

MICHIGAN STATE
UNIVERSITY

MICHIGAN STATE COLLEGE
OF
AGRICULTURE AND APPLIED SCIENCE

University Archives
& Historical Collections

About Michigan State University

- Founded 155 years ago
- Pioneer land grant institution
- Extremely decentralized
 - College, department or research center
- Primary Investigator (PI) responsible
 - Chair and Dean have oversight
- NO institutional repository
- Digital Curation Planning Project

Types of Scientific Research Data

- Biomedical Informatics
- Nuclear Physics and Cyclotron
- Math and Science Education
- College of Engineering
- Department of Food Sciences
- Agriculture and Extension Services

Phases of Data Life Cycle

1. Before research or study begins
 - Proposal development and after award
2. During research or study
 - Data generated from subjects or scientific instruments
 - Collaborative collection or analysis
3. After research or study is completed
 - Retention guidelines focused on minimum
 - Public dissemination of data and/or analysis

Data Requirements in Life Cycle

- PI maintains per institution and funder
- MSU guidelines = retain for minimum of three years past end of project
- Some fields see value in retaining longer for comparison and longitudinal studies
- Some fields replace old data with new and more precise data constantly
- Some fields see historical value of their research and publications to cultural heritage

Systems Used in Data Life Cycle

- **mySQL, SQL server and Oracle**
 - Web interfaces for direct data input by subject or interviewee
- **MS Office suite**
 - Excel spreadsheets and MS Word documents
- **Proprietary field specific software**
 - MATLAB
- **Open Source field specific software**
 - NSCL Data Acquisition Software
- **PDF formats**

Migrating Data in Life Cycle Phases

- Secured servers and web interfaces
- Database software – tall not wide
 - Delimited data fields – XML wrapping
- Course Management Software
- Cloud computing tools
- Jump or flash drives
- Email attachments

Generalities at MSU

- Teams work together upfront and during research to create, manage & share data
- Great interest in someone (like University Archives) stepping up to the plate
- Academic environment is unique and needs unique solution spaces
- Need incentives not punitive approaches
- Need for MSU to preserve AND access scholarly output and (some) research data

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