data' and features a 'Data Sources' section. This section explains that the annual update of the Global Carbon Budget is possible thanks to many institutions, observational networks, and modeling groups. It also mentions that all datasets and modeling output to complete the Global Carbon Budget 2012 are described in detail in Le Quere et al. (2012) and provides a link to the dataset. A table is partially visible at the bottom of the page, with columns for 'Component' and 'Source'.

Component	Source
-----------	--------

http://dx.doi.org/10.3334/CDIAC/GCP_V2012

HERAUSFORDERUNGEN

- Anreize zur Nutzung der Infrastrukturen (Reputation)



The screenshot shows the Global Carbon Project website. At the top, there are navigation links for ESSP, DIVERSITAS, IGBP, IHDP, and WCRP. The main content area features the article title "The global carbon budget 1959–2011" and a list of authors: C. Le Quéré¹, R. J. Andres², T. Boden², T. Conway³, R. A. Houghton⁴, J. I. House⁵, G. Marland⁶, G. P. Peters⁷, G. van der Werf⁸, A. Ahlström⁹, R. M. Andrew⁷, L. Bopp¹⁰, J. G. Canadell¹¹, P. Ciais¹⁰, S. C. Doney¹², C. Enright¹, P. Friedlingstein¹³, C. Huntingford¹⁴, A. K. Jain¹⁵, C. Jourdain^{1,*}, E. Kato¹⁶, R. F. Keeling¹⁷, K. Klein Goldewijk²⁵, S. Levis¹⁸, P. Levy¹⁴, M. Lomas¹⁹, B. Poulter¹⁰, M. R. Raupach¹¹, J. Schwinger²⁰, S. Sitch²¹, B. D. Stocker²², N. Viovy¹⁰, S. Zaehle²³, and N. Zeng²⁴. Below the authors, there are footnotes for each institution, such as "1Tyndall Centre for Climate Change Research, University of East Anglia, Norwich Research Park, Norwich, NR4 7TJ, UK".

http://dx.doi.org/10.3334/CDIAC/GCP_V2012

<http://dx.doi.org/10.5194/essdd-5-1107-2012>

HERAUSFORDERUNGEN

- Anreize zur Nutzung der Infrastrukturen (Reputation)

Earth Syst. Sci. Data Discuss., 5, 1107–1157, 2012
www.earth-syst-sci-data-discuss.net/5/1107/2012/
doi:10.5194/essdd-5-1107-2012
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The global carbon budget 1959–2011

C. Le Quéré¹, R. J. Andres², T. Boden², T. Conway³, R. A. Houghton⁴, J. I. H. G. van der Werf⁸, A. Ahlström⁹, R. M. Andrew⁷, L. Bopp¹⁰, J. G. Canadell¹¹, P. Friedlingstein¹³, C. Huntingford¹⁴, A. K. Jain¹⁵, C. Jourdain^{1,*}, E. Kato¹⁶, K. Klein Goldewijk²⁵, S. Levis¹⁸, P. Levy¹⁴, M. Lomas¹⁹, B. Poulter¹⁰, M. R. Sitch²¹, B. D. Stocker²², N. Viovy¹⁰, S. Zaehle²³, and N. Zeng²⁴

¹Tyndall Centre for Climate Change Research, University of East Anglia, Norwich Research
²Carbon Dioxide Information Analysis Center (CDIAC), Oak Ridge National Laboratory, Oak
³National Oceanic & Atmosphere Administration, Earth System Research Laboratory (NOAA
⁴Woods Hole Research Centre (WHRC), Falmouth, Massachusetts 02540, USA
⁵Cabot Institute, Dept of Geography, University of Bristol, UK
⁶Research Institute for Environment, Energy, and Economics, Appalachian State University
⁷Center for International Climate and Environmental Research – Oslo (CICERO), Norway
⁸Faculty of Earth and Life Sciences, VU University Amsterdam, The Netherlands
⁹Department of Physical Geography and Ecosystem Science, Lund University, Sweden

http://dx.doi.org/10.3334/CDIAC/GCP_V2012

<http://dx.doi.org/10.5194/essdd-5-1107-2012>

nature
climate change

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Archive > 2013 > January > Commentaries > Article

NATURE CLIMATE CHANGE | COMMENTARY

The challenge to keep global warming below 2 °C

Glen P. Peters, Robbie M. Andrew, Tom Boden, Josep G. Canadell, Philippe Ciais, Corinne Le Quéré, Gregg Marland, Michael R. Raupach & Charlie Wilson

Affiliations | Contributions | Corresponding author

Nature Climate Change 3, 4–6 (2013) | doi:10.1038/nclimate1783
Published online 02 December 2012

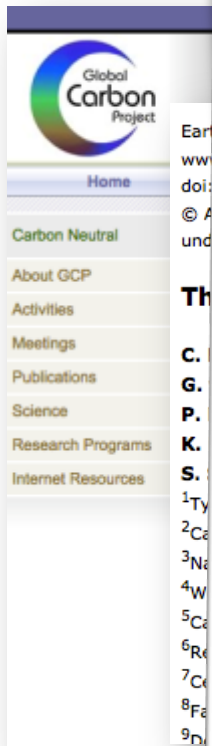
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The latest carbon dioxide emissions continue to track the high end of emission scenarios, making it even less likely global warming will stay below 2 °C. A shift to a 2 °C pathway requires immediate significant and sustained global mitigation, with a probable reliance on net negative emissions in the longer term.

<http://dx.doi.org/10.1038/nclimate1783>

HERAUSFORDERUNGEN

- Anre...



Global Carbon Project

- Home
- Carbon Neutral
- About GCP
- Activities
- Meetings
- Publications
- Science
- Research Programs
- Internet Resources



ZEIT ONLINE | UMWELT

STARTSEITE POLITIK WIRTSCHAFT MEINUNG GESELLSCHAFT KULTUR WISSEN DIGITAL STUDIUM KARRIERE LEBEN

Gesundheit | Umwelt | Geschichte

TOP-KLIMASÜNDER

Die Welt pustet munter weiter CO2 in die Atmosphäre

Besonders China, Indien und die USA heizen dem Klimawandel weiter kräftig ein. Nur radikale Klimaschutzziele würden helfen. Forscher fürchten eine Erwärmung um fünf Grad.

Während der CO2-Ausstoß in Europa und den USA im vergangenen Jahr zurückgegangen ist, legte er in Schwellenländern wie China und Indien deutlich zu. Das berichtet ein internationales Forscherteam in den Magazinen *Nature Climate Change* und *Earth System Science Data*. Global stiegen die Kohlenstoffdioxid-Emissionen 2011 demnach um drei Prozent auf 34,7 Milliarden Tonnen. Während China ein Plus von knapp zehn Prozent und Indien einen Zuwachs um 7,5 Prozent verzeichnete, pustete die EU 2,8 Prozent und in die USA 1,8 Prozent weniger CO2 in die Atmosphäre. Die neuen Werte wurden mit denen aus dem Jahr 2010 verglichen.



archive | For Authors & Referees | About the Journal

warming below 2 °C

by G. Canadell, Philippe Ciais, Corinne Le Merdy, et al.

1. VENEZUELA Was ble...

2. FOTOS DER TRAUER...

3. WULFF-AFFÄRE Ank...

4. SEXISMUS-DEBATTE kritisieren Gauck

5. DIETER PFAFF Haltu...

38/nclimate1783

HERAUSFORDERUNGEN

- Anreize zur Nutzung der Infrastrukturen (Reputation)

The screenshot shows the Spiegel Online website interface. At the top, there is a navigation bar with links for Home, Video, Themen, Forum, English, DER SPIEGEL, SPIEGEL TV, Abo, and Shop. On the right, there are links for Schlagzeilen, Wetter, TV-Programm, and mehr. Below this is a search bar with the text 'SIEGEL ONLINE WISSENSCHAFT' and a search icon. A secondary navigation bar lists various topics: Politik, Wirtschaft, Panorama, Sport, Kultur, Netzwelt, Wissenschaft, Gesundheit, einestages, Karriere, Uni, Schule, Reise, and Auto. The breadcrumb trail reads: Nachrichten > Wissenschaft > Mensch > Open Data > Open Data Wissenschaft: Wer Daten publik macht, wird öfter zitiert.

Forschung: Wer Daten publik macht, wird öfter zitiert

Freier Zugang zu Forschungsergebnissen - das fordern immer mehr Wissenschaftler und Politiker. Eine Analyse von Gen-Studien zeigt nun, dass sich Offenheit lohnt. Wer die Quelldaten seiner Untersuchung publiziert, wird häufiger von Forscherkollegen zitiert.

Dienstag, 01.10.2013 – 13:51 Uhr

Drucken | Versenden | Merken

Nutzungsrechte | Feedback

Kommentieren | 6 Kommentare

Twittern 77 | Empfehlen 89 | +1

HERAUSFORDERUNGEN

- Anreize zur Nutzung der Infrastrukturen (Reputation)
 - Astrophysik
 - Henneken, E. A., & Accomazzi, A. (2011). Linking to Data - Effect on Citation Rates in Astronomy. Digital Libraries; Instrumentation and Methods for Astrophysics. Retrieved from <http://arxiv.org/abs/1111.3618v1>
 - Dorch, B. (2012). On the Citation Advantage of linking to data: Astrophysics. Retrieved from <http://hprints.org/hprints-00714715/>
 - Geowissenschaften
 - Sears, J. R. (2012). Data Sharing Effect on Article Citation Rate in Paleoceanography. IN53B-1628. AGU Fall Meeting 2011. Retrieved from <http://static.coreapps.net/agu2011/html/IN53B-1628.html>
 - Biomedizin
 - Piwowar, H. A., Day, R. S., & Fridsma, D. B. (2007). Sharing Detailed Research Data Is Associated with Increased Citation Rate. PLoS ONE, 2(3), e308. doi:10.1371/journal.pone.0000308
 - Botstein, D. (2010). It's the data! Molecular Biology of the Cell, 21(1), 4–6. doi:10.1091/mbc.E09-07-0575
 - Piwowar, H. A., & Vision, T. J. (2013). Data reuse and the open data citation advantage. PeerJ, 1, e175. doi:10.7717/peerj.175

HERAUSFORDERUNGEN

- Finanzierungs- und Geschäftsmodelle
 - Häufig Anschubfinanzierung durch Drittmittel
 - Herausforderung: Betriebskosten (und Investitionen)
 - Beispiel: Deutsches Fernerkundungsdatenzentrum
 - ca. 3,8 Mio. Euro jährliche Betriebskosten
 - Gesamtkapazität 2,7 Petabyte
 - Datenzuwachs: 300 Gigabyte/Tag
 - Prozessierte Produkte pro Monat: 100.000
 - Betriebsbereithaltung 690k€ pro Jahr
 - Systembetrieb 660 k€ Kosten pro Jahr
 - Softwareentwicklung 700 k€ pro Jahr
 - Datenzugang 420 k€ pro Jahr
 - Anwenderbetreuung 400 k€ pro Jahr
 - Anlagenerneuerung alle sechs Jahre 3.500 k€

HERAUSFORDERUNGEN

Databases in peril

Life-sciences databases are in crisis, say their operators, as funders keen to support exciting new

Budget Cuts Shutter Biodiversity Program

The US Geological Survey's database, a compendium of biodiversity information, will be shut down this month due

INFORMATICS

Databases fight funding cuts

Online tools are becoming ever more important to biology, but financial support is unstable.

BY MONYA BAKER

ENDANGERED DATABASES

SCIENCE PRIORITIES

Who Will Pay for Public Access to Research Data?

Francine Berman¹ and Vint Cerf²

NATURE | NEWS



Popular plant database set to charge users

Loss of grant support leaves resource with no other option.

Erika Check Hayden

31 August 2013

Merali, Z., & Giles, J. (2005). Databases in peril. *Nature*, 435(7045), 1010–1. doi: 10.1038/4351010a

Zielinska, E. (2012, January 16). Budget Cuts Shutter Biodiversity Program. *The Scientist*, Retrieved from <http://the-scientist.com/2012/01/16/budget-cuts-shutter-biodiversity-program/>

Baker, M. (2012). Databases fight funding cuts. *Nature*, 489(7414), 19–19. doi: 10.1038/489019a

Berman, F., & Cerf, V. (2013). Science priorities. Who will pay for public access to research data? *Science*, 341(6146), 616–7. doi:10.1126/science.1241625

Check Hayden, E. (2013). Popular plant database set to charge users. *Nature*. doi: 10.1038/nature.2013.13642

HERAUSGEBERUNGEN

Keeping Research Data Safe Factsheet

Cost issues in digital preservation of research data

This factsheet illustrates for institutions, researchers, and funders some of the key findings and recommendations from the JISC-funded Keeping Research Data Safe (KRDS1) and Keeping Research Data Safe 2 (KRDS2) projects. Further information on the research and findings can be found in the final reports and on the KRDS website.

What Costs Most?

Acquisition and ingest costs most. The costs of archival storage and preservation activities are consistently a very small proportion of the overall costs and significantly lower than the costs of acquisition/ingest or access activities for all our case studies. Note we believe early preservation action during ingest or pre-ingest produces lower costs over the lifecycle as a whole. (KRDS1, p.25; KRDS2, pp.31-52)

Activity Costs for the Archaeology Data Service		
Outreach/ Acquisition/ Ingest	Archival Storage and Preservation	Access
c. 55%	c. 15%	c. 31%

Recommendation to Funders

From our research, it is likely that the largest potential cost efficiencies will come from future tool development supporting automation of ingest and access activities for curation and preservation. (KRDS2, p.83)

Impact of Fixed Costs

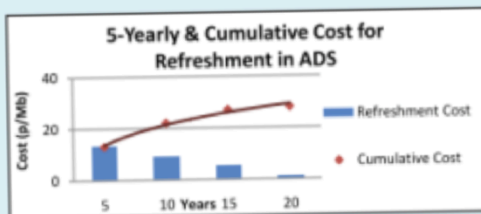
- The costs of long-term data curation/preservation are dominated by fixed costs that do not vary with the size of the collections;
- Staff are the major cost component overall and there is a minimum base-level of staff cover, skills and equipment required for any service;
- Activities characterised by significant fixed costs can reduce the per-unit cost of long-term preservation by leveraging economies of scale. (KRDS2, pp.32-34, 79-80)

Recommendation to Institutions

Repositories should take advantage of economies of scale, using multi-institutional collaboration and outsourcing as appropriate. Once core capacity is in place additional content can be added at increasing levels of efficiency and lower cost. (KRDS1, pp.77-78)

Declining Costs over Time

We found a trend of relatively high preservation costs in the early years reducing substantially over time for data collections. An example is the preservation costs projected for the Archaeology Data Service (ADS) based on their experience of the first 10 years of operating the data service. (KRDS1, pp.4-6)



Costs for archival storage and preservation ("refreshment") decline to a minimal level over 20 years

Recommendation to Funders and Institutions

The implications of these factors and projection for sustainability of data archives e.g. via archive charges to project budgets, are notable and worthy of more extensive study and testing. (KRDS1, pp.5-6)

Beagrie, C. (2011). Keeping Research Data Safe Factsheet. Cost issues in digital preservation of research data. Retrieved from http://www.beagrie.com/KRDS_Factsheet_0711.pdf

HERAUSGEBERUNGEN

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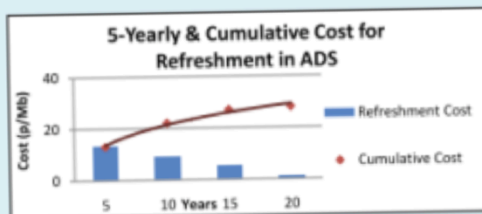
Unabhängig davon ist festzuhalten, dass der dauerhafte Betrieb von Forschungsdatenzentren als Teil der Forschungskosten etabliert werden muss und grob geschätzt einen dauerhaft zu finanzierenden Anteil von 5 % bis 10 % für den Bereich der „Datenpflege“ an den Gesamtkosten für Forschung vorzusehen ist. Um international kompetitiv zu bleiben bedeutet dies, dass auch in Deutschland mittelfristig etwa 5 % bis 10 % der Forschungskosten zusätzlich für nachhaltige „Datenbereitstellung“ aufgebracht werden müssen.

- Staff are the major cost component overall and there is a minimum base-level of staff cover, skills and equipment required for any service;
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Kommission Zukunft der Informationsinfrastruktur. (2011). Gesamtkonzept für die Informationsinfrastruktur in Deutschland. Retrieved from http://www.allianz-initiative.de/fileadmin/user_upload/KII_Gesamtkonzept.pdf

HERAUSFORDERUNGEN



Pricing plans and submission fees

Dryad will begin charging submission fees on the 1st of September 2013.

Dryad is a **nonprofit** organization that provides **long-term access** to its contents at **no cost** to researchers, educators or students, irrespective of nationality or institutional affiliation. Dryad is able to provide free access to data. Dryad's submission fees are designed to cover the costs of curating and preserving data. New grants and by support from donors.

Membership Dues

Organizations can be a part of Dryad both. For membership information and a voice in the governance of Dryad and to any organization supporting the r

Pricing Plans

Organizations (including publishers) are encouraged to cover the costs of submission. For instance, a society or publisher. For this, Dryad offers a variety of flexible payment plans. If a payment plan is in place, authors must pay a fee at the time of submission, with the exception of researchers from economically developing countries, who may submit data at no charge. Please contact director@datadryad.org to discuss which payment plan would be most suitable for your organization.

[Submit data now](#)

[How and why?](#)

Search for data

Payment Plan	Member	Non-member	Minimum purchase
1. Voucher Plan	USD\$65 per data package	USD\$70 per data package	25 vouchers
2. Deferred Payment Plan	USD\$70 per data package	USD\$75 per data package	1 yr contract
3. Subscription Plan	annual fee based on USD\$25 per published research article	annual fee based on USD\$30 per published research article	2 yr contract
For individuals: Pay on submission	NA	USD\$80 per data package, payable by the submitter	1 data package

HERAUSFORDERUNGEN

- Persistente Verlinkungen aller Objekte im Forschungsprozess („connectivity“)



Personen



Projekte



Institutionen



Förderer



Publikationen



Proben



Standards



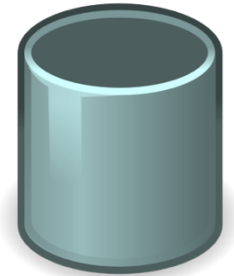
Daten



Methoden



Software

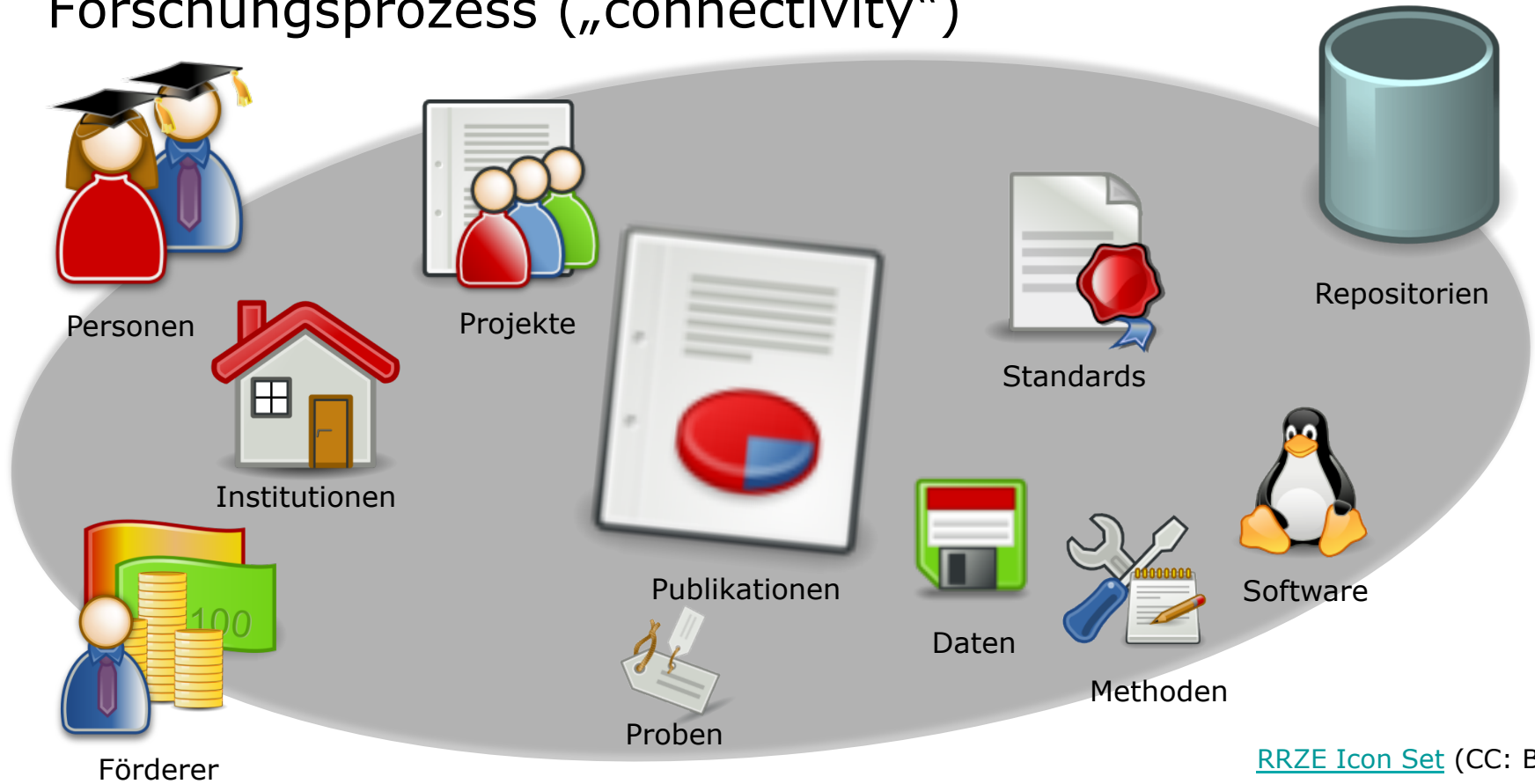


Repositorien

[RRZE Icon Set](#) (CC: BY-SA)

HERAUSFORDERUNGEN

- Persistente Verlinkungen aller Objekte im Forschungsprozess („connectivity“)

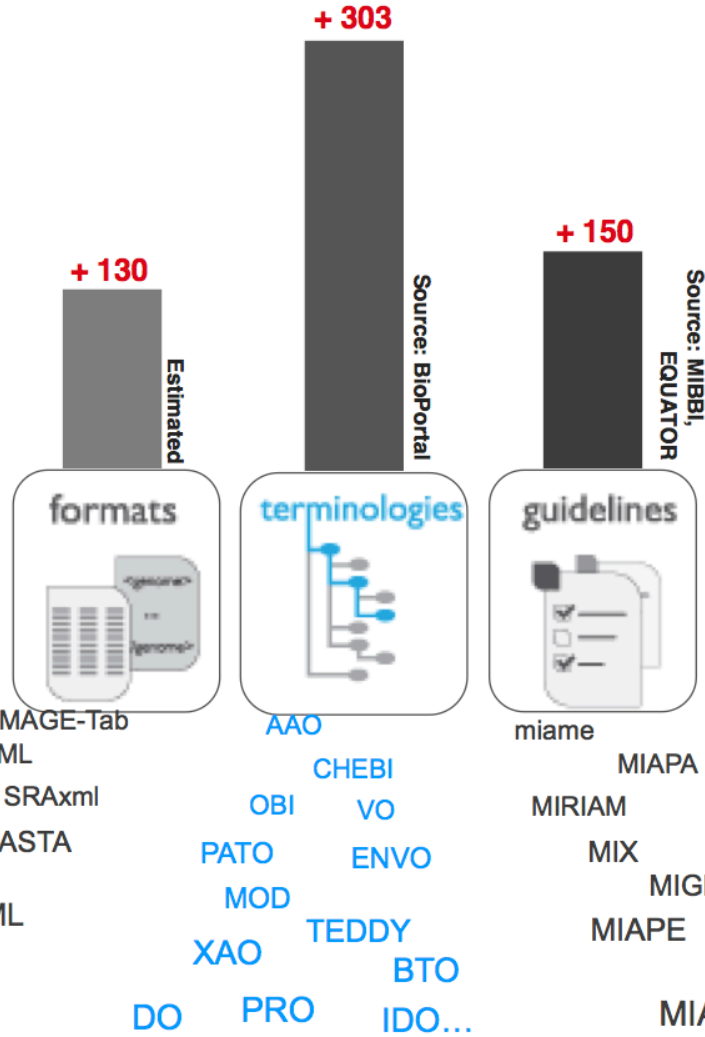


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HERAUSFORDERUNGEN

Growing number of reporting standards

*To track
provenance of
the information
and ensure
richness of data
and experimental
metadata
descriptions, to
maximize
reusability*



Databases,
annotation,
curation
tools

• P
F

ORCID Profile

Alejandra Gonzalez-Beltran
Alejandra currently works in the ISA Team (<http://www.isa-tools.org>) at the Oxford e-Research Centre, University of Oxford, UK. Before that, Alejandra was at University College London, UK, working at the Computational and Systems Medicine project and the Department of Computer Science. Previously, she was awarded a PhD in Computer Science at Queen's University Belfast, UK and a Licenciateship (equivalent to MSc) from Universidad Nacional de Rosario, Argentina.

Websites

- [LinkedIn Profile](#)
- [UCL Personal Website](#)
- [OeRC Personal Website](#)

[View Alejandras profile on ORCID.](#)

Latest Publications

MetaboLights - An open-access general-purpose repository for metabolomics studies and associated meta-data
[Read the paper](#) [Get article metrics](#)

Guidelines for information about therapy experiments: A proposal on best practice for recording experimental data on cancer therapy
[Read the paper](#) [Get article metrics](#)

Establishing a knowledge trail from molecular experiments to clinical trials
[Read the paper](#) [Get article metrics](#)

[View the rest here](#)

My Standards

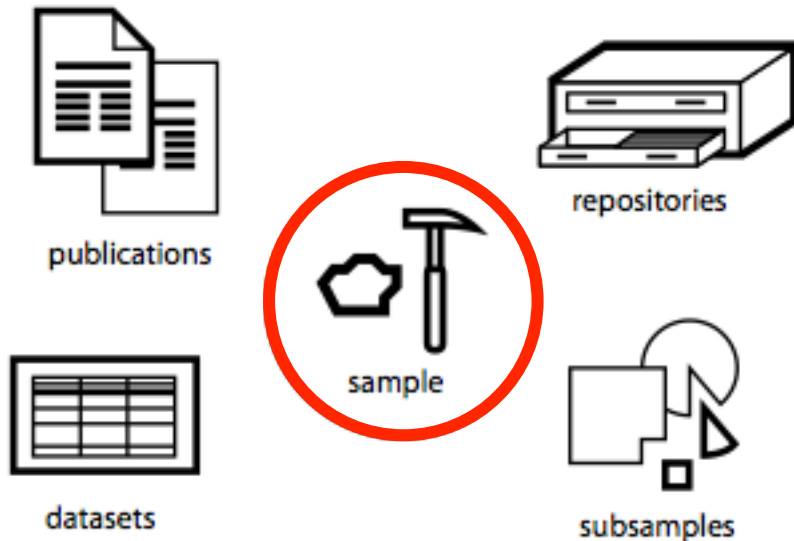
GIATE
Guidelines for Information About Therapy Experiments
[View Record](#)

Ownership of open standards can be problematic in broad, grass-root collaborations

It requires improved models, to encourage *maintenance* of and *contributions* to these efforts, *rewards* and *incentives* need to be identified for all contributors to supporting the continued development of standards

HERAUSFORDERUNGEN

- Persistente Verlinkungen aller Objekte im Forschungsprozess („connectivity“)



„Using persistent identifiers for physical samples, such as the **International GeoSample Number (IGSN)**, provides solutions. The IGSN Implementation Organization (IGSN e.V.) offers a system of unique persistent identifiers for samples. Use of persistent identifiers in digital data systems builds linkages between the digital representation of samples in community repositories, museums, and university collections, their subsamples, their related data in the literature and published datasets, and in web-accessible databases.“

<http://www.igsn.org>

AGENDA

- 20 Jahre „Offenheit“ des WWW
- 10 Jahre „Berliner Erklärung“
- Potenzial der digitalen Wissenschaft
- Umgang mit Forschungsdaten
- Relevanz der Informationsinfrastrukturen
- re3data.org – Werkzeug für Open Science
- Herausforderungen für die Forschungsdaten-Infrastruktur
- **Auf dem Weg zu Open Science**
- Ausblick

OPEN SCIENCE

- Open Notebook Science (Maximalforderung) :
 - „is a way of doing science in which - as best as you can - you **make all your research freely available to the public, and in real time**“
(Jean-Claude Bradley, 2010)
- Science Commons: Principles for open science, 2008
 - Open Access to Literature from Funded Research
 - Access to Research Tools from Funded Research
 - Data from Funded Research in the Public Domain
 - **Invest in Open Cyberinfrastructure**

OPEN SCIENCE

- All European Academies (2012)
 - „Encouraging scientific and research institutions in their countries and the supporting industries to innovate and **promote open science platforms, making research results discoverable and re-usable,** interacting also with publishers and libraries/repositories to explore new business models for sustainable open science data management [..]“



All European Academies. (2012). Open Science for the 21st Century. Declaration of All European Academies. Retrieved from <http://cordis.europa.eu/fp7/ict/e-infrastructure/docs/allea-declaration-1.pdf>

OPEN SCIENCE

- Neelie Kroes, EU-Kommissarin:

- „Of that per sec And def
 - „Al res
 - „[L pro sea
- 
- The image shows Neelie Kroes, an EU Commissioner, speaking at a podium. Behind her is a large screen displaying the text "Digital Agenda for Europe" in a stylized font, with binary code (0s and 1s) scattered around it. Below the main text, there is a quote: "Ev... European Digital" and her name "Neelie Kroes".

OPEN SCIENCE

- Neelie Kroes, EU-Kommissarin:
 - „Of course I recognise there are limits to openness and that there are costs associated with it. We must protect personal data, for example. Occasionally there may be security reasons that argue against wide distribution. And sometimes there are private investments to defend. But for me, these are exceptions, not the rule.“
 - „All in all, we are putting openness at the heart of EU research and innovation funding.“
 - „[L]et's invest in the collaborative tools that let us progress. Let's tear down the walls that keep learning sealed off. And let's make science open.“

OPEN SCIENCE

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INTELLIGENT OPENNESS

Terms	Definition	Implication
accessible	„Data and	can readily be found
assessable	„In a inform scienc scrup audi	to the data or account of the results of ing to under- stand or ntiated for different
intelligible	„Con Aud what claim reli disc	use something. nent or assessment of the nature of the competence and ability also includes the ence public trust.“
useable	„In sho the The	information. Data purposes, and nation and meta- data. who wish to use them.“



INTELLIGENT OPENNESS

Terms	Definition
accessible	„Data must be located in such a manner that it can readily be found and in a form that can be used.“
assessable	„In a state in which judgments can be made as to the data or information’s reliability. Data must provide an account of the results of scientific work that is intelligible to those wishing to understand or scrutinise them. Data must therefore be differentiated for different audiences.“
intelligible	„Comprehensive for those who wish to scrutinise something. Audiences need to be able to make some judgment or assessment of what is communicated. They will need to judge the nature of the claims made. They should be able to judge the competence and reliability of those making the claims. Assessability also includes the disclosure of attendant factors that might influence public trust.“
useable	„In a format where others can use the data or information. Data should be able to be reused, often for different purposes, and therefore will require proper background information and meta- data. The usability of data will also depend on those who wish to use them.“

HERAUSFORDERUNG

- Forschungsprozesse und deren Objekte intelligent nachnutzbar machen



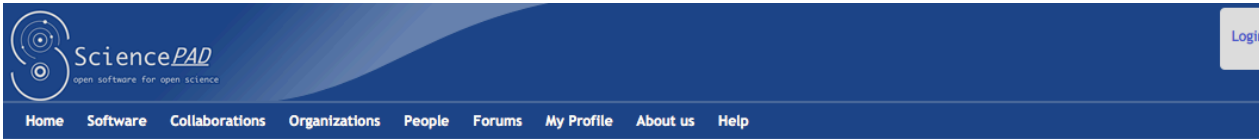
HERAUSFORDERUNG

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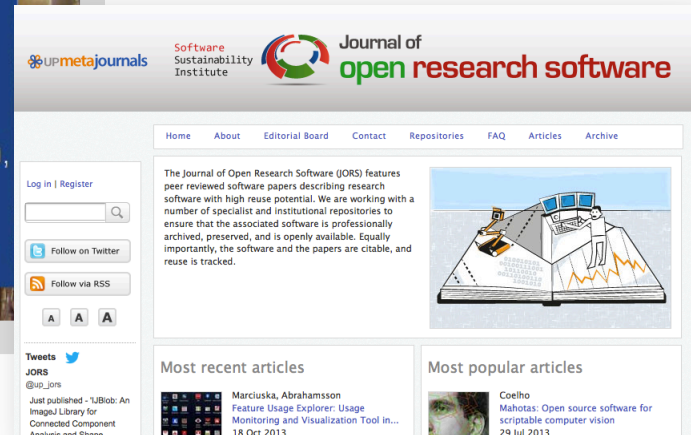
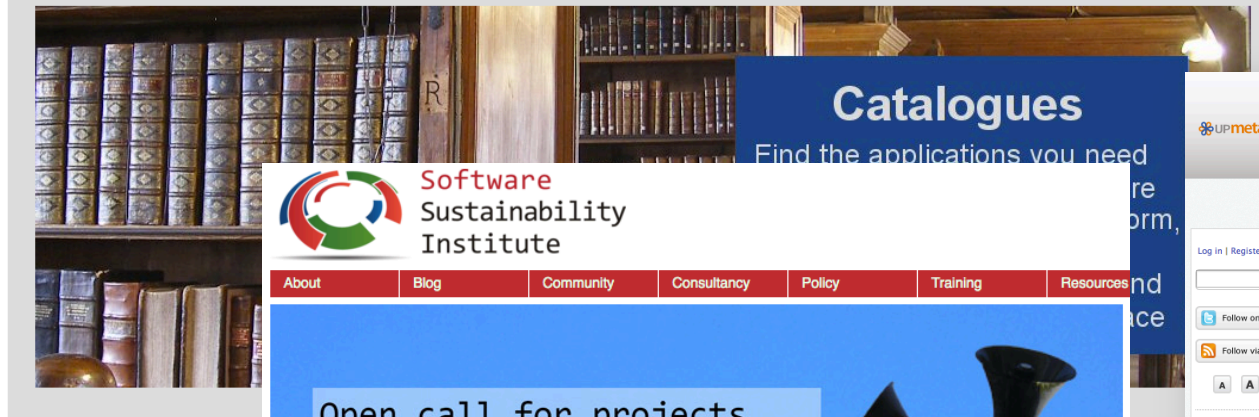


[RRZE Icon Set](#) (CC: BY-SA)

OPEN RESEARCH SOFTWARE



<http://sciencepad.web.cern.ch/>



<http://openresearchsoftware.metajnl.com/>

The Software Sustainability Institute

Software is not static. New functionality is needed, hardware evolves, staff come and go and sources of funding change. To survive in this volatile

The Software Sustainability Institute works with researchers to identify and shape the software considered to be important to research. We

<http://www.software.ac.uk/>



AUSBLICK

- Open Access ist **Grundlage der digitalen Wissenschaft**
- Die Diskussion um den **Umgang mit Forschungsdaten** gewinnt deutlich an Fahrt
- **Policies, Anreize** (Reputation) sowie dauerhafte und serviceorientierte **Infrastrukturen** sind nötig
- Die **persistente Vernetzung** der Akteure und Ressourcen der digitalen Wissenschaft ermöglicht vielfältige Möglichkeiten
- Zugang, Nachnutzungen und Erhaltung von **Software** steht noch am Anfang
- Der Ruf nach **Open Science** gewinnt an Relevanz
- Es gibt viel zu tun! **Let's make science intelligent open.**

DANKE FÜR DIE AUFMERKSAMKEIT!

- Kontakt:
 - pampel@gfz-potsdam.de
- Mailingliste:
 - forschungsdaten@listserv.dfn.de
 - <http://tinyurl.com/forschungsdaten>
- Wiki:
 - <http://forschungsdaten.org>



forschungsdaten.org Wiki



The screenshot shows the homepage of the forschungsdaten.org Wiki. At the top right, there is a link to "Anmelden". Below this, there are navigation tabs: "Seite", "Diskussion", "Lesen", "Quelltext anzeigen", and "Versionsgeschichte". A search bar with the text "Suchen" is also present. The main heading is "Hauptseite". Below it, there is a table of contents for the "Inhaltsverzeichnis" section, which includes links to "1 forschungsdaten.org", "1.1 Mitarbeit", "1.2 Inhalt", "1.3 Ankündigung", and "1.4 Starthilfen". The main content area features the heading "forschungsdaten.org" followed by a paragraph describing the wiki's purpose and its association with DFG projects like re3data.org, Radieschen, KomFor, and EWIG. It also mentions the "Elektronisches Publizieren" and "Virtuelle Forschungsumgebungen" working groups. A list of the editorial team (Jochen Klar, Maxi Kindling, Heinz Pampel, Jens Klump, Leonie Schäfer) is provided. The text notes that the wiki is hosted by the Helmholtz-Zentrum Potsdam, Deutsches GeoForschungsZentrum GFZ. Finally, it states that all content is under a Creative Commons license and provides a citation recommendation.

[Anmelden](#)

Seite **Diskussion** Lesen **Quelltext anzeigen** Versionsgeschichte

Hauptseite

Inhaltsverzeichnis [Verbergen]

- 1 forschungsdaten.org
 - 1.1 Mitarbeit
 - 1.2 Inhalt
 - 1.3 Ankündigung
 - 1.4 Starthilfen

forschungsdaten.org

Dieses Wiki sammelt Informationen rund um dem Umgang mit digitalen Forschungsdaten. Initiator sind die DFG-Projekte [re3data.org](#), [Radieschen](#), [KomFor](#) und [EWIG](#). Das Wiki wird in Zusammenarbeit mit den Arbeitsgruppen "[Elektronisches Publizieren](#)" und "[Virtuelle Forschungsumgebungen](#)" der Deutschen Initiative für Netzwerkinformation ([DINI](#)) betrieben. Mitarbeit (z.B. in Form von Ergänzungen und Änderungen) ist sehr willkommen!

Das **Redaktionsteam** besteht aus [Jochen Klar](#) (AIP), [Maxi Kindling](#) (HU Berlin) und [Heinz Pampel](#), [Jens Klump](#), [Leonie Schäfer](#) (GFZ Potsdam).

Gehostet wird das Wiki vom [Helmholtz-Zentrum Potsdam, Deutsches GeoForschungsZentrum GFZ](#).

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TODOs



THE ODE PROJECT / RESEARCHERS

Opportunities for Data Sharing

There is a growing consensus in science, and society generally, that research data resulting from publicly funded research should be shared widely so that the maximum benefits can be gained from the investment. There are common barriers and some reluctance, but also powerful drivers and benefits related to putting this general principle into practice.

Why should you as a researcher care about data sharing?
Successful examples, such as sharing data through the Worldwide Protein Data Bank, Pangea and GenBank, clearly demonstrate that data sharing can provide enormous benefits. Introducing or intensifying data sharing in your discipline may be worth the effort as well.

Do you know about data sharing?
The EU FP7-funded concerted effort from representatives of all groups – on the one hand, and on the other, consolidated in one about each others' future activities.

To obtain more results from our research, please visit:
www.ode-project.eu/ode-outputs



THE ODE PROJECT / LIBRARIANS

Opportunities for Data Sharing

There is a growing consensus in science, and society generally, that research data resulting from publicly funded research should be shared widely so that the maximum benefits can be gained from the investment. There are common barriers and some reluctance, but also powerful drivers and benefits related to putting this general principle into practice.

Why should you as a librarian care about data sharing?
As a librarian you are known for your expertise in enabling access to information resources for researchers. You can further expand and utilize your knowledge of adding value to and preservation of research outputs to support researchers with various services and both to facilitate data exchange.

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THE ODE PROJECT / PUBLISHERS

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Why should you as a publisher care about data sharing?
As a publisher you are probably aware of the increased demand on, and from, authors to make the data underlying their research articles available. In many fields, journals have adapted to the growing practice of linking to and from datasets described in data archives and subject specific repositories such as GenBank, Pangea and the Worldwide Protein Data Bank. Other journals, often in areas with less well organized central data repositories, have experienced an explosive increase in the amount of supplementary material added to journal articles, mainly data sets.

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