

## Mobile Atmospheric Chemistry Laboratory



*Recently acquired with NSF MRI grant (Jobson, Lamb, Mount, VanReken)  
The mobile lab is equipped with instruments to study aerosol and ozone chemistry*

**Aerosol Lidar**  
PBL height, PM mass  
Leosphere

**NO, NO<sub>2</sub>, NO<sub>y</sub>**  
2 channel instrument  
Air Quality Design

**CO**  
VUV instrument  
Aerolaser GmbH

**O<sub>3</sub>**  
UV absorbance  
Dasibi

**SO<sub>2</sub>**  
pulsed fluorescence  
TECO

**CO<sub>2</sub>**  
IR absorption  
LiCor

**20 feet x 8 feet EKT0 Shelter**  
**200 Amp power distribution**  
**30,000 Btu air conditioner**  
**LAN + remote communications**

**10-m crank up  
meteorological tower**  
Vaisala WTX 510  
weather station

**Particle size distribution**  
2 channel DMA + aerodynamic sizer  
TSI

**CCNc**  
Cloud condensation nuclei  
Droplet Technologies

**PILS-IC-TOC**  
Particle composition, anions, cations, WSOC  
Brechtel-Metrohm-Sievers

**MF-DOAS**  
NO<sub>2</sub>, O<sub>3</sub>, SO<sub>2</sub>, HCHO

**PTR-MS**  
selected VOCs  
Ionicon Analytik

**GC-MS**  
in-situ speciated VOCs  
Agilent



1. Interested in deploying to CalNex to study urban SOA formation (Jobson & Vanreken)
  - locate downwind of urban area
  - use WSOC as a measure for SOA
  - relate WSOC to photochemical processing indices based on VOC ratios
  - looking for funding
2. Interested in deploying to CalNex to support ground sites as a service facility:
  - supply “routine” gas measurements i.e. O<sub>3</sub>, CO, NO<sub>x</sub>, NO<sub>y</sub>
  - supply particle size distribution measurements
  - supply meteorological measurements
  - deploy Aerosol Lidar for PBL height and PM mass loading
  - provide a measurement facility for others

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