New Leadership Roles

- Associate Director for Operations
  - Nicki Hickmon (Replacing Jimmy Voyles)

- Site Manager for the Southern Great Plains
  - Mike Ritsche (Replacing Nicki Hickmon)

https://www.arm.gov/about/management-structure
Successfully completed the triennial review including submission of plans to address panel recommendations:

- Metrics for outreach and science impact
- Broaden reach beyond DOE and ASR users
- Plan for timely release of Value Added Products (VAPs) for AMF campaigns
- Continued improvements to the Data Discovery Tool
- Process for reviewing ARM priorities
- Plans for radars and develop plan for aerosol measurements
- Plan for LASSO including scope, goals, metrics, and next steps
**Engineering Activities Supporting the Radar Plan**

**Recent**
- New field calibration methodology used to characterize SACR/KAZR at ENA and AMF3
- SGP XSAPRs redesigned and operating
- XSAPR2 operating as of January 2018

**Current**
- Implementing full suite of a1/b1 data products
- Preparing SACR and CSAPR2 for CACTI (CSAPR2 radome installed at SGP)
- Oliktok SACR being prepared for move to Barrow

Radar Science and Operations meeting Thurs 4:00-6:00
Developing an Aerosol Measurement Strategy

Goals

- Identify and address impediments to using ARM aerosol measurements
- Optimize ARM resources to meet science needs

Timeline of Activities to Date

- May 2016: Breakout at the ARM/ASR spring meeting
- Feb 2017: Aerosol Measurements and Science Group Workshop
- Feb 2018: Draft plan to address AMSG issues

Wednesday 10:30-12:30 breakout to review status and solicit input

Workshop Report is Now Available at:
https://www.arm.gov/about/constituent-groups/amsg
LES ARM Symbiotic Simulation and Observation (LASSO)

LASSO activities
- Alpha2 simulations released
- Recommendations for operations provided to ARM management
- Preparing to run 2017 season
- Soliciting feedback and ideas for next phase

Breakout session
Thursday 10:45-12:45

https://www.arm.gov/capabilities/modeling/lasso
ARM Data Center Computing Facility

**Stratus cluster**
- 30 nodes
- 1,080 cores

**Cumulus cluster**
- 112 nodes
- 4,032 cores

Possible expansion depending on resources and need.

- Routine radar processing
- Large-scale reprocessing
- Complex data product development
- LASSO model operations & large scale data analysis/visualizations

More information at: https://www.arm.gov/capabilities/computing-resources

**Related Posters**
- Cluster overview B1/145
- Exploring Big Data Analysis B1/163
- Interactive plotting requirements B1/126
Engage with Members of the ARM Data Services Team at this Meeting!

ARM Data Services Helpdesk

- Navigate Data Discovery
- Obtain Data from the ARM Data Center Archive
- Understand the Structure of ARM Data
- Use ADI, PyART, OME and Other Visualization Tools
- Acquire Computing Resources

Ask us how!

www.arm.gov
New Capabilities and Development Efforts

Arctic Shark UAS

Upgraded MFRSR

Photogrammetry

Tethered Balloon at Oliktok

Cloud Retrieval Framework
New Measurement Capabilities

- New Aerosol Observing System at SGP  B1/136
- 1625 nm MFRSR channels  B1/133
- Unmanned Aerial Systems
  - Small UAS  B1/140
  - Mid-size UAS (ArcticShark)
  - Tethered Balloon  B2/25

Guest/Temporary Measurements

- NASA Precipitation Imaging Package (PIP) at Oliktok
- 3-λ lidar combination at SGP (CHARMS)  B2/100

https://www.arm.gov/data/data-sources/charms-130
Stereo Photogrammetry at the SGP

Network of three pairs of cameras provide high-temporal resolution cloud boundaries: Led by David Romps and Rusen Oktem (LBNL)
• Framework for development, testing and improvement of continuous cloud microphysics product
• Use existing MICROBASE (+ uncertainties) product as a background
• Enable merging of new conditional retrievals with background
• Evaluate new merged product with radiative closure, in situ, and OSSE

Jensen, Kollias, M. Wang (BNL) [Poster A1/153]
Machine Learning to Support Data Quality and Parameter Retrievals

- On-going work at BNL:
  - Sun photometer error detection
  - Detection of local aerosol sources at ENA

- Three new Machine Learning projects
  - Problem detection in MWR, SWATS, and STAMP (LLNL)
  - Problem detection in radars (PNNL)
  - Sea clutter identification (BNL)

As well as investigator-driven efforts

Breakout session
Tuesday 1:30-3:30
Science Product Development Led by Team of Scientists

Translators

Laura Riihimaki
Clouds & Radiometric

Connor Flynn
Aerosols

Scott Collis
Precipitation Radar

Scott Giangrande
Cloud Radar

Shaocheng Xie
Modeling

Krista Gaustad
Software and Processing

Justin Monroe
Data Quality
Value Added Products

- Core products for AMFs (Laura’s talk)
- Products supporting LASSO B1/77
  - Improved Liquid Water Path from IR + Microwave
  - Improved lidar cloud-mask A1/116
  - RWP-based Boundary Layer winds
- 3D model forcing
- ARM Best Estimate (ENA planned this year)
- Diagnostic Package for global models B1/159
- ARM Cloud Radar Simulator for global models
Value Added Products

- “Instant” and up-to-date ARSCL
- Corrected radar Moments in Antenna Coordinates (CMAC2)
- Scanning radar derivative products (for mm- and cm-wavelength radars)
  - Quasi-Vertical Profiles (QVP)
  - Velocity Azimuth Display (VAD) winds
  - 3D Gridding
- Python ARM Radar Toolkit (PyART) Roadmap B1/124
- Disdrometer Best Estimate
- Precipitation uncertainties
## Engaging with ARM Staff

### Connect with ARM
- Create Account
- Organization

### Policies
- Data Policies
- Campaign Guidelines
- Linking Policies
- Privacy & Security Notice

### Help
- Ask Us
- Data Questions
- FAQs
- Account Management

### Resources
- Media
- Outreach
- Acronyms
- Glossary

### Working with ARM
- Use ARM Facilities
- Acknowledge ARM
- Submit a Proposal
- Find Employment
- View ARM Priorities

Reviewed December 2016
Engaging with ARM Staff

**CONNECT WITH**

**ORGANIZATIONS**

**TECHNICAL**
- Jim Mather

**TECHNICAL**
- Sarah Fillmore

**ASSOCIATE**
- Nicki Hickman

**ENGINEERING**
- Jennifer Combs

**DATA AND OP**
- Giri Prakash

**COMMUNICATIONS**
- Hanna Goss

**MAILING ADDRESS**
- ARM Climate Program
  Pacific Northwest National Laboratory
  P.O. Box 999
  MS K-38
  Richland, WA 99352 USA
  509-375-2111

**ADDITIONAL CONTACTS**
- U.S. Department of Energy
- Technical Director’s Office
- Associate Director of Operations
- Engineering and Process Management
- Communications and Media
- Infrastructure Management Board (IMB)
- Science Board
- ARM-ASR Coordination Team (AACT)
- Architecture and Services Strategy Team (ASST)
- Atmospheric Observatories
- Instrument Mentors
- ARM Data Center
- Data Quality Office
- Cyber Security
- Constituent Groups
- Translators
- LASSO

**Instruments Mentors**

**ARM Data Center**

**Data Quality Office**

**Cyber Security**

**Constituent Groups**

**Translators**

**LASSO**
Engaging with ARM Staff

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- Atmospheric Observatories
- Instrument Mentors
- ARM Data Center
- Data Quality Office
- Cyber Security
- Constituent Groups
- Translators
- LASSO
Links to the ARM User Community

Larry Berg
PNNL

Sebastian Biraud
LBNL

Christine Chiu
Reading

Jiwen Fan
PNNL

Graham Feingold
ESRL

Andrew Gettelman
NCAR

Gannet Hallar
DRI

Jim Haywood
UK Met Office

Pavlos Kollias
Stony Brook

Erika Roesler
Sandia

Courtney Schumacher
Texas A&M

Matt Shupe
ESRL
Primary interface between ARM and the science user community

Provides feedback to facility regarding what’s working, what is not

Over the past year – this group has been looking at how to better connect to the broader science community

They would like to hear from you – how they can help to improve ARM or help you better engage with ARM

Visit them at their poster – or throughout the week.
Opportunity to Engage with Members of the ARM Data Services Team

Special Announcement: Deadline Approaching

REMINDER: Summer training event applications are due Friday, March 30, 2018.

Calling all graduate students and early career scientists!

The second ARM Summer Training and Science Applications event on observations and modeling of clouds and precipitation will take place **July 14 to 21, 2018**. The training will be held at the National Weather Center in Norman, Oklahoma.

Email Applications to Sarah Fillmore ([Sarah.Fillmore@pnnl.gov](mailto:Sarah.Fillmore@pnnl.gov)) and Jim Mather ([Jim.Mather@pnnl.gov](mailto:Jim.Mather@pnnl.gov))