



The Our American States podcast—produced by the National Conference of State Legislatures—is where you hear compelling conversations that tell the story of America’s state legislatures, the people in them, the politics that compel them, and the important work of democracy.

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Moon Landing at 50: STEM, States, Science | OAS Episode 64

Gene: Welcome to “Our American States,” a podcast of meaningful conversations that tell the story of America’s state legislatures, the people in them, the politics that compel them, and the important work of democracy. For the National Conference of State Legislatures, I’m your host, Gene Rose.

We’re heading to the stars on this episode of “Our American States.” We have as our guest Jody Singer, who is the director of NASA’s Marshall Space Flight Center in Huntsville, Ala. She manages one of NASA’s largest field installations with nearly 6,000 civil service and contractor employees and an annual budget of approximately \$2.8 billion.

Jody began her 32-year distinguished and award-winning NASA career as an intern, spent 25 years with the Space Shuttle Program as an engineer and project manager, including leading the Solid Rocket Booster Team during the Columbia return to flight activities. Jody, welcome to our program.

Jody: Thank you very much. I’m glad to be here today.

Time Marker (TM): 1:12

Gene: So, Jody, this summer NASA and the country are celebrating the 50th anniversary of the first walk on the moon. Can you tell us some of the highlights of how NASA is going to be helping Americans celebrate this historic event?

Jody: Oh sure. This summer the Apollo 11 anniversary is bringing together organizations representing science and academia and the arts. It’s really a national event. It’s coast to coast. There will be people from New York to Seattle. There will be dozens of libraries, museums, planetariums, schools, and all of us are working together to be hosting what we’re calling the Anniversary Event, and there will be bringing a lot of NASA exhibits and speakers.

And I will say for the listening guests that many of the events can be found online at spacestemnasa.gov/events. And what’s really going to be cool about this is each of the NASA

centers will be hosting different events and it will be so much fun to be not only talking about our past, but where we're going forward.

And celebrating the Apollo will air on July 19, but not only will it highlight Marshall's role toward the success of Apollo by broadcasting from the Space and Rocket Center, which is here in Huntsville, Ala., and serves as our NASA Visitor Center, it will also be viewers that will see a lot of content from each center, each center such as Kennedy Space Center, the Johnson Space Center will be among the ones too that will be also hosting and telling what parts we played in the event.

Because when you think about it, you know, the actual Apollo 11 command module, which returned our astronauts from the moon when it splashed down in the Pacific Ocean, is now on its first nationwide tour since 1971. And so that is going to be something that's going to be great for this nation.

When you think about the National Air and Space Museum has created a traveling exhibit called Destination Moon, which can be viewed at the Museum of Flight in Seattle, Wash. And then also NASA is planning on collaborating with the Air and Space Museum on large-scale Apollo celebrations on the National Mall in Washington, D.C., which will also be occurring from July 16 through the 20th.

So for more local events in the Huntsville area on July 16, our partners, the U.S. Space and Rocket Center, will attempt ... which is going to be one of the fun things that I'm looking forward to, is attempting a Guinness World Record by simultaneously launching over 5,000 model rockets. So it will be a fun event for all to be a participant in, not only engineers like myself, but family members and anybody that wants to relive not only what we did 50 years ago, but what we'll be doing in the future.

TM: 3:57

Gene: One of the reasons we wanted to talk to you, Jody, is that there in Huntsville as I understand it, NASA is working on a major launch project that is going to incorporate contributions from all 50 states. Can you tell us about this mission and how states are going to be involved?

Jody: Definitely. The Marshall Space Flight Center is working on the Space Launch System, or we refer to it as the SLS. And the SLS is definitely this nation's rocket. When you think about it, it is America's rocket which will be launching astronauts in the Orion capsule onto the moon and missions beyond.

And when we talk about it being a national system, the reason I say that is because over 1,100 companies in over 44 states have an active part in supporting the engineering, the fabrication, the testing and the vehicle components, which is a significant impact not only for this nation, but for the states that are heavily involved.

And when you think about it, the Space Launch System, its activity supports more than 32,000 jobs nationwide and produces a total economic output of about 5.7 billion. So when you include the work that's going on with our sister projects such as the ground support systems at Kennedy

Space Center and the Orion capsule, and like I said, with the mobile launcher, that ends up being over 3,300 vendors, which covers all 50 states.

And so we're working as a team and as a nation to get America back to the Moon by 2024 and have sustained presence by 2028.

TM: 5:32

Gene: And so having contributions from the states is an important function of what you do there in Huntsville?

Jody: Oh, yes, it really is. When you think about the pride that each of the folks in this area, when you think about Marshall Space Flight Center, not only have we had significant roles in the past, but when we think about what we're doing today in developing the Space Launch System, and the Space Launch System itself is a vehicle that has been designed specifically for this mission, it will be and continues to be the backbone for deep space human exploration. So this really is America's rocket.

And I mean that because America needs SLS and the expertise here in Huntsville to push our nation deeper into space than we've ever been before, not just to the moon, but to Mars and beyond. And it's not just to explore, but it's to launch the systems that we need. The Space Launch System is capable of launching not only the Orion capsule, but the space systems that we need to live and work into space, as well as to carry all the other things that are going on today, like the Vice President challenged us to do, to have boots on the moon by 2024.

So that includes the gateway to deliver landers, to conduct science, and ultimately deliver on our commitment to the American taxpayer and our international partners to go back and to do more than we've ever done before. To me, the future is just so bright.

TM: 6:57

Gene: It does seem to be an exciting time. As you mentioned, you seem to have some administration support for NASA. Is there some renewed enthusiasm there in Huntsville?

Jody: Oh, definitely. I will tell you that not only our workforce, but our community, as well as the state of Alabama and this whole nation are so excited about the opportunity to be a participant. And I will tell you, I'm having a lot of fun because I go out and talk to the community and even certain folks that we go and talk to, telling them about the part that they play in this vehicle, from the school teachers to the industry partners ...

And particularly Marshall Space Flight Center has worked with NCSL for the past two years to make sure that we inform the legislators about the importance of science, technology, engineering and math, or STEM, and how it is a critical part of developing our workforce and keeping people energized, not only to make sure that we have the next engineers and scientists, but that we have the pipeline that our industry partners need, because it is definitely a team effort.

You know, I have a lot of fun this year. I've even gone and spoken to our capitol in Alabama in Montgomery. We've also recently gone to Baton Rouge, La., not only because that is where, from the Marshall Space Flight Center being located in Alabama for the Alabama pride, but also for NASA where we have the Michoud Assembly Facility in New Orleans where we are producing the core stages that will help be a critical part of SLS.

And so when you think about the enduring partnerships not only by our states, but from the Southeastern region, you think about how much it benefits the state, the economic growth and the inspiration. And it really is fun doing a lot of the outreach opportunities because it really helps us and gives us the opportunity to tell about the work we're doing, to talk about the challenges that we have, the excitement we have ...

It's also fun to be able to share and help the world and the nation to be a part of that and live through it with us, because sometimes I think we do a great job of talking about the challenges we have, but sometimes we undersell ourselves and talk about why some of the key, major milestones really do make a difference and why if we aren't successful in those tests, why that could challenge our ability to get back to the moon.

So I think being able to go out and talk about that and to bring on the next generation of engineers, and to also make sure that the different states that don't have a NASA center in them ... we have 10 NASA centers that are located all over the United States ... So we really like to go back and talk to everybody and make sure they understand why it's important to the nation, not just to the states that have a NASA center, and making sure that they understand this is truly for our nation and it's really what we want to do as American people is to put Americans back on the moon.

And again, one of the things we love to say and you've heard the administrator say, we're looking forward to putting the first woman on the moon by 2024 as well as the next man, and then being sustained boots, and to me that is energizing not only for our nation, but for the world, because it is something that we have to do together.

Gene: As a man who remembers watching the launches of those trips to the moon, I've been fascinated over the years about how science has been used in those and future missions and how they've contributed to a better quality of life, not only for Americans, but for people around the world. And I think it's often an overlooked story.

TM: 10:26

Gene: Can you walk us through a few examples of how NASA science has made changes in the way we live?

Jody: Well, I can definitely tell you when you think about the International Space Station that's been in operation for over 18 years, a look at the different science that we understand, not only the ability of radiation on the body, we also have done many experiments where we understand about advanced in-space manufacturing ... We also have had many things that we've worked on with science, understanding medicines and how they produce.

Also that doesn't even cover what we've done as far as understanding our world and beyond. We understand a lot more about our planet and how the effects affect not only here on earth, but affect our ability to communicate, our communications. So it's just an abundance of things.

The other thing I can think of is definitely our ability to help us predict weather and understand the impacts of weather and how our natural environment affects us. And then I'm also very proud of a lot of the advanced materials that we come up with that help a lot with when you think about the paraplegic, you understand the different lightweight materials and how they can be used.

A lot of that are just the technologies that have spun off that have helped the American public, and I just know there is so much more yet to come, because I know when we're landing on the moon and we're able to tap into the resources that are on the moon, we'll find a lot of things that we didn't even know existed, and that will be part of us having to be able to live.

You think about propulsion, you think about where we're going with power—it's just a wide opening of the future and the technologies that we can't even imagine that are about to hit.

TM: 12:08

Gene: You talked about reaching out to state legislatures. NASA is a federal program, but is there any role for state legislators in America in terms of being of assistance to NASA?

Jody: Absolutely. I think the more that NASA can have the involvement in making sure that state legislators understand the funding, understand the benefits, and to actively being part of it ... also I think any help that we ever have as far as developing with our school systems and our education—the STEM is such a critical part because that is the seed corn that helps us go forward.

And when you think about the next batch of leaders on a national stage, it makes such a difference for them to help understand and help promote and help us to attract the next folks that will make a difference, being it the next astronauts, engineers, legislators, presidents. I just think the future is so bright.

And so I think any support that we can do and get from them is such a helpful thing. And in return we like to deliver.

TM: 13:13

Gene: So, Jody, we've talked about a lot of good things here. Is there something I haven't asked you about that you think would be important for state legislators or the general public to know about what you're doing there in Huntsville?

Jody: Well, I'm always proud of my home state. I'm always proud of Marshall Space Flight Center. When I think about our heritage and our expertise in large structures and the environmental life science systems that help us live and work in space, when I think about all the talented workforce and this economic area, and the criticality of what we do for this nation, I just really want all the legislators to understand that we are here to be part of a team paying it forward,

and we really do want to keep going with deep space exploration. And we believe our center is well-equipped with great folks ready to go.

And I think the next program that the administrator brought up, Artemis, it will definitely be where women definitely set foot on the Moon for the first time and will continue to be a key role. So if I can inspire the next generation of leaders to seek and reach for the stars, I would tell them to.

TM: 14:22

Gene: OK, Jody, we'll get you out on this. For those that work in state capitals and the general public, what resources would you recommend that they follow to keep up-to-date on the work that you do there in Huntsville and NASA?

Jody: Well, NASA has several websites, but probably the best one I would say is www.nasa.gov and we definitely use social media extensively. We can also be followed on twitter and other social channels.

Also specific to Marshall Space Flight Center, you can visit www.nasa.gov/marshall to learn about all the exiting things we have going on and all the events that will be going forward, not only for the 50th anniversary celebration, but what we're doing every day to help us be ready to return to the moon. It's an exciting time and we love to share it. So please, we welcome all to join in and join us on the journey.

Gene: We've been talking with Jody Singer, the director of NASA's Marshall Space Flight Center in Huntsville, Ala. Jody, thank you so much for taking time out of your busy schedule to talk with us today.

Jody: Thank you so much, Gene, any time.

Music and Gene VO:

And that concludes this edition of "Our American States." We invite you to subscribe to this podcast on iTunes and Google Play. Until our next episode, this is Gene Rose for the National Conference of State Legislatures. Thanks for listening.