

Five More Conference Presentations

The following are edited transcripts of five more presentations at the Schiller Institute Conference on July 20, 2019.

‘My Favorite Part is Getting People Excited about Science’

by Andrea Jones

Speaking via a live feed from the Apollo 50th anniversary celebration on the National Mall in Washington, D.C., Andrea Jones—Planetary Geologist & Education Specialist, NASA Solar System Exploration Division—reported on the celebration in the nation’s capital. She also fielded several questions on the continuing progress in U.S. space exploration, and its importance for awakening that which is best in people.



Andrea Jones

NASA

It is my sincere pleasure to be there with you in spirit from the National Mall. I’m the Solar System Exploration Division public engagement lead, so I work with all of our planetary science missions and research teams and try to share the science that we’re doing at NASA with people like you. Here on the National Mall, behind me, there’s a giant Moon map where people can walk on the Moon on the National Mall. We have guided tours of lunar sites with NASA scientists. We have Legos out here, we have [Ready Jet Go!](#) and we have people from all over the entire agency here celebrating this great anniversary. Because it is a human triumph, and it is a triumph internationally for everyone, and also for all of NASA.

The lunar landing began it all, and it’s wonderful to be here on the Mall where we can show people how the distance that they’re walking across the grassy area is

about the distance that we first were able to go on the Moon. But with more technology and more confidence as we explored the Moon further, by Apollo 17 we were able to land in a canyon deeper than the Grand Canyon, and with our lunar rovers explore even more of the surface.

We’re getting ready to do that again as we’re heading towards the Moon with Artemis. We’re going to be doing future explorations, and we’re using our current assets like the Lunar Reconnaissance Orbiter, which is a mission at the Moon right now, today, to build on the legacy of Apollo, use our current exploration assets to prepare for future exploration of the Moon. We view the Moon as a place to really test out our boots and check the leaks in our tents before we head on to Mars. It all starts here on Earth, and it all starts with the people in your room, the people here on the Mall who get excited about space and science and exploration, and then share it through forms of art, through music, through cultural expressions.

Following her presentation, there were several questions; we present two of those interchanges here.

Question: My question is, from our last visit to the Moon to now, what have we learned as a nation, as scientists moving forward to return?

Jones: What a good question! There are so many things, but I’ll just choose a few to highlight, because I really think that this could take forever. Some of the things we have learned most recently are with our Lunar Reconnaissance Orbiter (LRO). That is at the Moon right now; we just celebrated ten years at the Moon in June. Fifty years of Apollo, ten years of the Lunar Reconnaissance Orbiter. With that mission, we are rewriting the textbooks of lunar science.

Before LRO launched, we had thought that the Moon was essentially a geologically inactive place. We thought most things had happened on the Moon a long time ago, and we were just going to go read those records. But what we have found is that the Moon is still an active place today. We are watching new

impact craters form on the lunar surface all the time. We keep monitoring that, and it turns out the lunar surface is turning faster than we thought, which has implications for future exploration, because you have to build to maintain structures that will last through a heavier bombardment of especially micro-meteor impacts than we had anticipated. So that was really important.

We've also found evidence of recent volcanism; recent being again on the scale of millions of years. But given that the Moon is billions of years old, finding volcanism that's millions of years old may mean that it could even continue to happen today as well.

We're also finding more evidence of water on the Moon. From the Apollo samples, we actually did have water in them; but our technology at the time was not able to identify that water, or at least not definitively. Now we have new technology that allows us to do better analyses of the samples that we brought back 50 years ago. We have evidence from remote sensing from radio telescopes from, again, our Lunar Reconnaissance Orbiter, from the Moon Mineralogy Mapper on the Chandrayaan-1, that has helped us understand that there is water all over the surface, especially at the poles. Which is one of the reasons that we're driving towards the poles, especially the South Pole, with our next lunar missions with people. So, *so* many things; but those are some of the highlights from recent days.

Moderator: Andrea, could you tell us why you got interested in space? How it happened, and why you do what you do?

Jones: Well, I'm a scientist, that's my calling. But I grew up camping and hiking and learning about the world at the beaches, in the mountains; wondering why are the oceans where they are, and why are the mountains getting taller in some places and getting shorter in others. Then my parents took me out West, and I got to see the night sky in a way I had never experienced. I was just awed and inspired and amazed that there were worlds outside in this huge galaxy that I had never even really thought about. So, I got into geology; I wanted to study the Earth, and then I really wanted to study the stars as well. I found this field called planetary geology, where you can combine your love of the Earth with your love of space and put them together.

I went back to graduate school and did my graduate

work in planetary geology and with the HiRISE Camera, the High Resolution Imaging Science Experiment on the Mars Reconnaissance Orbiter. From there, I just couldn't get away from space missions, so that ultimately led me to NASA Goddard. It has been a great ride, but really the story is that I love science, but my favorite part is getting other people excited about science. So now I get to stay informed with the science, but really what I get to do is get other people excited, and that is just the best job I can possibly imagine.
