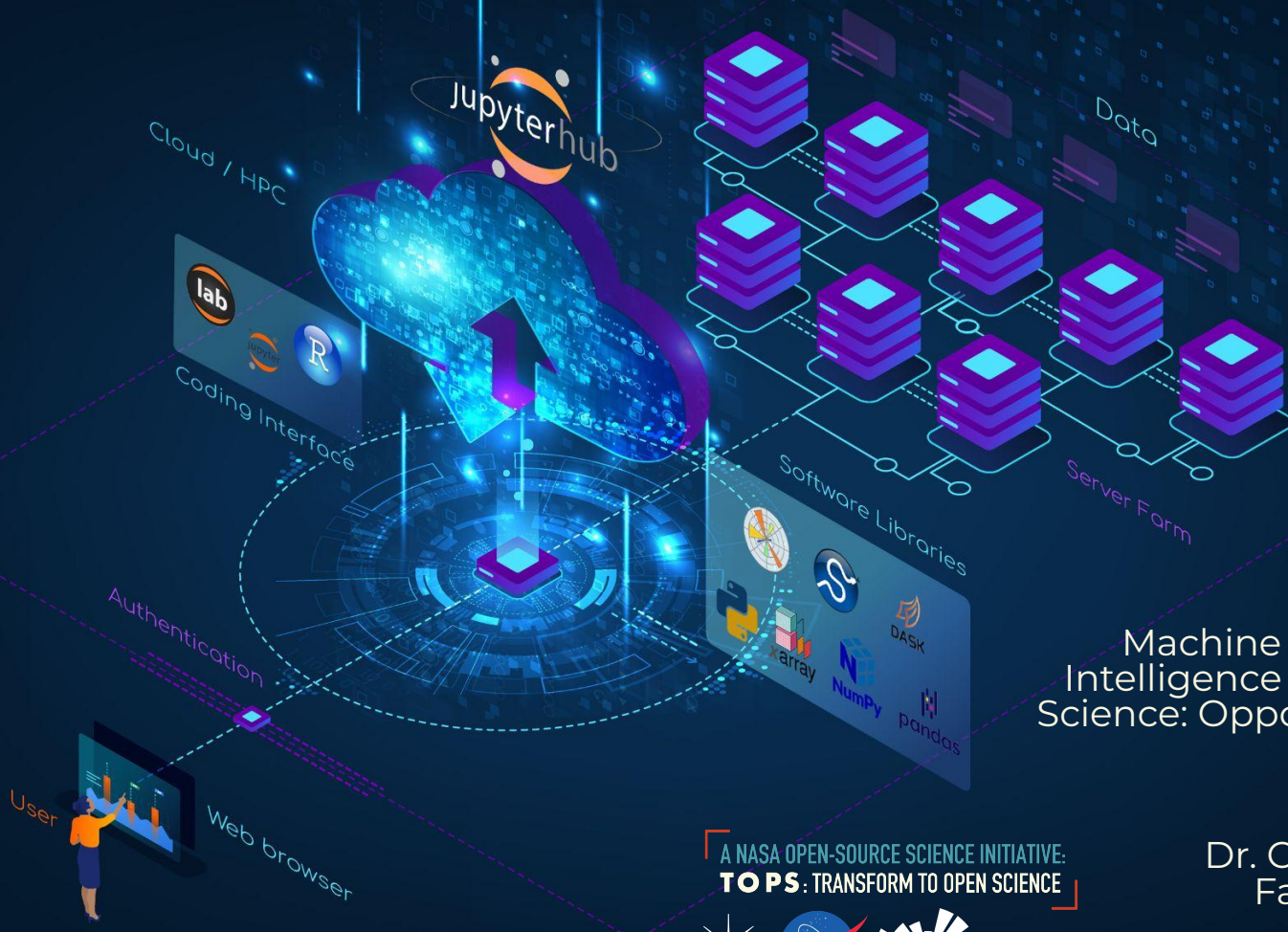


# ML/AI - opportunities & challenges: data & community



Machine Learning and Artificial Intelligence to Advance Earth System Science: Opportunities and Challenges – A Workshop  
02/10/2022

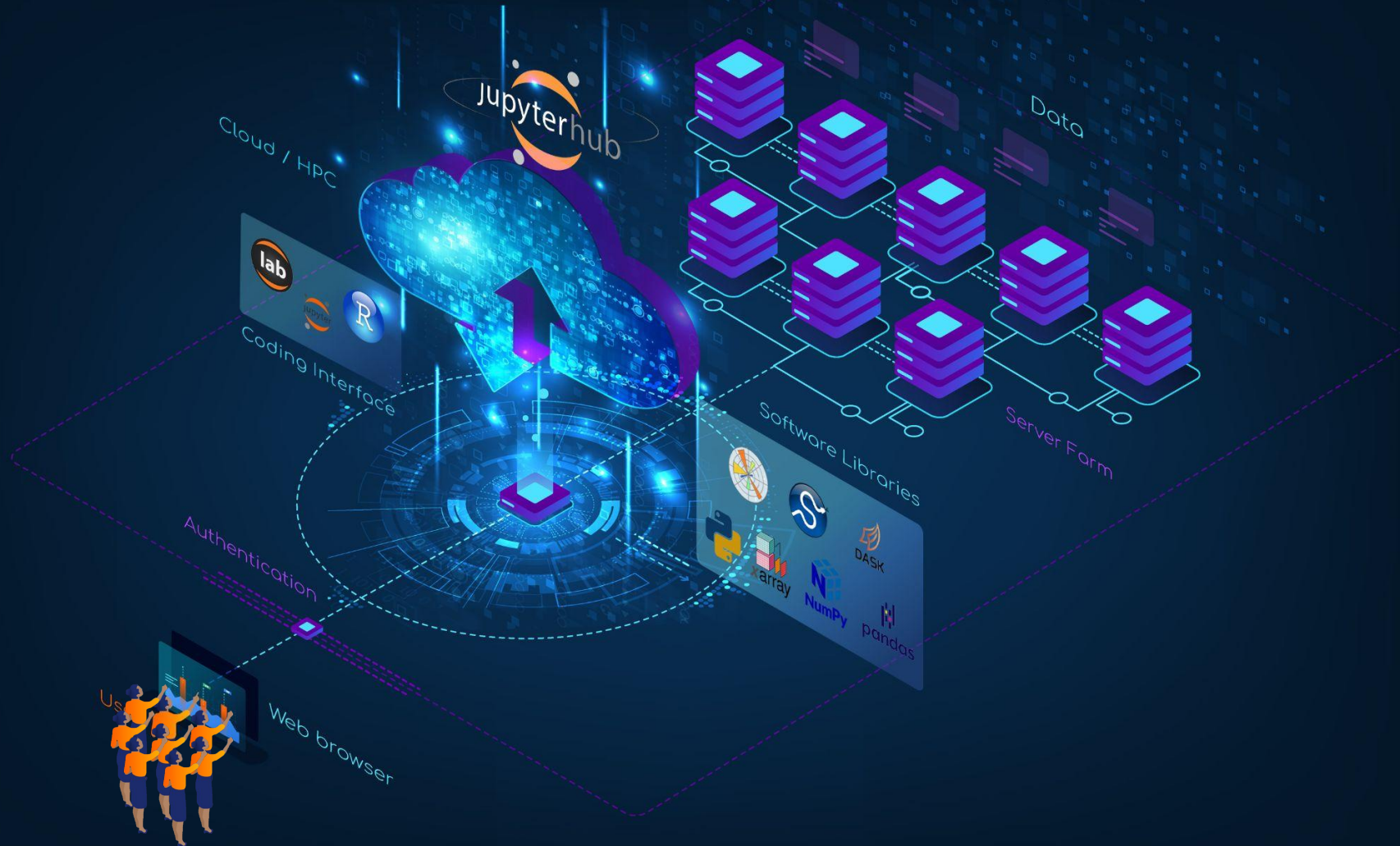
Dr. Chelle Gentemann  
Farallon Institute

<https://oapubs.onlinelibrary.wiley.com/doi/full/10.1029/2020AV000354>

A NASA OPEN-SOURCE SCIENCE INITIATIVE:  
**TOPS: TRANSFORM TO OPEN SCIENCE**









We need domain scientists working with ML/AI experts

&

We need more people at the table, participating in science that is going to impact them



# Open-Source Science @ SMD

Initiates **Transform to OPen Science (TOPS)**, a 5-year program to increase understanding and adoption of open science principles and techniques  
Designates **2023 as Year of Open Science**

Continues investments in open-source science digital infrastructure, **cross-divisional AI capabilities** and **Digital Transformation activities**. (ROSES elements, data catalog, open journal database)

Prototype **common data catalog** by FY22Q4 and expand Astrophysics Data System

Initial investments in cross-division **open scientific cloud environments and data analysis platform prototypes**.

**\$130M in Divisional investments** in Open-Source Science that are **aligned** with this program.

Fiscal year	OSS Total (\$M)
FY21	\$8
FY22	\$21
FY23	\$20
FY24	\$20
FY25	\$20
FY26	\$20
FY27	\$20



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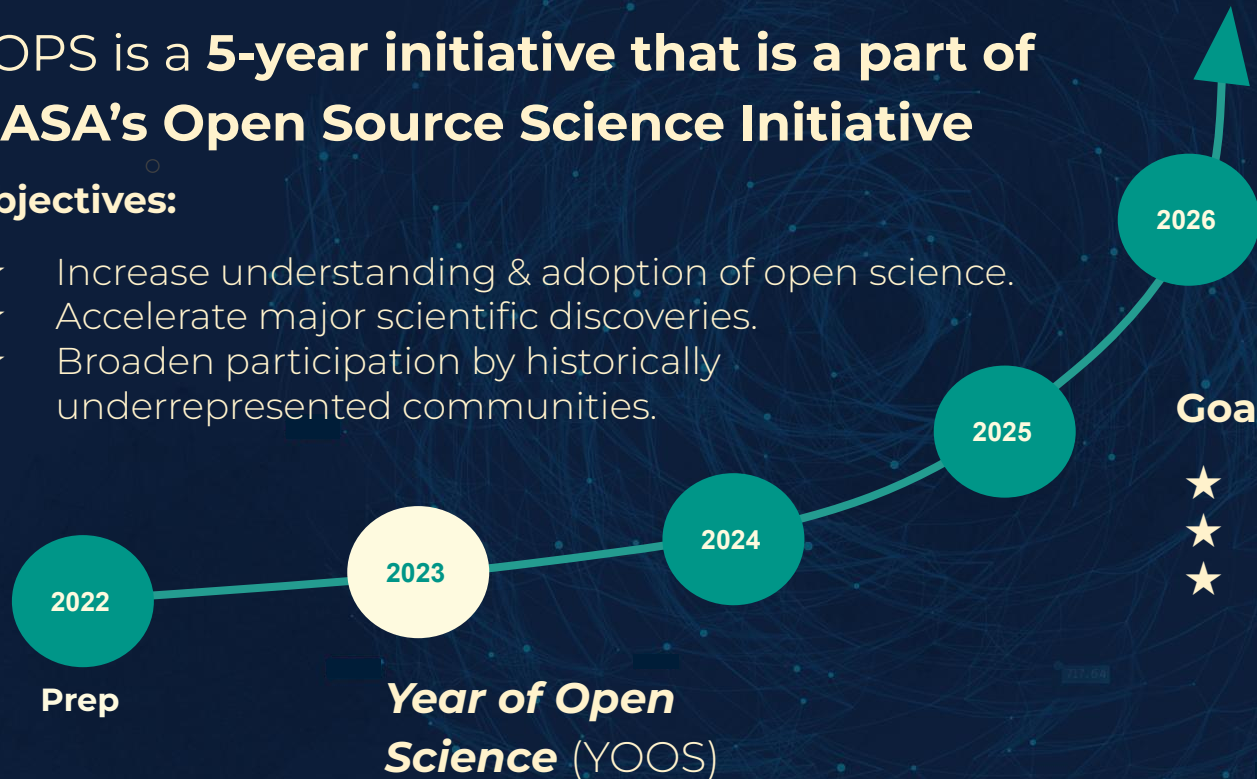
# Accelerating Scientific Discovery



TOPS is a **5-year initiative** that is a part of **NASA's Open Source Science Initiative**

## Objectives:

- ★ Increase understanding & adoption of open science.
- ★ Accelerate major scientific discoveries.
- ★ Broaden participation by historically underrepresented communities.



## Goals

- ★ 20K complete MOOC
- ★ 5+ major results
- ★ Increase 2x DEIA participation

<https://github.com/nasa/Transform-to-Open-Science>