

**University of Maryland Baltimore County - UMBC**  
**Phys650 - Special Topics in Experimental Atmospheric Physics**  
**(Spring 2009)**

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# Class 12 – Measurements of Surface BRDF and Atmospheric Scattering

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- Review calendar for project presentations and term paper
  - Project Presentations: May/08<sup>th</sup> - 9:00AM
  - Final Project Paper: May/20<sup>th</sup> - noon

# Short Quiz on Last week's assignment:

- What factors determine the brightness and the angular distribution of the ocean sunglint?
- How do you expect the polarized components of the light reflected by the ocean to vary as a function of angle?
- Describe how the car instrument can make measurements of the ocean BRDF.

# Experimental measurements

- Measurement of the spectral properties of different surfaces
- Measurement and modeling of the angular and polarization properties of dielectric surfaces in total reflection mode
- Measurement of BRDF properties of surfaces on the principal plane
- Measurement of the phase function of atmospheric particles

- Minimum set of surfaces to measure:
  - Glass, paper, vegetation leave, sand, and standing water, agitated water

# In all cases:

- Determine and evaluate the main source of errors in your measurements.
- Measure the relevant FOVs of your instrument and determine how it can affect your measurements