

A portrait of Maj. Gen. (Ret.) Ronald M. Sega, an older man with short, graying hair and a friendly smile. He is wearing a dark suit jacket over a light blue collared shirt. The background is a blurred view of a mountain range under a clear blue sky, seen through a window with vertical wooden frames.

MAJ. GEN. (RET.) RONALD M. SEGA

CLASS OF 1974

When he left Ohio to attend school at the United States Air Force Academy, Maj. Gen. (Ret.) Ron Sega '74 was the first member of his family to fly in an airplane.

He was actually more excited about the flight than what awaited him in Colorado Springs.

"I had never been west of the Mississippi River growing up," he admits. "It was a big event to actually be in an airplane."

Unfortunately, his connecting flight from Denver to Colorado Springs was

canceled and he showed up late for his first day at the Academy.

"I knew that wasn't going to go well for me," he laughs.

Despite the rocky start, Sega went on to excel at USAFA and experience a remarkable career in the Air Force and beyond. Still, Sega says he's shocked to be among the four recipients of the Distinguished Graduate Award for 2020.

"It's a group of very special people who have previously been selected as Distinguished Graduates," he says. "I'm honored to be part of that group."

EARLY INSPIRATION

Sega remembers the day well.

As a third grader, his class filed into the school's gym and watched the first American — Alan Shepard — launch into space. He recalls being so inspired that he immediately wanted to be part of the space program when he grew up.

"I never thought I'd have a chance to actually fly to space," he admits, "but I thought maybe I could get involved in some way with math or science."

In high school, Sega did well academically and excelled in sports. When he began researching universities to possibly attend, he was intrigued by the Air Force Academy.

"I understood that you could get a great education, and you also didn't have to dig into your parents' pretty modest savings," he says. "Those were motivations."

Service academies weren't a popular choice for college students from Ohio in 1970. The National Guard shootings at Kent State had just occurred, and one of Sega's former schoolmates happened to be one of the victims — though he survived.

Despite the rising anti-military sentiment, it didn't take long for Sega to recognize that he'd made the right choice for himself. He wanted to serve his country and be part of a mission greater than himself.

"The easy part at the Air Force Academy was integrity first, service before self and excellence in all we do," he notes. "That's basically what my parents laid out for me as I was growing up ... plus working hard."

The military discipline was a bit of a shock, but Sega's first roommates were a big help. His initial roomie was from New York City and had studied military history growing up. His roommate right after Basic Cadet Training had been to a prep school, so he was a huge help as well.

CAREER GOALS

Sega's first airplane ride did much to whet his appetite for becoming an Air Force pilot, but he didn't choose that career path immediately.

"I just had no idea what I wanted to do," he remembers. "My goal was to graduate, because the folks around me were so good that I knew I was going to have to work really hard to survive."

Sega did more than survive as a cadet. He signed up for many additional classes and



ABOVE: Ron Sega and his family pose for a photo with the Space Shuttle Atlantis in the background in May 2010.

LEFT: Ron Sega '74 during his STS-60 Space Shuttle Discovery mission in 1994.

BOTTOM: The STS-76 crew included Ron Sega (back right) and fellow USAFA graduates Commander Kevin Chilton '76 (center front) and Rick Searfoss '78 (front right).



took advantage of leadership opportunities throughout his time.

"I ended up graduating with 207 semester hours," he reports. "I had a double major in math and physics, and during at least a couple semesters, I overloaded in other areas. As a young person, they were paying me to go to school. That sounded pretty good."

As an upperclassman, Sega went on to serve as commander of 3rd Cadet Squadron. He also conducted an independent study in the physics department, working with Hewlett Packard to solve an industry problem.

"That actually led to a paper and a conference before graduating," he says. "It was certainly exciting."

More opportunities came during summer programs and breaks, when Sega traveled the globe learning about a variety of Air Force missions.

"As I moved along, my eyes became opened to more of the world than I certainly saw in Northfield, Ohio," he smiles.

His Academy years taught Sega important life lessons that he would carry with him throughout his career — time management and teamwork chief among them.

"My time at the Academy was absolutely foundational for everything else that I was able to do in my life," he admits. "It provided the base that enabled a variety of different activities. Without that foundation, the other things were not possible."

OFF WE GO

Immediately upon graduation, Sega attended The Ohio State University to complete a master's degree in physics. He then went to pilot training at Williams Air Force Base in Arizona.

His initial job was as a first-assignment instructor pilot in the T-37.

"That wasn't my first choice, but it was another life lesson," he says. "You make the best of it."

During his three years at Williams, Sega would add classroom instruction to his duties. That's when he caught the teaching bug. Sega eventually returned to his alma mater to join the physics faculty, while also flying the UV-18 for the USAFA jump team.

While on the faculty at USAFA for three years, he would complete his Ph.D. in electrical engineering. In the process of teaching and completing his advanced degree,

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—MAJ. GEN. (RET.) RON SEGA '74

Sega received funding from the Rome Air Development Center to build an anechoic chamber at the Academy in order to do electromagnetics research and solve an Air Force problem.

TRANSITION DECISION

When he arrived at his eight-year point, Sega was at a crossroads. He loved both flying and research, but the Air Force was reluctant to allow him flexibility to do both.

He separated from the Air Force and joined the Reserves as a C-130 pilot, and then joined the electrical engineering faculty at the University of Colorado at Colorado Springs.

Thus began his dual-track journey that allowed him to keep one foot in the military and another foot in technology, research and teaching.

Five years later, Sega transferred to Air Force Space Command as a reservist, initially working on remote sensing options for the U.S. military. During that time, he also worked on the Wake Shield Facility at the University of Houston — an experimental science platform that was eventually taken to low-Earth orbit aboard the Space Shuttle.

After seven years at UCCS, and at the urging of USAFA classmates, Sega applied for the astronaut program with the National Aeronautics and Space Administration (NASA). To his surprise, he was selected.

He took a leave of absence from his teaching role in 1990 and joined the astronaut corps as a civilian while maintaining his Air Force reservist role at Air Force Space Command.

In 1994, Sega was the flight engineer and arm operator for the Space Shuttle Discovery mission, STS-60. Onboard was the Wake Shield Facility, which Sega had helped develop and then ultimately helped deploy.

That mission was a real eye-opener for Sega, especially at launch. He'd practiced plenty in simulators prior to launch day, but apparently nothing can prepare you for the real thing.

"The front panels were vibrating a lot during the first stage from the solid rocket boosters," he recalls. "You really had to focus."

Once in space, the crew was too busy to think much about the experience, he suggests.

Sega says he was able to enjoy the astronaut experience even more when he returned to space during the STS-76 mission on Space Shuttle Atlantis in 1996. That mission was commanded by fellow USAFA Distinguished Graduate Gen. (Ret.) Kevin Chilton '76.

His NASA tenure included another challenging assignment as well, serving as NASA's director of operations at Star City Russia, outside of Moscow, from 1994 to 1995. His task was to prepare the first U.S. astronauts to fly on Soyuz rockets to the Mir space station.

"The collapse of the Soviet Union had occurred, and the economy was in pretty bad shape," he remembers. "We kind of had to fend for ourselves."

His team did all it could to set up a reliable communications network, using an uninterruptable power supply, to connect with NASA personnel in Houston.

"We put up aluminum foil over the windows to provide a better electromagnetic environment for some of the baseline data collection for the medical stuff," he laughs.

BACK TO EARTH

When his NASA stint was through, Sega returned to UCCS and hoped to take a bit of a break. The university had other plans, however, asking him to become dean of the College of Engineering.



ABOVE: Ron and Ann Sega pictured with their sons, Jack (left) and Matt, at the Colorado Space Heroes Hall of Fame induction in 2016.

RIGHT: Ron Sega speaks to cadets at Stillman Field in 2010 at the Acceptance Day parade for the Class of 2014, whose Legacy Class was the Class of 1974.



"We added six degrees in one fashion or another during a five-year period, including two stand-alone degrees in electrical engineering and computer science at the Ph.D. level," he reports. "We added an undergraduate degree and a masters in mechanical engineering and established a Department of Mechanical and Aerospace Engineering. It was a great experience."

Sega also continued his Reserve duties with Air Force Space Command, including a Mission Ready Crew commander role at Schriever Air Force Base.

"That was great operational experience that would be helpful later on," he says.

He later became mobilization assistant to the commander of Air Force Space Command, then Reserve assistant to the chairman of the Joint Chiefs of Staff.

In 2001, another unexpected job came about — director of Defense Research and Engineering (DDR&E) at the Pentagon during the George W. Bush administration.

"I became the chief technology officer for the Department of Defense for the next four years," he explains. "It became really clear — the purpose, and why we were there, on 9/11."

Sega was in the Pentagon when the terrorist-directed airplane struck the building.

"We didn't know what was going on, but

it clearly was not good," he reports. When he returned to his office the next day, Sega says his team began to focus on technological advancements that could help in our upcoming response in the Middle East.

"We were also pushing on things that we thought were important for the future — hypersonics, cyberspace, satellites, artificial intelligence and directed energy among them," he says. "We had an awful lot to do during that time and we worked hard. The themes that were instilled in me at the Air Force Academy were absolutely alive and well during that era."

After his DDR&E role, Sega served two years as undersecretary of the Air Force. He also took on the role of executive agent for space. (He retired from the Reserves in order to take the appointed undersecretary of the Air Force position.)

During his tenure as undersecretary, Sega and his team were able to cut the Air Force's energy consumption by more than 5%, saving hundreds of millions of dollars.

"That team won the presidential award for leadership in energy management for the U.S. government," he reports.

Sega admits he was extremely busy through this period of his career, and he often operated on little sleep.

"The motivation was really easy," he explains. "There were some long days, but it was important. National security is essential and critically important."

BACK HOME

In 2007, Sega was convinced to return to the Front Range to launch a graduate program in systems engineering at Colorado State University.

At the end of its first 10 years, the department was ranked No. 1 in the nation for engineering Ph.D. programs with an online component. Some 130 Ph.D. students were enrolled in the program in 2019.

In 2019, Sega was asked to be the chief technology officer for Army Futures Command. In that role, Sega is helping the Army speed up its development and use of innovative technology.

GIVING BACK

Despite his hectic dual-track career, Sega has found time to serve his community and nation in other ways.

He was appointed to the Air University Board of Visitors and served as an adviser to the Advancing Research in College Science organization. In addition, he's been part of the board for Pikes Peak Mental Health and the Space Foundation. Other involvement through the years included the United Way, Big Brothers Big Sisters, Boys Club and coaching youth basketball teams.

Sega has given back to his alma mater as well, volunteering to help with award ceremonies and to speak in front of cadets when possible.

ENDURING MESSAGE

Sega says he's grateful for the Distinguished Graduate recognition he's received, and he owes it all to his start at the Academy.

"The values one has in the Air Force and at the Academy of integrity first, service before self and excellence in all we do are very crucial," he says. "And that should never change."

But, he adds, the world is changing and his alma mater has to change with it.

"Our next generation of cadets is going to be leading a world with a high rate of change that we've never really experienced before," he predicts. "They're going to be up for the task with the Air Force Academy experience. Cadets, we're counting on you." 