



# ARM/ASR Open Science Virtual Workshop

## INTRODUCTION AND LOGISTICS

Adam Theisen

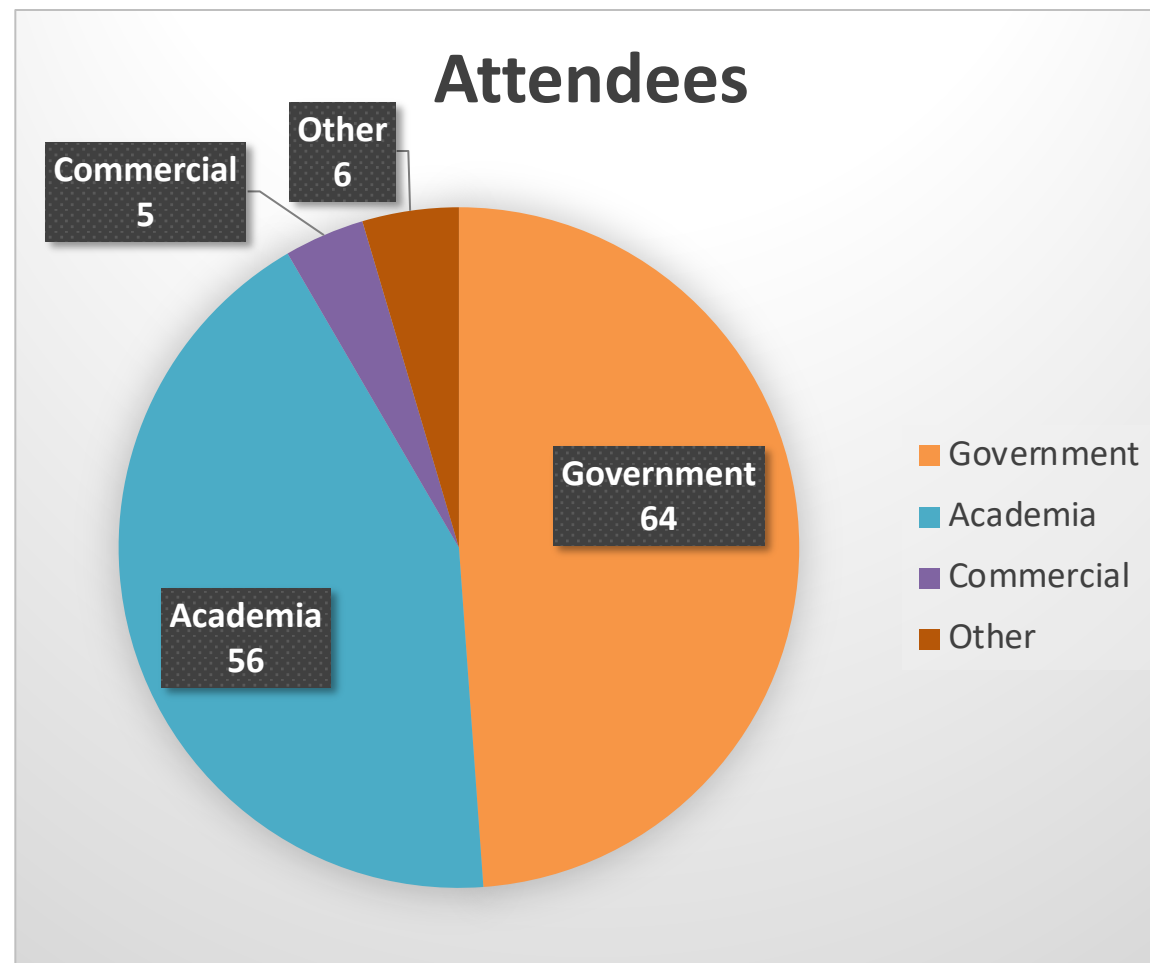


## Thank you to the Organizing Team!

- ▶ Aaron Kennedy
- ▶ Alyssa Sockol
- ▶ Austin King
- ▶ Bobby Jackson
- ▶ Corey Godine
- ▶ Cory Stuart
- ▶ Denny Hackel
- ▶ Dié Wang
- ▶ Ginny Doyle
- ▶ Giri Prakash
- ▶ Jitu Kumar
- ▶ Ken Kehoe
- ▶ Markus Petters
- ▶ Max Grover\*
- ▶ Monica Ihli\*
- ▶ Sarah Fillmore
- ▶ Scott Collis
- ▶ Zach Sherman

# Thank you to all our attendees!

- ▶ 131 Registered Attendees
- ▶ Large mix of academia, government, commercial, non-profits, and more
- ▶ Attendees from all over the world!



## ► Why are we here?

- Learn about what everyone is doing in his realm in the ARM/ASR community and beyond
- Look out for new and exciting collaborations and opportunities
- Have fun and geek out about all things open science in a safe and inclusive environment

### ARM Code of Conduct



<https://www.arm.gov/policies/code-of-conduct>

### DOE Diversity, Equity, and Inclusion Policies



<https://science.osti.gov/SW-DEI/DOE-Diversity-Equity-and-Inclusion-Policies>

# What is Open Science?

- ▶ From NASA's Open-Source Science Initiative (<https://science.nasa.gov/open-science-overview>)
  - **Transparent** – Scientific process and results should be visible, accessible, and understandable
  - **Inclusive** – Process and participants should welcome participation by and collaboration with diverse people and organization
  - **Accessible** – Data, tools, software, documentation, and publications should be accessible to all (Findability, Accessibility, Interoperability, and Reuse -FAIR)
  - **Reproducible** – Scientific process and results should be open such that they are reproducible by members of the community

Transparent



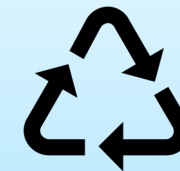
Inclusive



Accessible

Findable  
Accessible  
Interoperable  
Reusable

Reproducible



- ▶ Split talk/tutorial structure 2 hours of talks followed by 2 hours of tutorials
  - Talks are roughly 10-12 minutes with 3-5 minutes for questions
  - Please stay muted when not talking
  - Please raise your hand for questions or comments
  - No overlapping tutorials
  - Friday May 13: Two tutorials followed by a closeout discussion and planning for next steps (follow on meetings, code sprints, etc...)
  
- ▶ Wednesday May 11 at 12pm Eastern: Keynote Speaker Chelle Gentemann NASA's Transform to Open Science (TOPS) initiative
  - NASA designating 2023 as the Year of Open Science!

# Agenda – Day 1



<b>May 10</b>	12:00 – 12:10	Introduction and Logistics (Adam Theisen)
	12:15 – 12:30	ARM's Decadal Vision and Open Science (Jim Mather)
	12:30 - 12:45	<a href="#">ARM GitHub Organizations</a> (Adam Theisen)
	12:45 – 1:00	Open Science and the ARM <a href="#">Translators</a> : Past, Present and Future. (Scott Collis)
	1:00 – 1:15	<a href="#">Open Radar Science in Action</a> (Max Grover)
	1:15 – 1:30	Open Science Beyond Data Sharing (Markus Petters)
	1:30 – 1:45	<a href="#">Project Pythia</a> : An Open Source Education Resource for Geoscience Data Analysis (John Clyne)
	1:45 – 2:00	Break
		<a href="#">Tutorials</a>
	2:00 – 2:45	Introduction to Jupyter (Max Grover)
	2:45 – 3:30	Introduction to Scientific Computing in Python (Ken Kehoe)
	3:30 – 4:00	Introduction to Git/Github (Zach Sherman)



# Agenda – Day 2



May 11	12:00 – 12:50	NASA <a href="#">Transform to Open Science Initiative</a> (TOPS) <a href="#">Chelle Gentemann</a> (Keynote)
	1:00 – 1:15	Open-Source <a href="#">Hardware</a> Possibilities (and Problems) from a Manufacturers Perspective (Gavin Robert <a href="#">McMeeking</a> & Ethan Emerson)
	1:15 – 1:30	An Adventure in Open Hardware Design: The Open Snowflake Camera for Research and Education ( <a href="#">OSCRE</a> ) (Aaron Kennedy)
	1:30 – 1:45	<a href="#">SAGE</a> : Open Cyberinfrastructure for the Nation (Scott Collis)
	1:45 – 2:00	Break
	2:00 – 4:00	<a href="#">Tutorials</a>
	2:00 – 2:35	Interactive Exercise: Search for YOUR Data on the <a href="#">ARM Data Discovery</a> Portal with a Metadata Expert (Maggie Davis)
	2:40 – 3:10	An Earth System Model Aerosol-Cloud Diagnostics Package ( <a href="#">ESMAC Diags</a> ) to Evaluate E3SM Predicted Aerosols and Clouds Using ARM Data ( <a href="#">Shuaiqi Tang</a> )
	3:15 – 3:45	Using the Earth Model Column Collaboratory ( <a href="#">EMC<sup>2</sup></a> ) Open-Source Ground-Based Instrument Simulator and <a href="#">Subcolumn</a> Generator to Facilitate Direct Comparisons Between Observations and Models (Israel Silber)



# Agenda – Days 3 & 4



May 12	12:00 – 12:15	Using <a href="#">Satpy</a> -Based Tools for Easy Meteorological Satellite Processing (David Hoese)
	12:15 – 12:30	<a href="#">PySP2</a> : An <a href="#">Open Source</a> Python Package for Processing Single Particle Soot Photometer Data (Robert Jackson)
	12:30 – 12:45	Radar Tracking and Quality Toolkit ( <a href="#">RadTraQ</a> ) (Adam Theisen)
	12:45 – 1:00	<a href="#">Reproducible Experiment of Species Distribution Modeling in the Amazon Basin</a> (Renato <a href="#">Okabayashi</a> Miyaji)
	1:00 - 1:15	Docker Takeaways (William Roberts)
	1:15 – 1:30	Break
	1:30 – 3:30	<a href="#">Tutorials</a>
	1:30 – 2:30	<a href="#">MetPy</a> : A Community-Driven Python Toolkit for Meteorology and Atmospheric Science (Drew Camron, Ryan May)
May 13	2:30 – 3:30	Atmospheric data Community Toolkit ( <a href="#">ACT</a> ) (Adam Theisen, Ken Kehoe)
	12:00 – 2:00	<a href="#">Tutorials</a>
	12:00 – 1:00	Python ARM Radar Toolkit ( <a href="#">Py-ART</a> ) (Zach Sherman)
	1:00 – 2:00	<a href="#">Xarray</a> and <a href="#">Pangeo</a> (Max Grover)
	2:00 – 2:30	Workshop Closeout and Planning for Next Steps