



# Open Science Breakout Sessions

## Session 1: Tuesday 2:00-4:00 pm

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|-------------|---|
| 2:00 - 2:15 | ARM GitHub Organizations (Theisen)                |
| 2:15 - 2:30 | Python ARM Radar Toolkit (Py-ART; Grover)         |
| 2:30 - 2:45 | Atmospheric data Community Toolkit (ACT; Theisen) |
| 2:45 - 3:15 | ARM JupyterHub and Data Workbench (Dumas/Grover)  |
| 3:15 - 3:30 | Basics of Python (O'Brien)                        |
| 3:30 - 4:00 | Advanced Python - Xarray, Pandas (Kehoe)          |

## Session 2: Tuesday 4:15-6:15 pm

4:15 - 5:15

Py-ART Tutorial (Grover, O'Brien, Sherman)

5:15 - 6:15

ACT Tutorial (Theisen, Grover, O'Brien, Sherman)

## Session 3: Wednesday 2:00-4:00 pm

- 2:00 - 2:15 Enhancing Geoscientific Computational Skills with Project Pythia: A Pathway to Open Science. (Sharma)
- 2:15 - 2:30 Using PySP2 to process Single Particle Soot Photometer (SP2) Data (Jackson)
- 2:30 - 2:45 Earth Model Column Collaboratory EMC<sup>2</sup> (Jackson)
- 2:45 - 3:00 ARM And The U-IFLs, How CROCUS Can Inform ARM Open Instrument Science (Collis)
- 3:00 - 3:15 ARM Climatologies: An Experiment in Open Paper Development (Theisen)
- 3:15 - 3:30 ARM data-oriented metrics and diagnostics package for GCMs (ARM-Diags) (Tao)
- 3:30 - 3:45 Python library for color-vision deficient colormaps (Sherman)
- 3:45 - 4:00 Open computing at the edge with SAGE (Raut)

# ARM GitHub Organizations



# ARM-DOE: <https://github.com/ARM-DOE>


- ▶ Purpose: Host ARM-supported open-source software and community code
- ▶ Repositories Include:
  - Python-ARM Radar Toolkit (Py-ART)
  - Atmospheric data Community Toolkit (ACT)
  - PySP2
  - ADI



The screenshot shows the GitHub repository page for the ARM User Facility. At the top left is the ARM logo. To its right is the text "ARM User Facility". Below the logo is a button that says "Change your organization's avatar". The main content area shows a file named "README.md" with an edit icon. The title of the file is "About ARM-DOE". The text of the README is: "ARM-DOE houses Atmospheric Radiation Measurement (ARM) user facility-supported open-source software and community code for public use. Code repositories in ARM-DOE are expected to be actively maintained and available to the scientific community."

# ARM-Development: <https://github.com/ARM-development>

- ▶ Purpose: Hosts development projects from ARM infrastructure
- ▶ Repositories include:
  - ARM-Notebooks
  - comble-mip
  - RadTraQ



## Atmospheric Radiation Measurement user facility

15 followers <https://www.arm.gov>

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README.md

### About ARM-Development







ARM-Development contains ARM infrastructure open-source software and community code that is in a state of development below public promotion. However, this organization is accessible to others besides ARM staff to allow for testing, experimentation, and idea generation.

To request a new repository, please submit a request through either the "Ask Us" link at the bottom of the [www.arm.gov](https://www.arm.gov) webpages or by submitting an INC in ServiceNow that's assigned to "ARM Github Admins" and details your request



# ARM-Synergy: <https://github.com/ARM-Synergy>

- ▶ Purpose: Host ARM/ASR PI open-source software and community code
- ▶ Repositories include:
  - simpleSOM\_boxmodel
  - tracer-plotting
- ▶ How to request a repository:
  - Use the “ASK US” link in the footer on any ARM webpage!

ATMOSPHERIC RADIATION MEASUREMENT USER FACILITY				
<p><b>CONNECT WITH ARM</b></p> <p>CREATE ACCOUNT</p> <p>ORGANIZATION</p> <p>       </p> <p>Reviewed November 2022  <a href="#">Privacy and Security Notice</a></p>	<p><b>GUIDANCE</b></p> <p>DATA ACQUISITION &amp; USE</p> <p>DATA CODING GUIDELINES</p> <p>SUBMITTING PROPOSALS</p> <p>ARM.GOV LINKING PROTOCOLS</p> <p>CODE OF CONDUCT</p>	<p><b>HELP</b></p> <p>ASK US</p> <p>ASK A UEC MEMBER</p> <p>DATA QUESTIONS</p> <p>FAQS</p> <p>ACCOUNT MANAGEMENT</p>	<p><b>RESOURCES</b></p> <p>MEDIA</p> <p>OUTREACH</p> <p>ACRONYMS</p> <p>GLOSSARY</p>	<p><b>WORKING WITH ARM</b></p> <p>USE ARM FACILITIES</p> <p>ACKNOWLEDGING ARM</p> <p>SUBMIT A PROPOSAL</p> <p>FIND EMPLOYMENT</p> <p>VIEW ARM PRIORITIES</p>



# Requirements

- ▶ ARM Staff Provides
  - Vulnerability Scanning
  - Anti-virus scanning
  - Security team with read capabilities
- ▶ PI Provides
  - Code!
  - Descriptive readme files that provide an overview of the code and how it can be used
- ▶ GitHub Provides
  - A great platform for sharing code!
  - DOIs through Zenodo
  - Actions for unit tests and more!



## Looking good!

No new code scanning alerts.

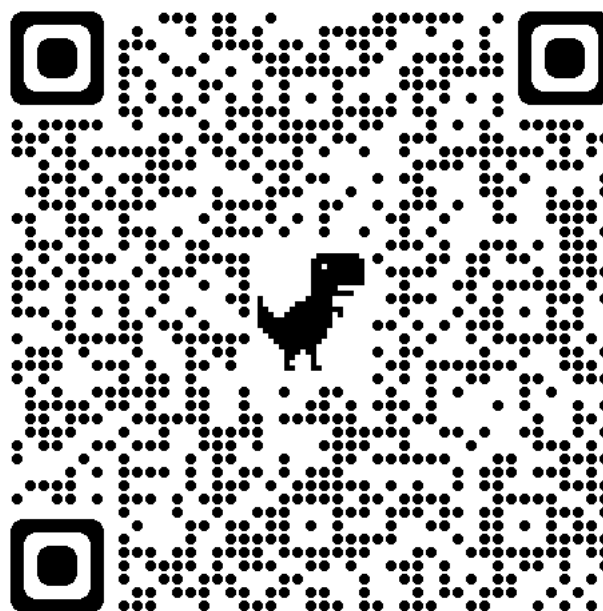
```
Scanning working and .git directories...
Inspecting 1 revisions...
Scanning commit 1 of 1: 03b997d6e44f6f9ec75a4725599c0aff9066d2b3
Scan finished Tue Jul 18 19:19:19 UTC 2023
```

- ✓  Python Package using Conda / macOS-3.9 (pull\_request) Successful in 14m
- ✓  Python Package using Conda / ubuntu-3.9 (pull\_request) Successful in 10m

Show of hands, who would be interested in hosting their code on ARM-Synergy?

Would there be interest in having organization level discussion pages?

Are there other open-source tools or resources that ARM should be making available to users?



# Questions