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Manage Research Workflows with Open Science Framework and Digital Commons

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Manage Research Workflows with Open Science Framework and Digital Commons



Data Management
SERVICES

@ Zach S. Henderson Library

<http://georgiasouthern.libguides.com/data>



Open Science Framework



- What is Open Science Framework (OSF)?
 - Designed by the Center for Open Science
 - Collaborative Research Management Software
 - Open Source – FREE! Anyone can sign up for an account.
 - Created to Support the Entire Research Lifecycle
 - Provides one location to organize and structure projects to match research needs without compromising current workflows
 - Not just an End of Life place to store data or code to share
 - *Provides a research **space at the beginning** where a researcher can **document as data is added**, save different **versions**, and **share at multiple points** in the process.

<https://osf.io>



Open Science Framework

- Why is such a Tool Important?
 - End result is (hopefully) Published Research
 - **Published Research** is only **one piece** of a very long cycle
 - In some cases, the Published Research is **not as Reproducible** as hoped.
 - Not Every Study is Published!
 - Current System means we **Lose a lot** of information!
 - **Earlier Parts** of Research Workflow can actually have **Big Impact**
 - **OSF** actually **manages the Workflow** of the Scientific process
 - Creates a **history** of the project allowing additions to the continuation, or simply provides a **complete record** of each stage in a project



Highlights of OSF

- A Project can be Anything!
 - Individual Study
 - Line of Research
 - Grant or Grant Proposal
 - Manuscript
 - Lab Group
 - Research Assignment
- This is one way OSF can meet the needs of researchers at any stage in the process, and in just about any field.



Highlights of OSF

- Each Project can then have **multiple components**
 - Study materials
 - Analysis scripts
 - Data
 - Can upload pretty much any type of file for any of these
- Each Project and Each Component under the project has
 - Attached files
 - Add-on services
 - Dropbox
 - GitHub
 - Google Drive
 - Dataverse
 - Citation Provided
 - DOI Provided
 - Privacy Settings
 - List of Contributors



Highlights of OSF

- Each project and each component under a project can
 - Be private, completely public, or open to collaborators of **your choice**
 - You set the **level of control** for each collaborator
 - Collaborators can have **access** to **some** or **all** of the components of a project
 - OSF retains version histories of the wikis and the files so the **entire history** of the process is **saved** and recoverable
 - Not tied to one computer , or several computers in different areas, or one person
 - In other words, if a computer crashes, or somebody leaves an institution, data (information, history) is not lost!



Other Benefits

- For public projects, OSF provides **statistics**
 - Documents project views
 - File downloads
 - These **metrics complement** slow-growing **citation counts** of published articles.
- OSF provides an interesting citation type – **Forks!**
 - Other researchers can **fork** public projects in to their own workspace
 - Fork **always links** back to the **original work**
 - **Fork count** is, therefore, a **functional citation**

<http://help.osf.io/m/collaborating/1/524112-link-and-fork-projects>



Other Benefits

- You can search over 1,815, 672 preprints in OSF
 - Subjects include:
 - Architecture
 - Business
 - Arts & Humanities
 - Education
 - Engineering
 - Law
 - Life Sciences
 - Medicine & Health Sciences
 - Physical Sciences and Mathematics
 - Social & Behavioral Sciences

<https://osf.io/preprints/>



Open Science Framework *extra Perks

- Take the PreReg Challenge and **win \$1,000.00!**
 - Prereg forces you to **make important decisions early** on that affect the flow of a project.
 - Provides a plan for dealing with situations **before biases** created by a data set **can be created**
- This process can be **beneficial** to you and to the Scientific Community.

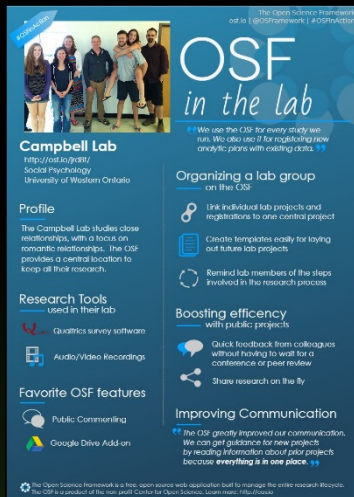
Open Science Framework – How are Others Using OSF?

- Anna van't Veer – PhD student in Psychology
 - Keeps tracks of analytics (especially how many times a document is downloaded)
 - Used the Registration Function to ‘freeze’ project page.
 - Followed up by using a view-only link to inform editors of a special issue of JESP of that pre-registration
 - Received “In Principle Acceptance” for a registered study at Frontiers in Cognition. During Review rounds, used the link to the project page so reviewers could download data and syntaxes to verify work.
 - “Openness forces you to very organized, and it speeds up the review process because reviewers can find all information with one link.”



<https://osf.io/wbpae/>

Open Science Framework – How are Others Using OSF?



- Lorne Campbell, PhD – uses OSF to manage Lab Activities
 - Allows easy creation of templates for laying out future lab projects
 - Reminds lab members of the steps involved in the research process
 - Quick feedback from colleagues w/out having to wait for a conference or peer review
- Erica Baranski, PhD Student – uses OSF in the lab
 - Organizes materials for each ongoing study. Every lab member has access to everything all at once
 - Helps facilitate organized and efficient lab meetings.
 - Uses Wiki as a means to keep records of tasks to be accomplished between lab meetings



<https://osf.io/8dvhe/>

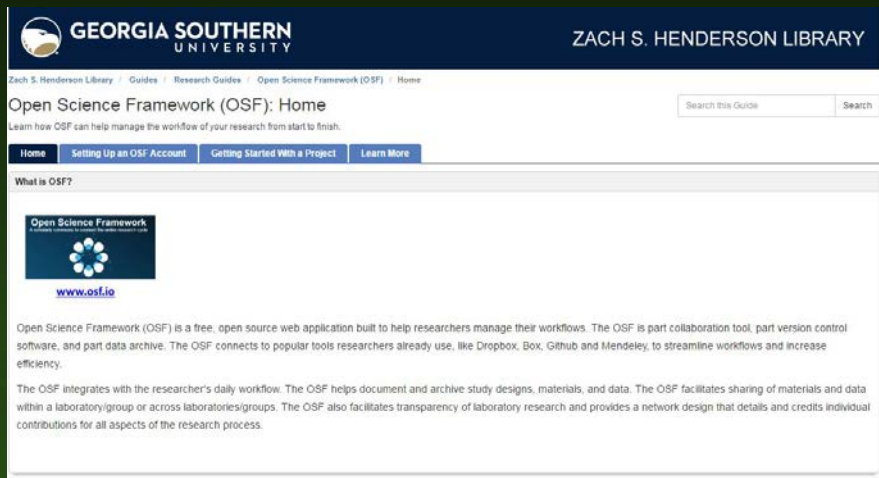
Open Science Framework – How are Others Using OSF?

- Anne Allison – Associate Professor of Biology uses OSF in the Classroom
 - Uses OSF to manage authentic research projects that have been integrated into a biology laboratory course.
 - Requires all students to use the OSF to manage their entire research workflow
 - OSF creates a centralized hub of information enabling overseeing a diversity of research projects across multiple classes and many students
 - Version control will be helpful to track projects from one semester to the next



Open Science Framework – Getting Started

- **Research Guide** Developed to help walk you through the steps to **Setting up an Account** and formatting your first **Project**.
 - Library Home Page: library.georgiasouthern.edu
 - Research Guides
 - Type OSF in the search box
 - OR use the **Direct URL** provided below
 - Guide is tabbed to provide **Point of Need** Help



<http://georgiasouthern.libguides.com/OSF>

Digital Commons @ Georgia Southern



“Open access digital collection whose purpose is to collect and disseminate the intellectual and creative output of the University’s faculty, staff and students.”

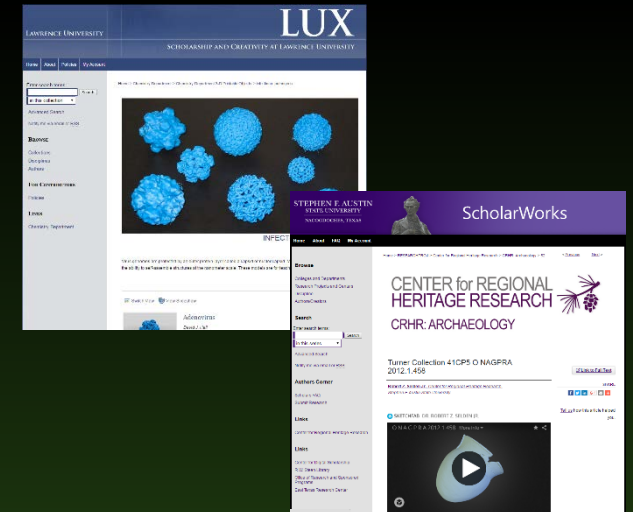
Contributions include theses/dissertations, conference proceedings, research publications, datasets, brochures, and newsletters.”

<http://digitalcommons.georgiasouthern.edu/>

Digital Commons for Research Data

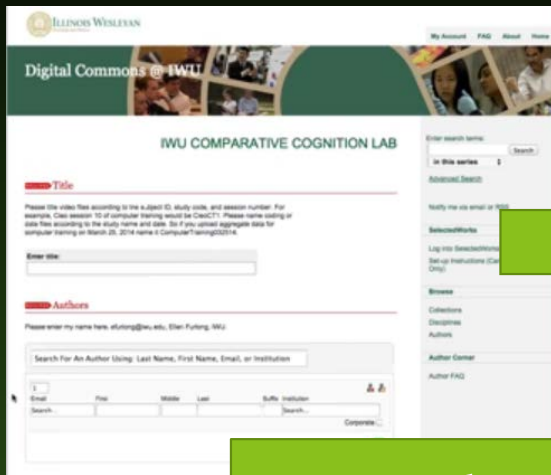
Comprehensive hosted solution for storing, managing, securing, and sharing data:

- Unlimited storage.
- Support for all file types and formats.
- Authorization and access-control tools.
- Fully hosted: no IT resources required.
- Multiple back-ups, cloud storage, and quarterly archives.



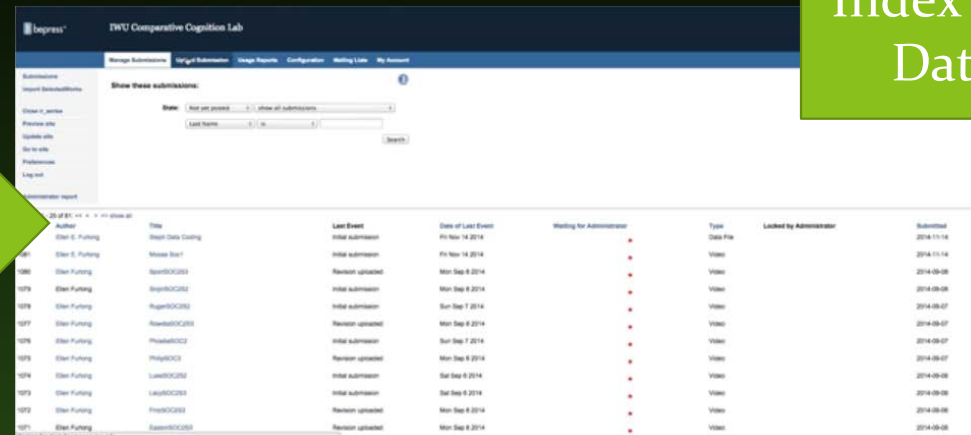
Working Data Collection and Deposit

- Digital Commons staff create a password-protected data management “structure” where data objects can be uploaded, described according to the project’s metadata requirements, and retrieved for evaluation.



The screenshot shows the 'Digital Commons @ IWKU' website. The main heading is 'IWKU COMPARATIVE COGNITION LAB'. Below this, there is a 'Title' section with instructions: 'Please enter the video title according to the subject ID, study code, and session number. For example, Case session 10 of comparative training would be CaseC17. Please name setting or case files according to the study name and date. Do I only upload aggregate data for computer training on March 20, 2014 name I ComputerTraining020114.' There is an 'Enter title' text box. Below that is an 'Authors' section with instructions: 'Please enter my name here: elufung@iwi.edu, Elan Fung, IWKU'. There is a 'Search for an Author Using: Last Name, First Name, Email, or Institution' text box. At the bottom, there is a table with columns: 'Email', 'First', 'Middle', 'Last', 'Suffix', 'Institution', and 'Search'. There is a 'Go' button and a 'Compare' button.

Password Protected
Ingest Form



The screenshot shows the 'Index of Collected Data Objects' page. The page has a header 'IWKU Comparative Cognition Lab' and a navigation bar with links: 'Manage Submissions', 'Upload Submissions', 'Manage Records', 'Configuration', 'Waiting Lists', and 'My Account'. The main content area is titled 'Show these submissions:' and has a search bar. Below the search bar is a table with columns: 'Title', 'Last Event', 'Date of Last Event', 'Waiting for Administrator', 'Type', 'Locked by Administrator', and 'Submitted'. The table contains 10 rows of data.

Title	Last Event	Date of Last Event	Waiting for Administrator	Type	Locked by Administrator	Submitted
Blank Data Coding	Initial submission	Fri Nov 14 2014	*	Data File		2014-11-14
Blank Data Coding	Review updated	Fri Nov 14 2014	*	Video		2014-11-14
Blank Data Coding	Initial submission	Mon Sep 8 2014	*	Video		2014-09-08
Blank Data Coding	Review updated	Mon Sep 8 2014	*	Video		2014-09-08
Blank Data Coding	Initial submission	Sun Sep 7 2014	*	Video		2014-09-07
Blank Data Coding	Review updated	Mon Sep 8 2014	*	Video		2014-09-07
Blank Data Coding	Initial submission	Sun Sep 7 2014	*	Video		2014-09-07
Blank Data Coding	Review updated	Mon Sep 8 2014	*	Video		2014-09-07
Blank Data Coding	Initial submission	Sat Sep 6 2014	*	Video		2014-09-06
Blank Data Coding	Review updated	Mon Sep 8 2014	*	Video		2014-09-06

Index of Collected
Data Objects

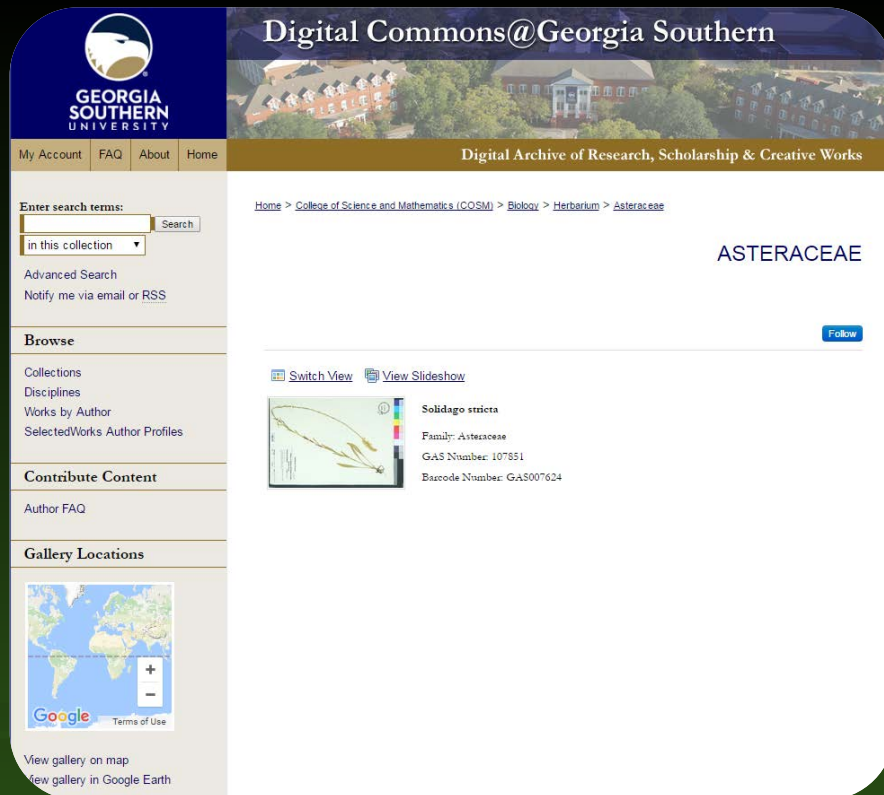
Archiving and Publication

- Once ready for publication, data objects are re-described, assigned DOIs if needed, and released to the public website.
- Update versions and file types as needed.
- Host on university, departmental, or project-related data structure.
- Backup and Archiving is automatic.
- Links are permanent.
- Link to SelectedWorks profile.



Example Projects

- Multi-campus faculty project...
- Student thesis project...



The screenshot shows the Digital Commons@Georgia Southern website. The header includes the Georgia Southern University logo and the title "Digital Commons@Georgia Southern". Below the header is a navigation bar with links: "My Account", "FAQ", "About", and "Home". The main content area displays the title "ASTERACEAE" and a "Follow" button. A search bar is visible on the left, and a "Browse" section lists "Collections", "Disciplines", "Works by Author", and "SelectedWorks Author Profiles". A "Contribute Content" section includes an "Author FAQ". A "Gallery Locations" section shows a map of the United States. The main content area also features a "Switch View" and "View Slideshow" button, and a "Solidago stricta" entry with a family name, G.S. Number, and Barcode Number.




The screenshot shows the Digital Commons@Georgia Southern website. The header includes the Georgia Southern University logo and the title "Digital Commons@Georgia Southern". Below the header is a navigation bar with links: "My Account", "FAQ", "About", and "Home". The main content area displays the title "AFRICAN AMERICAN FUNERAL PROGRAMS, WILLOW HILL HERITAGE & RENAISSANCE CENTER, BULLOCH COUNTY, GEORGIA". A search bar is visible on the left, and a "Browse" section lists "Collections", "Disciplines", "Works by Author", and "SelectedWorks Author Profiles". A "Contribute Content" section includes an "Author FAQ". The main content area also features a "Switch View" and "View Slideshow" button, and a "Solidago stricta" entry with a family name, G.S. Number, and Barcode Number.



OSF & Digital Commons

- Together, OSF & Digital Commons addresses data management planning needs and funder requirements.
 - OSF provides a comprehensive management tool for your working data and research workflows.
 - Digital Commons provides redundancy and fulfills long-term archiving and access requirements.
 - Both platforms encourage sharing and open access.

Data Management Services @ Henderson Library

**GEORGIA SOUTHERN
UNIVERSITY**


ZACH S. HENDERSON LIBRARY


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Data Management Services: Overview

[Overview](#) | [Data Management Planning](#) | [Collecting and Working with Data](#) | [Curating and Sharing Your Data](#) | [Links, Workshops, Training and Tools](#)

Get Help Now!
[Contact Jeffrey Mortimore, Discovery Services Librarian.](#)

Publish Your Data
Studies show that sharing your research data increases your impact. Partner with the library to take your data public, through Digital Commons @ Georgia Southern, OpenICPSR, or whatever data repository best fits your data.


Upcoming Workshops
See our current schedule of spring 2017 lunch-N-leans and workshops, or register for a one-hour Introduction to ICPSR anytime.
[Site Map](#)

Significant portions of this guide are adapted from the Cornell University Research Data Management Services Group website under a Creative Commons Attribution 4.0 International License.

Data Resources & Services throughout the Research Lifecycle

Plan & Propose
To get the most out of your data, plan early how you will collect, use, and share it. Many funders now require data management plans (DMPs), and many publishers require that data be made publicly available.


- See our guide to data management planning
- See funder and publisher data requirements
- Use DMPTool, an online tool for creating DMPs
- Download our generic DMP template and outline
- See example DMPs
- Read our DMP FAQs

Create & Collect / Analyze & Assure
Ensure that you are following best practices while actively collecting, caring for, and analyzing your data. Host, secure, and share your "working" data in Digital Commons @ Georgia Southern during the active phase of research.

- See our guide to hosting, collecting, and working with data
- See file management recommendations
- Learn about "working" file formats
- Learn about metadata and describing data
- Learn about writing "readme" style metadata

Prepare & Publish / Curate & Share
Prepare your data for deposit and archiving in a data repository like Digital Commons @ Georgia Southern or OpenICPSR.

- See our guide to curating and sharing data
- Learn about preparing tabular data for description and archiving
- See recommended file types for long-term data curation
- Learn about basic intellectual property rights in data management



<http://georgiasouthern.libguides.com/data>