# Ames: from breaking ground to ground-breaking

The first firm mention of the center that became NASA Ames appeared 66 years ago, on Dec. 30, 1938, in a report presented to Joseph S. Ames, chair of the National Advisory Committee for Aeronautics.

Ames had encouraged NACA committee members to anticipate America's entry into the second world war. So, they formed a NACA special committee on future research facilities to study if the Langley Memorial Aeronautical Laboratory could be expanded and, if not, where a second laboratory should be built.

After considerable study, based on an exhaustive earlier Navy survey, the report proposed "a second major aeronautical research station by NACA on the present Army field in Sunnyvale, California." President Roosevelt approved the plan quickly, though some congressmen wanted this new lab built in their districts. Congress approved funding for construction, so long as site selection was reopened.


*Moffett Field on May 21, 1940. Groundbreaking for the first permanent Ames building (now N210) was in late February.*

*Groundbreaking at Ames, Dec. 20, 1939. Russell Robinson, far right.*

In June 1939, Vannevar Bush, who had succeeded the ailing Ames as NACA chair (and for whom Bush Circle is named), formed a new survey committee. This committee was chaired by Charles Lindbergh who, in the decade since his famous flight, had seen most every airfield in America. He had also seen first-hand Germany's aviation enthusiasm and spoke vigorously about America's need to invest in aviation research. The Lindbergh committee surveyed more then 50 sites; then, on Sept. 22, 1939 announced that they had again concluded the Sunnyvale site was best.

Russell Robinson, who had built the 8-foot wind tunnel at Langley after graduating from Stanford in 1930, was a young NACA staffer on the Lindbergh committee. He was still in the Bay area in the fall of 1939, building a liaison function between the NACA and west coast aircraft manufacturers and feeding information about the selected site back to design engineers at Langley. Given a blank plot to start with, they sketched out a brilliantly imagined future. For two months, Langley engineers outlined where, on the odd-shaped 100 acre site, the many new wind tunnels could fit. Then, in an otherwise empty plot of land (now at the intersection of King Road and DeFrance Avenue) they sketched in a temporary construction shack.

Back at Moffett Field, a small construction crew, their names now forgotten, lined the roadways with string, then prepared to dig a post hole for the shack flooring. Robinson, realizing that this start, though small and unscripted, was the first construction at Ames, found an Army camera man. The moment was oddly appropriate to the culture planted there. This pioneer shack on new space was built cheap, fast, served its purpose, then disappeared from history. The focus was on the work, not the ceremony of it. The date was Dec. 20, 1939.

On Jan. 29, 1940, this shack welcomed the laboratory's first two employee John Parsons and Ferris Nickle, both experts in construction contracting. Today, we mark the founding of Ames with both events—the groundbreaking and the peopling of Ames. It is the people here who have made this Center great. Throughout the 1940s, more staff arrived, notably Harvey Allen, Walter Vincenti, Carlton Bioletti, Smith DeFrance, John Dusterberry and R. T. Jones. Many were aerodynamicists who just had to see the tunnels they had designed being built.

*The entire Ames staff on Aug. 30, 1940.*

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Over the past 65 years, as displayed on the chart above, the people planted at this place continued to break ground. Building like the burrowing owls native to these baylands, Ames employees built the world's greatest set of wind tunnels. Then, they built simulators, laboratories, spacecraft and supercomputers. Dug under Ames are the information networks that gave birth to the commercial internet.

First rooted here were the disciplines of computational fluid dynamics, astrobiology, and nanotechnology. We did fundamental research in aircraft handling qualities, air traffic management and infrared astronomy. We studied rocks dug out of the lunar regolith, learned how meteorites cratered planets, and built robots capable of digging holes driven by their own artificial intelligence. We developed the swept-back wing now used on all high-speed aircraft, and the blunt-body technology that allows every spacecraft to return safely to Earth and probes to enter other planets.

Ames built the Pioneer series of robotic explorers, the first human-made objects to pass through the asteroid belt, visit the giant planets and leave our solar system.

We also managed the Jupiter Galileo probe, the Viking Life Detection Experiment, the first machine to dig a hole on Mars and contributed much to the Mars Exploration Rovers, which later drilled many holes on Mars. And, Ames people looked deep under ground—with spectroscopic, thermal and other instrumentation—while aloft on airborne science aircraft or on orbit. Lunar Prospector, notably, discovered water at the poles of the moon that may pave our path for our return to the moon, Mars and beyond.

We at NASA Ames also have a yearning to dig deeper into our history—not only to understand our unique culture but also to reinterpret the past in light of current challenges.

To understand the vision for space exploration today, we need to remember how NACA developed fundamental innovations that enabled air flight. We need to look back at the NASA of the Apollo years and during the early development of the space shuttle. In doing so, this may help us build historical analogies for what we want NASA to once again become. Then, we will add our future innovations to the Ames legacy.

Like Robinson's ad hoc work crew, Ames people will continue to break new ground, to lift Earth, to lay foundations, then build the way to the stars.

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