



Lunar CRater Observation and Sensing Satellite

Q & A with Dr. Diane Wooden

By Nicole Clazie, AAE 12th grade student

Being able to interview someone involved in a field of study that you yourself are interested in is a great opportunity. It allows one to see if it truly is a subject they are passionate about and wish to pursue, and it also teaches one much more than reading the same information in a book. It becomes a personal experience. I was fortunate enough that the scientist I interviewed, Dr. Diane Wooden, an astrophysicist at NASA Ames Research Center, desired to conduct our interview over the phone rather than corresponding through email. Speaking with Dr. Wooden directly made a much greater impact on me. I feel I learned and took more out of the experience because I was able to make sure I understood what she was telling me.

1. What is the importance of finding water ice on the moon? What will the water be used for? H₂O will be broken down. The Hydrogen will be used for fuel and the Oxygen will be used for breathing. The radiation is also very harsh on the moon so the water can possible be used as a shield from solar particles.

2. What is the regolith? I have done some research and found out if they don't find water ice they will use the regolith instead. I don't understand this. The regolith is the soil or pulverized rock on the surface of the moon. Water is suspected to also be in the regolith and was delivered there either by comet or asteroid. Asteroids are more composed of rock. Water could have been absorbed into the rock to make a clay like substance and then hit the moon. Comets are more ice and when they hit the moon they could have created a vapor cloud. These are two theories on how water has become part of the moon's regolith.

3. If water ice is found how soon will the next steps be taken? As in when will they begin to use the water for its intended purpose? There is not a specific plan yet. They just want to know if the resource is there.

4. How big will the impact be? The size of the plume? The size of the crater that is made? How fast will the EDUS be going at the time of impact? The crater will be 25-30 meters wide and 1 meter deep. The plume, 20,000 kg will be excavated 6,000 of which will be in sunlight to be observed. The EDUS will be traveling at 2.5 km/sec or 4 mi/sec which is 14,400 mph.

5. What first sparked your interest in space science? The feeling of awe. I decided at the age of nine. I also love the challenge and that I'm always learning something new.

6. What specific part do you play in the LCROSS mission? I play two parts. I contribute my experience using instruments to calibrate and turn digital numbers into watts, and I also lead investigators to do spectroscopy.

The knowledge I gained from doing the interview with Dr. Diane Wooden was incredible. I enjoyed being able to ask questions when I didn't understand. I was able to really make sure I understood and that I was learning. The LCROSS mission is a very important step that needs to be accomplished before future mission to the moon. Finding water ice is crucial in order to use it for fuel and air to breathe.



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