Research Data Management Infrastructure (RDMI)

U of A Libraries' Role in RDMI

Chuck Humphrey
Campus Data Summit 2013

Definitions

- e-Science is computationally intensive science that is carried out in highly distributed network environments, or science that uses immense data sets that require grid computing; the term sometimes includes technologies that enable distributed collaboration. (Source: Wikipedia)

- Cyberinfrastructure is the set of organizational practices, technical infrastructure and social norms that collectively provide for the smooth operation of scientific work at a distance. (Source: Understanding Infrastructure: Dynamics, Tensions, and Designs)

- Research Data Management Infrastructure is the mix of technology, services, and expertise organized locally or globally to support research data activities across the research lifecycle. (Source: Preserving Research Data in Canada)

RDMI

- technology, services, and expertise
- organized locally or globally
- to support research data activities
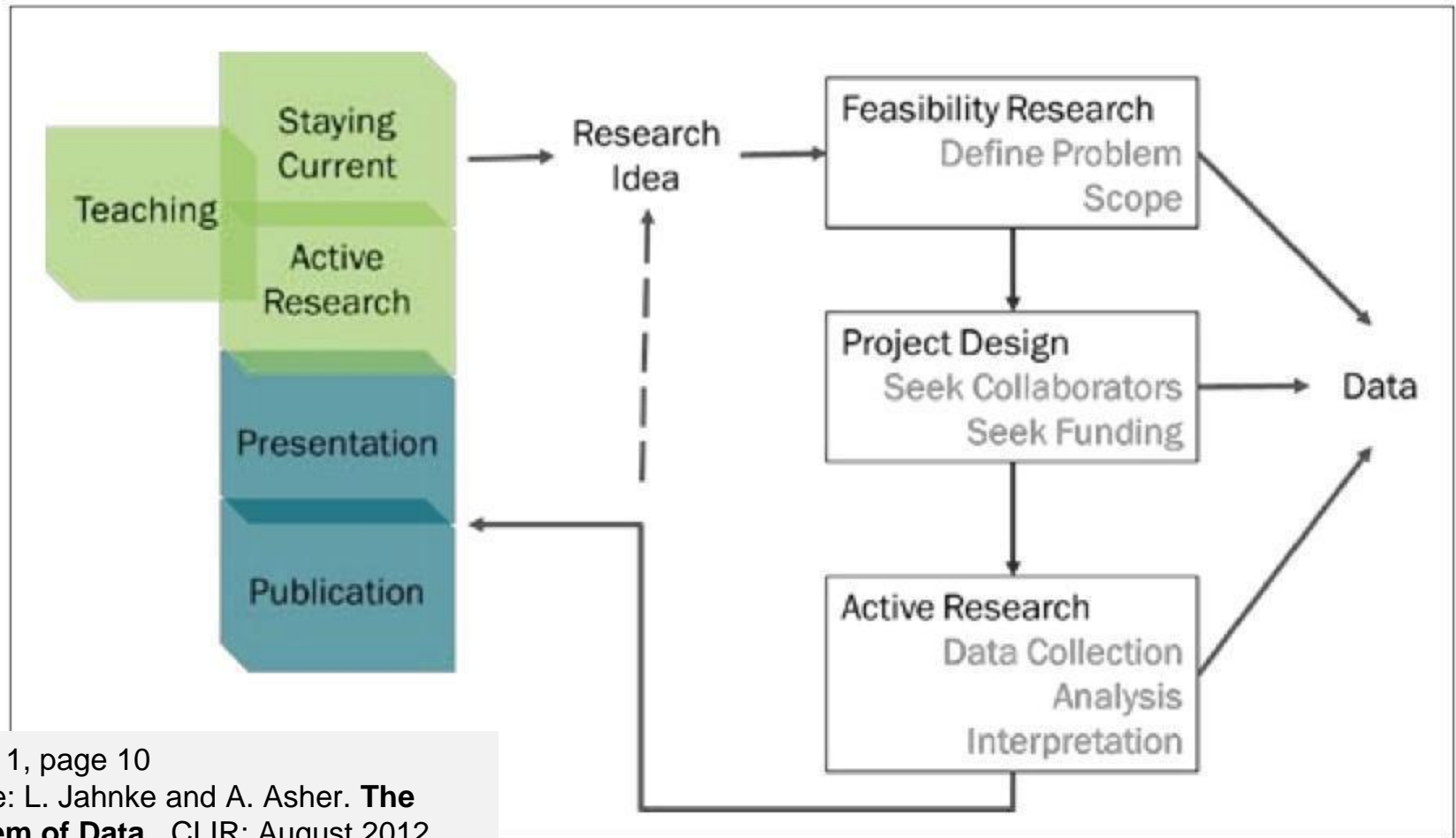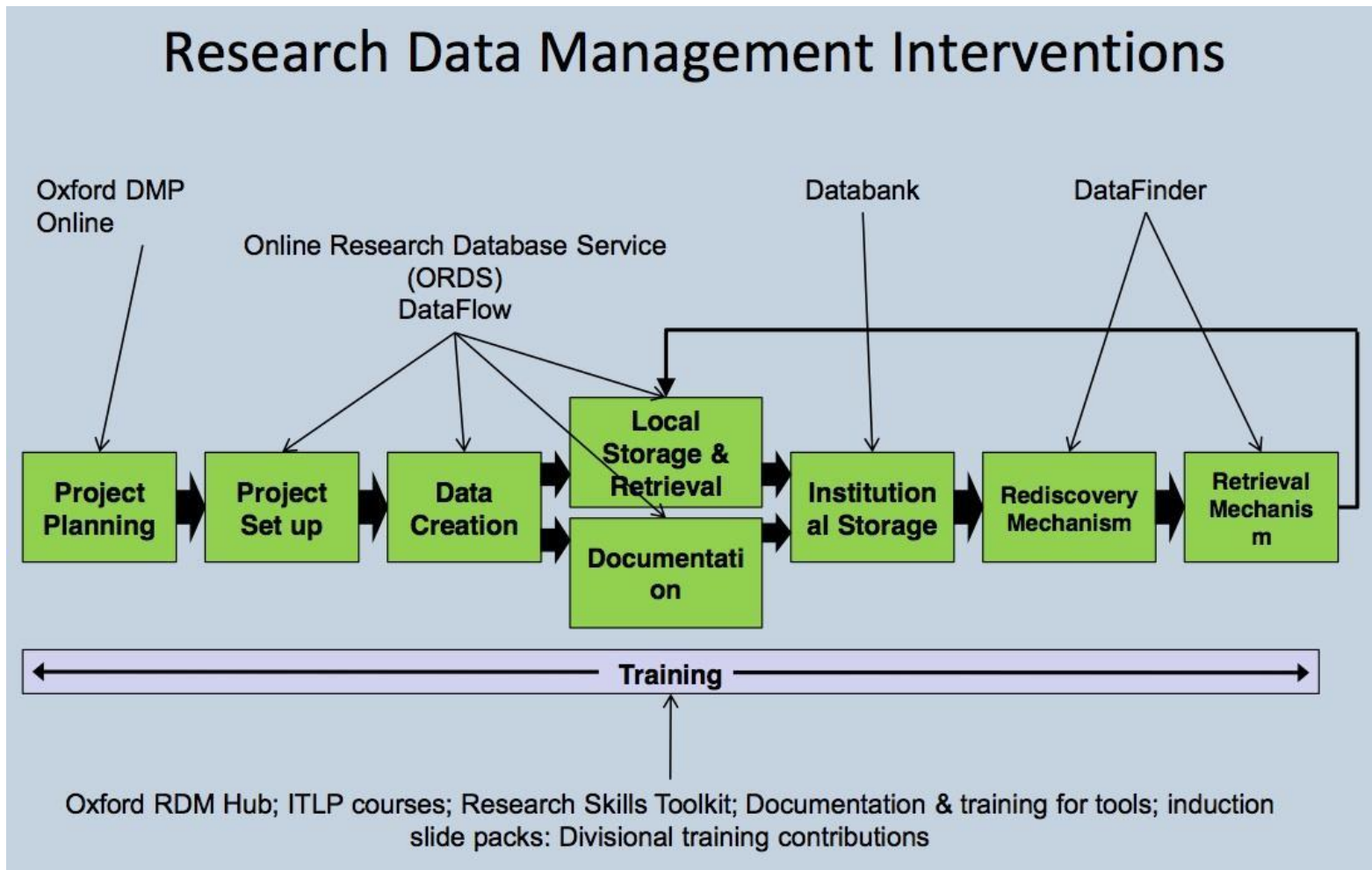- across the research lifecycle

Project-level Research Lifecycle

Figure 1, page 10
Source: L. Jahnke and A. Asher. **The Problem of Data**. CLIR: August 2012.

Institutional Research Lifecycle

Research Data Management Interventions

Oxford DMP Online

Online Research Database Service (ORDS) DataFlow

Databank

DataFinder

Project Planning → **Project Set up** → **Data Creation** → **Local Storage & Retrieval** / **Documentation** → **Institutional Storage** → **Rediscovery Mechanism** → **Retrieval Mechanism**

Training

Oxford RDM Hub; ITLP courses; Research Skills Toolkit; Documentation & training for tools; induction slide packs: Divisional training contributions

Paul Jefferys. **Data Management at Oxford**. March 2012.

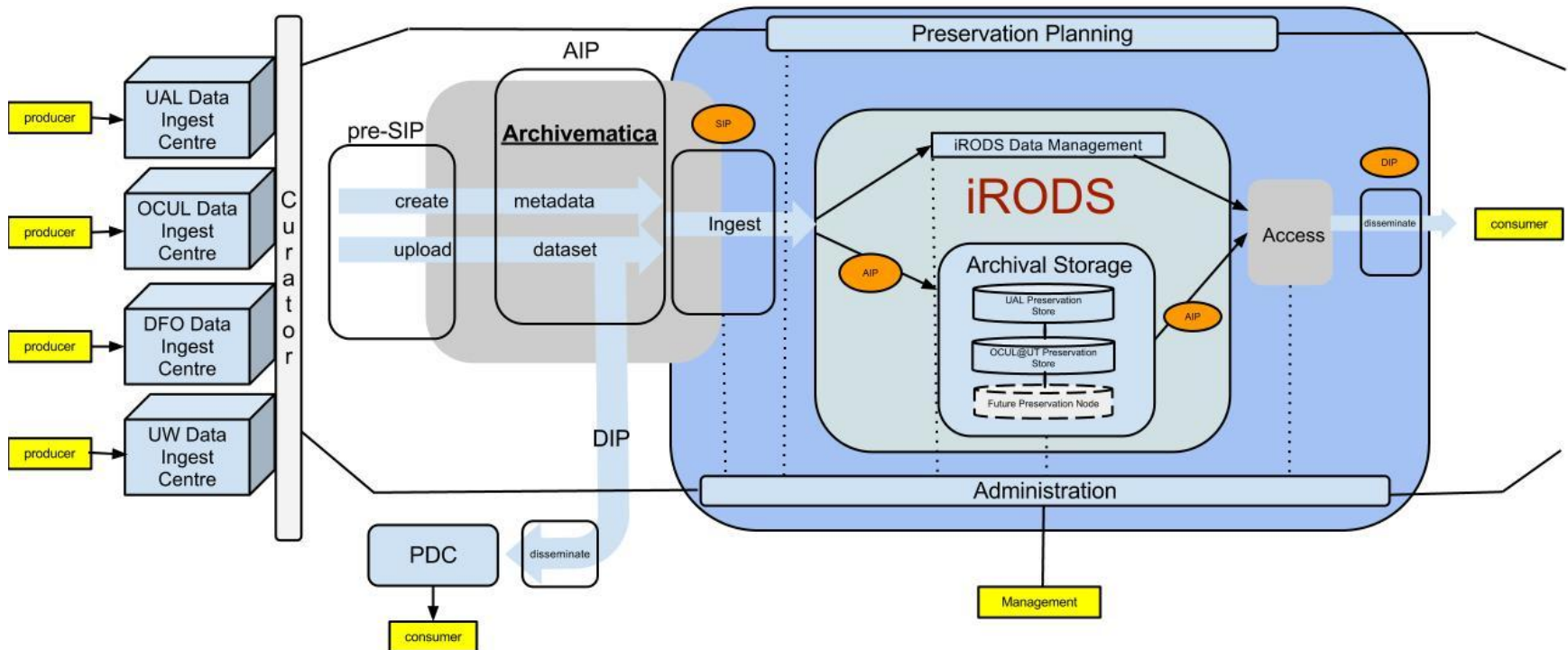# Data Curation Tools and Processes

- Dataverse
  - Dissemination platform
  - Project-level file management
  - Staging platform
- UAL, UBC, SFU, and Artefactual joint project
  - Adding research data functionality to Archivematica
    - Format policy registry
    - Manual normalization workflow
    - AIP design for research data
      - Datasets and their relationships, including parent-child structures
- Nesstar
  - Data "publishing" platform

Data Curation Infrastructure

Canadian Polar Data Network(CPDN) OAIS Model

Data Curation Services

▶ Advise on data-related activities in the research lifecycle

- ▶ Data management plan in grant applications
- ▶ Data management practices that best facilitate data sharing and deposit for preservation
- ▶ Metadata standards and the production of metadata
- ▶ Best practices for managing sensitive data
- ▶ Options for disseminating data
- ▶ Options for depositing data

▶ Data preservation services

▶ Data dissemination services

Data Curation Expertise

- Work within a team
  - Digital Initiatives
    - Digital initiatives coordinator, Preservation officer, Digital initiatives technology librarian, Digital initiatives applications librarian, Institutional repository librarian, Metadata librarian, GIS librarian, Data library coordinator, Data librarian
  - Co-op, Intern, and Post-doc data curators
  - Working with liaison librarians to mainstream aspects of data management