

SHOOT FOR THE MOON EXHIBITION INFORMATION

**We've been to the Moon. We're going back.
What part will you play in our next space adventure?**

Shoot for the Moon highlights the exciting stories of space exploration and America's bold plans to return to the Moon. The exhibition begins with *A Journey with Jim Lovell*, featuring the fully-restored Gemini 12 spacecraft and the Lovell Collection of personal space artifacts. In *Mission: Moon*, young visitors discover the thrills and dangers of being an explorer and imagine their own futures in space.

A Journey with Jim Lovell — the first gallery of the **Shoot for the Moon** exhibition — tells the story of Astronaut Jim Lovell's life and career using artifacts from his personal collection. Learn about his initial setbacks and ultimate triumphs as one of America's space pioneers. The fully-restored Gemini 12 spacecraft, flown by Captain Lovell and Buzz Aldrin in 1966, is the centerpiece of a dynamic presentation celebrating the Gemini 12 mission and America's race to the Moon.

The second gallery — *Mission: Moon* — continues the story from the Gemini program to focus on the historic accomplishments of the hugely successful Apollo missions, which saw America reach its goal of landing a man on the Moon. Serve as a member of an exploration team going back to the Moon in the 21st century in the exciting *Lunar Dangers Training Lab*. The *Lunar Leap* and *Touch Down* interactives — and other state-of-the-art exhibit elements — allow you to discover the thrills and challenges of lunar exploration and imagine your own future in space.

Shoot for the Moon is powered by ComEd, an Exelon Company, and sponsored by NBC 5 Chicago.

GEMINI 12

Gemini 12, the final mission of the Gemini program, was launched on November 11, 1966. It was commanded by James A. Lovell, Jr. and flown by pilot Buzz Aldrin. They splash landed on November 15, 1966 after traveling 2,574,950 km over the course of 94 hours, 34 minutes and 31 seconds. Their major objectives were to subject man and equipment to space flight extended periods of time; to rendezvous and dock with orbiting vehicles and maneuver the docked combination by using the target vehicle's propulsion system; and to perfect the methods of entering the atmosphere and landing at a pre-selected point on land.

When Lovell and Aldrin boarded the spacecraft, they taped signs to their backs. Lovell wore "THE", and Aldrin wore "END". The two were offering a not-so-subtle

reminder that the Gemini 12 mission was the final mission of the Gemini program.

The Gemini Program

The Gemini program had served as a bridge between the Mercury and Apollo programs. The Mercury program proved that it was possible to send humans into space; the Gemini program proved that humans could survive in space long enough to go to the Moon. The goals of the Gemini missions were the following: to prove that astronauts can stay in space long enough to land on the Moon and return; that they can maneuver capsules and satellites for rendezvous; and that they can make controlled re-entries into Earth's atmosphere. They also showed that astronauts were able to work in space for extended periods of time.

Project Gemini was the second U.S. manned space program. It ran from 1963 to 1966, and was announced in January 1962. It was named after the third constellation of the Zodiac and involved 12 flights, including two unmanned flight tests of equipment.

Restoration of the Capsule

In October 2005, the Gemini 12 spacecraft traveled from the Goddard Space Flight Center in Maryland to the Kansas Cosmosphere and Space Center in Hutchinson, Kansas, for restoration and preservation. The restoration process was completed in April 2006 and the spacecraft arrived at the Adler the morning of April 10, 2006.

Restoration of the capsule included taking an inventory of the spacecraft's condition and parts, fixing corrosion on the body and visible wear and deterioration on the interior. Lovell personally met with restoration experts at the Cosmosphere to go over details of the work and make sure the capsule was brought back to its post-flight appearance.

Lovell, veteran of four Gemini and Apollo missions, helped the Adler secure the Gemini 12 spacecraft on long-term loan from the Smithsonian's National Air and Space Museum.

Gemini 12 is the third Gemini capsule the Cosmosphere has restored. The others were Gemini 6 and Gemini 10.

LOVELL BIOGRAPHY

Captain Lovell, (March 25, 1928) was chosen in September 1962 for the space program following extensive experience as a Naval Aviator and Test Pilot. Lovell executed various commands in the Gemini mission program, including; backup pilot for the Gemini 4 flight, and backup commander for Gemini 9 flight. He was the pilot on the history making Gemini 7 flight, which saw the first rendezvous of

two manned spacecraft in 1965, and the commander of the Gemini 12 mission in 1966 that perfected astronaut extra vehicular operations.

At the close of the Gemini program, Lovell became command Module Pilot and Navigator for the epic 6 day journey on Apollo 8 – man’s maiden voyage to the moon where he and fellow crewman were the first humans to leave the earth’s gravitational influence – and backup commander to Neil Armstrong for the Apollo 11 lunar landing mission. Lovell’s fourth and final flight was on the perilous Apollo 13 mission in 1970. As spacecraft commander, Lovell and his crew successfully modified their lunar module into an effective lifeboat when their cryogenic oxygen system failed. Their emergency activation and operation of the lunar module systems conserved both electrical power and water in sufficient supply to assure their survival in space and their safe return to earth.

Life after NASA

In 1973, Lovell left the space program to join the Bay-Houston Towing Company. He became President and CEO of Bay-Houston Towing in 1975 and then furthered his corporate experience by joining Fisk Telephone Systems, again as company president. The Centel Corporation acquired the company in 1980 and Lovell became executive vice president. Today, Lovell is president of Lovell Communications, a business devoted to disseminating information about the United States Space Program. He serves on the following philanthropic boards: Chairman - Astronaut Scholarship Foundation, United States Naval Academy Foundation; and the Smithsonian National Air & Space Museum.

More recently, Captain Lovell has ventured into another business. In 1999 he with his family opened Lovell’s of Lake Forest, a classic full service restaurant in the heart of West Lake Forest, Ill.

Education and Awards

Captain Lovell’s education prepared him for the change from explorer to businessman. He attended the University of Wisconsin, graduated from the United States Naval Academy, the University of Southern California - Aviation Safety School, and the Harvard Business School’s Advance Management Program. He has garnered an impressive share of honors and awards, including the Presidential Medal for Freedom, the French Legion of Honor, NASA Distinguished Service Medal, NASA Exceptional Service Medal, the Navy Distinguished Service Medal, the Naval Astronauts Wings, two Navy Distinguished Flying Crosses, and most recently the Congressional Space Medal of Honor. Lovell is a Fellow in the Society of Experimental Test Pilots and a member of the prestigious Navy’s Golden Eagles. In 1994, Lovell and Jeff Kluger wrote *Lost Moon*, the story of the courageous mission of Apollo 13. In 1995, the film version of the bestseller, “*Apollo 13*” was released to rave reviews.

Captain Lovell and the Adler Planetarium

On April 13, 2005, Captain Lovell announced he would consolidate his personal

collection and contribute it to the Adler Planetarium. This collection includes important documents, memorabilia and personal space artifacts. Captain Lovell also helped the Adler secure the Gemini 12 spacecraft on long-term loan from the Smithsonian National Air and Space Museum. The spacecraft – one of four flown by Lovell in his career as an astronaut – was previously housed at NASA's Goddard Space Flight Center in Greenbelt, Maryland. At the request of Captain Lovell, it was approved for relocation to the Adler in 2005. Lovell served as the honorary chair of the Adler's 75th Anniversary Celebration.

SHOOT FOR THE MOON INTERACTIVES

Are you ready to live on the Moon? The Apollo astronauts made it look easy, but exploring the Moon is tough! Find out if you have what it takes with these one-of-a-kind-interactive experiences

WHY GO TO THE MOON?: Before launching for the Moon, you'll need to know why you're going there. By stepping on the light circles on the gallery floor, compelling reasons to explore the Moon will beam onto the walls before you. Young visitors especially will enjoy getting into the action as they jump from one light circle to the next.

TOUCH DOWN: One of the most harrowing moments of every Apollo mission was the lunar landing. Would the crews run out of fuel before finding a safe spot to touch down? Would they be able to control the Lunar Module with enough precision to avoid a crash landing? The *Touch Down* interactive tests your piloting skills as you attempt your own lunar descent and landing. After a quick briefing, take the controls of a lunar landing vehicle. Will you make a successful soft landing or will this be a one-way trip to the Moon?

LUNAR LEAP: Feel what it's like to jump on the Moon. This lunar gravity simulation uses an inclined plane outfitted with two slider boards to recreate the sensation of jumping in the 1/6-gravity of the Moon. First, measure your Earth jump. Then try a lunar leap, as you lean back onto one of the slider boards and push yourself up with your feet. A green-screen video effect shows what the jump would look like on the lunar surface.

MOON VISION: On the Moon, things are not always what they seem. Depth perception is an enormous challenge. On Earth, the atmosphere makes far away objects appear hazy. Because the Moon has no atmosphere, all objects on the surface can be seen clearly – even if they're a mile away. The Moon also lacks the familiar landmarks (such as trees and buildings) that help determine size and distance on Earth. The *Moon Vision* interactive gives you a feel for the disorienting effects of the lunar surface. Peer into a lunar landscape diorama and attempt to judge which Moon rocks are largest.

LUNAR DANGERS LAB: This immersive multimedia experience conveys the science of the Moon via the dangers of lunar exploration. The lab features an animated robot named A.L.E.X. (Analyst of Lunar Environmental Extremes), who thinks he's ready to live on the Moon. But does he really know what he's getting into? In this animated show, A.L.E.X. goes through rigorous tests to see if he can survive the dangers of the Moon, which include: Temperature Extremes, Solar Radiation, Micrometeorites and Lunar Dust. The scientific content is narrated by Captain Lovell and delivered with visual puns and environmental special effects, making it fun and accessible for all ages.

EXTRA! EXTRA! Complete the experience by making some news of your own - appear on the front pages of a future newspaper with a gigantic newspaper photo op. Peek through the cutouts in the image and snap a picture of yourself making history as a Moon explorer. Headline: "Future Moon Astronauts Chosen."

EDUCATION PROGRAMS/ EVENTS

COURSES

The Adler is pleased to offer the following courses relating to **Shoot for the Moon** to visitors. Registration for all courses begins in early August. Please visit the Infinity Shop course registration page http://shop.adlerplanetarium.org/catalog/display.php?category_id=11 to register for courses or call 312.294.0361.

Shooting for the Moon: The U.S. Space Program and the Cold War (MHP3)
Michael Carriere, *Department of History*, University of Chicago

This nuanced course examines the U.S. space program from World War II to the present and attempts to shed light on the complicated relationship between space travel and Cold War culture. How did the Cold War between the U.S. and the Soviet Union shape a commitment to space exploration, and how did this commitment influence Americans' thinking about domestic and world events? Take an in-depth look at the "Space Race" through the politics, economics and popular culture of this influential era. (Two sessions)

Wednesdays, December 6 & 13
6:30-8:30 p.m.
Fee: \$50 (\$40 members)

Moon Madness! (KS5)

Erin Dragotto, *Collaborative Programs Educator*
Adler Planetarium & Astronomy Museum

Have you ever dreamed about exploring the Moon? Take "one small step" for

kid-kind as you investigate the Moon's features through messy activities. Build lava flows with play-dough, make craters in sugar and cocoa, and watch lunar lava tubes flow through Jell-O! Come take one giant leap into learning about how the Moon was created! (One session / for kids ages 5-8 and their parents)

Saturday, January 27

10 a.m.-12 p.m.

Fee: \$45 (\$35 members) per child, includes materials fee

It's Rocket Science! (KS8)

Michelle Nichols, *Collaborative Programs Educator*
Adler Planetarium & Astronomy Museum

Three...two...one...blast off! What does it take to get a rocket into space? Find out in this hands-on introduction to rocket science. Experiment with rocket technologies and build your own working rocket! (One session / for kids ages 8-11 and their parents)

Saturday, February 17

10 a.m.-12 p.m.

Fee: \$45 (\$35 members) per child, includes materials fee

Girl Scouts: Aerospace Workshop (S1, S2)

Education Staff, *Adler Planetarium & Astronomy Museum*

Fulfill all the requirements for your Girl Scouts *Aerospace* badge in this dynamic workshop. Make and test-fly paper airplanes, watch a rocket launch, try your hand at working "in space," design your own space station and more! (One session / for Girl Scouts and at least one chaperone per five girls)

Saturday, November 4 (S1) or Saturday, February 3 (S2)

10 a.m.-12 p.m.

Fee: \$17.50 (\$15 members) per scout, includes materials fee and badge

Gemini: Stepping Stone to the Moon (ST1)

Jim Plaxco, Vice President, *Chicago Society for Space Studies*
NASA JPL Solar System Ambassador

Discover how the Gemini program – including the Gemini 12 capsule, newly arrived at the Adler - made the Apollo missions to the Moon possible. Learn about the technology, politics and people behind these daring journeys into space. The course includes a guided tour of the newly opened *Shoot for the Moon* exhibit. (One session)

Wednesday, November 29
6:30-8:00 p.m.
Fee: \$20 (\$10 members)

BOOK A FIELD TRIP

Interested in taking your class to visit **Shoot for the Moon**? To book a class trip to the Adler, please call 312-294-0364 or email reservations@adlerplanetarium.org. Gallery and exhibit guides and activities are available.