

## FROM THE CHIEF HISTORIAN

This column marks the end of an era. While no major spacecraft stopped operating recently, Dr. Steven J. Dick retired as the National Aeronautics and Space Administration (NASA) Chief Historian at the end of July. An astronomer and historian of science who worked for approximately 25 years for the U.S. Naval Observatory and 6 years at NASA, Steve was a wonderful boss. Always upbeat and pleasant to work with, Steve took bureaucratic frustrations in stride. A paragon of sound, mature judgment, he served as an excellent sounding board and a great role model.

While we miss him already, you will hear from Steve again in the near future, as he continues to work on several forthcoming NASA History Series books. Specifically, he is editing *NASA's First 50 Years: Historical Perspectives*, the proceedings volume of the conference we held last fall to mark NASA's 50th anniversary; a book called *Cosmos and Culture* that will appear in our Societal Impact subseries; and a set of focused Societal Impact studies. In addition, he is the coeditor for a forthcoming collection of oral histories that he, Rebecca Wright, and Sandra Johnson conducted with NASA's top leaders on the occasion of NASA's 50th anniversary. Steve also intends to try his hand at writing science fiction. We wish him all the best.

During this time of transition, a number of people have stepped in to help on many fronts. I thank my History Division colleagues Nadine Andreassen, Jane Odom, Colin Fries, John Hargenrader, and Liz Suckow for

*continued on page 6*

## APOLLO 40TH ANNIVERSARY EVENTS

NASA Headquarters hosted the Apollo 40th Anniversary History Symposium on 16 July 2009 in the NASA Headquarters James Webb auditorium. The "Apollo: History and Legacy" roundtable discussion moderated by NASA's then-Chief Historian, Dr. Steven J. Dick, marked the 40th anniversary of the launch of Apollo 11.

The discussion began with remarks by Associate Administrator (and, at the time, acting Administrator) Chris Scolese. The panelists included Dr. John Logsdon, Charles A. Lindbergh chair in aerospace history, National Air and Space Museum (NASM), Smithsonian Institution; Dr. Roger Launius, senior curator in space history, NASM; Dr. Michael Neufeld, chair of the Space History Division, NASM, and author of a recent biography of Wernher von Braun; Cristina Guidi, Deputy Director, Constellation Systems Division, Exploration Systems Mission Directorate, NASA; and Craig Nelson, author of *Rocket Men: The Epic Story of the First Men on the Moon*.

From 19 to 20 July 2009, NASM hosted several important Apollo 40th anniversary events.

On Sunday, 19 July 2009, the Apollo 11 crew (Neil Armstrong, Michael Collins, and Edwin "Buzz" Aldrin), along with former Johnson Space Center (JSC) Director Christopher Kraft, spoke at the John H. Glenn Lecture about the mission and the Apollo program. John Glenn also spoke briefly. Margaret Weitekamp of the Space History Division organized the event and served as the master of ceremonies for the evening.

*continued on next page*

### IN THIS ISSUE:

From the Chief Historian .....	1
Apollo 40th Anniversary Events .....	1
News from Headquarters and the Centers .....	6
Space Shuttle Main Engine Testing Comes to a Close .....	13
Recent Publications .....	15
Online Resources .....	23
Fellowships .....	24
Other Aerospace History News .....	24
Obituaries .....	26
Upcoming Meetings .....	26
Chief Historian Steven Dick Retires .....	27

*Apollo 40th Anniversary Events (continued)*



NASA Chief Historian Steven Dick talks prior to a panel discussion entitled “Apollo: History and Legacy” at the Apollo 40th Anniversary History Symposium on 16 July 2009 at NASA Headquarters. (Photo credit: NASA/Paul E. Alers)



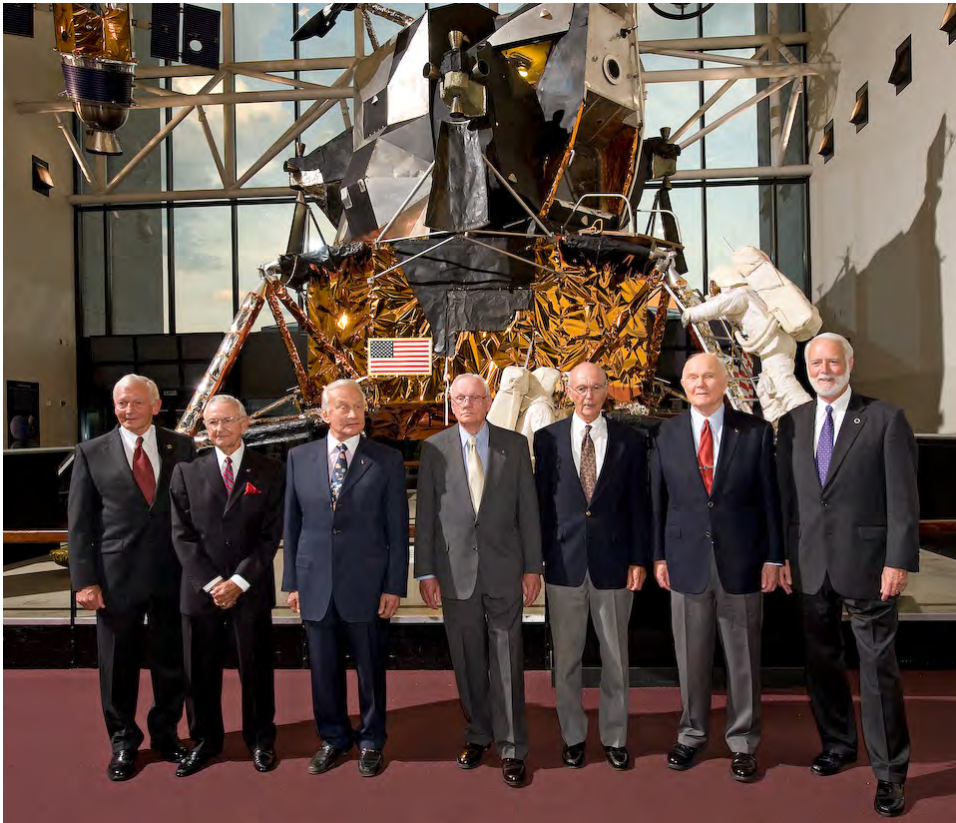
Acting NASA Administrator Chris Scolese speaks about the legacy of Apollo prior to a panel discussion at the Apollo 40th Anniversary History Symposium on 16 July 2009. (Photo credit: NASA/Paul E. Alers)



Steven J. Dick, left, conducts a panel discussion on the legacy of Apollo with John Logsdon, second left; Roger Launius; Michael Neufeld; Cristina Guidi; and Craig Nelson, right, on 16 July 2009. (Photo credit: NASA/Paul E. Alers)

On 20 July 2009, NASM featured a small reception for the donors and friends of Apollo 12 astronaut Alan Bean, whose art exhibit “Painting Apollo: First Artist on Another World” opened on 16 July 2009 and will run until 13 January 2010. Carolyn Russo of the Aeronautics Division curated the exhibit with assistance from Allan Needell, the Apollo curator in Space History, and Linda King of the Exhibits Design Division served as the designer.

Following the Bean reception, NASA’s official 40th anniversary party commenced for several thousand people. Many famous Mercury, Gemini, and Apollo astronauts attended all of these events, along with the recent STS-125 Hubble Space Telescope repair crew. Neil deGrasse Tyson, director of the Hayden Planetarium and Rose Center at the American Museum of Natural History in New York, hosted the event. During the event, Kathleen Kennedy Townsend, the former lieutenant governor of Maryland and daughter of Robert Kennedy, presented a Moon rock that had previously belonged to her uncle, John F. Kennedy, to Rice University student Max Paul. NASA had originally given the rock to John F. Kennedy as one of the Agency’s highest honors, the Ambassador of Exploration Award, bestowed upon individuals who have contributed to the realization of America’s goal of landing a human on the Moon.



At the John H. Glenn Lecture on 19 July 2009, Jack Dailey, Christopher Kraft, Buzz Aldrin, Neil Armstrong, Michael Collins, John Glenn, and Wayne Clough stand in front of the Apollo exhibit at NASM.

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*Apollo 40th Anniversary Events (continued)*



Alan Bean speaks about his paintings during a press conference on 20 July 2009.



On 20 July 2009, Alan Bean shows an image from his exhibit, "Painting Apollo: First Artist on Another World."



Wide-angle camera view of Alan Bean's "Painting Apollo: First Artist on Another World" exhibit, 20 July 2009.



On 20 July 2009, Rice University student Max Paul accepts the Ambassador of Exploration Award originally presented to John F. Kennedy; the award will be sent to Rice for display. From left: new NASA Administrator Charles Bolden; Max Paul; Kathleen Kennedy Townsend; and Apollo 11 astronauts Neil Armstrong, Buzz Aldrin, and Michael Collins.



At NASA's Apollo 40th anniversary party on 20 July 2009, Neil Armstrong stands next to Diana Krall.

*From the Chief Historian (continued)*

assisting in so many ways. Special thanks also go to my supervisors, Al Condes and Michael O'Brien, for being most supportive and giving me the opportunity to serve as the acting Director of the History Division. I also thank Chris Giulietti for going out of his way to be helpful on several administrative matters and to all our colleagues in the Office of External Relations. Last but not least, we do indeed all "stand on the shoulders of titans," so the NASA History Program certainly owes a debt of gratitude to the other great Chief Historians who served before Steve Dick. It is most definitely a team effort!

Stephen Garber

Acting Director, NASA History Division

## NEWS FROM HEADQUARTERS AND THE CENTERS

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### Headquarters

Jane Odom continues to evaluate and acquire new material for the Historical Reference Collection (HRC). Additionally, she appraises material for historical value, directs the subsequent processing of collections, and answers reference requests. Jane is publishing via the Internet speeches of key officials in NASA's history. These will be linked and available soon.

In mid-August, Jane attended the joint annual meeting of the Society of American Archivists (SAA) and the Council of State Archivists in Austin, Texas. She attended a roundtable describing the history of science collections at the Harry Ransom Center at the University of Texas at Austin, a session advocating doing surveys of holdings in archival repositories, a government records section meeting describing transparency in government, a session describing the oral history programs in the U.S. Army and at the Association of American Medical Colleges, a session on environmental sustainability and archives, and an oral history roundtable meeting that included an interview with longtime SAA member and educator Dr. David B. Gracy II. The plenary session featured speeches by the presidents of the sponsoring organizations and an address by acting Archivist of the United States Adrienne Thomas. As always, the conference featured repository tours, vendor exhibits, and numerous opportunities for networking with colleagues.

Collectively, Colin Fries, John Hargenrader, and Liz Suckow all share reference duties, answering inquiries received by e-mail, assisting walk-in researchers, and helping Jane with Freedom of Information Act (FOIA) requests. They also work to further preserve and describe our hard-copy collection by photocopying deteriorating news clippings, replacing worn folders, and updating abstracts of folder contents. Their work currently concentrates on the Administrators' files and on the satellites and probes collection. In addition, they recently reviewed the appendices for the Fiscal Year (FY) 2008 *Aeronautics and Space Report of the President*.

Colin finished processing a collection of unpublished manuscripts as well as a collection of Shuttle Student Involvement Program (SSIP) material. He evaluated for

retention purposes a 4-cubic-foot collection of Shuttle Flight Certification materials. He finished organizing in our database the PDFs of Headquarters news releases, 1962–74, and he has begun organizing another set of releases dated 1975–84. These historic news releases will eventually be posted on a public Web site. Also, Colin continues to assist in maintaining the History Division Web pages.

Liz is appraising a 53-box collection, borrowed from the Federal Records Center, that contains life sciences history sources, papers of Langley Research Center (LaRC) engineer and Headquarters official T. L. K. Smull, and chronological correspondence from a number of Headquarters offices. She continues to update the Headquarters oral history inventory and enter descriptive information about our oral histories into our internal database. She and Colin have begun to appraise a collection of Administrators' chronological correspondence, circa 1963–78, copying historically significant items to add to existing subject files in the HRC. Additionally, Liz completed the processing of a collection of papers from Jesse Phillips pertaining to the design of the Mercury, Gemini, and Apollo spacecraft, as well as the Space Shuttle; processed a collection of briefing books on the International Space Station (ISS) program; and accessioned three DVDs of photographs from former National Advisory Committee for Aeronautics (NACA)/NASA photographer William Taub.

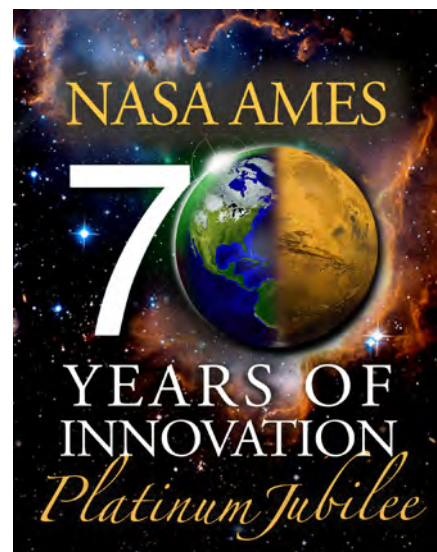
John continues to process the Charles King collection, consisting primarily of Apollo program propulsion and engineering troubleshooting materials. John has nearly completed work on Plum Brook imagery that is being uploaded to the Great Images in NASA (GRIN) History Web site. After errors in the dates of some photos were discovered, John is also verifying photo dates in the GRIN database to make sure that they conform as closely as possible to the dates the photos were taken.

Henry Fingerhut, an intern in the NASA History Division and a senior at Georgetown University, has returned for the fall semester. The Society for History in the Federal government newsletter highlighted his profile in the summer 2009 edition of the *Federalist*.

## Ames Research Center (ARC)

NASA Ames kicked off its 70th anniversary year with a series of events ably organized by Sheila Johnson of the Public Affairs and Government Relations branch. A timeline history of Ames was presented in a Flash-based Web site designed by Dennis Gonzales. More than 700 students from all over the world spent this summer collaborating with Ames scientists and engineers. Ames combined a 70th anniversary employee picnic on 5 August with a poster session where these students could display their research.

The American Institute of Aeronautics and Astronautics (AIAA) designated Ames as an AIAA Historic Aerospace Site for its “legacy of sustained, significant



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*News from Headquarters and the Centers (continued)*

contribution to aerospace history.” At a ceremony on 25 August at the corner of DeFrance and Durand Avenues, before an audience of AIAA members from around the San Francisco Bay Area, L. S. “Skip” Fletcher, an honorary Fellow and former president of AIAA, presented the plaque. Fletcher started his career in the gas dynamics branch at Ames in 1956 and, following a distinguished academic career, served as director of astronautics at Ames from 1999 to 2005. The plaque has a reserved spot in Ames’s NACA Park, an open space being built on the site of the former 16 Foot High Speed Wind Tunnel. Ames Historic Preservation Officer Keith Venter designed the park as a remembrance of the founders of the Center and of the NACA tradition of having their most creative discussions in informal settings. That same day, Ames hosted a groundbreaking for its newest building, called Sustainability Base, which models a lunar outpost on Earth and will become the top-performing “green” building in the federal government. It proved a nice juxtaposition of past and future.

At the request of the Ames Space Technology Division and NASA Goddard Space Flight Center (GSFC), the staff provided build-to-print data on the Pioneer Venus Large Probe for use in a mission proposal called the Venus Reconnaissance Orbiter/Dante Probe mission. A fairly complete set of Pioneer Venus program



ARC Director Simon P. “Pete” Worden and L. S. “Skip” Fletcher, at the site of the future NACA Park, unveil the plaque designating Ames as an AIAA Historic Aerospace Site.



records reside with the Ames History Office, and the engineering drawings had been archived on aperture cards—microfilm embedded in a data punch card. Working with a specialized vendor, on an expedited basis, and paying special attention to the archival classification of the documents, the staff scanned more than 25,000 aperture cards and more than a hundred large-format drawings and reports. The Pioneer Venus probes blazed into the atmosphere of Venus in December 1978, and the technology of the probe aeroshells remains very relevant today. By providing these data to the GSFC team, the staff saved them many millions of dollars in engineering time.

Intern Jillian Slater completed a finding aid for the Lawrence J. Caroff Notebooks, 1986–2001, and posted it on the Online Archive of California. Two interns from the San Jose State University School of Library and Information Science, Dorothy Leung and Laura Williams, will join us in the fall.

Ames completed its renovation of the high bay that houses the archives, which have resumed operations in an expanded space. The staff hosted several academic historians researching topics in the history of Ames this past summer. Christine Canabou of the Harvard University School of Architecture studied Hangar One as a collaborative space; Lisa Messeri of the Massachusetts Institute of Technology (MIT) studied how planetary scientists construe planets as places; and Patrick McCray of the University of California, Santa Barbara (UCSB), studied the role of Ames in the birth of nanotechnology.

## Dryden Flight Research Center (DFRC)

Christian Gelzer delivered a paper titled “The Genesis for the Lunar Landing Vehicle” at the conference “The Eagle Has Landed: A Commemoration of the 40th Anniversary of the First Moon Landing, July 20, 1969” on 16 July 2009 at Auburn University in Auburn, Alabama.

Curtis Peebles finished the first draft of *11 Seconds into the Unknown: A History of the Hyper-X*, and the revisions are under way.

Peter Merlin completed two chapters in Richard Hallion’s multivolume series on the NACA/NASA’s contributions to aeronautics. His most recent monograph, *Ikhana: The Western State Fire Missions*, is due out in late October.

Betty Love finished sorting nearly 20 linear feet of R. Dale Reed’s papers for the Dryden Historical Collection. Reed, a prolific engineer, took the preliminary work of two Ames engineers and developed the first of a family of lifting bodies in the 1960s.

## Glenn Research Center (GRC)

GRC marked the 40th anniversary of the Apollo 11 Moon landing with a discussion panel of retirees who worked at the Center during the time of the Apollo program. Former Center Director Larry Ross moderated the panel, which included Joe Nieberding, Robert Hendricks, Lou Povinelli, and Irv Zaretsky. Retirees spoke about their experiences with the Centaur Program, a program instrumental in the success of Apollo. Many summer students attended the program and felt inspired by the retirees’ accounts of being young engineers making a difference in our nation’s space program.

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*News from Headquarters and the Centers (continued)*

Demolition of two of Glenn's historic facilities is now complete. Archivist Robert Arrighi (Wyle Information Systems, LLC) thoroughly documented the Altitude Wind Tunnel and Propulsion Systems Labs 1 and 2 (PSL 1&2). In early 2010, a new Web site about the history of PSL 1&2 will be released. It will include photographs, drawings, videos, and documents about the facility itself, as well as programs and projects conducted. A new volume in the NASA History Series about the Altitude Wind Tunnel should also be released in early 2010.

The GRC history office had a summer intern! Reema Nagpal, an incoming freshman at Ohio State University, spent 10 weeks assisting us with various archival projects. Her primary activity helped improve the usability of our digitized Center newspaper collection. She ran optical character recognition and added metadata to many of our older newspapers. Reema also did a lot of scanning, adding to our digital holdings. In her other project, she worked with our graphics area to create an Apollo 11 display for our employee center. She did a terrific job and helped to expand the usefulness of our collection!

## Jet Propulsion Laboratory (JPL)

Since this quarter marked the 40th anniversary of the Apollo 11 landing, Erik Conway gave a pair of public lectures at JPL on the robotic precursor missions that paved the way to the Moon.

Erik continues to make progress on the robotic Mars exploration history. He completed the Mars Exploration Rover (MER) development chapter and now is researching the MER operations chapter. It will be the penultimate chapter, followed by an analytic concluding chapter. He still expects to finish the manuscript this calendar year and get it into JPL's internal review process.

With the impending end of his Mars effort in sight, Erik settled on two much smaller efforts to keep busy while the Mars book undergoes review. The first will be a history of the development of the first two Wide-Field and Planetary Cameras for the Hubble Space Telescope. The second will be a history of the Lunar Surveyor program of the 1960s. Both will be aimed at publication in the NASA History Division's Monographs in Aerospace History series.

JPL archivists Charlene Nichols and Julie Cooper created a historical exhibit about JPL's work on civil systems during the 1970s and '80s called "Going Green." The exhibit, displayed in the JPL Library, highlights the Lab's contributions in the areas of green technologies such as solar and geothermal energy, wastewater treatment, and alternative fuels. Their research came in handy when JPL's energy team had to come up with some examples of how JPL has applied its skills to solve non-space-related problems in the past. Charlene and JPL research librarian Robert Powers are currently collecting additional materials from the JPL Archives about these early technology developments for an upcoming lunchtime presentation at the Lab.

If current historical research projects show any indications, Erik observes several interesting projects in the offing. JPL archivists and librarians have assisted historians writing on the following subjects: deep space navigation, engineers and scientists in their social context, Mars exploration, and NASA's Discovery Program.

Finally, over the next few months, Erik will be doing some history blogging on the ex-JPL, now-NASA, Global Climate Change Web site. Erik started with the mid-19th century, when scientists began to think about the physics of climate. He posted his first entry on 13 August 2009 about John Tyndall and the discovery of greenhouse gases; it is viewable at <http://climate.nasa.gov/blogs/>.

## Johnson Space Center (JSC)

The JSC History Office gathered history from five of the founders of Earth system science during a 20th anniversary symposium held at the National Academy of Sciences in Washington, DC. The JSC team facilitated this project for the NASA History Division and the NASA Science Directorate.

Working with the JSC Historic Preservation Office and for the Center's ongoing oral history project, the team conducted interviews at the White Sands Test Facility in Las Cruces, New Mexico. The sessions focused on the history of the White Sands Space Harbor, the primary training area for Space Shuttle pilots flying practice approaches and landings in the Shuttle Training Aircraft (STA) and T-38 chase aircraft.

The team attended the 40th anniversary of the JSC Engineering Directorate to share information about the JSC oral history project, history office, and history archives, as well as to provide details on how to donate items to JSC's History Collection.

Jennifer Ross-Nazzal, the JSC Historian, worked on the NASA Human Research Program Education and Outreach Project committee for a NASA-sponsored, history-related pilot education project with the Clear Creek Independent School District Advanced Placement program by reviewing materials submitted by the teachers and serving as an adviser for the instructors.

Also, this past summer marked the 12th consecutive year that the JSC history team has enjoyed working with student interns. These graduate students spent 10 weeks researching and writing biographical profiles on individuals identified as part of the Earth System Science at 20 Oral History Project.

## Langley Research Center (LaRC)

In honor of the Apollo 40th anniversary, Langley participated in several events this summer. Langley staffers brought Apollo 40th anniversary exhibit items and spoke with moviegoers in the lobby of the Regal Cinemas in Richmond, Virginia, during the opening weekend of the new *Star Trek* movie. The exhibit and staffers also attended Charleston, South Carolina's Harborfest, where visitors learned more about Apollo.

Langley's New Media Team created an Apollo 40th anniversary Facebook page at <http://www.facebook.com/apollo.fortieth> and a video for YouTube at <http://www.youtube.com/watch?v=d316jlgbpBA>.

Dr. Roger Launius, of the National Air and Space Museum, presented "How We Remember Apollo" at the Langley Reid Conference Center and the Virginia Air & Space Center (VASC) for the July Colloquium and Sigma Series lecture.

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*News from Headquarters and the Centers (continued)*

The VASC also offered several other activities from 20 to 24 July, including an Apollo summer science camp. The Virginia Living Museum held Exploration Days from 18 to 20 July and featured Apollo and Orion exhibits.

Through the Langley Aerospace Research Summer Scholars (LARSS) program, the Center sponsored Matthew Hunter, newly graduated with a master of arts in history from Old Dominion University in Norfolk, Virginia, as a summer intern. He worked in the Langley archives, continuing to refolder and add to the searchable database of NACA Research Authorizations.

During a search for Apollo 40th anniversary photos, staffers located photo number EL-2000-00429, showing the Apollo/Saturn launch stack in the Langley Transonic Dynamics Tunnel with an engineer on a ladder doing model instrument check-out. The engineer in the photo was not identified in the photo notes. A Transonic Dynamics Tunnel retiree identified the engineer as Thomas Byrdsong. Matthew then conducted an oral history interview with Mr. Byrdsong, which was recorded in the Langley Digital Learning Network studio and is available on DVD.

## Marshall Space Flight Center (MSFC)

Some 7,000 Marshall employees, contractors, and retirees, along with their families, gathered on 20 July at the U.S. Space & Rocket Center in Huntsville, Alabama, to celebrate the 40th anniversary of the Apollo 11 Moon landing.

To enhance the day's festivities, MSFC added 21 unique exhibits to the existing space hardware and memorabilia inside the Davidson Center. Visitors thronged the vast hall, with its full-sized, authentic Saturn V rocket displayed overhead; watched movies and video celebrating the achievements of NASA and Marshall; and toured the space museum and outdoor rocket park.

Fred Leslie, Shuttle payload specialist on STS-73 in 1995, and fellow Shuttle astronaut Dr. Jan Davis signed autographs and were among numerous guests of honor during the event. Leslie continues to conduct science research at Marshall. Davis, the former Director of Marshall's Safety and Mission Assurance Directorate, retired from NASA in 2005.

Retired NASA engineers who worked on the Saturn V program during the Apollo era were among dozens of Marshall team members, past and present, who volunteered at exhibits and display booths during the 20 July event. They talked with visitors about the Center's historic work, from the development of the Saturn V rocket that launched the first explorers to the Moon to the development of the Ares rockets that will send a new generation of explorers there—and beyond—in years to come.

Guests visited the Marshall tent to receive free MoonPies and souvenir cups, courtesy of the Marshall Exchange.

## Stennis Space Center (SSC)

Stennis employees and their family members marked the 40th anniversary of the Apollo 11 Moon mission with an afternoon of activities on 28 July. Though afternoon thunderstorms forced the events inside the StenniSphere visitor center and museum, families still had an opportunity to enjoy a variety of activities and demonstrations.



Participants had a chance to view a timeline of space exploration in the museum and visit the Shuttle landing simulator and other exhibits.

Stennis Director Gene Goldman joined participants in the celebration, speaking to employees and visitors in the StenniSphere auditorium.

Leading up to the anniversary celebration, the SSC History Office hosted a series of Lunch and Learns, featuring videos about the first lunar landing and the Center's role in testing the Saturn V rocket engines.

## SPACE SHUTTLE MAIN ENGINE TESTING COMES TO A CLOSE

With 520 seconds of shake, rattle, and roar on 29 July 2009, NASA's Stennis Space Center marked the end of an era for testing the Space Shuttle main engines that have powered the nation's Space Shuttle Program for nearly three decades. This was the final test of a main engine for the Space Shuttle, which is set to retire in 2010. More than 34 years ago, on 27 June 1975, Stennis personnel conducted the first test on one of the world's most sophisticated rocket engines.

After NASA achieved the ambitious goal of landing humans on the Moon by the end of the 1960s, the Agency turned its sights to a new challenge. Even before the Apollo program ended in 1972, NASA announced plans for construction of an unprecedented, reusable space vehicle. The resulting Space Shuttle proved its worth, serving as the workhorse of the American space program for more than three decades; helping to foster cooperative efforts with nations around the world; enabling construction of the International Space Station; providing a remarkable,

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*Space Shuttle Main Engine Testing Comes to a Close (continued)*

Stennis employees and guests watch the 29 July ignition of the last planned Space Shuttle main engine test on the A-2 Test Stand at the southern Mississippi facility.

space-based science laboratory; and contributing to countless spinoff technologies that continue to enhance daily life.

All NASA Centers contributed to the Space Shuttle Program. At Stennis, the charge was to test and prove flightworthy the main engines that would propel astronauts into space aboard the new Shuttle. Overall, in more than three decades of testing, about 50 main engines have been certified for use on almost 130 Shuttle missions. These engines can be used to power more than a dozen flights before being retested, yet no Shuttle mission has failed as a result of engine malfunction.

“We have performed over 2,000 tests, totaling more than 1 million seconds of accumulated hot-fire time in support of the development, certification, acceptance, and anomaly resolution for the Space Shuttle main engine,” said Ronnie Rigney, acting Space Shuttle main engine test project manager at Stennis.

“Stennis Space Center is truly unique in that propulsion test operations expertise has been passed from generation to generation through the Apollo and Shuttle programs since the mid-1960s, making this workforce one of the most knowledgeable in its field,” Rigney explained.

At one point, all three test stands at Stennis were involved in Shuttle engine testing. In recent years, testing for the Space Shuttle Program occurred only on the A-2 Test Stand as Stennis began preparing the A-1 Test Stand for testing the J-2X engine currently in development. The new engine will help power the Ares I and Ares V rockets that will take humans back to the Moon and possibly beyond as part of NASA’s newest space challenge—the Constellation Program.

NASA assigned Stennis to test Space Shuttle main engines in 1971. Prior to the initial Shuttle flight, the Stennis team conducted some 500 tests on the engine and

its components. They also test-fired the three-engine cluster arrangement—the main propulsion test article—that is used to power the Space Shuttle, an accomplishment some called the facility’s “finest hour.” In single-engine and cluster testing alike, the goal was the same: 8.5 minutes of successful firing, duplicating the amount of time it takes the engines to power the Shuttle from launch into orbit.

The key test—for the engines and NASA’s new, reusable space vehicle—came when Space Shuttle *Columbia* lifted off from Kennedy Space Center in Florida on the maiden STS-1 mission in April 1981. The vehicles and the engines performed perfectly as more than 37 million horsepower carried astronauts Robert Crippen and John Young into space. Following the successful STS-1 mission, Crippen and Young visited Stennis. “The effort that you contributed made it possible for us to sit back and ride,” Crippen told Stennis employees. “We couldn’t even make it look hard!”

Testing continued for the almost 130 Space Shuttle flights to follow. Each time, adjustments and modifications were made to improve the safety and performance of the Space Shuttle main engine. Stennis engineers joined other NASA Centers to provide necessary testing to prove the changes were flightworthy. And when tragedy struck the Space Shuttle Program in 1986 and 2003, Stennis engineers worked with peers across NASA to ensure a safe return to flight for astronauts.

In January 2004, Stennis celebrated a major milestone in its work—the millionth second of successful test and flight operations of the Space Shuttle main engine. The 29 July test means that all engines for the remaining Shuttle flights have been proven flightworthy. It also means that NASA has moved one step nearer to closing the longest chapter of American space exploration history—the Space Shuttle Program.

## RECENT PUBLICATIONS

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### NASA History Publications

*Rockets and People: Hot Days of the Cold War, Volume III* (NASA SP-2009-4110), by Boris Chertok and edited by Dr. Asif Siddiqi. In volume 3, Chertok recollects the great successes and continues the fascinating narrative of the Soviet space program in the 1960s, arguably the peak of the effort. He devotes a significant portion of the volume to the early years of Soviet human spaceflight from 1961 to 1967. Furthermore, Chertok provides a radically unique perspective on the Cuban Missile Crisis from the point of view of those who would have been responsible for unleashing nuclear Armageddon in 1962 had John F. Kennedy and Nikita Khrushchev not been able to agree on a stalemate. He concludes by focusing on the relationship between the space program and the Soviet Academy of Sciences, which will be of great interest to historians of Soviet spaceflight. This volume can be purchased for \$25 from the NASA Center for AeroSpace Information (CASI) at <http://ntrs.nasa.gov/search.jsp>, the NASA Information Center, the Government Printing Office, or private vendors.

*Research in NASA History* (NASA SP-2009-4543, Monographs in Aerospace History, No. 43). This updated version explains what kinds of resources are available from the NASA History Division at Headquarters, the Field Centers, the National

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*Recent Publications (continued)*

Archives, and other relevant organizations for researchers in aerospace history. Members of the public may request a copy of this monograph by sending a self-addressed, stamped envelope to the NASA History Division, Room CO72, NASA Headquarters, 300 E Street SW, Washington, DC 20546. It is also available at <http://history.nasa.gov/sp4543.pdf> online.

## NASA Publications Reprinted by Dover Publications

*On Mars: Exploration of the Red Planet, 1958–1978*, by Edward Clinton Ezell and Linda Neuman Ezell. Generations of scientists and stargazers have studied the Red Planet and pondered its possibilities. This volume is the authoritative history of the start of the Agency's explorations of our closest planetary neighbor. It recounts the often fragile cooperation among people in government, industry, and academia, and it is highlighted by dozens of photos taken by Viking cameras.

## Commercially Published Works

### Compiled by Chris Gamble

*Lighter Than Air: An Illustrated History of Balloons and Airships*, by Tom D. Crouch (Johns Hopkins University Press, January 2009). The first half of the volume recounts the invention of the balloon, the golden age of the professional aerial showmen in Europe and America, the use of balloons for aerial reconnaissance, and the key role of balloons in scientific research. The second half presents the rich tale of the airship from 18th-century dreams to 20th-century reality, describing the early development of the pressure airship, the emergence of the rigid airship and its golden age in the first half of the 20th century, and the military and civil applications of these aerial behemoths. The author concludes by discussing modern blimps, sport balloons, and dreams of a future for airships.

*The NASA Northrop T-38: Photographic Art from an Astronaut Pilot*, by Story Musgrave (Lannistoria, March 2009). In 1967, Story Musgrave became an astronaut. During his 30 years with NASA, he flew the T-38 supersonic jet, now celebrating 50 years since its creation. This timeless beauty became central to Story's NASA world and to his six spaceflights, during which he routinely carried a camera to capture its grace and performance. This stunning collection of private photographs puts you right in the middle of the action. For the space enthusiast and photographer, Story provides a firsthand account of the people and planes, giving us a fascinating insight into the culture of the NASA flying world.

*The Apollo 11 Moon Landing: A Photographic Retrospective*, by Dennis Jenkins and Jorge Frank (Specialty Press, May 2009). This photo scrapbook shows images—some famous, others unknown—that chronicle the epic journey of Buzz Aldrin, Neil Armstrong, and Michael Collins aboard Apollo 11 40 years ago.

*Missions to the Moon*, by Rod Pyle (Carlton Publishing Group, May 2009). Through the inclusion of 200 stunning photographs and at least 15 beautifully recreated rare facsimile documents, you will witness the first human spaceflight by Yuri Gagarin in 1961, experience the terrifying failures and stunning triumphs of the Apollo missions, marvel at the first piloted landing on the Moon by Apollo 11, and gaze into the future of space exploration.



*Voices from the Moon: Apollo Astronauts Describe Their Lunar Experiences*, by Andrew Chaikin (Studio, May 2009). Andrew Chaikin's *A Man on the Moon* is considered the definitive history of the Apollo Moon missions—arguably the pinnacle of human experience. Now, using never-before-published quotations taken from his in-depth interviews with 23 of the 24 Apollo lunar astronauts, Chaikin and his collaborator, Victoria Kohl, have created an extraordinary account of the lunar missions. In *Voices from the Moon*, the astronauts vividly recount their experiences in intimate detail; their distinct personalities and remarkably varied perspectives emerge from their candid and deeply personal reflections.

*Heavenly Ambitions: America's Quest to Dominate Space*, by Joan Johnson-Freese (University of Pennsylvania Press, May 2009). Beginning with the Reagan administration and its attempt to create a missile defense system to protect against attack by the Soviet Union, the U.S. military has decided that the United States should be the dominant power in space in order to protect civilian and defense assets. In *Heavenly Ambitions*, the author draws from a myriad of sources to argue that the United States is on the wrong path: first, by politicizing the question of space threats, and second, by continuing to believe that military superiority in space is the only path open to the United States. Johnson-Freese, who has written and lectured extensively on space policy, lays out her vision of the future of space as a frontier where nations cooperate and military activity is circumscribed by arms control treaties that would allow no one nation to dominate—just as no one nation's military dominates the world's oceans.

*Escaping the Bonds of Earth: Prehistory Through the Sixties*, by Ben Evans (Springer-Praxis, May 2009). This book focuses upon the years 1961 to 1971, exploring each mission from that timeframe in depth: from the pioneering Vostok flights to the establishment of the first Salyut space station and from Alan Shepard's modest suborbital "hop" into space to his triumphant arrival at the Moon's Fra Mauro foothills almost a decade later. The book ends with an analysis of Soviet direction changes from lunar exploration to long-term space stations (Soyuz 3 to 10 and the development of *Salyut 1*), the progress of the human space program in the 1960s, and plans for space exploration in the next decade.

*Smithsonian Atlas of Space Exploration*, by Roger D. Launius and Andrew K. Johnston (HarperCollins, May 2009). This book depicts the ever-fascinating history of the Space Age and humanity's progress in exploring new frontiers. Incredible images from NASA and other sources, visual conceptions of Moon bases, and newly commissioned maps reveal a visual history spanning the earliest eras of the universe, the dawn of the Space Age, the launch of Sputnik, missions to the Moon, robot landings on the terrestrial planets, and the exploration of the outer solar system. These developments in technology are illuminated by a rich historical context, highlighting how space exploration has changed and expanded our vision of the universe.

*My Life in Space: The Story Behind NASA's Amazing Pictures of the Planets*, by William B. Green (BookSurge Publishing, May 2009). This book presents a compilation of intimate and revealing anecdotes that take the reader deep behind the scenes of the famous space agency's robotic missions to reveal the methods, techniques, and personalities responsible for NASA's rich and spectacular collection of pictures of the planets and beyond. With more than 20 years' experience managing teams working on various unpiloted space missions, Green brings a rare, insider's look into the inner workings of one of the world's most comprehensive efforts to document our solar system, its planets and moons, and the universe.

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*Recent Publications (continued)*

*The Soaring Achievements of John C. Houbolt*, by Dr. Robert E. Sterling (CreateSpace, May 2009). With succinct text and striking graphic designs on almost every page, this book tells the exciting story of Apollo 11 and the role played by NASA engineer John C. Houbolt in landing Americans on the Moon and returning them safely to Earth. This book shines the spotlight of historic recognition on Houbolt and weaves his compelling story into the broader narrative of America's first piloted Moon mission.

*Space Tethers and Space Elevators*, by Michel van Pelt (Springer-Praxis, May 2009). This detailed account of the possibilities of tethers in space, from very practical applications to (near) science fiction, gives an overview of the past, present, and future of space tether development and presents the various concepts, ranging from those feasible in the near future to extremely innovative and challenging ideas.

*Apollo: Through the Eyes of the Astronauts*, by Robert Jacobs (Abrams, June 2009). This book is a photographic commemoration of the Apollo lunar missions as seen through the eyes of the astronauts. Each of the surviving 21 astronauts from the Apollo missions has chosen a favorite photograph from his spaceflight especially for this book. These selections are accompanied by other iconic photographs from the Apollo missions.

*Moon 3-D: The Lunar Surface Comes to Life*, by Jim Bell (Sterling, June 2009). After a series of brief essays explaining the history and future of lunar exploration, the book launches into a showcase of the best three-dimensional (3-D) images available, taken by both robotic and human exploration missions; the pictures shot by the Apollo astronauts on their Moon walk receive special attention. In addition, an artistic selection of two-dimensional photos appears throughout, along with conceptual designs for future Moon-based adventures.

*The Scramjet Engine: Processes and Characteristics*, by Corin Segal (Cambridge University Press, June 2009). The renewed interest in high-speed propulsion has led to increased activity in the development of the supersonic combustion ramjet engine for hypersonic flight applications. In the hypersonic regime, the scramjet engine's specific thrust exceeds that of other propulsion systems. Corin Segal, a leading researcher, describes the processes and characteristics of the scramjet engine in a unified manner, reviewing both theoretical and experimental research.

*Magnificent Desolation: The Long Road Home from the Moon*, by Buzz Aldrin (Harmony, June 2009). Forty years ago, Buzz Aldrin became the second human, minutes after Neil Armstrong, to set foot on a celestial body other than Earth. In *Magnificent Desolation*, Aldrin not only gives us a harrowing first-person account of the lunar landing that came within seconds of failure and the ultimate insider's view of life as one of the superstars of America's space program, but he also opens up with remarkable candor about his more personal trials—and eventual triumphs—back on Earth.

*Images of America: Downey's Aerospace History: 1947–1999*, by Gerald A. Blackburn and the Aerospace Legacy Foundation (Arcadia Publishing, June 2009). The city of Downey, California, has been host to one of aerospace history's most sacred sites. For more than six decades, men and women have gathered in this Los Angeles County town to make the dreams of tomorrow a reality—inventing the future and starting America's journey to the stars. The story of the site's aerospace history extends from North American Aviation's tenancy in 1947 to the site closure in 1999, during which

time engineers and scientists designed and developed the aerospace technology that took people to the Moon and established a permanent presence in space.

*Moonshot: The Inside Story of Mankind's Greatest Adventure*, by Dan Parry (Ebury Press, June 2009). The triumph of the Apollo 11 mission was a momentous pinnacle that followed years of construction, planning, and training, all of which are conveyed in this captivating history that uses official accounts to tell the real, untold story. The background of the space race is retold in full detail, including the role of the Cold War and America's desire to flex its international muscle. The fraught and often bitter relationships between the three men destined to make history—hotheaded Buzz Aldrin, easygoing Michael Collins, and inscrutable Neil Armstrong—are also addressed, as is the nail-biting moment when, just minutes before Armstrong and Aldrin were about to reach the surface of the Moon, their equipment failed. This is an engaging account of a mission that could easily have gone terribly wrong but instead turned into an American triumph.

*Handbook of Space Technology*, 3rd ed., edited by Wilfried Ley, Klaus Wittmann, and Willi Hallmann (Wiley, June 2009). Twenty years since the first edition was published in the German language and just over 50 years since the launch of Earth's first-ever artificial satellite, Sputnik I, this third edition of the *Handbook of Space Technology* presents, in fully integrated color, a detailed insight into the fascinating world of space for the first time in the English language. Authored by over 70 leading experts from universities, research institutions, and the space industry, this comprehensive handbook describes the processes and methodologies behind the development, construction, operation, and utilization of space systems, presenting the profound changes that have occurred in recent years in the engineering, materials, processes, and even politics associated with space technologies and utilization.

*TIME 1969: Woodstock, the Moon and Manson*, by the editors of *Time* magazine (Time Books, June 2009). In a single five-week period in the summer of 1969, three American astronauts landed on the Moon; more than a hundred thousand hippies grooved at Woodstock, New York; Charles Manson's "family" terrorized Los Angeles, California; and the scion of America's most celebrated modern political dynasty, Senator Edward Kennedy, found himself embroiled in a scandal in Chappaquiddick, Massachusetts. Here is the full story of this remarkable year, in firsthand accounts by those who were there: from the Beatles' last rooftop jam in London to the trial of the "Chicago 7" to the shocking revelation of U.S. military brutality in My Lai, South Vietnam—and all points in between.

*Space Travel and Culture: From Apollo to Space Tourism*, edited by David Bell and Martin Parker (Wiley-Blackwell, June 2009). The book explores the significance of the first Apollo Moon landing and the way in which the countless books, films, and products associated with fact-based fiction had an effect on popular culture and artistic practice, but not social sciences and humanities.

*Handbook of Space Engineering, Archaeology, and Heritage*, edited by Ann Darrin and Beth L. O'Leary (CRC Press, June 2009). Expanding the discipline of archaeology into the cosmos, this unique volume offers a perspective rarely considered. It discusses the historic trail of material culture that humankind has left behind during space exploration. The authors describe this collection of artifacts as being evidence of our heritage as a species on Earth that is worthy of investigation. Gathering insights from several leading thinkers, they discuss topics that include the cultural

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*Recent Publications (continued)*

landscape of space, spacecraft development and forensics, field techniques, our environmental footprint, and the evaluation of an archaeological record in space.

*Selling Outer Space: Kennedy, the Media, and Funding for Project Apollo, 1961–1963*, new ed., by James Kauffman (University of Alabama Press, June 2009). This text examines the impact of the Kennedy administration's depiction of Project Apollo as a great frontier adventure that continues to affect American space policy three decades later. It explores how the media interacted with NASA to promote the idea of landing a man on the Moon.

*Fairey Rotodyne*, by David Gibbings (The History Press, June 2009). The Fairey Rotodyne (a British compound autogyro intended for commercial and military applications) was considered to be one of the iconic projects of the 1950s and 1960s, and a bright future was planned for the aircraft. Widely believed to be a revolutionary design, it was cheap, fast, and capable of vertical takeoff and landing in a small space. Although it was an aircraft ahead of its time, there has been little published on the Rotodyne. This book, by Rotodyne expert David Gibbings, seeks to fill a gap in aviation literature and offers a long-awaited full, illustrated, and in-depth history of the Rotodyne, many of whose features are still valued by organizations such as NASA, highly in demand, and used to this day.

*The Book of the Moon*, by Rick Stroud (Walker & Company, June 2009). Opening with the debatable story of how the Moon was formed (scientists still do not agree on this), Stroud then turns to the stories of humankind's fascination with Earth's satellite—from Babylonian astronomers thousands of years before Christ; to the Greek, Roman, and Arab scientists who paved the way for the Renaissance; to the astronomers and astronauts of our time. He delves into the mythology and astrology that have inspired civilizations and cultures the world over, alongside the scientific and medicinal advances that have come from our lunar connection.

*Hornet Plus Three: The Story of the Apollo 11 Recovery*, by Bob Fish (Creative Minds Press, June 2009). *Hornet Plus Three* follows the evolution of the planning by the Department of Defense (DOD) and NASA to achieve President John F. Kennedy's challenge to "[land] a man on the Moon and [return] him safely to Earth." To quickly recover crewed spacecraft from the vast ocean, the Navy and DOD had to prepare elaborate primary and contingency plans. This book traces those plans, from the initial Mercury flights up through Apollo 11, the most complex of all recoveries. Bob Fish explores many aspects, including the U.S. Air Force (USAF) aircraft employed, the different Navy ships and their crews, and the rescue swimmers whose mission was to protect the astronauts after splashdown.

*Rocket Men: The Epic Story of the First Men on the Moon*, by Craig Nelson (Viking Adult, June 2009). *Rocket Men* is the thrilling story of the first Moon mission, and it restores the mystery and majesty to an event that may have become too familiar for most people to realize what a stunning achievement it represented in planning, technology, and execution. Through interviews, 23,000 pages of NASA oral histories, and declassified Central Intelligence Agency (CIA) documents on the space race, Craig Nelson re-creates a vivid and detailed account of the Apollo 11 mission. From the quotidian to the scientific to the magical, readers are taken right into the cockpit with Aldrin and Armstrong and behind the scenes at Mission Control.

*Yearbook on Space Policy 2007/2008: From Policies to Programmes*, edited by Kai-Uwe Schrogl, Charlotte Mathieu, and Nicolas Peter (Springer, June 2009). *Yearbook*

*on Space Policy* aims to be the reference publication analyzing space policy developments. Each year, it presents issues and trends in space policy and the space sector as a whole. Its scope is global, and its perspective is European. *Yearbook* also links space policy with other policy areas. It highlights specific events and issues and provides useful insights, data, and information on space activities.

*Alan Bean: Painting Apollo*, by Alan Bean (Smithsonian Books, July 2009). Through a brilliant display of color and craftsmanship, Alan Bean shares his unique artistic viewpoint to capture humankind's adventures in space. *Alan Bean: Painting Apollo* features 120 of Alan Bean's luminous paintings dramatically paired with quotes from some of the most brilliant and adventurous minds throughout history. Apollo flight manager extraordinaire Gene Kranz recalls the historical drama of the era from his eyewitness perspective on the ground, and legendary art critic Donald Kuspit places the work in the context of contemporary art and landscape painting.

*Paving the Way for Apollo 11*, by David M. Harland (Springer-Praxis, July 2009). In *Paving the Way for Apollo 11*, David M. Harland relates how the robotic projects were scaled up to make possible the first Apollo lunar landing. He focuses particularly on the Surveyors, which soft-landed to investigate the nature of the Moon's surface, both physically and chemically, and the Lunar Orbiters, which reconnoitered potential landing sites. The book is illustrated with high-resolution pictures, many of which are being published for the first time.

*Putting the "I" in IHY: The United Nations Report for the International Heliophysical Year 2007*, edited by Barbara J. Thompson, Nat Gopalswamy, Joseph M. Davila, and Hans J. Haubold (Springer, July 2009). This book about the international aspects and achievements of the International Heliophysical Year (IHY) 2007 can be regarded as a compendium of the fertile impacts of conducting research in this field. The main focus, as the title indicates, is the international cooperation that has emerged from this grassroots initiative. North and south, industrialized and developing countries have been coordinating their efforts and have been learning from each other in a mutual partnership under a joint understanding of sharing the scientific benefits. Through this partnership, transborder networks have been created and scientific as well as cultural exchange has taken place.

*Martian Outpost: The Challenges of Establishing a Human Settlement on Mars*, Erik Seedhouse (Springer-Praxis, July 2009). This book provides a detailed insight into the various technologies, mission architectures, medical requirements, and training needed to send humans to Mars. It focuses on mission objectives and benefits, as well as the risks and complexities that are compounded when linked to an overall planetary exploration program involving several expeditions and setting up a permanent presence on the surface.

*Small Satellites: Past, Present, and Future*, by H. Helvajian and S. Janson (The Aerospace Press, July 2009). This is the first book to describe the state of the art of nanosats, picosats, and cubesats, along with the possible missions they can perform.

*The Nuclear Rocket: Making Our Planet Green, Peaceful and Prosperous*, by James Dewar (Apogee Books Space Series/Collector's Guide Publishing, Inc., July 2009). Presenting a fundamentally different way of thinking about space programs and the role of nuclear rockets, this study argues for space exploration to be opened up for use by the common person. Contending that all citizens can have personal access to

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*Recent Publications (continued)*

space by using nuclear-powered rockets and energy through a “free launch” program based on private funding, this discussion leads to vital debates and dialogues on the real utility, scope, and purpose of modern space programs. Displaying the inherently elitist and inequitable nature of chemical rocket space programs, this thorough and exhaustively researched presentation shows how privately funded nuclear rocket programs allow for an epoch-changing era in world history through space colonization.

*The Cambridge Handbook of Earth Science Data*, Paul Henderson and Gideon Henderson (Cambridge University Press, July 2009). This handbook presents an indispensable compilation of fundamental facts and figures about Earth. It brings together reliable physical, chemical, biological, and historical data in a series of 145 easy-to-read tables, supplemented by maps, charts, and color plates. Eleven sections cover topics spanning Earth’s geosphere, hydrosphere, atmosphere, and biosphere, with one section focusing on other bodies in the solar system.

*Celebrating Apollo 11—The Artwork of Paul Calle*, by Chris Calle (Aerographics, July 2009). In 1962, Paul Calle was chosen as one of the first eight artists of the newly established NASA Art Program. The purpose of the program was to record, for history, space exploration through the eyes of artists. On 16 July 1969, only one artist was asked by NASA to be with the Apollo 11 crew as they prepared for the launch to the Moon. NASA had asked artist Calle to document the activities of the Apollo 11 astronauts in the hours before their launch so that the record of the historic event would be as complete as possible. In drawing after drawing, Paul Calle recorded the final hours on Earth of three men, destined to make history for all humankind, before they journeyed to the Moon. These on-the-spot, pen-and-ink drawings provide a rare glimpse into the events of that historic morning—the prelaunch breakfast and the suiting up—as the three astronauts went through the preparations for the launch that would land men on the Moon. Also included in this book are Calle’s stories of the early years covering Mercury and Gemini launches and training, as well as the designs for the U.S. postage stamps commemorating the first spacewalk and the “First Man on the Moon” stamp of 1969.

*Live from the Moon: Film, Television and the Space Race*, by Michael Allen (I. B. Tauris, August 2009). This is the first comprehensive exploration of the role played by film and television systems in enabling these feats of interplanetary exploration to be witnessed by audiences of hundreds of millions of people. Using material from the NASA archives, expert and enthusiast Michael Allen traces the parallel development and interdependency of space and media technologies during the space race—of satellite surveillance and interplanetary probes, of early Russian successes and the American missions that landed men on the Moon. He also chronicles the part played by film and television in recording what was, and is, humanity’s greatest leap: the exploration of outer space and other planets.

*The New Solar System: Ice Worlds, Moons, and Planets Redefined*, by Patricia Daniels and Robert Burnham (National Geographic, August 2009). This guide, highlighted by 160 photographs, diagrams, and maps, explores every corner of Earth’s planetary neighborhood, from the fiery Sun at its center to the dark, icy realm where interstellar space begins. It is a state-of-the-art observation of the solar system as we know it today and a knowledgeable forecast of what to expect in the future, from Pluto’s demotion to plutoid, to the upcoming Moon mission, to the likelihood of a piloted expedition to Mars, and much more.

*Dr. Space: The Life of Wernher von Braun*, by Bob Ward (U.S. Naval Institute Press, September 2009). Written by veteran aerospace journalist Bob Ward, who spent years investigating his subject, this biography presents a revealing but evenhanded portrait of the father of modern rocketry. As he chronicles Wernher von Braun's life, Ward explodes many myths and misconceptions about the controversial genius who was a hero to some, a villain to others. The picture of von Braun that emerges is that of a brilliant scientist with limitless curiosity and a drive to achieve his goals at almost any price, from developing the world's first ballistic missile, used against the Allies in World War II, to helping to launch the first U.S. satellite that hurled Americans into space and the Saturn V super booster that powered them to the Moon. Along the way, readers are introduced to the human side of this charismatic visionary who brought the United States into the Space Age.

*Space Security and Global Cooperation*, edited by Ajey Lele and Gunjan Singh (Academic Foundation, September 2009). Discussing the increasing global awareness and concern about the weaponization of space, this collection of papers from the Space Security Conference covers a wide spectrum of issues related to the fields of space security, emerging technologies, regional perspectives, space tourism, space law, and global cooperation. With contributions from several leading scholars and eminent experts from across the globe, this record takes into account some of the recent developments and controversies related to the topic, such as the Chinese antisatellite test in 2007.

## ONLINE RESOURCES

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### NASA History

<http://history.nasa.gov/refcoll.html>

New to the History Web site at <http://history.nasa.gov> is a button in the banner called **Researching NASA History** that takes you to a page containing information such as a description of the NASA Historical Reference Collection, details about our electronic document repository, and our policy on donations of material. Further down the page is a list of useful links for researchers.

<https://mira.hq.nasa.gov/history/>

Newly scanned electronic documents are periodically added to the NASA Historical Reference Collection page at <https://mira.hq.nasa.gov/history/>. The latest include the speeches of former Administrator Michael Griffin and former Deputy Administrator Shana Dale. Also, plans remain under way to add the speeches of a half dozen key officials at NASA and to fill in the 14-year gap in the press releases, 1963–76.

<http://history.nasa.gov/DPT/DPT.htm>

The NASA History Division features a significant collection of primary source documents from NASA's Decadal Planning Team (DPT). The DPT began in 1999 as an effort to chart a new direction for NASA prior to the announcement of the Vision for Space Exploration in January 2004. Individuals interested in NASA long-range planning and policy may find this set of materials particularly interesting and timely.

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*Online Resources (continued)***Other Sites of Interest**

<http://www.wechoosethemoon.org>

A new, interactive Web site re-creating the Apollo 11 lunar mission debuted on 16 July at 9:32 a.m. EDT (the exact minute of the launch). Online visitors will “experience” the event through archival audio, video, photos, and transmissions.

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**FELLOWSHIPS**

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**Society for History of Technology (SHOT) Fellow**

Dr. Monique Laney holds the SHOT-NASA Fellowship in the History of Space Technology for the 2009–10 academic year. She recently graduated from the American Studies program at the University of Kansas with her dissertation titled “Transnational Migration and National Memory: How German Rocket Engineers Became Americans in Huntsville, Alabama.”

**History of Science Society (HSS) Fellow**

Matthew Hersch holds the HSS/NASA Fellowship in the History of Space Science for the 2009–10 academic year. He is a Ph.D. candidate in the Department of History and Sociology of Science at the University of Pennsylvania. His dissertation, entitled “Spacework: Labor and Culture in America’s Astronaut Corps, 1959–1985,” explores how astronauts defined their experiences and professionalized their work as a unique career.

**American Historical Association (AHA) Fellow**

Aaron Alcorn holds the AHA/NASA Fellowship in Aerospace History for the 2009–10 academic year. He is a Ph.D. candidate in the Program for the History of Science, Technology, Environment, and Medicine at Case Western Reserve University. His dissertation on model building explores the roles that model airplanes played in creating and distributing knowledge about flight in the United States during the 20th century. Alcorn seeks to examine the potential connections between childhood model building and aeronautical engineering within the broader context of a culture of “inventive boyhood” in the early 20th century.

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**OTHER AEROSPACE HISTORY NEWS**

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**National Air and Space Museum**

Michael J. Neufeld and David DeVorkin (Space History Division) and Peter Jakab (Aeronautics Division and Associate Director of Collections and Curatorial Affairs) presented papers at the International Congress of the History of Science and Technology in Budapest, Hungary, 28 July through 2 August 2009. Their papers’



topics included the Tsiolkovsky-Goddard-Oberth interpretation of early space history (Neufeld), the history of the Smithsonian Astrophysical Observatory (DeVorkin with former Space History researcher Teasel Muir-Harmony), and Samuel Langley's aeronautical experiments (Jakab). Former Space History curators Robert Smith (University of Alberta) and Joseph Tatarewicz (University of Maryland, Baltimore County) also gave papers, both on space astronomy.

David DeVorkin also delivered a keynote address entitled "Back to the Future" in a special session called "Accelerating the Rate of Astronomical Discovery" at the International Astronomical Union's XVIIth General Assembly in Rio de Janeiro, Brazil, 3–14 August 2009. At NASM, he is currently working with Katie Moore (Education Division) and many others to bring into operation the Public Observatory Project, a 16-inch reflecting telescope borrowed from Harvard University and placed in a dome south of NASM's restaurant building on the Independence Avenue side of the building. It will be available for public observing, primarily in the daytime, of the Sun, Moon, and planets, starting in the fall as part of NASM's celebration of the International Year of Astronomy.

Roger D. Launius (Space History Division) received the Smithsonian Institution Secretary's Research Prize in 2009 for his book *Robots in Space: Technology, Evolution, and Interplanetary Travel* (Johns Hopkins University Press, 2008), coauthored with Howard E. McCurdy. This book, published as part of the New Series in NASA History, discusses the debate over human versus robotic spaceflight and how it has unfolded over the decades since the dawn of the Space Age.

## National Archives and Records Administration

President Obama nominated David S. Ferriero as the 10th Archivist of the United States on 28 July 2009. He currently serves as the Andrew W. Mellon Director of the New York Public Libraries (NYPL) and manages collection strategy, conservation, digital experience, reference and research services, education, programming, and exhibitions. Ferriero previously held positions as the chief executive of NYPL Research Libraries and the university librarian and vice provost for library affairs at Duke University.

## John F. Kennedy Presidential Library and Museum Exhibit

For the 40th anniversary of the Moon landing, the John F. Kennedy Presidential Library and Museum in Boston, Massachusetts, is featuring a new exhibit titled "Moon Shot—JFK and Space Exploration." Highlights include President Kennedy's one-page memo to Vice President Lyndon Johnson on 20 April 1961 posing the question leading directly to the lunar mission and selected pages from President Kennedy's speech on 12 September 1962 at Rice University, where he announced that "We choose to go to the Moon." The exhibit will be open until 30 May 2010.

## Moscow's Memorial Museum of Cosmonautics Reopens

Located in Moscow, Russia, the Memorial Museum of Cosmonautics recently reopened in March 2009 after more than three years of renovations. The museum serves as a memorial to Soviet space achievements and also attempts to engage the interest of the Russian youth with interactive experiences.

## OBITUARIES

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### Peter Gorin

Peter Alexander Gorin passed away on 26 January 2009. In 1990, Gorin emigrated from Russia to seek a better life for his family. He became known as a respected aerospace historian focusing on the U.S.-Soviet space race. Mr. Gorin received a Guggenheim Fellowship at the National Air and Space Museum, where he contributed to projects in the Soviet and Russian collections.

### Paul Haney

Paul Haney, a longtime NASA public affairs officer and voice of the Gemini and Apollo programs, passed away on 28 May 2009 in New Mexico at the age of 80. Haney pioneered a system of reporting NASA events as they happened, providing real-time information to the public and news media covering NASA's space missions. He delivered launch commentary on Gemini 3 and mission commentary during the early Apollo missions. He became chief of public affairs at the Manned Spacecraft Center, later renamed the Johnson Space Center, in Houston and worked in the Mission Control Center during Gemini and Apollo flights. He left NASA in 1969.

## UPCOMING MEETINGS

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The annual meeting of the Oral History Association, "Moving Beyond the Interview," will be held **14–18 October 2009** in Louisville, Kentucky. Please see <http://www.oralhistory.org/annual-meeting/> for more details.

The annual meeting of the Society for the History of Technology will be held **15–19 October 2009** in Pittsburgh, Pennsylvania. Please see [http://www.historyoftechnology.org/annual\\_meeting.html#future\\_mtgs](http://www.historyoftechnology.org/annual_meeting.html#future_mtgs) for more details.

The fall meeting of the Mid-Atlantic Regional Archives Conference will be held **29–31 October 2009** in Jersey City, New Jersey. Please see <http://www.lib.umd.edu/MARAC/conferences/conferences.html> for more details.

The 14th Biennial Conference of Historic Aviation Writers will be held **30 October–1 November 2009** in St. Louis, Missouri. Please contact cochair Erik Carlson at [ecarlson@fgcu.edu](mailto:ecarlson@fgcu.edu) or cochair Matthew Rodina, Jr., at [mrodinajr@earthlink.net](mailto:mrodinajr@earthlink.net) for more details.

The annual meeting of the History of Science Society will be held **18–22 November 2009** in Phoenix, Arizona. Please see <http://www.hssonline.org/> for more details.

The American Astronautical Society (AAS) History Committee's annual meeting will be held on **19 November 2009** in conjunction with the AAS National Conference at the Pasadena Hilton in Pasadena, California. Please see <http://www.astronautical.org/events/> for more details.

The Fourth Eilene M. Galloway Symposium on Critical Issues in Space Law, “Peaceful Uses of Outer Space,” will be held **10 December 2009** at the Cosmos Club in Washington, DC. Please see [http://www.spacelaw.olemiss.edu/event\\_Galloway2009.html](http://www.spacelaw.olemiss.edu/event_Galloway2009.html) for more details.

The annual meeting of the American Historical Association will be held **7–10 January 2010** in San Diego, California. Please see <http://www.historians.org/annual2010/index.cfm> for more details.

The midwinter meeting of the American Library Association will be held **15–20 January 2010** in Boston, Massachusetts. Please see <http://www.ala.org/ala/conf/services> for more details.

The 14th Annual International Symposium of the International Space University, “The Public Face of Space,” will be held **16–18 February 2010** in Strasbourg, France. Please see <http://www.isunet.edu/annualsymposium> for more details.

## CHIEF HISTORIAN STEVEN DICK RETIRES

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Chief Historian Steven Dick celebrated his retirement on 23 July 2009 at NASA Headquarters in Washington, DC. He served as Chief Historian since 2003 and worked at the U.S. Naval Observatory prior to coming to NASA.

Upon his retirement from government service, in recognition of his special contributions as an astronomer and a historian of science, he had the unique honor of having a minor planet outside the solar system named after him.

The International Astronomical Union’s Minor Planet Center named minor planet 6544 Stevendick in honor of NASA’s former Chief Historian. Thomas Corbin and Brenda Corbin, both formerly at the U.S. Naval Observatory, made the presentation during the retirement ceremony at NASA Headquarters on 23 July.

Z. Vavrova at Klet’ Observatory in the Czech Republic discovered the minor planet on 29 September 1986. The estimated diameter of 6544 Stevendick is 6 to 13 kilometers, with a period of 4.6 years, a semimajor axis of 2.4 astronomical units, and a visual magnitude of 17.6.

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*Chief Historian Steven Dick Retires (continued)*



Chief Historian Steven Dick at his retirement party with NASA Administrator Charles Bolden. (Photo credit: NASA/Paul E. Alers)



Steven Dick chats with his boss, Assistant Administrator for External Relations Michael O'Brien, and Ellis Holdenried, an astronomer at the U.S. Naval Observatory. (Photo credit: NASA/Paul E. Alers)



Steven Dick makes remarks at his retirement party. (Photo credit: NASA/Paul E. Alers)



Thomas Corbin and Brenda Corbin, both formerly at the U.S. Naval Observatory, speak at Steven Dick's retirement party and present their gift. (Photo credit: NASA/Paul E. Alers)

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*Chief Historian Steven Dick Retires (continued)*



Fred Orway talks about Steven Dick's early career days and presents him with a book. (Photo credit: NASA/Paul E. Alers)



From NASM's Space History Division, Chair Michael Neufeld hands a book to Steven Dick. (Photo credit: NASA/Paul E. Alers)

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