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Exhibition: <https://airandspace.si.edu/exhibitions/destination-moon>

Photos: <https://www.flickr.com/gp/airandspace/4mBva269Qt>

Fact Sheet “Destination Moon”

Opening: Oct. 14, 2022; National Air and Space Museum, Washington, D.C., Gallery 206

“Destination Moon” tells the story of lunar exploration from ancient dreams to the missions happening today. In other words, it is not just the moon race. The exhibition begins with early and pre-Sputnik imaginings of lunar flights and ends with a section on the return to the moon since the 1990s. Driven by the Cold War Space Race with the Soviet Union, the United States rose to meet President John F. Kennedy’s 1961 challenge “to land a man on the Moon and return him safely to the Earth” before the end of the decade. The gallery recounts the Mercury, Gemini and Apollo programs and the national mobilization required to carry them out. In sidebars, it also depicts the Soviet lunar program. In addition, the exhibition shares new and untold stories of people from various racial and ethnic backgrounds and all genders lending a hand to land a person on the moon.

Highlights include:

- **Apollo 11 Command Module Columbia:** Columbia was the only part of the spacecraft from the first moon-landing expedition to return to Earth. After serving as the mothership in lunar orbit, Columbia carried the crew and their precious lunar samples through the fiery re-entry into Earth’s atmosphere.
- **Neil Armstrong’s Apollo 11 Spacesuit:** Armstrong’s spacesuit is basically a form-fitting spacecraft. It provided air to breathe; protected him from temperature extremes, radiation and high-speed meteoritic particles; and allowed him to communicate with others. It is displayed with Armstrong’s lunar exploration visor assembly and extravehicular gloves.
- **Mercury Freedom 7:** Alan Shepard became the first American to fly into space in this capsule May 5, 1961. Unlike other Mercury capsules, it has only two small portholes. Once beyond the atmosphere, Shepard looked through a periscope, which extended from the side opposite the hatch.
- **Alan Shepard’s Mercury Spacesuit:** Shepard wore this spacesuit during his flight in his Mercury capsule Freedom 7. The Mercury spacesuit was a close-fitting, two-layer, full-

pressure suit. Its main function was to protect the astronaut against an unplanned loss of cabin pressure.

- **Saturn V F-1 Engine:** The F-1 is still the most powerful liquid-propellant rocket engine ever built. First developed under Air Force contract in the 1950s, the F-1 became the first-stage engine for the huge NASA rocket needed to launch astronauts to the moon. Five F-1s powered the first stage of the Saturn V.
- **Apollo 11 F-1 Engine Components:** These objects are actual pieces of the F-1 engines that powered the Apollo 11 astronauts to the first moon landing. The impact on the Atlantic Ocean destroyed the discarded Saturn V first stage. These pieces survived relatively intact. Bezos Expeditions recovered these objects from the ocean floor in 2013.
- **Gemini VII:** Frank Borman and James Lovell spent 14 days in this cramped cockpit from Dec. 4–18, 1965. The two hatches have been removed, making the cabin seem roomier than it really was. Each astronaut had only a small window in front of his face. Their mission was primarily medical. They endured experiments regarding food, waste and sleep.
- **Bonestell Mural, “Lunar Landscape”:** On March 28, 1957, six months before the Soviet Union launched Sputnik, the Boston Museum of Science unveiled a huge mural in the lobby of its Charles Hayden Planetarium. Bonestell portrayed the moon as everyone expected it to be with sharp peaks, jagged canyons and steep crater walls. In 1970, the museum took the mural down after pictures from the moon showed that the constant rain of meteorites and space dust rounded off lunar hills and mountains. The Smithsonian acquired the mural in 1976 and restored it for this exhibition.
- **Eugene Cernan Lunar Overshoes:** These overshoes were the last human-worn objects to touch the surface of the moon. Eugene Cernan wore them on his three spacewalks in December 1972. They made the last footprints on the moon when he stepped off the surface, and they retain traces of lunar dust.
- **How to Get to the Moon Interactive:** Through an interactive touchscreen, visitors will take on the role of a NASA engineer and decide the best method to send a person to the moon.
- **Lunar Module Cockpit Audiovisual Display:** Visitors can experience the moment lunar module “Eagle” landed on the moon with real Apollo 11 footage and audio displayed as if they are watching from inside the lunar module.

Sponsors: Jeff Bezos, Apollo 11 Commemorative Coin Program, Joe Clark, Charles and Lisa Simonyi Fund for Arts and Sciences, Bruce R. McCaw Family Foundation, Aerojet Rocketdyne, Elizabeth H. and James S. McDonnell III Fund (at the St. Louis Community Foundation) and the JSM Charitable Trust, Wick and Bonnie Moorman, Phillip N. and Mary A. Lyons, Gregory D. and Jennifer Walston Johnson, John and Susann Norton, Neil Webber, Barry D. Friedman, Leora and Derek Kaufman, FedEx Corporation, Milann H. Siegfried, Joan and Donald Beall, Hon. Linda Hall Daschle and Hon. Tom Daschle, Jamie and Kasey McJunkin, OMEGA, Robert Procop

“Destination Moon” Curator Bios

Michael Neufeld

Michael J. Neufeld is a senior curator in the Space History Department. He was chair of the department from 2007 to 2011. Neufeld came to the museum in 1988 as the A. Verville Fellow, and held Smithsonian and National Science Foundation fellowships in 1989–90. In 1990, Neufeld became a curator in the museum’s Aeronautics Division, where he remained until early 1999, specializing in World War II history and German World War II aircraft. After transferring to the Space History Department, he took over early missile and rocket collections and Mercury and Gemini spacecraft. He has led, or contributed to, several museum exhibits, including Air Power in World War II, Apollo to the moon and the Pioneers of Flight Gallery, as well as the McDonnell Space Hangar at the Steven F. Udvar-Hazy Center. In 2017, he received the Smithsonian Distinguished Scholar Award, the highest research honor given by the Institution. Born in Alberta, Canada, he received history degrees from the University of Calgary and the University of British Columbia before getting a doctorate in modern European history from The Johns Hopkins University in 1984.

Cathleen Lewis

Cathleen Lewis is curator of the museum’s international space programs and spacesuits, specializing in Soviet and Russian programs. Lewis completed her bachelor’s and master’s degrees in Russian and East European studies at Yale University, and she completed her dissertation for her doctorate in history, “The Red Stuff: A History of the Public and Material Culture of Early Human Spaceflight in the USSR, 1959–1968,” at George Washington University in 2008. Lewis curates Soviet and Russian components of “Space Race” exhibition at the museum. She also has interests in the history of astrobiology and the history of Black people in aviation and spaceflight. Between 1998–2007, she chaired the museum-wide Collections Committee. She was chief curator for the Dream to Fly gallery. Her current research is on the history of the public and popular culture of the Russian fascination with human spaceflight in the Soviet Union. She is also working on a comparative history of the development of American and Russian spacesuits.

Teasel Muir-Harmony

Teasel Muir-Harmony is a historian of science and technology and curator of the Apollo Spacecraft Collection. Before coming to the Smithsonian, she earned a doctorate from the Massachusetts Institute of Technology (MIT) and held positions at the Center for History of Physics at the American Institute of Physics and the Adler Planetarium and Astronomy Museum. Muir-Harmony’s current research focuses on the history of space diplomacy, examining how Project Apollo shaped and mediated the United States’ role on the global stage. She serves on the Smithsonian exhibit committees for “Destination Moon” and “One World Connected,” and she is the historical advisor for a six-part television series on Project Apollo. In addition, Muir-Harmony co-organizes the Space Policy and History Forum and teaches in Georgetown University’s Science, Technology and International Affairs program.

Allan A. Needell

Allan A. Needell, curator emeritus, earned a Bachelor of Arts in physics from Cornell University and a doctorate in the history of science from Yale University. From 1978 to 1981, he served as associate historian at the Center for History of Physics at the American Institute of Physics, where he had responsibility for a federally funded project to investigate and recommend ways of

identifying and preserving documents relating to the U.S. Department of Energy's research laboratories. Needell joined the museum in 1981 with a specialization in Apollo artifacts. From 1999 to 2002, Needell served as chairman of the Space History Division. During that period, he published *Science, Cold War and the American State: Lloyd V. Berkner and the Balance of Professional Ideals* (Routledge, 2000) and wrote articles on the history of physics, the origins of U.S. national laboratories and government-science relations. Needell retired in 2018 and is now a curator emeritus.

Thomas R. Watters

Thomas R. Watters is a senior scientist in the Center for Earth and Planetary Studies. He received his Bachelor of Science in earth science from West Chester University in 1977, his Master of Arts in geology from Bryn Mawr College in 1979 and his doctorate in geology from George Washington University in 1985. He joined the staff of the Center for Earth and Planetary Studies in 1984 as a research geologist and served as chair of the center from 1989 to 1998 and 2011 to 2015. Watters is the director of the Smithsonian's Regional Planetary Image Facility housed in the center and supported by NASA. Watters has studied tectonic landforms on all the terrestrial planets, the moon and asteroids, as well as analog structures on the Earth. Through his studies of tectonic landforms, he hopes to better understand the tectonic and thermal evolution of the solid bodies in the solar system.

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