



2015 DVP(*) Public Lecture

UF Department of Chemistry

(*) *Distinguished Visiting Professor*

Dr. Roger Wiens

Space Remote Sensing Group
Los Alamos National Laboratory
and the University of New Mexico, USA

THURSDAY, December 10, 2015

Location: CHEMISTRY LABORATORY BUILDING (CLB 130)

Time: 4:00 pm RECEPTION: CLB 212 – 3:00 PM

“EXPLORING MARS WITH CURIOSITY”

Abstract:

The one-ton *Curiosity* rover has been exploring Mars for the last 3 years, using its 10 instruments and nuclear power supply to compile the first ground-based evidence for an ancient freshwater lake on the Red Planet. Along its ~10 mile trek so far *Curiosity* has found rock beds containing organic materials and has sniffed small amounts of methane in Mars' atmosphere. Both of these may be tantalizing evidence of life on or under the surface of the Red Planet. *Curiosity* is now beginning to climb Mt. Sharp, a 3-mile high mountain of sediments expected to hold more clues to Mars' climate history and habitability. The talk will also discuss the implications of these findings for eventual human habitation of Mars.

Dr. Wiens started his scientific career by writing the first dissertation on the Mars atmosphere based on samples analyzed in the laboratory, from martian meteorites. He has worked as a scientist at Caltech, the University of California, and Los Alamos National Laboratory, and has made extended research visits to NASA's Johnson Space Center, Jet Propulsion Laboratory, the University of Bern, Switzerland, and Paul Sabatier University in Toulouse, France.

Dr. Wiens was responsible for three instruments for NASA's Genesis mission and he acted in the capacity of Flight Payload Lead. This mission was the first to return to Earth from beyond the Moon, when it landed in 2004 with solar-wind samples that have revealed exciting details about the composition of the Sun.

Since 2004 Dr. Wiens has been the leader of the ChemCam laser instrument on The Curiosity rover (<http://mars.jpl.nasa.gov/msl/>; <http://www.msl-chemcam.com>) which landed in August, 2012. He has directed the US and French team operating ChemCam and interpreting the data returned from Mars. Dr. Wiens has been involved in other NASA robotic missions as well, including Stardust, Mars Odyssey, Lunar Prospector, and Deep Space-One, which include missions to the Moon, Mars, and two comets. In 2014 NASA selected the SuperCam instrument, a successor to ChemCam, to be built for its new Mars rover, scheduled to launch in 2020. Dr. Wiens is now leading this new instrument development.

Dr. Wiens is a very active writer and speaker, giving several public talks each month and publishing a dozen papers per year. Models of his teams' instruments are displayed in museums in Los Alamos and Toulouse, France. A booklet he published on the internet in the 1990s has had a readership of over 10,000 per year for the last decade. His newest work for the public is [Red Rover: Inside the Story of Robotic Space Exploration from Genesis to the Mars Rover Curiosity](#), published in 2013 by Basic Books (New York), which describes his teams' space adventures. Dr. Wiens has a vision to communicate to the public the adventure and challenge of space exploration and to encourage others to pursue their dream despite the obstacles.

