Developing socio-technical collaborations to support researchers at the University of Florida
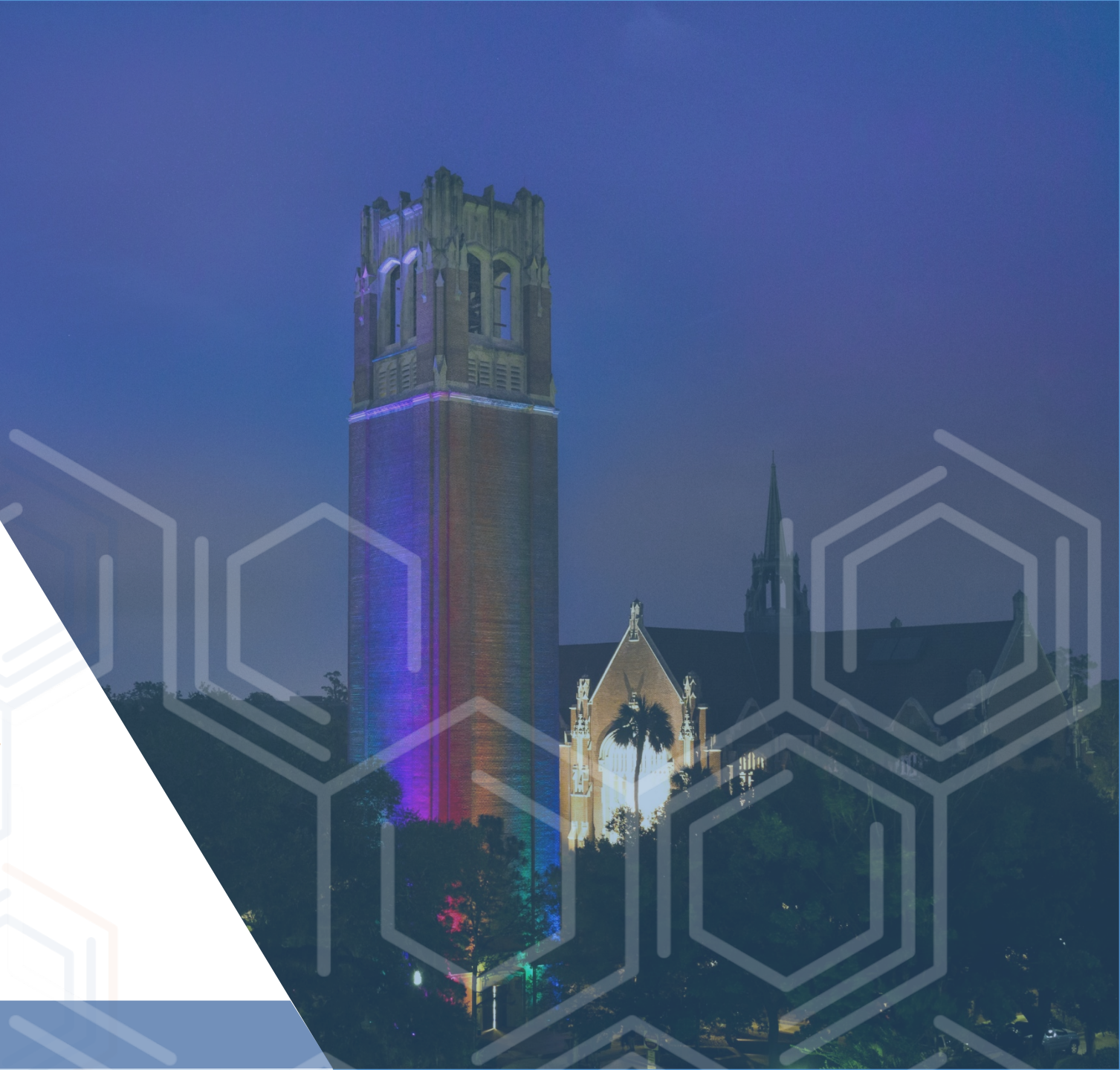
Presenter: Plato Smith, Data Management Librarian
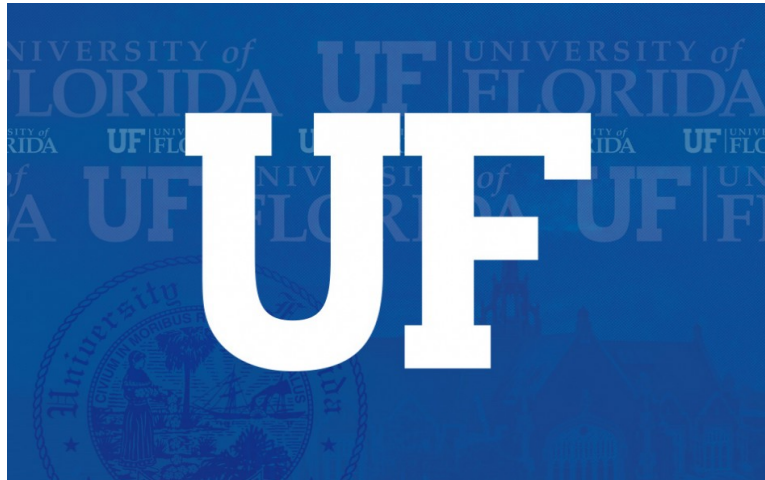
Date: June 15, 2022

Time: 9:35 am – 9:50 am (Paper Session 7)

Event: 42nd IATUL ANNUAL CONFERENCE MIAMI 2022

Location: Virtual

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IATUL 2022

Rise to Five

University of Florida

- Established 1853
- Carnegie classification – R1: Doctoral Universities – Highest Research Activity
- Public land grant university on 2,000 acre campus
- 54,000+ students; 5000+ faculty
- No. 5 for Public Universities in U.S. (U.S. News & World Report Ranking)
- Located in Gainesville, Florida USA
- State University System of Florida

Context

"Plato, I'm always very impressed with your expertise and tenacity, to tackle issues that take years to resolve. The ELN [electronic lab notebook] conversations are a great conversational step forward!" (UF Marston Science Library Senior Leadership, 6/2/2022)

"Organizational change programs often fail because they are too focused on one aspect of the system, commonly technology, and fail to analyze and understand the complex interdependencies that exist [between social and technical systems]." (Leeds University Business School, 2022)

Table of Content

Progression of ELN conversations at a R1 in the southeast USA

RSpace demo (invited UF researchers)

UF Integrated Risk Management Fast Path Solutions Risk Assessment

Senior stakeholders request for an ELN solution

UF Libraries facilitated price quotes for 3 ELNS for IT Director

ELN scope draft submitted to senior leadership (6/10/2022)

Organized an informal ELN meet-up at the 17th IDCC (6/15/2022)

Exploring electronic lab notebooks (ELN) @ UF (2020) Survey

Electronic Research Notebooks Report and Recommendations (8/7/2020)

2020	2021	2022

ELN @ UF inquiry from Heidelberg University associate professor

eLabJournal

UF Integrated Risk Management Fast Path Solutions Risk Assessment

A theoretical framework approach to better understanding research data management

❑ Identification of key stakeholders interested in developing research data management **capacity**

❑ Aggregation of key stakeholders interested in developing research data management **infrastructure**

❑ Interaction with key stakeholders interested in developing research data management **resources**

❑ Collaboration with key stakeholders interested in developing research data management **policy**

Benefits, Costs, Cost Recovery, ROI

Financial/Economic Circumstances

The University, Office of Research, Research Compliance Office, IT Department, Researchers, Academic Units, Libraries

Goals   People

Processes/ Procedures

Buildings/ Infrastructure

HHS, NASA, NIH, NSF, USDA, etc.

Culture   Technology

Stakeholders   Regulatory Frameworks
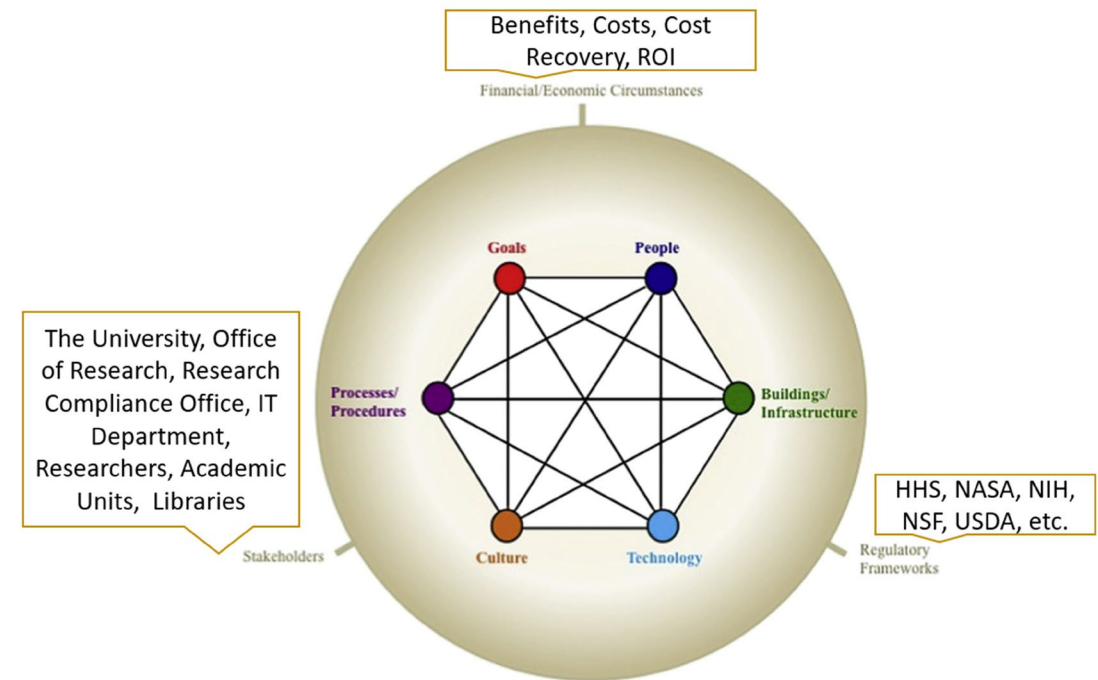
Fig. 1 – Social-technical system embedded within an external environment (Davis et al., 2014)

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Development of select projects related to data management support service efforts at UF

2016 - 2018

- DMP training workshops
- 1st Data Symposium
- UF CEHT grant proposal collaboration (the Libraries as Co-PI)
- NIH NIEHS SRP DMAC
- RDM Task Force invoked

2019 - 2020

- UF Research meetings
- UFRC, UFCTS-IT, UF Libraries conversations
- 1st RDM Policy DRAFT developed (2019)

2021 - 2022

- 1st RDM Policy meetings (2)
- ELN inquiry from Germany
- HHS IR-ORI-22-001 project
- CNI Executive Roundtable
- ELN business model mtg.

Fig. 2 – Select research support services and the role of Libraries

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Electronic Lab Notebook (ELN) and inventories at UF inquiry

❑6/14/2021 – faculty ELN email inquiry from the Department of Infectious Diseases, Virology Heidelberg University (Boulant Lab)

❑6/14/2021 – forwarded inquiry to select key collaborative stakeholders

❑7/22/2021 – Boulant Lab articulated use of eLabJournal at Heidelberg University (Good Laboratory Practice (GLP) compliance)

❑7/28/2021 – recommended Boulant Lab seek University of Florida Integrated Risk Management Fast Path Solutions risk assessment of eLabJournal ELN for open data

Fig. 3 – eLabJournal dashboard (image courtesy of eLabNext)

US Health & Human Services IR-ORI-22-001 Grant Proposal

❑ Funding Opportunity Number: IR-ORI-22-001

❑ Funding Opportunity Title: Ensuring Research Integrity - Research, Development, and Demonstration grant proposal

❑ Funder: Department of Health and Human Services Office of the Assistant Secretary for Health

❑ Category of Funding Activity: Science and Technology and other Research and Development

    ❑ **Submitted**: 3/14/2022

    ❑ **Requested**: $149, 939.50

    ❑ **Goa**l: A goal of the project is to improve practices related to transparency in the conduct and reporting of research through development of resources and tools leveraging institutional-level select Collaborative Institutional Training Initiative (CITI Program) Courses, Figshare, Open Science Framework, select ELN notebooks, and protocols.io.

    ❑ **Status**: Pending Sponsor Review

US Health & Human Services IR-ORI-22-001 Grant Proposal

❑ CITI Program Courses (select)

1. **Research Study Design**
   - ($675 per year/per site for government and non-profit organizations)

2. **Good Laboratory Practice**
   - ($675 per year/per site for government and non-profit organizations)

3. **Data Management and Security for Student Researchers: An Overview**
   - ($300 per year/per site)

4. **Responsible Conduct of Research (RCR) Basic**
   - ($675 per year/per site for government and non-profit organizations)

5. **False Claims Act: A Primer and Guide for Research Organization**
   - ($675 per year/per site for government and non-profit organizations)

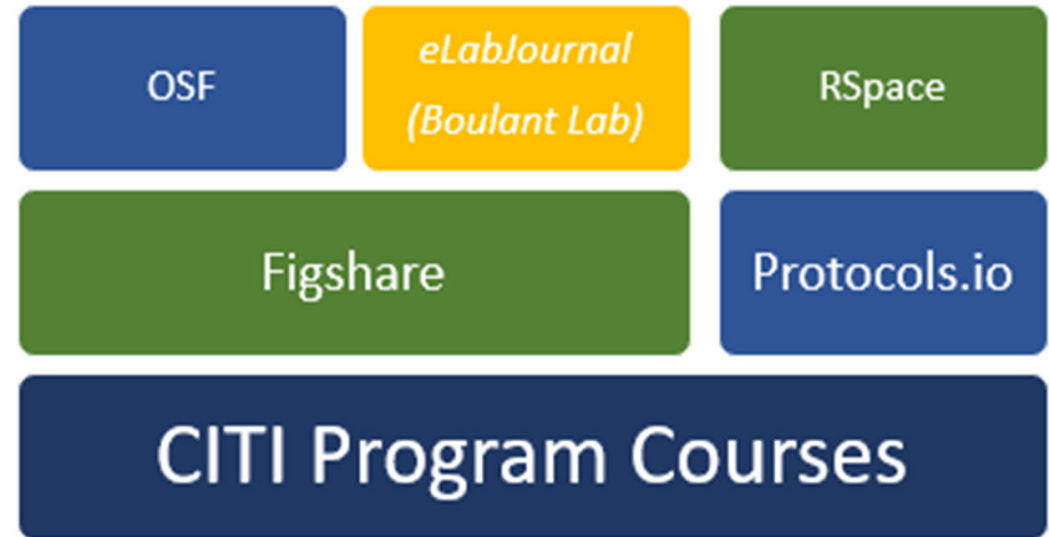| OSF	eLabJournal (Boulant Lab)	RSpace
Figshare		Protocols.io
CITI Program Courses		

Fig. 4 – Proposed IR-ORI-22-001 Project and its ecosystem supporting transparency

Two research questions related to developing good laboratory practice (GLP)

1. What constitutes good laboratory practice in the conduct of research?

2. How can an ELN ecosystem support research related to ensuring research integrity, including good laboratory practice from a data point of view?
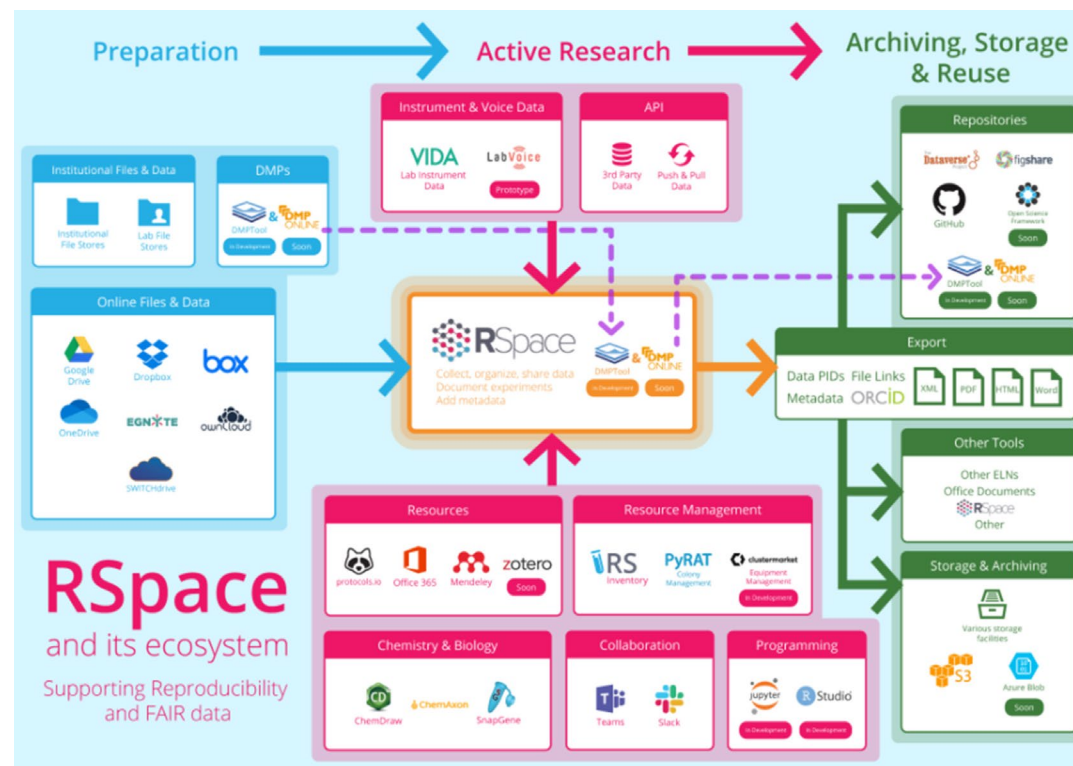

Fig. 5 – RSpace and its ecosystem supporting reproducibility and FAIR data

Select early outcomes in developing data management as research support service

March 2017 Survey
- Investigating Data Assets, Management, and Planning survey
- 153 responses
  - 53% (81) Faculty
  - 22% (34) Graduate
  - 17% (26) Staff
  - 4% (6) Postdoc Fellow
  - 1.3% (2) Resident, (2) Undergraduate, (2) Other

June 2020 Survey
- Electronic Lab Notebook(ELN) survey
- 157 responses
- Top primary college affiliations
  - Agriculture and Life Sciences (64)
  - Medicine (28)
  - Engineering (10)

2020 - 2022
- ARCS Student HiPerGator Access
- Co-PI on grants
- DMP training
- Data repositories
- HHS IR-ORI-22-001
- CNI Executive Roundtable (3/2022)
- IASSIST, IDCC22, IATUL presentations

Fig. 7 – Select data management surveys, outcomes, and projects

Acknowledgements

- Dean of Faculty Affairs and Professional Development at the Medical School
- UF Information Technology Research Computing
- UF Clinical and Translational Science Information Technology
- UF Information Technology
- UF Biology/FLMNH/Research Computing
- UF Clinical and Translational Science Institute (CTSI)
- UF Department of Molecular Genetics & Microbiology
- UF George A. Smathers Libraries
- UF Marston Science Library
- UF Health Science Center Libraries
- RSpace
- eLabNext
- LabArchives

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Thank you

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