Responsible Conduct of Research Workshop Series, 2017-2018

Record Keeping, Data Management, and Sharing of Information

-- September 21, 2017--
Swipe in, Swipe out = validation you attended full workshop &

No swipe? I cannot give you credit &

Bring your MSU ID card every time! &
# As of Fall 2016

**RCR Minimum Plan requirements**

<table>
<thead>
<tr>
<th>Tracked automatically in SABA</th>
<th>Tracked by department in GradInfo</th>
</tr>
</thead>
</table>

### Master’s plan B and grad professional

- **CITI Modules Year 1**
  - Introduction to the Responsible Conduct of Research
  - Authorship
  - Plagiarism
  - Research Misconduct

- 6 hours discussion-based training (by completion of the degree)

### Master’s Plan A students

- **CITI Modules Year 1**
  - Introduction to the Responsible Conduct of Research
  - Authorship
  - Plagiarism
  - Research Misconduct

- 6 hours discussion-based training (by completion of the degree)

- **CITI Modules Year 2**
  - Complete 3 additional from specific list

### Doctoral students

- **CITI Modules Year 1**
  - Introduction to the Responsible Conduct of Research
  - Authorship
  - Plagiarism
  - Research Misconduct

- 6 hours discussion-based training (by completion of the degree)

- **CITI Modules Year 2**
  - Complete 3 additional from specific list

- Year 3 forward
  - 3 hours of annual refresher training
The plan represents the basic university plan. Each department/program or college will develop a plan that at a minimum incorporates these university-level requirements. The Graduate School RCR Workshop series may be used to help fulfill both the annual refresher and discussion-based training requirements.

*Students who are supported by NSF, NIH, or USDA grants may be required to complete additional specific training; they must meet the timeline and content requirements of training for that grant.

*Students engaged in research involving human subjects or animal use must complete the Michigan State University training modules for those subjects before submitting IRB or IACUC approvals. These modules may be completed as part of the training requirements below, or in addition to them, depending on the department/program or college plan.
All graduate professional, master’s and doctoral students
1) Year 1
All new graduate and graduate professional students will complete 4 CITI online modules within the first year of enrollment in their program: Completion of this requirement will be tracked in SABA
- Introduction to the Responsible Conduct of Research
- Authorship
- Plagiarism
- Research Misconduct

2) Discussion-Based Training
All graduate and graduate professional students must complete a minimum of 6 hours of discussion-based training prior to receiving their degrees. These hours can be completed at any point in the graduate program, including during the first 2 years (e.g., as part of a course), or as part of the ongoing training requirement (for doctoral students). Specifics about the number of hours required, the content, and the timing of this training will be defined in the individual department/program or college plan. For master’s Plan A and PhD students completion of this requirement will be recorded by the department in GradInfo as “Initial” training.
Getting to SABA (RCR Reg and records) and CITI
What the CITI screen looks like…Use your MSU ID to log in &
In addition to 1 and 2 above, master’s plan A and doctoral students will complete:

3) Year 2
Within the first 2 years of enrollment in their program, master’s plan A and doctoral students will complete 3 additional MSU online training modules, to be selected from the following list. Specific requirements for course selection may be defined in the individual department/program or college plan.

Completion of this requirement will be tracked in SABA.
- CITI Collaborative Research
- CITI Conflicts of Interest
- CITI Data Management
- CITI Financial Responsibility
- CITI Mentoring
- CITI Peer Review
- IACUC Tutorial for Animal Care Training (in http://Train.ORA.msu.edu)
- Rigor and Reproducibility Course (in production)

In addition to 1, 2 and 3 above, doctoral students will complete:

4) Annual Refresher Training
Starting in year 3, all doctoral students must complete 3 hours of annual refresher training; this can include discussion-based training and online courses beyond the 7 required in basic training. Specifics about the number of hours required, the content, and the timing of this training will be defined in the individual department/program or college plan. Completion of this requirement will be recorded by the department in GradInfo as “Annual” training.
Please indicate your current status at MSU

1. Early (first years)
2. Mid (middle years)
3. Late
4. Postdoctorate
5. Faculty
6. Other
The Mind of a Con Man – Diederik Stapel (Tilburg University)

In 2011 Tilburg University suspended Stapel, pending further investigation, for fabricating and manipulating data for his research publications. This scientific misconduct took place over a number of years and affected at least 55 publications (58)


Diederik Stapel, Tilburg University, the Netherlands

- “The committee, which interviewed dozens of Stapel's former students and colleagues, concluded that Stapel acted alone. The report says he would discuss experimental designs in detail with collaborators and would claim to conduct the surveys at high schools and universities with which he had special arrangements. The experiments, however, never took place, and Stapel gave collaborators made-up data sets, investigators allege. In other instances, the report says, he told colleagues that he had an old data set lying around that he hadn't had a chance to analyze. When Stapel did conduct actual experiments, the committee found evidence that he manipulated results.”

- “Many of Stapel's students were simply given data to analyze and graduated without having ever run an experiment, the report says. The commission writes that Stapel was “absolute lord of the data” in his collaborations. Colleagues or students who asked to see raw data told the commission they were given excuses or even threatened and insulted.”

Fraud Scandal Fuels Debate Over Practices of Social Psychology

Even legitimate researchers cut corners, some admit

By Christopher Shea

The discovery that the Dutch researcher Diederik A. Stapel made up the data for dozens of research papers has shaken up the field of social psychology, fueling a discussion not just about outright fraud, but also about subtler ways of misusing research data. Such misuse can happen even unintentionally, as researchers try to make a splash with their peers—and a splash, maybe, with the news media, too.
Even before the Stapel case broke, a flurry of articles had begun appearing this fall that pointed to supposed systemic flaws in the way psychologists handle data.

"If high-impact journals want this kind of surprising finding, then there is pressure on researchers to come up with this stuff," says Mr. Wagenmakers, an associate professor in the psychology department's methodology unit [Eric-Jan Wagenmakers, of the University of Amsterdam].

Bad things happen when researchers feel under pressure, he adds—and it doesn't have to be Stapel-bad: "There's a slippery slope between making up your data and torturing your data."

In September, in comments quoted by the statistician Andrew Gelman on his blog, Mr. Wagenmakers wrote: "The field of social psychology has become very competitive, and high-impact publications are only possible for results that are really surprising. Unfortunately, most surprising hypotheses are wrong. That is, unless you test them against data you've created yourself."
Retraction Watch

He’s back: Data faker Diederik Stapel will support research at vocational university

with 17 comments

Diederik Stapel, the social psychology researcher who has had 58 papers retracted after admitting that he made up the data, has a new job: helping other researchers.

Stapel, according to BN DeStem (via Google Translate),

“is going to help professors at major research projects and studies. “Outside his mistake he has been a good and thorough scientist,” says Hein van Oorschot of the Executive Board [of NHTV Breda, in the Netherlands]. “He has a vast knowledge in the field of research. He knows how the world works.”

The appointment is for one year. Van Oorschot tells BN DeStem:

“He is not engaged in research and will not teach. He gets a supporting role, and he is the source of information and a helping hand for large projects.

Stapel has not responded to a request for comment. His last academic appointment, as an adjunct of sorts at Fontys Academy in Tilburg in 2014, was short-lived. Around the same time he resigned, he admitted sock puppetry in comments here at Retraction Watch.

Earlier, Stapel had settled with Dutch prosecutors and agreed to 120 hours of community service, after resigning from Tilburg University and relinquishing his PhD.
But wait…that’s not the end
Recently, we reported that social psychologist and renowned data faker Diederik Stapel had found himself a new gig supporting research at a vocational university in the Netherlands — but it appears that was short-lived.

According to multiple news reports, NHTV Breda will not be employing Stapel, after all.

Here's our Google translate of a portion from *De Telegraaf*:

"[Stapel's] work at the NHTV have been terminated after one week. This was announced by the Breda college Tuesday."

And this from *NOS*:

"The social psychologist Diederik Stapel do not get a second chance at the College of Tourism and Transport in Breda (NHTV).

Staff and the MR have too many objections to the appointment of the controversial scientist. Therefore, the school decides to reverse the appointment..."

*Omroep Brabant* includes Stapel's reaction to the news:

"[Stapel] himself said Tuesday on Radio 1 that he was sad about the quick dismissal. "I was pleased with the new job..."

Stapel's last academic appointment at Fontys Academy in Tilburg in 2014 was short-lived; he resigned around the same time he admitted sock puppetry in comments here at Retraction Watch.

Stapel has retracted dozens of papers, settled with Dutch prosecutors and agreed to 120 hours of community service, after resigning from Tilburg University and relinquishing his PhD.

Update 9/14/16 9:35 a.m. eastern: We've received a press release from NHTV about the announcement; here's an excerpt, according to our Google translate:

"At the request of the Participation Council to reconsider the cooperation of the Executive Board of the university decided to terminate the cooperation with him.

Although the Board has formally acted correctly, the Participation Council, the Executive convinced that with many employees within the university insufficient confidence in the collaboration. The cooperation is not productive, and therefore it was decided the consulting agreement no further effect."
DEFINITIONS

- Data OWNERSHIP: who has LEGAL rights to the data and holds onto data once project is complete.
- Data COLLECTION: the process of obtaining recordable, measurable endpoints
- Data STORAGE & PROTECTION: how and where data are physically or virtually stored and protected from theft or tampering.
- Data RETENTION: how long the data need to be stored according to regulations
- Data ANALYSIS: how raw data are modified for others to use and relate to
- Data SHARING: communicating data – at any level – to others privately or publicly
- Guidelines for Responsible Data Management in Scientific Research, Clin Tools, ORI FUNDED
Research Data

- **Control**
  - physical management of research data and records

- **Access**
  - conditions under which various people may inspect or use research data

- **Ownership**
  - in a legal sense, who owns the data
Research Data in Your Discipline

- “Raw” data – typical research data in your discipline!
- Research records
  - Research plans as described in funding or dissertation proposals
  - Procedures documented in IRB, IACUC, or ORCBS protocols
  - Lab notebooks or other records of the implementation of your research
  - Manuscripts and other reports

Research & Scholarly Integrity
These are Raw Data

Rat Thoracic Aorta

Log Tyramine [M]

Force (milligrams)

+PVAT
-PVAT

wash
MSU INSTITUTIONAL DATA
Data Security at MSU

Seth Edgar, MSU CISO

September 21, 2017
Agenda

- Institutional Data
  - Definition
  - Responsibilities
  - Handling
- Information Security Program
  - Threats
  - Assets
  - Protections
  - Approach
- Questions
Institutional Data at MSU

Institutional Data are all of the data and records held by the University, *in any form or medium*, for the administration, operation, or governance of the University or any unit of the University

- Confidential
- Public

https://tech.msu.edu/about/guidelines-policies/msu-institutional-data-policy
Confidential Data at MSU (4 Categories)

• Institutional Data that could, by itself or in combination with other such Data, be used for identity theft or related crimes.
• Institutional Data whose public disclosure is restricted by law, contract, University policy, professional code, or practice within the applicable unit, discipline, or profession.
• Records of the University’s security measures.
• Institutional Data whose value would be lost or reduced by unauthorized disclosure or by disclosure in advance of the time prescribed for its authorized public release, or whose unauthorized disclosure would otherwise adversely affect the University financially.

https://tech.msu.edu/about/guidelines-policies/msu-institutional-data-policy/
Confidential Data Categories (and Examples)

**Identity Theft**
- SSN
- Credit Cards
- Bank Accounts
- Health Insurance #’s
- Digital Signatures

**Restricted Disclosure**
- Educational
- Medical
- NDA’s
- Granting Agency Data
- Human Subjects

**Security Measures**
- Passwords
- Security Tools
- Digital Keys
- Security Brands
- Threat Assessment

**Publicity Devaluation**
- Results prior to publication
- Trade Secrets
- Non Patentable Information
- Computer Applications
Public Data at MSU

Institutional Data that have become generally available to members of the public because a person with authority to do so has intentionally released or distributed them without restriction or limitation.

https://tech.msu.edu/about/guidelines-policies/msu-institutional-data-policy/
Responsibility

Members of the University community are individually responsible for the security and integrity of Institutional Data in their possession or control, including their proper storage and disposal.

Handling

• Email
  • Do not send Confidential Data via email
• Retention
  • Encrypt Confidential Data at rest and in-transit
• Disposal
  • See MSU guidance for proper disposal of data
• Data Sharing
  • FileDepot
• International Travel
  • Use VPN
  • Maintain control of your computer/files at all times
  • Encrypt your device
  • Avoid networks that require a software download first
• Cloud Computing
  • Not all cloud services are created/configured equally
• Software/Tools
  • Information Security performs risk assessments of tools at NO COST
Who do I call if I have questions?

- **Security/Data Handling Inquiries**
  - MSU IT Service Desk
    - 517-432-6200
    - ithelp@msu.edu

- **Specific Consultations**
  - Seth Edgar, MSU CISO (me)
    - ciso@msu.edu

- **Malicious/Spam Emails**
  - Mail Abuse Team
    - abuse@msu.edu
Agenda &

• MSU Google Apps for Education
  • Overview
  • Appropriate use
  • Support
• Other Services
  • Collaboration tools
  • IT infrastructure
  • Support
• QAs
Google Apps/G Suite Overview

- MSU Google Apps for Education started in summer 2009 including 6 Core Apps.

- Serving faculty, academic faculty retirees, students, and staff
  - Offers increased security and protections of intellectual property rights through integrated MSU NetIDs and passwords access — not found in the public version.
  - Use of any other Google tools is not recommended for MSU data.
  - is NOT part of MSU Google Core Apps!
  - Avoid using person Google account!
### Institutional Data - Permitted Data Usage by Service

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<th>Type of Data</th>
<th>ITS File Share</th>
<th>Spartan Drive</th>
<th>SharePoint 365</th>
<th>SharePoint Campus</th>
<th>Local Hard Drive</th>
<th>Google Drive</th>
<th>Spartan Skype</th>
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</table>

**CONSULT** - MSU Information Security
Appropriate Use &

• Under Google Apps for Education Agreement between MSU and Google

• MSU agrees to follow the Google Apps Acceptable Use Policy (AUP).

• It is generally appropriate for many uses in instruction and scholarship, and even some “low consequence” business and administrative uses.
Family Educational Rights and Privacy Act (FERPA)

Get the Latest on FERPA at familypolicy.ed.gov

- Frequently Asked Questions
- FERPA for parents and students and school officials
- Protection of Pupil Rights Amendment (PPRA)
- Guidance and Notices

G Suite Acceptable Use Policy

Use of the Services is subject to this acceptable use policy ("AUP").

If not defined here, capitalized terms have the meaning stated in the applicable contract ("Agreement") between customer and Google.

You agree not to, and not to allow third parties or Your End Users, to use the Services:

- to generate or facilitate unsolicited bulk commercial email;
- to violate, or encourage the violation of, the legal rights of others;
- for any unlawful, invasive, infringing, defamatory, or fraudulent purpose;
- to intentionally distribute viruses, worms, Trojan horses, corrupted files, hoaxes, or other items of a destructive nature;
- to interfere with the use of the Services, or the equipment used to provide the Services, by customers, authorized users, or other End Users;
- to alter, disable, interfere with or circumvent any aspect of the Services;
- to test or reverse-engineer the Services in order to find limitations, vulnerabilities or evade filtering capabilities;
Appropriate Use

- Detailed MSU guidelines and policies can be found in [https://tech.msu.edu/about/guidelines-policies/appropriate-use-google-apps/](https://tech.msu.edu/about/guidelines-policies/appropriate-use-google-apps/) (Users are advised to fully review)
Appropriate Use
Data Formats

• (File Types: most common data formats can be stored on G Suite, such as Microsoft Office, PDF, and iCalendar.

• (Uploaded content generally will remain of the original type and can be downloaded.

• (Users will be able to remove their content, or copies of the content
Appropriate Use
Owner responsibility &

- **Sharing**: Regularly review sharing permissions to make sure content is appropriate for hosting under the Google Apps/G Suite for Education Agreement.
  - You can share your files with individuals outside of MSU
  - Must ensure compliance with MSU policies when granting access to documents – while sharing folders and individual documents.
  - How to limit sharing permissions of a specific file in GoogleApps account: https://support.google.com/drive/answer/2494893.

- **Backup**: Neither MSU nor Google makes backups of information stored on these services.
  - MSU users should assume individual responsibility for backup data
Appropriate Use

Space/quota limitations &

- **Google Drive – unlimited storage.**, however a 50MB file size limit on presentations and documents uploaded to Drive and converted to Docs and Slides, and a 100MB limit on spreadsheets converted to Sheets.

- **Google Sites**: MSU as an institution is limited to a total of 100GB for all sites/users. A large number of pages on a Site will cause slowness.
Support for MSU Google Apps for Education

Google

• ( Support for the specific use of the programs and services are provided by Google:
  • ( http://drive.google.com/support/
  • ( http://docs.google.com/support/
  • ( https://www.google.com/support/calendar/
  • ( https://www.google.com/support/sites/
  • ( https://support.google.com/edu/classroom
  • ( https://support.google.com/hangouts

• ( Also, refer to MSU Google Apps for Education: Known Issues or to the Google App Status Dashboard if an outage is suspected.
Other Available Services

- http://spartan365.msu.edu/
- Spartan Mail
- Spartan Drive 1 TB
- Spartan Skype
- More tools coming… (}

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</table>
Other Available Services &

MediaSpace – Kaltura
- Create, store and share media
- [https://mediaspace.msu.edu](https://mediaspace.msu.edu)

Qualtrics Survey Tool
- Qualtrics can be used for surveys as well as research data collection.
- [https://qualtrics.msu.edu/](https://qualtrics.msu.edu/)
Other Available Services &

D2L - Learning Management System &
• https://D2L.msu.edu

Zoom Web Conferencing &
• https://MSU.zoom.us &
Cloud Services &

- Enterprise agreements
- Department account provisioning
- Seamless single sign-on
- Discount pricing
- Google Cloud coming in 2018

https://tech.msu.edu/network/cloud-services/
MSU Infrastructure &

Virtual Hosting
• Self-managed
• Managed

Colocation
• Colocation Service allows researchers to place their existing servers in a rack in the Computer Center Datacenter with secure access.
Remote Access &

Welcome to the
MSU SSL VPN Web Portal

Username
Password
Realm

SSL VPN Upgrade and Move to New Client

The MSU SSL VPN will be upgraded on August 6, 2015.
The upgrade allows us to improve and maintain this service, as well as add support for Windows 10.

Following this upgrade, Windows users will be prompted to install the new VPN client called Pulse Secure.
Support for the legacy Network Connect client will be deprecated.

Mac OS X users should follow the Quick Start Installation Guide to install the Pulse Secure desktop client.
This guide also provides installation instructions for Android, iOS, and Windows clients.

IT administrators can find instructions for downloading and testing the Pulse Secure client in the SSL VPN Guide for IT Administrators.

If you need assistance or more information, please contact the MSU IT Service Desk at (517) 432-6200 or itserve@msu.edu.

https://vpn.msu.edu/ (}
Support & Help

How do I ask for help?

- [https://tech.msu.edu/support/help/](https://tech.msu.edu/support/help/)
- Service Desk (517) 432-6200
- ithelp@msu.edu
There are two types of data – Quantitative and Qualitative. The primary types of data supporting my research are:

1. Qualitative
2. Quantitative
3. Both
Table 1 | Percentage of scientists who say that they engaged in the behaviour listed within the previous three years (n = 3,247)

<table>
<thead>
<tr>
<th>Top ten behaviours</th>
<th>All</th>
<th>Mid-career</th>
<th>Early-career</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Falsifying or ‘cooking’ research data</td>
<td>0.3</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>2. Ignoring major aspects of human-subject requirements</td>
<td>0.3</td>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>3. Not properly disclosing involvement in firms whose products are based on one’s own research</td>
<td>0.3</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>4. Relationships with students, research subjects or clients that may be interpreted as questionable</td>
<td>1.4</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>5. Using another’s ideas without obtaining permission or giving due credit</td>
<td>1.4</td>
<td>1.7</td>
<td>1.0</td>
</tr>
<tr>
<td>6. Unauthorized use of confidential information in connection with one’s own research</td>
<td>1.7</td>
<td>2.4</td>
<td>0.8***</td>
</tr>
<tr>
<td>7. Failing to present data that contradict one’s own previous research</td>
<td>6.0</td>
<td>6.5</td>
<td>5.3</td>
</tr>
<tr>
<td>8. Circumventing certain minor aspects of human-subject requirements</td>
<td>7.6</td>
<td>9.0</td>
<td>6.0**</td>
</tr>
<tr>
<td>9. Overlooking others' use of flawed data or questionable interpretation of data</td>
<td>12.5</td>
<td>12.2</td>
<td>12.8</td>
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<tr>
<td>10. Changing the design, methodology or results of a study in response to pressure from a funding source</td>
<td>15.5</td>
<td>20.6</td>
<td>9.5***</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Other behaviours</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>11. Publishing the same data or results in two or more publications</td>
<td>4.7</td>
<td>5.9</td>
<td>3.4**</td>
</tr>
<tr>
<td>12. Inappropriately assigning authorship credit</td>
<td>10.0</td>
<td>12.3</td>
<td>7.4***</td>
</tr>
<tr>
<td>13. Withholding details of methodology or results in papers or proposals</td>
<td>10.8</td>
<td>12.4</td>
<td>8.9**</td>
</tr>
<tr>
<td>14. Using inadequate or inappropriate research designs</td>
<td>13.5</td>
<td>14.6</td>
<td>12.2</td>
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<tr>
<td>15. Dropping observations or data points from analyses based on a gut feeling that they were inaccurate</td>
<td>15.3</td>
<td>14.3</td>
<td>16.5</td>
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<tr>
<td>16. Inadequate record keeping related to research projects</td>
<td>27.5</td>
<td>27.7</td>
<td>27.3</td>
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</table>

Note: significance of $\chi^2$ tests of differences between mid- and early-career scientists are noted by ** ($P<0.01$) and *** ($P<0.001$).

~440 S&E PhDs

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*Nature 435, 737-738 (9 June 2005) Scientists behaving badly*

Brian C. Martinson, Melissa S. Anderson & Raymond de Vries
Have you begun record keeping for your research?

1. Yes
2. No
For only those who answered “Yes”. Recording Keeping in my research is adequate to enable later assessment of the integrity of the data and the resulting findings.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree
Insuring Data Integrity

- UNDERSTAND.....the goals
- AGREE ON METHODS....before research begins
- UNDERSTAND....how to carry out these methods
- RECORD ALL PROCEDURES IN A PERMANENT FORM. These data records should be maintained in their original and unaltered formats.
- ENSURE....your equipment works – VALIDATE!
EPIGEUM Module 3

- Data Interpretation and presentation
NSF Data Sharing Policy

- Investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the primary data, samples, physical collections and other supporting materials created or gathered in the course of work under NSF grants. Grantees are expected to encourage and facilitate such sharing. See Award & Administration Guide (AAG) Chapter VI.D.4.

- NSF Data Management Plan Requirements

- Proposals submitted or due on or after January 18, 2011, must include a supplementary document of no more than two pages labeled “Data Management Plan”. This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results. See Grant Proposal Guide (GPG) Chapter II.C.2.j for full policy implementation.
NSF Data Management Plan Contents

- **Products of the Research:** The types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project.

- **Data Formats:** The standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies).

- **Access to Data and Data Sharing Practices and Policies:** Policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements.

- **Policies for Re-Use, Re-Distribution, and Production of Derivatives.**

- **Archiving of Data:** Plans for archiving data, samples, and other research products, and for preservation of access to them.
Help with data at MSU

- **Michigan State University**
  MSU Libraries: Lifecycle Data Management Planning
  [http://www.lib.msu.edu/about/diginfo/ldmp.jsp](http://www.lib.msu.edu/about/diginfo/ldmp.jsp)

- VISIT THIS!
DATA SHARING

- Data sharing is the practice of making data used for scholarly research available to other investigators.

- Many funding agencies, institutions, and publication venues have policies regarding data sharing because transparency and openness are considered by many to be part of the scientific method.

What Data do you share?

- Large Data bases
- Microarray information
- Genetic Sequences
The NIH policy on data sharing applies:

- To the sharing of final research data for research purposes.
- To basic research, clinical studies, surveys, and other types of research supported by NIH. It applies to research that involves human subjects and laboratory research that does not involve human subjects. It is especially important to share unique data that cannot be readily replicated.
- To applicants seeking $500,000 or more in direct costs in any year of the proposed project period through grants, cooperative agreements, or contracts.
- To research applications submitted beginning October 1, 2003.
Journal Open-Data Policies

- [http://oad.simmons.edu/oadwiki/Journal_open-data_policies](http://oad.simmons.edu/oadwiki/Journal_open-data_policies)

  This is a list of journals with data-sharing mandates for their published articles. For example:

  - **African Journal of Ecology**
    - Data that is integral to the paper must be made available in such a way as to enable readers to replicate, verify and build upon the conclusions published in the paper. Any restriction on the availability of this data must be disclosed at the time of submission.

  - **Evolution**
    - Require authors to submit DNA sequence data to GenBank and phylogenetic data to TreeBase.
Limitations & Restrictions on Sharing of Data

- Health Insurance Portability & Protection Act (HIPAA)
- Sensitive but Unclassified Data
- Classified & Restricted Research Activities
- Intellectual Property Protections
- Ethical considerations
Why data-sharing policies matter

Alan E. Guttmacher, Elizabeth G. Nabel, and Francis S. Collins

National Human Genome Research Institute, National Institutes of Health, Bethesda, MD 20892; National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD 20892; and National Institutes of Health, Bethesda, MD 20892

A recent breach by a recipient investigator of the Data Use Certification led to the online publication by PNAS of a manuscript that should never even have been submitted (2). While both PNAS and the NIH will deal with this specific breach, it is the wider research community that must police itself and prevent inappropriate publication in the future.
...our editors became aware that Dr. Zhang had signed a Data Use Certification indicating his agreement to comply with the NIH Genome-Wide Association Studies Policy for Data Sharing, which applies to the Gene Environment Association (GENEVA) studies, of which the Study of Addiction, Genetics and Environment (SAGE) is a part. Under the policy, investigators agree not to submit findings of the SAGE dataset(s) for publication until September 23, 2009. The *PNAS* publication clearly violates the SAGE embargo, and the authors agreed to retract their work in *PNAS* on September 9, 2009.
Research/Scholarly Integrity Resources

- NAS, Ensuring the Integrity, Accessibility, and Stewardship of Research Data in the Digital Age
- NIH Data Sharing Policy and Implementation Guidance
- UM, Research Data Management and Publishing Support (NSF Plans)
- MN, Funding Agency and Data Management Guidelines
  - [http://www.lib.umn.edu/datamanagement/funding](http://www.lib.umn.edu/datamanagement/funding)
- MSU, Lifecycle Data Management Planning
  - [http://www.lib.msu.edu/about/diginfo/ldmp.jsp](http://www.lib.msu.edu/about/diginfo/ldmp.jsp)
- NCDDC.Noaa
Here at MSU

Research Data Management Guidance

The Research Data Management Guidance service is a joint effort between the MSU Libraries and University Archives to respond to the emerging concern surrounding research data management. Effective research data management is an active and ongoing process during the entire research lifecycle, from project conception to long after it is finished.

Our purpose is:

1. To provide guidance to faculty in the development and execution of research data management plans.
2. To connect faculty to distributed research data support services throughout the university.
3. To educate students, faculty, and staff about the importance of data management.

Best practices for research data management can

- help you secure grant funding
- enhance the ability to share data internally during a project
- bring traditional library and archival expertise for the organization and care of digital information to your own personal research projects
- create a data output that can become part of the scholarly record, earning recognition and citations
- help you make efficient and effective use of research funding

Contact:

Researchdata@mail.lib.msu.edu

Team Members:

Anita Calia, Digital Curation Librarian
NEXT WORKSHOP

- Authorship
- October 11, 2017
  - [http://grad.msu.edu/rcr/integrity.aspx](http://grad.msu.edu/rcr/integrity.aspx)
- Workshop Series Syllabus
  - [http://grad.msu.edu/rcr/docs/syllabus.pdf](http://grad.msu.edu/rcr/docs/syllabus.pdf)