



Gary Lai

2023 Pathfinder Award Recipient in The Engineering Category

The Museum of Flight's Annual Pathfinder Awards honor individuals with ties to the Pacific Northwest who have made significant contributions to the development of the aerospace industry. Pathfinder Award recipients are selected by The Museum of Flight, the Pacific Northwest Section of the American Institute of Aeronautics and Astronautics and representatives of other aviation and aerospace organizations and companies throughout the Northwest.



The rocket roars off the launch pad, accelerating to over 2,200 mph in two minutes and climbing to 350,000 feet. Later, it restarts its engine and slows to a near hover before landing vertically back on Earth. Its crew capsule then emerges from the sky, deploying parachutes and landing softly. This is yet another

demonstration of New Shepard, a fully reusable human spaceflight vehicle.

Gary Lai, Chief Architect, led New Shepard's design team for much of its history. But it was not always clear that this would be the field in which Lai would create his legacy. Growing up in New York City, Lai developed a passion for space after watching Carl Sagan's *Cosmos*. Lai recalls that growing up, "I didn't know what an engineer was. My teachers never discussed it as a career." He attended Cornell University to study astronomy but became disillusioned by the long path to academia. He ended up majoring in finance instead.

In his senior year, Lai took the last course Carl Sagan ever taught before he passed away. Meeting his childhood hero, Lai's passion for space was reinvigorated, and by then he knew that engineering was a more hands-on path to pursue his passion. He started over and enrolled in aerospace engineering at the University of Washington.

Kistler Aerospace in 1998, one of the first major startups in reusable rocketry, hired Lai to help develop their business plan because of his dual background in engineering and finance. There, Lai

met Rob Meyerson, who later went on to become President of Blue Origin. Meyerson recruited Lai to become Blue's 18th employee.

Lai would go on to fill many roles, helping Blue grow to over 10,000 employees. He led New Shepard's launch site development in Texas and the team that started the BE-3 rocket engine program. In 2008, Lai took over the New Shepard crew capsule, leading development of all its unique safety systems, including its composite cabin, parachutes, retrorockets and the escape system that can propel the capsule safely away from the booster rocket.

In November 2015, New Shepard became the first rocket ever to fly to space and conduct a vertical, rocket-powered landing. In January 2016, the same vehicle did it again, pioneering the path to today's reusable rockets and winning the 2016 Collier Trophy. However, there was no clear path to proving it was safe enough to fly people, and no guidance from the Federal Aviation Administration. Lai became System Architect, overall technical lead of the project, at this critical point. He rallied the team to devise and execute a plan for human flight certification, culminating in the first human flight in July 2021. To honor his contributions, Blue invited Lai to fly New Shepard himself in March 2022. Not only did he become the first Asian-American flyer on New Shepard, but he is the only person ever to lead the design of a rocket and then fly it to space himself.

Today, Lai is a technical advisor contributing to all Blue Origin programs, not just New Shepard. Lai received the 2017 RNASA Stellar Award, the 2019 Blue Origin Founder's Award for Technical Ambition, and now the 2023 Museum of Flight Pathfinder Award for his contributions to aerospace history.