

# Current Research Data Management Support for Researchers in the U.K.

## 英国における研究データ管理 支援の動向

第3回 SPARC Japanセミナー（2013/10/25）

筑波大学大学院図書館情報メディア研究科

池内 有為 [oui@slis.tsukuba.ac.jp](mailto:oui@slis.tsukuba.ac.jp) <http://oui-oui.jp>

# 本日の話題



1. 研究データの公開と再利用の背景
2. 英国の大学図書館における研究データ管理支援
  - エディンバラ大学, グラスゴー大学
  - デジタルキュレーションセンター (DCC)
3. 日本の研究データ管理支援にむけて

# 研究データの公開と再利用の背景

# 研究データの公開と再利用

## DATA: BY THE NUMBERS



3年

2年

1.5 年

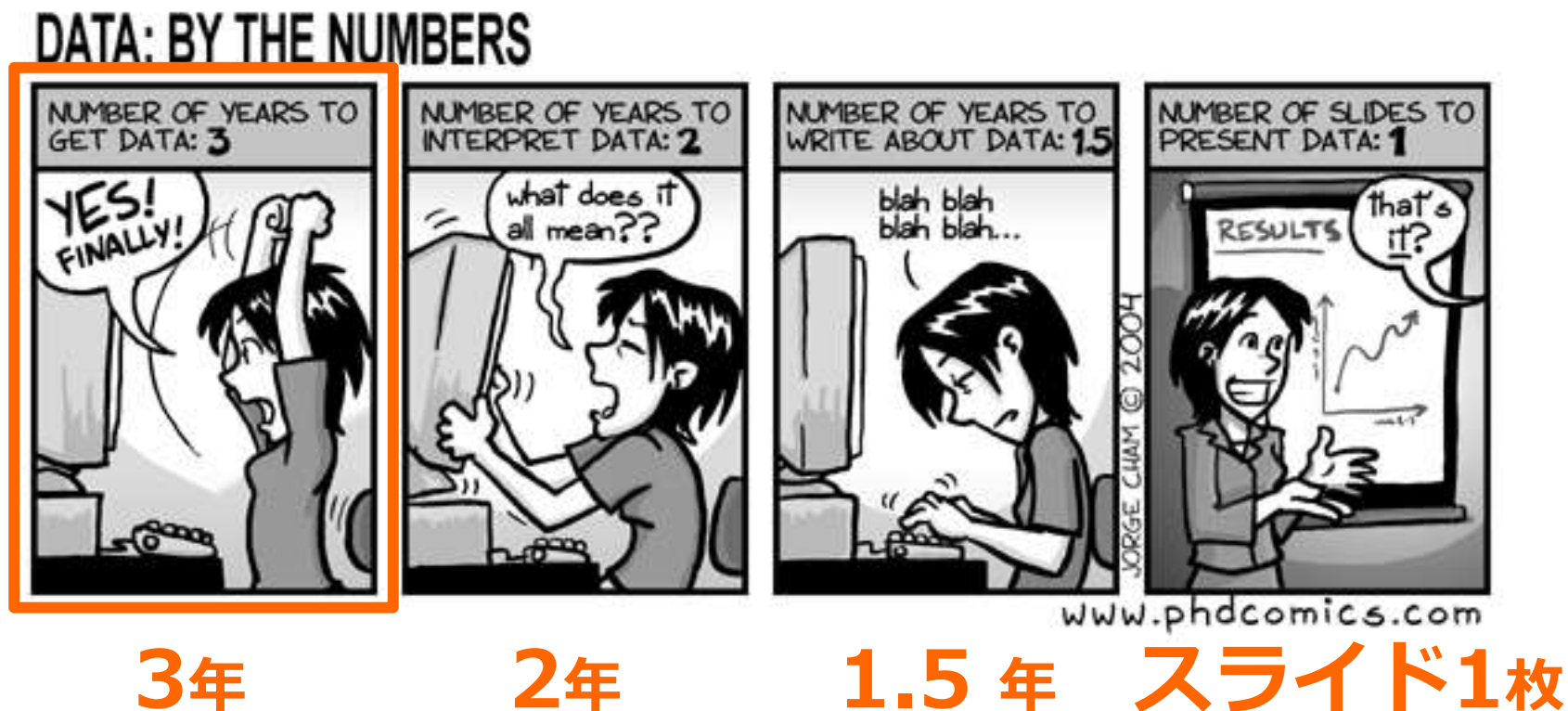
スライド1枚

<http://www.phdcomics.com/comics/archive.php?comid=462>

Callaghan, S. Research Data Overview. OpenAIRE/LIBER Workshop. 28 May 2013, Ghent Belgium

<http://libereurope.eu/blog/dealing-with-data-workshop-videos-presentations>

# 研究データの公開と再利用



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# 研究データの公開と再利用



## DATA: BY THE NUMBERS



**REUSE**

**3年**



**2年**



**1.5 年**



**スライド1枚**

www.phdcomics.com

<http://www.phdcomics.com/comics/archive.php?comid=462>

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<http://libereurope.eu/blog/dealing-with-data-workshop-videos-presentations>

# 研究の信頼性



**Larry Husten, Contributor**  
I'm a medical journalist covering cardiology news.  
[+ Follow](#) (14K)

PHARMA & HEALTHCARE | 10/22/2013 @ 8:39AM | 627 views

## A Paper In The American Journal Of Cardiology About A Study That Was 'Not Real'

[+ Comment Now](#) [+ Follow Comments](#)

New allegations about scientific misconduct have been raised about a cardiology group in a hospital in Italy. Some of the allegations come from a surprising source: Maria Grazia Modena, the former and highly prominent chief of cardiology at the hospital where the research was said to have been performed.

The new allegations are the latest episode in an ongoing saga that began last year involving many of the same researchers, including Maria Grazia Modena herself. As I [first reported](#) last November, nine Italian cardiologists were arrested as part of a broad investigation into serious medical misconduct at Modena Hospital (*Policlinico di Modena*). The charges included conspiracy, fraud, embezzlement, bribery, forgery and performing unauthorized clinical trials. The most prominent person arrested was Maria Grazia Modena, who is also a former president of the Italian Society of Cardiology. (The fact that she shares her last name with the city and the hospital where she works appears to be a coincidence.)



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Science 4 October 2013:  
Vol. 342 no. 6154 pp. 60–65  
DOI: 10.1126/science.1242.6154.60

**NEWS**

### Who's Afraid of Peer Review?

John Bohannon

A spoof paper concocted by *Science* reveals little or no scrutiny at many open-access journals.

On 4 July, good news arrived in the inbox of Ocorrafoo Cobange, a biologist at the Wassee Institute of Medicine in Asmara. It was the official letter of acceptance for a paper he had submitted 2 months earlier to the *Journal of Natural Pharmaceuticals*, describing the anticancer properties of a chemical that Cobange had extracted from a lichen.

In fact, it should have been promptly rejected. Any reviewer with more than a high-school knowledge of chemistry and the ability to understand a basic data plot should have spotted the paper's short-comings immediately. Its experiments are so hopelessly flawed that the results are meaningless.

I know because I wrote the paper. Ocorrafoo Cobange does not exist, nor does the Wassee Institute of Medicine. Over the past 10 months, I have submitted 304 versions of the wonder drug paper to open-access journals. More than half of the journals accepted the paper, failing to notice its fatal flaws. Beyond that headline result, the data from this sting operation reveal the contours of an emerging Wild West in academic publishing.

From humble and idealistic beginnings a decade ago, open-access scientific journals have mushroomed into a global industry, driven by author publication fees rather than traditional subscriptions. Most of the players are murky. The identity and location of the journals' editors, as well as the financial workings of their publishers, are often purposefully obscured. But *Science*'s investigation casts a powerful light.

**COMMUNICATION IN SCIENCE**

**PRESSURES AND PREDAATIONS**

**Papers submitted, rejected, and accepted**

Submitted papers receive a peer review. The peer review is either:

- Accepted
- Rejected
- Resubmitted

View larger version:  
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ILLUSTRATION: DAVID PLUNKETT

# 研究データ公開の義務化と関連組織



政府機関



学術雑誌



助成団体



大学



50力国+の助成機関の連携組織



NSFや欧州連合の研究データ同盟

# 研究データ公開 = 引用の増加



**69%**

**DNAデータ<sup>1)</sup>**



**35%**

**古海洋学データ<sup>2)</sup>**

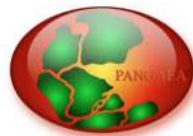


**31%**

**天文学データ<sup>3)</sup>**



**PANGAEA®**  
Data Publisher for Earth & Environmental Science

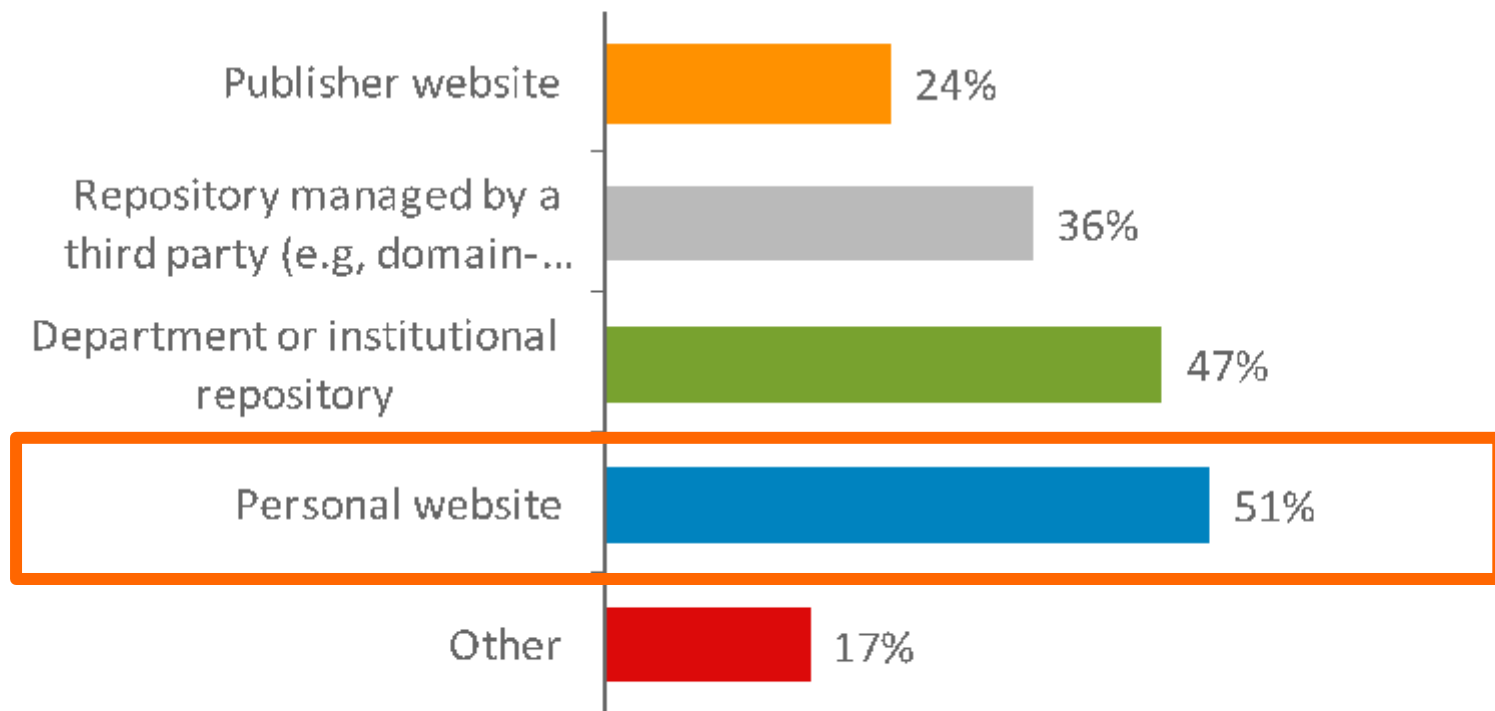


**NASA's HEASARC**

# 研究データの保存先



## DEPOSITION OF DATA BY RESEARCHERS



THOMSON REUTERS

Robinson, Nigel. Discovery, Access, and Citation of Published Research Data. 2013.

## 再起動する大学図書館

Nature 495, 430-432 (2013年3月28日号) | doi:10.1038/495430a

科学論文出版界がデータのオープンアクセス化に向かって動いている今、世界中の大学図書館と研究者が、その流れに遅れまいと方法を模索している。

Richard Monastersky



2013年3月28日 495(7442)



ジョンズ・ホプキンス大学は、図書館と研究者がデータを扱う方法を変えようとしている。「ビジュアルイゼーション・ウォール」のデモンストレーションを行うSayeed Choudhury。

Credit: WILL KIRK/JHU HOMEWOOD PHOTOGRAPHY

Sayeed Choudhuryが差し伸ばした右腕を振ると、通りすがりの数人の学生が何事かと振り返る。バリッとりの利いたドレスシャツにスラックスという服装の技術者は、スローモーションでダンスの練習をしているように見える。けれども本当は、天文データを操っているところなのだ。

Choudhuryがいる場所は、3200万ドルの費用を投じて建設され、去年オープンしたばかりのジョンズ・ホプキンス大学（米国メリーランド州ボルチモア）図書館の中である。彼は、12台のディスプレイを連結した縦2 m、横4 mの「ビジュアルイゼーション・ウォール（視覚化の壁）」に向かって立ち、そこに映し出されたハッブル宇宙望遠鏡の40種類の画像の中から、環状星雲の写真を腕で差し示して選択する。そして、まるで誰かを歓迎するかのように両手を広げると、環状星雲を縁取るオレンジ色に輝くガスが、フレームいっぱいに広がった。



# 大学図書館による研究データ管理支援

■サービス

■職員

■費用

■問題点





# 英国の大学図書館における 研究データ管理支援

# インタビュー調査

## エディンバラ大学

国立大学（1583年設立）

人文・社会学部，理工学部，  
医学・獣医学部

 (本部)



## グラスゴー大学

国立大学（1451年設立）

人文学部，生命科学学部，  
理工学部，医学・獣医学部



 4C Collaboration to Clarify  
the Costs of Curation



# インタビュー

## エディンバラ大学

Stuart Lewis氏  
Head of Digital Library



## グラスゴー大学

Joy Davidson氏  
DCC, 4C Project



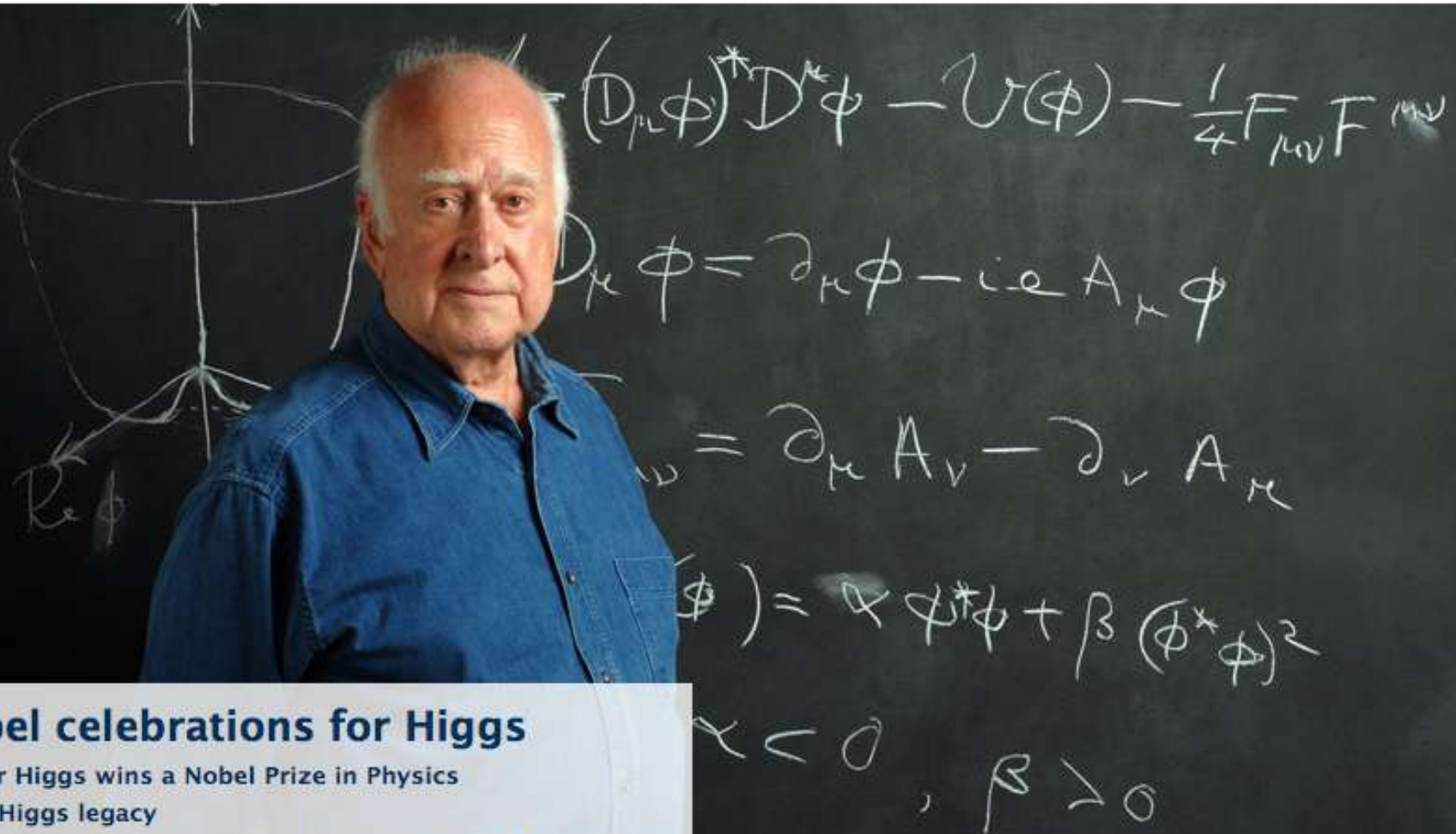


THE UNIVERSITY of EDINBURGH

One of the world's top 20 universities

Schools & departments

Search



## Nobel celebrations for Higgs

- ▶ Peter Higgs wins a Nobel Prize in Physics
- ▶ The Higgs legacy
- ▶ Live press conference webcast: 11am, Friday 11 October

# EDINAとデータライブラリ

The screenshot shows the website for the University of Edinburgh's EDINA and Data Library. The header includes the university's crest and name, a search bar, and a link to 'Schools & departments'. Below the header is a banner for 'Information Services' with a photo of people using library computers. A red navigation bar highlights 'EDINA and Data Library' with a 'Contact' link. The main content area features a sidebar with links like 'Who we are', 'What we do', 'Data Library projects', and 'News'. The central section has a blue-tinted image of a computer monitor and a text block describing the division's mission. Below this are four boxes: 'About EDINA and Data Library Division' with links to 'Who we are', 'What we do', and 'Data Library projects'; 'Quick Links' with links to 'Data Library service' and 'EDINA home page'; 'News about EDINA and Data Library' with links to 'News from EDINA' and 'News from the Data Library'; and 'Special Focus - MANTRA online course' with a link to 'Research Data Management Training (MANTRA)'.

THE UNIVERSITY of EDINBURGH

Schools & departments

Search

Information Services

EDINA and Data Library

Contact

EDINA and Data Library

University home > Schools & departments > Information Services > About > Organisation > EDINA and Data Library

Who we are

What we do

Data Library projects

News

Related links

Your feedback about this page

EDINA and Data Library Division

EDINA provides online services and resources for UK Higher and Further Education. The Data Library assists staff and students in the discovery, access, use and management of datasets for research and teaching. Together they are a division of Information Services.

About EDINA and Data Library Division

- > Who we are
- > What we do
- > Data Library projects

Quick Links

- > Data Library service
- > EDINA home page

News about EDINA and Data Library

- > News from EDINA
- > News from the Data Library

Special Focus - MANTRA online course

- > Research Data Management Training (MANTRA)

## Management



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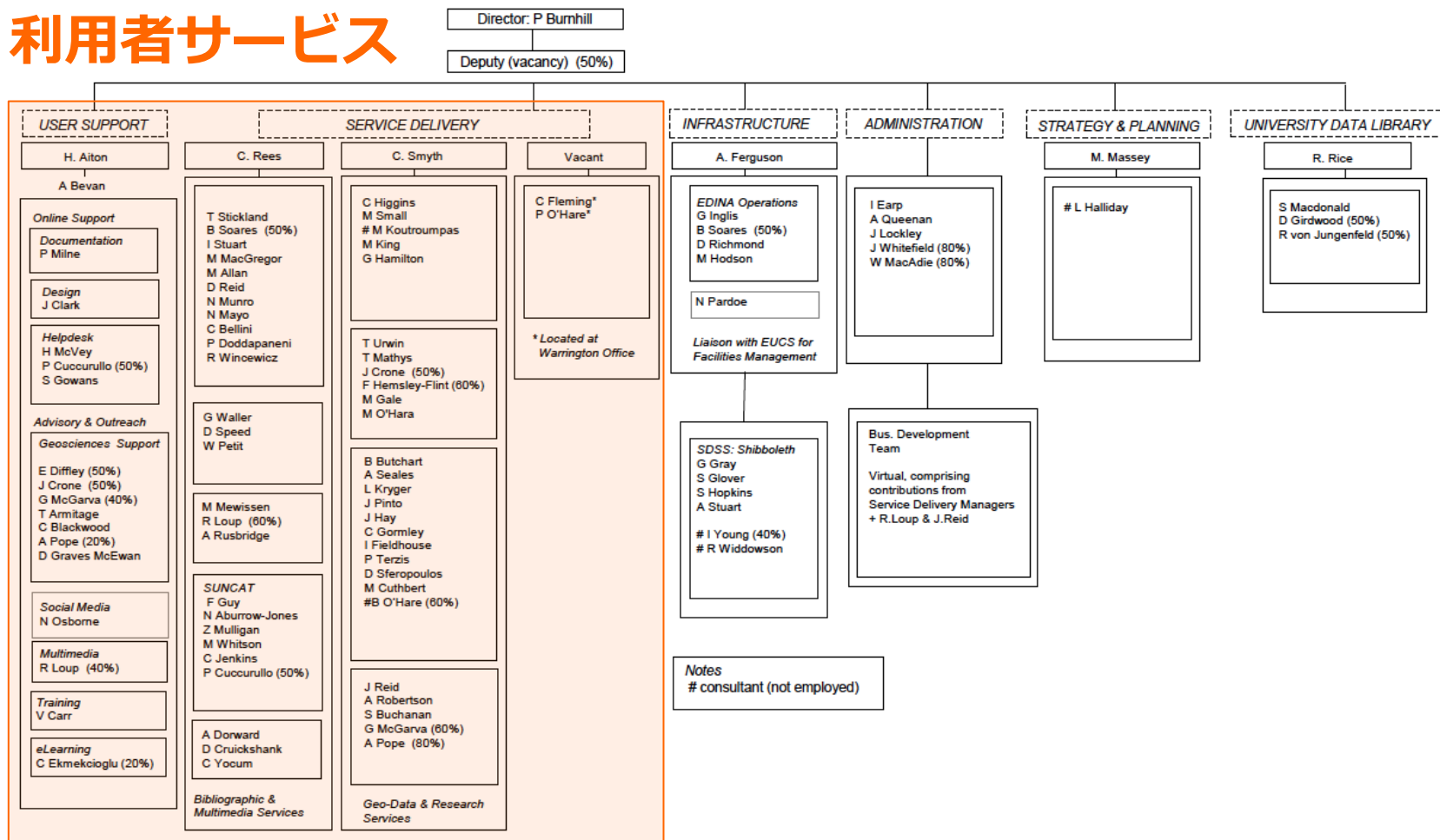
## Administr

# EDINAとデータライブラリの職員

IS Division of EDINA & DATA LIBRARY (EDL)

Mar 2013

## 利用者サービス




# 研究データ管理ガイダンス

1. 研究データを管理する理由
2. データ管理計画
3. データの記録
4. データの保存とバックアップ
5. データセキュリティと保護
6. データ共有の利点
7. データの共有方法
8. データ管理支援




# 研究データ管理トレーニング




## MANTRA


Research Data Management Training




MANTRA is an online course designed for researchers or others planning to manage digital data as part of the research process.




Research Student



Career Researcher












Senior Academic




Information Professional

[HOME](#) [ABOUT](#) [ACKNOWLEDGEMENTS](#) [DIY TRAINING KIT FOR LIBRARIANS](#) [FEEDBACK](#)

### LEARNING UNITS


 <a href="#">Research data explained</a> ▼	 <a href="#">File formats &amp; transformation</a> ▼	 <a href="#">Data protection, rights &amp; access</a> ▼
 <a href="#">Data management plans</a> ▼	 <a href="#">Documentation &amp; metadata</a> ▼	 <a href="#">Sharing, preservation &amp; licensing</a> ▼
 <a href="#">Organising data</a> ▼	 <a href="#">Storage &amp; security</a> ▼	 <a href="#">Software practicals</a> ▼

## Study




- Undergraduate degree programmes
- Postgraduate taught degrees
- International students
- Scholarships and fees

## Research



- Postgraduate research opportunities
- Research units A-Z
- Research in focus
- Business and innovation

[Postgraduate Open Day](#)
[First Singaporean graduations](#)
[January intake](#)



### January intake

Applications are now open for postgraduate taught students to begin their studies in January

### Latest news

Scientists discover how the atmosphere of Mars turned to stone

Scientists may have discovered how Mars lost its early carbon dioxide-rich atmosphere to become the cold and arid planet we know today.

### Latest events





Open Day

Saturday, October 26

University of Glasgow

An opportunity for prospective undergraduates and their families to visit the University and find out about

### Quick links

- Colleges
- Research Institutes
- Schools
- Maps and travel
- University Library
- Information for current University of Glasgow students
- 



- Interact with the University

### iTunes U

- The University of Glasgow on iTunes U

### At The Hunterian

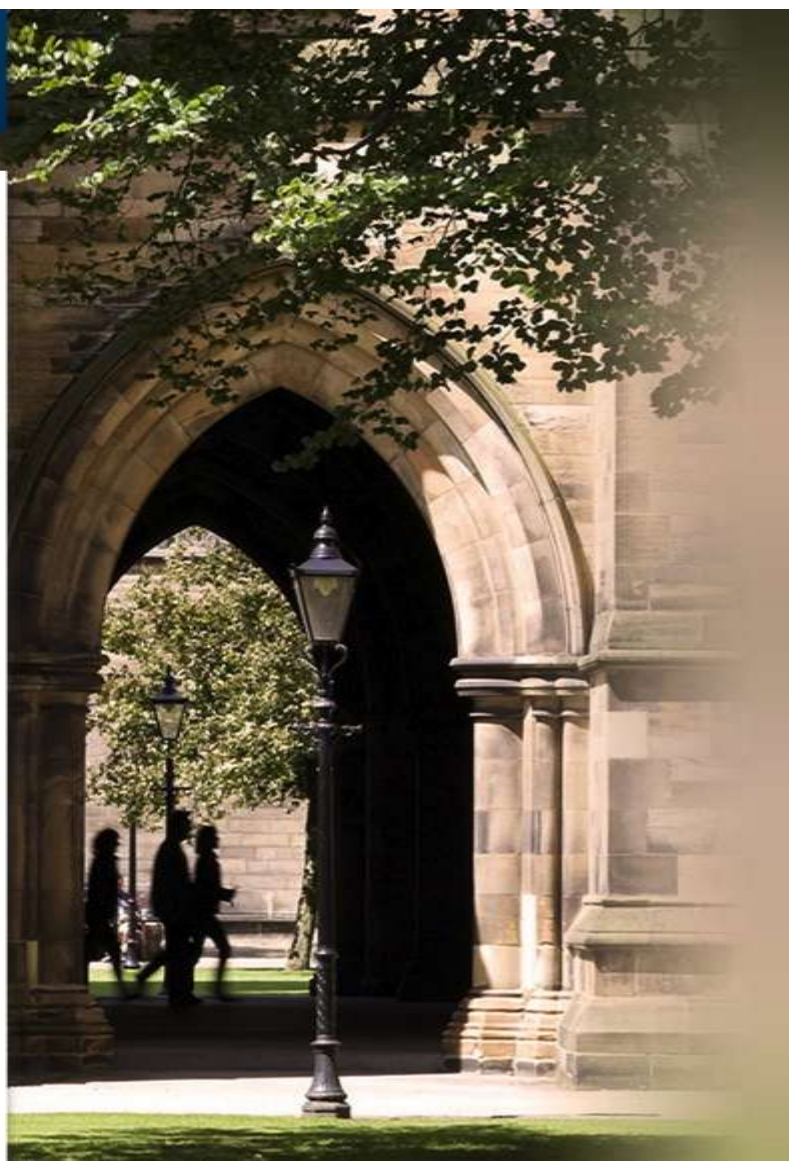
- What's on

### Campus Vision

- A unique opportunity to re-shape the campus

### Jobs at Glasgow

- Current vacancies



# 研究者のためのデータ管理支援

The screenshot shows the University of Glasgow website's 'Data management support for researchers' page. The header includes the university logo, navigation links for 'Subjects A-Z', 'Staff A-Z', and 'Academic units A-Z', and a search bar. The breadcrumb trail reads 'Home > Services A-Z > Data management support for researchers'. The main heading is 'Data management support for researchers'. A left sidebar lists navigation options: 'Creating your data', 'Organising your data', 'Accessing your data', 'Looking after your data', 'Training', 'Who can help?', and 'Suggest a change'. Below this is a photo of a person in a library. The main content area features a sub-heading 'Data management support for researchers' followed by a paragraph: 'Research data takes many forms, ranging from measurements, numbers and images to documents and publications. These webpages will help you plan, create, organise and look after your data.' Below this are four boxes, each with a title, an image, and a question: 1. 'Creating your data' with an image of a woman and the question 'Do you know what formats to use or how to manage IPR and ethics? Who can help you explain this in your data plan?'; 2. 'Organising your data' with an image of a magnifying glass and the question 'Can you name your files, structure your folders and control versions in a way that makes data easy to find and use?'; 3. 'Accessing your data' with an image of two men and the question 'Can you and your collaborators access all of the files you need? How does the storage you choose affect options for remote access?'; 4. 'Looking after your data' with an image of a church tower and the question 'How can you store and back-up your data securely? Can the repository help you select and care for your data in the long-term?'.

University of Glasgow

Subjects A-Z | Staff A-Z | Academic units A-Z

Enter your keywords here Search

Home > Services A-Z > Data management support for researchers

## Data management support for researchers

Creating your data  
Organising your data  
Accessing your data  
Looking after your data  
Training  
Who can help?  
Suggest a change

**Data management support for researchers**

Research data takes many forms, ranging from measurements, numbers and images to documents and publications. These webpages will help you plan, create, organise and look after your data.

**Creating your data**

Do you know what formats to use or how to manage IPR and ethics? Who can help you explain this in your data plan?

**Organising your data**

Can you name your files, structure your folders and control versions in a way that makes data easy to find and use?

**Accessing your data**

Can you and your collaborators access all of the files you need? How does the storage you choose affect options for remote access?

**Looking after your data**

How can you store and back-up your data securely? Can the repository help you select and care for your data in the long-term?

# 関連部署・機関との連携

The screenshot shows a web page titled "Data management support for researchers" at the University of Glasgow. On the left is a vertical navigation menu with the following items: "Research Data Management at the University of Glasgow", "Creating your data", "Organising your data", "Accessing your data", "Looking after your data", "Training", and "Who can help?". The main content area is titled "Help and support" and contains the text: "Looking for help with research data management? There is a lot of assistance available on campus for:". Below this text are five blue underlined links: "Bidding for funding", "Research ethics", "IT support", "Library", and "Data protection and Freedom of Information office".

**Data management support for researchers**

Research Data Management  
at the University of Glasgow

Creating your data

Organising your data

Accessing your data

Looking after your data

Training

Who can help?

## Help and support

Looking for help with research data management? There is a lot of assistance available on campus for:

- [Bidding for funding](#)
- [Research ethics](#)
- [IT support](#)
- [Library](#)
- [Data protection and Freedom of Information office](#)

助成獲得, 研究倫理, ITサポート, 図書館, データ保護と情報公開オフィス

# インタビュー概括

## エディンバラ大学

大規模なスタッフ組織

1.6PBのサーバを購入

※巨大データは外部リポジトリへ

## グラスゴー大学

少人数だが学内・外部機関と連携

外部リポジトリも積極的に活用

※データは10年後に見直し（EPSRC）

推進要因：**助成機関**からの要請

費用：年によって図書館の予算や外部資金の割合はさまざま

職員：**オンラインコース**やDCCのトレーニングセッションを活用

ライブラリースクール：新しい分野のため、まだ不十分


# 研究データ管理をオンラインで学ぶ

[Home](#) [RDMRose Learning Materials](#) [Index](#) [RDMRose Lite](#) [Links](#) [Contact us](#)

## About RDMRose

RDMRose Project

**Eddy Verbaan**  
RDMRose Project




ABOUT RDMROSE

RDMRose is a JISC funded project to produce taught and continuing professional development (CPD) learning materials in Research Data Management (RDM) tailored for Information professionals.

GIVE US FEEDBACK


If you have used any of the RDMRose learning materials, be it for your own use as self-supported CPD or as an educator, we would greatly welcome your feedback. Please fill out this [evaluation form](#). It will help us further enhance the learning materials!



The JISC funded RDMRose project (Jul 2012-Jun 2013) was a collaboration between the libraries of the University of Leeds, Sheffield and York, with the Information School at Sheffield to provide an Open Educational Resource for information professionals on Research Data Management.

# DCC: Digital Curation Center

[Contact us](#)




because good research needs good data

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The International Conference on Digital Information Processing, E-Business and Cloud Computing (DIPECC2013)  
Dubai, 23 – 25 October 2013


[Latest news](#) [Next events](#)



**IDCC14 - Registration and Programme**  
21 October, 2013 | In DCC News



**RDM job at Strathclyde University**  
21 October, 2013 | In Press Releases



**IDCC14 - Submission date extended**  
16 October, 2013 | In DCC News

# インタビュー

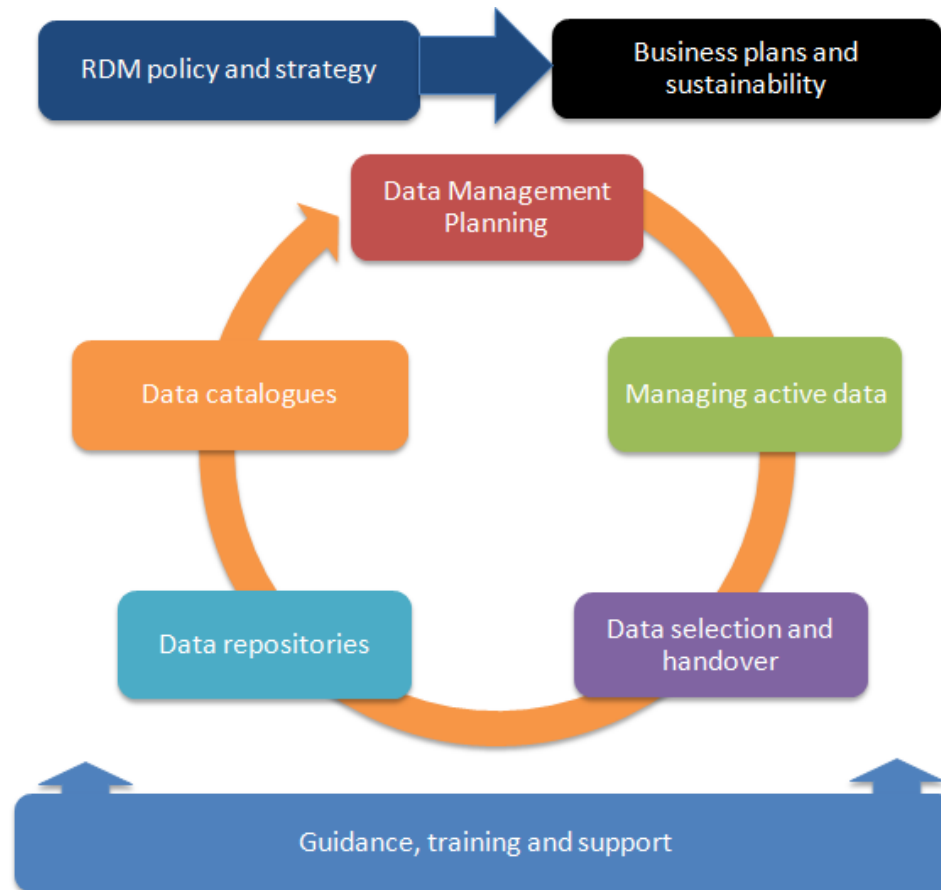
Kevin Ashley氏 (Director)

Jonathan Rans氏

Angus Whyte博士



# 研究データ管理サービス構築ガイド



<http://www.dcc.ac.uk/resources/developing-rdm-services>

# 大学のポリシーや計画策定の支援

n.b. the research funder links in the table take you to further details of each funder's policy

● Full Coverage    ◐ Partial Coverage    ○ No Coverage

	Policy Coverage		Policy Stipulations					Support Provided			
Research Funders	Published outputs	Data	Time limits	Data plan	Access/sharing	Long-term curation	Monitoring	Guidance	Repository	Data centre	Costs
<a href="#">AHRC</a>	●	●	●	●	●	◐	○	●	○	◐	◐
<a href="#">BBSRC</a>	●	●	●	●	●	●	●	●	●	◐	●
<a href="#">CRUK</a>	●	●	●	●	●	●	●	◐	●	○	○
<a href="#">EPSRC</a>	●	●	●	◐	●	●	●	◐	○	○	●
<a href="#">ESRC</a>	●	●	●	●	●	●	●	●	●	●	◐
<a href="#">MRC</a>	●	●	●	●	●	●	○	◐	●	○	◐
<a href="#">NERC</a>	●	●	●	●	●	●	●	●	●	●	◐
<a href="#">STFC</a>	●	●	●	●	●	●	●	◐	●	◐	◐
<a href="#">Wellcome Trust</a>	●	●	●	●	●	●	●	●	●	◐	●

Overview of funders' data policies (助成機関のデータポリシー概要)

<http://www.dcc.ac.uk/resources/policy-and-legal/overview-funders-data-policies>

# DCCの実施したトレーニング

- Digital Curation webinar for the Library and Information Association of South Africa (LIASA), April 30 2013, [DCC news item with link to slides](#)
- University of the West of England, April 26 2013 ([UWE website](#))
- University of Manchester, [Overview of data management planning for research administrators](#), March 14 2013
- University of Aberystwyth, March 12 2013
- University of Bangor, March 11 2013
- University of Lincoln, February 28 2013
- University of Glasgow, February 27 2013, [Introduction to RDM](#) for Information Management and Preservation (IMP) students
- University of Glasgow, February 26, 2013, [RDM Landscape overview](#) for academic staff and PhD students
- University of Manchester, February 25, 2013
- University of Glasgow, ArtsLab, February 21 2013
- University of Edinburgh, January 31 2013 [Research Data Management Introduction](#), [Data Management Planning](#), [Research Data Management Policy Implementation: Plans & Services](#), [Exercises](#)

Digital Curation 101: How to Manage Research Data  
<http://www.dcc.ac.uk/training/dc-101>

# 分野別メタデータ標準の例

Search by Discipline



Biology



Earth Science



General Research Data



Physical Science



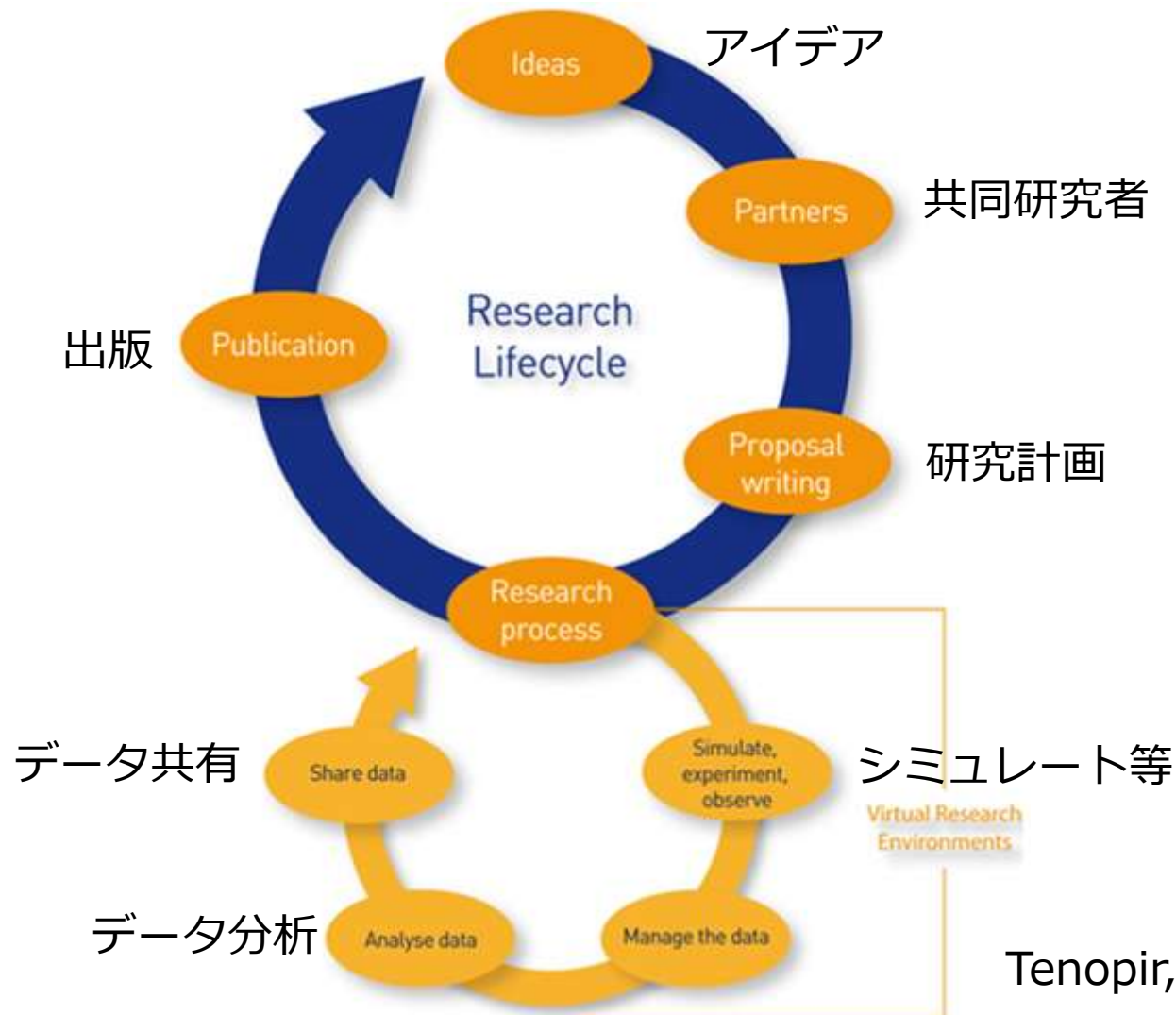
Social Science & Humanities

<http://www.dcc.ac.uk/resources/metadata-standards>



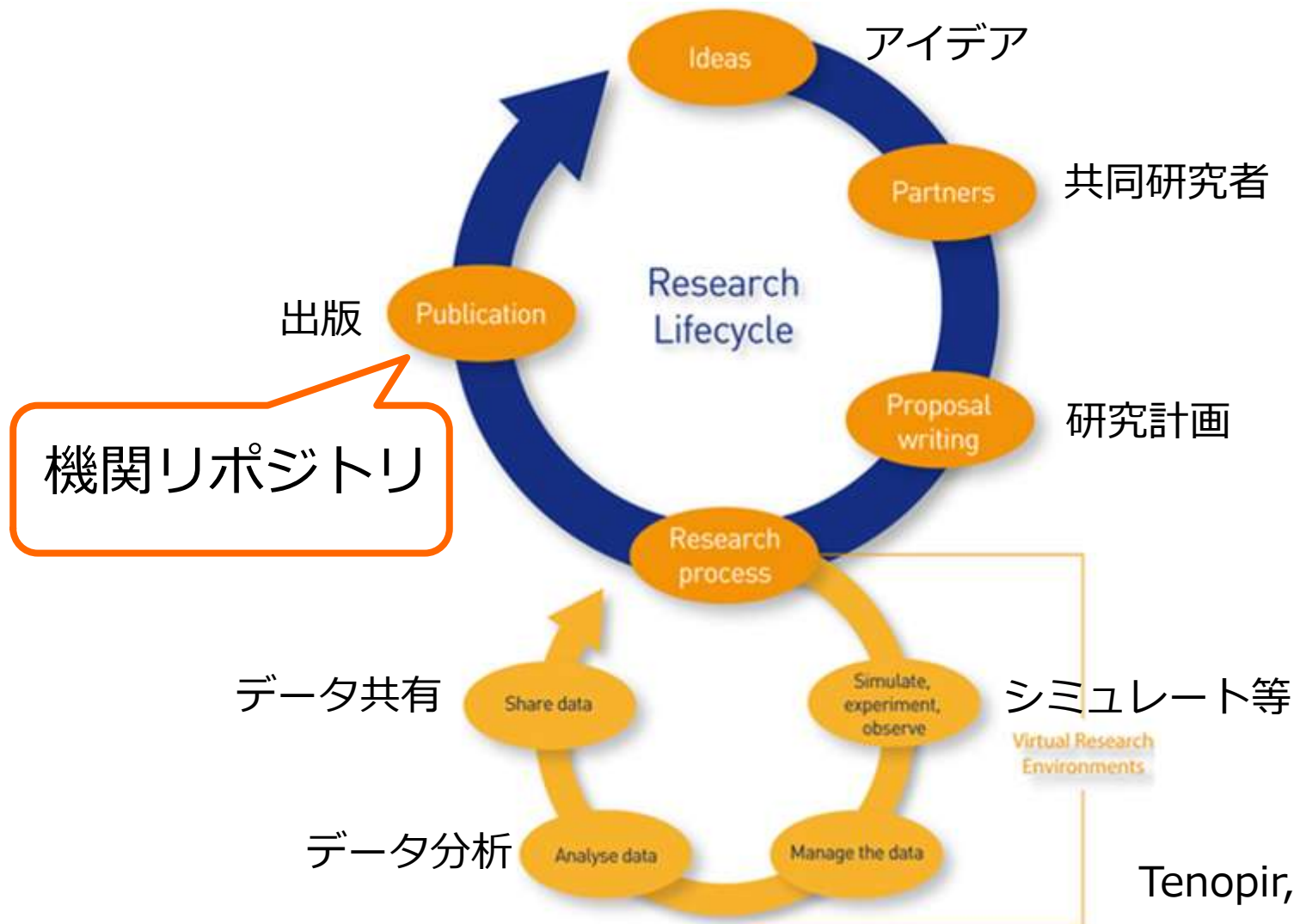
日本の研究データ管理支援に  
むけて

# 研究のライフサイクル



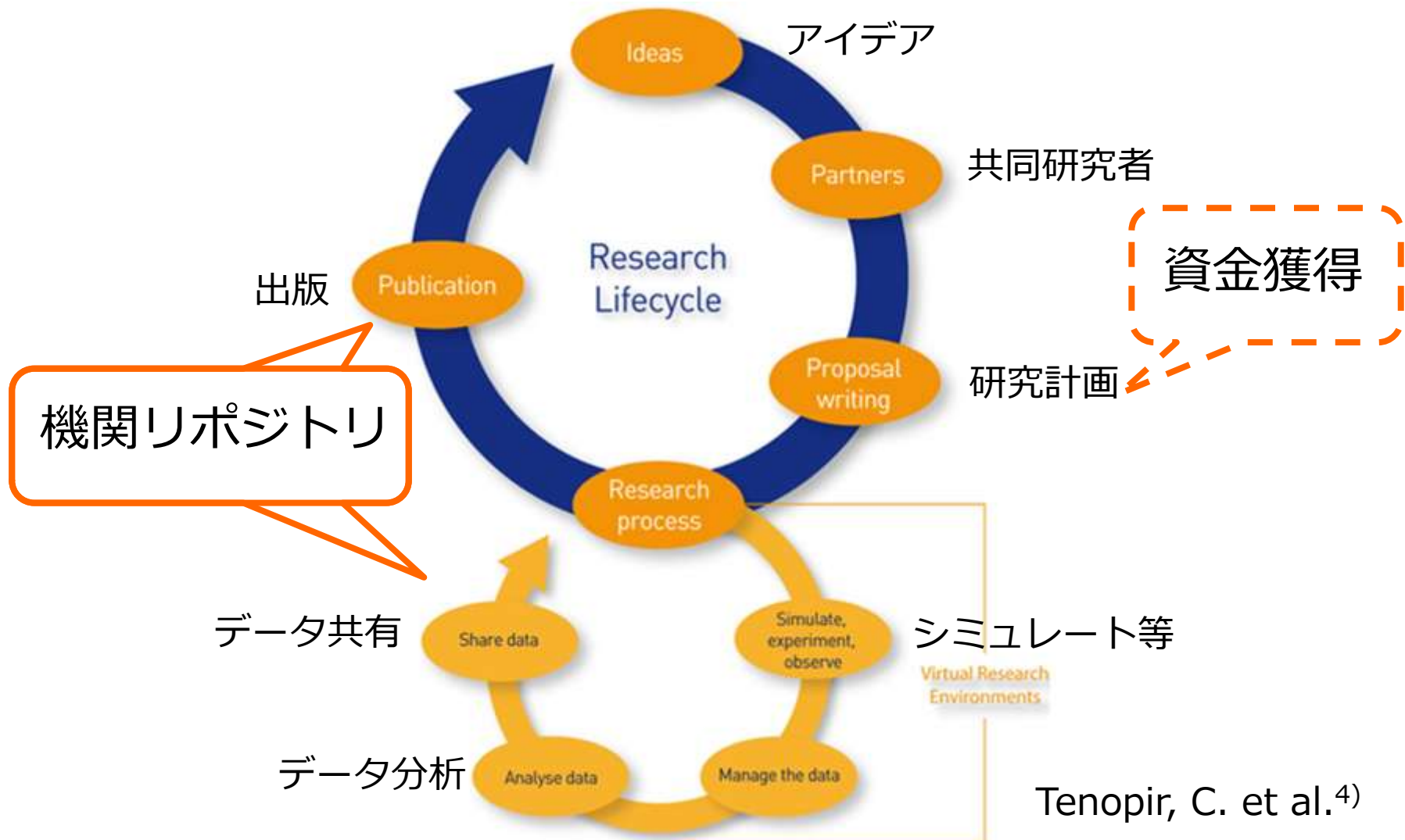
Tenopir, C. et al.<sup>4)</sup>

# 研究のライフサイクル



Tenopir, C. et al.<sup>4)</sup>

# 研究のライフサイクル



Tenopir, C. et al.<sup>4)</sup>

# Thanks, figshare!



## I saved 3 hours!



# 研究データ活用のための整備

## ■研究データ

✓ **0.7** ZB (2009) → **35** ZB (2020)<sup>5)</sup>  
※1ZB=10<sup>12</sup>GB

## ■統合検索システム

- ✓メタデータの標準化
- ✓DOI
- ✓名寄せ
- ✓論文へのリンク

# まとめ：大学図書館による支援

- 海外のトレーニングプログラムの活用
- ポリシーと計画の策定
  - ✓ 図書館が支援すべき部分を明らかに
- データリポジトリの構築 and/or **紹介**
  - ✓ **標準化されたメタデータの活用**
  - ✓ DOIの付与
  - ✓ **論文へのリンク**

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  - ✓ DOIの付与
  - ✓ 論文へのリンク    **論文は最強のメタデータ**

# References

- 1) Piwowar, H. A; Day, R. S; Fridsma, D. B. Sharing Detailed Research Data Is Associated with Increased Citation Rate. PLOS ONE. 2007. Vol. 2, No. 3, e308.
- 1) Sears, J. Data sharing effect on article citation rate in paleoceanography. American Geophysical Union, Fall meeting 2011.
- 3) Henneken E. A; Accomazzi, A. Linking to data: effect on citation rates in astronomy. 2011. <http://arxiv.org/abs/1111.3618>.
- 4) Joint Information Systems Committee (JISC), Stages of the research and data lifecycle. Figure\_1.tif. Carol Tenopir, Suzie Allard, Kimberly Douglass, Arsev Umur Aydinoglu, Lei Wu, Eleanor Read, Maribeth Manoff, Mike Frame. PLOS ONE. 10.1371/journal.pone.0021101.g001.
- 5) Unlocking the Value of Research Data: A Report from the Thomson Reuters Industry Forum July 2013. 2013, p.3 .