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How DesignSafe-CI transformed my research & collaboration workflow

By Lauren Clay

Cyberinfrastructure for Major Facilities: Challenges and a Path Forward

March 2, 2022
CI Compass Cyberinfrastructure for NSF Major Facilities Workshop

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How DesignSafe-CI transformed my research & collaboration workflow

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DesignSafe-CI Data Ambassador

March 2, 2022

Resource for Natural Hazards Researchers

DesignSafe is a comprehensive cyberinfrastructure that is part of the NSF-funded Natural Hazard Engineering Research Infrastructure (NHERI) and provides cloud-based tools to manage, analyze, understand, and publish critical data for research to understand the impacts of natural hazards. The capabilities within the DesignSafe infrastructure are available at no-cost to all researchers working in natural hazards.

Key Functionalities:

Data sharing, curation, & publication | Integrated data analysis

Support for reconnaissance data | Collaboration tools

Engaged Development Process

- DesignSafe-CI Team developed a draft interface for social science research
- Invited social scientists to preview and interact with the draft interface and participate in interviews about functionality and uses

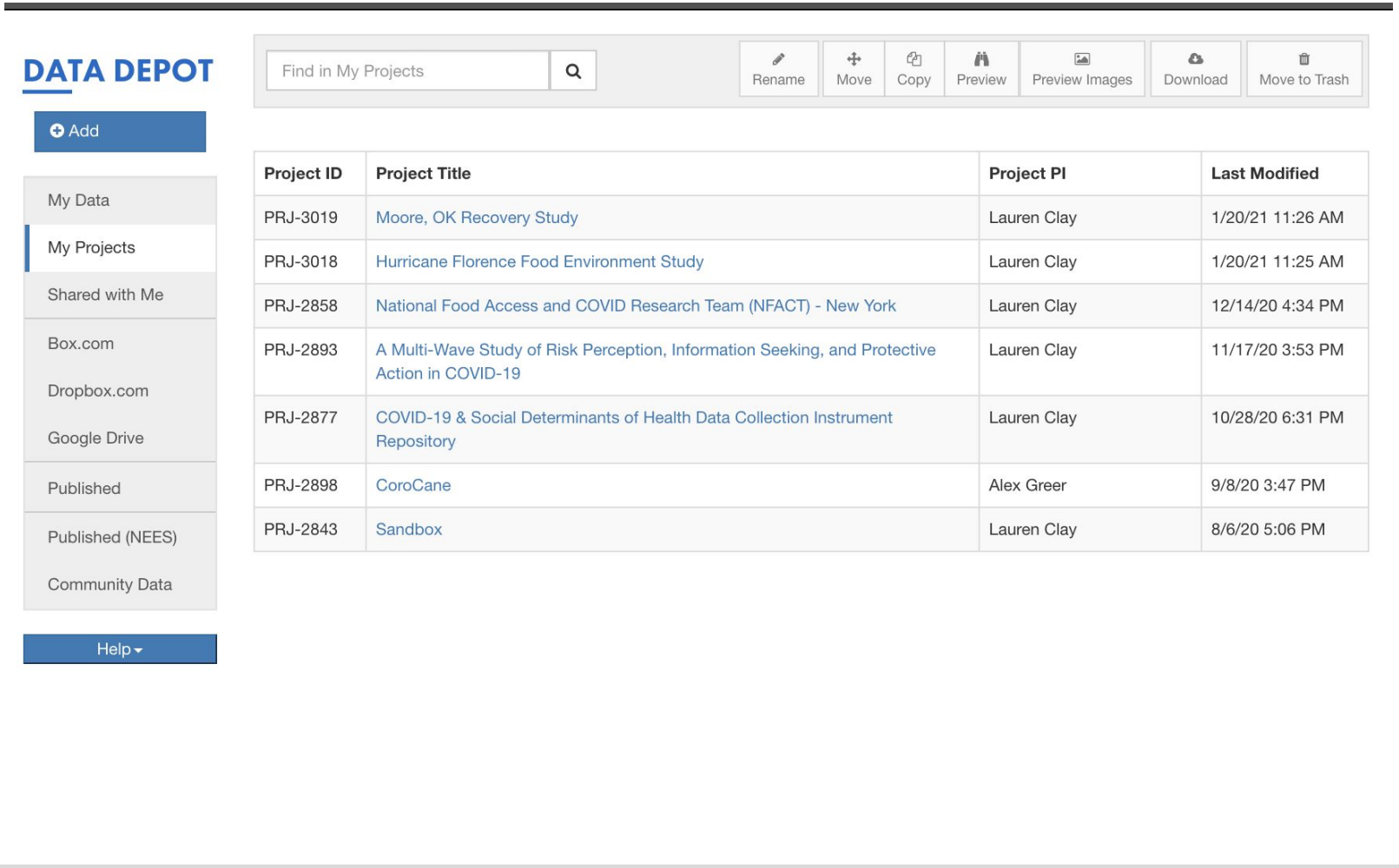
Result: built excitement for the tool & I knew I was the target audience

How I use DesignSafe-CI

END TO END DATA MANAGEMENT

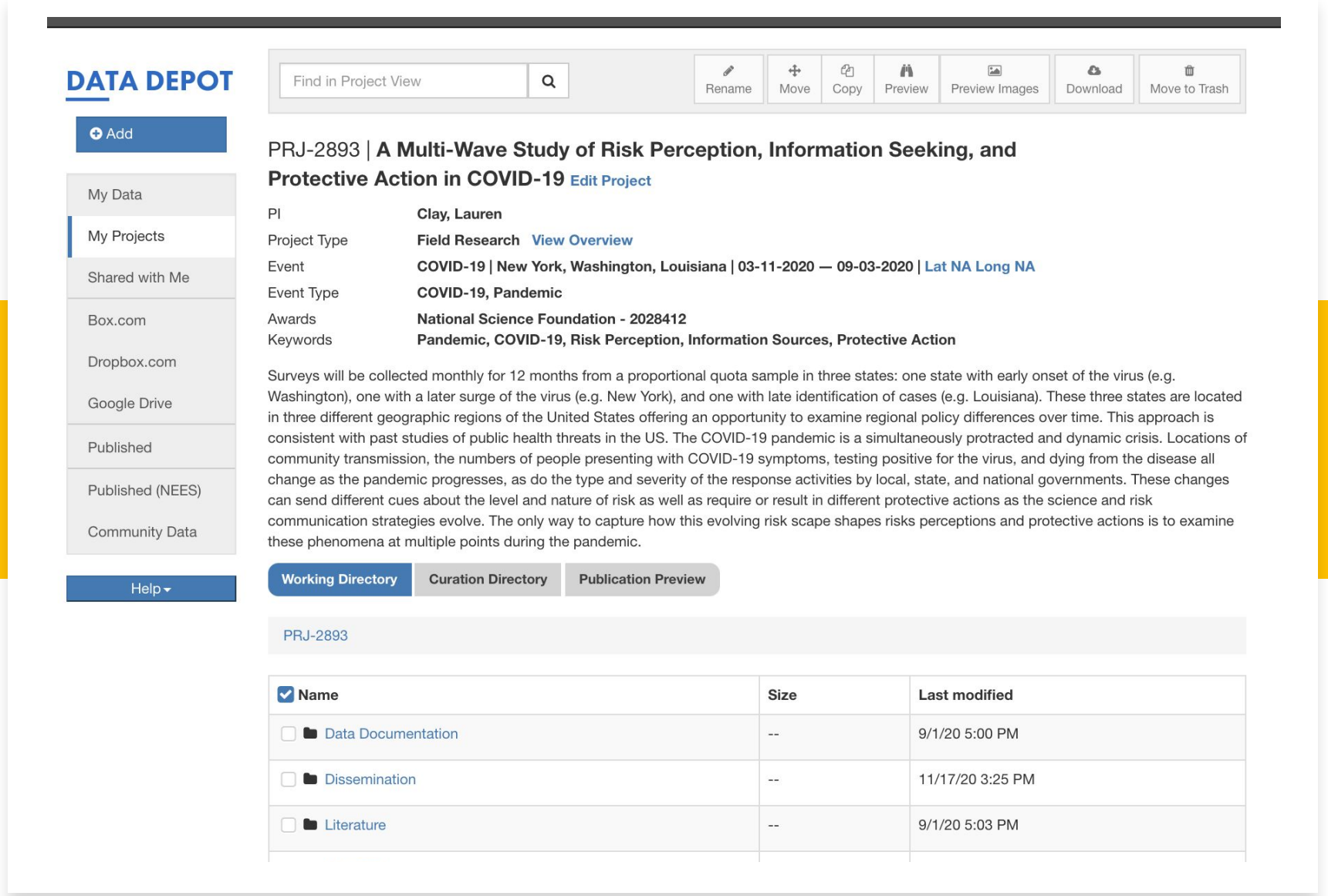
PUBLISHING

The data publishing features are what brought me to DesignSafe-CI, but the end-to-end data management has been transformative for my research and collaboration workflows.



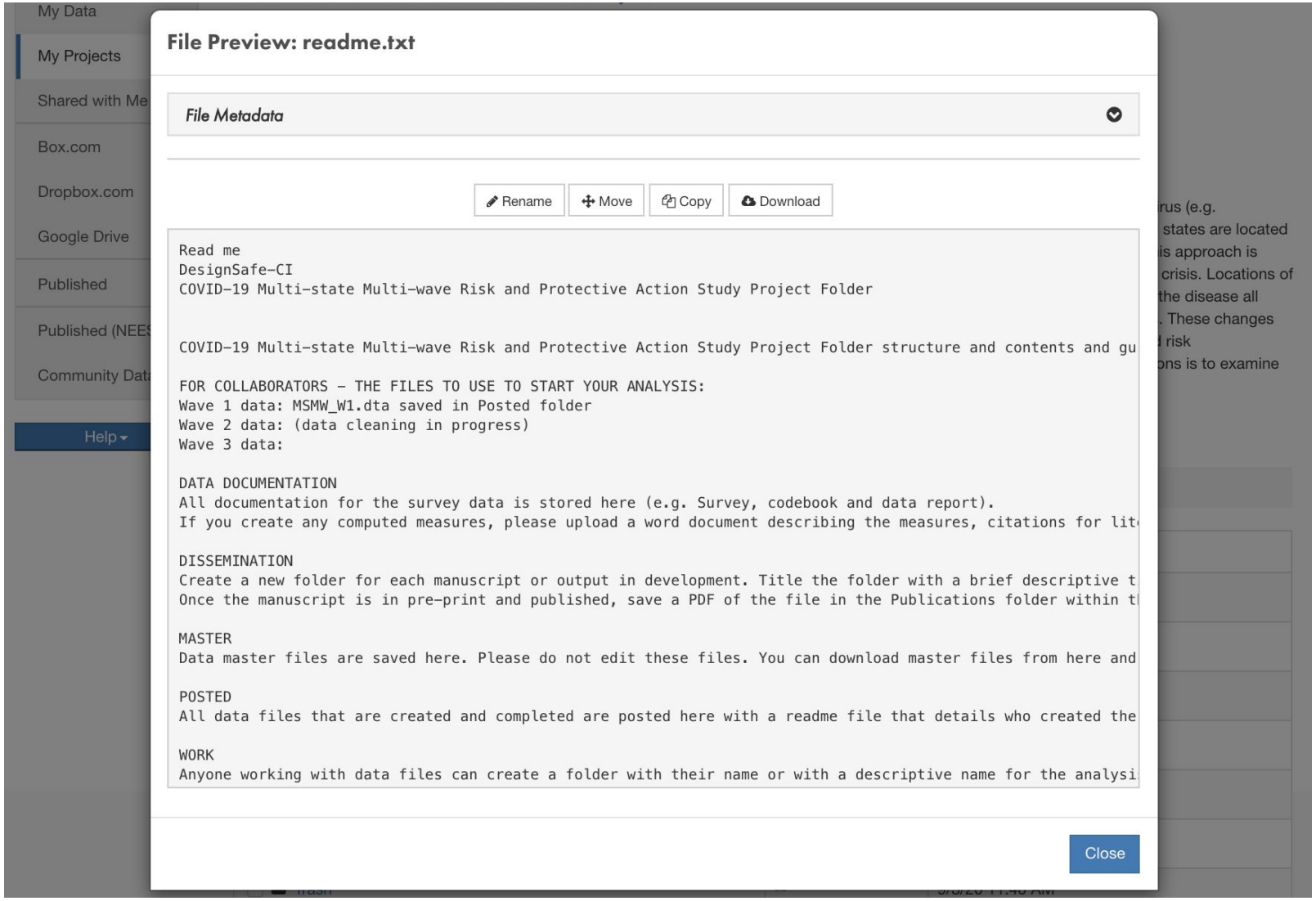
End-to-End Data Management:

MY PROJECTS



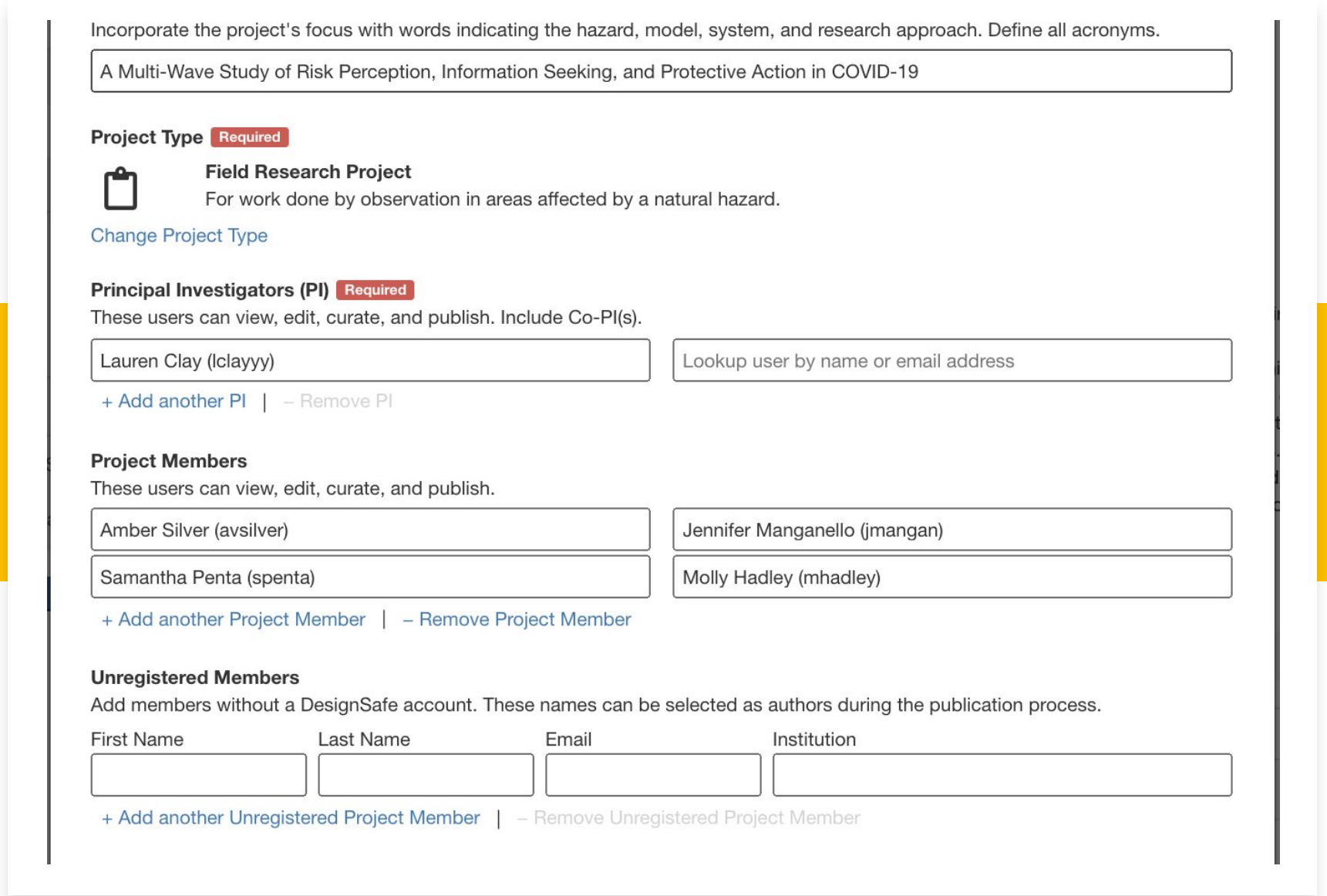
End-to-End Data Management:

INSIDE A PROJECT



End-to-End Data Management:

README FILE GUIDES FOR MY TEAM



End-to-End Data Management:

Cross-Institution Collaboration

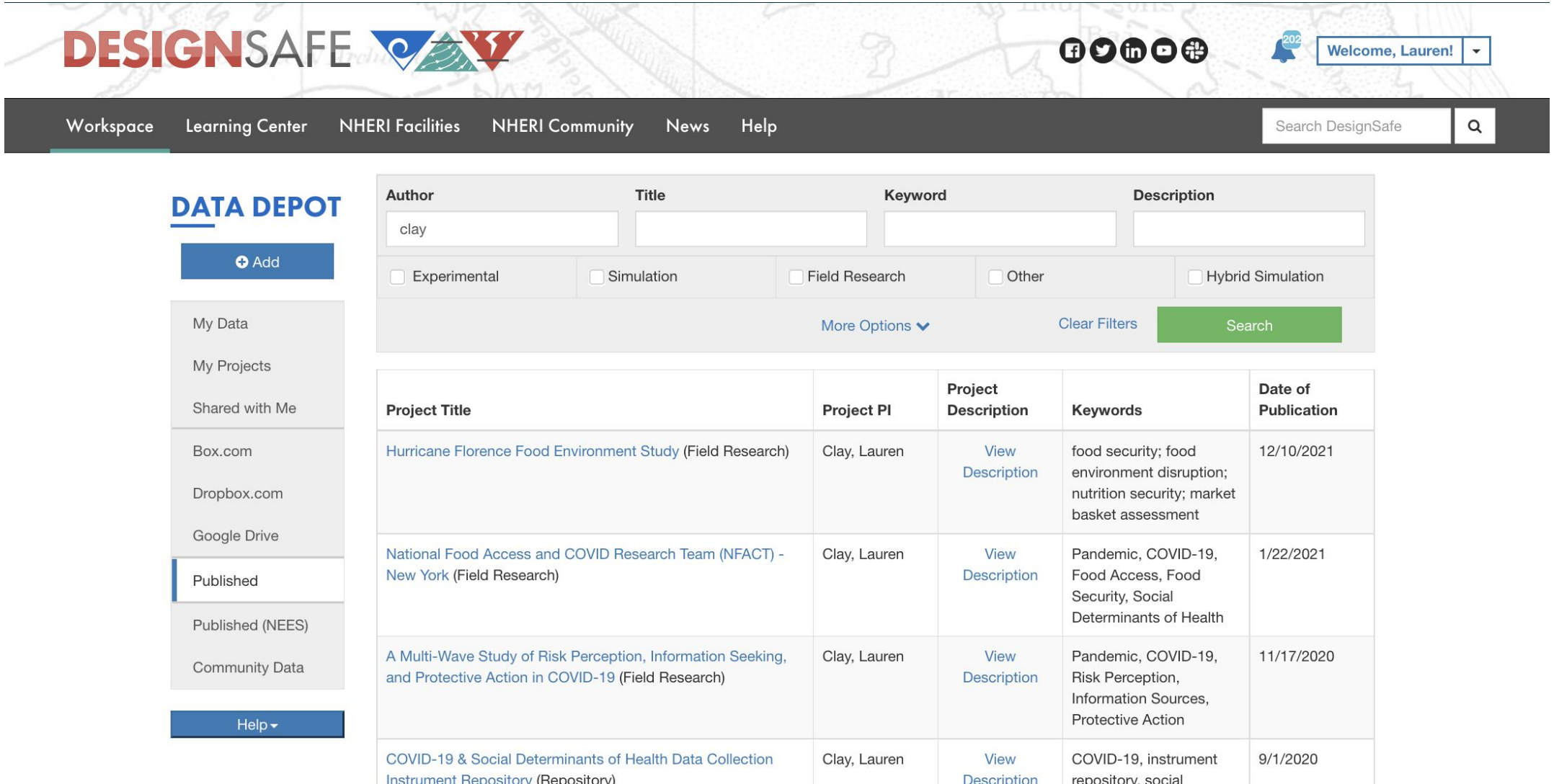
Provides a secure, shared space for data & addresses the questions:

-- *Who owns the data?*

-- *How to securely share data within and across institutions?*

-- *How to move it when people change institutions, graduate?*

Publishing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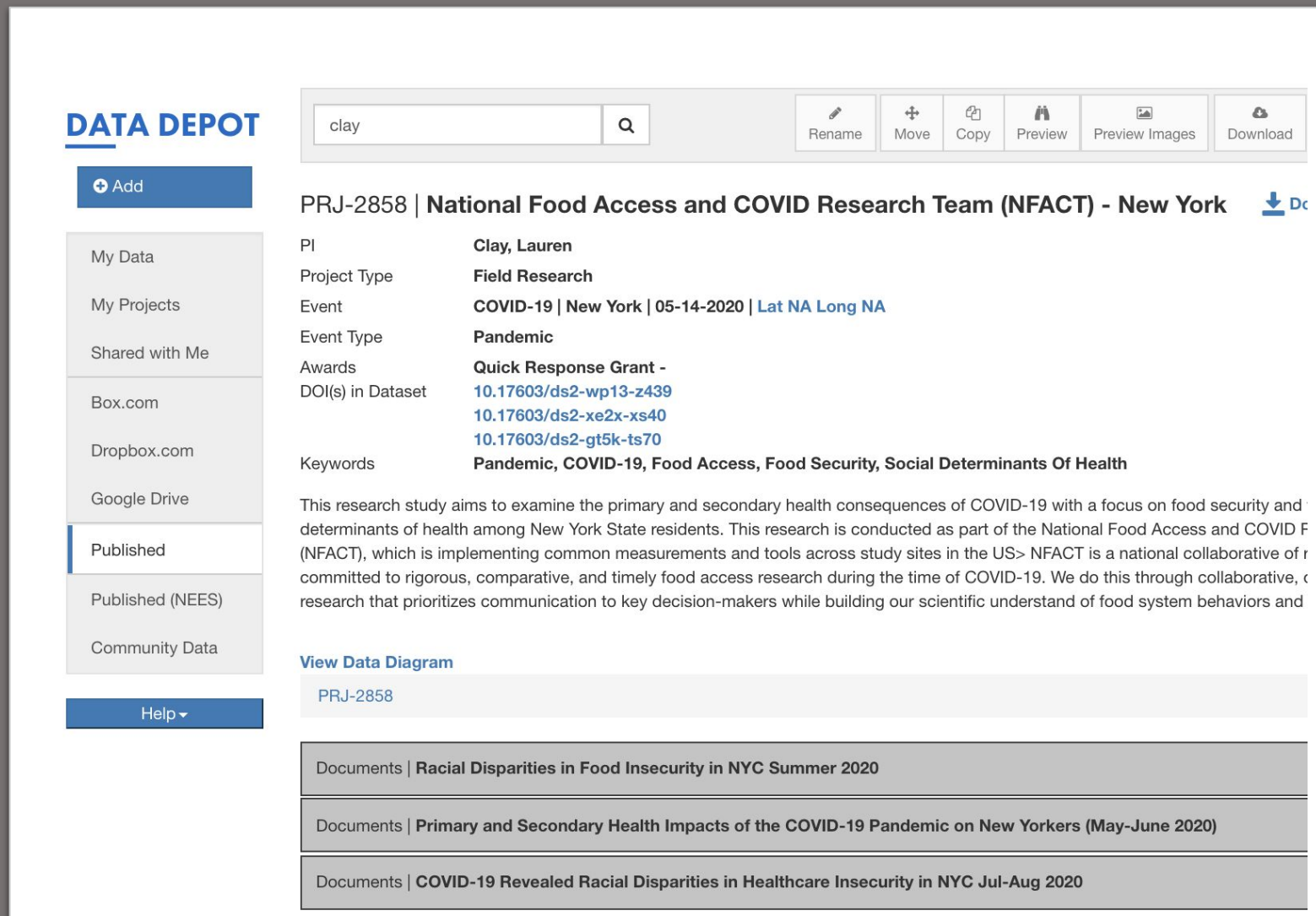
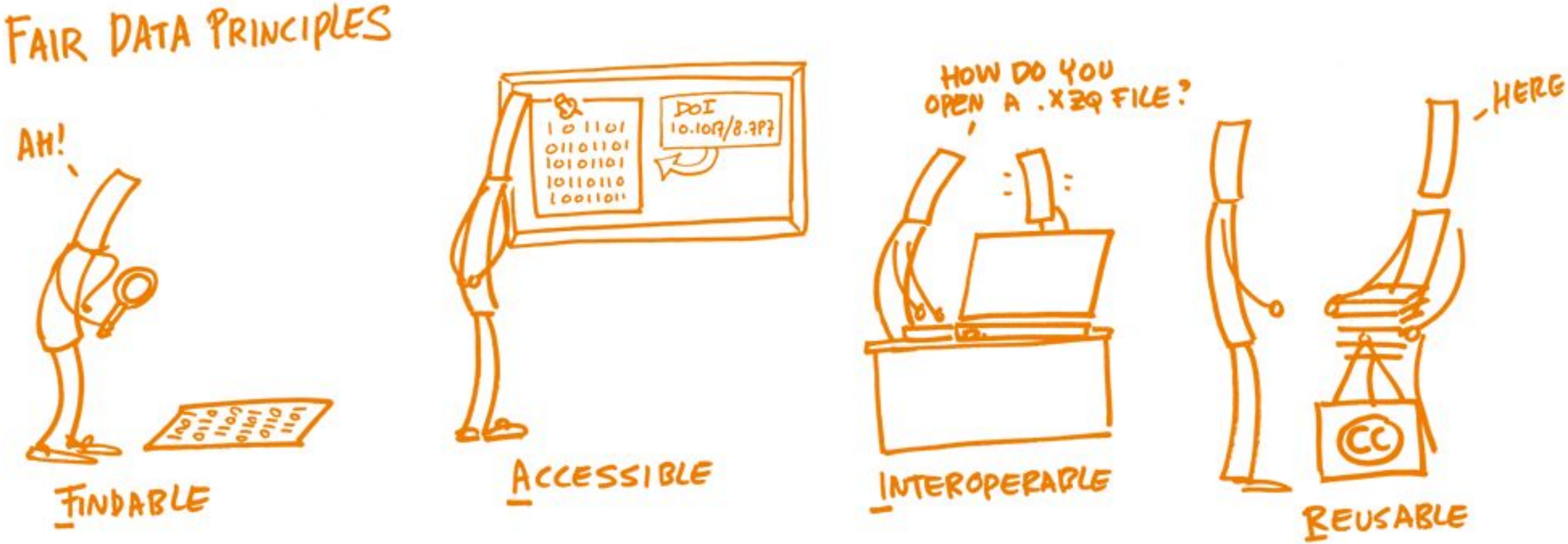
DATA DEPOT
Add
My Data
My Projects
Shared with Me
Box.com
Dropbox.com
Google Drive
Published
Published (NEES)
Community Data
Help
Author
clay
Title
Keyword
Description
Experimental
Simulation
Field Research
Other
Hybrid Simulation
More Options
Clear Filters
Search
Project Title
Project PI
Project Description
Keywords
Date of Publication
Hurricane Florence Food Environment Study (Field Research)
Clay, Lauren
View Description
food security; food environment disruption; nutrition security; market basket assessment
12/10/2021
National Food Access and COVID Research Team (NFACT) - New York (Field Research)
Clay, Lauren
View Description
Pandemic, COVID-19, Food Access, Food Security, Social Determinants of Health
1/22/2021
A Multi-Wave Study of Risk Perception, Information Seeking, and Protective Action in COVID-19 (Field Research)
Clay, Lauren
View Description
Pandemic, COVID-19, Risk Perception, Information Sources, Protective Action
11/17/2020
COVID-19 & Social Determinants of Health Data Collection Instrument Repository (Repository)
Clay, Lauren
View Description
COVID-19, instrument repository, social
9/1/2020



Publishing:
--Research Briefs
--Protocols
--Instruments

DesignSafe-CI Promotes FAIR Data



Data curation process supports Accessibility & Interoperability

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CURATION & PUBLICATION USER GUIDE

Below are step-by-step guides on how to create projects in the Data Depot, and curate and publish work/data across DesignSafe. We offer the following project types when publishing: Experimental, Simulation, Hybrid Simulation, Field Research, and Other. More information on Data Depot policies, project types, and curation/publication can be found at:

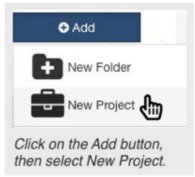
- Data Depot Repository (DDR) Policies
- Best Practices
- Curation & Publication FAQs.

Experimental | Simulation | Hybrid Simulation | Field Research | Other

EXPERIMENTAL

1. Add a Project
2. Add an Experiment
3. Add Categories
4. Relate Data
5. Assign Categories to Files
6. Tag Files
7. Publication Preview
8. Prepare to Publish

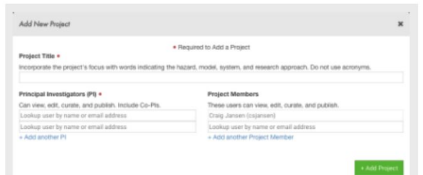
1. Add a Project



Click on the Add button, then select New Project.

You can start a project at the very beginning of its lifespan, upload and curate data incrementally, then publish sets of data at your convenience.

To add a new project, click **+ Add**, then select **New Project**.



In the Add New Project window, fill in a project title and list the principal investigator (PI) and project members.

PIs and project members have the same level of access to the project, but the PI will be listed separately in the metadata. Additional PIs will be listed as Co-PIs.

You can edit all these fields later if you make any mistakes.

Once finished, click **+ Add Project** and you will be taken to your new project in the My Projects tab.

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NHERI VIRTUAL OFFICE HOURS

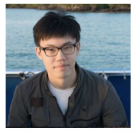
Virtual Office hours is the newest way to connect with experts in the NHERI network. Using the links below, schedule a time to meet with facility personnel to answer your questions. If you don't see the facility you are interested in, email us at eco-feedback@designsafe-ci.org.

DesignSafe Data Depot/Curation

DesignSafe's Data Curator, Dr. Maria Esteva, holds virtual office hours every **Tuesday and Thursday from 1:00pm to 2:00pm CT** (via Zoom) to assist you with your data curation and publication. *Reservations are not required, simply connect to the Zoom feed during this time.*

Connect to Office Hours

Meeting ID: 730 745 593
Passcode: 595633



DesignSafe Workspace

Dr. Joe Vantassel and Dr. Wenyang Zhang hold virtual office hours every **Tuesday from 2:00pm to 3:00pm CT** (via Zoom) to assist you with applying your research using the various Tools & Applications or with managing your files in the Data Depot. *Reservations are not required, simply connect to the Zoom feed during this time.*

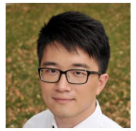
Connect to Office Hours

Meeting ID: 921 9925 2248
Passcode: 776504

Florida International University, Wall of Wind

The Wall of Wind Research Scientists are available to meet with you every **Wednesday between 3:00-5:00 pm EST**.

Sign Up for Office Hours



Lehigh University, Real-Time Multi-Directional Experimental Facility

Lehigh's Dr. Liang Cao is available to answer questions and discuss research proposals **every other Wednesday from 2:00-3:00 pm EST**.

Sign Up for Office Hours

University of California, San Diego, Large High Performance Outdoor Shake Table

Dr. Koorosh Lotfizadeh, NHERI USCD Interim NHERI Operations Manager, is available to answer your questions and discuss research proposals the **first and third Tuesday of the month from 1:00-2:00 pm PDT**.

Contact Dr. Lotfizadeh: klotfiza@ucsd.edu

Sign Up for Office Hours

Oregon State University, O.H. Hinsdale Wave Research Laboratory

Dr. Pedro Lomonaco, Co-Pi and Director of NHERI O.H. Hinsdale Wave Research Laboratory, is available to answer your questions and discuss research proposals. Schedule a time to meet by emailing him below.

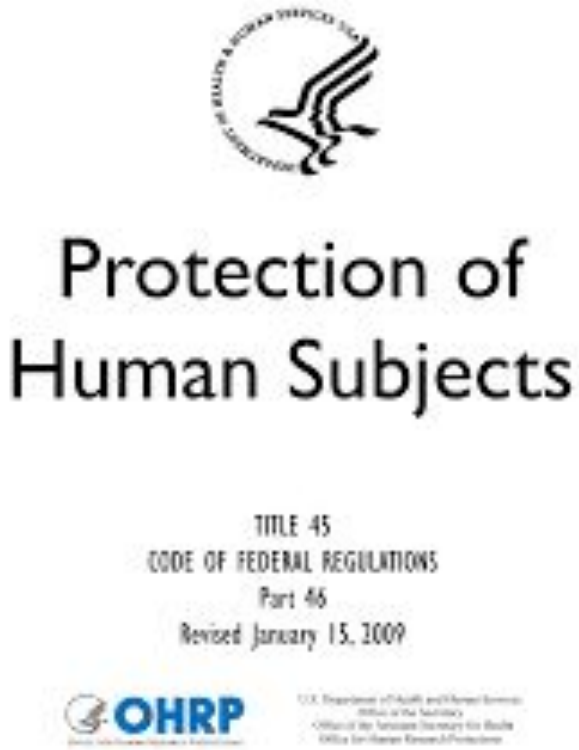
Contact Dr. Lomonaco:
pedro.lomonaco@oregonstate.edu

Publishing

- DOI for citing, listing on CV & FINDABILITY
- Data for REUSE
- Protocols for replication
- Research outputs for dissemination

Data Management Considerations for Social Science/Public Health

- Regulatory challenges with publishing
  - Human subjects data
    - HHS Office of Human Research Protections 45CFR 46
    - Common Rule
  - Qualitative data
    - Deidentification
- Permissions within DesignSafe-CI
  - With human subjects data, need to control access to individual elements within a project



CONTACT | lclay@umbc.edu