AirSpace Season 1, Episode 2

The Right Stuff Right Now

Nick Partridge:

When did you know that you wouldn't be an astronaut?

Emily Martin:

It was sometime in the mid 2000s when I had had the realization that I get carsick.

Nick Partridge:

They call that the Garn scale of space sickness.

Emily Martin:

The Garn?

Nick Partridge:

Yes. One Garn is extremely space sick, named after Senator Jake Garn, who famously suffered severe space sickness during his first flight.

Emily Martin:

What about you, Matt? You're still rearing to go.

Matt Shindell:

Oh yeah. I'm not a hundred percent convinced that it's not going to happen for me. At some point, there's going to be a call for historians to go to the moon.

Nick Partridge:

Matt runs seven miles every morning in preparation for that day.

Matt Shindell:

Mainly in my imagination. But yes, that's right.

Nick Partridge:

Welcome to AirSpace, a podcast from the Smithsonian's National Air and Space Museum, with support from PRX. This episode is about what it takes to be an astronaut. Maybe it was your dream. Maybe it wasn't, maybe you haven't given up the ghost and you're hoping to be the first poet in orbit. What is the right stuff right now? That's coming up next.

Welcome to AirSpace, a podcast from the Smithsonian's National Air and Space Museum. We are your hosts.

Emily Martin:

Hi.

Matt Shindell:

Hey.

Nick Partridge:

Yes, all three of us.

Emily Martin:

I'm Emily Martin.

Matt Shindell:

I'm Matt Shindell.

Nick Partridge:

And I'm Nick Partridge. Today, we're going to introduce you to a woman who had her space dreams, figuratively, flushed down the tubes and how she went on to make a lasting impression on one of the most impressive women in space history. We'll discuss the crazy tests that early space hopefuls went through with author and historian, Margaret Weitekamp.

Margaret Weitekamp:

So one of the things that they did was essentially freeze their inner ear by putting ice water in their ears, and your eyes shutter back and forth.

Nick Partridge:

And we'll talk with one woman about what it felt like to actually get the call from Houston to take the most intimidating interview of her life. So what it takes to be an astronaut. If you're not currently training to be one, you might be surprised to learn that the desired skills have changed quite a lot over the years. Definitely since this movie came out in 1983.

Actress:

The following must be maintained in the position between these two lines. You may begin now. [inaudible 00:02:23]

Nick Partridge:

Those were the gurgles of the aspiring astronauts of the Mercury Seven. Let's call them astronaut class number one, as played by actors in the classic 1983 movie, "The Right Stuff". In that scene, they were turning blue in the face in order to demonstrate their impressive lung capacities. Today, just like back then, solid physical health is an important characteristic for aspiring astronauts. But other skills are considered too: interpersonal skills, professional and technical expertise. We work for the National Air and Space Museum. And although we're probably in not quite the same physical shape as astronauts like Al Shepard and John Glenn, we are on the periphery of the industry.

Matt Shindell:

We're space adjacent.

Nick Partridge:

Space adjacent, I like that. Do you think this is as close as you're going to come? Are you ever going to fly in space?

Matt Shindell:

My mom pretty much still thinks I'm going to be an astronaut in some way, in some form. I don't know where she gets that.

Nick Partridge:

I don't know that I've given up the ghost yet either. When I was very small, my mom would take me out to a pier near our house and we could watch the space shuttles. We lived along the coast and we could see them going up from Cape Canaveral and I hoped to honor those extraordinary measures. Once NASA realizes they need a near-sighted space speechwriter in orbit.

Emily Martin:

With space tourism becoming a thing, they're going to need more and more people to go up and actually be able to talk about the experience from a tourism standpoint. And I think we're great candidates for that.

Matt Shindell:

Yeah. The moon is going to need a curator at some point.

Nick Partridge:

The real question is, do they put suede elbow patches on spacesuits?

Matt Shindell:

I hope so.

Nick Partridge:

I hope so too. Lunar beta cloth tweed.

Matt Shindell:

Tweed!

Emily Martin:

Tweed is where it's at, it's not corduroy anymore? When did that happen?

Matt Shindell:

Space tweed.

Nick Partridge:

We were all encouraged to believe that we could be astronauts if we just set our minds to it. Encouragement is obviously an important step in seeing through any long-term goal. And that brings us to a remarkable woman from Austin, Texas.

Linda Halpern:

My name is Linda Halpern. I was formally a litigation lawyer.

Nick Partridge:

Linda Halpern, she recently retired from the Texas Attorney General's office where she was the Assistant Attorney General in charge of complex litigation. She was in one of the first co-ed classes through Princeton University. She went to Georgetown Law and then went to work for the Justice Department. She's humble but proud of her accomplishments. And as a kid, she took a broad view on her options about what to be when she grew up.

Linda Halpern:

I was a big Yankees fan at the time. Baseball was big in our house.

Nick Partridge:

When she was in elementary school, she was really into writing letters to famous people. Maybe she was looking for some inspiration or just not getting mailed back from celebrities was kind of neat.

Linda Halpern:

I know that I received a letter from Mickey Mantle. Think he hurt his left leg sliding into third or something. And I have a letter from him dated May 22nd, 1962, basically thanking me for hoping that he gets well.

Nick Partridge:

And there were more.

Linda Halpern:

A letter from the vice president of the country club in our little small town, a letter from Hubert Humphrey. This letter from NASA.

Nick Partridge:

Linda kept all the letters she received in return in a folder that she still has today.

Linda Halpern:

It was just a green nondescript folder.

At some point, I took the NASA letter out and stuck it in a cheap frame. I'm looking at it, it's cheap wood. You could probably buy it at a Five-and-Dime for about three bucks.

Nick Partridge:

That letter in the frame is dated March 13th, 1962. It was less than a month after John Glenn became the first American to orbit the earth. Linda was eight years old at the time. And the moment in history inspired her to write a special letter.

Linda Halpern:

I wrote a letter evidently to President Kennedy saying that I wanted to be... I don't know if I said I wanted to be the first woman astronaut or that I wanted to be an astronaut, but apparently President Kennedy kicked the letter over to NASA, who on March 13, 1962 sent me a glorious tube letter.

Matt Shindell:

That is Linda's way of saying...

Linda Halpern:

As your application has been flushed down the tubes, they basically did not think girls could go into space.

Nick Partridge:

This is the letter Linda received back from NASA.

Linda Halpern:

"Dear Ms. Halpern, President Kennedy has asked this office to thank you for your recent letter. Your willingness to serve your country as a volunteer woman astronaut is commendable. However, while many women are employed in other capacities in the space program, some of them had extremely important scientific posts. We have no present plans to employ women on space flights because of the degree of scientific and flight training and the physical characteristics which are required. We appreciate your interest in and support of the nation's space program. Sincerely, O.B. Lloyd Junior, Director, Office of Public Services and Information." That's it

Nick Partridge:

Not the most encouraging thing to send a precocious young American girl, but Linda wasn't crushed. Linda went on to become a very successful trial attorney. Though, she did hang on to that letter.

Linda Halpern:

I thought it was amusing. And I guess on some subconscious level, I figured it might be interesting someday. If a woman finally got up and I turned out to be right.

Nick Partridge:

It took quite some time, but 20 years later, NASA finally did send a woman into space.

Speaker 7:

Seven, six. We go for main engine start. We had a main engine start and the ignition and lift off. Lift off of STS-7 and America's first woman astronaut. And the shuttle has cleared the tower.

Nick Partridge:

Sally Ride was selected as an astronaut candidate in 1978. She was part of NASA's eighth class. NASA doesn't form new classes every year and each class varies in size according to the needs of the missions they'll be flying. In 1978, the group was 35 people, bigger than the others because NASA was ramping up their new space shuttle program. Five years later in 1983, Sally Ride made history as the first American woman to fly in space.

Linda Halpern:

I was certainly very pleased that NASA had finally seen fit to send a woman into space.

Nick Partridge:

Around that time. Linda looked at the letter NASA had sent her back in 1962. It was right there in that same cheap wooden frame. And so Linda, the prolific childhood letter writer grabbed a pen and addressed a new envelope. This time, not to the President of the United States. She tucked in a copy her so-called tube letter and mailed it to Dr. Sally Ride.

Linda Halpern:

I wanted to share with her the original letter because I thought it would be something that she could have a good laugh about. I was pleased for her, I was pleased for us.

Nick Partridge:

And to Linda's delight, she received a letter in return, handwritten from Sally Ride. It read...

Linda Halpern:

"Dear Ms. Halpern, I liked my letter from NASA better than yours! Sounds like it's time for you to reapply, no telling when we will need trial lawyers. Sincerely, Sally Ride."

Nick Partridge:

Linda was touched.

Linda Halpern:

Oh, I loved it.

Nick Partridge:

And tucked Sally Ride's letter carefully away.

Linda Halpern:

I was tickled to death to hear back from her.

Nick Partridge:

Maybe into that same old green folder. When Sally Ride died in 2012, her partner Tam O'Shaughnessy donated a significant collection of Ride's personal possessions and papers to the National Air and Space Museum. And among those papers, one handwritten letter sent by Ms. Linda Halpern. Last year, I got in touch with Linda to let her know that the letter that she had passed on to Sally Ride was now part of the Smithsonian's collection. Linda had no idea that Sally had kept it all of these years.

Linda Halpern:

The best part of the phone call honestly, your charm not withstanding, was finding out that Sally Ride had held onto my letter and that it was in the, as you put it, small stack of papers that she had when she died. And that to me, was very meaningful because that means I made the right choice in sending my letter to her. I'm a little stunned that something that I did in second grade is a part of your collection. But I think the significance is not to do with something that I did, but it's something that she kept. If that was some small contribution toward making her feel even better about her accomplishment, then I'm thrilled.

Nick Partridge:

The space program has thankfully changed in even more ways than just allowing women to fly. More on that after the break.

Speaker 8:

Tonight, Freedom 7, the story of the first American in space. Commander Alan Shepard shortly will tell for the first time in public, how it feels to be shot 115 miles skyward, at a speed of 5,100 miles per hour, to become America's first man in space.

Nick Partridge:

All the major radio networks had a special report. Al Shepard had become the first American in space. From that date in 1961 to Sally Ride's flight, 22 years past, 22 years before NASA opened the doors of entry, just a little bit wider. They expanded their astronaut classes from what had been an exclusive group of white male, military trained test pilots. They started to include other people as well. Before we get into who made it into those astronaut classes, we should talk about the ways that the space program itself expanded. Matt, what were some of the big differences from the start of the space program to today?

Matt Shindell:

So if you look at NASA's man space program in the 1960s, this was a program that had very specific goals that it wanted to achieve as quickly as possible, what you would call a crash program. Not that they were trying to crash any of their vehicles, but that they wanted to do this as quickly as possible and crash through barriers as quickly as possible.

Nick Partridge:

As long as you were a white man from one of the service branches.

Matt Shindell:

Sure. Yeah. They weren't breaking any barriers in that respect, but they were breaking technological barriers. And then if you look at the 1980s and the shuttle program, this was supposed to be a long-term more affordable, more routine form of space travel, where you were going to be going up and doing all kinds of things in space and delivering things into space. If you look at the space shuttle, it's like an 18 wheeler that's become a spaceship.

Emily Martin:

I want to talk about the astronauts working towards these shuttle missions. Sally Ride's astronaut class was NASA's eighth astronaut class. And this was also the first class to be on a shuttle mission. And the skill sets that these astronauts needed started to look much more diverse and much different than our original astronaut classes. The eighth astronaut class had African-Americans, women, Jewish Americans, as well as the first Asian American astronaut candidate.

Nick Partridge:

So this is a great moment to introduce another expert, someone to talk a little bit about how the skills and requirements changed.

Emily Martin:

Hey Margaret, come on in and take a seat.

Nick Partridge:

Our colleague Margaret actually wrote the book on this.

Matt Shindell:

Literally.

Margaret Weitekamp:

My name is Margaret Weitekamp. I'm a curator in the Space History Department, here at the Smithsonian's National Air and Space Museum.

Nick Partridge:

The book is called "Right Stuff, Wrong Sex." Margaret, we know that changes to the astronaut program emerged in the 1970s. We talked about how the space program itself evolved. How exactly do those changes lead us to Sally Ride? And why do we now have a tennis racket in the collection of the National Air and Space Museum?

Margaret Weitekamp:

Tennis played an important part in Sally Ride's selection because when they were looking for an astronaut corps for the space shuttle, where they wanted to pick from a different kind of person than they had picked when they were looking mostly at military trained jet test pilots to be pilot astronauts. They wanted people who had academic degrees, who could be the researchers in the space shuttle. And that meant that they needed to find a way to be able to vet both men and women. And at this point you really would not have found women with the military training that NASA found a such a convenient way to be able to test the quality of the people. So being someone who had played a competitive sport on her resume, was seen as something that showed that she could take instruction, that she was coachable, that she could carry out physical instructions, and that she had some idea of how to work on a team.

Nick Partridge:

Can you talk a little bit about the introduction of Title IX legislation?

Margaret Weitekamp:

The 1970s and specifically the early 1970s were a critical time for change for women's opportunities in the professions and education. And that led to these kinds of high level things such as being an astronaut. So notably in 1972, Title IX was passed, which was an addition to the Civil Rights Act of 1964. The Civil Rights Act covered employment and public accommodations. Title IX brought it to educational institutions and specifically said that any educational institution, and that became high schools or colleges, that took federal funding couldn't discriminate on the basis of sex. That got women access in equality to law schools, to medical schools, where there had traditionally been quotas or allocations for women students, but it also gave them access to athletic opportunities and most importantly, athletic scholarships.

Matt Shindell:

So at the time that the US was first searching for the first humans it would try to send into space, there are actually some women who did take the qualifying tests and train a little bit to become astronauts. Who were those women?

Margaret Weitekamp:

That was a group of women who Randy Lovelace, the originator of the astronaut tests, actually invited on his own dime to come to his center. So if you've seen the movie "The Right Stuff", Philip Kaufman, 1983...

Speaker 9:

And the search began for a new breed of men, men who were fearless.

Speaker 10:

You've heard about our project.

Speaker 11:

Sounds dangerous.

Speaker 10:

It's very dangerous.

Speaker 11:

Count me in.

Margaret Weitekamp:

Great picture. Give some depiction of what the Mercury astronauts went through. The doctor who designed those same tests was curious about whether women might actually be as physically qualified as the astronauts that they had actually picked.

Emily Martin:

Can you think of some tests that maybe we might balk at now, with the hindsight that we have, where we'd be like, "Really? Somebody's going to really test that?"

Margaret Weitekamp:

They really worried about the vestibular orientation, how the inner ear would react and how balance would be affected. So one of the things that they did was essentially freeze their inner ear by putting ice water in their ears, watching their eyes. Nystagmus is what it's called when your eyes shutter back and forth, right before you basically pass out and waiting to see how long it would take before you could focus again. The nerve tests that they were doing really required sticking a big needle in your arm and sending shock waves down and then seeing how fast the muscles and the nerves react and could come back to normal. There was a set of twins who went through the tests, Marlene and Jan Dietrich, and one of the twins who had gone through first wrote to her sister. And what she notably said, "They're painful, they're uncomfortable, but they will never actually hurt you."

The only piece of scholarship that was ever published out of the Lovelace women's tests was actually a conclusion that women were highly unreliable physiologically because their monthly cycles would mean that you could never line them up appropriately with a launch schedule.

Matt Shindell:

Why was the US not ready for this?

Margaret Weitekamp:

The US on the one hand was more interested in the science and the technology of space flight and less in the achieving of the first. They were also losing at achieving the first, which is one of the easy ways to then say, "Well, we're not competing in that realm. We're interested in something long-term." When women were added to the shuttle program in the late '70s and began flying in the early 1980s, it became a more sustained part of the program although, space is still really a boys' club. To this date, only about 60 women have ever flown in space.

Nick Partridge:

Is that a little more than 10%?

Margaret Weitekamp:

It's just about 10 or 11% out of 500 or so space travelers.

Emily Martin:

Wow! That is a staggering statistic. I guess in my head, which is a slightly different generation, my picture of what an astronaut class looks like looks very similar to what just came out for the most recent class, which is so not representative of what these astronaut classes have been looking like historically. When you actually put it to numbers, it's staggering.

Nick Partridge:

So in a spacecraft, there is a premium on space. There is a premium on weight to get into orbit. Women also require a lower caloric intake. Has there been discussion on whether those are significant advantages on a deep space mission? For instance, Mars?

Margaret Weitekamp:

The advantages physically that women have, being lighter, being shorter, requiring less food, less water, less oxygen, definitely translate into the launch vehicle. Right? So for every additional pound that you've payload, that you put on the top of a rocket, you need to put a certain amount of fuel on that rocket to

lift it. And then you need to add fuel to lift that fuel off. So any pound that you can save at the top kind of cascades down through the vehicle. That's going to be true also for a long duration mission, that if you can pack fewer supplies for a smaller, more compact, more efficient astronaut, then that has potential. The issues that are coming up for real long duration space tend to be ones where they're concerned about radiation. They're concerned about psychological stability and on those kinds of issues, women's bodies and men's bodies don't differ that much.

Matt Shindell:

Margaret, did you want to be an astronaut when you were growing up?

Margaret Weitekamp:

No. My brother wanted to be an astronaut when he was growing up and he sent a letter off in the early 1980s applying to be the first kid on a space shuttle. And I remember we got a big fat packet of materials back from NASA that decorated his room for years. I was at Sally Ride's launch in 1983. I was on a family vacation and we went to the Kennedy Space Center and my mother was asking, would we be able to see it? Could we be at the Kennedy Space Center? And the gentleman there explained to my family that came from the Hills of Pennsylvania, that Florida was flat. And if you were anywhere in the state, you would be able to see the launch the next day. We watched it from the hood of our rental car. As we were listening to it on the radio and as the countdown got down, every car pulled off the highway and everyone just sat on the hood of the car and stood outside and watched.

Emily Martin:

Oh my God, it's like the solar eclipse, except for a way bigger deal. Right? I've never been to a launch, but if I had to pick a historical launch, I think that would definitely have been top of the list. It was a big deal.

Margaret Weitekamp:

Well, my mother is convinced that from there, direct line to curator at the Air and Space Museum.

Nick Partridge:

So once you think you have the right stuff, how do you actually apply to become an astronaut? One of the coolest things about working for the National Air and Space Museum is that all of our friends are astronauts. Not really. Some of us at least have almost astronaut friends. Take it away Emily.

Emily Martin:

So I want to introduce you guys to my friend, Dr. Kate Craft.

Kate Craft:

Hi, I'm Kate Craft. I'm a planetary scientist.

Emily Martin:

I would have loved to have had Kate here in the studio with us, but she's away doing astrobiological field work. She was able to talk to us via Skype.

Kate Craft:

I think it would be so amazing to find life on another planet someday.

Emily Martin:

That's Kate from Antarctica. She's there doing field work right now, which really just makes her that much cooler.

Kate Craft:

I've now landed on ice. So that was really awesome.

Emily Martin:

Kate is not only excited about space, but she's also a little bit of a nerd about airplanes.

Kate Craft:

I mean, I was like a kid in a candy shop when we got to take the C-130 here. It was just so awesome. And I thought this was super cool, we had a female captain who piloted our playing in. So I shook her hand afterwards.

Emily Martin:

Kate's someone I've known for a long time, and we've even worked at a handful of projects together. And Kate's enthusiasm for exploration and science shows itself in pretty much everything she does. She's had her sights set on becoming an astronaut since her earliest days.

Kate Craft:

I, as far back as I can remember, I've been interested in space. I mean, I wanted to be an astronaut my whole life.

Emily Martin:

Kate's lived an extremely active and busy life. And now that NASA is focused on longer duration missions, Kate's lifestyle seems to have been a kind of long-term training for the rigors of space travel.

Kate Craft:

I played soccer and I've done a few triathlons, cross country skiing and ice climbing.

Emily Martin:

Combine all that with years and years of focused study and flight training. And one day, Kate actually got online and filled out an astronaut job application.

Kate Craft:

Yeah. I mean, it's crazy. You're applying to be an astronaut and to actually think you could be qualified it's...

Emily Martin:

She used a website called USAjobs.gov. And for those of you who don't work for the federal government, that is the federal government's employment site. That job application portal is the same

place where people at the Forest Service apply for their jobs and the USDA, the Office of Management and Budget, and even the National Air and Space Museum. But this was an application to be an astronaut.

Kate Craft:

It's a little surreal.

Emily Martin:

And then for the most not surreal part, Kate waited. Over the year, Kate has actually applied three different times and has not made it, yet, all the way through to acceptance. The most recent astronaut class was actually narrowed down from 18,000 applications to just 50 who were invited for a final in-person interview. It's a process that takes some time. And so while Kate waited to hear news about her application, she continued with her day job.

Kate Craft:

Yeah, it was a little bit funny. I was actually coming back from Iceland where I had gotten to do some field work and I was in the airport and I was rushing to try to buy some last minute gifts for my family.

Emily Martin:

Been there. Totally running late at airports all the time.

Kate Craft:

And I got a phone call and I was screening my calls because I was long distance being an Iceland, and I looked down and I saw the area code 281. And I was like, "What? I don't know anybody in 281." And so I started to put it back.

Emily Martin:

I probably would have done the same thing. I screen all my calls. So if it's a number I don't know, I'm not picking it up.

Kate Craft:

And then it hit me, 281, that's a Houston area code. I tried to grab it out of my pocket again in time, but I had missed the call. And so I was like, "Well, I'll call them back tomorrow. I'm sure it'll be fine." But I was so nervous the whole way back home, and then I had to wait until the morning. But I called and they were like, "Oh, okay. Well we'd like to invite you down for an interview." And I was like, "Oh, okay!" I was so excited and just... Wow!

Emily Martin:

Kate, like every good interview candidate dove into practicing. She did a bunch of mock interviews with friends and reviewed her skills, experience, interpersonal strengths and weaknesses. And before she knew it, it was time to fly down to Houston. When the day arrived, she was guided into, well, a nondescript conference room. Everything was pretty normal, except...

Kate Craft:

Can't let yourself get too overwhelmed with the fact that you're just sitting in a room with a whole bunch of astronauts. These people that you've like idolized your whole life.

Emily Martin:

We were so excited to ask Kate all of the specifics. Even mundane interview questions take on so much weight when you're applying to be an astronaut. Where do you see yourself in five years? But like other high profile positions, the details of the interview aren't something Kate can discuss. Suffice it to say, she left feeling strong and optimistic. She went back home to her regular life, which is still super exciting where she researches planetary science and how we might detect life elsewhere in the solar system. And she stayed focused while she waited for NASA to make their final decisions. NASA selected their 22nd astronaut class. From a pool of 18,000 people, they selected 12. My friend Kate Craft was not among them.

Kate Craft:

It's just such a long process. It's not like you start applying when you're young and get a chance every year or anything. It's just...

Emily Martin:

It's not clear when NASA might put together the next astronaut class, but Kate is pretty sure she'll apply again and I'll be rooting for her.

Kate Craft:

But yes, I will be throwing my hat again in and we'll see what happens. I would love to go to the moon and step foot on the moon. That would be incredible. But I would feel lucky as an astronaut to do it, to go up into space period and do what they need me to do. That would be the most amazing thing.

Matt Shindell:

Kate Craft was up against some incredibly talented people in that selection process. As a baseline, NASA says it's still looking for candidates with degrees in engineering, bio science, physical science, computer science, or math.

Nick Partridge:

Those are the baselines.

Emily Martin:

In addition to having a bachelor's degree in essentially a STEM field, you really need to have some kind of other professional experience. So a bunch of piloting hours, I think the number's about a thousand or, an advanced degree of some kind. Maybe that's an MD, maybe that's a PhD. And actually even being a classroom teacher, having years under your belt as being a K through 12 classroom teacher is a qualification.

Matt Shindell:

And that's just what you need to apply. Remember, you also have to meet NASA's very rigorous physical standards. Your eyesight has to be correctable to 20/20, and you also have to be in really good physical shape.

Nick Partridge:

Good news for everyone around this table, you can wear glasses. There are three voices on this podcast and 12 eyes. Okay. So those are the qualifications of the 18,000 people who applied, but the 12 people who made it through, they range in age from 29 to 42 years of age, just like some of the people in this room here today. They include an MD, a Navy SEAL, and that's just one guy.

Emily Martin:

There's even a planetary scientist.

Matt Shindell:

Cool.

Nick Partridge:

How far do you guys think we are from sending artists into space to be artists?

Matt Shindell:

That's a good question. I mean, if you look at military history, artists have gone along on, in every war, there were artists in the trenches. There were artists flying in planes. It's not that far off to imagine that the first mission of Mars might also include an artist. I mean, think about early voyages in ships, exploring the tropics, they would always send illustrators that could help to capture what the biology that they were finding actually looked like.

Emily Martin:

You can imagine that commercial space flight is likely going to be banking on the ability to entice people into space, as space tourists. And so I can envision artists of all kinds brought into space to try and help attract a certain group of tourists.

Matt Shindell:

Right. And then the tourists themselves are astronauts. Aren't they? I mean, we don't draw the distinction between who is going into space in a professional way, and who's going as a passenger.

Nick Partridge:

Calling it now, first podcast live from the moon. It's going to be us.

Emily Martin:

Yes, let's do that!

Matt Shindell:

See, I would agree to-

Emily Martin:

We could all have something to contribute.

Matt Shindell:

We've got it.

Emily Martin:

We all have the right stuff.

Nick Partridge:

That's all for this episode of AirSpace for the National Air and Space Museum. I'm Nick Partridge.

Emily Martin:

I'm Emily Martin.

Nick Partridge:

And I'm Matt Shindell.

We'll be back in March with a brand new episode. Next time we'll explore the ins and outs of bailing out.

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