

# From the Researcher's Point of View:

## Support for Research Workflows

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CNI Spring 2010  
Membership Meeting  
12 April 2010

“I have my largest amount of data on grass genomes and I integrated it into a database when I lived in the Philippines.

“Then I left and I couldn't update the data on the fly. So entered into a collaboration with statisticians and computer programmers who entered it in PERL.

“I still feel a weakness in my training because I am dependent on them.”

**“I want the essays I have written over the years to be consolidated in one place to be published...”**

**“... but I cannot find them all.”**

**“I would be interested in tools that can scan lab notebooks and assign metadata for retrieval.”**

**"I searched for a book on Amazon and  
couldn't find it so it must not exist."**

**“I would like to tear apart the current publishing system so everyone owned their own IP.”**

**“[I would like a service] so I can see what others are doing without sharing my information.”**

**“I used to use the library to obtain all my research information, but now I use Google Scholar.”**

“It would be helpful to have a data warehouse.”

“Incentives are low to share data and there is no real means of tracking data in my field. There is no central data repository.”

“Researchers such as myself refuse to submit our original data ,for fear it will be compromised, mis-cited and misquoted.”

“We have consolidated social sciences survey research into an institute, which provides data archiving among physically disparate areas.”

**“Journals are like radio stations - you pick them according to your taste.”**

**“I make working papers - which are under review - publicly available.**

**“When the paper is accepted, I take down that link and then, after the article is published, I release the new link.**

**“This process is very tedious and I would love a tool that migrates the paper according to its published status.”**

**“On my wish list is a program that would scan my email and identify the importance of the message based on my preferences.**

**“I could then eliminate the messages that were lower priority without reading them.”**

# Research Information Management

## Studying researchers “in the wild”



# Evolution of the Research Information Management Program

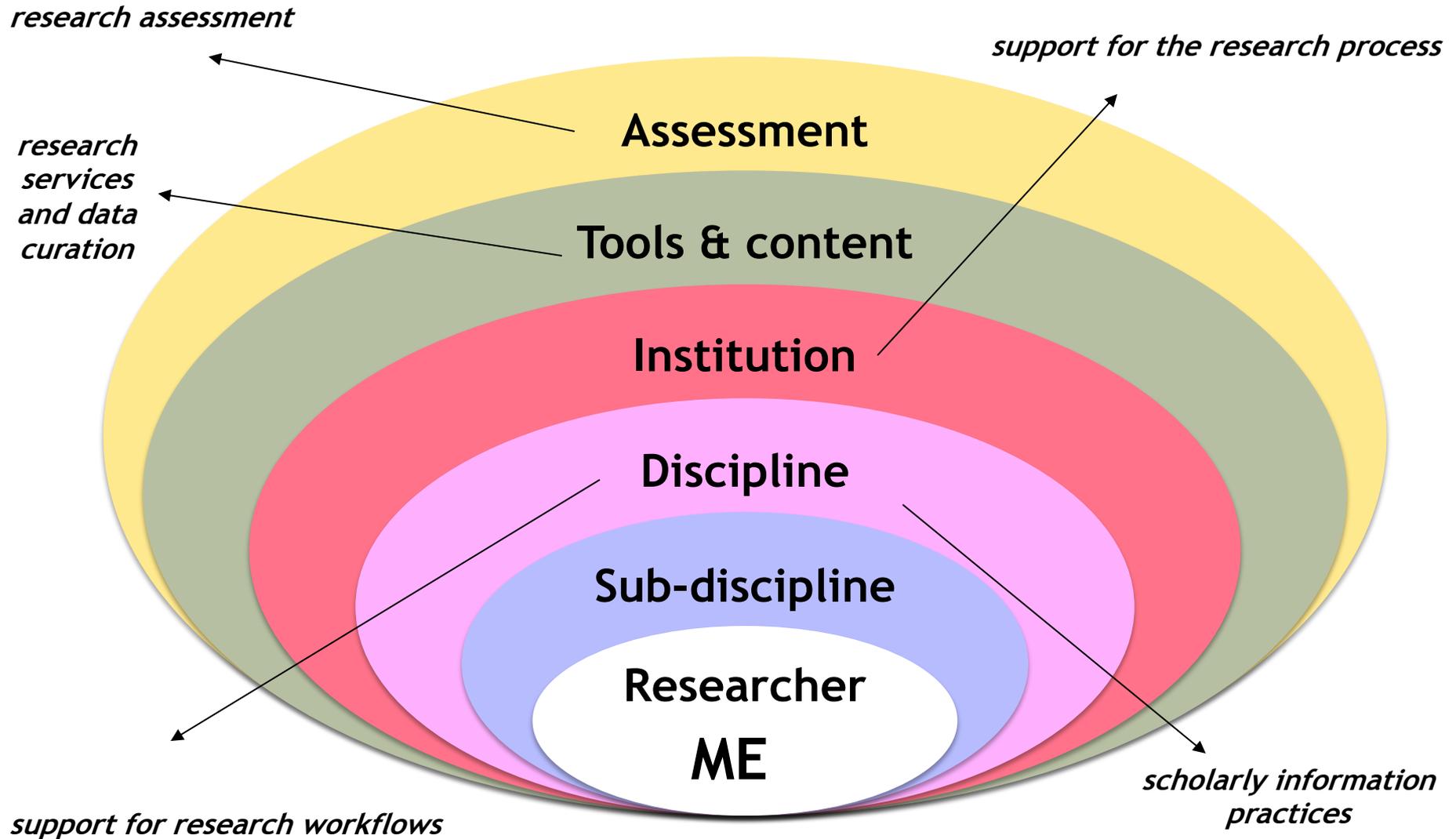
- Incubation of an idea by OCLC Research staff
- Input at from RLG Partners at 2008 RLG Annual Meeting



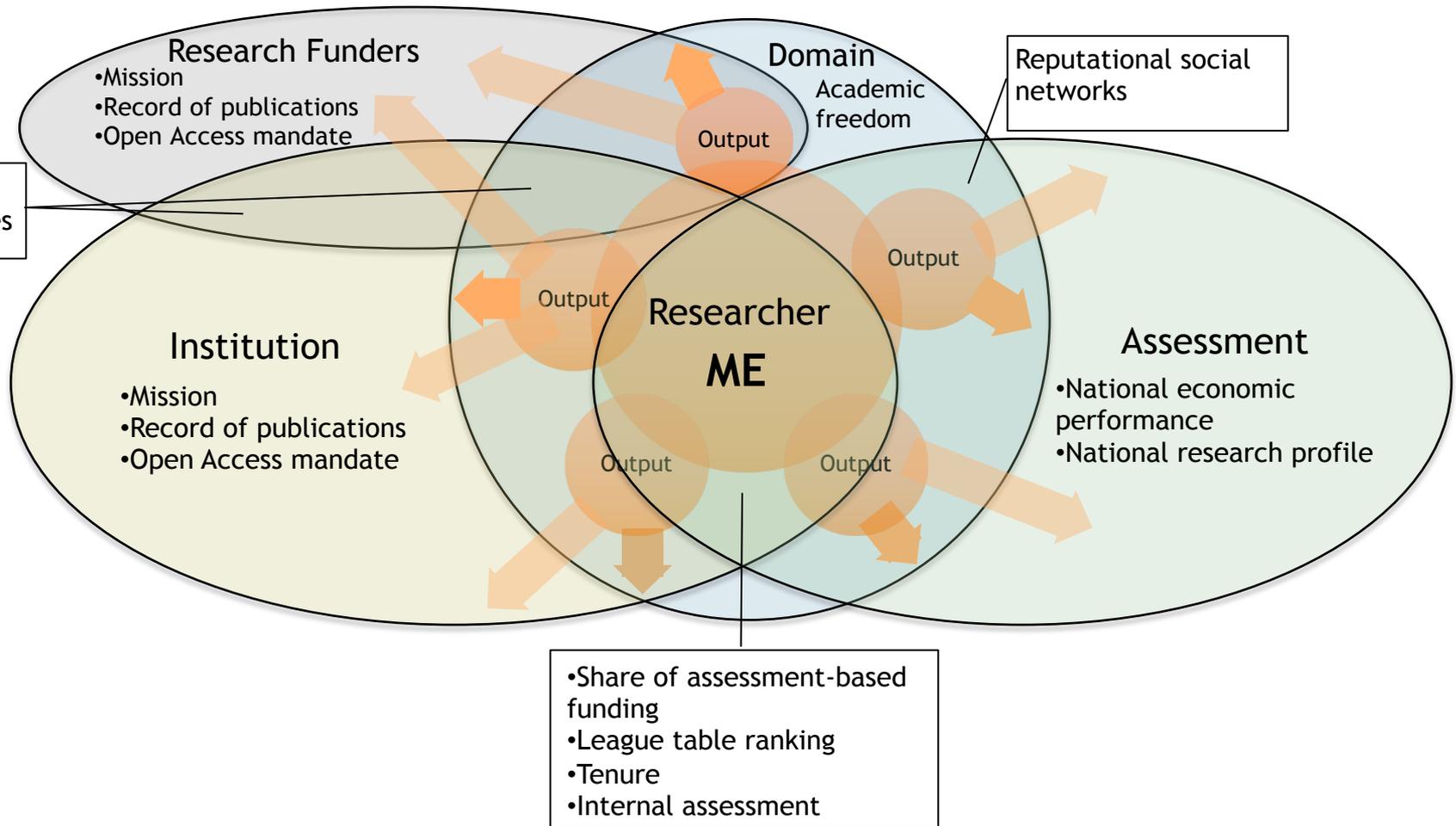
- RIM interest group
- Advisory group
- Four working groups
- Update and recalibration at 2009 Annual Meeting



# Research Information Universe

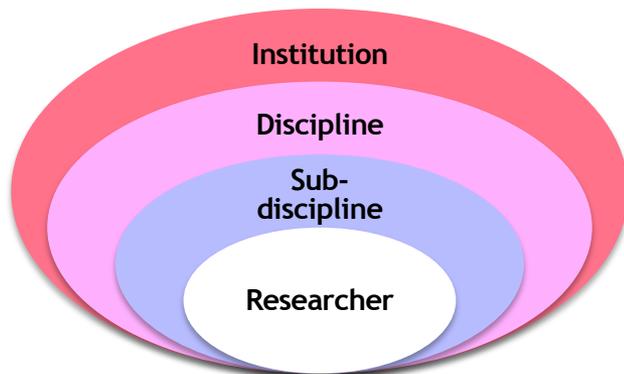
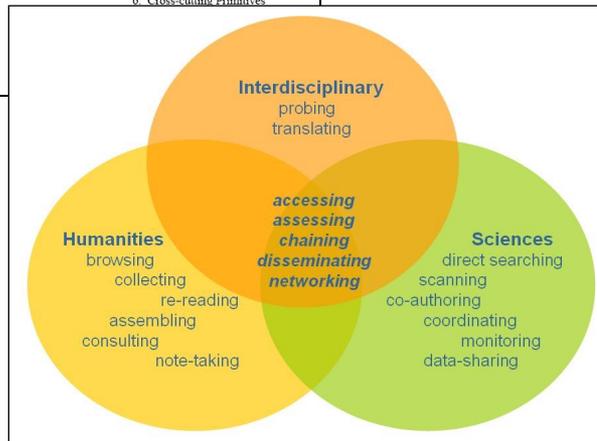


# Overlapping environments



# convergence in scholarly practices

- |                      |                             |
|----------------------|-----------------------------|
| 1. Searching         | 4. Writing                  |
| 1.1 Direct searching | 4.1 Assembling              |
| 1.2 Churning         | 4.2 Co-authoring            |
| 1.3 Browsing         | 4.3 Disseminating           |
| 1.4 Probing          |                             |
| 1.5 Accessing        | 5. Collaborating            |
|                      | 5.1 Coordinating            |
| 2. Collecting        | 5.2 Networking              |
| 2.1 Gathering        | 5.3 Consulting              |
| 2.2 Organizing       |                             |
|                      | 6. Cross-cutting Primitives |
| 3. Reading           |                             |
| 3.1 Scanning         |                             |
| 3.2 Assessing        |                             |
| 3.3 Rereading        |                             |



## Scholarly Information Practices in the Online Environment Themes from the Literature and Implications for Library Service Development

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A publication of OCLC Research

[oclc.org/research/publications/library/2009/2009-02.pdf](http://oclc.org/research/publications/library/2009/2009-02.pdf)

# Vision

## Support for the Research Process An Academic Library Manifesto

Chris Bourg  
Stanford University

Ross Coleman  
University of Sydney

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OCLC Research

With input from the RLG Partnership Research Information Management Roadmap Working Group<sup>1</sup>

When we shift our attention from “save ~~newspapers~~ libraries” to “save ~~society~~ scholarship”, the imperative changes from “preserve the current institutions” to “do whatever works.” —Adapted from Clay Shirky<sup>2</sup>

*NOTA BENE: This document does not encompass all the traditional roles of academic libraries (e.g., selection, cataloging, circulation, course support, etc.), but focuses on roles the academic library could assume in order to better support the research process.*

Scholarly communication and practice have undergone radical transformations in recent years. Developments such as cloud computing, open access publishing and online social networking are affecting research practices. Researchers are asking a wider range of questions, using diverse data and methods, producing new forms of scholarly output, and engaging in innovative new forms of research and publication.

The enticing opportunities in digital research and scholarship are coupled with new challenges for the research community. Researchers are drowning in a deluge of raw data and published information and face a bewildering array of options for disseminating and sharing their work. The choices these researchers make have implications on intellectual ownership, potential audience, ways of measuring impact, potential re-use, and long-term preservation.

As budgets across higher education are shrinking, some in the academy are questioning the continued value of large academic libraries. At the same time, many academic libraries are providing vital and innovative services and resources in support of emerging forms of research, publishing, and information management. While some would argue that academic libraries are playing an increasingly important role in scholarly research, others fear that they are on the brink of extinction and must change radically to survive. It's time to rise above the debate, and take a fresh look at the role of academic libraries in supporting research.

### Call to Action

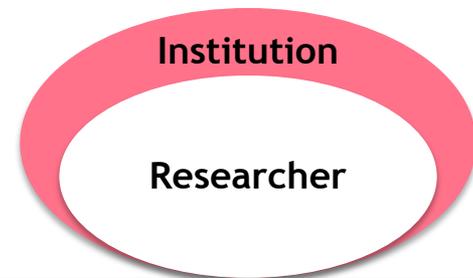
In order to continue to play a central role in support of scholarly research and publishing, academic libraries must:

1. Commit to continual study of the ever-changing work patterns and needs of researchers; with particular attention to disciplinary and generational differences in adoption of new modes of research and publication.
2. Design flexible new services around those parts of the research process that cause researchers the most frustration and difficulty.
3. Embed library content, services, and staff within researchers' regular workflows; integrating with services others provide (whether on campus, at other universities, or by commercial entities) where such integration serves the needs of the researcher.

[www.oclc.org/research/publications/library/2009/2009-07.pdf](http://www.oclc.org/research/publications/library/2009/2009-07.pdf)  
Chris Bourg, et al., for OCLC Research

November 2009  
Page 1

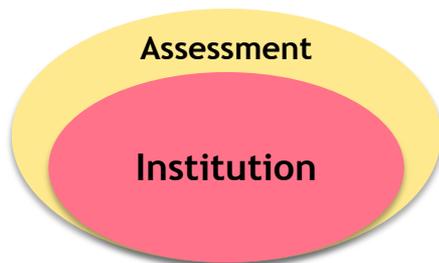
When we shift our attention from “save libraries” to “save scholarship,” the imperative changes from “preserve the current institutions” to “do whatever works.”



# Research Assessment

Libraries should:

- Claim their territory.
- Know disciplinary norms
- Manage data at scale
- Operate repositories efficiently
- Provide bibliometrics
- Provide evidence



“Libraries should claim their territory”

Research Assessment and the Role of the Library

A companion  
Assessment  
Libraries in th

John MacColl  
RLG Partnership  
OCLC Research

Research Assessment and the Role of the Library

A companion report to *A Comparative Review of Research Assessment Regimes in Five Countries and the Role of Libraries in the Research Assessment Process*

John MacColl  
RLG Partnership European Director  
OCLC Research



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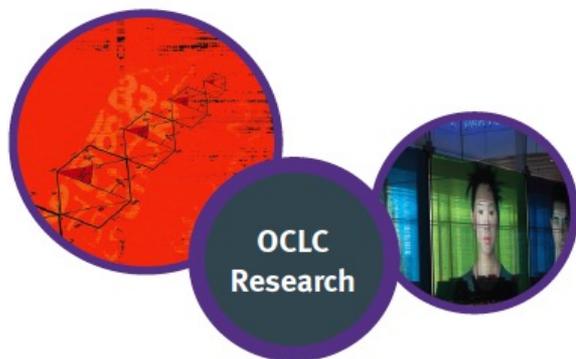


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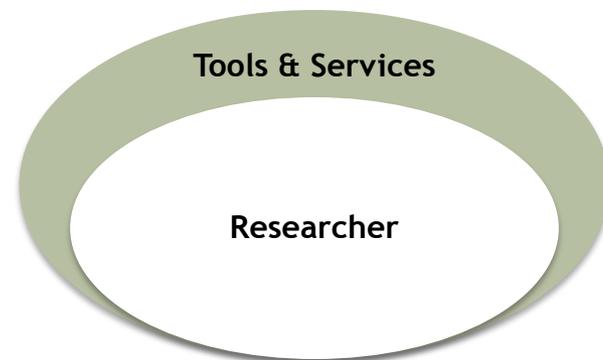
[oclc.org/research/publications/library/2010/2010-01.pdf](http://oclc.org/research/publications/library/2010/2010-01.pdf)

# Support for Research Workflows

a joint project with the UK's  
Research Information Network



“discover the information-  
related support services  
researchers use throughout the  
life-cycle of their work”



# “It’s the Wild West Out There”



How it works      Research papers



Organize, share and discover **research papers**

Like iTunes™ for research papers. Mendeley is a free research management tool for desktop & web

THE DEFINITIVE RESOURCE FOR GLOBAL RESEARCH

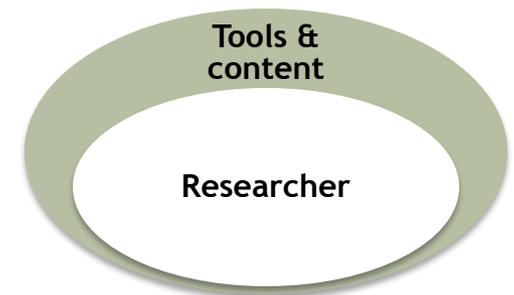
# WEB OF SCIENCE<sup>SM</sup>

ACCESS POWERFUL CITED REFERENCE SEARCHING AND MULTIDISCIPLINARY CONTENT



## Preliminary synthesis:

- Researchers value efficient, easy-to-use services.
- Electronic journals and Google dominate the landscape in the research process.
- No one can manage their documents and data sets.
- Researchers use personal relationships to choose collaborators.
- Researchers do not use libraries.



# Methodology:

- Qualitative
- Exploratory
- Comparative, international view
- Case studies
- Structured interviews
- Select 8 exemplary institutions (4 each in US and UK)
- Wide mix of disciplines
- Entrée and interviews with deans, provosts, grant and research administrators, etc.



# Collect

- enable collaborative management of documents and analysis of data
- store, curate, and preserve researchers' data sets
- improve their information retrieval and management skills

# Read and Write

- help manage citations
- help find the most effective manner and vehicle in which to publish
- provide advice in protecting intellectual property rights
- support tenure and promotion, such as a service that tracks how often a researcher's articles have been cited, where and by whom
- manage and preserve preprints, publications, and post-prints

# Collaborate

- help investigators locate potential collaborators and make their own expertise known
- support tenure and promotion, such as a service that tracks how often a researcher's articles have been cited, where and by whom
- inform researchers how they rate within their field (ie their indexes according to various measures based on citation analysis)

# Money

- alert researchers to new and forthcoming grant opportunities from a range of funding bodies in their field
- identify research of potential commercial value to the university and start the processes to commercialize where appropriate

## Example from a recent on-campus interview

- Q: Do you use any tools or services to analyze large text or data aggregations? What additional support would be desirable?
- A: “I have a programmer to access sequence data that is too complicated to share. So we just send the results.

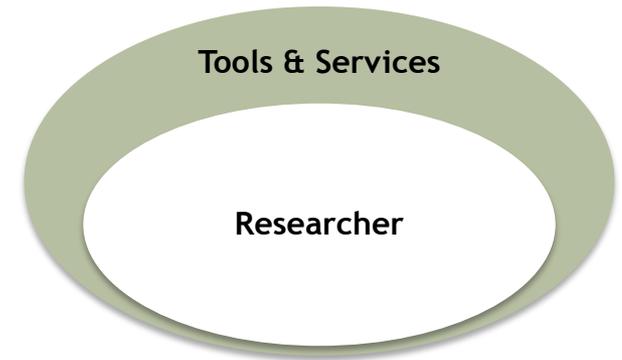
“The programmers have the answers but don't know the questions to ask. I have the questions but don' know the answers. There are only a handful of people that can do both.”

## “Forget about it”

- Services to learn about grants and funding
- Services about where to publish
- Services to manage IP and exploit commercial value of research
- Instruction on how to use information services
- Expertise profiling
- Services to analyze large text and data files
- Citation managers
- Services to manage pre-prints, post-prints and publications

# Lingering Questions

- Appropriate use of resources?
- Utility provider?
- Metadata solutions?
- Data management and data curation?
- Distributed, international subject repositories?

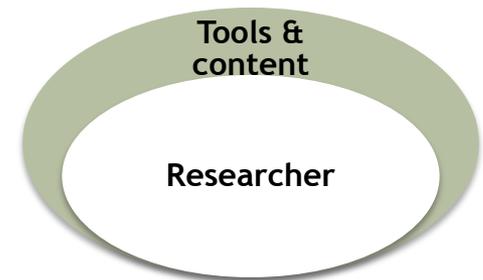


# Coda: Data Curation



LIGUE DES BIBLIOTHÈQUES EUROPÉENNES DE RECHERCHE  
ASSOCIATION OF EUROPEAN RESEARCH LIBRARIES

- Role of libraries in data curation
- Discipline-specific practices and needs
- “The Fourth Paradigm”
- Archival management of large data sets



# Resources:

[Jennifer\\_Schaffner@oclc.org](mailto:Jennifer_Schaffner@oclc.org)

- Support for Research Workflows project:
  - <http://www.oclc.org/research/publications/default.htm>
- OCLC Research reports:
  - <http://www.oclc.org/research/publications/default.htm>
- The Research Information Network (RIN)
  - <http://www.rin.ac.uk/>

Thanks to Susan Kroll, Rick Forsman, Ian Rowlands,  
David Brown, Ricky Erway and John MacColl