

**ATS/CIRA Colloquium**

**Pinhas Alpert**

**Visiting ATS from Tel Aviv University, Israel**

**Recent advances in environmental monitoring  
using commercial microwave links**

**Hosted by Chandra**

**Friday, November 21, 2014**

**ATS room 101; Discussion will begin at 11:15am**

**Refreshments will be served at 10:45am in the weather lab**

The propagation of electromagnetic radiation in the lower atmosphere, at centimeter wavelengths, is impaired by atmospheric conditions. Absorption and scattering of the radiation, at frequencies of tens of GHz, are directly related to the atmospheric phenomena, primarily precipitation, oxygen, mist, fog and water vapor.

As was recently shown, wireless communication networks supply high resolution precipitation measurements at ground level while often being situated in flood prone areas, covering large parts of these hazardous regions. On the other hand, at present, there are no satisfactory real time flash flood warning facilities found to cope well with this phenomenon. I will exemplify the flash flood warning potential of the commercial wireless communication system for two different semi-arid region cases when floods occurred in the Judean desert and in the northern Negev in Israel.

In addition, I will review our recent improvements in monitoring rainfall as well as other-than-rain phenomena like, atmospheric moisture. Special focus on fog monitoring potential will be highlighted.

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Link to colloquium videos and announcement page: <http://www.atmos.colostate.edu/dept/colloquia.php>