



Charles F. Hall

NASA Ames Hall of Fame

Almost seven billion miles from Earth and moving at a speed of over 27,000 miles per hour is a remarkable device, humankind's first emissary to cross the threshold into interstellar space: Pioneer 10. That fact alone would be amazing enough, but Pioneer 10 and its brethren in the illustrious Pioneer series have done much more than trailblaze humanity's path into the universe. Under the direction of Charles F. Hall, the Pioneer projects have provided our first close-up glimpses of new worlds and opened our eyes to previously unimagined wonders. His leadership has placed Ames firmly in the forefront of planetary exploration.

Hall managed the Pioneer program with a "faster, better, cheaper" philosophy long before those words became NASA's official 90's mantra. It was a formidable task, because the Pioneer spacecraft were intended to travel farther and provide more hard scientific data than any previous space probes. Pioneers 6 through 9 would probe the secrets of our Sun's atmosphere in various solar orbits; Pioneer Venus would provide humankind's first truly detailed look at Earth's sister planet; and Pioneers 10 and 11 were set to penetrate past Mars into the outer Solar System, farther than any man-made craft had ever traveled. Considering the unique engineering and scientific challenges posed by such ambitious plans, it might seem a foregone conclusion that the project would exceed its allotted budget and fail to meet its schedule. Yet Charles Hall managed to not only keep the program within budget and on schedule, but did so without compromising its ultimate scientific objectives. Although some of his decisions were initially questioned by the scientists designing the Pioneer spacecraft, Hall's judgments invariably proved correct, providing a bigger science bang for the engineering buck.

Throughout his management of the Pioneer program, Hall's insistence on clearly defined objectives and on the firm control of technical difficulties and risks ensured that the effort remained on track. Using existing technology wherever possible, limiting the size of his Ames management team to prevent time-wasting redundancy, and granting contractors wide technical latitude to avoid endless wrangling over technical minutiae, Hall streamlined what could have been an nightmarish bureaucratic boondoggle into a tautly-run, supremely focused project that not only met its objectives but exceeded them in ways no one had expected. By taking ingenious advantage of the idea of gravity boost to change a spacecraft's trajectory, Pioneer 10 was able to extend its explorations well beyond the confines of our Solar System, and Pioneer 11 capped the grand triumph of its Jupiter encounter with a spectacular fly-by of Saturn. It was chiefly due to Hall's management that these added dividends were realized years earlier than might have otherwise been possible, while still keeping the entire Pioneer program within the budgetary and time constraints demanded by NASA.

As Pioneer 10 began its Jupiter encounter on November 3, 1973, Charles Hall marveled to reporters that "we are only twelve generations away from Galileo and his first crude look at the planet, yet now we are actually there, measuring the characteristics of the planet itself."

More than any other individual, it was Charles Hall who made it possible for humanity to see the giant planet from that new and historic perspective. Long after most of humankind's other accomplishments have faded to dust, Hall's plucky Pioneer spacecraft will remain, traversing the interstellar void as eternal couriers of Earth.