Dr. David C. Munson, Jr.: Hello RIT alumni and friends. This is again President Dave Munson today. I’m in the greater Washington, D.C. area and very pleased to have this chance to chat with Clayton P. Turner. Clayton is a 1990 alumnus of RIT and currently is Deputy Director of the NASA Langley Research Center.

As some may know, Langley is the country's first civilian aeronautical research facility and it is where NASA researches solutions to challenges ranging from global climate change and access to space travel to air travel and also future aviation vehicles.

Prior to his appointment as Deputy Director, Clayton served as the Associate Director where he was responsible of managing day-to-day operations as well as aligning Langley's institutional resources and infrastructure to meet current and future NASA mission needs.

Throughout his more than 25-year career at NASA, Clayton has received many prestigious awards including the NASA Outstanding Leadership Medal, the NASA Exceptional Engineering Achievement Medal and also the Paul F. Holloway Non-Aerospace Technology Transfer Award.

He currently also serves as the NASA Langley Representative on the Commonwealth of Virginia Joint Commission on Technology and Science.

So, welcome Clayton. We are glad to have you here.

Clayton P. Turner: Thank you. Happy to be here.

Munson: Let me start with, Clayton, I've read that prior to joining NASA, and this is kind of a seemingly quirky thing, you were the chief engineer at Dynamic Recording Studio in Rochester, New York, where you were responsible for technical and artistic recording of audio and visual content that span multiple musical and instructional genres. So the question is, how were you able to go from that kind of experience into a lifelong career with NASA's Langley Research Center? Is there any connection at all?

Turner: Yes. My choice to choose recording was because I'm a classic introvert and so in my mind I saw myself sitting in a room with lots of dials and knobs and controls and getting a signal from the source to the optimal level on the recording medium. My time at Dynamic enabled me to see that, that source was a human being and that there was a creative process that was necessary. So, that creative process with a technology that I was interested in allowed me to see the interaction between those two. That has served me really well at my current job.
**Munson:** I assume you are no longer so much of an introvert? Would that be true or not true?

**Turner:** Still an introvert, but I've also learned that for those things you're passionate about, you extrovert right on time.

**Munson:** Okay. Extrovert on time.

**Turner:** Yes.

**Munson:** I like that. It's sort of a mantra. Well, over the course of your career, what would you say that you've been most passionate about and what is it that enabled you to discover that passion as well as perhaps cultivate it?

**Turner:** So I would say the curiosity and an opportunity to work on something bigger than an individual, something bigger than me.

**Munson:** Okay.

**Turner:** So, I had the opportunity to work with people who had that mindset very early in my career and the idea that this challenge that we're facing is not solved by an individual but by a team of individuals, and that we're solving that for the greater good. That was very inspirational to me early in my career. And as a result, I have wanted to instill that same thing in others throughout my career and in my position now.

**Munson:** I guess it's harder to imagine a better place to do that than at NASA, right?

**Turner:** I still, after decades, I still am excited every day going to work. When I get to talk about NASA, the hair on the back of my neck still stands up because I am literally excited.

**Munson:** Wow. Wow.

**Turner:** Yes.
**Munson:** Well, and related to that, I know that you've had a lot of successes, but what do you consider perhaps to be your biggest success or at least one of the biggest successes?

**Turner:** So I will say, you know, beyond the technological things we've done, it's the opportunity to build an environment where people can be creative and we can press the envelope. It piggybacks a little bit on your last question. How do we create an environment so that we can do some amazing things? Those things are bigger than an individual or even an individual organization. So, in my last few roles, I've had the opportunity to be part of creating that environment. That has been very satisfying for me.

**Munson:** So it sounds like it's all about enabling other people?

**Turner:** Absolutely.

**Munson:** Yeah. And I guess if you're talking about team-based research and development, you have to enable other people.

**Turner:** Yes.

**Munson:** Another question is to the extent that you can comment on this, what would you say maybe has been your biggest challenge in your career? Maybe not even necessarily in your current position.

**Turner:** So, I would say that at NASA as an agency, we've faced some challenges that have been very emotional for us and made a mark on us as individuals at NASA to an emotional level. The challenge I would say—

**Munson:** What would you say those sorts of things might be?

**Turner:** So the loss of a vehicle; the loss of crew members.

**Munson:** Okay. Sure.
Turner: Those kinds of things.

Munson: Yes.

Turner: So having to convey and transfer that knowledge of the impact of those kind of things to our workforce and to those coming in; at the same time, we want to continue to push through the envelope, push the limits, so to find that right balance.

Munson: Okay.

Turner: We want to learn from those lessons.

Munson: Okay.

Turner: And they'd be impactful, but not let it stifle us.

Munson: Right.

Turner: And at the same time, when we push the limits, we're going to make sure we're pushing the limits with those lessons with those lessons we have. So find that balance is a challenge.

Munson: So it sounds like it's about taking very calculated risks.

Turner: Umm hmm.

Munson: Yeah. Yeah. A pretty hard trade-off to contemplate. Let's transition a little bit to RIT. I know you majored in Electrical Engineering at RIT. What would you say you learned or gained at RIT that may have helped prepare you for your career?

Turner: So I've talked several times about working in teams. I had the opportunity while I was at RIT to work with Dr. Salem in some research around neural networks.
Munson: Okay.

Turner: And when I started, there was no lab, there was no facility, but Dr. Salem had a vision and I had a chance to participate in that vision and watch how he pulled the tactical elements of what it took day-to-day to realize that vision. And the pulling at diverse team of individuals to make that happen. And then to empower us with leadership roles within that confine, so that was a great learning exercise in addition to what was going on in the classroom.

Munson: And I dare say that if you were working and studying neural nets back at that time, you were ahead of your time.

Turner: We were ahead of the time. Yes.

Munson: That's pretty impressive. Another question related to RIT is what advice might you have for your fellow alumni on how they might remain connected to the institution? I know you've been able to do that.

Turner: I would say some of the classics, you know, be engaged in the Alumni Association in your area. If there's not one, be an Alumni Association of one. Also, say if opportunity presents, get back to campus and inspire and be inspired by the future alum. I can't stress how energizing that is to spend time on campus and be energized by the fellow alum. I had a chance to participate in a volunteer activity in the Hampton Roads area just recently. It was interesting as we introduced ourselves to each other and shared our graduation dates, one of my fellow alums whispered to her colleague, "He graduated before I was born." But we had a really great time. That was inspiring for me because I see the impact RIT is making not only in the Rochester area, but across the country.

Munson: Yeah, with our students you get to see what's coming.

Turner: Absolutely.

Munson: …which is always exciting.

Turner: Absolutely.
Munson: Let me ask one last question. A lot of people grew up wanting to work at NASA. I know I certainly was watching the space race my whole childhood. You've actually done that. You actually work at NASA. For those of us out there who at one time or another may have had these other worldly aspirations, please tell us what is absolutely the coolest part about working at NASA?

Turner: So I'm going to start with every day my job is to reach for new heights, to reveal the unknown for the benefit of humankind. That's my job every day. That's what I get to do. What I do to enable that is in aeronautics. Can we improve the way airplanes travel from point to point? Can we improve fuel efficiency? Can we improve the economic impact of those fuels?

From a science perspective, can we send robotic vehicles out into deep space to explore our solar system and our universe? Can we understand what's going on with our planets so we can inform policy makers so they can make decisions for our long-term future? Can we enable humans to explore deeper into our solar system and what technologies, what concepts can we use to do that? That thereby are then turned over to industry and academia and enable the nation. That's what I get to do every day. So that is really, really cool.

Munson: Wow. That is fantastic. Where do I sign up? I still want to work for NASA. This sounds really neat. Well, I'm going to conclude now. But it's been wonderful to have a chat with our alum, Clayton P. Turner. Clayton, thanks so much for spending some time with us.

Turner: Thank you. I've enjoyed it.