# Session 12
# Air Quality from Satellites

**Chair**: *Ralph Kahn* / NASA-GSFC
**Notes**: *Jan Griesfeller* / Met. Norway

**Seed talks**:

*Lorraine Remer*/ UMBC: VIIRS air quality
*Olga Kalashnikova*/ NASA-JPL: polarimetric characterization

# Session 12
# Air Quality from Satellites
## *Main Issues*

1. Obtaining the **near-surface AOD** component

2. **Speciation**– constraining the aerosol type

3. **Spatial Resolution** – especially in urban areas

4. **Temporal Resolution** – often big diurnal variations

# Session 12
# Air Quality from Satellites
## *Approaches to Date*

**1.** Obtaining the **near-surface AOD** component
  -- Parse column AOD using *model vertical profile*
  -- Active sensor (*lidar*) directly or as model constraint

**2. Speciation**– constraining the aerosol type
  -- Use *model aerosol type* mass ratios, initialized by *inventory*
  -- Map general aerosol-air-mass types with *multi-angle obs.*

**3. Spatial Resolution** – especially in urban areas
  -- Aim for *highest possible* resolution retrievals

**4. Temporal Resolution** – often big diurnal variations
  -- Use *model / ground-based* to represent
  -- *Geostationary* measurment platform (e.g., TEMPO)

# Session 12
# Air Quality from Satellites
## *Seed Questions*

## Where do we go from here in each of these areas?

1. Obtaining the **near-surface AOD** component

2. **Speciation**– constraining the aerosol type

3. **Spatial Resolution** – especially in urban areas

4. **Temporal Resolution** – often big diurnal variations