

A 13-year-old girl solved her town's duck overpopulation problem

Renee Tucker, an eighth-grader at Narrows High School, was assigned a public speaking project. She addressed the overpopulation of ducks and geese at the local pond—then took it a step further and found a way to solve the problem.

by **Randy Walker**
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Renee Tucker holds a captured goose. Her mom Erin Tucker is in the background. Photo by Brian Tucker.

The polite word is feces. And ducks and geese, cute as they may be, were leaving too much of it around the duck pond.

It was getting in the school practice field, across Monroe Street from the pond, and people were complaining.

“We knew we needed to do something,” said Terry Nicholson, town manager of Narrows, population around 2,100, in Giles County.

The problem started, Nicholson said, when “someone, we don’t know who ... dropped off a bunch of domesticated geese at the duck pond, that had evidently purchased them, and intended to raise them, and

then decided they were too much to take care of, I guess. And so they left them at the duck pond.”

People fed the birds, and the free lunch attracted wild geese. So the problem got worse.

On advice from the Virginia Department of Wildlife Resources, the town posted “No Feeding” signs. “If we just didn’t feed them, over natural attrition, eventually those birds would die out,” Nicholson said. “That’s not an ideal solution, to just let them naturally die.” Another unappealing solution was to destroy the eggs.

The town was also told to remove the domesticated geese, Nicholson said.

But how?

Renee Tucker is finishing her eighth grade year at Narrows High School. In the fall 2022 semester, Renee, then 13, took the class “Intro to Tech.” One requirement was public speaking.

“I had asked the students to pick an issue,” said Abby Taylor, who taught the class as a long-term sub. “It could be made up, or they could come up with an actual issue that they thought that our community was facing. And they were to create a presentation, and they were going to present it in front of the class, as if the class was Town Council. And the whole point of that was just to make them aware of issues in their community and also be able to practice their public speaking skills. I never intended for any of them to take it further than that.”

Renee is “one of those kids who sits back and takes it all in, and she’ll surprise you with her initiative, and just her effort and potential. It kind of sneaks up on you because she’s real quiet at first. So you don’t really know what to expect with her.”

“I decided to make a speech about the ducks and about their overpopulation and why we needed to change it,” Renee said. With the class requirement satisfied, she went a step further. She talked with her father, Brian Tucker, and they requested time at a town council meeting.

The Tuckers are experienced with birds. Before moving to Narrows in 2021, they had a farm in Chesapeake with chickens, ducks, geese and guinea fowls.

She spoke to the council on Nov. 14. She offered to determine which ducks and geese should stay and which should be rehomed, to capture the birds to be rehomed, and to relocate them. The goals included reducing feces and ensuring proper care of the avians in their new homes.

The pond population included geese, as well as Pekin, mallard and runner ducks.

The plan was approved, and the town provided fencing materials for the Tuckers to build a corral.

The corral was about 20 feet by 30 or 40 feet, “a big rectangle open on one end,” said Brian Tucker, a tradesman who works on building renovations.

“The ducks walked right in on the first day,” Renee said. “And the geese are stubborn. So it took about a month. ... We were feeding them inside the corral so that they would go in and get used to it. And on Christmas Day ... we decided to close up the corral and gently grab them and put them in pet crates so that we can bring them to a new home.” Renee’s brothers Joseph, Nathaniel and Zachary helped capture the fowls.

Renee’s technique is to approach the birds from behind and grab them — carefully. The roundup mostly went smoothly, although Renee did get “bopped” with a wing, Brian said. “They’ll intentionally hit you and try to stun you so they can get away.”

The Tuckers caught about 20 geese and a dozen ducks. Those not expert on birds may wonder why they didn’t fly away.

While wild geese are known for migrating long distances, domestic fowls bred as pets and livestock are poor flyers, Brian Tucker said.

It is illegal to capture and relocate wild animals. The Tuckers targeted domestic birds that had been abandoned at the pond, not wild ones.

Dumping of pets is illegal, said Gary Costanzo, migratory bird program coordinator for the Department of Wildlife Resources. But it is not uncommon.

“Especially around Easter, people go out and buy ducks or whatever,” Costanzo said. “And they’re cute when they’re little, but then they start to grow up. And they get too big, and they’re pooping all over the house and all over the yard. And so then they want to let it go ‘in the

wild,' and so they bring them down to the local park. And then other people feed them and then so it sort of snowballs from there.”

Another problem at overpopulated ponds is transmission of illnesses such as avian influenza. “That’s pretty serious,” Costanzo said. “It’s infected a lot of domestic poultry flocks all across the country. But it’s also in wild waterfowl. And it can kill wild waterfowl, or wild waterfowl can become carriers.”

The typical pondside diet of bread scraps isn’t healthy for birds, the Tuckers said.

The Tuckers found a farm that was willing to take the birds. Brian Tucker said it was about an hour south of Narrows. The farmer has “a large field that was cleared, and a pond in the middle. And then he’s got some Aussie farm dogs that protect his livestock.”

Renee said she felt it was better for the birds to be at the farm, where they could be “fed properly and have enough space to be able to walk around and not be stepping in their own feces every single day.”

Costanzo, of DWR, urges people not to release or feed birds at duck ponds. It is illegal to feed wild animals — including migratory geese, which are often found at ponds — when feeding such animals causes a health hazard.

Unfortunately not everyone follows the law. The Narrows pond was almost entirely cleared of domestic birds during the winter roundup. “Those three [birds] over there have shown up since it got warm,” said Brian Tucker, sitting on a bench at the pond, which is actually a wide spot in Wolf Creek. “Somebody else has dumped them off in the river.”

Renee said she'll be back on the job soon, capturing domestic birds. "Because obviously, the feces are starting to come back, 'cause people are feeding them, and it's not really good."

She received a framed certificate from the town during a council meeting on Feb. 13, in appreciation of "her excellent leadership in the relocation of the non-native duck and geese species," and got her picture in the local newspaper, the Virginian Leader, based in nearby Pearisburg.

Council member John Mills told her, "I can definitely see you running a Fortune 500 company some day."

"She saw a problem and figured out a way that she could step up and help," Nicholson said. "That's a great, great thing for a small town like us, to have a citizen that's willing to do that. It's pretty inspiring."

And her class project?

"I got an A on it," she said with a laugh.

A biology class changed this former Botetourt County drama kid's career trajectory

When 14-year-old Skylar Gay enrolled in BIO 101 at Virginia Western Community College, it was just to fulfill a requirement. Now she's on her way to the U.K. to present a scientific paper on COVID — and she's still just 18.

by **Randy Walker**
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Botetourt County teen Skylar Gay walked into the biology class at Virginia Western Community College intent on a career in the arts. BIO 101 was just a required science credit, a box to check off.

It was in October 2018, when her lab group isolated a virus from a soil sample, that the light started to come on.

Then, in the following spring semester, Gay learned how to use a computer to analyze the virus's genome.

The light went to “full bright,” recalled her Virginia Western instructor, Heather Lindberg.

Pulled away from the stage and into the lab, Gay applied for a remote internship at the University of Georgia. Working from home, she

helped analyze the origins of the pandemic and developed software called transRate that can be used to track gene flow between localities during an epidemic.

She applied for, and received, a fellowship to attend the World Congress on Undergraduate Research, to be held April 3-6 at the University of Warwick in England.

After presenting her findings and receiving feedback at the conference, she and her coauthors plan to submit their results for publication.

Heady stuff for an aspiring scientist who is still just 18 years old.

Gay grew up in Fincastle, the historic county seat of Botetourt County, where she appeared in shows at Attic Productions.

Trina Yancey directed Gay in “The Sound Of Music.” Gay, then 9, played Gretl, the youngest von Trapp. (*Disclosure: Yancey is related to Cardinal executive editor Dwayne Yancey.*)

“She was very talented, learned and understood her lines, songs and dances, and followed direction,” Yancey said.

At age 10, she lobbied for a part in another show — and got it. “I’m not at all surprised that she has already has succeeded in everything that she has undertaken,” Yancey said.

The performing and visual arts, including music, acting, dance, photography and painting, “will always be such a passion of mine,” Gay said. What pulled her toward science was the opportunity to be part of the continual advance of knowledge.

Gay accelerated her academic progress by dual-enrolling at Virginia Western while still a home-school student in high school.

When Gay enrolled at Virginia Western, Amy White, dean of the college's STEM school, recommended she sign up for a particular section of BIO 101 that used the SEA-PHAGES protocol for the lab part of the class.

SEA-PHAGES — Science Education Alliance-Phage Hunters Advancing Genomics and Evolutionary Science — was developed by the Howard Hughes Medical Institute in Maryland and is offered at more than 200 institutions throughout the United States.

The program is a two-semester undergraduate research course that begins, as its website says, “with simple digging in the soil to find new viruses,” but then progresses through a variety of microbiology techniques. Eventually, the site explains, the course leads to complex genome annotation and bioinformatic analyses.

White said she recommended SEA-PHAGES for Gay “because she was a very motivated student. And for someone who is motivated and was interested in doing her high school education, basically, at the college level, this was a good opportunity to expose her to academic research to let her know if she liked that or not.”

SEA-PHAGES is “about getting them involved early,” said Lindberg, an associate professor of biology at Virginia Western. In standard college biology labs, freshmen and sophomores do “kit science ... It always works because we know exactly what it does, ta-da! And then you move on to something else the next week. There's no continuation.”

SEA-PHAGES, on the other hand, offers the chance to conduct a meaningful investigation that unfolds over a year, progressing from viral samples and test tubes in the first semester to computerized analysis in the second.

When Gay started the class at age 14, “she was very into the arts. You could tell she had that training, because she was very well-spoken,” Lindberg said. “She held her own in the classroom. If I hadn’t known who she was, she would have blended in to my college-level kids. Her labmates had no idea how old she was. Which is frankly astounding.”

She was one of only three high schoolers who have taken SEA-PHAGES with Lindberg since Virginia Western adopted the program in 2017.

When she started, “I could tell she was doing the science because she needed the class. The love wasn’t there yet.”

That started to change when Gay’s group found a bacteriophage — a virus that attacks bacteria — in a soil sample. Gay gave it the dramatic name DarkMask. Science was suddenly tangible.

“She was super excited,” Lindberg said. “I still actually have the sample in my fridge because I don’t throw anything away, because it might be interesting later.”

With bacteria developing resistance to antibiotics, bacteriophages are attracting medical interest. “These viruses that attack bacteria are the natural hunters of the bacterial world,” Lindberg said. “So if you have a bacterial infection, the thought is, hey, if we can find the right virus

and the right bacteriophage, maybe that bacteriophage could destroy that bacterial infection, as opposed to antibiotics.”

After isolating a virus, students spend the rest of the first semester purifying it and extracting its DNA. Lindberg then sends out several DNA samples to an external laboratory for sequencing.

“In the second semester, we get the genome back. And then the students’ job is to find all of the genes in the genome, say, OK, this is a gene, here’s all the evidence that shows that this is actually this gene, and this is what it does. So that’s the bioinformatics piece. It’s during the bioinformatics section, that that light went to full bright for Skylar. She loved it. It’s all computer work. And this is where a lot of students who love the bench work, they start turning off. She went the other way, like, aww! This is really, really cool.”

During the COVID lockdown of 2020, Gay started looking for bioinformatics internships and found the University of Georgia.

Georgia offers a 10-week program called Research Experiences for Undergraduates: Genomics and Computational Biology, funded in part by the National Science Foundation.

“The National Science Foundation encourages us to consider students that may be in a small college ... which would not have the research opportunities that someplace like the University of Georgia would have,” said Jonathan Arnold, a professor of genetics at Georgia. “So we’re encouraged to consider applicants from institutions like that, as well as from HBCUs and so on, to increase diversity in the scientific workforce.”

Admission is competitive. “So you only really have the best and the brightest going through these programs, and about, I would say, 90% of them go on in some science-related career.”

To have a high school student in the program is “fairly rare. I have one NSF grant that allows me to take one high schooler a year,” Arnold said.

Students either do lab science, or, as in Gay’s case, research on a computer. “And that gives them the experience of deciding, well, whether or not this is really for me,” Arnold said.

Her internship turned into a two-and-a-half-year research project under Arnold’s guidance. She traced COVID variants to a common ancestor, finding, among other things, that the COVID that infects humans is related to a similar virus that infects bats and penguins, Gay said.

Gay worked on two projects. The first, now in prepublication stage, looks at the origin of the pandemic. “I can’t really talk too much about the content because they put a muzzle on me when I submit the work, but I will say it’s timely, based on what’s been in the news lately,” Arnold said.

“And then the second one is her own project, which she developed, which is looking at a tool that would allow policymakers to track what’s going on in a pandemic,” Arnold said. Gay did it as part of a team, alongside Arnold and Liang Liu, a statistician at Georgia who has a focus on phylogenetics, the study of evolutionary relationships among organisms based on their DNA.

The software Gay developed, transRate, “essentially looks at gene flow events during the epidemic between different localities,” Arnold said. “And again, I don’t want to say too much about what it does, because again, she’s going to go through the normal process. She’ll present her research findings at this international meeting, and then she’ll submit it and then she’ll also be put in the position of having to go silent on it until it goes through the review process.

“She has a manuscript that’s pretty close to finalized on it. The usual steps in scientific research is, you do the work, and then you get feedback from your colleagues, either by sharing the material you’ve done, or going to a meeting and getting feedback there. So she’s going through all the steps.”

It is unusual for an 18-year-old to have two papers in the publication pipeline.

“It’s very exciting,” Arnold said. “She knows she’s working on something very important.” She’s had that validated, he said, by talking with people like epidemiologist Niketta Womack at the Centers for Disease Control and Prevention. She’ll get even more reinforcement when she goes to the World Congress, he said — and the very fact that she’ll be at that meeting is validation, since she had to apply for a fellowship to attend.

“So she’s really been immersed in research experience from beginning to end,” Arnold said.

Gay leaves for the World Congress on Saturday. “I am definitely excited but nervous,” she said.

The trip will briefly interrupt her classes at the University of Virginia, where she transferred after completing her associate degree at Virginia Western with about 80 college credits.

In some respects Gay is a normal first-year UVa student, even though she is already taking advanced biology courses. She lives in a dorm and is taking a class on drumming and percussion. She is the photo editor for a student publication and belongs to the Virginia Women's Chorus.

"I'm really loving it," she said. "I still do all of the normal student things. I definitely would say I feel just like any other student, and there's so many students at UVa who have had the opportunity to really explore all of their academic opportunities. So I think it's truly an honor to be with students who have such a like mindset as myself."

Gay plans to double-major in biology and public health and continue her research at the doctoral level, combining bioinformatics with wet lab techniques to create a model of viral transmission. The end goal is to protect public health in the event of another pandemic.

When she came to Virginia Western, "Skylar was willing to explore things that she wasn't as familiar with, and willing to listen to herself, as she learned that 'I really like this kind of work, I really like research or really like science,'" said White.

"To be able to make that kind of change, at that age, I think it's just incredibly impressive. And I'm just so proud of Skylar, for having that willingness to engage, and it has really I think changed her career path and her life already."

From NFL draftee to NASA astronaut

Leland Melvin's journey began in Lynchburg. It took him to the NFL, then to Langley — and then into space.

by **Randy Walker**

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For Leland Melvin, the journey did not begin with Neil Armstrong and Buzz Aldrin and “one small step for (a) man.”

Melvin couldn't actually see the first moon landing, because he was standing behind the TV, holding the rabbit ears so the rest of his family could see it. Besides, there were no Black faces among the Apollo astronauts. And he didn't like the fighter-jock buzz cut.

The journey really began when his father pulled into the driveway with an old Merita bread truck, which did not, contrary to his first puzzled impression, portend a future delivering bread.

Instead, the bread truck became a rolling spacecraft that opened the doors of engineering and exploration, an escape from the “somewhat racist” city of Lynchburg.

“And over that summer, we rewired the entire electrical system” of the truck, Melvin said in a TED talk he gave in New York City in 2018. “We plumbed a propane tank into a Coleman stove, we built bunk beds that flipped down. We were turning this into our summer vacation-launchpad-escape pod, this thing that could take us out of Lynchburg.

“It was my time with my dad. And we went to the Smoky Mountains and looked at the purple mountains’ majesty, and we walked along the beach in Myrtle Beach. And this thing was transformative. It showed me what it meant to be an explorer at a very early age.”

Another door was opened by his mother. She was a homemaker who nourished his body with food, but also a teacher who nourished his mind. She gave him an “age-inappropriate, non-OSHA certified chemistry set.” When he created “the most incredible explosion” in the living room, he knew he could be a chemist.

Fast forward — very, very fast — to 2008. The boy who helped his dad rewire the bread truck and blew up his mom’s living room is now an astronaut.

On his first space flight, he rockets to the International Space Station aboard space shuttle Atlantis with an international crew. His main job is to use a robotic arm to retrieve a \$2 billion science laboratory — no pressure — from the shuttle payload bay and install it on the space station.

With the Columbus laboratory successfully installed, he heaves a sigh of relief.

The crew gathers in the Russian segment of the ISS, and they bring food, and Melvin brings the rehydrated vegetables.

“And there’s this moment where I transformed back to my mother’s kitchen. You can smell the beef and barley heating up ... and there are people there from all around the world, African American, Asian American, French, German, Russian ... breaking bread at 17,500 miles per hour, going around the planet every 90 minutes, seeing a sunrise and a sunset every 45 [minutes].”

Melvin floats over to the window and looks down. Azure, indigo, navy blue, turquoise — words can’t capture the colors filling his eyeballs. He needs new definitions.

“And I look down at the planet and I see all of humanity. And my perspective changes at that moment, because I’m flying over Lynchburg, Virginia, my hometown, and my family’s probably breaking bread. And five minutes later, we’re flying over Paris, with [French astronaut] Leo Eyharts looking down at his parents probably having some wine and cheese, and [Russian cosmonaut] Yuri’s [Malenchenko] looking off to Moscow, and they’re probably eating borscht or something else.”

And the crew members, traveling at nearly 5 miles per second, see their families below as part of one civilization.

The experience changed Melvin.

“And when I think about being that little skinny boy from sometimes racist Lynchburg, Virginia, I would never have had that perspective to think about myself of being an astronaut if my father hadn’t taken us

on a journey in this radical craft that we built with our own two hands.”

The journey that took Leland Melvin 250 miles above the Earth began in Lynchburg, which had a population of around 55,000 in the mid-1960s.

Melvin, 59, was born in 1964. He came from a strong, supportive family. For most of his childhood and adolescence they lived on Hilltop Drive in the Fort Hill neighborhood. His parents, Deems and Grace Melvin, were educators. At Linkhorne Middle School, Deems Melvin taught language arts and Grace Melvin taught home economics. Deems Melvin was also a musician who played drums and sang in a 12-piece band.

Leland Melvin was 5 on July 20, 1969, when the Eagle landed at Tranquility Base as millions of families around the world watched. “I call myself the antenna engineer,” he said in a Zoom interview from his home in Lynchburg. “I was holding the rabbit ears on the Sylvania black-and-white set. Once you get it set to the right place, you just really can’t move.” When he tried to sneak a peek, he was told, “Don’t move!”

His real education in engineering began with the conversion of the bread truck, supervised by his dad. “He started making drawings of all the things we wanted to put in this. So that’s electrical engineering, mechanical engineering, chemical engineering, I was learning engineering, I didn’t even know it,” he said.

His dad painted over the Merita lettering, and the bread truck became a camper. “And so it gave me an example of having a vision for

something and not letting the lettering or the words get in the way of your vision.”

At first, young Melvin’s vision didn’t include science. He wanted to be Arthur Ashe, the tennis sensation from Richmond who had trained with Dr. Walter Johnson, a Lynchburg physician and pioneer of Black tennis who lived on nearby Pierce Street.

Ashe won the U.S. Open in 1968, the Australian Open in 1970 and Wimbledon in 1975. Deems Melvin talked to his son about Ashe’s intelligence, athleticism and character, “all things that he was trying to instill in me. And I said, if my dad liked this guy, he must be a good guy. And then he was winning all these tournaments, too. So I started taking tennis lessons and started playing and ... I played in middle school and high school, and I still play to this day.”

At Heritage High School, Melvin also played football, a wide receiver on a team that mostly ran the ball.

“So I never really caught many balls. And the fact that I made it to college [at the University of Richmond] on a football scholarship was kind of a fluke. I wasn’t a blue-chipper, and maybe some of the blue-chippers that they were looking at signed with someone else.”

At the University of Richmond, Melvin worked hard and earned the coaches’ respect, and he started getting game time. As a senior in 1985, Melvin had 65 catches for 956 yards and eight touchdowns.

The Detroit Lions took him in the 11th round of the 1986 draft but he pulled a hamstring and got released. Another pulled hamstring with the Dallas Cowboys ended his football career.

If there was ever an NFL prospect who did not have all his eggs in one basket, it was Melvin. Melvin had earned a B.S. in chemistry at Richmond and academic All-American honors.

He got a job at the NASA's historic Langley Research Center in Hampton. Established in 1917, Langley played, and still plays, a crucial role in the development of aeronautics and the space program. At Langley, Melvin used optical sensors to measure damage in aerospace materials. Meanwhile, he completed a master's degree at the University of Virginia in materials science engineering.

One day, a friend handed him an application and said, "Hey, you'd be great astronaut. And they're selecting people. They're looking for materials scientists." Melvin didn't apply because he still didn't think of himself as astronaut material.

Later, another friend, Charlie Camarda, was accepted for astronaut training. "Charlie flew up to Langley with John Young, who walked on the moon. And I was giving a lecture talking to them about the research I was still doing. And John Young fell asleep. And then he woke up at the end of my talk, and he said, 'Leland, this is great work you're doing. You know, you should apply to the astronaut corps.' And then Charlie and him got on the jet and flew back to Houston."

Young, a moon walker on Apollo 16 who also flew on Gemini and the space shuttle, changed Melvin's mind. Melvin applied for the 1998 class.

"John Young was on the selection board. And he gave a preamble before I came in the room talking about the work I had done at Langley and what was going on. And so, I think he was instrumental probably in helping me get into the astronaut corps on my first try."

Victor Cardwell was three years ahead of Melvin at Heritage High School. Like Melvin, he came from a strong family and played football.

“I was never surprised by anything Leland accomplished,” said Cardwell, now a Roanoke attorney and the first Black president of the Virginia Bar Association. “You can never expect somebody to grow up and be a rocket scientist. But if there was ever anybody who was going to do it, Leland was it.”

On Feb. 7, 2008, Melvin rocketed into space aboard the space shuttle Atlantis, with the primary goal of installing the Columbus laboratory aboard the ISS.

In November 2009, Melvin flew another mission on Atlantis to deliver 30,000 pounds of replacement parts to the ISS. On his two flights he logged 565 hours in space.

In 2010 Melvin became NASA’s associate administrator for education, charged with inspiring interest in science and technology and raising awareness of NASA’s goals and mission. He retired from NASA in 2014, but still helps with public outreach programs.

“They call me every now and then,” he said. “I try to use my experiences ... to help get kids and people inspired around the future, which is hopefully brighter than the now. When you think about someone having belief in themselves, access, an opportunity, those things are, I think, the special secret sauce to anyone doing what they want to do. But that belief in yourself is something that I think sometimes kids these days don’t get. There’s imposter syndrome: I’m the only person in this office or this place that looks like me. And sometimes you feel, maybe, do I have the right stuff? They can transcend that when they believe in themselves. And I think that’s a

big part of what our challenge is as educators, to get these kids to believe that they can do this stuff.”

In February, Melvin and Victor Glover spoke at the Smithsonian National Museum of African American History and Culture. Glover is set to pilot the Artemis II mission scheduled for 2024. Artemis II will fly to the moon and back, setting the stage for Artemis III, the first landing of humans on the moon since Apollo 17 more than a half-century ago.

“Leland represents all of us well,” Glover said. “I mean, kids all over the world look up to him. And that’s beautiful, because he is such a great ambassador.”

Glover invoked Carter Woodson, founder of Negro History Week, which evolved into Black History Month. “He said this: What we need is not the history of selected races or nations, but we need the history of the world, void of race, religious and gender bias. We need our story without bias. And that’s the power and the purpose of representation.

“The original astronauts, the Mercury Seven, they picked one person seven times — mid-30s, military test pilot, and they were all white guys.

“If you look at the next smallest class selected since that class, it happened to be my class in 2013. There were eight of us, four men, four women, a few military test pilots, couple scientists, several engineers, but we were diverse. And what’s the practical impact of that?

“We’re helping to tell a story that’s much more multifaceted, that much more represents the America that we serve.

“But here’s the other thing. We brought skills to the table that weren’t here before. I’m a test pilot and can do some things. But my classmate, Jessica Meir, who is a physiologist who researches the anatomy of animals that can live in extreme environments — do you think that was important when we were designing spacesuits to go out in the vacuum of space? Heck, yes. She’s also a great outdoors person and athlete. And so we brought a greater array of skills.

“Exploration is to go places and analyze things that often have not been done before. And your education and training and character are what enable you to do that safely. And so by bringing in a broader set of skills, we not only represent America better, we do a better job at science and tech and engineering and logistics.

“I look at Leland as the best of these things. Listen, of course, little Black kids — Leland is one of the folks who enables young people of all stripes that look like I did when I was young, to see themselves in a spacesuit, in a spacecraft, at a drafting table, in technical meetings, in leadership.

“And it’s not just little brown kids. Kids that don’t speak English, kids that are white, all colors of the rainbow, look up to Leland because he’s a good person. He shows up in his humanity, and you can connect with him and you can listen to him. He’s a great storyteller. He can connect these very technical things that we do, to anybody, a group of scientists, or a roomful of third graders. And I’ve been blessed to do those things with him. He is such a role model and friend and mentor, he’s my brother. I’m so glad that we have someone like him on the team.”

Melvin is also a team player in his hometown. He has lent his support to the Academy Center of the Arts on Lynchburg's Main Street, and to the Jubilee Family Development Center, where he made a large donation to fund the Astronaut Leland Melvin STEM Center. Melvin is "a major, major part of Lynchburg now," said Sterling Wilder, a Lynchburg city councilman and executive director of the Jubilee Center.

Melvin is on the board of BWXT Technologies, a Lynchburg company that manufactures nuclear components. Rex Geveden is the CEO.

"When I came into the business, we started doing some work with NASA around a concept called nuclear thermal propulsion," Geveden said. "The idea is to build a nuclear rocket engine, which is much more efficient than chemical rocket engines. And so we started thinking, we might like to have some space expertise on the board. And Leland Melvin, as a twice-flown NASA astronaut, has a long and excellent history in space. I mean, what a thing, a guy from Lynchburg, Virginia, who's got a stellar history in the space background, who could participate on the board of a Lynchburg-based public company, which is pretty rare in itself. So it all fit together."

Beyond his technical expertise, "Leland's a powerful cultural influence in the city of Lynchburg. Obviously he's a person of color, and so I think he's viewed sort of iconically by the African American community, for sure. But Leland's a person who generates a ton of goodwill wherever he goes, because he's just a good dude. He's genuine. He's got a big heart."

Asked about his family, Melvin mentioned his sister, nieces and cousins. He famously sneaked his two rescue dogs, Jake and Scout,

into an official NASA portrait session in 2009, and appeared in an episode of the Netflix series “Dogs.”

Another passion is music. Melvin composes and records piano pieces. Judging from a video he posted to Facebook, his self-description as a “hack” jazz piano player is too modest.

His dad and mom, both deceased, remain a presence. He hears them when the wind blows.

“I have two wind chimes you might be able to hear back over there, with my mom’s name and my dad’s name, and they’re constantly reminding me of things that I should be doing, when the wind blows.”

The day before the Cardinal News interview, he was hooking up a bush hog to a tractor, a technical task requiring the same type of mentality he learned from his father, the language arts teacher who was an amateur engineer.

The voice of John Young, who died in 2018, is present as well.

After Melvin’s formal interview for the astronaut job, he joined some astronauts at a gathering spot in Houston.

“John Young came up to me and he says — I’ll never forget this — ‘Leland, once we stop exploring as a civilization, we will falter. We will die.’ So it was inclusive of everyone, not just the American space program ... not just exploration of space, but exploring in general, just having the mindset of thinking of the future and trying new things.”

Melvin isn't done exploring, but if he withdrew to a mountaintop monastery tomorrow, he would leave an enviable record.

Geveden, of BWXT, pointing to his athletic accomplishments, spaceflights and membership on a Fortune 1000 board, said: "Pretty good bio, isn't it?"

'From Virginia to the Moon'

Exhibit honors human "computers" and state's other contributions to spaceflight

An exhibit at the Virginia Museum of History and Culture in Richmond, "Apollo: When We Went To The Moon," is on display through Dec. 31. A room devoted to the Old Dominion's role in space exploration, "From Virginia to the Moon," features Leland Melvin's flight suit, among other displays.

"The birthplace of our human-in-space program is in Hampton, Virginia, at NASA Langley Research Center," said Andrew Talkov, senior director of curatorial affairs at the museum. "It was there that how we would get to the moon was largely determined, where we would land on the moon. And every one of the astronauts who has stepped foot on the moon did their training in some part at NASA Langley Research Center. So Virginia has deep roots in not only the early days of our human-in-space program, but even to this day

Virginians are helping to plan our next voyage to the moon after 50 years of absence from that celestial body.”

Melvin appeared at the museum on April 15 to promote the exhibit as well as his 2018 book, “Chasing Space.” It was one of the most popular programs Talkov has seen at the museum.

“For someone so remarkably accomplished, he is so warm and welcoming and friendly to every single person that he met that day,” Talkov said. “And then he will be back this fall to have conversations with another Virginia-born astronaut, Dr. Robert Satcher. The two of them flew in 2009 on the space shuttle to the International Space Station, and it was a historic flight because it was the first time that two Black astronauts had been in space together.” That program is scheduled for Oct. 20.

Among the highlights is a full-scale model of the Apollo 17 moon buggy, which visitors can sit in.

The exhibit pays tribute to the human “computers” — almost all women — who crunched the numbers at Langley starting in the 1930s. With the arrival of electronic computing in the 1950s, many “computers” switched to programming or joined engineering groups.

During World War II, Black women with college degrees worked in the segregated West Area Computers facility. Their story was told in Margot Lee Shetterly's 2010 book "Hidden Figures," which was made into a Hollywood movie. Katherine Johnson, who joined the West Area Computers in 1953, later calculated trajectories for Apollo 11.

Johnson retired from NASA in 1986 but continued to be active in the National Technical Association, which Melvin described as "the oldest professional organization of scientists, mathematicians, and engineers in the Black community."

Melvin worked with Johnson when both were officers of the organization. "I didn't know the history of what Katherine had done ... 'til the movie came out, because she didn't really tell people what she did. She was just doing the numbers, is what she said."

Admission to "Apollo," including "From Virginia To The Moon," is included in museum daily admission. For information on hours and tickets, see virginiahistory.org.