

# Strategic Opportunities

- Update of ARM 2017 Measurement Uncertainties report (D. Sisterson)
- Adding of measurement uncertainty in the metadata and making it clearly and easy to find
- Progress made related to CAMS (calibration center)
  - Opportunity to progress field-deployable transfer standards
  - CARGO-ACT – opportunity to advance in calibration and operation procedures
- Opportunity for leveraging LCS for capturing spatial heterogeneity, LCS need to be well characterized
  - measurement uncertainty IS NOT EQUAL to observational uncertainty
- NRT (automated diagnosis) closure (AOS instrument management software)
  - Hygroscopicity closure (CCN, SMPS, ACSM) - mature
  - Number, size, volume – ongoing
  - Optical closure – future (but we need to know RH)
  - Add uncertainties

# Roadblocks

- How to handle slight differences in instruments or techniques?
  - e.g., modelers just want one size distribution
- Reconciling dry and ambient measurements and the role of aerosol water
- Struggle to quantify measurement uncertainty, often default to observational variability
- How to communicate uncertainties effectively (file headers, separate variables)? Are people even looking at these?
- What level of uncertainty is needed to be able to use LCS?
- How to handle lower limits of detection?

# List of actionable items

- Update of 2017 Uncertainty Report
- Enforce uncertainties in metadata, easy to find
- Advance automated diagnostic closure studies and add uncertainties
- Assessing measurements and inlets