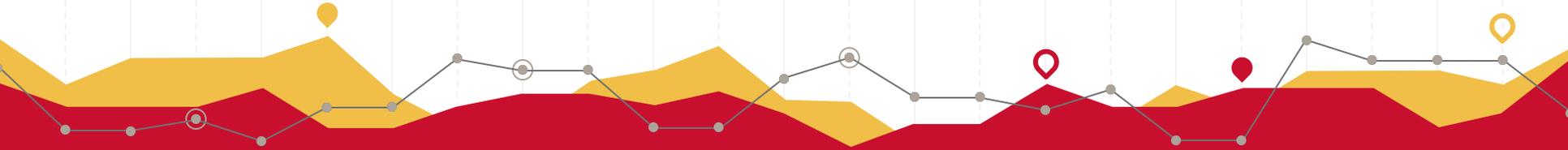


Presented by Iowa State University Library



# Iowa DOT Data Management Plan Training

**Hello!**



Erin Thomas  
Presenter



Kris Stacy-Bates  
Presenter



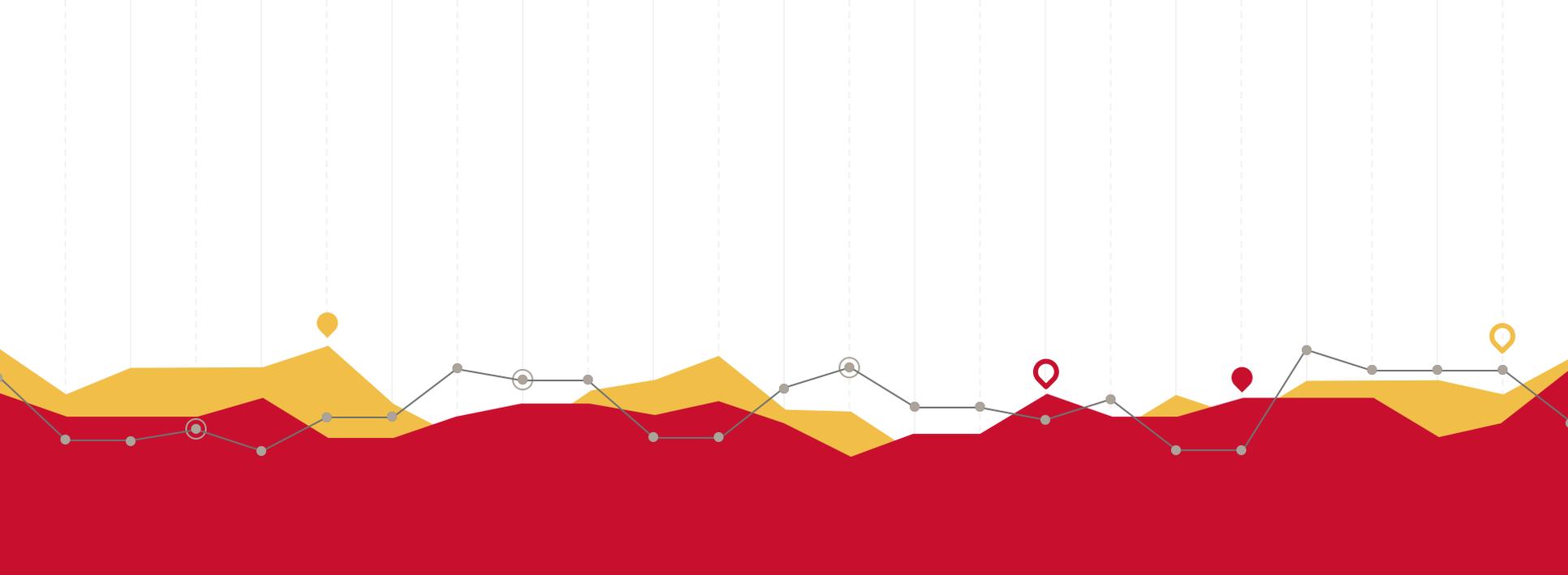
Katie Wampole  
Presenter



Megan O'Donnell  
Host & Zoom Wrangler

## What we're going to do today

- Background
- Parts of the Data Management Plan (DMP)
- Start a draft DMP in DMPTool
- Review Resources
- Q&A



**Why is a DMP important?**

## High Level Goals

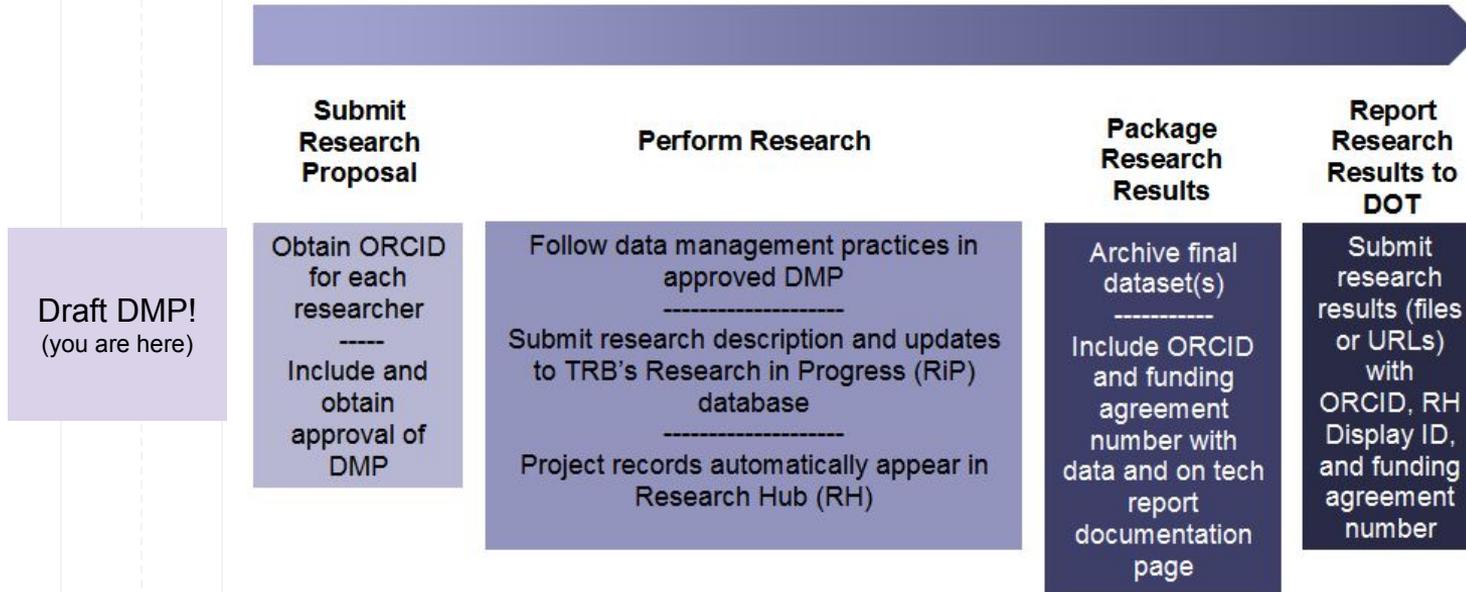
### Funders

- More value for their money.
- Important data is *shared* and *preserved* responsibly and systematically.
- More dependable results.

### Researchers

- Recognition for work that isn't a formal publication.
- Collaboration opportunities.
- More dependable results.

# U.S. DOT Workflow



United States. Department of Transportation. (2022) *DOT Public Access* [Home page]. <https://doi.org/10.21949/1503647>

# Iowa DOT Data Management Plan

- Stacks and aligns with US DOT
- Follows a guidance document
  - <http://publications.iowa.gov/40404/>
- Consists of two parts:
  - Cover Sheet
  - **Narrative** - today's focus

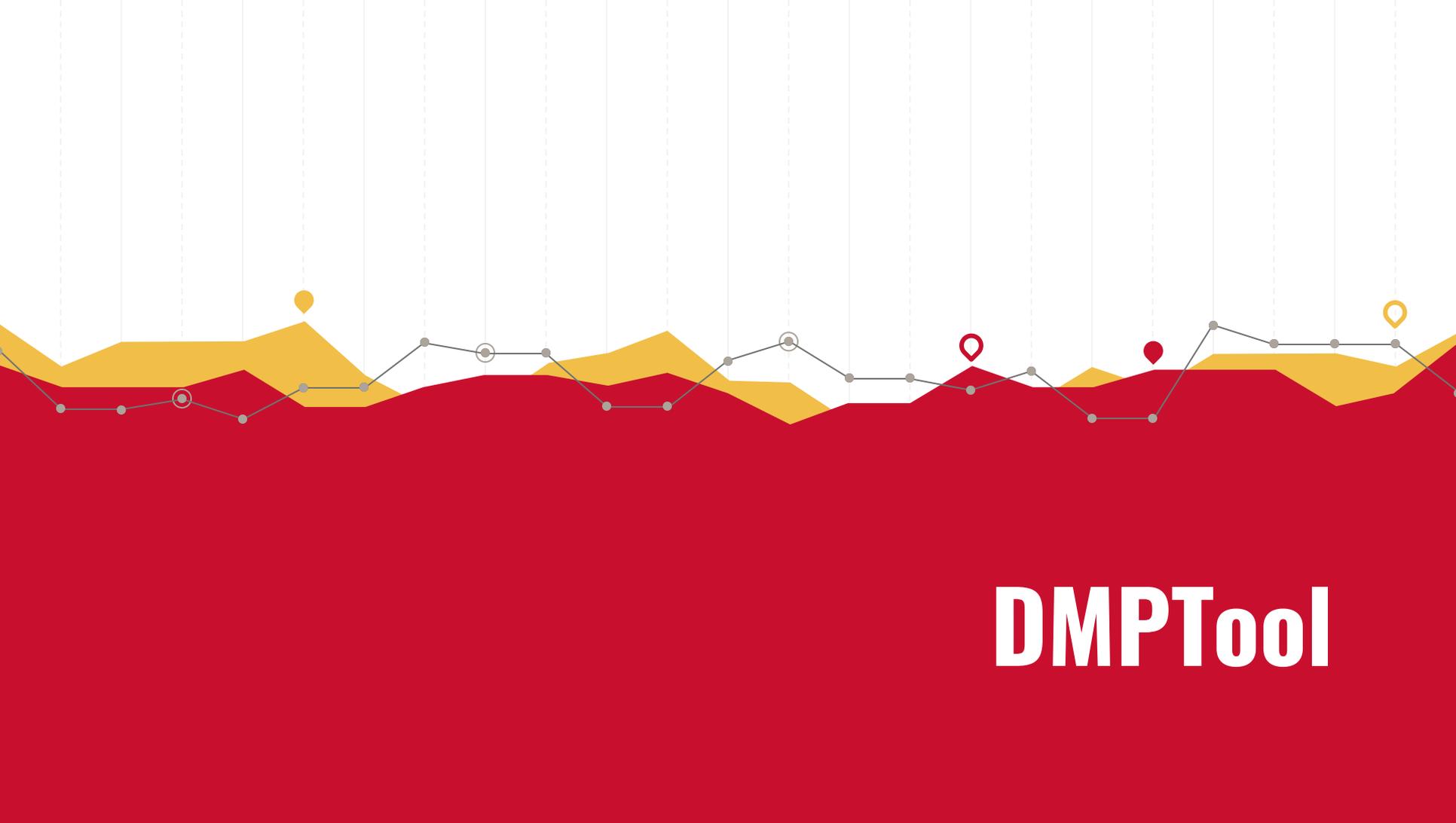
## Data Management Plan (DMP) for Iowa DOT Research Projects

Research Data Management Documentation Table

Name of Principal Investigator(s) or Contractor(s) and ORCID number		
Current Project Title, and all previous project titles		
Iowa DOT Project Manager		
Iowa DOT Project number		
Other contract or grant numbers		
Iowa DOT Research-assigned project Digital Object Identifier (DOI), or researcher acquired DOI		
TRB Research in Progress (RiP) Title, Accession Number, and URL		
Project Duration (projected)	Start Date:	End date:
Do the data management requirements of the US DOT "Plan to Increase Public Access to the Results of Federally-Funded Scientific Research" apply to this project		
Yes or No; and if No, why not:		
Name(s) of Federal funder(s), Funding Program Name(s), Agency Code(s) and/or Contract/Grant numbers		
DMP Version		
Date DMP amended, if any		
Name and ORCID number of each author		
Persistent links or identifiers assigned to this project, datasets, reports, or peer reviewed publications generated by this project		
Name and URL of all peer reviewed publications which have been generated from this project		

This table is to be filled out as completely as possible before the beginning of the project, and updated as needed, including at the end of the project, and after, as derivative publications are created.

[Note: Guidance for using this template can be found at:  
<http://publications.iowa.gov/id/eprint/21913> ]



# DMPTool

## DMPTool Instructions

- Today's workshop includes time to start a draft in DMPTool.
- Visit [dmptool.org](https://dmptool.org) and login or create an account.
- Click Create Plan.
- Chose Iowa Department of Transportation in the last drop-down box.

### Create a new plan

Before you get started, we need some information about your research project to set you up with the best

#### \* What research project are you planning?

2022 Research Project

mock project for te

#### \* Select the primary research organization

Research organization

Begin typing to see a list of suggestions.

- or -  No research organ  
my research organ

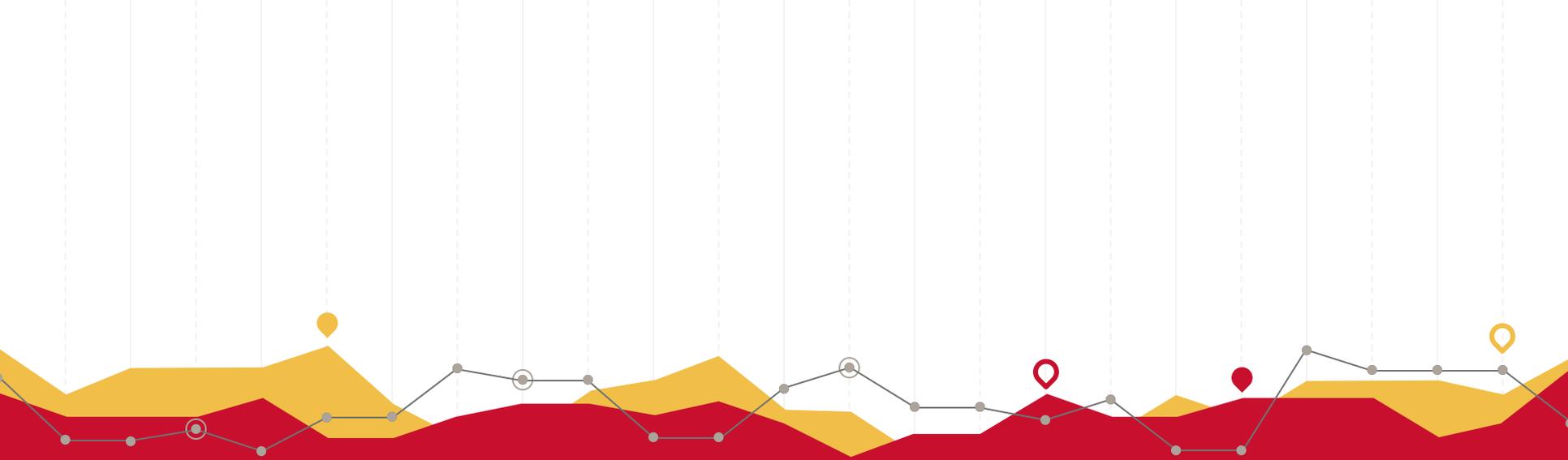
#### \* Select the primary funding organization

Funder

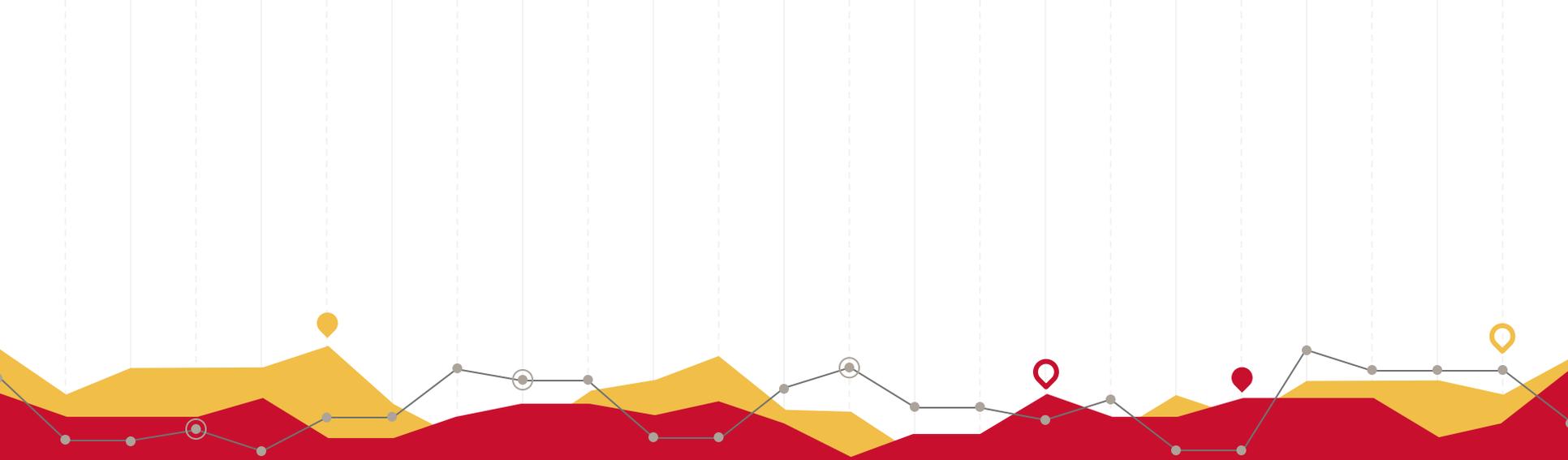
Iowa Department of Transportation

or -  No funder associat  
listed

Create plan Cancel



# Required components of the DMP



# Description

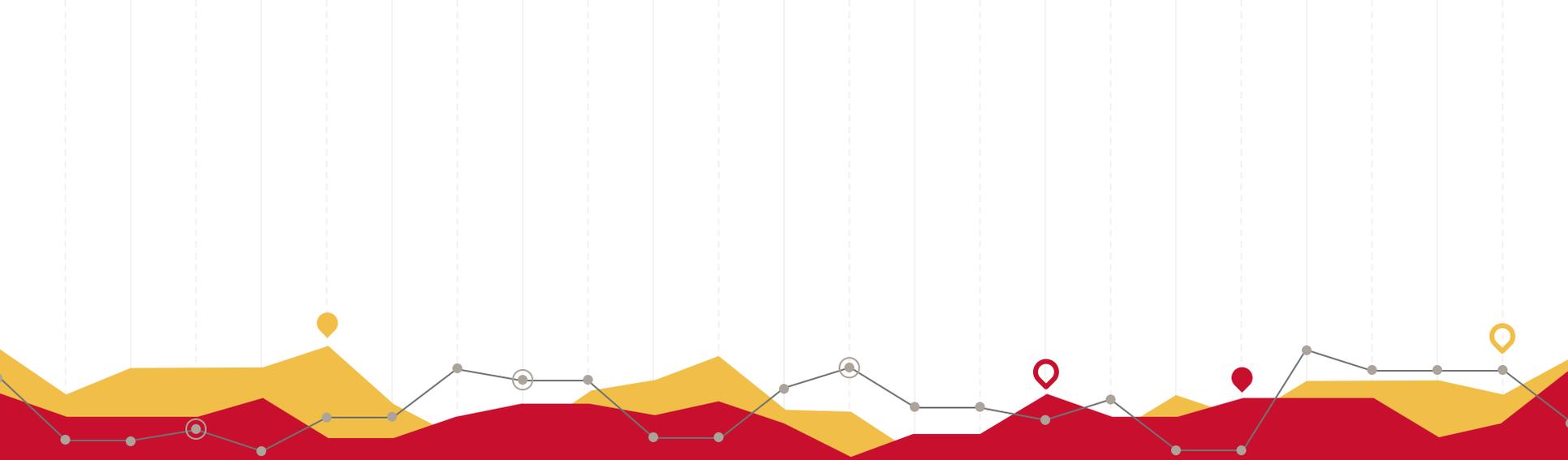
## Technical Information

- Types of data: tabular, sensor, text, imaging, audio-visual, etc.
- Types of file formats: .csv, .txt, .tiff, .pdf, etc.
- Note special tools or software used to work with the data.



## Relational Information

- Additional outputs associated with the data (Papers, reports, etc.)
- Was the data part of a unique event? Or can it be reproduced?
- Give identifiers associated with the data when available (DOI commonly used).



# Documentation & Organization

## Organization Goals

- Stay consistent. Make sure the organization means something.
- Usable by all project members (including yourself).
- Readable by both humans and machines.

## Documentation Goals

- Data is only useful if it has context and meaning.
- Benefit you, your team, and other potential partners/viewers.
  - Where/how data was collected, generated, compiled, etc.
  - What was done to data (raw vs cleaned data).
  - File naming conventions and organization.

# Codebook/Data Dictionary

## ◎ Tabular file that has information about...

An excerpt from a codebook.

Variable_label	Variable_name	Measurement_unit	Allowed_Values
Q24	Question 24: do you own a pet?	Numeric	1 = yes; 0 = no; blank = NULL
Q25	Question 25: Do you like cats?	Numeric	1 = yes; 0 = no; blank = NULL
Q25.1	Question 25 part 1: Why?	None	free text

# README File

## Plain text file that has information about...

### COLLECTION INFORMATION:

**Time period:** Data collected between 2006 and 2019, uploaded to repository in October of 2021

**Location:** Eagle Lake vicinity, Lassen County, California, USA

### FILE DIRECTORY

```
Eagle Lake Physiology
|-> README.pdf
|-> DataCodebook.xlsx
|-> ELPhysData.csv
```

### FILE LIST

- `README.pdf` : README file
- `DataCodebook.xlsx` : Codebook containing explanation of variables found in data file
- `ELPhysData.csv` : Comma-separated file containing information on experimental animals and physiological measures

### DATA COLLECTION METHODS

These data were collected from natural populations of western terrestrial garter snakes (*Thamnophis elegans*). Blood samples were collected at time of capture and following a 3hr capture-restraint protocol (stress-induced). Samples were analyzed for circulating plasma corticosterone, blood glucose, and heterophil-to-lymphocyte ratios. All data were collected under Iowa State University IACUC protocol 3-2-5125-J under Dr. Anne Bronikowski.

### SOFTWARE

Name: R

Version: Macintosh 4.0.2

URL: <https://www.r-project.org/>

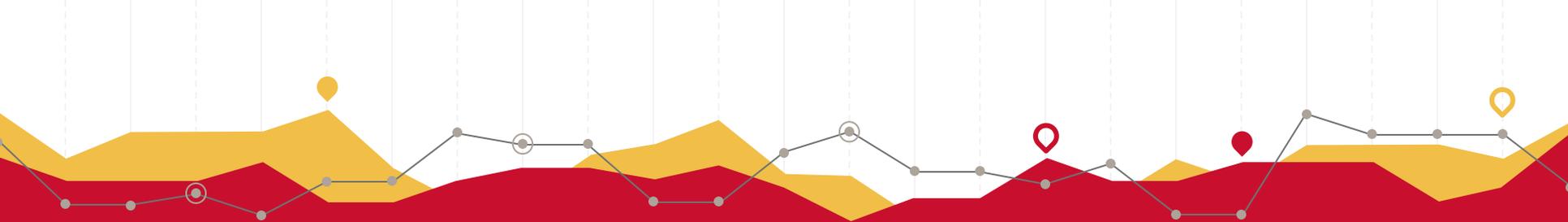
Developer: The R Foundation for Statistical Computing

Name: SAS

Version: 9.4

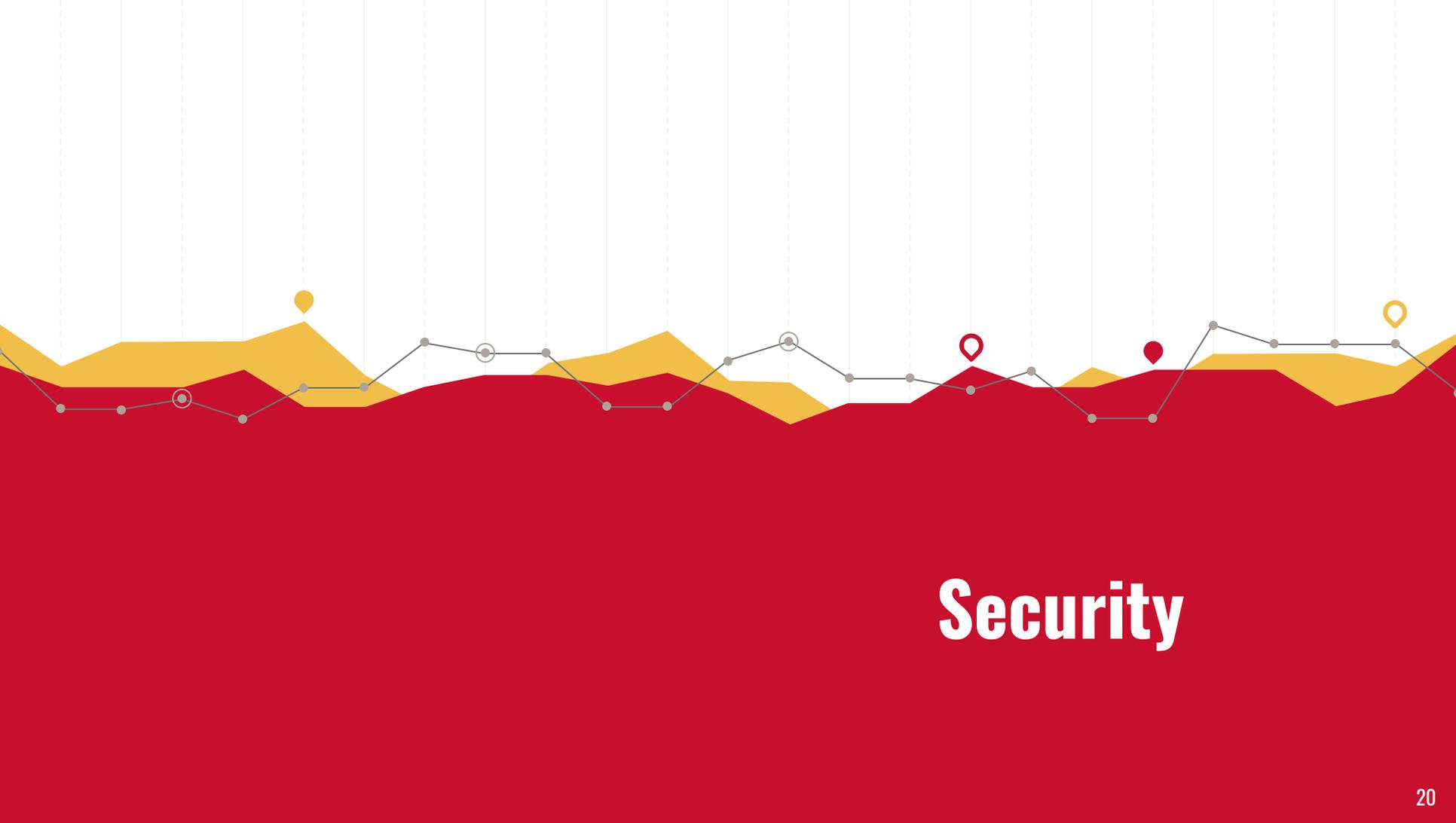
URL: [https://www.sas.com/en\\_us/home.html](https://www.sas.com/en_us/home.html)

Developer: Analytics Software & Solutions



# DMPTool

## Questions 1 and 2



# Security

# Data Security: Physical Considerations

In a disaster situation...

- Do you have backups?
- Who owns your shared/cloud folders?
  - What happens if they leave?

Think about:

- Making multiple backups (3-2-1).
- Using version control.



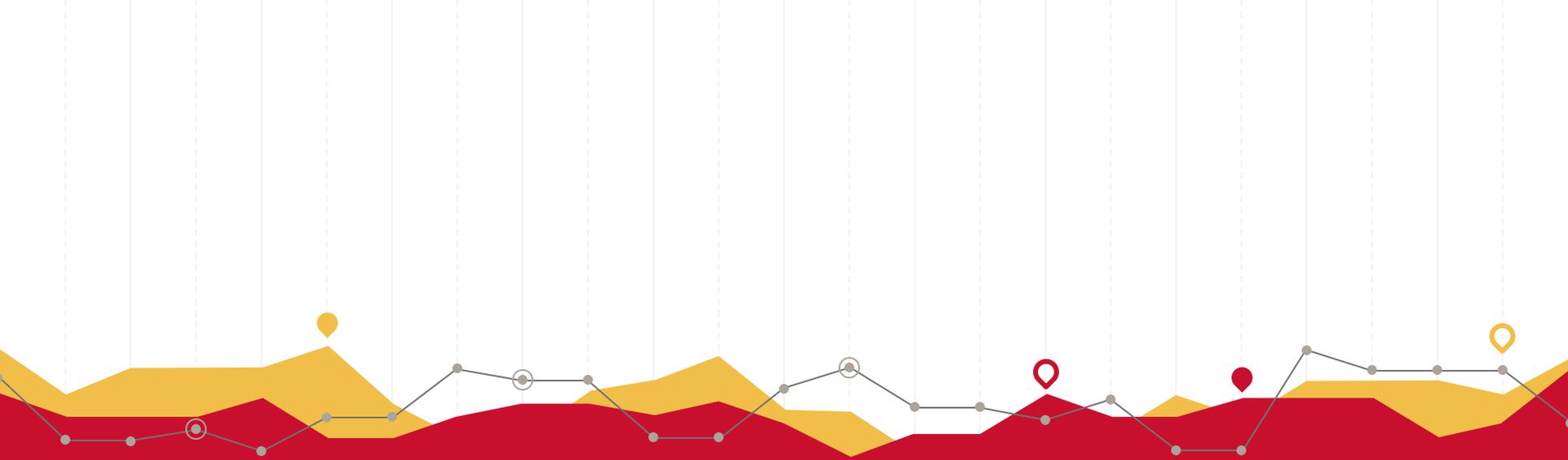
## Security: Access Concerns

Do you have data that might require access restrictions?

- Privacy and confidentiality
- Access limitations
- Safeguards to prevent unauthorized access

Who can help with these concerns?





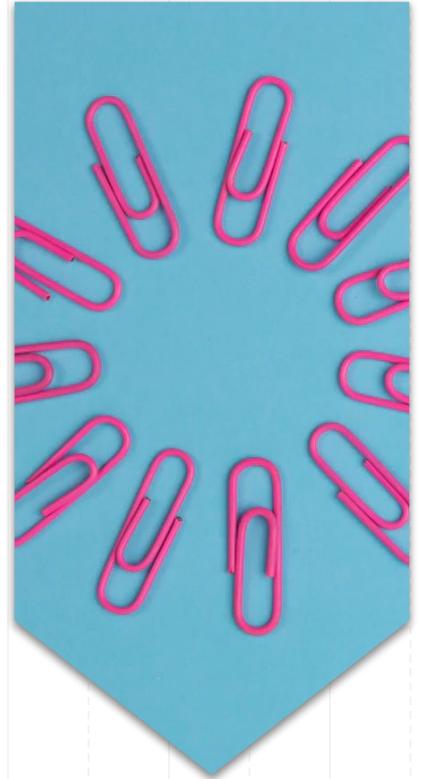
# Sharing



**You don't have to share  
everything.**

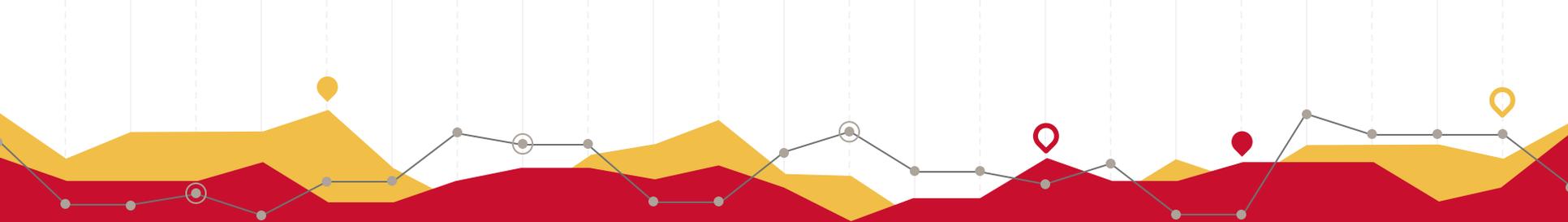
## If you plan to share data...

- **What** data will be suitable to share?
- **When** will it be available?
- **Who** will use the data?
- **How** will they get access?
- Does your documentation support re-use?



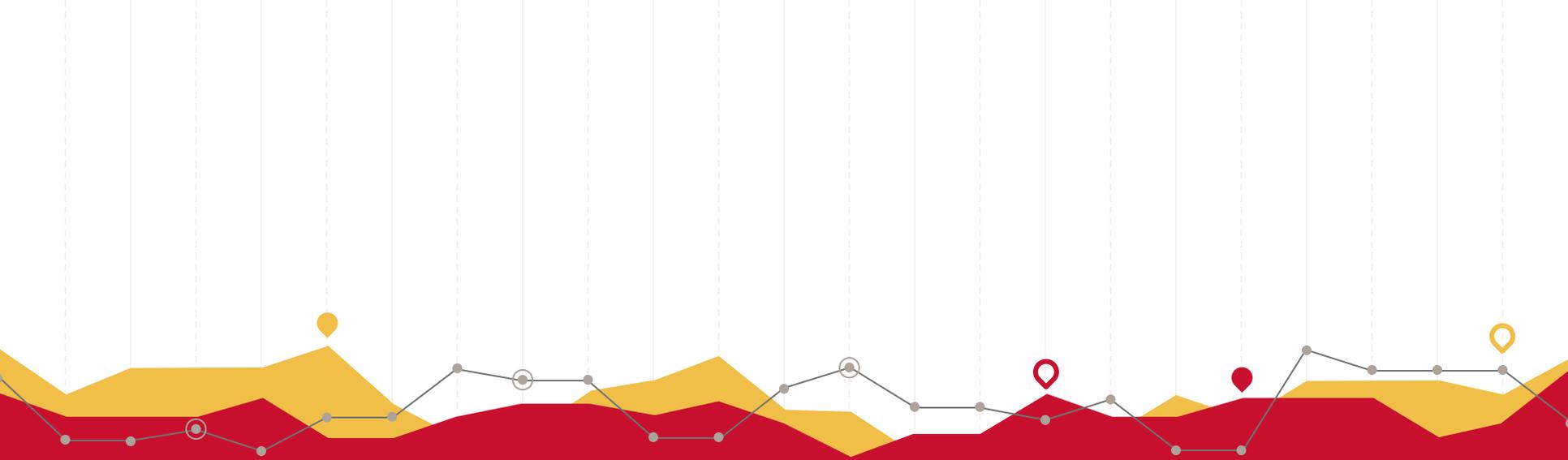
## Keep in mind!

- If you don't share, you should provide a justification for why.
- “Data available upon request” is not a sharing policy.
- Data repository: a support infrastructure for making data available and **findable**.
- Preparing your data for sharing may require additional work.



# DMPTool

## Questions 3 and 4



# Preservation

## What do we mean by preservation?

- Providing for data to be used after research is completed.
- Usually performed by special systems that safeguard file stability, recoverability, and reusability over time.
- Be selective in which data to preserve.



## Keep your data usable for the long term

- Get it out of proprietary file formats.
- Find the data a long-term home that meets requirements and contractual agreements.
- Don't use DIY solutions like lab and project websites - they don't last.
- Do budget for the resources needed for preserving your data.

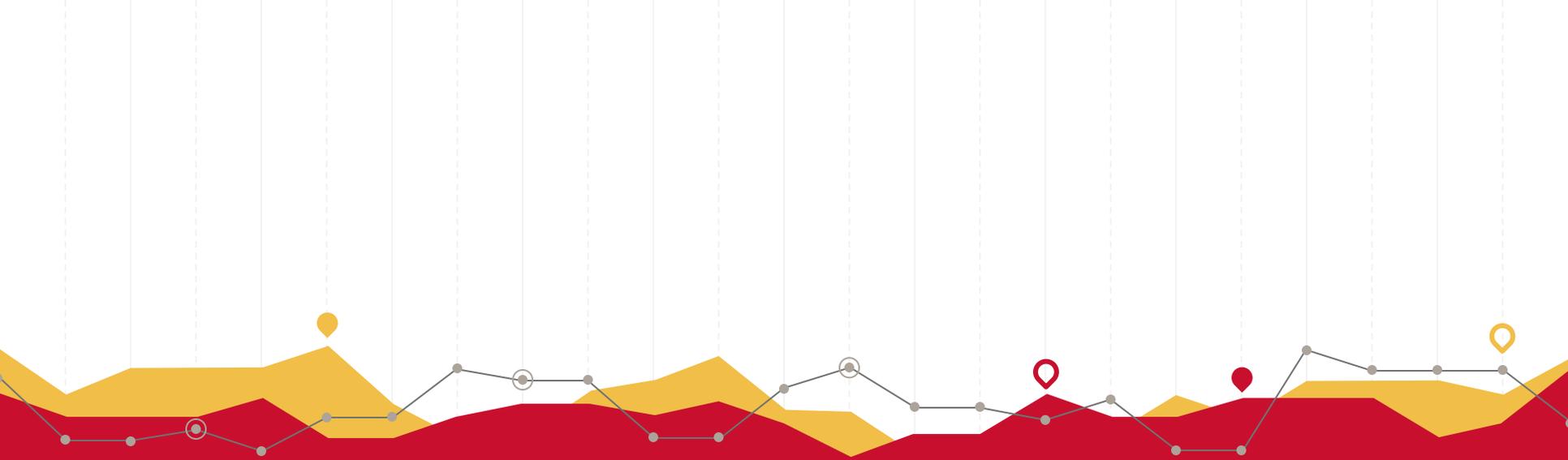


## So where should I preserve my data?

- A data repository
  - If you're an ISU affiliate, you can use ISU's DataShare
  - Open systems like Dryad, Dataverse, Figshare, and Zenodo
- Other community-accepted data storage facility
  - Must meet US DOT requirements for preservation

## **(Your data should) be persistent**

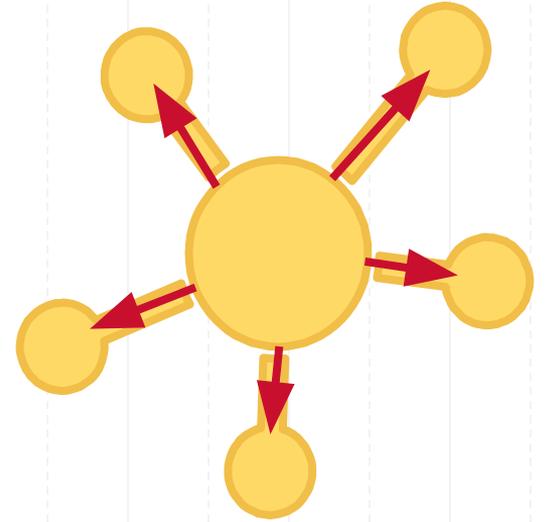
- Data must be discoverable and accessible as well as preserved.
- Datasets need persistent identifiers (such as DOIs).
- IDOT data must be publicly accessible for 10 years from the end of the contract period.



# Roles & Responsibilities

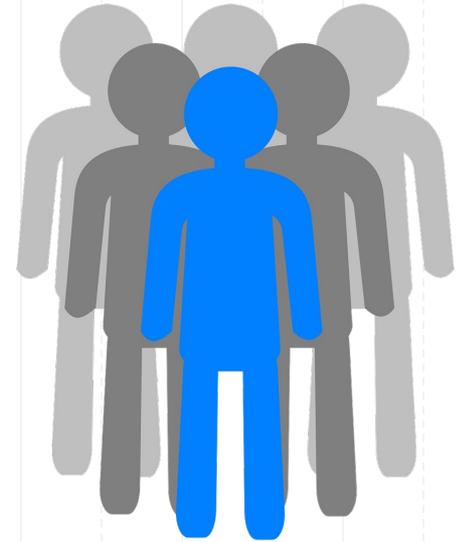
## With great data comes great responsibility

PIs are ultimately responsible for project data, but usually delegate some roles.



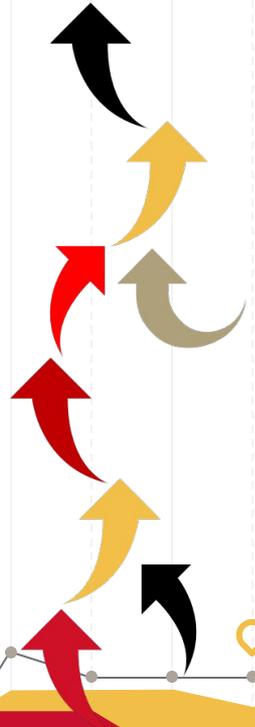
## People Information

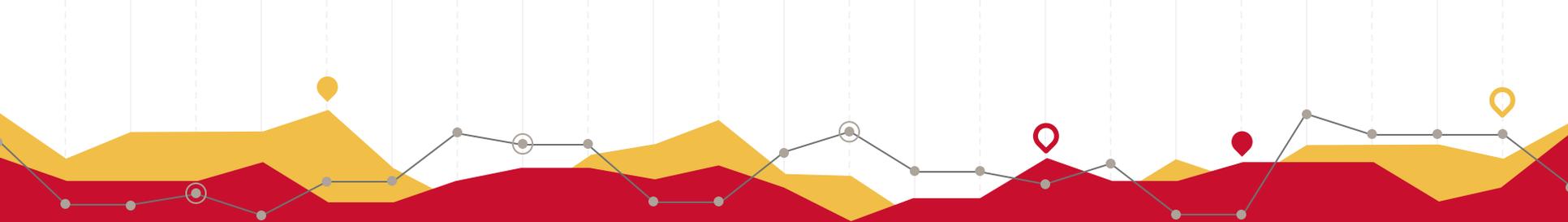
- Who is in charge of what?
- Who is the back-up for what?
- Is contact information needed?



## Possible roles for team members regarding data include:

- Training
- Quality control and monitoring backups
- Updating the data management plan
- Ensuring public access, such as reporting data sets to the U.S. DOT's Repository and Open Science Access Portal (ROSA P)
- Long-term care of the data





# DMPTool

## Questions 5 and 6

## Where to get more help

- Iowa DOT Project Manager
- Iowa State Univ. Library
  - [Data Management Plan Guide](#)
  - [datashare@iastate.edu](mailto:datashare@iastate.edu)
- **US DOT**
  - [Public Access Plan FAQs](#)  
(data section is halfway down)
  - [Creating Data Management Plans](#)
  - [Data Repositories Conformant with the DOT Public Access Plan](#)
    - [Guidelines for Evaluating Repositories for Conformance](#)



**Questions?**

# Image Credits

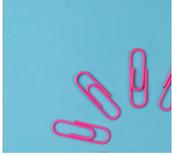


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