ARM User Executive Committee (UEC)

Dave Turner, Chair
NOAA
Larry Berg, Vice-chair
PNNL

ARM
CLIMATE RESEARCH FACILITY

ARM User Executive Committee

* Charter published in October 2014
  * https://www.arm.gov/publications/programdocs/doe-sc-arm-14-026.pdf
* Independent body charged to provide objective, timely advice and recommendations to ARM leadership
  * Reports directly to ARM Technical Director
* Consists of a chair, vice-chair, and 8 or more other members
  * Elected by the ARM user community
  * Terms are 4-years
  * Elections every 2 years for half of the UEC members
  * Next election: Nov 2016
    * Half of the committee will be selected to replaced at this time
    * Larry Berg will become the next chair

Role of the UEC

* Clear channel for information exchange between ARM users and ARM facility management
* Provide a formal vehicle for ARM users to transmit concerns and recommendations to ARM facility management regarding matters that affect the user community
* Offers advice and recommendations on:
  * Capital investments and strategies
  * Access to data and facilities
  * Field campaign proposal process
  * Equipment status and renewal
  * Prioritization of infrastructure activities
  * More…
* Participate in the design of the yearly Users' Meeting

Representation

ARM Scientific Domains

* Cloud measurements
* Cloud modeling
* Aerosol measurements
* Aerosol modeling
* Precipitation processes
* Radiative transfer
* Land-atmosphere interactions

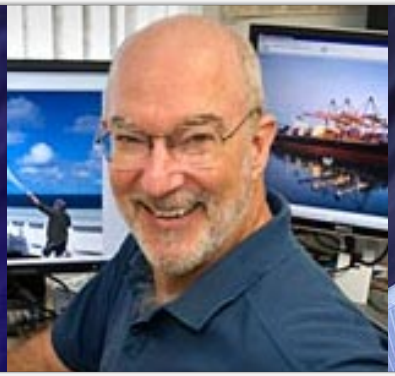
ARM Cross-cutting Themes

* Cloud-aerosol-precipitation interactions
* Aerial measurements
* High-resolution modeling
* Global-scale modeling
* Data processing and management

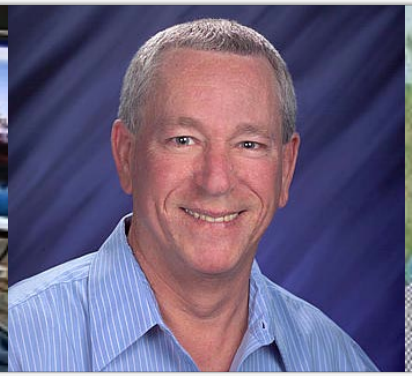
UEC Members

EXECUTIVE COMMITTEE

Larry Berg

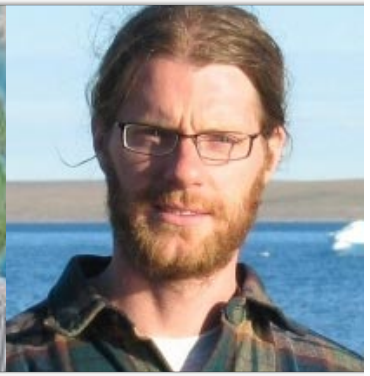


Ernie Lewis

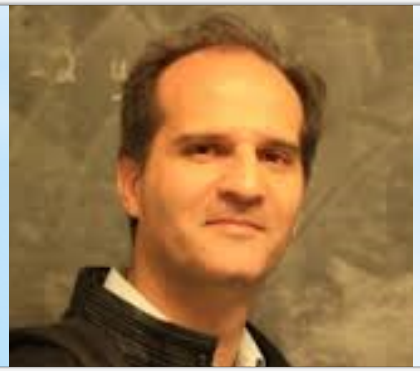


Chuck Long

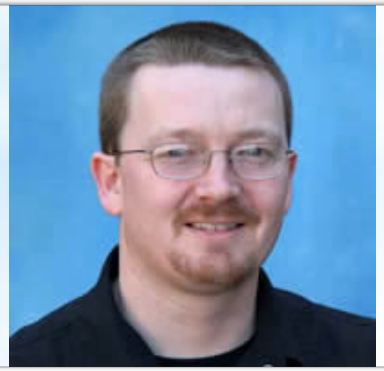
Andrew Gettelman



Matt Shupe



Pavlos Kollias



Rob Wood

Gannet Hallar

Hailong Wang

Dave Turner

What Have We Been Doing?

- UEC formed in December 2014, first discussion in Jan 2015
- Regular monthly conference calls and face-to-face meeting in March 2016
- UEC determined that there were 4 primary areas that needed attention:
  - Data quality
  - Key data products and uncertainties
  - Improve archive interface
  - Improve Program's communication

Improving ARM Data Quality

* Many of the past UEC discussions have been "how can ARM improve data quality?"
* Underlying challenge for the DQ Office is the sheer volume:
  * 275 different instruments
  * 332 different data streams (i.e., netCDF file types)
  * 5,711 different variables
  * And this does NOT include Value Added Product (VAP) data streams!
* Instrument Mentors and Translators play huge role also
  * (We all need to better appreciate what they do)
* Infrastructure has to make choices due to limited manpower/ funding
  * Scientists often say "everything is important"
  * Prioritization is absolutely key

Improving ARM Data Quality

* Input comes from
  * ASR working groups and SISC
  * DOE workshops / panels
  * ARM's Decadal vision document
  * DOE management priorities
  * UEC will play more important role here
* Good metadata is critical; working to better organize this
* Currently cleaning up historical data quality reports (DQRs)
* Several specific examples:
  * Improving AMF DQ: new startup procedures being put into action
  * Core long-term datasets vs. more limited-term datasets
  * Reprocessing historical data: thorny issue still needs to be discussed

Providing Uncertainty Quantification

* UQ is distinctly different than DQ
* ARM recently published a technical report "A Unified Approach for Reporting ARM Measurement Uncertainties"
  * Five classes of UQ being used for ARM obs
    * "Field" — 3%
    * "Calibration" — 40%
    * "Other" (often a mixture) — 38%
    * "Resolution" — 4%
    * "None" — 15%

* Are these useful ?
* How can we improve the UQ of any given instrument ?
* Which instruments should we focus on first ?
* Instrument mentors key to this discussion (and for DQ also)

Improving Communication

- One important point of emphasis : Program needs to better communicate what it is currently working on, and what activities are on-deck
- Infrastructure has a lot of activity in this area
  - New procedures for deploying the AMF, outlining more clearly the roles of the different participants
  - Working on improving ARM webpages (major rework of entire web presence underway now)
  - Working on improving the 'data discovery' interface at the ARM archive
  - Tools like "OME" are important ways to help document (and thus find) PI-provided datasets
  - Instrument handbooks (and also VAPs) will be updated soon
- How should the program be sharing information on X ?
  - E.g., What info on DQ do you use? What would be better?

Summary

* Ultimately, the ARM Program is here to provide the best data it can to advance the DOE/BER research agenda
* ARM is a complicated, multi-million dollar business, and wants your suggestions on how it can be improved
* Several ways to do this:
  * Pass your recommendations through your ASR working group
  * Pass your recommendations through UEC members
  * ~~Talk directly to ARM management~~ Prefer you use one of the above
* The ARM program became successful because of the tight linkage between the science and the infrastructure
  * Program is much larger now, and serves many more customers
  * But we still need your input!