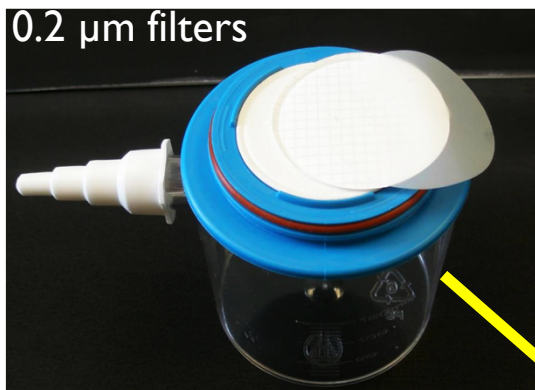


# MARCUS and MICRE ice nucleation measurements and possible data plans

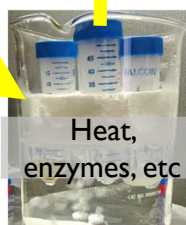
Paul DeMott and Thomas Hill  
Colorado State University

# Ice nucleating particle measurements during MARCUS

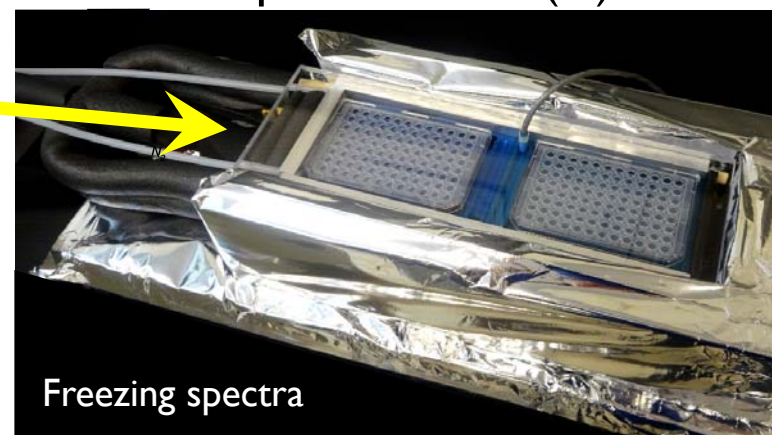
0.2  $\mu\text{m}$  filters



Alternating 24/48 hour filters



CSU Ice Spectrometer (IS)



Freezing spectra

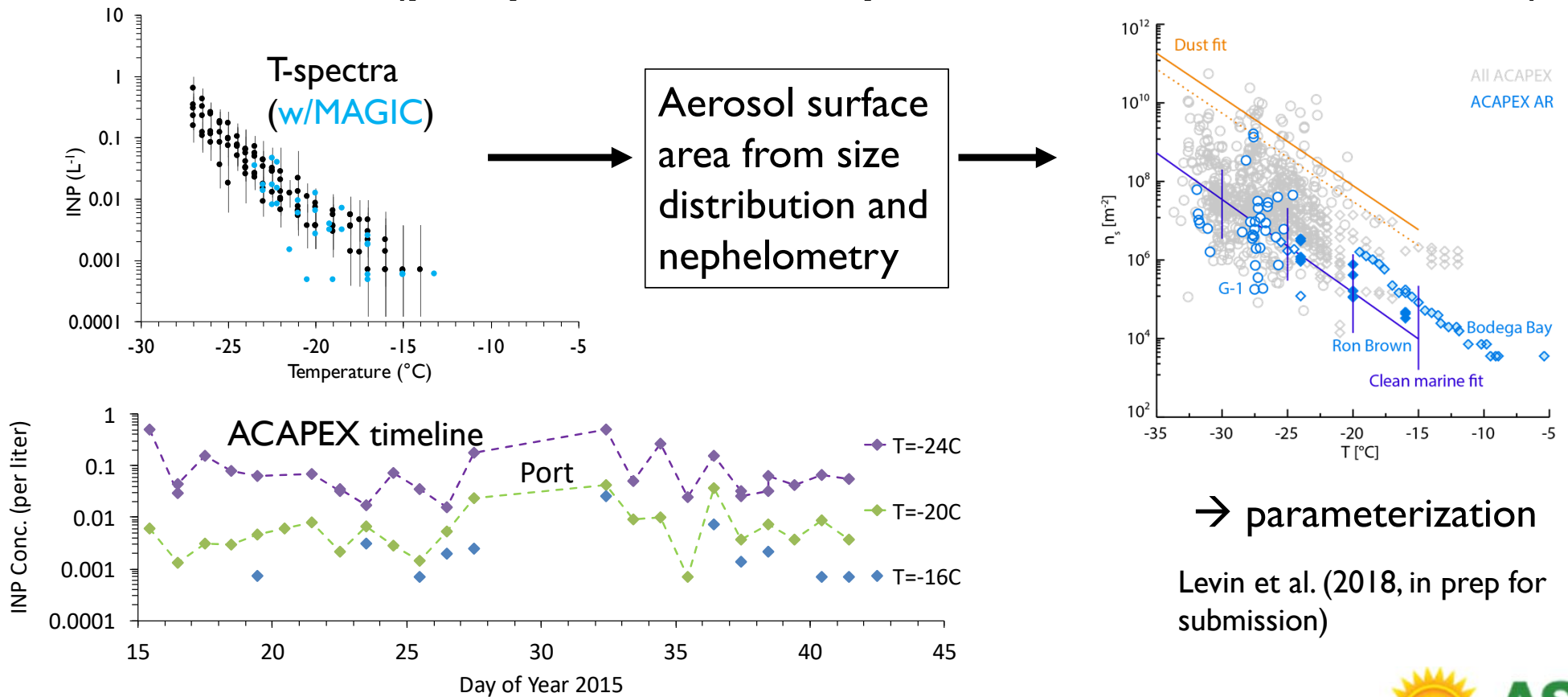
- ~60 Filters collected
- Standard processing of all, thermal treatment of 1/3 is funded
- Archived by September 15, 2018
- Reserved samples for genomic analyses, OC removal, ionic analyses, TOC analysis (proposed)

# MICRE



- ~104 filters collected of alternate duration of 48 and 72 hours
- Standard processing 50, additional thermal treatment of 20
- Simple INP concentration timelines produced
- Reserved samples for genomic analyses, OC removal, ionic analyses, TOC analysis (proposed)
- Archived by September 30, 2018

# Processing data and integrating with AMF suite for MARCUS (proposed; examples from other studies)

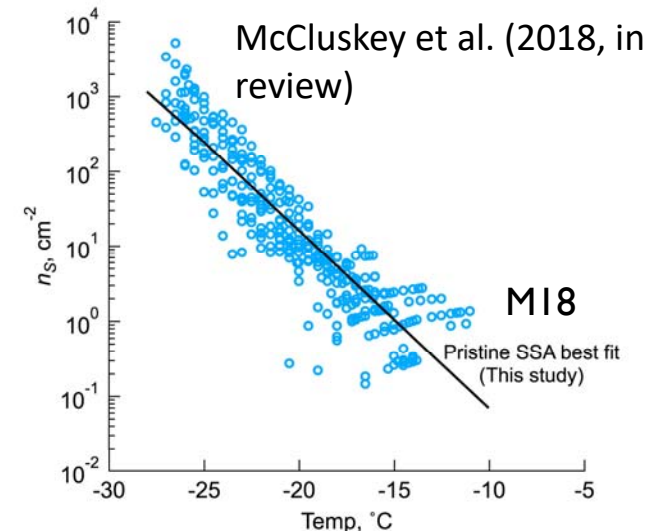


# Processing data and integrating with measurements at MICRE (proposed)

Lidar retrievals  
(Simon Alexander,  
AAD) following  
Mamouri and  
Ansmann (2015)



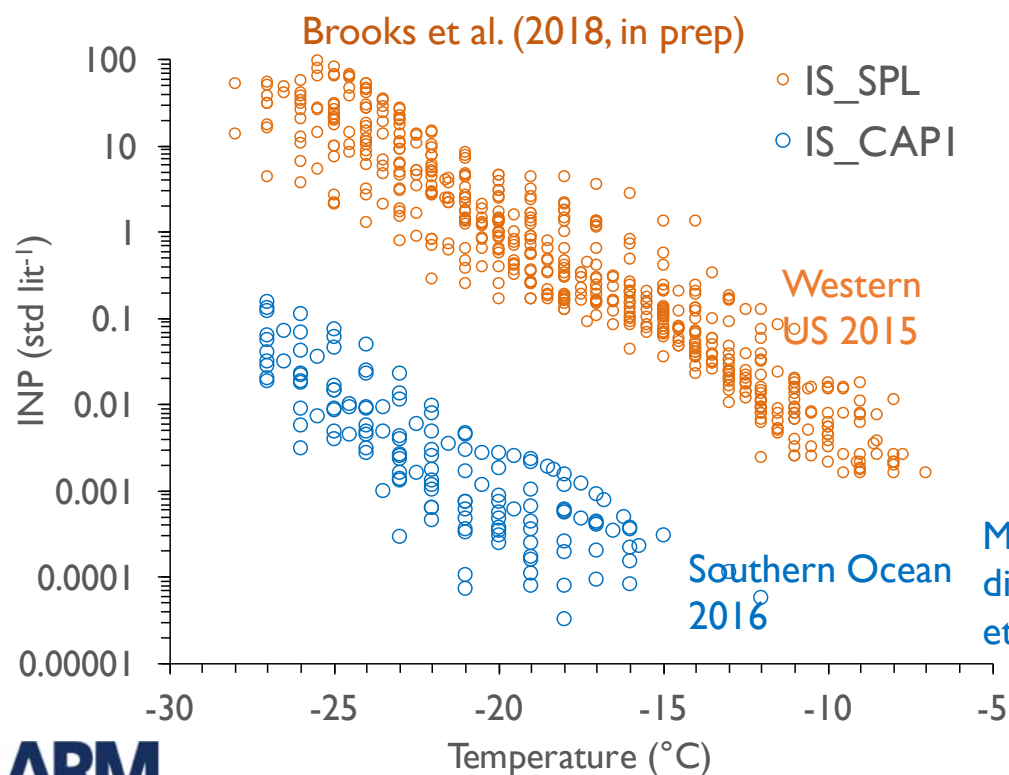
Aerosol surface  
area,  $>0.5 \mu\text{m}$   
aerosol  
concentration



Also available: CPC timeline (CSIRO),  
MFRSR, Aeronet



# Expect extraordinarily clean conditions



PLEASE DO NOT REPRODUCE

Paul DeMott (March 2018)

McCluskey (2017; PhD dissertation) and McCluskey et al. (2018, in prep)