



All the Best Podcast
Episode 5: "500 Days in Space"

Featuring Former Astronaut, Naval Aviator, and International Space Station Commander, Scott Kelly

Scott: September 1942. Dear Nance, there's not much news to report here. We live, day by day. A wholesome life, at times, seemingly futile. But looking at it philosophically, I wouldn't change positions with any fellow civilian life. The Navy itself is great, but what we are here for is even greater. And if, at all times, I can keep my objective in view, I am hopeful of a successful conclusion to this one year course. After having been here just one month, my desire to win my wings and become an officer is tremendous. I'm afraid if I fail for any reason, my disappointment will be very deep. I am proud to be here, Nance. And as I've said before, I wouldn't change it for the world. Much love to you and write if you get another minute. So long, George.

George: In the first place, I believe that character is a part of being President.

Barbara: And life really must have joy.

Sam: This is "All the Best." The official podcast of the George and Barbara Bush Foundation. I'm your host, Sam LeBlond, one of their many grandchildren. Here, we celebrate the legacy of these two incredible Americans through friends, family, and the foundation. This is "All the Best."

George: I remember something my dad taught me. He said, write your mother, serve your country, and he said, tell the truth. And I've tried to do that in public life. All through it.

Barbara: You are a human being first and those human connections with children, with friends are the most important investments you will ever make.

George: We stand tonight before a new world of hope and possibilities for our children. A world we could not have contemplated a few years ago.

Sam: On behalf of our family and the George and Barbara Bush Foundation. This is "All the Best."

Scott Kelly is retired American astronaut and a United States Navy Captain, U.S. Spaceflight record holder and an experienced test pilot. During his time at NASA, Scott piloted Space Shuttle Discovery to the Hubble Space Telescope in 1999. And subsequently, commanded Space Shuttle Endeavour on a mission to the International Space Station in 2007. In addition to that, Scott served as the commander of the International Space Station for two other stays, one of which was the record breaking year in space. And during that year, he conducted three spacewalks. Overall, Scott has traveled more than 200 million miles, which is more than twice the distance to the sun, and has orbited the Earth more than 8,300 times.

While on Earth, Scott is a published author and photographer, and has been awarded the Defense Superior Service medal, the Legion of Merit, and Distinguished Flying Cross. And in 2015, was named one of "Time" magazine's 100 most influential people. Scott, thank you for joining us today on "All the Best."

Scott: Thanks for having me.

Sam: Scott, I have to start with this because it's not every day that we have a guest on "All the Best" who spent a consecutive year in space, and over 500 days all together. So, as I see it, we simply have to start here. Can you remind our listeners what the purpose of that 2015 mission was? Did you have any concerns going into the mission? And what were the results?

Scott: Well, the purpose behind it is because someday we want to go to Mars. And Mars is really far away. It'll take 240 days to get there. You'll have to spend a year on the surface, 240 days to get back. And when you're in space, there are negative impacts on our physiology. You know, you lose bone mass at 1% a month, if you don't do anything about it, muscle mass. There's effects of the radiation, anywhere from 10 to 20 chest X-rays equivalent of radiation every single day. Effects on our immune systems, you know, the psychological impacts. So we have to understand these things, how to mitigate them, so we can have people go to Mars or elsewhere someday. That was the purpose behind this mission.

I think the results were pretty sound that, you know, of course, there are things that we still need to understand better and protect the astronauts from. Particularly, radiation is a concern. But by and large, one thing we learned is that, you know, the human body is pretty resilient, both physically and

psychologically. You know, there are no real significant showstoppers. I'm going to quote my brother. I don't quote him much. But he says, "Going to Mars is not about rocket science. It's about political science."

Sam: Well, Scott, after 500 days of being in space, what's the one thing you miss most about being in space? And is there anything you don't miss?

Scott: Yeah, so the things I miss about space are the people and the work. You know, just the relationships you have with people from all different countries, including the United States, but also the work. Something that's so technically complicated and challenging, that has serious consequences if you don't do it properly. And the thing I don't miss, you know, even though the floating is fun, it makes just about everything harder. So, I don't miss the overhead in time of taking care of all your stuff, and keeping track of it, and not losing things. I also don't miss the carbon dioxide levels on the space station, because they're, you know, at times, pretty uncomfortable. So, those two things.

Sam: Scott, I recently read that over 200 people from some 20 countries had spent time on the International Space Station since it started being continuously occupied almost exactly 20 years ago. Of course, if my Ganny were here, she would say, "That's nothing more than a routine summer at Walker's Point." But in terms of the space station itself, what role has it served in space exploration, and what is its future?

Scott: Well, I think it's served a significant role. You know, the biggest science experiment ever conducted in space was the fact that we've had people living and working on this International Space Station for the last 20 years. And we've been able to support them with life support systems, support them psychologically, emotionally. So it's an example that, although we've evolved as a species on Earth, we can actually live and work in space, and thrive there, you know, if we put our collective efforts behind it.

The other thing about it is, and you mentioned all the countries, it is just, you know, a great example of international cooperation. How countries, particularly the United States and Russia, that aren't always friendly with one another, but how we can work in a very cooperative way, and be successful in something that's very, very challenging. And people often, you know, ask me about, hey, what's your relationship like with the cosmonauts? You know, some of these guys were military pilots that when I was flying F-14 Tomcats in the Navy, if I was to have gone up against a MiG-29, it's quite possible it would have been one of these guys. But our relationship in space is based on this shared community of space travelers and the fact that we have to rely on each other, for friendship, for emotional support, for help with our work, and literally, for

our lives, if it came down to it. So, I hope people consider the International Space Station as something worthy of a Nobel Prize someday, the Nobel Peace Prize, because it really is a great example of people working together, in a challenging environment, in a cooperative and peaceful way.

Sam: Well, Scott, with the recent news that Elon Musk's SpaceX team has been certified by NASA to carry American astronauts to space, what is the future of space exploration in general? Do you expect to see more of these public-private partnerships going forward?

Scott: Well, I expect to and I hope so. You know, I think it's great that you have companies that are able to make it more accessible and to make it financially possible. You know, especially when you have people with means like a guy like Jeff Bezos, putting his own money into a space program. Likewise, Elon, I'm sure has invested some of his money. But, you know, this idea that we should make spaceflight accessible to as many people as possible. Now, you know, in the beginning of anything like commercial aviation, you know, it's expensive, it's risky. But the more you do anything, the safer it gets, and the more cost effective it gets. So, someday, it will be like getting on an airplane, probably not anytime soon. But we do have more access to space. And I think it's a great thing.

Sam: Scott, our "All the Best" podcast is all about service. Everyone has their own path to serving our country and making a difference in the lives of others. You went the route of Navy, and eventually got to NASA. How did you make that jump?

Scott: My path into NASA was not the typical one that you might see, where someone as a young kid, saw Neil Armstrong walk on the moon, and that inspired them enough, you know, to excel in everything they did. My experience was much different because when I was a kid, you know, I couldn't pay attention. I didn't really do well in school. And it wasn't until I got to college that I was inspired by a book, which was "The Right Stuff," by Tom Wolfe. And I just felt like I had things in common with these guys that were the original Mercury, Gemini, and Apollo astronauts. And they were all test pilots in the military. And I thought, you know, if I could just fix my problems, learning and being a good student, maybe I could go on to fly airplanes in the Navy, maybe become a test pilot, maybe quite possibly even an astronaut someday. So, that was my path. It required me to be inspired, in some way, to kind of get myself moving in the right direction.

Sam: So a previous "All the Best" guest of ours, June Scobee Rodgers, talked about my grandfather and the special bond he had with the men, women, and

families behind the Space Program. You must have a story of your own. Would you be willing to share one?

Scott: The biggest thing that stood out to me was your grandfather's support for human spaceflight. When I was on the space station for a year, my understanding is he actually asked if he could come to mission control and talk to me. And that was really a special moment to have the former president, and also former naval aviator, like myself, take that time to come out and support me. And, you know, that's one of the great memories of that year in space. And also, one time, your grandfather came and spoke to the astronaut office at our annual Christmas party. And your grandfather and grandmother were there. It was funny because it was when your uncle was running for president and they locked the doors, so no one could come in and listen. And it was like a standup comedy routine. It was priceless.

Sam: One thing that a lot of people don't know is their humor was something that really pulled them together. And they were a hoot together. But one thing we do have in common is political families. I'm sure right now you must be an especially proud brother, with your brother, Mark, being elected to the Senate in Arizona. Have you had a chance to talk to him? How's he doing?

Scott: Yeah, he's been really busy. He's had orientation already up in D.C. Very exciting, very proud of him. And I think he will be a great U.S. Senator for all Arizonans. His priority is to just do what's right for the citizens of that state. And I hope people will be as proud of him as I am.

Sam: Very proud and what a win it was. The odds were stacked against him and he really came through. So I'm sure you and your family are very proud of him. Well, Scott, I'd like to end with this. And first, I'd like to say thank you so much for your time and stories. It's been amazing listening to all the things that you've accomplished over the years. To our younger listeners out there who might be thinking about a career in space exploration, what's the best advice you can give them?

Scott: Well, what I always tell kids is that, you know, if I can do this, you can do it too. Because I don't think anyone that I grew up with ever expected me to be able to do that. So everything is possible. But you always want to position yourself for the unknown things in your future. Like, you might not think it's important to do as good as you possibly can in school, maybe good enough is good enough. But you never know what things you might want to pursue later that have certain requirements. So I always encourage kids to do the best they possibly can, never give up. And if you really want to be an astronaut, of course, you have to choose a career field that is qualifying. So make sure you

choose something you like. Don't become a Navy pilot because I was a Navy pilot. You know, if you prefer science and want to be a scientist, do that, because you're going to do better at things that you like. But the bottom line is, anything is possible. I'm a clear example of that.

Sam: Well, Scott, thanks for sharing your stories with us today. It was a pleasure having you on "All the Best."

Scott: My pleasure. Thanks for having me.

Sam: I'm Sam LeBlond reminding you to listen, share, and subscribe to "All the Best" on Apple podcasts, Spotify, and everywhere great podcasts are found. Thank you for joining me as we celebrate All the Best.

Barbara: Both George and I believe that while the White House is important, the country's future is in your house. Every house, all over America.

George: Preparedness, strength, decency, and honor. Courage, sacrifice, the willingness to fight, even die for one's country. America, the land of the free and the brave. And God bless the United States of America. The greatest country on the face of the Earth.