



Honoring a Pioneer and the Legacy of Innovation

We recently lost one of the last living links to the dawn of the helicopter age. Sergei Sikorsky — son of aviation pioneer Igor Sikorsky — passed away on Sept. 18 at the age of 100. Sergei was truly there from the beginning: as a young man he witnessed the Sikorsky R-4 become the world's first production helicopter, even serving in the US Coast Guard's Helicopter Development Unit during WWII. He went on to a 41-year career at Sikorsky Aircraft, helping it grow into a leading helicopter manufacturer. His passing marks the end of an era and calls on us to reflect on the brilliance and persistence of the early vertical flight innovators who brought about the impossible.

Think about it... do you know how **incredibly difficult** it is to design, build and certify a helicopter? Even today it's a monumental challenge, requiring millions of dollars in funding. The early pioneers did it from a clean sheet, with no prior roadmap to follow. Solving problems deemed unsolvable, from aerodynamics and control to materials and safety. Yet they did it. How? These brilliant men found their calling in vertical flight, and thankfully for us they devoted themselves to conquering the VTOL challenge. At the same time, each was exceptional in his own right, with talents and interests far beyond aviation. We need to celebrate our pioneers and their excellence to attract the great minds of today and tomorrow to take up the torch of vertical flight.

Brilliance and Diverse Passions of VTOL Pioneers

Helicopter pioneers are arguably among the most brilliant minds in all of aerospace — perhaps in all of engineering. You don't have to be singularly obsessed with aviation to be a VTOL trailblazer. Many of these greats had primary passions elsewhere. For example:

- **Igor Sikorsky (1889–1972):** Igor persevered for decades before finally seeing his VS-300 prototype led to the R-4's production in his early fifties. Yet Igor's true passion was his faith and philosophical thought. A devout Orthodox Christian, he authored two books on spiritual philosophy, *The Message of the Lord's Prayer* (1944) and *The Invisible Encounter* (1947), and in the latter wrote, "Our concerns sink into insignificance when compared with the eternal value of human personality... No one can take this sublime meaning of life away from us, and this is the one thing that matters." That profound perspective guided him through many challenges. (On a personal note, I share Sikorsky's Orthodox faith, touring Hellenic College in 2005 to become a priest. I find Igor's example especially inspiring.)
- **Charles "Charlie" Kaman (1919–2011):** After leaving Sikorsky to start his own helicopter company in 1945, Kaman invented novel intermeshing rotor designs and the servo-flap control system. But Charlie's other love was



VFS Executive Director Angelo Collins with Sergei Sikorsky and wife Elena, Heli-Expo 2023

music, he was an avid guitarist. In 1966, he founded Ovation Instruments, applying aerospace materials knowledge to create the revolutionary round-backed Ovation guitar. His "hobby" became a hugely successful guitar company, even as he continued advancing rotorcraft. Kaman proved that a great engineer can blend art and science. In our Leadership Profile this issue, you'll learn that **Arnaud Le Pape** is also a little bit Rock and Roll.

- **Frank Robinson (1930–2022):** Our cover and feature this issue, Frank was an icon of entrepreneurial drive. A self-taught engineer who quit big companies to design the small, affordable R22 helicopter in his garage. The first miracle, certifying then selling the R22 in huge numbers. Then the second miracle, repeating that success all over again with the four-seat R44, one of the most successful civilian helicopters in history. Frank's true passion was business: he was a savvy, no-nonsense entrepreneur who turned vertical flight into a profitable venture. By the time he passed away, he amassed a substantial fortune and proved that helicopters could thrive as a commercial enterprise.
- **Arthur M. Young (1905–1995):** Young designed Bell's first helicopter (the Bell 30/47) and invented the stabilizer bar that made early helos controllable. But he was as much sage as scientist, a true Renaissance man. Arthur was a student of philosophy, consciousness, and even astrology. He shifted focus in the 1950s to exploring the human mind and spirit. In 1949, the Franklin Institute awarded him the Edward Longstreth Medal for his rotorcraft work, and in 1952 he and his wife established the Foundation for the Study of Consciousness, the forerunner of an institute dedicated to uniting science and spirituality. Young reminds us that deep curiosity about life and the universe can fuel engineering creativity.



Howard Hughes (2nd from left) by the XH-17 in Culver City, CA, AHS Archives

- **Frank Piasecki (1919–2008):** Piasecki might have been the most unabashed rotorcraft nerd of the bunch. He lived and breathed VTOL technology, developing concepts like the compound helicopter and ducted thrust. Yet Frank's driving passion was tied with love of **family**. He and his wife Vivian raised seven children together, a bustling family that he cherished even as he revolutionized heavy-lift helicopters. His daughter Nicole Piasecki later became a Boeing executive, and several of his sons including John and Fred keep the tradition alive. Piasecki showed that one can be devoted to both engineering innovation and a rich family life.
- **Howard Hughes (1905–1976):** A name synonymous with visionary risk-taking, Hughes had already conquered Hollywood and set fixed-wing aviation records when he turned his attention to helicopters. In 1947, Howard Hughes redirected his focus on rotorcraft. His legacy includes the popular Hughes/MD500 series and the AH-64 Apache (developed by Hughes Helicopters), proof that even a world-famous tycoon and filmmaker could also leave a mark on vertical flight.

These examples illustrate an important truth: you don't have to be narrowly obsessed with aviation to be a pioneer in this field, in fact, the opposite is often true. The helicopter greats were well-rounded, imaginative thinkers who brought diverse skills and perspectives to the VTOL challenge.

Today's Visionaries: Carrying the Torch of Innovation

We honor the great pioneers of vertical flight not just to preserve history, but to inspire today's brightest minds to tackle the next "impossible" challenges in VTOL innovation.

Their stories show students that with creativity, persistence, and passion, they too can dream big, bring their whole selves to the field, and become the next generation of visionaries.

The good news is, we are already seeing bold new visionaries take on the challenge of vertical flight. Take **JoeBen Bevirt**, for example. He's the creative force behind Joby Aviation, pursuing an electric air taxi that not long ago would have sounded like pure science fiction. JoeBen started Joby in his barn in the Santa Cruz mountains and grew it into a leader in the eVTOL industry through relentless prototyping and belief in the mission. Or consider the entrepreneurs at the helm of today's startup companies: **Adam Goldstein**, the CEO of Archer Aviation, and **Kyle Clark**, the founder/CEO of Beta Technologies. They're not household names yet, but they embody the pioneer spirit. Kyle Clark is literally a polymath and a polymath-athlete, a former professional hockey **player** turned engineer-pilot-CEO! When he's not in the boardroom, you might find him test-flying Beta's electric aircraft himself.

VFS – Fostering Talent and Honoring Legacy

This is where the Vertical Flight Society (VFS) plays a pivotal role. We take very seriously our mission to educate, inspire, and sustain the vertical flight workforce, while also preserving the rich history that got us here.

SDC: VFS fosters talent through academic initiatives and competitions. Our annual Student Design Competition (SDC) challenges university teams worldwide to design innovative vertical-lift aircraft for real-world missions. Sponsored by industry leaders, winning teams earn recognition, awards, and the chance to present at our Annual Forum. For more than 40 years, the SDC has engaged thousands of young engineers, many of whom are now leaders in aerospace, the military and academia.

DBVF: We've also launched the Design-Build-Vertical-Flight (DBVF) competition, where student teams design, build and fly small electric VTOL drones. With both manual and autonomous flight phases, DBVF develops real-world skills in fabrication, systems integration and flight testing.

VFF: In addition to our competitions, VFS supports students through Vertical Flight Foundation (VFF) scholarships. This year, we awarded a record \$126,000 to 33 engineering students. Since 1977, more than 725 scholarships have helped to inspire generations of students to pursue vertical flight careers. Many recipients now hold leadership positions across industry, academia and government.

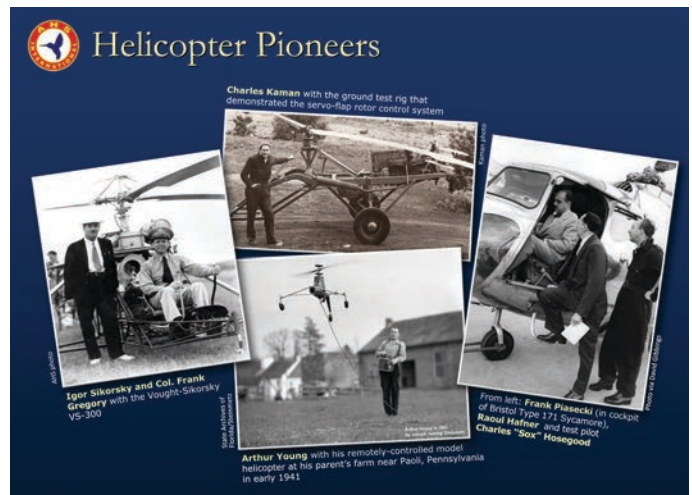
History: Crucially, VFS also serves as the keeper of vertical flight history. We maintain archives and historical resources, designate Vertical Flight Heritage Sites, and publish

retrospectives in Vertiflite and the Journal of the AHS. Our History Committee and staff work closely with museums, archives, and authors to preserve photographs, records and oral histories.

Leonardo: It's no accident that one of our major industry partners, AgustaWestland, rebranded as Leonardo S.p.A. after Leonardo da Vinci in 2017. They explicitly wanted to channel the spirit of that 15th-century visionary in its modern endeavors. It worked, and Leonardo has grown significantly in recent years, expanding not just in Europe but in the US market as well, riding on the strength of inspired innovation. This exemplifies how drawing inspiration from *great minds of the past* can propel success in the present.

Carrying the Legacy Forward: A Call to Action

As I reflect on Sergei Sikorsky's century-long life and the remarkable legacy of all these innovators, I feel immensely grateful to be part of this community. We owe it to them, and to future generations, to keep the vertical flight dream alive and thriving. VFS will continue to do its part by educating, connecting, and inspiring, but we cannot do it alone.



Please join me in honoring the past and empowering the future of vertical flight. Consider donating to VFF or getting involved in VFS programs in tribute to Sergei Sikorsky and all the visionaries who showed us the way. By doing so, you ensure that the *VTOL dream will continue to inspire and lift up great minds*, today and tomorrow. 🦋



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